Page (1, 1)

|
V

Page (1, 1)

SubSchema	Version	Datime	Author	S	Reviewer	Comment
ANKATE	1.1	21 Dec 89	L.Stanco	X		Data structure for Kalman filtering and smoothing algorithms.
BEAMLINECal	1.3	11.11.1994	M. Loewe	X		Beampipe Calorimeter data (Raw data, SLT- and reconstruction results, Pedestal- and Calibration data)
BPBANK	2.00.	Mar 22 1995 (ver	Andres Kruse	X	Henk Boterenbroo	BPC (Beam Pipe Calorimeter) bank.
BPCSIM	1.00.	19th Jan.,1996	J.Tickner/Y.Iga	X		BPCTRUE data bank contains truth informations of new BPC.
BPCcond	1.0	Dec 16, 1997	Ulli Fricke	X	David C. William	BPC Calibration
BPGEOM	1	30Aug1992	N.A. McCubbin	X		Beam Pipe (BP) Geometry a la ADAMO. Aug 1992
BPOFFL	1.0	01.10.1995	T. Monteiro	X		New Beampipe Calorimeter: reconstruction results
BPTcalib	1.0	Jan 21, 1997	David C. William	X		Calibration constants for the Beam Pipe Tracker (BPT)
BPTcond	1.0	Jan 21, 1997	David C. William	X		Running conditions for the Beam Pipe Tracker (BPT)
BPTmozart	1.0	Jan 21, 1997	David C. William	X		Beam Pipe Tracker (BPT) Monte Carlo truth
BPTrawEvent	1.0	Jan 21, 1997	David C. William	X	Roberto Sacchi	Event raw data for the Beam Pipe Tracker (BPT)
BPTrecon	1.0	Jan 21, 1997	David C. William	X		Output of the BPT reconstruction package
C5GEOM	1	30Aug1992	N.A. McCubbin	X		C5 Scint. (C5) Geometry a la ADAMO. Aug 1992
C5HITS	1.0	06Feb92	N. McCubbin	X		
C5TIME	1.0	Mar 1, 1993.	M Nakahata	X		C5 timing table
C5TRAW	1.0	Mar 1, 1993.	M Nakahata	X		Raw data of C5 timing
CALSLCT	2.02	17.06.91	Sijbrand de Jong	X	Paul de Jong	Cluster finding according to the SLCT algorithm
CCBANK	5.00.	July 7, 1991. (v	Vivian ODell	X	Hermen van der L	Calorimeter data bank.
CCNOISE	initial	11 August 1998	Tobias Haas	X	Nichol Bruemmer	Calorimeter Noise Information.
CDCAPM	1.0	May-29-1992	B. Straub	X		Cross reference between digital cards and PMT numbers
CFLCALT	5	10-Feb-20 3	C. Foudas, modif	X		
CMGEOM	1	30Aug1992	N.A. McCubbin	X		Coil and coMpensator (CM) Geometry a la ADAMO. Aug 1992
CTBANK	4.00.	Feb 9 1995 (vers	Andres Kruse	X		CAL-FLT banks.
CUTRAL	1.01	17.06.91	Paul de Jong	X		An off-line implementation of the SLCT cluster algorithm
CUgeom	19.590	30.08.90	Nikolaj Pavel	X	Paul de Jong	Description of geometrical information of the Uranium Calorimeter
CUgeom3	2.01	24.01.91	Nikolaj Pavel	X	Paul de Jong	Description of the cell table needed in Zephyr
CalDPhs1	3.05	20.01.93	Evelin Tscheslog	X	P. de Jong E.de Wolf T. Poser T. Tsurugai M. de Kamps	Calorimeter data (PM signals and clusters) of reconstruction phase 1
CcMCTr	2.03	10.11.91	Paul de Jong	X		Definition of MC truth for the CAL
CcPhs2	2.00	06.10.91	Paul de Jong	X	Marc de Kamps	Phase 2 of the CAL reconstruction
DEAMAP	1.5	30.11.02	Aset Barakbaev	X		Dead Material map.
EXTRAP	1.2	21Mar90	K.Long, N.Dyce	X		Data structure for the extrapolation algorithm.
FC	1.1	24.02.93	KEN MCLEAN	X		FAST CLEAR data to EVB
FMCZBeam	1	10-Feb-20 3		X		
FMCZDtFl	1.1	881121	F.Anselmo , L.Ba	X	G.D_Ali‘,R.Nania	
FMCZEvt	1.1	881121	F.Anselmo , L.Ba	X	G.D_Ali‘,R.Nania	
FMCZRUNS	1.1	881121	F.Anselmo , L.Ba	X	G.D_Ali‘,R.Nania	
FMCZStat	1.1	881121	F.Anselmo , L.Ba	X	G.D_Ali‘,R.Nania	Static information about particles
FNBANK	5.00.	Mar 22 1995 (ver	Andres Kruse	X	Henk Boterenbroo	FNC (Forward Neutron Calorimeter) bank.
FNC	1.00.	March 1, 1993.	S Bhadra/ G. Lev	X	?	Forward Neutron Calorimeter data bank.
FNCaPhs1	0.00	01.06.93	Marc de Kamps	X	Keith Furutani	Definition of the phase 1 tables for the forward neutron calorimeter
FNCaTr	0.00	01.06.93	Marc de Kamps	X	Keith Furutani	Definition of MC truth for the Forward Neutron Calorimeter
FNGEOM	1.0	Aug94	Yoshihisa Iga	X	N.McCubbin	

|
V

Page (1, 1)

SubSchema	Version	Datime	Author	S	Reviewer	Comment
FPBANK	2.00.	Dec.97	L.Lindemann, A.S	X		FPC (Forward Plug Calorimeter) bank.
FPCCALIBRATION	1.0	10-Feb-20 3	L. Lindemann	X		
FPCSIM	1.00	14.5.97	Ludger Lindemann	X		Definition of MC truth for the FPC
FPOFFL	1.00	12.05.1997	Ludger Lindemann	X		Forward Plug Calorimeter data (PM signals and clusters) of reconstruction phase 1
GCOUT	1.00	12Aug91	Jacek Gajewski	X		OUTPUT from GCMAT Package. This Subschema describes the output from Phase 2 processor GCMAT i.e. matching of BAC Entities (as found by XXRECON, see also SUBSCHEMA XXOUT1) with the Calorimeter entities (as found by CCRECON, see also SUBSCHEMA CalDPhs1). Table XMatEt is used to model the many-to-one relation between BAC Jets and MIPses and CAL clusters: XJetEt (or XMIPEt) ------I->> XMatEt -I------> CIdClu. Table XMCSEt is used to model the many-to-one relation between BAC Jets and MIPses and CAL condensates: XJetEt (or XMIPEt) ------I->> XMCSEt-I ------> CConSa.
GLImpact	1	10-Feb-20 3		X		
GLTRAK	10-Dec-1994	10-Feb-20 3	G.Bruni G.Iacobucci T.P.Shah L.Stanco N.Brook	X		Data structure for GLobal Tracks Reconstruction
GMOUT	1.00	12Aug91	Jacek Gajewski	X		OUTPUT from GLMAT Package. This Subschema describes the output from Phase 2 processor GLMAT i.e. matching of Global tracks (as found by GLTRK, see also SUBSCHEMA GLTRAK) with the Global Calorimeter entities (as found by GLCAL, see also SUBSCHEMA GCOUT). Table GMTrCs is used to model the many-to-many relation between Global Track and Global Condensate. A relation between Global Track and Global Cluster is of many-to-one type (see also SUBSCHEMA GLTRAK).
GSLCTD	1.0	01Feb91	Jon Butterworth	X		Trigger summary data from the CTD SLT
GTBANK	1.0	10-Feb-20 3	E.Gallo, M.Sutto	X		
HES	1	10-Feb-20 3		X		
HESBCL	1.0	Feb.17, 1994	I Suzuki	X	M Kuze	HES Bad channel list
HESGEOM	91.10.26	10-Feb-20 3	N. Stern	X		Description of geometrical information of the HES Detector
HESMC1	2.00	29.02.96	Nahum Stern	X	Masahiro Kuze Takashi Matsushi	HES MC bank (/Event)
HESMC2	0.01	05.05.91	Nahum Stern	X	xxxxxxx	HES MC Hit Bank (/Track)
HESMDST	1	10-Feb-20 3		X		
HESSAM	4.00	29.02.96	Masahiro Kuze	X	Takashi Matsushi	
HISTHDRS	1.01	14.02.93	Norman McCubbin	X	John Hart Matthias Kaseman	History and Headers DDL
ISLCTD	1.0	22Apr91	Jon Butterworth	X		Intermediate monitor data from the CTD SLT
JadeAlgo	1.02	91-01-31	Paul de Jong	X		First attempt to try a jet reconstruction algorithm following the JADE scheme combining invariant mass pairs.
KWPARM	0.00	19.8.89	Evelin Tscheslog	X	John Hart	program controlling
LEBANK	4.10.	Mar 22 1995 (ver	Andres Kruse	X	Henk Boterenbroo	LED Monitor bank.
LMCLBA	1.01	27.02.90	J.Chwastowski L.Zawiejski	X		First attempts for LUMI Data Handling This part describes LUMI absolute calibration data
LMCOND	1.01	27.02.90	J.Chwastowski L.Zawiejski	X		First attempts for LUMI Data Handling This part describes LUMI run conditions
LMDATA	1.01	27.02.90	J.Chwastowski L.Zawiejski	X		First attempts for LUMI Data Handling This part describes calibrated data from LUMI det.
LMGEOM	1.0	18.06.90	J.Chwastowski L.Zawiejski	X		Lumi geometry in ADAMO style

|
V

Page (1, 1)

SubSchema	Version	Datime	Author	S	Reviewer	Comment
LMHELU	3.0	26.04.94	L.Zawiejski	X		LUMI data related to Environmental Records (ER). Every 16 seconds HERA and LUMI data are collected in LMHP LMDP LMES LMPS LMLT LMSC tables. The individual table contains : LMHP -> MDM HERA data (mainly bunch currents) LMDP -> random trigger events LMES -> energetical calorimeters data LPMS -> position detectors data LMLT -> light test data LMSC -> hardware test data The other tables which are connected with ER data descibe: LMRDUM LMRBAC LMPRB --> unpacked dump, energetical and position data, LMEDUM LMEBAC LMPEB --> reconstructed energies and positions, LMLUWO LMLURU --> integrated luminosity, LMRBRE LMEBRE LMLUMI --> auxiliary tables
LMHIT	1.2	8.09.90	J.Chwastowski L.Zawiejski	X		Description hits and digits for LUMI
LMIO	2.0	04.05.92	J. Chwastowski L. Zawiejski	X		Input/output schema for LUMI
LMNEWENV	1.1	04.07.2001	T. Bold, K. Olki	X		In every raw 16 bits data the oldest bit has to be masked and/or checked, on this bit are coded overflows. All new lumi tables have to have LM2 prefix. All parts are finished. LM2CLRND LM2CLBRE LM2CLLT LM2CLPED LM2CLBNC LM2CLCNT LM2CLPIL LM2COMM LM2SPLED LM2SPHIS LM2SPRND LM2T6HIT LM2T6BNC LM2T6CNT are online tables. They are filled during the ZEUS run. LM2LUBC is an offline table. It is filled during offline reconstruction of luminosity and contains actually luminosity. 11.06.2002 added LM2SYNC to online dataflow.
LMNEWSLT	1.0	01.07.2001	T. Bold, R. Wich	X		Tables for LUMI (LUMI calorimeter+position, spectrometer, tagger6, tagger40) SLT data. In every raw 16 bits data the oldest bit has to be masked and/or checked, on this bit are coded overflows. 11.06.2002 Added LM2SYNC (CDAQ request).
LMRAWD	1.02	27.02.90	J.Chwastowski L.Zawiejski	X		First attempts for LUMI Data Handling This part describes LUMI det. raw data
LMRUEV	1.02	06.12.91	J.Chwastowski L.Zawiejski	X		First attempts for LUMI Data Handling This part describes general information.
LP2hit	1.0	01-Dec-1994		X		Phase 1 DDL for the LP2recon package
LPGEOM	1	26Mar1990	Silvia Maselli (	X		Leading Proton Spectrometer (LP) Geometry a la ADAMO. Mar 1990
LPHIT	1.0	10-Feb-20 3	S. Maselli	X		
LPRawEvent	V1.0	09-Apr-1992	Marco Costa, Chr	X		Event Raw Data format in EVB
LPSCalb	1.0	01-Dec-1994		X		Calibration constants for LPS reconstructions
LPSCond	1.0	01-Dec-1994		X		Running conditions of the LPS
LPTR	1.0	10-Feb-20 3	S. Maselli	X		
MBDIGI	1	10-Feb-20 3		X		
MBGEOM	1	10-Feb-20 3		X		
MBGERI	1	10-Feb-20 3		X		
MBHITS	1	10-Feb-20 3		X		
MBTE	1	10-Feb-20 3		X		
MBTR	1	10-Feb-20 3		X		
MBTrigger	1	10-Feb-20 3		X		
MFBORENV	5-May-1994	10-Feb-20 3	G. Bruni G.Iacobucci R. Timellini A. Polini	X		Data structure for FMUON BOR EOR ENV and EVT record
MFCAL	2.00	10-MAR-1994	G.Bruni	X		
MFGEOM	1.00	88.09.20	A. Bassi,G.Bruni	X	G.Bruni	MF Geometry definition according to the "general" scheme
MFRAW	3.00	25-FEB-1993	G.Bruni	X		Contains the raw data of the FMUON detector
MFREC	4.00	15-APR-1995	L.Bellagamba G. Bruni	X	G.Bruni	Description of digit, hit and reconstructed quantities for the FMUON
MFTRIG	1.00	01-AUG-1991	L.Bellagamba G.Bruni	X		Description of Trigger informations of the FMUON detector (OBSOLETE).
MVCalib	1.0	10-Feb-20 3	E.Gallo	X		
MVGEAN	1.0	10-Feb-20 3	E.Gallo	X		
MVGEOM	1.0	10-Feb-20 3	E.Gallo,G. Hartn	X		

|
V

Page (1, 1)

SubSchema	Version	Datime	Author	S	Reviewer	Comment
MVRECO	1.0	10-Feb-20 3	E.Gallo, G.Hartn	X		
MVRawEvent	1.0	10-Feb-20 3	E.Gallo	X		
MVSlcntrl	1.0	10-Feb-20 3	E.Gallo	X		
MbRawEvent	1	10-Feb-20 3		X		
Momo	1.00	12.9.89	Evelin Tscheslog	X	Peter Erhard	program monitoring and controlling
NOICEL	1.	30.11.02	Aset Barakbaev	X		Noise Cell List.
O1BANK	5.1	Mar 29, 1993.	K Tokushuku	X	M Hazumi	GFLT trigger data bank.
O2BANK	3.3	Feb 18, 1991.	Roel van Woudenb	X	Henk Uijterwaal	GSLT trigger data bank.
O3BANK	1.00.	March 6, 1992.	S Bhadra	X	Contributors an	TLT data bank.
O4SUMMARY	2.0	08-AUG-1191	C. Youngman	X	N.N	Begin Of Run Record for Cosmics
O5BANK	1.0	Feb 7, 1992.	M Nakahata	X		Slow control data bank.
OZRSUM	5.2	Sep 23, 1993.	K Tokushuku	X	Y Nagasawa	Online Runsummary.
PBBANK	1.00.	Dec 12 1996 (ver	M.Kasemann	X		BARREL-PRESAMPLER banks.
PHSUB	1.00	11.05.93	Tobias Haas	X	Matthias Kaseman	Output from physics object finders, such as electron finders, jet finders, muon finders, etc
POLAR01	1	10-Feb-20 3	Gert Schmidt, Fr	X		
PR1OBJ	1.00.	23th February,1	C. RETHFELDT	X		FORWARD- BARREL- & REAR-PRESAMPLER RECONSTRUCTED-DATA BANK.
PRBANK	5.00.	Mar 22 1995 (ver	Andres Kruse	X	Henk Boterenbroo	PRESAMPLER banks.
PRECLU	1.00.	23th February,1	C. RETHFELDT	X		FORWARD- BARREL- & REAR-PRESAMPLER MIP-CLUSTER-BANK.
PREHIT	1.00.	15th December,19	C. RETHFELDT	X	S. Schlenstedt	FORWARD- BARREL- & REAR-PRESAMPLER data bank.
PRGEOM	1.0	Aug93	Norman McCubbin	X	Marc de Kamp	
PRRES	1.00.	20th January, 1	S. Schlenstedt	X		FORWARD- BARREL- & REAR-PRESAMPLER RESULT BANK.
PRTRUE	1.00.	23th February,1	C. RETHFELDT	X	S. Schlenstedt	FORWARD- BARREL- & REAR-PRESAMPLER RECONSTRUCTION BANK.
PSLCTD	1.0	26Jul91	Doug Gingrich	X		Scaler parameter data from the CTD SLT
PTBANK	5.00.	Mar 22 1994 (ver	Andres Kruse	X	Henk Boterenbroo	PRT (Proton Remnant Tagger) Bank.
PTGHIT	1.00.	4th Jan.,1995	Y.Iga	X		PTGHIT data bank contains GEANT Hit informations of Proton Tagger.
RAVVTX	1.	30.08.02	Aset Barakbaev	X		Run-average verteces
RFLCTD	1.0	13Aug92	Fergus Wilson	X		Begin/end of run data from the CTD FLT
RSLCTD	1.0	26Jul91	Doug Gingrich	X		Begin/end of run data from the CTD SLT
RTBANK	4.00.	Mar 22 1994	Andres Kruse	X		PRT (Proton Remnant Tagger) Bank.
SFBANK	1.00.	Mar 24 1995 (ver	Henk Boterenbroo	X		SRTD-FLT (Small-angle Rear Tracker Detector First-Level-Trigger) banks.
SRBANK	5.00.	Mar 22 1995 (ver	Andres Kruse	X	Henk Boterenbroo	SRTD (Small-angle Rear Tracker) bank.
SRGEOM	1.0	Aug93	Norman McCubbin	X	Marc de Kamp	
SRPhs1	1.00	02.06.93	Marc de Kamps/Wo	X		Phase 1 scheme of the SRTD reconstruction
SRTHIT	1.00.	19th February,1	C. RETHFELDT	X		SRTHIT data bank contains GEANT Hit informations of SRTDV1 and SRTDV2.
STCali	1.0	28feb02	J Cole	X		
STEnvironment	1.0	25jul00	J Cole	X		
STEvCntr	1.0	12Sep00	J Cole	X		
STGean	3.2	17feb00	J Cole	X		
STGeom	1.0	27aug00	G.Aghuzumtsyan	X		
STMapping	1.0	25jul00	J Cole	X		
STRawEvt	3.2	17feb00	J Cole	X		
STReco	1.2	28may02	J Cole	X		
STStatus	1.0	31jan02	G Aghuzumtsyan	X		
T8BANK	1	10-Feb-20 3		X		
T8DATA	1.01	28.03.96	P.Borzemski	X		First attempts for 8m tagger readout.
TCBPUDat	1.0	25-Mar-1994	Carlos Morgado	X		CTD Beam pickup data
TCCNDS	2.0	25Feb93	J. Shulman	X		Running conditions of the CTD
TCCali	4.0	25Feb93	J. Shulman.	X		Calibration data for the CTD

|
V

Page (1, 1)

SubSchema	Version	Datime	Author	S	Reviewer	Comment
TCCosmic	1	10-Feb-20 3		X		Additional tables (temporary to cosmics) for CTD Z calibration, begin run record.
TCDATA	5.0	05Jul91	J.C. Hart, K.Lon	X		Phase 1 output from the CTD
TCDSPA	3.0	17-Oct-1991	Julian Shulman	X		Tables for CTD offline DSP emulation
TCEVCNTR	1.0	18Jun91	K. Long, N.A. Mc	X		Control data for the CTD
TCEnvironment	1.0	03-Mar-1994	Stig Topp-Jorgen	X		CTD Environmental records
TCFADCMon	1.0	01-Mar-1993	Julian Shulman,	X		Event monitoring of the CTD FADC system
TCFADCOnline	1.0	26-Feb-1993	Julian Shulman,	X		Begin/end of run data from the CTD FADC system
TCFLTGeometry	2.0	20Aug90	M.Lancaster, G.H	X		FLT geometrical description of the CTD
TCFLTHits	1.0	10-Feb-20 3	M.Lancaster, G.H	X		Hit data from the CTD FLT
TCFLTLayout	1.0	20Aug90	M.Lancaster, G.H	X		FLT layout of the CTD
TCFLTRaw	1.0	07Nov91	G Heath.	X		Raw data from the CTD FLT
TCGEAN	3.0	24Oct91	K. Long, N. Dyce	X		Monte Carlo data from the CTD
TCGEOM	2.0	26Jul90	N.A. McCubbin, K	X		Geometrical description of the CTD
TCLTCOnline	1.0	01-Mar-1993	Julian Shulman,	X		Begin of run and event data from the CTD Z/Trig LTCs
TCOLDHAT	2.0	08Mar93	J. Shulman	X		
TCPTS	2.0	24Dec90	D.Shaw	X		Storage of X,Y and Z points for the CTD
TCRECO	3.0	24Dec90	D. Shaw, N. Dyc	X		CTD working tables for pattern recognition
TCRawDat	3.0	22Oct91	K. Long, J. Shul	X		Raw data from the CTD
TCSGSD	1.0	090889	R. Woodgate.	X		Data required to find a segment seed in CTD
TCToADist	1.0	27Mar95	J. Shulman, J.B.	X		Calibration data for the CTD
TCZFLTMN	1.0	06-Apr-1993	Mark Lancaster	X		Event monitoring for the CTD FLT & Z systems
TCZOnline	1.0	27-Mar-1995	Julian Shulman,	X		Begin/end of run data from the CTD Z-by-Timing system
TDBANK	2.00.	Mar 22 1995 (ver	Andres Kruse	X	Henk Boterenbroo	TD (Table Diodes) bank.
TFCALIB	2.0	10-MAY-2000	H.P.Jakob	X		
TFCONNEC	1.0	06.10.92	H.P.Jakob	X		
TFEVCNTR	1.0	01Jun92	K. Desch, A. Mas	X		
TFGEAN	2	25Sep90	H.P.Jakob.	X		TF Tables coming out of GEANT MC.
TFGEOM	1	25Feb90	H.P.Jakob.	X		TF Geometry according to the Bologna scheme.
TFIDEN	1	030594	S. Mengel	X		Tables and Relationships to process TRD data related to tracks from FTD
TFRECO	1	19Oct89	H.P. Jakob	X		Tables coming out of FTD Reconstruction. Oct 1989
TFRawDat	1.1	24Apr94	K. Desch, A. Mas	X		
TLTVCT	1.00.	1st June,1992	S Bhadra	X	G.Hartner	VCTRAK data bank for TLT.
TNGEOM	1	30Aug1992	N.A. McCubbin	X		TunNel (TN) Geometry a la ADAMO. Aug 1992
TRCALIB	0.1	30-AUG-1999	J.Tandler	X		
TREVCNTR	1.0	01Jun92	K. Desch, A. Mas	X		
TRGEOM	1	20May93	H.P.Jakob.	X		TRD Geometry according to the Bologna scheme.
TRMC	0.2	16-MAR-2000	J.Tandler	X		
TRRawDat	1.0	01Jun92	K. Desch, A. Mas	X		
USERTBLS	1.01	10.NOV.92	Norman McCubbin	X	A.N.Other	User Tables DDL
VCCALI	1.00.	21Oct,1992	G Hartner	X	Y Iga	VCTrak Calibration data
VCTBNK	1.00.	9th August,1991	S Bhadra	X	G.Hartner	VCTrak data bank.
VCTMVD	1	19 December 200	A. Parenti	X		Extension of the VCTrak data bank to include the MVD.
VEGEOM	1.0	Feb92	Michal Kasprzak	X	Maciek Krzyzanow	
VEINP	1.10	Feb93	Michal Kasprzak	X	Maciek Krzyzanow	
VEMC	1.00	Feb92	Michal Kasprzak	X	Maciek Krzyzanow	
VEOUT	1.00	Feb92	Michal Kasprzak	X	Maciek Krzyzanow	
VERECO	1.00	Feb92	Michal Kasprzak	X	Maciek Krzyzanow	
VETOHITS	1.0	13Feb91	K. Long, H. Uijt	X		

V

Page (1, 1)

SubSchema	Version	Datime	Author	S	Reviewer	Comment
VTBORENV	5-May-1994	10-Feb-20 3	G. Bruni G.Iacobucci R. Timellini A. Polini	X		Data structure for VXD BOR EOR ENV and EVT record
VTXFIT	18-Aug-1992	10-Feb-20 3	G. Iacobucci S. Qian M. Kasemann	X		Data structure for vertex fitting using perigee parametrisation, tables for VCTRACK results added
X1	1	11May 93	U. Behrens	X		expired table definitions
X2	$Revision: 1.9 $Date: 2003/02/11 09:59:57 $Author: zcode $			X		expired dataflows.
XBGEOM	1.0	2April90	M. Gromisz	X	N.A. McCubbin	The BAC Geometry according to the Bologna Schema.
XBGLOB	3.0	26.07.1991	G. Grzelak		M. Gromisz	Definition of Global Types/Attributes e.t.c. To be used overall in Backing Calorimeter DDL.
XBRECO	3.00	25 July 91	Marcin Gromisz	X	Jacek Gajewski	E-R Definition of the BAC Geometry as used by ZEPHYR.
XXANAL	3.00	15 February 93	M. Krzyzanowski	X	J. Gajewski	A set of temporary tables meant to ease the user access to BAC raw data during analysis. These tables are neither filled nor written out by standard program chain.
XXINP	3.00	25 July 91	Marcin Gromisz	X		The BAC Raw Data Definition
XXMC	4.0	10.01.1992	Maciek Krzyzanow	X	J. Gajewski	Hits & digitisations for the BAC (to be included in the MCTRUTH dataflow). DE is an energy deposit in a given readout channel with space charge effect & amplifier saturation taken into account. Ph is an "ideal" digitisation value. For each XXxxDG entry there are usually several XXxxRD (raw data) entries (with FADC Crossings) with the same value of the Num attribute.
XXOUT0	3.00	25 July 91	Marcin Gromisz	X		Definition of the Pre-Reconstructed Data Structures for the Backing Calorimeter Reconstruction Programme. They might be helpful for graphic-display and technical analysis purposes. These tables represent energy cells for a given readout type. they are filled by s/r XPRERE and written out in dataflow PHASE1.
XXOUT1	1.00	27Sep88	Jacek Gajewski	X		This Subschema describes the BAC Phase 1 output, which consist of geometrically located deposits, with limited direction information. According to spatial shape of the deposit they are classified either as MIP or JET and stored in separate tables. If the BAC processor cannot distingiush between Jet and M.I.P. (rather unlikely, but possible) both Jet and MIP banks will be created and a special link from MIP to Jet will signal this ambiguity. In the future, we hope that for the MIPs crossing Barrel bottom we wouldbe able to reconstruct charge and momentum which will be given in an extra track bank linked to the corresponding MIP. At the moment this table (XTrkEt) is empty. The tables from this Subschema are filled in s/r XMIP and XJET of XXrecon.
ZDIO	1	13Aug90	E. Tscheslog2	X		Input/output subschema for direct access in Zeus.
ZEIO	$Revision: 1.9 $Date: 2003/02/11 09:59:57 $Author: zcode $			X		Input/output subschema for Zeus EVB.
ZEMATE	1	18May89	N.A. McCubbin	X		ZEus MATERial Scheme. May 1989
ZERLOG	1.0	20Jul92	N. McCubbin	X		
ZFAnal	1.0	13June91	J. Shulman	X		
ZFCali	1.0	10Nov92	J. Shulman	X		
ZFGeom	1.0	26Nov92	J. Shulman	X		
ZFOnline	1.0	10Nov92	J. Shulman	X		
ZRBITPAK	1.0	16Jul90	J. Shulman	X		
ZREVBMETA	$Revision: 1.9 $Date: 2003/02/11 09:59:57 $Author: zcode $			X	N.N.	tables used for producing EVB include files
ZREVCOND	1.01	11-04-95	John Hart	X	Julian Shulman	Event conditions table
ZREVTRUN	1.00	27-04-90	Evelin Tscheslog	X	Chris Youngman	Run and event header tables
ZRIO	3	09oct 90	R. Glaeser, E. T	X		Input/output subschema for Zeus.
ZRROTM	90.02.20	10-Feb-20 3	A. Bassi G. Bruni G. Iacobucci R. Nania	X		Rotation matrices used in the geometrical specification of the detector.
ZTRECO	1.0	10-Feb-20 3	E.Gallo, G.Hartn	X		
ZTVERT	1.0	10-Feb-20 3	E.Gallo, G.Hartn	X		

|
V

Page (1, 1)

SubSchema	Version	Datime	Author	S	Reviewer	Comment
ZVMMTM	1	10-Feb-20 3		X		
ZXIO	1	04-Nov-93	S. Stiliaris	X		PHASE2 and PHASE3 Dataflow Definitions
vtgeom	88.10.10	10-Feb-20 3	A. Bassi G. Bruni G. Iacobucci R. Nania	X		Description of geometrical information of vertex detector
vthit	92.03.19	10-Feb-20 3	G. Iacobucci	X		Description of hit and digit informations of vertex detector
zggeom	88.09.20	10-Feb-20 3	A. Bassi G. Bruni G. Iacobucci R. Nania	X		Description of geometrical information of any Detector

|
V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
ZEUSONLINE13	<=	BACONLINE1	=>	XXEVT5			
ZEUSONLINE14	<=		=>	XXRAWEVENTII			
			=>	XXENV1			
			=>	XXBOR3			
			=>	XXEOR3			
ZEUSONLINE13	<=	BCALONLINE1	=>	CCBOR4			
ZEUSONLINE14	<=		=>	CTBOR1			
			=>	CBEVT4			
			=>	CBTST3			
			=>	CBENV3			
			=>	CBEOR2			
SPECIALEVTZ3	<=	BCBOREORENV	=>	{BCPed_}			Begin Of Run, End Of Run, ENVironmental record
ZEUSTEST2BOR	<=		=>	{BCCal_}			dataflow
ZEUSTEST2EOR	<=						
ZEUSTEST2ENV	<=						
ZEUSONLINE4BOR	<=						
ZEUSONLINE4EOR	<=						
ZEUSONLINE4ENV	<=						
ZEUSONLINE5BOR	<=						
ZEUSONLINE5EOR	<=						
ZEUSONLINE5ENV	<=						
ZEUSTEST6BOR	<=						
ZEUSTEST6EOR	<=						
ZEUSTEST6ENV	<=						
ZEUSONLINE6BOR	<=						
ZEUSONLINE6EOR	<=						
ZEUSONLINE6ENV	<=						
ZEUSTEST7BOR	<=						
ZEUSTEST7EOR	<=						
ZEUSTEST7ENV	<=						
ZEUSTEST8BOR	<=						
ZEUSTEST8EOR	<=						
ZEUSTEST8ENV	<=						
ZEUSONLINE7BOR	<=						
ZEUSONLINE7EOR	<=						
ZEUSONLINE7ENV	<=						
ZEUSTEST9BOR	<=						
ZEUSTEST9EOR	<=						
ZEUSTEST9ENV	<=						
ZEUSONLINE8BOR	<=						
ZEUSONLINE8EOR	<=						
ZEUSONLINE8ENV	<=						
ZEUSONLINE9BOR	<=						
ZEUSONLINE9EOR	<=						
ZEUSONLINE9ENV	<=						
ZEUSONLINE4EVT	<=	BCEvent	=>	{BCRaw_}			BCEvent is the stream of data belonging to an
ZEUSONLINE4TST	<=		=>	{BCSLT_}			individual event
ZEUSONLINE5EVT	<=						
ZEUSONLINE5TST	<=						
ZEUSTEST6EVT	<=						
ZEUSTEST6TST	<=						
ZEUSONLINE6EVT	<=						
ZEUSONLINE6TST	<=						
ZEUSTEST7EVT	<=						
ZEUSTEST7TST	<=						
ZEUSTEST8EVT	<=						
ZEUSTEST8TST	<=						
ZEUSONLINE7EVT	<=						
ZEUSONLINE7TST	<=						
ZEUSTEST9EVT	<=						
ZEUSTEST9TST	<=						
ZEUSONLINE8EVT	<=						
ZEUSONLINE8TST	<=						
ZEUSONLINE9TST	<=						
ZEUSONLINE9EVT	<=						
ZEUSONLINE10EVT	<=						
ZEUSTEST11EVT	<=						
ZEUSONLINE11EVT	<=						
		BMPGeometry1	=>	{BPDIV_}			
			=>	{BPPARA_}			
			=>	{BPRJCT_}			
			=>	{BPVOLU_}			
			=>	{BPSDET_}			
			=>	{BPSDTA_}			
			=>	{BPSDTD_}			
			=>	{BPSDTH_}			
			=>	{BPSDTU_}			
			=>	{BPSDTV_}			
			=>	{BPDICO_}			
		BMPGeometry2	=>	{BPPOS_}			
		BMUGeometry1	=>	{MBDIV_}			
			=>	{MBPARA_}			
			=>	{MBRJCT_}			
			=>	{MBVOLU_}			
			=>	{MBSDET_}			
			=>	{MBSDTA_}			
			=>	{MBSDTD_}			
			=>	{MBSDTH_}			
			=>	{MBSDTU_}			
			=>	{MBSDTV_}			
		BMUGeometry2	=>	{MBPOS_}			
		BMUGeometry3	=>	{MBZEUS_}			Muon Barrel Geometry used in Reconstruction Phase
			=>	{MBAR_}			1; it contains the construction,survey and on line
			=>	{MBSE_}			monitoring data from which positioning is derived
			=>	{MBCH_}			and updated; relationships with VOLU, POS, ROTM
			=>	{MBPL_}			are implicit via the MBPL_NO,MBCH_NO and
			=>	{MBRM_}			VOLU_Nr,MBRM_NO and ROT_ID columns

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
ZEUSONLINE13 ZEUSONLINE14	<= <=	BMUOONLINE1	=> => => => =>	MBEVT1 MBRAWEVENTIV MBENV1 MBBOR1 MBEOR1			
		BODY	=> =>	MCTRUTH RAWDATA			
ZEUSTEST6BOR ZEUSONLINE6BOR ZEUSTEST7BOR	<= <= <=	BPBOR1	=> => => =>	{BPBAD_} {BPBSCA_} {BPBSLT_} {BPBECA_}			Begin of Run data .
ZEUSTEST8BOR ZEUSONLINE7BOR ZEUSTEST9BOR ZEUSONLINE8BOR ZEUSONLINE9BOR RCALONLINE1	<= <= <= <= <= <=	BPBOR2	=> => => => =>	{BPBAD_} {BPBSCA_} {BPBSLT_} {BPBECA_} {BPPMNO_}			Begin of Run data .
		BPCcondition	=> =>	{BPCCOND_} {BPCMOD_}			BPC condition data
ZEUSTEST6ENV ZEUSONLINE6ENV ZEUSTEST7ENV ZEUSTEST8ENV ZEUSONLINE7ENV ZEUSTEST9ENV ZEUSONLINE8ENV ZEUSONLINE9ENV RCALONLINE1	<= <= <= <= <= <= <= <= <=	BPENV1	=> =>	{BPDCCN_} {BPDMON_}			BPC data for Environmental trigger.
ZEUSTEST6EOR ZEUSONLINE6EOR ZEUSTEST7EOR ZEUSTEST8EOR ZEUSONLINE7EOR ZEUSTEST9EOR ZEUSONLINE8EOR ZEUSONLINE9EOR RCALONLINE1	<= <= <= <= <= <= <= <= <=	BPEOR1	=> => => => => => =>	{BPPQMS_} {BPPPMS_} {BPPLMS_} {BPPDMS_} {BPDUMS_} {BPPCHI_} {BPVCAL_}			BPC data for End of Run trigger.
ZEUSTEST6EVT ZEUSONLINE6EVT ZEUSTEST7EVT	<= <= <=	BPEVT1	=> => => => => =>	{BPDCCN_} {BPTENE_} {BP6SAM_} {BP8SAM_} {BPXOR_} {BPSLT_}			BPC data for a normal event.
ZEUSTEST8EVT ZEUSONLINE7EVT ZEUSTEST9EVT ZEUSONLINE8EVT ZEUSONLINE9EVT ZEUSONLINE10EVT ZEUSTEST11EVT ZEUSONLINE11EVT RCALONLINE1 ZEUSONLINE15EVT ZEUSONLINE16EVT ZEUSONLINE17EVT	<= <= <= <= <= <= <= <= <= <= <= <=	BPEVT2	=> => => => => => =>	{BPDCCN_} {BPTENE_} {BPCOEN_} {BP6SAM_} {BP8SAM_} {BPXOR_} {BPSLT_}			BPC data for a normal event.
BPTST2	<=	BPLASER5	=> => => => => =>	{BPDCCN_} {BPTENE_} {BPCOEN_} {BP6SAM_} {BP8SAM_} {BPXOR_}			BPC data for a LASER test trigger event.
BPTST1	<=	BPLASERZ4	=> => => => =>	{BPDCCN_} {BPTENE_} {BP6SAM_} {BP8SAM_} {BPXOR_}			BPC data for a LASER test trigger event.
BPTST2	<=	BPLED5	=> => => => => =>	{BPDCCN_} {BPTENE_} {BPCOEN_} {BP6SAM_} {BP8SAM_} {BPXOR_}			BPC data for a LED test trigger event.
BPTST1	<=	BPLEDZ4	=> => => => =>	{BPDCCN_} {BPTENE_} {BP6SAM_} {BP8SAM_} {BPXOR_}			BPC data for a LED test trigger event.
BPTST2	<=	BPQINJEMPTY5	=> => => => => =>	{BPDCCN_} {BPTENE_} {BPCOEN_} {BP6SAM_} {BP8SAM_} {BPXOR_}			BPC data for a QINJ/PED test trigger event.
BPTST1	<=	BPQINJEMPTYZ4	=> => => => =>	{BPDCCN_} {BPTENE_} {BP6SAM_} {BP8SAM_} {BPXOR_}			BPC data for a QINJ/PED test trigger event.
		BPRECO	=> =>	{BPELEC_} {BPEMPZ_}			Reconstructed data from BPC

|
V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
ZEUSTEST9BOR ZEUSONLINE8BOR ZEUSONLINE9BOR	<= <= <=	BPTBOR1	=> => => => =>	{BPTBOR_} {BPTHIG_} {BPTRWH_} {BPTLOW_} {BPTRWL_}			Begin of run (BOR) for the Beam Pipe Tracker (BPT)
ZEUSTEST9EVT ZEUSONLINE8EVT ZEUSONLINE9EVT ZEUSONLINE10EVT ZEUSTEST11EVT ZEUSONLINE11EVT	<= <= <= <= <= <=	BPTEVT1	=> =>	{BPTHEA_} {BPTRWD_}			Raw event data from the Beam Pipe Tracker (BPT)
ZEUSTEST6TST ZEUSONLINE6TST ZEUSTEST7TST	<= <= <=	BPTST1	=> => => =>	BPQINJEMPTYZ4 BPLASERZ4 BPLEDZ4 BPUNOZ4			
ZEUSTEST8TST ZEUSONLINE7TST ZEUSTEST9TST ZEUSONLINE8TST ZEUSONLINE9TST RCALONLINE1	<= <= <= <= <= <=	BPTST2	=> => => =>	BPQINJEMPTY5 BPLASER5 BPLED5 BPUNOZ4			
		BPTcalibration	=>	{BPTCAL_}			Beam Pipe Tracker (BPT) calibration data
		BPTcondition	=> =>	{BPTCONF_} {BPTCST_}			Beam Pipe Tracker (BPT) running conditions
BPTST1 BPTST2	<= <=	BPUNOZ4	=> =>	{BPDCCN_} {BPUM_}			BPC data for a DUNO test trigger.
		C5Geometry1	=> => => => => => => => => => =>	{C5DIV_} {C5PARA_} {C5RJCT_} {C5VOLU_} {C5SDET_} {C5SDTA_} {C5SDTD_} {C5SDTH_} {C5SDTU_} {C5SDTV_} {C5DICO_}			
		C5Geometry2	=>	{C5POS_}			
		CABLNG	=> => => => => => => => => => => => => =>	{PMT_} {PMTF_} {ANLCRD_} {FECLST_} {TSUMCD_} {TSCLST_} {Cable_} {CABLST_} {CBDIST_} {CSPLIT_} {TECONA_} {TECONB_} {TRGTWR_} {TEC_}			
		CALCalibration1	=>	{COACal_}			UNO calibration constants
		CALIBIII	=> => => => => =>	MBRAWEVENTIII MFRAWEVENTII TCCALIBIII XXRAWEVENTII O2DATAIII O3DATAIII			calibration event, with CTD calibration
		CALIBZ3	=> => => => => => => => => => => =>	CBLASERZ2 CFLASERZ2 CBQINJEMPTYZ2 CFQINJEMPTYZ2 CBLEDZ2 CFLEDZ2 MBRAWEVENTIV MFRAWEVENTII TCCALIBZI XXRAWEVENTII O2DATAZI TLTDATAZI			calibration event, MARCH 93
		CALIBZI	=> => => => => =>	MBRAWEVENTIII MFRAWEVENTII TCCALIBZI XXRAWEVENTII O2DATAZI TLTDATAZI			calibration event, with CTD calibration
SPECIALEVTZ3 ZEUSTEST2EOR	<= <=	CBCALEORZ2	=> => => => => => => =>	{CBEOR_} {CBPQMS_} {CBPPMS_} {CBPLMS_} {CBPDMS_} {CBDUMS_} {CBPCHI_} {CBTCNT_}			End of Run data.

|
V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
ZEUSONLINE4ENV	<=	CBENV2	=>	{CBDCCN_}			BCAL data for Environmental trigger.
ZEUSONLINE5ENV	<=		=>	{CBDMON_}			
ZEUSTEST6ENV	<=		=>	{CBTIL1_}			
ZEUSONLINE6ENV	<=		=>	{CBCENV_}			
ZEUSTEST7ENV	<=		=>	{CBPQMS_}			
			=>	{CBPPMS_}			
			=>	{CBPLMS_}			
			=>	{CBPDMS_}			
			=>	{CBDUMS_}			
			=>	{CBPCHI_}			
			=>	{CBTCNT_}			
			=>	{CBVCAL_}			
ZEUSTEST8ENV	<=	CBENV3	=>	{CBDCCN_}			BCAL data for Environmental trigger.
ZEUSONLINE7ENV	<=		=>	{CBDMON_}			
ZEUSTEST9ENV	<=		=>	{CBTIL1_}			
ZEUSONLINE8ENV	<=		=>	{CBCENV_}			
ZEUSONLINE9ENV	<=						
BCALONLINE1	<=						
ZEUSONLINE15ENV	<=						
ZEUSONLINE16ENV	<=						
ZEUSONLINE17ENV	<=						
		CBENVIII	=>	{CBDCCN_}			BCAL data for Environmental trigger.
			=>	{CBDMON_}			
SPECIALEVTZ3	<=	CBENVZ2	=>	{CBDCCN_}			BCAL data for Environmental trigger.
ZEUSTEST2ENV	<=		=>	{CBDMON_}			
			=>	{CBTIL1_}			
			=>	{CBCENV_}			
			=>	{CBPQMS_}			
			=>	{CBPPMS_}			
			=>	{CBPLMS_}			
			=>	{CBPDMS_}			
			=>	{CBDUMS_}			
			=>	{CBPCHI_}			
			=>	{CBTCNT_}			
		CBENVZI	=>	{CBDCCN_}			BCAL data for Environmental trigger.
			=>	{CBDMON_}			
			=>	{CBTIL1_}			
ZEUSONLINE4EOR	<=	CBEOR2	=>	{CBEOR_}			End of Run data.
ZEUSONLINE5EOR	<=		=>	{CBPQMS_}			
ZEUSTEST6EOR	<=		=>	{CBPPMS_}			
ZEUSONLINE6EOR	<=		=>	{CBPLMS_}			
ZEUSTEST7EOR	<=		=>	{CBPDMS_}			
ZEUSTEST8EOR	<=		=>	{CBDUMS_}			
ZEUSONLINE7EOR	<=		=>	{CBPCHI_}			
ZEUSTEST9EOR	<=		=>	{CBTCNT_}			
ZEUSONLINE8EOR	<=		=>	{CBVCAL_}			
ZEUSONLINE9EOR	<=						
BCALONLINE1	<=						
ZEUSONLINE15EOR	<=						
ZEUSONLINE16EOR	<=						
ZEUSONLINE17EOR	<=						
CBEVT4	<=	CBEVT3	=>	{CBDCCN_}			BCAL data for a normal event.
ZEUSTEST8EVT	<=		=>	{CBTENE_}			
ZEUSONLINE7EVT	<=		=>	{CBPECO_}			
ZEUSTEST9EVT	<=		=>	{CBCOEN_}			
ZEUSONLINE8EVT	<=		=>	{CB6SAM_}			
ZEUSONLINE9EVT	<=		=>	{CB8SAM_}			
ZEUSONLINE10EVT	<=		=>	{CBXOR_}			
ZEUSTEST11EVT	<=						
ZEUSONLINE11EVT	<=	CBEVT4	=>	CBEVT3			BCAL data for a normal event.
BCALONLINE1	<=		=>	{CBSYNC_}			
ZEUSONLINE15EVT	<=						
ZEUSONLINE16EVT	<=						
ZEUSONLINE17EVT	<=						
CBTST3	<=	CBLASER3	=>	{CBDCCN_}			BCAL data for a LASER test trigger event.
			=>	{CBTENE_}			
			=>	{CBPECO_}			
			=>	{CBCOEN_}			
			=>	{CB6SAM_}			
			=>	{CB8SAM_}			
			=>	{CBXOR_}			
		CBLASERII	=>	{CBDCCN_}			BCAL data for a LASER test trigger event.
			=>	{CBTENE_}			
			=>	{CBSAM8_}			
		CBLASERIII	=>	{CBDCCN_}			BCAL data for a LASER test trigger event.
			=>	{CBTENE_}			
CBTST1	<=	CBLASERZ2	=>	{CBDCCN_}			BCAL data for a LASER test trigger event.
CBTST2	<=		=>	{CBTENE_}			
CALIBZ3	<=		=>	{CBPECO_}			
			=>	{CB6SAM_}			
			=>	{CB8SAM_}			
			=>	{CBXOR_}			
		CBLASERZI	=>	{CBDCCN_}			BCAL data for a LASER test trigger event.
			=>	{CB6SAM_}			
			=>	{CB8SAM_}			
			=>	{CBTENE_}			
		CBLED	=>	{CBDCCN_}			BCAL data for a LED test trigger event.
			=>	{CBTENE_}			
			=>	{CBSAM8_}			

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
CBTST3	<=	CBLED3	=>	{CBDCCN_}			BCAL data for a LED test trigger event.
			=>	{CBTENE_}			
			=>	{CBPECO_}			
			=>	{CBCOEN_}			
			=>	{CB6SAM_}			
			=>	{CB8SAM_}			
			=>	{CBXOR_}			
		CBLEDIII	=>	{CBDCCN_}			BCAL data for a LED test trigger event.
			=>	{CBTENE_}			
CBTST1	<=	CBLEDZ2	=>	{CBDCCN_}			BCAL data for a LED test trigger event.
CBTST2	<=		=>	{CBTENE_}			
CALIBZ3	<=		=>	{CBPECO_}			
			=>	{CB6SAM_}			
			=>	{CB8SAM_}			
			=>	{CBXOR_}			
		CBLEDZI	=>	{CBDCCN_}			BCAL data for a LED test trigger event.
			=>	{CR6SAM_}			
			=>	{CR8SAM_}			
			=>	{CBTENE_}			
		CBQINJEMPTY	=>	{CBDCCN_}			BCAL data for a special event.
			=>	{CBTENE_}			
			=>	{CBSAM8_}			
CBTST3	<=	CBQINJEMPTY3	=>	{CBDCCN_}			BCAL data for a QINJ/PED test trigger event.
			=>	{CBTENE_}			
			=>	{CBPECO_}			
			=>	{CBCOEN_}			
			=>	{CB6SAM_}			
			=>	{CB8SAM_}			
			=>	{CBXOR_}			
		CBQINJEMPTYIII	=>	{CBDCCN_}			BCAL data for a normal event.
			=>	{CBTENE_}			
CBTST1	<=	CBQINJEMPTYZ2	=>	{CBDCCN_}			BCAL data for a QINJ/PED test trigger event.
CBTST2	<=		=>	{CBTENE_}			
CALIBZ3	<=		=>	{CBPECO_}			
			=>	{CB6SAM_}			
			=>	{CB8SAM_}			
			=>	{CBXOR_}			
		CBQINJEMPTYZI	=>	{CBDCCN_}			BCAL data for a normal event.
			=>	{CB6SAM_}			
			=>	{CB8SAM_}			
			=>	{CBTENE_}			
		CBRAWEVENT	=>	{CBDCCN_}			
			=>	{CBENER_}			
			=>	{CBSAM8_}			
		CBRAWEVENTII	=>	{CBDCCN_}			
			=>	{CBTENE_}			
			=>	{CBHSA6_}			
			=>	{CBSAM8_}			
		CBRAWEVENTIII	=>	{CBDCCN_}			BCAL data for a normal event.
			=>	{CBTENE_}			
			=>	{CB6SAM_}			
			=>	{CBHSA6_}			
		CBRAWEVENTZ3	=>	{CBXOR_}			BCAL data for a normal event.
			=>	{CBDCCN_}			
			=>	{CBTENE_}			
			=>	{CBPECO_}			
			=>	{CB6SAM_}			
			=>	{CB8SAM_}			
ZEUSONLINE4EVT	<=	CBRAWEVENTZ4	=>	{CBDCCN_}			BCAL data for a normal event.
ZEUSONLINE5EVT	<=		=>	{CBTENE_}			
ZEUSTEST6EVT	<=		=>	{CBPECO_}			
ZEUSONLINE6EVT	<=		=>	{CB6SAM_}			
ZEUSTEST7EVT	<=		=>	{CB8SAM_}			
			=>	{CBXOR_}			
		CBRAWEVENTZI	=>	{CBDCCN_}			BCAL data for a normal event.
			=>	{CBTENE_}			
			=>	{CB6SAM_}			
			=>	{CB8SAM_}			
ZEUSONLINE4TST	<=	CBTST1	=>	CBQINJEMPTYZ2			
ZEUSONLINE5TST	<=		=>	CBLASERZ2			
ZEUSTEST6TST	<=		=>	CBLEDZ2			
ZEUSONLINE6TST	<=		=>	CBUNOZ3			
ZEUSTEST7TST	<=						
		CBTST2	=>	CBQINJEMPTYZ2			
			=>	CBLASERZ2			
			=>	CBLEDZ2			
			=>	CBUNO4			
ZEUSTEST8TST	<=	CBTST3	=>	CBQINJEMPTY3			
ZEUSONLINE7TST	<=		=>	CBLASER3			
ZEUSTEST9TST	<=		=>	CBLED3			
ZEUSONLINE8TST	<=		=>	CBUNO4			
ZEUSONLINE9TST	<=						
BCALONLINE1	<=						
ZEUSONLINE15TST	<=						
ZEUSONLINE16TST	<=						
ZEUSONLINE17TST	<=						
CBTST2	<=	CBUNO4	=>	{CBDCCN_}			BCAL data for a DUNO test trigger.
CBTST3	<=		=>	{CBUN_}			
			=>	{CBUM_}			

|
V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
		CBUNOIII	=> =>	{CBDCCN_} {CBUN_}			FCAL data for a DUNO test trigger.
		CBUNOZ2	=> =>	{CBDCCN_} {CBUN_}			FCAL data for a DUNO test trigger.
CBTST1	<=	CBUNOZ3	=> => =>	{CBDCCN_} {CBUN_} {CBUM_}			BCAL data for a DUNO test trigger.
		CBUNOZI	=> =>	{CBDCCN_} {CBUN_}			FCAL data for a DUNO test trigger.
		CCALLBOR	=>	{CFBOR_}			
		CCALLBORII	=>	{CFBOR_}			
		CCALLBORIII	=>	{CFBOR_}			
		CCALLBORZ2	=> => => => => => => => => => => => => => => => => =>	{CFBOR_} {CFBAD_} {CFTBAD_} {CFSLCT_} {CFPBOR_} {CFDBOR_} {CRBOR_} {CRBAD_} {CRTBAD_} {CRSLCT_} {CRPBOR_} {CRDBOR_} {CBBOR_} {CBBAD_} {CBTBAD_} {CBSLCT_} {CBPBOR_} {CBDBOR_}			Begin of Run data .
		CCALLBORZ3	=> =>	{CFBOR_} {CFBAD_} {CFTBAD_} {CFSLCT_} {CFPBOR_} {CFDBOR_} {CRBOR_} {CRBAD_} {CRTBAD_} {CRSLCT_} {CRPBOR_} {CRDBOR_} {CBBOR_} {CBBAD_} {CBTBAD_} {CBSLCT_} {CBPBOR_} {CBDBOR_} {CRTPAR_} {CRTOFF_} {CRTADD_} {CRTCAL_} {CFTTCA_} {CRPTAB_}			Begin of Run data .
		CCALLBORZI	=> => => => => => => => => => => =>	{CFBOR_} {CFBAD_} {CFTBAD_} {CFSLCT_} {CRBOR_} {CRBAD_} {CRTBAD_} {CRSLCT_} {CBBOR_} {CBBAD_} {CBTBAD_} {CBSLCT_}			Begin of Run data .
		CCALLEOR	=>	{CFEOR_}			
		CCALLEORII	=>	{CFEOR_}			
		CCALLEORIII	=>	{CFEOR_}			
		CCALLEORZI	=>	{CFEOR_}			End of Run data.

V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
		CCBOR1	=>	{CFBOR_}			Begin of Run data .
			=>	{CFBAD_}			
			=>	{CFTBAD_}			
			=>	{CFSLCT_}			
			=>	{CFPBOR_}			
			=>	{CFDBOR_}			
			=>	{CFBUNO_}			
			=>	{CRBOR_}			
			=>	{CRBAD_}			
			=>	{CRTBAD_}			
			=>	{CRSLCT_}			
			=>	{CRPBOR_}			
			=>	{CRDBOR_}			
			=>	{CRBUNO_}			
			=>	{CBBOR_}			
			=>	{CBBAD_}			
			=>	{CBTBAD_}			
			=>	{CBSLCT_}			
			=>	{CBPBOR_}			
			=>	{CBDBOR_}			
			=>	{CBBUNO_}			
			=>	{CRTPAR_}			
			=>	{CRTOFF_}			
			=>	{CRTADD_}			
			=>	{CRTCAL_}			
			=>	{CFTTCA_}			
			=>	{CRPTAB_}			
			=>	{PRBAD_}			
ZEUSONLINE4BOR	<=	CCBOR2	=>	{CFBOR_}			Begin of Run data .
ZEUSONLINE5BOR	<=		=>	{CFBAD_}			
			=>	{CFTBAD_}			
			=>	{CFSLCT_}			
			=>	{CFPBOR_}			
			=>	{CFDBOR_}			
			=>	{CFBUNO_}			
			=>	{CFBECA_}			
			=>	{CRBOR_}			
			=>	{CRBAD_}			
			=>	{CRTBAD_}			
			=>	{CRSLCT_}			
			=>	{CRPBOR_}			
			=>	{CRDBOR_}			
			=>	{CRBUNO_}			
			=>	{CRBECA_}			
			=>	{CBBOR_}			
			=>	{CBBAD_}			
			=>	{CBTBAD_}			
			=>	{CBSLCT_}			
			=>	{CBPBOR_}			
			=>	{CBDBOR_}			
			=>	{CBBUNO_}			
			=>	{CBBECA_}			
			=>	{CRTPAR_}			
			=>	{CRTOFF_}			
			=>	{CRTADD_}			
			=>	{CRTCAL_}			
			=>	{CFTTCA_}			
			=>	{CRPTAB_}			
			=>	{PRBAD_}			
ZEUSTEST6BOR	<=	CCBOR3	=>	{CFBOR_}			Begin of Run data .
ZEUSONLINE6BOR	<=		=>	{CFBAD_}			
ZEUSTEST7BOR	<=		=>	{CFTBAD_}			
			=>	{CFSLCT_}			
			=>	{CFPBOR_}			
			=>	{CFDBOR_}			
			=>	{CFBUNO_}			
			=>	{CFBECA_}			
			=>	{CRBOR_}			
			=>	{CRBAD_}			
			=>	{CRTBAD_}			
			=>	{CRSLCT_}			
			=>	{CRPBOR_}			
			=>	{CRDBOR_}			
			=>	{CRBUNO_}			
			=>	{CRBECA_}			
			=>	{CBBOR_}			
			=>	{CBBAD_}			
			=>	{CBTBAD_}			
			=>	{CBSLCT_}			
			=>	{CBPBOR_}			
			=>	{CBDBOR_}			
			=>	{CBBUNO_}			
			=>	{CBBECA_}			

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
ZEUSTEST8BOR	<=	CCBOR4	=>	{CFBOR_}			Begin of Run data .
ZEUSONLINE7BOR	<=		=>	{CFBAD_}			
ZEUSTEST9BOR	<=		=>	{CFTBAD_}			
ZEUSONLINE8BOR	<=		=>	{CFSLCT_}			
ZEUSONLINE9BOR	<=		=>	{CFPBOR_}			
BCALONLINE1	<=		=>	{CFDBOR_}			
ZEUSONLINE15BOR	<=		=>	{CFBUNO_}			
ZEUSONLINE16BOR	<=		=>	{CFBECA_}			
ZEUSONLINE17BOR	<=		=>	{CFPMNO_}			
			=>	{CRBOR_}			
			=>	{CRBAD_}			
			=>	{CRTBAD_}			
			=>	{CRSLCT_}			
			=>	{CRPBOR_}			
			=>	{CRDBOR_}			
			=>	{CRBUNO_}			
			=>	{CRBECA_}			
			=>	{CRPMNO_}			
			=>	{CBBOR_}			
			=>	{CBBAD_}			
			=>	{CBTBAD_}			
			=>	{CBSLCT_}			
			=>	{CBPBOR_}			
			=>	{CBDBOR_}			
			=>	{CBBUNO_}			
			=>	{CBBECA_}			
			=>	{CBPMNO_}			
		CCNALL	=>	{CCNSAMP_}			All these tables contain the noise statistics collected on the TLT
			=>	{CCNSPARK_}			
			=>	{CCNNOIS1_}			
			=>	{CCNNOIS2_}			
			=>	{CCNNOIS3_}			
			=>	{CCNNOIS4_}			
			=>	{CCNPHYSI_}			
			=>	{CCNPHYST_}			
SPECIALEVTZ3	<=	CFCALEORZ2	=>	{CFEOR_}			End of Run data.
ZEUSTEST2EOR	<=		=>	{CFPQMS_}			
			=>	{CFPPMS_}			
			=>	{CFPLMS_}			
			=>	{CFPDMS_}			
			=>	{CFDUMS_}			
			=>	{CFPCHI_}			
			=>	{CFTCNT_}			
ZEUSONLINE4ENV	<=	CFENV2	=>	{CFDCCN_}			FCAL data for Environmental trigger.
ZEUSONLINE5ENV	<=		=>	{CFDMON_}			
ZEUSTEST6ENV	<=		=>	{CFTIL1_}			
ZEUSONLINE6ENV	<=		=>	{CFCENV_}			
ZEUSTEST7ENV	<=		=>	{CFPQMS_}			
			=>	{CFPPMS_}			
			=>	{CFPLMS_}			
			=>	{CFPDMS_}			
			=>	{CFDUMS_}			
			=>	{CFPCHI_}			
			=>	{CFTCNT_}			
			=>	{CFVCAL_}			
ZEUSTEST8ENV	<=	CFENV3	=>	{CFDCCN_}			FCAL data for Environmental trigger.
ZEUSONLINE7ENV	<=		=>	{CFDMON_}			
ZEUSTEST9ENV	<=		=>	{CFTIL1_}			
ZEUSONLINE8ENV	<=		=>	{CFCENV_}			
ZEUSONLINE9ENV	<=						
FCALONLINE1	<=						
ZEUSONLINE15ENV	<=						
ZEUSONLINE16ENV	<=						
ZEUSONLINE17ENV	<=						
		CFENVIII	=>	{CFDCCN_}			FCAL data for Environmental trigger.
			=>	{CFDMON_}			
SPECIALEVTZ3	<=	CFENVZ2	=>	{CFDCCN_}			FCAL data for Environmental trigger.
ZEUSTEST2ENV	<=		=>	{CFDMON_}			
			=>	{CFTIL1_}			
			=>	{CFCENV_}			
			=>	{CFPQMS_}			
			=>	{CFPPMS_}			
			=>	{CFPLMS_}			
			=>	{CFPDMS_}			
			=>	{CFDUMS_}			
			=>	{CFPCHI_}			
			=>	{CFTCNT_}			
		CFENVZI	=>	{CFDCCN_}			FCAL data for Environmental trigger.
			=>	{CFDMON_}			
			=>	{CFTIL1_}			
ZEUSONLINE4EOR	<=	CFEOR2	=>	{CFEOR_}			End of Run data.
ZEUSONLINE5EOR	<=		=>	{CFPQMS_}			
ZEUSTEST6EOR	<=		=>	{CFPPMS_}			
ZEUSONLINE6EOR	<=		=>	{CFPLMS_}			
ZEUSTEST7EOR	<=		=>	{CFPDMS_}			
ZEUSTEST8EOR	<=		=>	{CFDUMS_}			
ZEUSONLINE7EOR	<=		=>	{CFPCHI_}			
ZEUSTEST9EOR	<=		=>	{CFTCNT_}			
ZEUSONLINE8EOR	<=		=>	{CFVCAL_}			
ZEUSONLINE9EOR	<=						
FCALONLINE1	<=						
ZEUSONLINE15EOR	<=						
ZEUSONLINE16EOR	<=						
ZEUSONLINE17EOR	<=						

|
V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
CFEVT4 ZEUSTEST8EVT ZEUSONLINE7EVT ZEUSTEST9EVT ZEUSONLINE8EVT ZEUSONLINE9EVT ZEUSONLINE10EVT ZEUSTEST11EVT	<= <= <= <= <= <= <= <=	CFEVT3	=> => => => => => =>	{CFDCCN_} {CFTENE_} {CFPECO_} {CFCOEN_} {CF6SAM_} {CF8SAM_} {CFXOR_}			FCAL data for a normal event.
ZEUSONLINE11EVT FCALONLINE1 ZEUSONLINE15EVT ZEUSONLINE16EVT ZEUSONLINE17EVT	<= <= <= <= <=	CFEVT4	=> =>	CFEVT3 {CFSYNC_}			FCAL data for a normal event.
CFTST3	<=	CFLASER3	=> => => => => => =>	{CFDCCN_} {CFTENE_} {CFPECO_} {CFCOEN_} {CF6SAM_} {CF8SAM_} {CFXOR_}			FCAL data for a LASER test trigger event.
		CFLASERII	=> => =>	{CFDCCN_} {CFTENE_} {CFSAM8_}			FCAL data for a LASER test trigger event.
		CFLASERIII	=> =>	{CFDCCN_} {CFTENE_}			FCAL data for a LASER test trigger event.
CFTST1 CFTST2 CALIBZ3	<= <= <=	CFLASERZ2	=> => => => => =>	{CFDCCN_} {CFTENE_} {CFPECO_} {CF6SAM_} {CF8SAM_} {CFXOR_}			FCAL data for a LASER test trigger event.
		CFLASERZI	=> => => =>	{CFDCCN_} {CF6SAM_} {CF8SAM_} {CFTENE_}			FCAL data for a LASER test trigger event.
		CFLED	=> => =>	{CFDCCN_} {CFTENE_} {CFSAM8_}			FCAL data for a LED test trigger event.
CFTST3	<=	CFLED3	=> => => => => => =>	{CFDCCN_} {CFTENE_} {CFPECO_} {CFCOEN_} {CF6SAM_} {CF8SAM_} {CFXOR_}			FCAL data for a LED test trigger event.
		CFLEDIII	=> =>	{CFDCCN_} {CFTENE_}			FCAL data for a LED test trigger event.
CFTST1 CFTST2 CALIBZ3	<= <= <=	CFLEDZ2	=> => => => => =>	{CFDCCN_} {CFTENE_} {CFPECO_} {CF6SAM_} {CF8SAM_} {CFXOR_}			FCAL data for a LED test trigger event.
		CFLEDZI	=> => => =>	{CFDCCN_} {CF6SAM_} {CF8SAM_} {CFTENE_}			FCAL data for a LED test trigger event.
		CFQINJEMPTY	=> => =>	{CFDCCN_} {CFTENE_} {CFSAM8_}			FCAL data for a special event.
CFTST3	<=	CFQINJEMPTY3	=> => => => => => =>	{CFDCCN_} {CFTENE_} {CFPECO_} {CFCOEN_} {CF6SAM_} {CF8SAM_} {CFXOR_}			FCAL data for a QINJ/PED test trigger event.
		CFQINJEMPTYIII	=> =>	{CFDCCN_} {CFTENE_}			FCAL data for a normal event.
CFTST1 CFTST2 CALIBZ3	<= <= <=	CFQINJEMPTYZ2	=> => => => => =>	{CFDCCN_} {CFTENE_} {CFPECO_} {CF6SAM_} {CF8SAM_} {CFXOR_}			FCAL data for a QINJ/PED test trigger event.
		CFQINJEMPTYZI	=> => => =>	{CFDCCN_} {CF6SAM_} {CF8SAM_} {CFTENE_}			FCAL data for a normal event.
		CFRAWEVENT	=> => =>	{CFDCCN_} {CFENER_} {CFSAM8_}			
		CFRAWEVENTII	=> => => =>	{CFDCCN_} {CFTENE_} {CFHSA6_} {CFSAM8_}			

|
V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
		CFRAWEVENTIII	=> => => =>	{CFDCCN_} {CFTENE_} {CF6SAM_} {CFHSA6_}			FCAL data for a normal event.
		CFRAWEVENTZ3	=> => => => => =>	{CFXOR_} {CFDCCN_} {CFTENE_} {CFPECO_} {CF6SAM_} {CF8SAM_}			FCAL data for a normal event.
ZEUSONLINE4EVT ZEUSONLINE5EVT ZEUSTEST6EVT ZEUSONLINE6EVT ZEUSTEST7EVT	<= <= <= <= <=	CFRAWEVENTZ4	=> => => => => =>	{CFDCCN_} {CFTENE_} {CFPECO_} {CF6SAM_} {CF8SAM_} {CFXOR_}			FCAL data for a normal event.
		CFRAWEVENTZI	=> => => =>	{CFDCCN_} {CFTENE_} {CF6SAM_} {CF8SAM_}			FCAL data for a normal event.
ZEUSONLINE4TST ZEUSONLINE5TST ZEUSTEST6TST ZEUSONLINE6TST ZEUSTEST7TST	<= <= <= <= <=	CFTST1	=> => => =>	CFQINJEMPTYZ2 CFLASERZ2 CFLEDZ2 CFUNOZ3			
		CFTST2	=> => => =>	CFQINJEMPTYZ2 CFLASERZ2 CFLEDZ2 CFUNO4			
ZEUSTEST8TST ZEUSONLINE7TST ZEUSTEST9TST ZEUSONLINE8TST ZEUSONLINE9TST FCALONLINE1 ZEUSONLINE15TST ZEUSONLINE16TST ZEUSONLINE17TST	<= <= <= <= <= <= <= <= <=	CFTST3	=> => => =>	CFQINJEMPTY3 CFLASER3 CFLED3 CFUNO4			
CFTST2 CFTST3	<= <=	CFUNO4	=> => =>	{CFDCCN_} {CFUN_} {CFUM_}			FCAL data for a DUNO test trigger.
		CFUNOIII	=> =>	{CFDCCN_} {CFUN_}			FCAL data for a DUNO test trigger.
		CFUNOZ2	=> =>	{CFDCCN_} {CFUN_}			FCAL data for a DUNO test trigger.
CFTST1	<=	CFUNOZ3	=> => =>	{CFDCCN_} {CFUN_} {CFUM_}			FCAL data for a DUNO test trigger.
		CFUNOZI	=> =>	{CFDCCN_} {CFUN_}			FCAL data for a DUNO test trigger.
		CLCMGeometry1	=> => => => => => => => => => =>	{CMDIV_} {CMPARA_} {CMRJCT_} {CMVOLU_} {CMSDET_} {CMSDTA_} {CMSDTD_} {CMSDTH_} {CMSDTU_} {CMSDTV_} {CMDICO_}			
		CLCMGeometry2	=>	{CMPOS_}			
		COLLECTMCPHASE2	=> => => => =>	HEAD RAWDATA MCTRUTH PHASE1 PHASE2			collect all including PHASE2 + MCTRUTH
		COLLECTMCRAW	=> => =>	HEAD RAWDATA MCTRUTH			collect all including RAWDATA + MCTRUTH
		COLLECTPHASE2	=> => => =>	HEAD RAWDATA PHASE1 PHASE2			collect all including PHASE2
		COLLECTRAWDATA	=> =>	HEAD RAWDATA			collect all including RAWDATA
		CRCALEORZ2	=> => => => => => => => => => => =>	{CREOR_} {CRPQMS_} {CRPPMS_} {CRPLMS_} {CRPDMS_} {CRDUMS_} {CRPCHI_} {CRTCNT_} {SRPQMS_} {SRPPMS_} {SRPLMS_} {SRPDMS_}			End of Run data.

V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
		CRCALEORZ3	=>	{CREOR_}			End of Run data.
			=>	{CRPQMS_}			
			=>	{CRPPMS_}			
			=>	{CRPLMS_}			
			=>	{CRPDMS_}			
			=>	{CRDUMS_}			
			=>	{CRPCHI_}			
			=>	{CRTCNT_}			
			=>	{SRPQMS_}			
			=>	{SRPPMS_}			
			=>	{SRPLMS_}			
			=>	{SRPDMS_}			
			=>	{SRDUMS_}			
			=>	{FNPQMS_}			
			=>	{FNPPMS_}			
			=>	{FNPLMS_}			
			=>	{FNPDMS_}			
			=>	{FNDUMS_}			
			=>	{CR2QMS_}			
			=>	{CR2PMS_}			
			=>	{CR2LMS_}			
			=>	{CR2DMS_}			
			=>	{CR2UMS_}			
			=>	{CR4LMS_}			
		CRENV1	=>	{CRDCCN_}			RCAL data for Environmental trigger.
			=>	{CRDMON_}			
			=>	{CRTIL1_}			
			=>	{CRCENV_}			
			=>	{CRPQMS_}			
			=>	{CRPPMS_}			
			=>	{CRPLMS_}			
			=>	{CRPDMS_}			
			=>	{CRDUMS_}			
			=>	{CRPCHI_}			
			=>	{CRTCNT_}			
			=>	{PRDCCN_}			
			=>	{PRPQMS_}			
			=>	{PRPPMS_}			
			=>	{PRPLMS_}			
			=>	{PRPDMS_}			
			=>	{PRDMON_}			
ZEUSONLINE4ENV	<=	CRENV2	=>	{CRDCCN_}			RCAL data for Environmental trigger.
ZEUSONLINE5ENV	<=		=>	{CRDMON_}			
			=>	{CRTIL1_}			
			=>	{CRCENV_}			
			=>	{CRPQMS_}			
			=>	{CRPPMS_}			
			=>	{CRPLMS_}			
			=>	{CRPDMS_}			
			=>	{CRDUMS_}			
			=>	{CRPCHI_}			
			=>	{CRTCNT_}			
			=>	{CRVCAL_}			
			=>	{PRDCCN_}			
			=>	{PRPQMS_}			
			=>	{PRPPMS_}			
			=>	{PRPLMS_}			
			=>	{PRPDMS_}			
			=>	{PRDMON_}			
ZEUSTEST6ENV	<=	CRENV3	=>	{CRDCCN_}			RCAL data for Environmental trigger.
ZEUSONLINE6ENV	<=		=>	{CRDMON_}			
ZEUSTEST7ENV	<=		=>	{CRTIL1_}			
ZEUSTEST8ENV	<=		=>	{CRCENV_}			
ZEUSONLINE7ENV	<=						
ZEUSTEST9ENV	<=						
ZEUSONLINE8ENV	<=						
ZEUSONLINE9ENV	<=						
RCALONLINE1	<=						
ZEUSONLINE15ENV	<=						
ZEUSONLINE16ENV	<=						
ZEUSONLINE17ENV	<=						
		CRENVIII	=>	{CRDCCN_}			RCAL data for Environmental trigger.
			=>	{CRDMON_}			
		CRENVZ2	=>	{CRDCCN_}			RCAL data for Environmental trigger.
			=>	{CRDMON_}			
			=>	{CRTIL1_}			
			=>	{CRCENV_}			
			=>	{CRPQMS_}			
			=>	{CRPPMS_}			
			=>	{CRPLMS_}			
			=>	{CRPDMS_}			
			=>	{CRDUMS_}			
			=>	{CRPCHI_}			
			=>	{CRTCNT_}			
			=>	{SRPQMS_}			
			=>	{SRPPMS_}			
			=>	{SRPLMS_}			
			=>	{SRPDMS_}			

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
		CRENVZ3	=>	{CRDCCN_}			RCAL data for Environmental trigger.
			=>	{CRDMON_}			
			=>	{CRTIL1_}			
			=>	{CRCENV_}			
			=>	{CRPQMS_}			
			=>	{CRPPMS_}			
			=>	{CRPLMS_}			
			=>	{CRPDMS_}			
			=>	{CRDUMS_}			
			=>	{CRPCHI_}			
			=>	{CRTCNT_}			
			=>	{SRPQMS_}			
			=>	{SRPPMS_}			
			=>	{SRPLMS_}			
			=>	{SRPDMS_}			
			=>	{SRDMON_}			
			=>	{SRFLT_}			
			=>	{FNPQMS_}			
			=>	{FNPPMS_}			
			=>	{FNPLMS_}			
			=>	{FNPDMS_}			
			=>	{FNDMON_}			
		CRENVZI	=>	{CRDCCN_}			RCAL data for Environmental trigger.
			=>	{CRDMON_}			
			=>	{CRTIL1_}			
		CREOR1	=>	{CREOR_}			End of Run data.
			=>	{CRPQMS_}			
			=>	{CRPPMS_}			
			=>	{CRPLMS_}			
			=>	{CRPDMS_}			
			=>	{CRDUMS_}			
			=>	{CRPCHI_}			
			=>	{CRTCNT_}			
			=>	{PRPQMS_}			
			=>	{PRPPMS_}			
			=>	{PRPLMS_}			
			=>	{PRPDMS_}			
			=>	{PRDUMS_}			
			=>	{CR2QMS_}			
			=>	{CR2PMS_}			
			=>	{CR2LMS_}			
			=>	{CR2DMS_}			
			=>	{CR2UMS_}			
			=>	{CR4LMS_}			
ZEUSONLINE4EOR	<=	CREOR2	=>	{CREOR_}			End of Run data.
ZEUSONLINE5EOR	<=		=>	{CRPQMS_}			
			=>	{CRPPMS_}			
			=>	{CRPLMS_}			
			=>	{CRPDMS_}			
			=>	{CRDUMS_}			
			=>	{CRPCHI_}			
			=>	{CRTCNT_}			
			=>	{CRVCAL_}			
			=>	{PRPQMS_}			
			=>	{PRPPMS_}			
			=>	{PRPLMS_}			
			=>	{PRPDMS_}			
			=>	{PRDUMS_}			
			=>	{CR2QMS_}			
			=>	{CR2PMS_}			
			=>	{CR2LMS_}			
			=>	{CR2DMS_}			
			=>	{CR2UMS_}			
			=>	{CR4LMS_}			
ZEUSTEST6EOR	<=	CREOR3	=>	{CREOR_}			End of Run data.
ZEUSONLINE6EOR	<=		=>	{CRPQMS_}			
ZEUSTEST7EOR	<=		=>	{CRPPMS_}			
ZEUSTEST8EOR	<=		=>	{CRPLMS_}			
ZEUSONLINE7EOR	<=		=>	{CRPDMS_}			
ZEUSTEST9EOR	<=		=>	{CRDUMS_}			
ZEUSONLINE8EOR	<=		=>	{CRPCHI_}			
ZEUSONLINE9EOR	<=		=>	{CRTCNT_}			
RCALONLINE1	<=		=>	{CRVCAL_}			
ZEUSONLINE15EOR	<=						
ZEUSONLINE16EOR	<=						
ZEUSONLINE17EOR	<=						
ZEUSONLINE4EVT	<=	CREVT1	=>	{CRDCCN_}			RCAL data for a normal event.
ZEUSONLINE5EVT	<=		=>	{CRTENE_}			
			=>	{CRPECO_}			
			=>	{CR6SAM_}			
			=>	{CR8SAM_}			
			=>	{CRXOR_}			
			=>	{PRDCCN_}			
			=>	{PRTENE_}			
			=>	{PR6SAM_}			
			=>	{PR8SAM_}			
ZEUSTEST6EVT	<=	CREVT2	=>	{CRDCCN_}			RCAL data for a normal event.
ZEUSONLINE6EVT	<=		=>	{CRTENE_}			
ZEUSTEST7EVT	<=		=>	{CRPECO_}			
			=>	{CR6SAM_}			
			=>	{CR8SAM_}			
			=>	{CRXOR_}			
CREVT4	<=	CREVT3	=>	{CRDCCN_}			RCAL data for a normal event.
ZEUSTEST8EVT	<=		=>	{CRTENE_}			
ZEUSONLINE7EVT	<=		=>	{CRPECO_}			
ZEUSTEST9EVT	<=		=>	{CRCOEN_}			
ZEUSONLINE8EVT	<=		=>	{CR6SAM_}			
ZEUSONLINE9EVT	<=		=>	{CR8SAM_}			
ZEUSONLINE10EVT	<=		=>	{CRXOR_}			
ZEUSTEST11EVT	<=						

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
ZEUSONLINE11EVT RCALONLINE1 ZEUSONLINE15EVT ZEUSONLINE16EVT ZEUSONLINE17EVT	<= <= <= <= <=	CREVT4	=> =>	CREVT3 {CRSYNC_}			RCAL data for a normal event.
CRTST3	<=	CRLASER5	=> => => => => =>	{CRDCCN_} {CRTENE_} {CRPECO_} {CR6SAM_} {CR8SAM_} {CRXOR_}			RCAL data for a LASER test trigger event.
CRTST4	<=	CRLASER6	=> => => => => => =>	{CRDCCN_} {CRTENE_} {CRPECO_} {CRCOEN_} {CR6SAM_} {CR8SAM_} {CRXOR_}			RCAL data for a LASER test trigger event.
		CRLASERII	=> => => => => => =>	{CRDCCN_} {CRTENE_} {CRSAM8_} {CRL1DC_} {CRL2EN_} {CRL3SA_} {CRL4CA_}			RCAL data for a LASER test trigger event.
		CRLASERIII	=> => => => => =>	{CRDCCN_} {CRTENE_} {CRL1DC_} {CRL2EN_} {CRL3SA_} {CRL4CA_}			RCAL data for a LASER test trigger event.
		CRLASERZ2	=> => => => => => => => => => => => =>	{CRDCCN_} {CRTENE_} {CRPECO_} {CR6SAM_} {CR8SAM_} {CRXOR_} {CRL1DC_} {CRL2EN_} {CRL3SA_} {CRL4CA_} {SRTENE_} {SR6SAM_} {SR8SAM_}			RCAL data for a LASER test trigger event.
		CRLASERZ3	=> => => => => => => => => => => => => => => => => => =>	{CRDCCN_} {CRTENE_} {CRPECO_} {CR6SAM_} {CR8SAM_} {CRXOR_} {CRL1DC_} {CRL2EN_} {CRL3SA_} {CRL4CA_} {SRDCCN_} {SRTENE_} {SR6SAM_} {SR8SAM_} {SRFLT_} {FNDCCN_} {FNTENE_} {FN6SAM_} {FN8SAM_}			RCAL data for a LASER test trigger event.
CRTST1 CRTST2	<= <=	CRLASERZ4	=> => => => => => => => => => => => => =>	{CRDCCN_} {CRTENE_} {CRPECO_} {CR6SAM_} {CR8SAM_} {CRXOR_} {CRL1DC_} {CRL2EN_} {CRL3SA_} {CRL4CA_} {PRDCCN_} {PRTENE_} {PR6SAM_} {PR8SAM_}			RCAL data for a LASER test trigger event.
		CRLASERZI	=> => => => => => => =>	{CRDCCN_} {CR6SAM_} {CR8SAM_} {CRTENE_} {CRL1DC_} {CRL2EN_} {CRL3SA_} {CRL4CA_}			RCAL data for a LASER test trigger event.
		CRLED	=> => => => => =>	{CRDCCN_} {CRTENE_} {CRSAM8_} {CRL1DC_} {CRL2EN_} {CRL3SA_}			RCAL data for a LED test trigger event.
CRTST3	<=	CRLED5	=> => => => => =>	{CRDCCN_} {CRTENE_} {CRPECO_} {CR6SAM_} {CR8SAM_} {CRXOR_}			RCAL data for a LED test trigger event.

V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
CRTST4	<=	CRLED6	=> => => => => => =>	{CRDCCN_} {CRTENE_} {CRPECO_} {CRCOEN_} {CR6SAM_} {CR8SAM_} {CRXOR_}			RCAL data for a LED test trigger event.
		CRLEDIII	=> => => => =>	{CRDCCN_} {CRTENE_} {CRL1DC_} {CRL2EN_} {CRL3SA_}			RCAL data for a LED test trigger event.
		CRLEDZ2	=> => => => => => => => => => => => =>	{CRDCCN_} {CRTENE_} {CRPECO_} {CR6SAM_} {CR8SAM_} {CRXOR_} {CRL1DC_} {CRL2EN_} {CRL3SA_} {CRL4CA_} {SRTENE_} {SR6SAM_} {SR8SAM_}			RCAL data for a LED test trigger event.
		CRLEDZ3	=> => => => => => => => => => => => => => => => => => =>	{CRDCCN_} {CRTENE_} {CRPECO_} {CR6SAM_} {CR8SAM_} {CRXOR_} {CRL1DC_} {CRL2EN_} {CRL3SA_} {CRL4CA_} {SRDCCN_} {SRTENE_} {SR6SAM_} {SR8SAM_} {SRFLT_} {FNDCCN_} {FNTENE_} {FN6SAM_} {FN8SAM_}			RCAL data for a LED test trigger event.
CRTST1 CRTST2	<= <=	CRLEDZ4	=> => => => => => => => => => => => => =>	{CRDCCN_} {CRTENE_} {CRPECO_} {CR6SAM_} {CR8SAM_} {CRXOR_} {CRL1DC_} {CRL2EN_} {CRL3SA_} {CRL4CA_} {PRDCCN_} {PRTENE_} {PR6SAM_} {PR8SAM_}			RCAL data for a LED test trigger event.
		CRLEDZI	=> => => => => => =>	{CRDCCN_} {CR6SAM_} {CR8SAM_} {CRTENE_} {CRL1DC_} {CRL2EN_} {CRL3SA_}			RCAL data for a LED test trigger event.
		CRQINJEMPTY	=> => =>	{CRDCCN_} {CRTENE_} {CRSAM8_}			RCAL data for a special event.
CRTST3	<=	CRQINJEMPTY5	=> => => => => =>	{CRDCCN_} {CRTENE_} {CRPECO_} {CR6SAM_} {CR8SAM_} {CRXOR_}			RCAL data for a QINJ/PED test trigger event.
CRTST4	<=	CRQINJEMPTY6	=> => => => => => =>	{CRDCCN_} {CRTENE_} {CRPECO_} {CRCOEN_} {CR6SAM_} {CR8SAM_} {CRXOR_}			RCAL data for a QINJ/PED test trigger event.
		CRQINJEMPTYIII	=> =>	{CRDCCN_} {CRTENE_}			RCAL data for a normal event.
		CRQINJEMPTYZ2	=> => => => => => => => =>	{CRDCCN_} {CRTENE_} {CRPECO_} {CR6SAM_} {CR8SAM_} {CRXOR_} {SRTENE_} {SR6SAM_} {SR8SAM_}			RCAL data for a QINJ/PED test trigger event.

|
V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
		CRQINJEMPTYZ3	=> => => => => => => => => => => => => => =>	{CRDCCN_} {CRTENE_} {CRPECO_} {CR6SAM_} {CR8SAM_} {CRXOR_} {SRDCCN_} {SRTENE_} {SR6SAM_} {SR8SAM_} {SRFLT_} {FNDCCN_} {FNTENE_} {FN6SAM_} {FN8SAM_}			RCAL data for a QINJ/PED test trigger event.
CRTST1 CRTST2	<= <=	CRQINJEMPTYZ4	=> => => => => => => => => =>	{CRDCCN_} {CRTENE_} {CRPECO_} {CR6SAM_} {CR8SAM_} {CRXOR_} {PRDCCN_} {PRTENE_} {PR6SAM_} {PR8SAM_}			RCAL data for a QINJ/PED test trigger event.
		CRQINJEMPTYZI	=> => => =>	{CRDCCN_} {CR6SAM_} {CR8SAM_} {CRTENE_}			RCAL data for a normal event.
		CRRAWEVENT	=> => => =>	{CRDCCN_} {CRENER_} {CRSAM8_} {CRLMSA_}			
		CRRAWEVENTII	=> => => =>	{CRDCCN_} {CRTENE_} {CRHSA6_} {CRSAM8_}			
		CRRAWEVENTIII	=> => => =>	{CRDCCN_} {CRTENE_} {CR6SAM_} {CRHSA6_}			RCAL data for a normal event.
		CRRAWEVENTZ3	=> => => => => =>	{CRXOR_} {CRDCCN_} {CRTENE_} {CRPECO_} {CR6SAM_} {CR8SAM_}			RCAL data for a normal event.
		CRRAWEVENTZ4	=> => => => => => => => =>	{CRDCCN_} {CRTENE_} {CRPECO_} {CR6SAM_} {CR8SAM_} {CRXOR_} {SRTENE_} {SR6SAM_} {SR8SAM_}			RCAL data for a normal event.
		CRRAWEVENTZ5	=> => => => => => => => => => => => => => =>	{CRDCCN_} {CRTENE_} {CRPECO_} {CR6SAM_} {CR8SAM_} {CRXOR_} {SRDCCN_} {SRTENE_} {SR6SAM_} {SR8SAM_} {SRFLT_} {FNDCCN_} {FNTENE_} {FN6SAM_} {FN8SAM_}			RCAL data for a normal event.
		CRRAWEVENTZI	=> => => =>	{CRDCCN_} {CRTENE_} {CR6SAM_} {CR8SAM_}			RCAL data for a normal event.
ZEUSONLINE4TST ZEUSONLINE5TST	<= <=	CRTST1	=> => => =>	CRQINJEMPTYZ4 CRLASERZ4 CRLEDZ4 CRUNOZ3			
		CRTST2	=> => => =>	CRQINJEMPTYZ4 CRLASERZ4 CRLEDZ4 CRUNO4			
ZEUSTEST6TST ZEUSONLINE6TST ZEUSTEST7TST	<= <= <=	CRTST3	=> => => =>	CRQINJEMPTY5 CRLASER5 CRLED5 CRUNO5			

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
ZEUSTEST8TST ZEUSONLINE7TST ZEUSTEST9TST ZEUSONLINE8TST ZEUSONLINE9TST RCALONLINE1 ZEUSONLINE15TST ZEUSONLINE16TST ZEUSONLINE17TST	<= <= <= <= <= <= <= <= <=	CRTST4	=> => => =>	CRQINJEMPTY6 CRLASER6 CRLED6 CRUNO5			
CRTST2	<=	CRUNO4	=> => => => => =>	{CRDCCN_} {CRUN_} {PRDCCN_} {PRUN_} {CRUM_} {PRUM_}			RCAL data for a DUNO test trigger.
CRTST3 CRTST4	<= <=	CRUNO5	=> => =>	{CRDCCN_} {CRUN_} {CRUM_}			RCAL data for a DUNO test trigger.
		CRUNOIII	=> =>	{CRDCCN_} {CRUN_}			FCAL data for a DUNO test trigger.
		CRUNOZ2	=> =>	{CRDCCN_} {CRUN_}			FCAL data for a DUNO test trigger.
CRTST1	<=	CRUNOZ3	=> => => => => =>	{CRDCCN_} {CRUN_} {PRDCCN_} {PRUN_} {CRUM_} {PRUM_}			RCAL data for a DUNO test trigger.
		CRUNOZI	=> =>	{CRDCCN_} {CRUN_}			FCAL data for a DUNO test trigger.
ZEUSTEST6BOR ZEUSONLINE6BOR ZEUSTEST7BOR ZEUSTEST8BOR ZEUSONLINE7BOR ZEUSTEST9BOR ZEUSONLINE8BOR ZEUSONLINE9BOR BCALONLINE1 ZEUSONLINE15BOR ZEUSONLINE16BOR ZEUSONLINE17BOR	<= <= <= <= <= <= <= <= <= <= <= <=	CTBOR1	=> => => => => =>	{CRTPAR_} {CRTOFF_} {CRTADD_} {CRTCAL_} {CFTTCA_} {CRPTAB_}			Begin of Run data .
		CTDCalibration1	=> =>	{TCCALW_} {TCCREL_}			CTD calibration relationships
		CTDCalibration2	=> => => => => => => => =>	{TCDRFV_} {TCLRZA_} {TCLRZD_} {TCRESE_} {TCRESR_} {TCRESZ_} {TCTTOZ_} {TCHEFF_} {TCPEDS_}			CTD calibrations used by Zephyr, Mozart
		CTDCalibration3	=> =>	{TCZTOT_} {TCSEPS_}			CTD calibrations used by just Mozart
		CTDCalibrationA-00	=>	{TCCOFF_}			CTD calibration offsets
		CTDCalibrationA-01	=> =>	{TCCWIR_} {TCCSEL_}			CTD calibration relationships
		CTDCalibrationA-02	=> =>	{TCLZAN_} {TCLZZD_}			CTD Lorentz angle calibrations
		CTDCalibrationA-03	=> => =>	{TCERES_} {TCRRES_} {TCZRES_}			Resolution calibrations
		CTDCalibrationA-04	=> =>	{TCTTOD_} {TCTTOZ_}			Time to position calibrations
		CTDCalibrationA-05	=> =>	{TCDTOT_} {TCZTOT_}			Time to position calibrations
		CTDCalibrationA-06	=> =>	{TCEFFS_} {TCSEPS_}			CTD efficiency calibrations
		CTDCalibrationA-07	=>	{TCIPDR_}			CTD effective radius calibrations
		CTDConditionsA01	=> => => => => => =>	{TCGASS_} {TCGASA_} {TCGASF_} {TCGASP_} {TCGASM_} {TCGASC_} {TCGASV_}			CTD gas system conditions
		CTDConditionsA02	=> =>	{TCHVS_} {TCHV_}			CTD high voltage conditions
		CTDConditionsA03	=>	{TCMAGF_}			Magnetic field measurements

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
		CTDConditionsA04	=> => => =>	{TCCDEL_} {TCPADL_} {TCPAOF_} {TCFDOF_}			CTD cable delays
		CTDConditionsA05	=> => => => =>	{TCCRTF_} {TCFWIR_} {TCFDPM_} {TCDFPM_} {TCFVER_}			FADC online information
		CTDConditionsA06	=>	{TCCRTZ_}			Z online information
		CTDDSPParameters	=> =>	{TCFDPM_} {TCFILT_}			DSP parameters for CTD FADCs. Used in the offline emulation of the DSP processing.
		CTDFLT1	=>	{TCFCON_}			CTD-FLT Constants, Cuts etc ....
		CTDGeometry1	=> => => => => => => => => =>	{TCDIV_} {TCPARA_} {TCRJCT_} {TCVOLU_} {TCSDET_} {TCSDTA_} {TCSDTD_} {TCSDTH_} {TCSDTU_} {TCSDTV_}			CTD generic geometry 1
		CTDGeometry2	=>	{TCPOS_}			CTD generic geometry 2
		CTDGeometry3	=> => =>	{TCLAYR_} {TCUNCL_} {TCWRTP_}			CTD detector specific geometry
ZEUSONLINE13 ZEUSONLINE14	<= <=	CTDONLINE1	=> => => =>	TCEVT3 TCENV2 TCBOR6 TCEOR5			
		CTDToADistA01	=>	{TCTODC_}			CTD drift distance corrections
		CUNOBANKS	=> => =>	{CFUN_} {CBUN_} {CRUN_}			DUNO (Uranium noise) data for a calibration event.
		Calflow	=> => =>	{CTBCal_} {CCTimOff_} {Clucht_}			Calibration constants, other than UNO
		Canonicals	=>	Cluidc_			CDA constants
		DeadMap	=> =>	{DEAPAR_} {DEADIR_}			
		DeadMap1	=>	{DEAMAP_}			
		DeadMap10	=>	{DEAMAP_}			
		DeadMap2	=>	{DEAMAP_}			
		DeadMap3	=>	{DEAMAP_}			
		DeadMap4	=>	{DEAMAP_}			
		DeadMap5	=>	{DEAMAP_}			
		DeadMap6	=>	{DEAMAP_}			
		DeadMap7	=>	{DEAMAP_}			
		DeadMap8	=>	{DEAMAP_}			
		DeadMap9	=>	{DEAMAP_}			
		EVBCONTROL	=> => => =>	{ZRETAB_} {ZRECMP_} {ZREDFL_} {ZRECTD_}			ZEUS meta tables: description of EVB output
ZEUSONLINE13 ZEUSONLINE14	<= <=	FCALONLINE1	=> => => => => => => => => =>	CFEVT4 CFTST3 CFENV3 CFEOR2 FPBOR3 FPEOR1 FPENV1 FPTST2 LEBOR1 LEEOR1			
SPECIALEVTZ3 ZEUSTEST2BOR ZEUSONLINE4BOR ZEUSONLINE5BOR ZEUSTEST6BOR ZEUSONLINE6BOR ZEUSTEST7BOR ZEUSTEST8BOR ZEUSONLINE7BOR ZEUSTEST9BOR ZEUSONLINE8BOR ZEUSONLINE9BOR FCLRONLINE1 ZEUSONLINE15BOR ZEUSONLINE16BOR ZEUSONLINE17BOR	<= <= <= <= <= <= <= <= <= <= <= <= <= <= <= <=	FCBOR1	=>	{FCBOR_}			

V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
ZEUSONLINE4EOR	<=	FCEOR1	=>	{FCEOR_}			
ZEUSONLINE5EOR	<=		=>	{FCSTAT_}			
ZEUSTEST6EOR	<=						
ZEUSONLINE6EOR	<=						
ZEUSTEST7EOR	<=						
ZEUSTEST8EOR	<=						
ZEUSONLINE7EOR	<=						
ZEUSTEST9EOR	<=						
ZEUSONLINE8EOR	<=						
ZEUSONLINE9EOR	<=						
FCLRONLINE1	<=						
ZEUSONLINE15EOR	<=						
ZEUSONLINE16EOR	<=						
ZEUSONLINE17EOR	<=						
ZEUSONLINE4EVT	<=	FCEVT1	=>	{FCRRAW_}			Fast CLeaR data for a normal event.
ZEUSONLINE5EVT	<=		=>	{FCBRAW_}			
ZEUSTEST6EVT	<=		=>	{FCFRAW_}			
ZEUSONLINE6EVT	<=		=>	{FCRDUMP_}			
ZEUSTEST7EVT	<=		=>	{FCBDUMP_}			
ZEUSTEST8EVT	<=		=>	{FCFDUMP_}			
ZEUSONLINE7EVT	<=		=>	{FCCLUS_}			
ZEUSTEST9EVT	<=		=>	{FCCLU2_}			
ZEUSONLINE8EVT	<=		=>	{FCFIFO_}			
ZEUSONLINE9EVT	<=		=>	{FCFIF2_}			
ZEUSONLINE10EVT	<=						
ZEUSTEST11EVT	<=						
ZEUSONLINE11EVT	<=						
FCLRONLINE1	<=						
ZEUSONLINE15EVT	<=						
ZEUSONLINE16EVT	<=						
ZEUSONLINE17EVT	<=						
ZEUSONLINE13	<=	FCLRONLINE1	=>	FCEVT1			
ZEUSONLINE14	<=		=>	FCBOR1			
			=>	FCEOR1			
		FCRAWEVENTZ1	=>	{FCRRAW_}			Fast CLeaR data for a normal event.
			=>	{FCBRAW_}			
			=>	{FCFRAW_}			
			=>	{FCRDUMP_}			
			=>	{FCBDUMP_}			
			=>	{FCFDUMP_}			
			=>	{FCCLUS_}			
			=>	{FCFIFO_}			
		FLTRESULT	=>	{TCFCPF_}			
			=>	{TCFSCF_}			
			=>	{TCFOUT_}			
		FMCBeam1	=>	{FMCBeam_}			vertex placement and smearing
MCTRUTH	<=	FMCEvent	=>	{FMCEvt_}			
			=>	{LPTEvt_}			
			=>	{HEREvt_}			
			=>	{PHOEvt_}			
			=>	{BMGEvt_}			
			=>	{USGEvt_}			
			=>	{FMCKin_}			
			=>	{FMCFte_}			
			=>	{FMCVtx_}			
MCRUNHEAD	<=	FMCRunD	=>	{FMCRun_}			
			=>	{LPTRun_}			
			=>	{HERRun_}			
			=>	{PHORun_}			
			=>	{BMGRun_}			
			=>	{USGRun_}			
		FMCStatic	=>	{FMCPCd_}			
			=>	{FMCPrt_}			
		FMUOCalibration1	=>	{MFLTT_}			
			=>	{MFLTPE_}			
			=>	{MFLTRE_}			
			=>	{MFWLT_}			
			=>	{MFWLPE_}			
			=>	{MFWLRE_}			
			=>	{MFDCEF_}			
		FMUOCalibration2	=>	{MFDCT0_}			
		FMUOCalibration3	=>	{MFLTCW_}			
			=>	{MFLTCM_}			
			=>	{MFSMEA_}			
			=>	{MFDRIF_}			
			=>	{MFDRFT_}			
			=>	{MFSTAC_}			
			=>	{MFSTRM_}			
		FMUOGeometry1	=>	{MFDIV_}			
			=>	{MFPARA_}			
			=>	{MFRJCT_}			
			=>	{MFVOLU_}			
			=>	{MFSDET_}			
			=>	{MFSDTA_}			
			=>	{MFSDTD_}			
			=>	{MFSDTH_}			
			=>	{MFSDTU_}			
			=>	{MFSDTV_}			
		FMUOGeometry2	=>	{MFPOS_}			
		FMUOGeometry3	=>	{mfdico_}			
			=>	{mfrot_}			
			=>	{mfsect_}			

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
		FMUOGeometry4	=>	{mfcnst_}			
ZEUSONLINE13	<=	FMUOONLINE1	=>	MFRAWEVENTII			
ZEUSONLINE14	<=		=>	MFENV			
			=>	MFBOR			
			=>	MFEOR			
ZEUSONLINE4BOR	<=	FNBOR1	=>	{FNBAD_}			Begin of Run data .
ZEUSONLINE5BOR	<=						
ZEUSTEST6BOR	<=	FNBOR2	=>	{FNBAD_}			Begin of Run data .
ZEUSONLINE6BOR	<=		=>	{FNBECA_}			
ZEUSTEST7BOR	<=						
ZEUSTEST8BOR	<=	FNBOR3	=>	{FNBAD_}			Begin of Run data .
ZEUSONLINE7BOR	<=		=>	{FNBECA_}			
ZEUSTEST9BOR	<=		=>	{FNPMNO_}			
ZEUSONLINE8BOR	<=						
ZEUSONLINE9BOR	<=						
RCALONLINE1	<=						
ZEUSONLINE15BOR	<=						
ZEUSONLINE16BOR	<=						
ZEUSONLINE17BOR	<=						
		FNCINF	=>	{FNCDAT_}			Data for normal event.
			=>	{FNCTRG_}			
ZEUSONLINE4ENV	<=	FNENV1	=>	{FNDCCN_}			FNC data for Environmental trigger.
ZEUSONLINE5ENV	<=		=>	{FNDMON_}			
ZEUSTEST6ENV	<=						
ZEUSONLINE6ENV	<=						
ZEUSTEST7ENV	<=						
ZEUSTEST8ENV	<=						
ZEUSONLINE7ENV	<=						
ZEUSTEST9ENV	<=						
ZEUSONLINE8ENV	<=						
ZEUSONLINE9ENV	<=						
RCALONLINE1	<=						
ZEUSONLINE15ENV	<=						
ZEUSONLINE16ENV	<=						
ZEUSONLINE17ENV	<=						
ZEUSONLINE4EOR	<=	FNEOR1	=>	{FNPQMS_}			FNC data for End of Run trigger.
ZEUSONLINE5EOR	<=		=>	{FNPPMS_}			
ZEUSTEST6EOR	<=		=>	{FNPLMS_}			
ZEUSONLINE6EOR	<=		=>	{FNPDMS_}			
ZEUSTEST7EOR	<=		=>	{FNDUMS_}			
ZEUSTEST8EOR	<=						
ZEUSONLINE7EOR	<=						
ZEUSTEST9EOR	<=						
ZEUSONLINE8EOR	<=						
ZEUSONLINE9EOR	<=						
RCALONLINE1	<=						
ZEUSONLINE15EOR	<=						
ZEUSONLINE16EOR	<=						
ZEUSONLINE17EOR	<=						
ZEUSONLINE4EVT	<=	FNEVT1	=>	{FNDCCN_}			FNC data for a normal event.
ZEUSONLINE5EVT	<=		=>	{FNTENE_}			
ZEUSTEST6EVT	<=		=>	{FN6SAM_}			
ZEUSONLINE6EVT	<=		=>	{FN8SAM_}			
ZEUSTEST7EVT	<=		=>	{FNXOR_}			
ZEUSTEST8EVT	<=	FNEVT2	=>	{FNDCCN_}			FNC data for a normal event.
ZEUSONLINE7EVT	<=		=>	{FNTENE_}			
ZEUSTEST9EVT	<=		=>	{FNCOEN_}			
ZEUSONLINE8EVT	<=		=>	{FN6SAM_}			
ZEUSONLINE9EVT	<=		=>	{FN8SAM_}			
ZEUSONLINE10EVT	<=		=>	{FNXOR_}			
ZEUSTEST11EVT	<=						
ZEUSONLINE11EVT	<=						
RCALONLINE1	<=						
ZEUSONLINE15EVT	<=						
ZEUSONLINE16EVT	<=						
ZEUSONLINE17EVT	<=						
		FNGeometry1	=>	{FNDIV_}			
			=>	{FNPARA_}			
			=>	{FNRJCT_}			
			=>	{FNVOLU_}			
			=>	{FNSDET_}			
			=>	{FNSDTA_}			
			=>	{FNSDTD_}			
			=>	{FNSDTH_}			
			=>	{FNSDTU_}			
			=>	{FNSDTV_}			
			=>	{FNDICO_}			
		FNGeometry2	=>	{FNPOS_}			
FNTST2	<=	FNLASER2	=>	{FNDCCN_}			FNC data for a LASER test trigger event.
			=>	{FNTENE_}			
			=>	{FNCOEN_}			
			=>	{FN6SAM_}			
			=>	{FN8SAM_}			
			=>	{FNXOR_}			
FNTST1	<=	FNLASERZ4	=>	{FNDCCN_}			FNC data for a LASER test trigger event.
			=>	{FNTENE_}			
			=>	{FN6SAM_}			
			=>	{FN8SAM_}			
			=>	{FNXOR_}			

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
FNTST2	<=	FNLED2	=> => => => => =>	{FNDCCN_} {FNTENE_} {FNCOEN_} {FN6SAM_} {FN8SAM_} {FNXOR_}			FNC data for a LED test trigger event.
FNTST1	<=	FNLEDZ4	=> => => => =>	{FNDCCN_} {FNTENE_} {FN6SAM_} {FN8SAM_} {FNXOR_}			FNC data for a LED test trigger event.
FNTST2	<=	FNQINJEMPTY2	=> => => => => =>	{FNDCCN_} {FNTENE_} {FNCOEN_} {FN6SAM_} {FN8SAM_} {FNXOR_}			FNC data for a QINJ/PED test trigger event.
FNTST1	<=	FNQINJEMPTYZ4	=> => => => =>	{FNDCCN_} {FNTENE_} {FN6SAM_} {FN8SAM_} {FNXOR_}			FNC data for a QINJ/PED test trigger event.
ZEUSONLINE4TST ZEUSONLINE5TST ZEUSTEST6TST ZEUSONLINE6TST ZEUSTEST7TST	<= <= <= <= <=	FNTST1	=> => => =>	FNQINJEMPTYZ4 FNLASERZ4 FNLEDZ4 FNUNOZ4			
ZEUSTEST8TST ZEUSONLINE7TST ZEUSTEST9TST ZEUSONLINE8TST ZEUSONLINE9TST RCALONLINE1 ZEUSONLINE15TST ZEUSONLINE16TST ZEUSONLINE17TST	<= <= <= <= <= <= <= <= <=	FNTST2	=> => => =>	FNQINJEMPTY2 FNLASER2 FNLED2 FNUNOZ4			
FNTST1 FNTST2	<= <=	FNUNOZ4	=> => =>	{FNDCCN_} {FNUN_} {FNUM_}			FNC data for a DUNO test trigger.
		FPBOR1	=>	{FPBAD_}			Begin of Run data .
		FPBOR2	=> =>	{FPBAD_} {FPBECA_}			Begin of Run data .
ZEUSTEST11BOR FCALONLINE1 ZEUSONLINE15BOR ZEUSONLINE16BOR ZEUSONLINE17BOR	<= <= <= <= <=	FPBOR3	=> => =>	{FPBAD_} {FPBECA_} {FPPMNO_}			Begin of Run data .
		FPCalibration1	=> =>	{FPICer_} {FPICob_}			Initial calibration constants from CERN and Cobalt scan
		FPCalibration2	=> => => =>	{FPMCal_} {FPCCal_} {FPLeCal_} {FPLaCal_}			Calibration constants from muons, Co, LED and laser
		FPCalibration3	=>	{FPFCal_}			FINAL Calibration constants
		FPCalibration4	=> =>	{FPTimOff_} {FPBChan_}			Time offsets and bad channel list
ZEUSTEST11ENV FCALONLINE1 ZEUSONLINE15ENV ZEUSONLINE16ENV ZEUSONLINE17ENV	<= <= <= <= <=	FPENV1	=> =>	{FPDCCN_} {FPDMON_}			FPC data for Environmental trigger.
ZEUSTEST11EOR FCALONLINE1 ZEUSONLINE15EOR ZEUSONLINE16EOR ZEUSONLINE17EOR	<= <= <= <= <=	FPEOR1	=> => => => =>	{FPPQMS_} {FPPPMS_} {FPPLMS_} {FPPDMS_} {FPDUMS_}			FPC data for End of Run trigger.
		FPEVT1	=> => => => =>	{FPDCCN_} {FPTENE_} {FP6SAM_} {FP8SAM_} {FPXOR_}			FPC data for a normal event.
ZEUSTEST11EVT ZEUSONLINE11EVT RCALONLINE1 ZEUSONLINE15EVT ZEUSONLINE16EVT ZEUSONLINE17EVT	<= <= <= <= <= <=	FPEVT2	=> => => => => =>	{FPDCCN_} {FPTENE_} {FPCOEN_} {FP6SAM_} {FP8SAM_} {FPXOR_}			FPC data for a normal event.
FPTST2	<=	FPLASER2	=> => => => => =>	{FPDCCN_} {FPTENE_} {FPCOEN_} {FP6SAM_} {FP8SAM_} {FPXOR_}			FPC data for a LASER test trigger event.
FPTST1	<=	FPLASERZ4	=> => => => =>	{FPDCCN_} {FPTENE_} {FP6SAM_} {FP8SAM_} {FPXOR_}			FPC data for a LASER test trigger event.

|
V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
FPTST2	<=	FPLED2	=> => => => => =>	{FPDCCN_} {FPTENE_} {FPCOEN_} {FP6SAM_} {FP8SAM_} {FPXOR_}			FPC data for a LED test trigger event.
FPTST1	<=	FPLEDZ4	=> => => => =>	{FPDCCN_} {FPTENE_} {FP6SAM_} {FP8SAM_} {FPXOR_}			FPC data for a LED test trigger event.
FPTST2	<=	FPQINJEMPTY2	=> => => => => =>	{FPDCCN_} {FPTENE_} {FPCOEN_} {FP6SAM_} {FP8SAM_} {FPXOR_}			FPC data for a QINJ/PED test trigger event.
FPTST1	<=	FPQINJEMPTYZ4	=> => => => =>	{FPDCCN_} {FPTENE_} {FP6SAM_} {FP8SAM_} {FPXOR_}			FPC data for a QINJ/PED test trigger event.
		FPTST1	=> => => =>	FPQINJEMPTYZ4 FPLASERZ4 FPLEDZ4 FPUNOZ4			
ZEUSTEST11TST FCALONLINE1 ZEUSONLINE15TST ZEUSONLINE16TST ZEUSONLINE17TST	<= <= <= <= <=	FPTST2	=> => => =>	FPQINJEMPTY2 FPLASER2 FPLED2 FPUNOZ4			
FPTST1 FPTST2	<= <=	FPUNOZ4	=> => =>	{FPDCCN_} {FPUN_} {FPUM_}			FPC data for a DUNO test trigger.
ZEUSONLINE13 ZEUSONLINE14	<= <=	FRTDONLINE1	=> => =>	TFEVT4 TFBORZ2 TFEORZ2			
		FTDCalibration1	=>	{TFCLBW_}			
		FTDCalibration2	=>	{TFCLBG_}			
		FTDCalibration3	=>	{TFCLDC_}			
		FTDGeometry1	=> => => => => => => => => =>	{TFDIV_} {TFPARA_} {TFRJCT_} {TFVOLU_} {TFSDET_} {TFSDTA_} {TFSDTD_} {TFSDTH_} {TFSDTU_} {TFSDTV_}			
		FTDGeometry2	=>	{TFPOS_}			
		FTDGeometry3	=>	{TFDICO_}			
		FTDReadout1	=> =>	{TFCABL_} {TFBPLA_}			
		FTDReadout2	=> => => => =>	{TFCHAN_} {TFFADC_} {TFFCON_} {TFPWIN_} {TFPAMP_}			
FiMoData	<=	FiMoAnalData	=> => =>	{ZFMagF_} {ZFForc_} {ZFNMR_}			
		FiMoConditions	=> =>	{ZFStat_} {ZFNMR_}			
		FiMoData	=> => =>	FiMoRawData1 FiMoRawData2 FiMoAnalData			
		FiMoDeviceCali	=> =>	{ZFCalH_} {ZFCalG_}			
		FiMoDeviceGeom	=> =>	{ZFHall_} {ZFGaug_}			
		FiMoDeviceMap	=> =>	{ZFMapH_} {ZFMapG_}			

|
V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
SPECIALEVTZ3	<=	FiMoOnlineData	=>	{ZFStat_}			
ZEUSONLINE4BOR	<=		=>	{ZFVolt_}			
ZEUSONLINE4EOR	<=		=>	{ZFGaus_}			
ZEUSONLINE4ENV	<=						
ZEUSONLINE5BOR	<=						
ZEUSONLINE5EOR	<=						
ZEUSONLINE5ENV	<=						
ZEUSTEST6BOR	<=						
ZEUSTEST6EOR	<=						
ZEUSTEST6ENV	<=						
ZEUSONLINE6BOR	<=						
ZEUSONLINE6EOR	<=						
ZEUSONLINE6ENV	<=						
ZEUSTEST7BOR	<=						
ZEUSTEST7EOR	<=						
ZEUSTEST7ENV	<=						
ZEUSTEST8BOR	<=						
ZEUSTEST8EOR	<=						
ZEUSTEST8ENV	<=						
ZEUSONLINE7BOR	<=						
ZEUSONLINE7EOR	<=						
ZEUSONLINE7ENV	<=						
ZEUSTEST9BOR	<=						
ZEUSTEST9EOR	<=						
ZEUSTEST9ENV	<=						
ZEUSONLINE8BOR	<=						
ZEUSONLINE8EOR	<=						
ZEUSONLINE8ENV	<=						
ZEUSONLINE9BOR	<=						
ZEUSONLINE9EOR	<=						
ZEUSONLINE9ENV	<=						
ZEUSONLINE15BOR	<=						
ZEUSONLINE16BOR	<=						
ZEUSONLINE17BOR	<=						
FiMoData	<=	FiMoRawData1	=>	{ZFRawD_}			
FiMoData	<=	FiMoRawData2	=>	{ZFDatH_}			
			=>	{ZFDatG_}			
		FiMoReadoutGeom	=>	{ZFPPan_}			
			=>	{ZFCADC_}			
		Fncflow	=>	{FNOCal_}			Data flow for FNC calibration GAF

|
V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
ZEUSTEST2BOR	<=	GARBAGE	=>	{ZRGARB_}			garbage can for readout, will always have GAFTyp
ZEUSTEST2EOR	<=						GARB, to be skipped by all means!
ZEUSTEST2ENV	<=						
ZEUSONLINE4BOR	<=						
ZEUSONLINE4EOR	<=						
ZEUSONLINE4ENV	<=						
ZEUSONLINE4EVT	<=						
ZEUSONLINE4TST	<=						
ZEUSONLINE5BOR	<=						
ZEUSONLINE5EOR	<=						
ZEUSONLINE5ENV	<=						
ZEUSONLINE5EVT	<=						
ZEUSONLINE5TST	<=						
ZEUSTEST6BOR	<=						
ZEUSTEST6EOR	<=						
ZEUSTEST6ENV	<=						
ZEUSTEST6EVT	<=						
ZEUSTEST6TST	<=						
ZEUSONLINE6BOR	<=						
ZEUSONLINE6EOR	<=						
ZEUSONLINE6ENV	<=						
ZEUSONLINE6EVT	<=						
ZEUSONLINE6TST	<=						
ZEUSTEST7BOR	<=						
ZEUSTEST7EOR	<=						
ZEUSTEST7ENV	<=						
ZEUSTEST7EVT	<=						
ZEUSTEST7TST	<=						
ZEUSTEST8BOR	<=						
ZEUSTEST8EOR	<=						
ZEUSTEST8ENV	<=						
ZEUSTEST8EVT	<=						
ZEUSTEST8TST	<=						
ZEUSONLINE7BOR	<=						
ZEUSONLINE7EOR	<=						
ZEUSONLINE7ENV	<=						
ZEUSONLINE7EVT	<=						
ZEUSONLINE7TST	<=						
ZEUSTEST9BOR	<=						
ZEUSTEST9EOR	<=						
ZEUSTEST9ENV	<=						
ZEUSTEST9EVT	<=						
ZEUSTEST9TST	<=						
ZEUSONLINE8BOR	<=						
ZEUSONLINE8EOR	<=						
ZEUSONLINE8ENV	<=						
ZEUSONLINE8EVT	<=						
ZEUSONLINE8TST	<=						
ZEUSONLINE9BOR	<=						
ZEUSONLINE9EOR	<=						
ZEUSONLINE9ENV	<=						
ZEUSONLINE9TST	<=						
ZEUSONLINE9EVT	<=						
ZEUSONLINE10EVT	<=						
ZEUSTEST11EVT	<=						
ZEUSONLINE11EVT	<=						
ZEUSONLINE13	<=						
ZEUSONLINE14	<=						
ZEUSONLINE15BOR	<=						
ZEUSONLINE15EOR	<=						
ZEUSONLINE15ENV	<=						
ZEUSONLINE15EVT	<=						
ZEUSONLINE15TST	<=						
ZEUSONLINE16BOR	<=						
ZEUSONLINE16EOR	<=						
ZEUSONLINE16ENV	<=						
ZEUSONLINE16EVT	<=						
ZEUSONLINE16TST	<=						
ZEUSONLINE17BOR	<=						
ZEUSONLINE17EOR	<=						
ZEUSONLINE17ENV	<=						
ZEUSONLINE17EVT	<=						
ZEUSONLINE17TST	<=						
ZEUSONLINE13	<=	GSLTONLINE1	=>	O2EVT1			
ZEUSONLINE14	<=		=>	O2DATAZI			
			=>	O2ENVRZ2			
			=>	O2BORZ2			
			=>	O2EORZI			
			=>	{O1FCEV_}			
ZEUSONLINE14	<=	GTBOR1	=>	{GTCONF_}			GTT data for the BOR
ZEUSONLINE15BOR	<=		=>	{GTALGO_}			
ZEUSONLINE16BOR	<=						
ZEUSONLINE17BOR	<=						
		GTDEB1	=>	{GTPTRK_}			GTT data for debugging
			=>	{GTPVTX_}			
		GTDEB2	=>	{GTSSEG_}			other GTT data for debugging
			=>	{GTASEG_}			
			=>	{GTAVHT_}			
			=>	{GTSVHT_}			
			=>	{GTBUF_}			
ZEUSONLINE14	<=	GTEVT1	=>	{GTEVTS_}			GTT data for the event
ZEUSONLINE15EVT	<=		=>	{GTTRK1_}			
ZEUSONLINE16EVT	<=		=>	{GTVTX_}			

|
V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
ZEUSONLINE17EVT	<=	GTEVT2	=>	{GTBEVT_}			GTT data for the event
			=>	{GTTRK1_}			
			=>	{GTVTX_}			
			=>	{GTENV_}			
			=>	{GTLBAL_}			
			=>	{GTBUF_}			
			=>	{GTSSEG_}			
			=>	{GTASEG_}			
			=>	{GTSVHT_}			
			=>	{GTAVHT_}			
			=>	{GTPTRK_}			
			=>	{GTPVTX_}			
			=>	{GTLFAL_}			
			=>	{GTFBUF_}			
COLLECTRAWDATA	<=	HEAD	=>	{ZRRUN_}			
COLLECTMCRAW	<=		=>	{EvHMM_}			
COLLECTPHASE2	<=		=>	{ZREVT_}			
COLLECTMCPHASE2	<=						
SPECIALEVTZ3	<=	HESBOR4	=>	{HESbor_}			
ZEUSTEST2BOR	<=		=>	{HESclb_}			
ZEUSONLINE4BOR	<=	HESBOR5	=>	{HESbor_}			
			=>	{HESclb_}			
			=>	{HESlow_}			
			=>	{HESpln_}			
ZEUSONLINE5BOR	<=	HESBOR6	=>	{HESbor_}			
ZEUSTEST6BOR	<=		=>	{HESclb_}			
ZEUSONLINE6BOR	<=		=>	{HESncl_}			
			=>	{HESpln_}			
			=>	{HESlow_}			
			=>	{HEShkp_}			
ZEUSTEST7BOR	<=	HESBOR7	=>	{HESbor_}			
ZEUSTEST8BOR	<=		=>	{HRborp_}			
ZEUSONLINE7BOR	<=		=>	{HFborp_}			
ZEUSTEST9BOR	<=		=>	{HESlow_}			
ZEUSONLINE8BOR	<=		=>	{HRslow_}			
ZEUSONLINE9BOR	<=		=>	{HFslow_}			
HESONLINE1	<=		=>	{HESclb_}			
ZEUSONLINE15BOR	<=		=>	{HRonlc_}			
ZEUSONLINE16BOR	<=		=>	{HFonlc_}			
ZEUSONLINE17BOR	<=		=>	{HESncl_}			
			=>	{HRoffc_}			
			=>	{HFoffc_}			
			=>	{HESpln_}			
			=>	{HRcell_}			
			=>	{HFcell_}			
			=>	{HRcksm_}			
			=>	{HFcksm_}			
			=>	{HRgain_}			
			=>	{HFgain_}			
SPECIALEVTZII	<=	HESBORIII	=>	{HESbor_}			
		HESBadChanList	=>	HESModInfo			HES bad channel information
			=>	HESBclInfo			
HESBadChanList	<=	HESBclInfo	=>	{HESBlH_}			HES bad channel list
			=>	{HESBlF_}			
			=>	{HESBlL_}			
ZEUSTEST2ENV	<=	HESENV	=>	{HEShkp_}			
ZEUSONLINE4ENV	<=	HESENV2	=>	{HEShkp_}			
ZEUSONLINE5ENV	<=		=>	{HESlow_}			
ZEUSTEST6ENV	<=						
ZEUSONLINE6ENV	<=						
ZEUSTEST7ENV	<=	HESENV3	=>	{HEShkp_}			
ZEUSTEST8ENV	<=		=>	{HRhkpw_}			
ZEUSONLINE7ENV	<=		=>	{HFhkpw_}			
ZEUSTEST9ENV	<=		=>	{HESlow_}			
ZEUSONLINE8ENV	<=		=>	{HRslow_}			
ZEUSONLINE9ENV	<=		=>	{HFslow_}			
HESONLINE1	<=		=>	{HRcksm_}			
ZEUSONLINE15ENV	<=		=>	{HFcksm_}			
ZEUSONLINE16ENV	<=						
ZEUSONLINE17ENV	<=						
ZEUSTEST7EOR	<=	HESEOR4	=>	{HESeor_}			
ZEUSTEST8EOR	<=		=>	{HReorp_}			
ZEUSONLINE7EOR	<=		=>	{HFeorp_}			
ZEUSTEST9EOR	<=		=>	{HRcksm_}			
ZEUSONLINE8EOR	<=		=>	{HFcksm_}			
ZEUSONLINE9EOR	<=						
HESONLINE1	<=						
ZEUSONLINE15EOR	<=						
ZEUSONLINE16EOR	<=						
ZEUSONLINE17EOR	<=						
SPECIALEVTZII	<=	HESEORIII	=>	{HESeor_}			
SPECIALEVTZ3	<=						
ZEUSTEST2EOR	<=						
ZEUSONLINE4EOR	<=						
ZEUSONLINE5EOR	<=						
ZEUSTEST6EOR	<=						
ZEUSONLINE6EOR	<=						

V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
HESTST2	<=	HESEVT5	=>	{HESraw_}			
ZEUSTEST7EVT	<=		=>	{HRdatc_}			
ZEUSTEST8EVT	<=		=>	{HFdatc_}			
ZEUSONLINE7EVT	<=		=>	{HESdsp_}			
ZEUSTEST9EVT	<=		=>	{HRdspi_}			
ZEUSONLINE8EVT	<=		=>	{HFdspi_}			
ZEUSONLINE9EVT	<=		=>	{HRcksm_}			
ZEUSONLINE10EVT	<=		=>	{HFcksm_}			
ZEUSTEST11EVT	<=		=>	{HESsam_}			
ZEUSONLINE11EVT	<=		=>	{HES4sm_}			
HESONLINE1	<=						
ZEUSONLINE15EVT	<=						
ZEUSONLINE16EVT	<=						
ZEUSONLINE17EVT	<=						
		HESGeometry1	=>	{HSDIV_}			
			=>	{HSPARA_}			
			=>	{HSRJCT_}			
			=>	{HSVOLU_}			
			=>	{HSSDET_}			
			=>	{HSSDTA_}			
			=>	{HSSDTD_}			
			=>	{HSSDTH_}			
			=>	{HSSDTU_}			
			=>	{HSSDTV_}			
		HESGeometry2	=>	{HSPOS_}			
HESBadChanList	<=	HESModInfo	=>	{HESAMd_}			HES active module list
ZEUSONLINE13	<=	HESONLINE1	=>	HESEVT5			
ZEUSONLINE14	<=		=>	HESTST2			
			=>	HESENV3			
			=>	HESBOR7			
			=>	HESEOR4			
HESTST	<=	HESRAWEVENT4	=>	{HESsam_}			
SPECIALEVTZ3	<=		=>	{HESraw_}			
ZEUSONLINE4EVT	<=		=>	{HES4sm_}			
ZEUSONLINE5EVT	<=		=>	{HESdsp_}			
ZEUSTEST6EVT	<=						
ZEUSONLINE6EVT	<=						
		HESRAWEVENTIII	=>	{HESsam_}			
			=>	{HESraw_}			
ZEUSONLINE4TST	<=	HESTST	=>	HESRAWEVENT4			
ZEUSONLINE5TST	<=		=>	{HES2ts_}			
ZEUSTEST6TST	<=		=>	{HES3ts_}			
ZEUSONLINE6TST	<=						
ZEUSTEST7TST	<=	HESTST2	=>	HESEVT5			
ZEUSTEST8TST	<=		=>	{HES3ts_}			
ZEUSONLINE7TST	<=		=>	{HES2ts_}			
ZEUSTEST9TST	<=		=>	{HRtstc_}			
ZEUSONLINE8TST	<=		=>	{HFtstc_}			
ZEUSONLINE9TST	<=						
HESONLINE1	<=						
ZEUSONLINE15TST	<=						
ZEUSONLINE16TST	<=						
ZEUSONLINE17TST	<=						
		HSYOUT	=>	{JobOut_}			History information
			=>	{ZDLOut_}			
			=>	{ZDFOut_}			
			=>	{ZDPOut_}			
			=>	{KWPOut_}			
			=>	{KWGOut_}			
ZEUSTEST6BOR	<=	LEBOR1	=>	{CR2BEC_}			Begin of Run data .
ZEUSONLINE6BOR	<=						
ZEUSTEST7BOR	<=						
ZEUSTEST8BOR	<=						
ZEUSONLINE7BOR	<=						
ZEUSTEST9BOR	<=						
ZEUSONLINE8BOR	<=						
ZEUSONLINE9BOR	<=						
FCALONLINE1	<=						
ZEUSONLINE15BOR	<=						
ZEUSONLINE16BOR	<=						
ZEUSONLINE17BOR	<=						
ZEUSTEST6EOR	<=	LEEOR1	=>	{CR2QMS_}			BPC data for End of Run trigger.
ZEUSONLINE6EOR	<=		=>	{CR2PMS_}			
ZEUSTEST7EOR	<=		=>	{CR2LMS_}			
ZEUSTEST8EOR	<=		=>	{CR2DMS_}			
ZEUSONLINE7EOR	<=		=>	{CR2UMS_}			
ZEUSTEST9EOR	<=						
ZEUSONLINE8EOR	<=						
ZEUSONLINE9EOR	<=						
FCALONLINE1	<=						
ZEUSONLINE15EOR	<=						
ZEUSONLINE16EOR	<=						
ZEUSONLINE17EOR	<=						
LETST1	<=	LELASERZ4	=>	{CRL1DC_}			LED Monitor data for a LASER test trigger event.
			=>	{CRL2EN_}			
			=>	{CRL3SA_}			
			=>	{CRL5SA_}			
LETST1	<=	LELEDZ4	=>	{CRL1DC_}			LED Monitor data for a LED test trigger event.
			=>	{CRL2EN_}			
			=>	{CRL3SA_}			
			=>	{CRL5SA_}			

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
ZEUSTEST6TST	<=	LETST1	=>	LELASERZ4			
ZEUSONLINE6TST	<=		=>	LELEDZ4			
ZEUSTEST7TST	<=						
ZEUSTEST8TST	<=						
ZEUSONLINE7TST	<=						
ZEUSTEST9TST	<=						
ZEUSONLINE8TST	<=						
ZEUSONLINE9TST	<=						
ZEUSONLINE14	<=	LM2ONLINE	=>	{LM2CLRND_}			
ZEUSONLINE16BOR	<=		=>	{LM2CLBRE_}			
ZEUSONLINE16EOR	<=		=>	{LM2CLLT_}			
ZEUSONLINE16ENV	<=		=>	{LM2CLPED_}			
ZEUSONLINE16EVT	<=		=>	{LM2CLBNC_}			
ZEUSONLINE16TST	<=		=>	{LM2CLCNT_}			
ZEUSONLINE17BOR	<=		=>	{LM2CLPIL_}			
ZEUSONLINE17EOR	<=		=>	{LM2COMM_}			
ZEUSONLINE17ENV	<=		=>	{LM2SPLED_}			
ZEUSONLINE17EVT	<=		=>	{LM2SPHIS_}			
ZEUSONLINE17TST	<=		=>	{LM2SPRND_}			
			=>	{LM2T6HIT_}			
			=>	{LM2T6BNC_}			
			=>	{LM2T6CNT_}			
			=>	{LM2CAL_}			
			=>	{LM2SPEC_}			
			=>	{LM2T6RAW_}			
			=>	{LM2T6REC_}			
			=>	{LM2BOR_}			
			=>	{LM2SYNC_}			
		LMCALB	=>	{LMCALC_}			input of absolute calibration constants
			=>	{LMFINC_}			
			=>	{LMCACO_}			
			=>	{LMCAC1_}			
		LMCARU	=>	{LMCAC2_}			calibration constants since 95
			=>	{LMCAC3_}			
		LMCND	=>	{LMSET_}			LUMI run conditions and plots
			=>	{LMLIM_}			
ZEUSONLINE5ENV	<=	LMENV1	=>	{LMHP_}			LUMI data from environmental records.
ZEUSTEST6ENV	<=		=>	{LMES_}			
ZEUSONLINE6ENV	<=		=>	{LMPS_}			
ZEUSTEST7ENV	<=		=>	{LMRDUM_}			
ZEUSTEST8ENV	<=		=>	{LMRBAC_}			
ZEUSONLINE7ENV	<=		=>	{LMRBRE_}			
ZEUSTEST9ENV	<=		=>	{LMEDUM_}			
ZEUSONLINE8ENV	<=		=>	{LMEBAC_}			
ZEUSONLINE9ENV	<=		=>	{LMEBRE_}			
LUMIONLINE1	<=		=>	{LMLUMI_}			
ZEUSONLINE15ENV	<=		=>	{LMDP_}			
			=>	{LMLT_}			
			=>	{LMSC_}			
ZEUSONLINE11EVT	<=	LMEVT4	=>	LMRAWEVENTIII			
LUMIONLINE1	<=		=>	{LMRO_}			
ZEUSONLINE15EVT	<=						
		LMGeometry1	=>	{LMDIV_}			
			=>	{LMPARA_}			
			=>	{LMRJCT_}			
			=>	{LMVOLU_}			
			=>	{LMSDET_}			
			=>	{LMSDTA_}			
			=>	{LMSDTD_}			
			=>	{LMSDTH_}			
			=>	{LMSDTU_}			
			=>	{LMSDTV_}			
		LMGeometry2	=>	{LMPOS_}			
		LMINP	=>	{LMFLAG_}			Input raw and calibrated data for the LUMI Monitor
			=>	{LMCALD_}			
			=>	{LMCALR_}			
			=>	{LMPOSR_}			
			=>	{LMHP_}			
			=>	{LMES_}			
			=>	{LMPS_}			
			=>	{LMDP_}			
			=>	{LMLT_}			
			=>	{LMSC_}			
			=>	{LMRDUM_}			
			=>	{LMRBAC_}			
			=>	{LMRBRE_}			
			=>	{LMPRB_}			
			=>	{LMEB_}			
		LMLUMIS	=>	{LMLURU_}			LUMI tables for luminosity calculation for run.
			=>	{LMLUWO_}			
			=>	{LMCAC2_}			
			=>	{LMCAC3_}			
		LMOUT	=>	{LMFLAG_}			Output data
			=>	{LMRESU_}			
			=>	{LMCALD_}			
			=>	{LMPOSD_}			
			=>	{LMEDUM_}			
			=>	{LMEBAC_}			
			=>	{LMEBRE_}			
			=>	{LMPEB_}			
			=>	{LMLUMI_}			

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
LMEVT4	<=	LMRAWEVENTIII	=>	{LMHP_}			
ZEUSONLINE4EVT	<=		=>	{LMES_}			
ZEUSONLINE5EVT	<=		=>	{LMPS_}			
ZEUSTEST6EVT	<=		=>	{LMCALR_}			
ZEUSONLINE6EVT	<=		=>	{LMPOSR_}			
ZEUSTEST7EVT	<=		=>	{LMFLAG_}			
ZEUSTEST8EVT	<=		=>	{LMCALD_}			
ZEUSONLINE7EVT	<=		=>	{LMEB_}			
ZEUSTEST9EVT	<=		=>	{lmdig_}			
ZEUSONLINE8EVT	<=						
ZEUSONLINE9EVT	<=						
ZEUSONLINE10EVT	<=						
ZEUSTEST11EVT	<=						
SPECIALEVTZII	<=	LMSPECZI	=>	{LMHP_}			LUMI data from environmental records.
SPECIALEVTZ3	<=		=>	{LMES_}			
ZEUSTEST2ENV	<=		=>	{LMPS_}			
ZEUSONLINE4ENV	<=		=>	{LMRDUM_}			
			=>	{LMRBAC_}			
			=>	{LMRBRE_}			
			=>	{LMEDUM_}			
			=>	{LMEBAC_}			
			=>	{LMEBRE_}			
			=>	{LMLUMI_}			
SPECIALEVTZ3	<=	LPBOREORZI	=>	{LPBOR1_}			
ZEUSTEST2BOR	<=		=>	{LPHIGH_}			
ZEUSTEST2EOR	<=		=>	{LPRAWH_}			
			=>	{LPHLOW_}			
			=>	{LPRAWL_}			
			=>	{LPSEOR_}			
ZEUSONLINE4BOR	<=	LPBORZ1	=>	{LPBOR1_}			
ZEUSONLINE5BOR	<=		=>	{LPHIGH_}			
ZEUSTEST6BOR	<=		=>	{LPRAWH_}			
ZEUSONLINE6BOR	<=		=>	{LPHLOW_}			
ZEUSTEST7BOR	<=		=>	{LPRAWL_}			
ZEUSTEST8BOR	<=						
ZEUSONLINE7BOR	<=						
ZEUSTEST9BOR	<=						
ZEUSONLINE8BOR	<=						
ZEUSONLINE9BOR	<=						
ZEUSONLINE4ENV	<=	LPENV1	=>	{LPENV_}			
ZEUSONLINE5ENV	<=		=>	{ENVERR_}			
ZEUSTEST6ENV	<=						
ZEUSONLINE6ENV	<=						
ZEUSTEST7ENV	<=						
ZEUSTEST8ENV	<=	LPENV2	=>	{LPENV96_}			
ZEUSONLINE7ENV	<=		=>	{ENVERR_}			
ZEUSTEST9ENV	<=						
ZEUSONLINE8ENV	<=						
ZEUSONLINE9ENV	<=						
ZEUSONLINE4EOR	<=	LPEOR1	=>	{LPSEOR_}			
ZEUSONLINE5EOR	<=		=>	{LPEORERR_}			
ZEUSTEST6EOR	<=						
ZEUSONLINE6EOR	<=						
ZEUSTEST7EOR	<=						
ZEUSTEST8EOR	<=						
ZEUSONLINE7EOR	<=						
ZEUSTEST9EOR	<=						
ZEUSONLINE8EOR	<=						
ZEUSONLINE9EOR	<=						
ZEUSONLINE4EVT	<=	LPEVT1	=>	{LPHEAD_}			
ZEUSONLINE5EVT	<=		=>	{LPRAWD_}			
ZEUSTEST6EVT	<=		=>	{LPFLT_}			
ZEUSONLINE6EVT	<=						
ZEUSTEST7EVT	<=						
ZEUSTEST8EVT	<=						
ZEUSONLINE7EVT	<=						
ZEUSTEST9EVT	<=						
ZEUSONLINE8EVT	<=						
ZEUSONLINE9EVT	<=						
ZEUSONLINE10EVT	<=						
ZEUSTEST11EVT	<=						
ZEUSONLINE11EVT	<=						
MCRAWDATA94A	<=						
MCRAWDATA95A	<=						
		LPRAWEVENTZ2	=>	{LPHEAD_}			
			=>	{LPRAWD_}			
MCRAWDATA93A	<=	LPRAWEVENTZI	=>	{LPHEAD_}			
			=>	{LPRAWD_}			
		LPSGeometry1	=>	{LPDIV_}			
			=>	{LPPARA_}			
			=>	{LPRJCT_}			
			=>	{LPVOLU_}			
			=>	{LPSDET_}			
			=>	{LPSDTA_}			
			=>	{LPSDTD_}			
			=>	{LPSDTH_}			
			=>	{LPSDTU_}			
			=>	{LPSDTV_}			
			=>	{LPDICO_}			
		LPSGeometry2	=>	{LPPOS_}			
		LPScalibration1	=>	{LPEVTR_}			LPS calibration Dataflow
			=>	{LPMOTR_}			
			=>	{LPBEAM_}			

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
		LPSconditions1	=> => => => => => =>	{LPCONF_} {LPNLST_} {LPDLST_} {LPDETC_} {LPOPTI_} {LPSURV_} {LPRECP_}			LPS running conditions Dataflow
		LPSconditions2	=> => => => => => =>	{LPMCON_} {LPMNLS_} {LPMDLS_} {LPMPOS_} {LPMDET_} {LPMOPT_} {LPMREC_}			LPS simulation conditions Dataflow
ZEUSONLINE13	<=	LUMIONLINE1	=> =>	LMEVT4 LMENV1			
SPECIALEVTZ3 ZEUSTEST2BOR	<= <=	MBBOR	=> => => => =>	{MBHEAD_} {MBRUNH_} {MBAMSK_} {MBTMSK_} {MBMTX_}			
ZEUSONLINE4BOR ZEUSONLINE5BOR ZEUSTEST6BOR ZEUSONLINE6BOR ZEUSTEST7BOR ZEUSTEST8BOR ZEUSONLINE7BOR ZEUSTEST9BOR ZEUSONLINE8BOR ZEUSONLINE9BOR BMUOONLINE1 ZEUSONLINE15BOR ZEUSONLINE16BOR ZEUSONLINE17BOR	<= <= <= <= <= <= <= <= <= <= <= <= <= <=	MBBOR1	=> => => => => =>	{MBHEAD_} {MBRUNH_} {MBAMSK_} {MBTMSK_} {MBDSCN_} {MBMTX_}			
ZEUSONLINE4ENV ZEUSONLINE5ENV ZEUSTEST6ENV ZEUSONLINE6ENV ZEUSTEST7ENV ZEUSTEST8ENV ZEUSONLINE7ENV ZEUSTEST9ENV ZEUSONLINE8ENV ZEUSONLINE9ENV BMUOONLINE1 ZEUSONLINE15ENV ZEUSONLINE16ENV ZEUSONLINE17ENV	<= <= <= <= <= <= <= <= <= <= <= <= <= <=	MBENV1	=> => => => => => => => => =>	{MBHEAD_} {MBSTAR_} {MBSGS_} {MBEVIF_} {MBMSG_} {MBBUF_} {MBHVST_} {MBADSB_} {MBTDSB_} {MBTRIP_}			
SPECIALEVTZ3 ZEUSTEST2ENV	<= <=	MBENVREC	=> => => => => => => => =>	{MBHEAD_} {MBSTAR_} {MBSGS_} {MBEVIF_} {MBMSG_} {MBBUF_} {MBHVST_} {MBADSB_} {MBTDSB_}			
SPECIALEVTZ3 ZEUSTEST2EOR	<= <=	MBEOR	=> => => => => => => => =>	{MBHEAD_} {MBSTAR_} {MBSGS_} {MBEVIF_} {MBMSG_} {MBBUF_} {MBHVST_} {MBADSB_} {MBTDSB_}			
ZEUSONLINE4EOR ZEUSONLINE5EOR ZEUSTEST6EOR ZEUSONLINE6EOR ZEUSTEST7EOR ZEUSTEST8EOR ZEUSONLINE7EOR ZEUSTEST9EOR ZEUSONLINE8EOR ZEUSONLINE9EOR BMUOONLINE1 ZEUSONLINE15EOR ZEUSONLINE16EOR ZEUSONLINE17EOR	<= <= <= <= <= <= <= <= <= <= <= <= <= <=	MBEOR1	=> => => => => => => => => =>	{MBHEAD_} {MBSTAR_} {MBSGS_} {MBEVIF_} {MBMSG_} {MBBUF_} {MBHVST_} {MBADSB_} {MBTDSB_} {MBTRIP_}			
ZEUSONLINE4TST ZEUSONLINE5TST ZEUSTEST6TST ZEUSONLINE6TST ZEUSTEST7TST ZEUSTEST8TST ZEUSONLINE7TST ZEUSTEST9TST ZEUSONLINE8TST ZEUSONLINE9TST BMUOONLINE1 ZEUSONLINE15EVT ZEUSONLINE15TST ZEUSONLINE16EVT ZEUSONLINE16TST ZEUSONLINE17EVT ZEUSONLINE17TST	<= <= <= <= <= <= <= <= <= <= <= <= <= <= <= <= <=	MBEVT1	=> => => => => => => => => => =>	{MBADC_} {MBBUF_} {MBEVIF_} {MBHEAD_} {MBHODO_} {MBMSG_} {MBSGS_} {MBSTAR_} {MBTDC_} {MBSLTK_} {MBTRTD_}			

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
		MBRAWEVENT	=>	{MBADC_}			
			=>	{MBHEAD_}			
			=>	{MBHODO_}			
			=>	{MBSGS_}			
			=>	{MBSTAR_}			
			=>	{MBTDC_}			
		MBRAWEVENTII	=>	{MBADC_}			
			=>	{MBHEAD_}			
			=>	{MBHODO_}			
			=>	{MBSGS_}			
			=>	{MBSTAR_}			
			=>	{MBTDC_}			
CALIBIII	<=	MBRAWEVENTIII	=>	{MBADC_}			
CALIBZI	<=		=>	{MBBUF_}			
			=>	{MBEVIF_}			
			=>	{MBHEAD_}			
			=>	{MBHODO_}			
			=>	{MBMSG_}			
			=>	{MBSGS_}			
			=>	{MBSTAR_}			
			=>	{MBTDC_}			
CALIBZ3	<=	MBRAWEVENTIV	=>	{MBADC_}			
ZEUSONLINE4EVT	<=		=>	{MBBUF_}			
ZEUSONLINE5EVT	<=		=>	{MBEVIF_}			
ZEUSTEST6EVT	<=		=>	{MBHEAD_}			
ZEUSONLINE6EVT	<=		=>	{MBHODO_}			
ZEUSTEST7EVT	<=		=>	{MBMSG_}			
ZEUSTEST8EVT	<=		=>	{MBSGS_}			
ZEUSONLINE7EVT	<=		=>	{MBSTAR_}			
ZEUSTEST9EVT	<=		=>	{MBTDC_}			
ZEUSONLINE8EVT	<=		=>	{MBSLTK_}			
ZEUSONLINE9EVT	<=		=>	{MBTRTD_}			
ZEUSONLINE10EVT	<=						
ZEUSTEST11EVT	<=						
ZEUSONLINE11EVT	<=						
BMUOONLINE1	<=						
ZEUSONLINE15EVT	<=						
ZEUSONLINE16EVT	<=						
ZEUSONLINE17EVT	<=						
MCRAWDATA93A	<=						
MCRAWDATA94A	<=						
MCRAWDATA95A	<=						
		MCRAWDATA93A	=>	{CBTENE_}			
			=>	{CFTENE_}			
			=>	{CRTENE_}			
			=>	{CBPECO_}			
			=>	{CFPECO_}			
			=>	{CRPECO_}			
			=>	{SRTENE_}			
			=>	{FNTENE_}			
			=>	{HESraw_}			
			=>	{LMEB_}			
			=>	{lmdig_}			
			=>	LPRAWEVENTZI			
			=>	MBRAWEVENTIV			
			=>	MFRAWEVENTII			
			=>	{mfdig_}			
			=>	{TFDIGI_}			
			=>	{TCBRP_}			
			=>	{TCBPS_}			
			=>	{TCBZ_}			
			=>	{TCBFP_}			
			=>	{TCBCP_}			
			=>	{TCBSP_}			
			=>	{TCBFPF_}			
			=>	TLTTRKZI			
			=>	XXRAWEVENTII			
			=>	{VERAW_}			
			=>	O2DATA			
			=>	{vtraw_}			
			=>	{O23DMU_}			
			=>	{O2RAND_}			
			=>	{O2XYMU_}			
			=>	{XBACC_}			
			=>	{XENEC_}			
			=>	{XSWTW_}			

V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
		MCRAWDATA94A	=>	{CBTENE_}			
			=>	{CFTENE_}			
			=>	{CRTENE_}			
			=>	{CBPECO_}			
			=>	{CFPECO_}			
			=>	{CRPECO_}			
			=>	{PTTENE_}			
			=>	{SRTENE_}			
			=>	{FNTENE_}			
			=>	{HESraw_}			
			=>	{LMEB_}			
			=>	{lmdig_}			
			=>	LPEVT1			
			=>	MBRAWEVENTIV			
			=>	MFRAWEVENTII			
			=>	{mfdig_}			
			=>	{TFDIGI_}			
			=>	{TCBRP_}			
			=>	{TCBPS_}			
			=>	{TCBZ_}			
			=>	{TCBFP_}			
			=>	{TCBCP_}			
			=>	{TCBSP_}			
			=>	{TCBFPF_}			
			=>	TLTTRKZI			
			=>	XXRAWEVENTII			
			=>	{VERAW_}			
			=>	O2DATA			
			=>	{vtraw_}			
			=>	{O23DMU_}			
			=>	{O2RAND_}			
			=>	{O2XYMU_}			
			=>	{XBACC_}			
			=>	{XENEC_}			
			=>	{XSWTW_}			
		MCRAWDATA95A	=>	{CBTENE_}			
			=>	{CFTENE_}			
			=>	{CRTENE_}			
			=>	{CBPECO_}			
			=>	{CFPECO_}			
			=>	{CRPECO_}			
			=>	{PTTENE_}			
			=>	{SRTENE_}			
			=>	{FNTENE_}			
			=>	{BPTENE_}			
			=>	{PRTRUE_}			
			=>	{HESraw_}			
			=>	{LMEB_}			
			=>	{lmdig_}			
			=>	LPEVT1			
			=>	MBRAWEVENTIV			
			=>	MFRAWEVENTII			
			=>	{mfdig_}			
			=>	{TFDIGI_}			
			=>	{TCBRP_}			
			=>	{TCBPS_}			
			=>	{TCBZ_}			
			=>	{TCBFP_}			
			=>	{TCBCP_}			
			=>	{TCBSP_}			
			=>	{TCBFPF_}			
			=>	TLTTRKZI			
			=>	XXRAWEVENTII			
			=>	{VERAW_}			
			=>	{BPTHEA_}			
			=>	{BPTRWD_}			
			=>	O2DATA			
			=>	{vtraw_}			
			=>	{O23DMU_}			
			=>	{O2RAND_}			
			=>	{O2XYMU_}			
			=>	{XBACC_}			
			=>	{XENEC_}			
			=>	{XSWTW_}			
		MCRUNHEAD	=>	FMCRunD			

|
V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
BODY	<=	MCTRUTH	=>	{lphit_}			
COLLECTMCRAW	<=		=>	{lmhit_}			
COLLECTMCPHASE2	<=		=>	{CcGHit_}			
			=>	{FNGHIT_}			
			=>	{HEShit_}			
			=>	{MBGH_}			
			=>	{MBGD_}			
			=>	{MBSG16_}			
			=>	{MBST16_}			
			=>	{MBDPAR_}			
			=>	{PREHIT_}			
			=>	{PTGHIT_}			
			=>	{SRTHIT_}			
			=>	{TCNHTB_}			
			=>	{TCGHTB_}			
			=>	{TCBGHT_}			
			=>	{TCBNHT_}			
			=>	{TFHITS_}			
			=>	{TGTMCT_}			
			=>	{VCTMCT_}			
			=>	{vthit_}			
			=>	{vtdig_}			
			=>	{mfhit_}			
			=>	{lpdig_}			
			=>	{VETHIT_}			
			=>	{C5SCGH_}			
			=>	{C5SHGH_}			
			=>	{XXGHit_}			
			=>	{XXWRDG_}			
			=>	{XXPTDG_}			
			=>	{XXXLDG_}			
			=>	{XXSTDG_}			
			=>	{XXPSDG_}			
			=>	{BPCTRUE_}			
			=>	{T8TRUE_}			
			=>	{BPTMCI_}			
			=>	{BPTMCH_}			
			=>	FMCEvent			
ZEUSONLINE4BOR	<=	MFBOR	=>	{MFNOTES_}			
ZEUSONLINE5BOR	<=		=>	{MFTOROID_}			
ZEUSTEST6BOR	<=		=>	{MFTDCACT_}			
ZEUSONLINE6BOR	<=		=>	{MFTDCBCH_}			
ZEUSTEST7BOR	<=		=>	{MFTDCTHR_}			
ZEUSTEST8BOR	<=		=>	{MFDCBCH_}			
ZEUSONLINE7BOR	<=		=>	{MFDCHV_}			
ZEUSTEST9BOR	<=		=>	{MFDCLV_}			
ZEUSONLINE8BOR	<=		=>	{MFDCVERSION_}			
ZEUSONLINE9BOR	<=		=>	{MFLTBCH_}			
FMUOONLINE1	<=		=>	{MFLTHV_}			
ZEUSONLINE15BOR	<=		=>	{MFLTTHR_}			
ZEUSONLINE16BOR	<=		=>	{MFLTPWID_}			
ZEUSONLINE17BOR	<=		=>	{MFLTVERSION_}			
			=>	{MFFLTBCH_}			
			=>	{MFPPLUBCH_}			
			=>	{MFLWVERSION_}			
			=>	{MFSTARCALIB_}			
			=>	{MFSTARACT_}			
			=>	{MFSTARBCH_}			
			=>	{MFSTARTHR_}			
			=>	{MFRAW_}			
			=>	{MFSET_}			
ZEUSONLINE4ENV	<=	MFENV	=>	{MFDCHV_}			
ZEUSONLINE5ENV	<=		=>	{MFLTHV_}			
ZEUSTEST6ENV	<=		=>	{MFDIAG_}			
ZEUSONLINE6ENV	<=		=>	{MFRAW_}			
ZEUSTEST7ENV	<=		=>	{MFCPU_}			
ZEUSTEST8ENV	<=						
ZEUSONLINE7ENV	<=						
ZEUSTEST9ENV	<=						
ZEUSONLINE8ENV	<=						
ZEUSONLINE9ENV	<=						
FMUOONLINE1	<=						
ZEUSONLINE15ENV	<=						
ZEUSONLINE16ENV	<=						
ZEUSONLINE17ENV	<=						
ZEUSONLINE4EOR	<=	MFEOR	=>	{MFTOROID_}			
ZEUSONLINE5EOR	<=		=>	{MFDCHV_}			
ZEUSTEST6EOR	<=		=>	{MFLTHV_}			
ZEUSONLINE6EOR	<=		=>	{MFTDCTHR_}			
ZEUSTEST7EOR	<=		=>	{MFLTTHR_}			
ZEUSTEST8EOR	<=		=>	{MFSTARTHR_}			
ZEUSONLINE7EOR	<=		=>	{MFRAW_}			
ZEUSTEST9EOR	<=		=>	{MFCPU_}			
ZEUSONLINE8EOR	<=		=>	{MFSET_}			
ZEUSONLINE9EOR	<=		=>	{MFDIAG_}			
FMUOONLINE1	<=						
ZEUSONLINE15EOR	<=						
ZEUSONLINE16EOR	<=						
ZEUSONLINE17EOR	<=						
		MFEVT	=>	{MFRAW_}			
			=>	{MFSLT_}			

V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
		MFOUT	=>	{mfhit_}			
			=>	{MFSET_}			
			=>	{MFRAW_}			
			=>	{MFSLT_}			
			=>	{MFTRIG_}			
			=>	{mfdig_}			
			=>	{mfdr_}			
			=>	{mfdtoh_}			
			=>	{mfrh_}			
			=>	{mfdm2_}			
			=>	{mfdm3_}			
			=>	{mfgrid_}			
			=>	{mfdm_}			
			=>	{mfct_}			
			=>	{mfcts_}			
			=>	{mfdm1_}			
			=>	{mfdcse_}			
			=>	{mfkinp_}			
			=>	{MFKLH_}			
			=>	{MFPRED_}			
			=>	{MFFIT_}			
			=>	{mfrtl_}			
			=>	{mfrtz_}			
			=>	{MFSCAN_}			
		MFRAWEVENT	=>	{MFSLTH_}			
			=>	{MFSLTD_}			
CALIBIII	<=	MFRAWEVENTII	=>	{MFRAW_}			
CALIBZI	<=		=>	{MFSET_}			
CALIBZ3	<=						
ZEUSONLINE4EVT	<=						
ZEUSONLINE4TST	<=						
ZEUSONLINE5EVT	<=						
ZEUSONLINE5TST	<=						
ZEUSTEST6EVT	<=						
ZEUSTEST6TST	<=						
ZEUSONLINE6EVT	<=						
ZEUSONLINE6TST	<=						
ZEUSTEST7EVT	<=						
ZEUSTEST7TST	<=						
ZEUSTEST8EVT	<=						
ZEUSTEST8TST	<=						
ZEUSONLINE7EVT	<=						
ZEUSONLINE7TST	<=						
ZEUSTEST9EVT	<=						
ZEUSTEST9TST	<=						
ZEUSONLINE8EVT	<=						
ZEUSONLINE8TST	<=						
ZEUSONLINE9TST	<=						
ZEUSONLINE9EVT	<=						
ZEUSONLINE10EVT	<=						
ZEUSTEST11EVT	<=						
ZEUSONLINE11EVT	<=						
FMUOONLINE1	<=						
ZEUSONLINE15EVT	<=						
ZEUSONLINE15TST	<=						
ZEUSONLINE16EVT	<=						
ZEUSONLINE16TST	<=						
ZEUSONLINE17EVT	<=						
ZEUSONLINE17TST	<=						
MCRAWDATA93A	<=						
MCRAWDATA94A	<=						
MCRAWDATA95A	<=						
		MFTST	=>	{MFDCHV_}			
			=>	{MFLTHV_}			
			=>	{MFDIAG_}			
			=>	{MFCPU_}			
			=>	{MFSLT_}			
			=>	{MFRAW_}			
		MVBOR1	=>	{MVCONF_}			MVD BOR data
			=>	{MVHLX_}			
			=>	{MVLASR_}			
			=>	{MVLASA_}			
		MVBOR2	=>	{MVBADL_}			MVD bad channel list for the BOR
ZEUSONLINE17BOR	<=	MVBOR3	=>	{MVHLX_}			MVD BOR data, updated
			=>	{MVLASR_}			
			=>	{MVLASA_}			
			=>	{MVLASP_}			
ZEUSONLINE17BOR	<=	MVBOR4	=>	{MVBADL_}			MVD bad channel list for the BOR, updated
			=>	{MVCDAQ_}			
ZEUSONLINE17BOR	<=	MVBORSL1	=>	{MVHVAL_}			MVD BOR data for slow control
			=>	{MVLVAL_}			
			=>	{MVLVPB_}			
			=>	{MVSCUM_}			
			=>	{MVHVRM_}			
		MVCALB	=>	{MVSMST_}			MVD Calibration dataflow
		MVDEB1	=>	{MVBUF_}			MVD Debugging data
			=>	{MVCNTR_}			
			=>	{MVLATE_}			
ZEUSONLINE17ENV	<=	MVENV1	=>	{MVHLX_}			MVD ENV data

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
ZEUSONLINE17ENV	<=	MVENVSL1	=> => => => => => =>	{MVCVAL_} {MVTVAL_} {MVHVAL_} {MVLVAL_} {MVLVPB_} {MVSCUM_} {MVHVRM_}			MVD ENV data for slow control
ZEUSONLINE12 ZEUSONLINE13 ZEUSONLINE14 ZEUSONLINE15EVT ZEUSONLINE16EVT	<= <= <= <= <=	MVEVT1	=> =>	{MVRAWS_} {MVRAWC_}			MVD RAW data.
ZEUSONLINE17EVT	<=	MVEVT2	=> => =>	{MVRAWR_} {MVRAWS_} {MVRAWC_}			MVD RAW data, updated
ZEUSONLINE17EOR ZEUSONLINE17ENV ZEUSONLINE17EVT ZEUSONLINE17TST	<= <= <= <=	MVEVT3	=> => =>	{MVBUF_} {MVCNTR_} {MVLDAQ_}			MVD control data ADC and latencies
		MVGeometry1	=> => => => => => => => => =>	{MVDIV_} {MVPARA_} {MVRJCT_} {MVVOLU_} {MVSDET_} {MVSDTA_} {MVSDTD_} {MVSDTH_} {MVSDTU_} {MVSDTV_}			
		MVGeometry2	=>	{MVPOS_}			
		MVGeometry3	=> => => => => => => => => => => =>	{MVWAF_} {MVGDM_} {MVGDL_} {MVGDW_} {MVGSUR_} {MVGSHW_} {MVGSM_} {MVGSL_} {MVGSW_} {MVGAM_} {MVGAL_} {MVGAW_}			MVD Geometry
		MVGeometry4	=>	{MVFILE_}			card image of the MV ASCII geometry files
		MVMCDEB	=>	{MVGHIT2_}			MVD Monte Carlo tables for debugging
		MVMCTRUTH	=> => =>	{MVGHIT_} {MVDIGS_} {MVDIGC_}			MVD Monte Carlo truth
		MVPATT	=> => => =>	{MVRECC_} {VCCTDM_} {ZTPRUSE_} {ZTPRHL_}			MVD Pattern Recognition
		MaterialsAndMed- ia	=> => => =>	{ZEMATE_} {PROPOR_} {tmed_} {tpar_}			Output dataflow for ZEMATE DAF.
		NoiseCellList	=>	{NOICEL_}			
		O1Condition1	=> =>	{O1INTD_} {O1SBTD_}			GFLT Offline Constants Base
		O2BOR	=>	O2GBOR_			
		O2BORII	=>	O2GBOR_			
		O2BORIII	=> => => =>	{O2DEC_} {O2GBOR_} {O2SBOR_} {O2SSET_}			
SPECIALEVTZ3 ZEUSTEST2BOR ZEUSONLINE4BOR ZEUSONLINE5BOR ZEUSTEST6BOR ZEUSONLINE6BOR ZEUSTEST7BOR ZEUSTEST8BOR ZEUSONLINE7BOR ZEUSTEST9BOR ZEUSONLINE8BOR ZEUSONLINE9BOR GSLTONLINE1 ZEUSONLINE15BOR ZEUSONLINE16BOR ZEUSONLINE17BOR	<= <= <= <= <= <= <= <= <= <= <= <= <= <= <= <=	O2BORZ2	=> => => => => =>	{O2DEC_} {O2GBOR_} {O2SBOR_} {O2SSET_} {O1RDSC_} {O1CVDT_}			Data for the Begin Of Run event.
SPECIALEVTZII	<=	O2BORZI	=> => => =>	{O2DEC_} {O2GBOR_} {O2SBOR_} {O2SSET_}			

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
RAWDATA	<=	O2DATA	=>	{O2DEC_}			Data for a normal event.
MCRAWDATA93A	<=		=>	{O2SKIP_}			
MCRAWDATA94A	<=		=>	{O1EVNT_}			
MCRAWDATA95A	<=		=>	{O1SUBT_}			
			=>	{O1RCDT_}			
			=>	{CCELEC_}			
			=>	{CCEMCL_}			
			=>	{CCHADR_}			
			=>	{CCGSUM_}			
			=>	{CCCAMU_}			
		O2DATAII	=>	{O2DEC_}			Data for a normal event or normal test trigger.
			=>	{O2SKIP_}			
			=>	{O2CTM3_}			
			=>	{O1EVNT_}			
			=>	{O1CSTA_}			
			=>	{O1SUBT_}			
			=>	{O1RCDT_}			
			=>	{O1RCDA_}			
			=>	{O1RCDB_}			
			=>	{X2ENEC_}			
			=>	{CCELEC_}			
			=>	{CCEMCL_}			
			=>	{CCHADR_}			
			=>	{CCCAMU_}			
			=>	{CCGSUM_}			
CALIBIII	<=	O2DATAIII	=>	{O2DEC_}			Data for a normal event or normal test trigger.
			=>	{O2SDEC_}			
			=>	{O2SDE0_}			
			=>	{O2SDE1_}			
			=>	{O2SDE2_}			
			=>	{O2SDE3_}			
			=>	{O2SDE4_}			
			=>	{O2SDE5_}			
			=>	{O2SDE6_}			
			=>	{O2SDE7_}			
			=>	{O2SDE8_}			
			=>	{O2SDE9_}			
			=>	{O2SKIP_}			
			=>	{O2VETO_}			
			=>	{O2CSCL_}			
			=>	{O2CTCA_}			
			=>	{O2PHOP_}			
			=>	{O2MUON_}			
			=>	{O2CTM3_}			
			=>	{O2XPRT_}			
			=>	{O1EVNT_}			
			=>	{O1CSTA_}			
			=>	{O1SUBT_}			
			=>	{O1RCDT_}			
			=>	{O1RCDA_}			
			=>	{O1RCDB_}			
			=>	{X2ENEC_}			
			=>	{X2BACC_}			
			=>	{X2BAMU_}			
			=>	{CCELEC_}			
			=>	{CCEMCL_}			
			=>	{CCHADR_}			
			=>	{CCCAMU_}			
			=>	{CCGSUM_}			
			=>	{CCBPTW_}			
		O2DATAZ2	=>	{O2DEC_}			Data for a normal event or normal test trigger.
			=>	{O2SDEC_}			
			=>	{O2SDE0_}			
			=>	{O2SDE1_}			
			=>	{O2SDE2_}			
			=>	{O2SDE3_}			
			=>	{O2SDE4_}			
			=>	{O2SDE5_}			
			=>	{O2SDE6_}			
			=>	{O2SDE7_}			
			=>	{O2SDE8_}			
			=>	{O2SDE9_}			
			=>	{O2SKIP_}			
			=>	{O2VETO_}			
			=>	{O2CSCL_}			
			=>	{O2CTCA_}			
			=>	{O2PHOP_}			
			=>	{O2MUON_}			
			=>	{O2CTM3_}			
			=>	{O2XPRT_}			
			=>	{O1EVNT_}			
			=>	{O1COMP_}			
			=>	{O1CSTA_}			
			=>	{O1SUBT_}			
			=>	{O1RCDT_}			
			=>	{O1RCDA_}			
			=>	{O1RCDB_}			
			=>	{X2ENEC_}			
			=>	{X2BACC_}			
			=>	{X2BAMU_}			
			=>	{CCELEC_}			
			=>	{CCEMCL_}			
			=>	{CCHADR_}			
			=>	{CCCAMU_}			
			=>	{CCGSUM_}			
			=>	{CCBPTW_}			
			=>	{CCSTAT_}			
			=>	{CCBHIS_}			
			=>	{CCFHIS_}			
			=>	{CCRHIS_}			

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
CALIBZI	<=	O2DATAZI	=>	{O2DEC_}			Data for a normal event or normal test trigger.
CALIBZ3	<=		=>	{O2SDEC_}			
ZEUSONLINE4TST	<=		=>	{O2SDE0_}			
ZEUSONLINE5TST	<=		=>	{O2SDE1_}			
ZEUSTEST6TST	<=		=>	{O2SDE2_}			
ZEUSONLINE6TST	<=		=>	{O2SDE3_}			
ZEUSTEST7TST	<=		=>	{O2SDE4_}			
ZEUSTEST8TST	<=		=>	{O2SDE5_}			
ZEUSONLINE7TST	<=		=>	{O2SDE6_}			
ZEUSTEST9TST	<=		=>	{O2SDE7_}			
ZEUSONLINE8TST	<=		=>	{O2SDE8_}			
ZEUSONLINE9TST	<=		=>	{O2SDE9_}			
GSLTONLINE1	<=		=>	{O2SKIP_}			
ZEUSONLINE15TST	<=		=>	{O2VETO_}			
ZEUSONLINE16TST	<=		=>	{O2CSCL_}			
ZEUSONLINE17TST	<=		=>	{O2CTCA_}			
			=>	{O2PHOP_}			
			=>	{O2MUON_}			
			=>	{O2CTM3_}			
			=>	{O2XPRT_}			
			=>	{O1EVNT_}			
			=>	{O1CSTA_}			
			=>	{O1SUBT_}			
			=>	{O1RCDT_}			
			=>	{O1RCDA_}			
			=>	{O1RCDB_}			
			=>	{X2ENEC_}			
			=>	{X2BACC_}			
			=>	{X2BAMU_}			
			=>	{CCELEC_}			
			=>	{CCEMCL_}			
			=>	{CCHADR_}			
			=>	{CCCAMU_}			
			=>	{CCGSUM_}			
			=>	{CCBPTW_}			
			=>	{CCSTAT_}			
			=>	{CCBHIS_}			
			=>	{CCFHIS_}			
			=>	{CCRHIS_}			
		O2ENVR	=>	{O2DEC_}			
			=>	{O2SKIP_}			
			=>	{O2SUMM_}			
			=>	{O1EVNT_}			
			=>	{O1CSTA_}			
			=>	{O1SCAL_}			
		O2ENVRIII	=>	{O2DEC_}			
			=>	{O2SKIP_}			
			=>	{O2SUMM_}			
			=>	{O2SUMS_}			
			=>	{O2PROC_}			
			=>	{O1EVNT_}			
			=>	{O1CSTA_}			
			=>	{O1SCAL_}			
			=>	{O1BNCH_}			
SPECIALEVTZ3	<=	O2ENVRZ2	=>	{O2DEC_}			Data for an environmental record trigger which is
ZEUSTEST2ENV	<=		=>	{O2SKIP_}			a special test trigger issued by GFLT. If this is
ZEUSONLINE4ENV	<=		=>	{O2SUMM_}			not a seperate data stream, it has to be merged
ZEUSONLINE5ENV	<=		=>	{O2SUMS_}			with O2DATA.
ZEUSTEST6ENV	<=		=>	{O2PROC_}			
ZEUSONLINE6ENV	<=		=>	{O1EVNT_}			
ZEUSTEST7ENV	<=		=>	{O1LUMI_}			
ZEUSTEST8ENV	<=		=>	{O1COMP_}			
ZEUSONLINE7ENV	<=		=>	{O1CSTA_}			
ZEUSTEST9ENV	<=		=>	{O1SCAL_}			
ZEUSONLINE8ENV	<=		=>	{O1SCLR_}			
ZEUSONLINE9ENV	<=		=>	{O1BNCH_}			
GSLTONLINE1	<=		=>	{CCTIL2_}			
ZEUSONLINE15ENV	<=		=>	{CCTIL3_}			
ZEUSONLINE16ENV	<=						
ZEUSONLINE17ENV	<=						
SPECIALEVTZII	<=	O2ENVRZI	=>	{O2DEC_}			Data for an environmental record trigger which is
			=>	{O2SKIP_}			a special test trigger issued by GFLT. If this is
			=>	{O2SUMM_}			not a seperate data stream, it has to be merged
			=>	{O2SUMS_}			with O2DATA.
			=>	{O2PROC_}			
			=>	{O1EVNT_}			
			=>	{O1LUMI_}			
			=>	{O1CSTA_}			
			=>	{O1SCAL_}			
			=>	{O1SCLR_}			
			=>	{O1BNCH_}			
			=>	{CCTIL2_}			
			=>	{CCTIL3_}			
		O2EOR	=>	{O2GEOR_}			
		O2EORII	=>	{O2GEOR_}			
		O2EORIII	=>	{O2DEC_}			
			=>	{O2GEOR_}			
			=>	{O2SEOR_}			
			=>	{O2PROC_}			
			=>	{O1EOR_}			

V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
SPECIALEVTZII SPECIALEVTZ3 ZEUSTEST2EOR ZEUSONLINE4EOR ZEUSONLINE5EOR ZEUSTEST6EOR ZEUSONLINE6EOR ZEUSTEST7EOR ZEUSTEST8EOR ZEUSONLINE7EOR ZEUSTEST9EOR ZEUSONLINE8EOR ZEUSONLINE9EOR GSLTONLINE1 ZEUSONLINE15EOR ZEUSONLINE16EOR ZEUSONLINE17EOR	<= <= <= <= <= <= <= <= <= <= <= <= <= <= <= <= <=	O2EORZI	=> => => => =>	{O2DEC_} {O2GEOR_} {O2SEOR_} {O2PROC_} {O1EOR_}			Data for the the end of run event.
ZEUSONLINE4EVT ZEUSONLINE5EVT ZEUSTEST6EVT ZEUSONLINE6EVT ZEUSTEST7EVT ZEUSTEST8EVT ZEUSONLINE7EVT ZEUSTEST9EVT ZEUSONLINE8EVT ZEUSONLINE9EVT ZEUSONLINE10EVT ZEUSTEST11EVT ZEUSONLINE11EVT GSLTONLINE1 ZEUSONLINE15EVT ZEUSONLINE16EVT ZEUSONLINE17EVT	<= <= <= <= <= <= <= <= <= <= <= <= <= <= <= <= <=	O2EVT1	=> =>	{O2DEC_} {O2SDEC_} {O2SDE0_} {O2SDE1_} {O2SDE2_} {O2SDE3_} {O2SDE4_} {O2SDE5_} {O2SDE6_} {O2SDE7_} {O2SDE8_} {O2SDE9_} {O2SKIP_} {O2VETO_} {O2CSCL_} {O2CTCA_} {O2PHOP_} {O2MUON_} {O2CTM3_} {O2XPRT_} {O1EVNT_} {O1COMP_} {O1CSTA_} {O1SUBT_} {O1RCDT_} {O1RCDA_} {O1RCDB_} {X2ENEC_} {X2BACC_} {X2BAMU_} {CCELEC_} {CCEMCL_} {CCHADR_} {CCCAMU_} {CCGSUM_} {CCBPTW_} {CCSTAT_} {CCBHIS_} {CCFHIS_} {CCRHIS_} {O2MFSLT_}			Data for a normal event or normal test trigger.
TLTDATAZI CALIBIII	<= <=	O3DATAIII	=> => => =>	{TLTCAL_} {TLTVTX_} {TLTCLU_} {TLTEVT_}			
		O3DATAZ2	=> => => => => => =>	{TLTCAL_} {TLTVTX_} {TLTCLU_} {TLTEVT_} {TLTMAT_} {TLTDBG_} {TLTFIL_}			Data for normal event.
		O3DATAZI	=> => => =>	{TLTCAL_} {TLTVTX_} {TLTCLU_} {TLTEVT_}			Data for normal event.
ZEUSONLINE4EVT	<=	O3EVT1	=> => => => => => => => => =>	{TLTCAL_} {TLTVTX_} {TLTCLU_} {TLTEVT_} {TLTMAT_} {TLTDBG_} {TLTFIL_} {TLTVCPR_} {TLTVCAT_} {TLTELE_}			Data for normal event.
ZEUSONLINE5EVT	<=	O3EVT2	=> => => => => => => => => => =>	{TLTCAL_} {TLTVTX_} {TLTCLU_} {TLTEVT_} {TLTMAT_} {TLTDBG_} {TLTFIL_} {TLTVAR_} {TLTVCPR_} {TLTVCAT_} {TLTELE_}			Data for normal event.
		O4BOR	=>	{O4SBOR_}			
SPECIALEVTZII SPECIALEVTZ3 ZEUSTEST2BOR	<= <= <=	O4BORII	=>	{O4SBOR_}			

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
		O4EOR	=>	{O4SEOR_}			
SPECIALEVTZII SPECIALEVTZ3 ZEUSTEST2EOR	<= <= <=	O4EORII	=>	{O4SEOR_}			
		O5DATAIII	=>	{O5CSTA_}			
OZRunsum	<=	OZC5time	=> =>	{OC5HDR_} {OC5BCN_}			C5 timine infor
OZRunsum	<=	OZRsumraw	=> => => => => => => => => => => => => => =>	{OZRCOM_} {OZRCOR_} {OZRHDR_} {OZRSCM_} {OZRHER_} {OZRBCN_} {OZRCFL_} {OZRTST_} {OZRFLT_} {OZRSLT_} {OZRSLV_} {OZRTLT_} {OZRFIL_} {OZRVTX_} {OZRFEX_}			runsummary information
		OZRunsum	=> =>	OZRsumraw OZC5time			runsummary information
ZEUSTEST9BOR ZEUSONLINE8BOR ZEUSONLINE9BOR RCALONLINE1 ZEUSONLINE15BOR ZEUSONLINE16BOR ZEUSONLINE17BOR	<= <= <= <= <= <= <=	PBBOR1	=> => =>	{PBBECA_} {PBBAD_} {PBPMNO_}			Begin of Run data .
ZEUSTEST9ENV ZEUSONLINE8ENV ZEUSONLINE9ENV RCALONLINE1 ZEUSONLINE15ENV ZEUSONLINE16ENV ZEUSONLINE17ENV	<= <= <= <= <= <= <=	PBENV1	=> =>	{PBDCCN_} {PBDMON_}			B-PRESAMPLER data for Environmental trigger.
ZEUSTEST9EOR ZEUSONLINE8EOR ZEUSONLINE9EOR RCALONLINE1 ZEUSONLINE15EOR ZEUSONLINE16EOR ZEUSONLINE17EOR	<= <= <= <= <= <= <=	PBEOR1	=> => => => =>	{PBPQMS_} {PBPPMS_} {PBPLMS_} {PBPDMS_} {PBDUMS_}			B-PRESAMPLER data for End of Run trigger.
ZEUSTEST9EVT ZEUSONLINE8EVT ZEUSONLINE9EVT ZEUSONLINE10EVT ZEUSTEST11EVT ZEUSONLINE11EVT RCALONLINE1 ZEUSONLINE15EVT ZEUSONLINE16EVT ZEUSONLINE17EVT	<= <= <= <= <= <= <= <= <= <=	PBEVT1	=> => => => => =>	{PBDCCN_} {PBTENE_} {PBCOEN_} {PB6SAM_} {PB8SAM_} {PBXOR_}			B-PRESAMPLER data for a normal event.
PBTST1	<=	PBLASER1	=> => => => => =>	{PBDCCN_} {PBTENE_} {PBCOEN_} {PB6SAM_} {PB8SAM_} {PBXOR_}			B-PRESAMPLER data for a LASER test trigger event.
PBTST1	<=	PBLED1	=> => => => => =>	{PBDCCN_} {PBTENE_} {PBCOEN_} {PB6SAM_} {PB8SAM_} {PBXOR_}			B-PRESAMPLER data for a LED test trigger event.
PBTST1	<=	PBQINJEMPTY1	=> => => => => =>	{PBDCCN_} {PBTENE_} {PBCOEN_} {PB6SAM_} {PB8SAM_} {PBXOR_}			B-PRESAMPLER data for a QINJ/PED test trigger event.
ZEUSTEST9TST ZEUSONLINE8TST ZEUSONLINE9TST RCALONLINE1 ZEUSONLINE15TST ZEUSONLINE16TST ZEUSONLINE17TST	<= <= <= <= <= <= <=	PBTST1	=> => => =>	PBQINJEMPTY1 PBLASER1 PBLED1 PBUNOZ1			
PBTST1	<=	PBUNOZ1	=> =>	{PBDCCN_} {PBUM_}			B-PRESAMPLER data for a DUNO test trigger.

V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
COLLECTPHASE2	<=	PHASE1	=>	{BCreco_}			
COLLECTMCPHASE2	<=		=>	{Caltru_}			
			=>	{CConSa_}			
			=>	{Cidclu_}			
			=>	{CFBRob_}			
			=>	{Cidcel_}			
			=>	{CR1obj_}			
			=>	{CnoZsu_}			
			=>	{CnoDsp_}			
			=>	{Chole_}			
			=>	{Fnctru_}			
			=>	{FncSci_}			
			=>	{LPCLUS_}			
			=>	{LPCLCO_}			
			=>	{LPCOOR_}			
			=>	{LPCOTR_}			
			=>	{LPTRAK_}			
			=>	{LMFLAG_}			
			=>	{LMRESU_}			
			=>	{LMCALD_}			
			=>	{LMPOSD_}			
			=>	{LMCALR_}			
			=>	{LMPOSR_}			
			=>	{LMEB_}			
			=>	{LMHP_}			
			=>	{LMES_}			
			=>	{LMPS_}			
			=>	{LMDP_}			
			=>	{LMLT_}			
			=>	{LMSC_}			
			=>	{LMEDUM_}			
			=>	{LMEBAC_}			
			=>	{LMPEB_}			
			=>	{LMLUMI_}			
			=>	{LMFLB_}			
			=>	{lpts_}			
			=>	{lprhit_}			
			=>	{lpdig_}			
			=>	{LPKFO_}			
			=>	{MBWX_}			
			=>	{MBSTSY_}			
			=>	{MBSY_}			
			=>	{MBSQQY_}			
			=>	{MBQY_}			
			=>	{MBWXWE_}			
			=>	{MBWE_}			
			=>	{MBWR_}			
			=>	{MBST_}			
			=>	{MBSQ_}			
			=>	{MBSYYE_}			
			=>	{MBYE_}			
			=>	{MBTS_}			
			=>	{MBXYSG_}			
			=>	{MBTSSG_}			
			=>	{mfdtoh_}			
			=>	{mfrh_}			
			=>	{mfgrid_}			
			=>	{mfct_}			
			=>	{mfdcse_}			
			=>	{mfkinp_}			
			=>	{mfrtl_}			
			=>	{mfrtz_}			
			=>	{mfdm_}			
			=>	{mfdm1_}			
			=>	{mfdm2_}			
			=>	{MFKLH_}			
			=>	{MFPRED_}			
			=>	{MFFIT_}			
			=>	{MFSCAN_}			
			=>	{MFTRIG_}			
			=>	{O1OCHD_}			
			=>	{O1OCDT_}			
			=>	{O1MCHD_}			
			=>	{O1MCDT_}			
			=>	{PRTRUE_}			
			=>	{Sipad1_}			
			=>	{Siclu1_}			
			=>	{SrtTru_}			
			=>	{SreHit_}			
			=>	{Sr1Obj_}			
			=>	{TCHIT_}			
			=>	{TCTRAK_}			
			=>	{TFCORD_}			
			=>	{TFLATE_}			
			=>	{TFMSEG_}			
			=>	{TFTRAC_}			
			=>	{TFTR_}			
			=>	{TFTRDM_}			
			=>	{TCHREL_}			
			=>	{TCBIT_}			
			=>	{TCCAND_}			
			=>	{TCEVCN_}			
			=>	{vtct_}			
			=>	{vtrh_}			
			=>	{vtdm_}			
			=>	{VCTRPK_}			
			=>	{VCTRHL_}			
			=>	{VCATCAL_}			
			=>	{VCLCF_}			
			=>	{TGTCVT_}			
			=>	{XEntit_}			
			=>	{XJetEt_}			
			=>	{XMIPEt_}			
			=>	{XTrkEt_}			
			=>	{XWTPH_}			
			=>	{XPTPH_}			
			=>	{XSTPH_}			

V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
			=>	{XXLHP_}			
			=>	{XPSPQ_}			
			=>	{XCluHP_}			
			=>	{BPTCLUS_}			
			=>	{BPTTRAK_}			
			=>	{BPTMCI_}			
			=>	{BPTMCH_}			
COLLECTPHASE2	<=	PHASE2	=>	{TGTRAK_}			
COLLECTMCPHASE2	<=		=>	{TGCAND_}			
			=>	{TGTCVT_}			
			=>	{TGPHYS_}			
			=>	{TGSEGS_}			
			=>	{TGSCOV_}			
			=>	{GLTKPG_}			
			=>	{GLENTR_}			
			=>	{GLCELL_}			
			=>	{RTMMTM_}			
			=>	{RECPR2_}			
			=>	{RECVTX_}			
			=>	{VCTKPG_}			
			=>	{VCTPAR_}			
			=>	{VCPARCAL_}			
			=>	{VCTVTX_}			
			=>	{XMatEt_}			
			=>	{XMCSEt_}			
			=>	{GMTrCs_}			
			=>	{CR2obj_}			
			=>	{CuPaOb_}			
			=>	{CP2Lin_}			
			=>	{Corrupt_}			
			=>	{Calre1_}			
			=>	{Calre2_}			
			=>	{CL2VTX_}			
			=>	{CTime2_}			
			=>	{CHist_}			
			=>	{CCOR_}			
			=>	{PR1OBJ_}			
			=>	{PRECLU_}			
			=>	{Siclus_}			
			=>	{Sinter_}			
			=>	{Sipad0_}			
			=>	{SiVert_}			
			=>	{SiTrak_}			
			=>	{Sitrcl_}			
			=>	{SiOKIN_}			
			=>	{Sigama_}			
		PHASE3	=>	{PhysObj_}			
			=>	{PhysAlg_}			
			=>	{PhysKin_}			
			=>	{PhysDet_}			
		PHASE3C	=>	{PhysObjC_}			
			=>	{PhysAlgC_}			
			=>	{PhysKinC_}			
			=>	{PhysDet_}			
ZEUSTEST6BOR	<=	PRBOR1	=>	{PRBECA_}			Begin of Run data .
ZEUSONLINE6BOR	<=		=>	{PRBAD_}			
ZEUSTEST7BOR	<=						
ZEUSTEST8BOR	<=	PRBOR2	=>	{PRBECA_}			Begin of Run data .
ZEUSONLINE7BOR	<=		=>	{PRBAD_}			
ZEUSTEST9BOR	<=		=>	{PRPMNO_}			
ZEUSONLINE8BOR	<=						
ZEUSONLINE9BOR	<=						
RCALONLINE1	<=						
ZEUSONLINE15BOR	<=						
ZEUSONLINE16BOR	<=						
ZEUSONLINE17BOR	<=						
ZEUSTEST6ENV	<=	PRENV1	=>	{PRSDCC_}			PRESAMPLER data for Environmental trigger.
ZEUSONLINE6ENV	<=		=>	{PRSDMO_}			
ZEUSTEST7ENV	<=						
ZEUSTEST8ENV	<=						
ZEUSONLINE7ENV	<=						
ZEUSTEST9ENV	<=						
ZEUSONLINE8ENV	<=						
ZEUSONLINE9ENV	<=						
RCALONLINE1	<=						
ZEUSONLINE15ENV	<=						
ZEUSONLINE16ENV	<=						
ZEUSONLINE17ENV	<=						
ZEUSTEST6EOR	<=	PREOR1	=>	{PRPQMS_}			PRESAMPLER data for End of Run trigger.
ZEUSONLINE6EOR	<=		=>	{PRPPMS_}			
ZEUSTEST7EOR	<=		=>	{PRPLMS_}			
ZEUSTEST8EOR	<=		=>	{PRPDMS_}			
ZEUSONLINE7EOR	<=		=>	{PRDUMS_}			
ZEUSTEST9EOR	<=						
ZEUSONLINE8EOR	<=						
ZEUSONLINE9EOR	<=						
RCALONLINE1	<=						
ZEUSONLINE15EOR	<=						
ZEUSONLINE16EOR	<=						
ZEUSONLINE17EOR	<=						
ZEUSTEST6EVT	<=	PREVT1	=>	{PRSDCC_}			PRESAMPLER data for a normal event.
ZEUSONLINE6EVT	<=		=>	{PRTENE_}			
ZEUSTEST7EVT	<=		=>	{PRS6SA_}			
			=>	{PRS8SA_}			
			=>	{PRSXOR_}			

V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
ZEUSTEST8EVT ZEUSONLINE7EVT ZEUSTEST9EVT ZEUSONLINE8EVT ZEUSONLINE9EVT ZEUSONLINE10EVT ZEUSTEST11EVT ZEUSONLINE11EVT RCALONLINE1 ZEUSONLINE15EVT ZEUSONLINE16EVT ZEUSONLINE17EVT	<= <= <= <= <= <= <= <= <= <= <= <=	PREVT2	=> => => => => =>	{PRSDCC_} {PRTENE_} {PRCOEN_} {PRS6SA_} {PRS8SA_} {PRSXOR_}			PRESAMPLER data for a normal event.
		PRGeometry1	=> => => => => => => => => => =>	{PRDIV_} {PRPARA_} {PRRJCT_} {PRVOLU_} {PRSDET_} {PRSDTA_} {PRSDTD_} {PRSDTH_} {PRSDTU_} {PRSDTV_} {PRDICO_}			
		PRGeometry2	=>	{PRPOS_}			
PRTST2	<=	PRLASER5	=> => => => => =>	{PRSDCC_} {PRTENE_} {PRCOEN_} {PRS6SA_} {PRS8SA_} {PRSXOR_}			PRESAMPLER data for a LASER test trigger event.
PRTST1	<=	PRLASERZ4	=> => => => =>	{PRSDCC_} {PRTENE_} {PRS6SA_} {PRS8SA_} {PRSXOR_}			PRESAMPLER data for a LASER test trigger event.
PRTST2	<=	PRLED5	=> => => => => =>	{PRSDCC_} {PRTENE_} {PRCOEN_} {PRS6SA_} {PRS8SA_} {PRSXOR_}			PRESAMPLER data for a LED test trigger event.
PRTST1	<=	PRLEDZ4	=> => => => =>	{PRSDCC_} {PRTENE_} {PRS6SA_} {PRS8SA_} {PRSXOR_}			PRESAMPLER data for a LED test trigger event.
PRTST2	<=	PRQINJEMPTY5	=> => => => => =>	{PRSDCC_} {PRTENE_} {PRCOEN_} {PRS6SA_} {PRS8SA_} {PRSXOR_}			PRESAMPLER data for a QINJ/PED test trigger event.
PRTST1	<=	PRQINJEMPTYZ4	=> => => => =>	{PRSDCC_} {PRTENE_} {PRS6SA_} {PRS8SA_} {PRSXOR_}			PRESAMPLER data for a QINJ/PED test trigger event.
ZEUSTEST6TST ZEUSONLINE6TST ZEUSTEST7TST	<= <= <=	PRTST1	=> => => =>	PRQINJEMPTYZ4 PRLASERZ4 PRLEDZ4 PRUNOZ4			
ZEUSTEST8TST ZEUSONLINE7TST ZEUSTEST9TST ZEUSONLINE8TST ZEUSONLINE9TST RCALONLINE1 ZEUSONLINE15TST ZEUSONLINE16TST ZEUSONLINE17TST	<= <= <= <= <= <= <= <= <=	PRTST2	=> => => =>	PRQINJEMPTY5 PRLASER5 PRLED5 PRUNOZ4			
PRTST1 PRTST2	<= <=	PRUNOZ4	=> =>	{PRSDCC_} {PRUM_}			PRESAMPLER data for a DUNO test trigger.
ZEUSONLINE6BOR ZEUSTEST7BOR	<= <=	PTBOR1	=> =>	{PTBAD_} {PTBECA_}			Begin of Run data .
ZEUSTEST8BOR ZEUSONLINE7BOR ZEUSTEST9BOR ZEUSONLINE8BOR ZEUSONLINE9BOR RCALONLINE1 ZEUSONLINE15BOR ZEUSONLINE16BOR ZEUSONLINE17BOR	<= <= <= <= <= <= <= <= <=	PTBOR2	=> => =>	{PTBAD_} {PTBECA_} {PTPMNO_}			Begin of Run data .

|
V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
ZEUSONLINE6ENV ZEUSTEST7ENV ZEUSTEST8ENV ZEUSONLINE7ENV ZEUSTEST9ENV ZEUSONLINE8ENV ZEUSONLINE9ENV RCALONLINE1 ZEUSONLINE15ENV ZEUSONLINE16ENV ZEUSONLINE17ENV	<= <= <= <= <= <= <= <= <= <= <=	PTENV1	=> =>	{PTDCCN_} {PTDMON_}			PRT data for Environmental trigger.
ZEUSONLINE6EOR ZEUSTEST7EOR ZEUSTEST8EOR ZEUSONLINE7EOR ZEUSTEST9EOR ZEUSONLINE8EOR ZEUSONLINE9EOR RCALONLINE1 ZEUSONLINE15EOR ZEUSONLINE16EOR ZEUSONLINE17EOR	<= <= <= <= <= <= <= <= <= <= <=	PTEOR1	=> => => => =>	{PTPQMS_} {PTPPMS_} {PTPLMS_} {PTPDMS_} {PTDUMS_}			PRT data for End of Run trigger.
ZEUSONLINE6EVT ZEUSTEST7EVT	<= <=	PTEVT1	=> => => =>	{PTDCCN_} {PTTENE_} {PT6SAM_} {PT8SAM_}			PRT data for a normal event.
ZEUSTEST8EVT ZEUSONLINE7EVT	<= <=	PTEVT2	=> => => => =>	{PTDCCN_} {PTTENE_} {PTCOEN_} {PT6SAM_} {PT8SAM_}			PRT data for a normal event.
ZEUSTEST9EVT ZEUSONLINE8EVT ZEUSONLINE9EVT ZEUSONLINE10EVT ZEUSTEST11EVT ZEUSONLINE11EVT RCALONLINE1 ZEUSONLINE15EVT ZEUSONLINE16EVT ZEUSONLINE17EVT	<= <= <= <= <= <= <= <= <= <=	PTEVT3	=> => => => => =>	{PTDCCN_} {PTTENE_} {PTCOEN_} {PT6SAM_} {PT8SAM_} {PTXOR_}			PRT data for a normal event.
PTTST1	<=	PTLASER1	=> => => => =>	{PTDCCN_} {PTTENE_} {PT6SAM_} {PT8SAM_} {PTXOR_}			PRT data for a LASER test trigger event.
PTTST2	<=	PTLASER2	=> => => => => =>	{PTDCCN_} {PTTENE_} {PTCOEN_} {PT6SAM_} {PT8SAM_} {PTXOR_}			PRT data for a LASER test trigger event.
PTTST1	<=	PTLED1	=> => => => =>	{PTDCCN_} {PTTENE_} {PT6SAM_} {PT8SAM_} {PTXOR_}			PRT data for a LED test trigger event.
PTTST2	<=	PTLED2	=> => => => => =>	{PTDCCN_} {PTTENE_} {PTCOEN_} {PT6SAM_} {PT8SAM_} {PTXOR_}			PRT data for a LED test trigger event.
PTTST1	<=	PTQINJEMPTY1	=> => => => =>	{PTDCCN_} {PTTENE_} {PT6SAM_} {PT8SAM_} {PTXOR_}			PRT data for a QINJ/PED test trigger event.
PTTST2	<=	PTQINJEMPTY2	=> => => => => =>	{PTDCCN_} {PTTENE_} {PTCOEN_} {PT6SAM_} {PT8SAM_} {PTXOR_}			PRT data for a QINJ/PED test trigger event.
ZEUSONLINE6TST ZEUSTEST7TST	<= <=	PTTST1	=> => => =>	PTQINJEMPTY1 PTLASER1 PTLED1 PTUNO1			
ZEUSTEST8TST ZEUSONLINE7TST ZEUSTEST9TST ZEUSONLINE8TST ZEUSONLINE9TST	<= <= <= <= <=	PTTST2	=> => => =>	PTQINJEMPTY2 PTLASER2 PTLED2 PTUNO1			
PTTST1 PTTST2	<= <=	PTUNO1	=> =>	{PTDCCN_} {PTUM_}			PRT data for a DUNO test trigger.
		PhysFlo	=> => => =>	{PhysObj_} {PhysAlg_} {PhysKin_} {PhysDet_}			
		RAVVertices	=>	{RAVVTX_}			

|
V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
BODY	<=	RAWDATA	=>	{CBTENE_}			
COLLECTRAWDATA	<=		=>	{CFTENE_}			
COLLECTMCRAW	<=		=>	{CRTENE_}			
COLLECTPHASE2	<=		=>	{CBENER_}			
COLLECTMCPHASE2	<=		=>	{CFENER_}			
			=>	{CRENER_}			
			=>	{CBHSA6_}			
			=>	{CFHSA6_}			
			=>	{CRHSA6_}			
			=>	{HESraw_}			
			=>	{LMCALR_}			
			=>	{LMPOSR_}			
			=>	{LMFLAG_}			
			=>	{LMCALD_}			
			=>	{LMEB_}			
			=>	{LMHP_}			
			=>	{LMES_}			
			=>	{LMPS_}			
			=>	{LMEDUM_}			
			=>	{LMEBAC_}			
			=>	{LMEBRE_}			
			=>	{LMPRB_}			
			=>	{lmdig_}			
			=>	{lpdig_}			
			=>	{lprhit_}			
			=>	{MBHEAD_}			
			=>	{MBADC_}			
			=>	{MBSTAR_}			
			=>	{MBTDC_}			
			=>	{MBSGS_}			
			=>	{MBHODO_}			
			=>	{MBMSG_}			
			=>	{MBBUF_}			
			=>	{MBEVIF_}			
			=>	{MBWR_}			
			=>	{MBGA_}			
			=>	{MBST_}			
			=>	{MBSQ_}			
			=>	{MBPU_}			
			=>	{MFSLTH_}			
			=>	{MFSLTD_}			
			=>	{MFSET_}			
			=>	{MFRAW_}			
			=>	{mfdig_}			
			=>	{TCRPB_}			
			=>	{TCZB_}			
			=>	{TCPTB_}			
			=>	{TFDIGI_}			
			=>	{TCBRP_}			
			=>	{TCBPS_}			
			=>	{TCBZ_}			
			=>	{TCBFP_}			
			=>	{TCBCP_}			
			=>	{TCBSP_}			
			=>	{TCBFPF_}			
			=>	{TLTVCHL_}			
			=>	{TLTVCPK_}			
			=>	{XXDbug_}			
			=>	{XXSTRD_}			
			=>	{XXW1RD_}			
			=>	{XXW6RD_}			
			=>	{XXPTRD_}			
			=>	{XXXLRD_}			
			=>	{XXPSRD_}			
			=>	{VERAW_}			
			=>	{BPTHEA_}			
			=>	{BPTRWD_}			
			=>	O2DATA			

|
V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
ZEUSONLINE13 ZEUSONLINE14	<= <=	RCALONLINE1	=> =>	CREVT4 CRTST4 CRENV3 CREOR3 TDEVT2 TDTST2 TDENV1 TDBOR3 TDEOR1 SREVT3 SRTST3 SRENV2 SRBOR4 SREOR1 SFEVT1 SFTST1 SFENV1 SFBOR1 SFEOR1 PTEVT3 PTENV1 PTBOR2 PTEOR1 PREVT2 PRTST2 PRENV1 PRBOR2 PREOR1 PBEVT1 PBTST1 PBENV1 PBBOR1 PBEOR1 FPEVT2 FNEVT2 FNTST2 FNENV1 FNBOR3 FNEOR1 BPEVT2 BPTST2 BPENV1 BPBOR2 BPEOR1			
ZEUSTEST6BOR	<=	RTBOR1	=> =>	{RTBAD_} {RTBECA_}			Begin of Run data .
ZEUSTEST6ENV	<=	RTENV1	=> =>	{RTDCCN_} {RTDMON_}			PRT data for Environmental trigger.
ZEUSTEST6EOR	<=	RTEOR1	=> => => => =>	{RTPQMS_} {RTPPMS_} {RTPLMS_} {RTPDMS_} {RTDUMS_}			PRT data for End of Run trigger.
ZEUSTEST6EVT	<=	RTEVT1	=> => => =>	{RTDCCN_} {RTTENE_} {RT6SAM_} {RT8SAM_}			PRT data for a normal event.
RTTST1	<=	RTLASERZ4	=> => => => =>	{RTDCCN_} {RTTENE_} {RT6SAM_} {RT8SAM_} {RTXOR_}			PRT data for a LASER test trigger event.
RTTST1	<=	RTLEDZ4	=> => => => =>	{RTDCCN_} {RTTENE_} {RT6SAM_} {RT8SAM_} {RTXOR_}			PRT data for a LED test trigger event.
RTTST1	<=	RTQINJEMPTYZ4	=> => => => =>	{RTDCCN_} {RTTENE_} {RT6SAM_} {RT8SAM_} {RTXOR_}			PRT data for a QINJ/PED test trigger event.
ZEUSTEST6TST	<=	RTTST1	=> => => =>	RTQINJEMPTYZ4 RTLASERZ4 RTLEDZ4 RTUNOZ4			
RTTST1	<=	RTUNOZ4	=> =>	{RTDCCN_} {RTUM_}			PRT data for a DUNO test trigger.
		RUNHEAD	=>	{ZRRUN_}			
		RotationMatrices	=>	{rotm_}			Dataflow for rotation matrices for Zeus geometry.
		SCDBOR1	=> => =>	{PolarData_} {O4SBOR_} {O1SETU_}			

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
ZEUSONLINE4BOR	<=	SCDBOR2	=>	{PolarData_}			
ZEUSONLINE5BOR	<=		=>	{O4SBOR_}			
ZEUSTEST6BOR	<=		=>	{O1SETU_}			
ZEUSONLINE6BOR	<=		=>	{O5CSTA_}			
ZEUSTEST7BOR	<=		=>	{C5HIST_}			
ZEUSTEST8BOR	<=						
ZEUSONLINE7BOR	<=						
ZEUSTEST9BOR	<=						
ZEUSONLINE8BOR	<=						
ZEUSONLINE9BOR	<=						
SCDONLINE1	<=						
ZEUSONLINE15BOR	<=						
ZEUSONLINE16BOR	<=						
ZEUSONLINE17BOR	<=						
		SCDENV1	=>	{PolarData_}			
			=>	{O5CSTA_}			
ZEUSONLINE4ENV	<=	SCDENV2	=>	{PolarData_}			
ZEUSONLINE5ENV	<=		=>	{O5CSTA_}			
ZEUSTEST6ENV	<=		=>	{C5HIST_}			
ZEUSONLINE6ENV	<=						
ZEUSTEST7ENV	<=						
ZEUSTEST8ENV	<=						
ZEUSONLINE7ENV	<=						
ZEUSTEST9ENV	<=						
ZEUSONLINE8ENV	<=						
ZEUSONLINE9ENV	<=						
SCDONLINE1	<=						
ZEUSONLINE15ENV	<=						
ZEUSONLINE16ENV	<=						
ZEUSONLINE17ENV	<=						
		SCDEOR1	=>	{PolarData_}			
			=>	{O4SEOR_}			
ZEUSONLINE4EOR	<=	SCDEOR2	=>	{PolarData_}			
ZEUSONLINE5EOR	<=		=>	{O5CSTA_}			
ZEUSTEST6EOR	<=		=>	{C5HIST_}			
ZEUSONLINE6EOR	<=		=>	{O4SEOR_}			
ZEUSTEST7EOR	<=						
ZEUSTEST8EOR	<=						
ZEUSONLINE7EOR	<=						
ZEUSTEST9EOR	<=						
ZEUSONLINE8EOR	<=						
ZEUSONLINE9EOR	<=						
SCDONLINE1	<=						
ZEUSONLINE15EOR	<=						
ZEUSONLINE16EOR	<=						
ZEUSONLINE17EOR	<=						
ZEUSONLINE4EVT	<=	SCDEVT1	=>	{O5CSTA_}			
ZEUSONLINE5EVT	<=						
ZEUSTEST6EVT	<=						
ZEUSONLINE6EVT	<=						
ZEUSTEST7EVT	<=						
ZEUSTEST8EVT	<=						
ZEUSONLINE7EVT	<=						
ZEUSTEST9EVT	<=						
ZEUSONLINE8EVT	<=						
ZEUSONLINE9EVT	<=						
ZEUSONLINE10EVT	<=						
ZEUSTEST11EVT	<=						
ZEUSONLINE11EVT	<=						
SCDONLINE1	<=						
ZEUSONLINE15EVT	<=						
ZEUSONLINE16EVT	<=						
ZEUSONLINE17EVT	<=						
ZEUSONLINE13	<=	SCDONLINE1	=>	SCDEVT1			
ZEUSONLINE14	<=		=>	SCDENV2			
			=>	SCDBOR2			
			=>	SCDEOR2			
ZEUSTEST6BOR	<=	SFBOR1	=>	{SFTBOR_}			SRTD-FLT Begin of Run data .
ZEUSONLINE6BOR	<=		=>	{SFFBOR_}			
ZEUSTEST7BOR	<=						
ZEUSTEST8BOR	<=						
ZEUSONLINE7BOR	<=						
ZEUSTEST9BOR	<=						
ZEUSONLINE8BOR	<=						
ZEUSONLINE9BOR	<=						
RCALONLINE1	<=						
ZEUSONLINE15BOR	<=						
ZEUSONLINE16BOR	<=						
ZEUSONLINE17BOR	<=						
ZEUSTEST6ENV	<=	SFENV1	=>	{SFSCAL_}			SRTD-FLT data for Environmental trigger.
ZEUSONLINE6ENV	<=						
ZEUSTEST7ENV	<=						
ZEUSTEST8ENV	<=						
ZEUSONLINE7ENV	<=						
ZEUSTEST9ENV	<=						
ZEUSONLINE8ENV	<=						
ZEUSONLINE9ENV	<=						
RCALONLINE1	<=						
ZEUSONLINE15ENV	<=						
ZEUSONLINE16ENV	<=						
ZEUSONLINE17ENV	<=						

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
ZEUSTEST6EOR ZEUSONLINE6EOR ZEUSTEST7EOR ZEUSTEST8EOR ZEUSONLINE7EOR ZEUSTEST9EOR ZEUSONLINE8EOR ZEUSONLINE9EOR RCALONLINE1 ZEUSONLINE15EOR ZEUSONLINE16EOR ZEUSONLINE17EOR	<= <= <= <= <= <= <= <= <= <= <= <=	SFEOR1	=> => =>	{SFPQMS_} {SFPPMS_} {SFPLMS_}			SRTD-FLT data for End of Run trigger.
ZEUSTEST6EVT ZEUSONLINE6EVT ZEUSTEST7EVT ZEUSTEST8EVT ZEUSONLINE7EVT ZEUSTEST9EVT ZEUSONLINE8EVT ZEUSONLINE9EVT ZEUSONLINE10EVT ZEUSTEST11EVT ZEUSONLINE11EVT RCALONLINE1 ZEUSONLINE15EVT ZEUSONLINE16EVT ZEUSONLINE17EVT	<= <= <= <= <= <= <= <= <= <= <= <= <= <= <=	SFEVT1	=>	{SFHITP_}			SRTD-FLT data for a normal event.
SFTST1	<=	SFLASER1	=>	{SFHITP_}			SRTD-FLT data for a LASER test trigger event.
SFTST1	<=	SFLED1	=>	{SFHITP_}			SRTD-FLT data for a LED test trigger event.
SFTST1	<=	SFQINJEMPTY1	=>	{SFHITP_}			SRTD-FLT data for a QINJ/PED test trigger event.
ZEUSTEST6TST ZEUSONLINE6TST ZEUSTEST7TST ZEUSTEST8TST ZEUSONLINE7TST ZEUSTEST9TST ZEUSONLINE8TST ZEUSONLINE9TST RCALONLINE1 ZEUSONLINE15TST ZEUSONLINE16TST ZEUSONLINE17TST	<= <= <= <= <= <= <= <= <= <= <= <=	SFTST1	=> => =>	SFQINJEMPTY1 SFLASER1 SFLED1			
		SLTRESULT	=> =>	{TCSGEV_} {TCSGTK_}			
		SPECIALEVTZ3	=> =>	FCBOR1 HESBOR4 MBBOR O2BORZ2 O4BORII TCBORZ2 TFBORZ2 TRBORZ2 TLTBORZ2 VEBOR XXBORZII CBCALEORZ2 CFCALEORZ2 HESEORIII MBEOR O2EORZI O4EORII TCEORZ2 TFEORZ2 TREORZ2 TLTEORZI VEEOR XXEORZII LPBOREORZI CBENVZ2 CFENVZ2 HESRAWEVENT4 LMSPECZI MBENVREC O2ENVRZ2 BCBOREORENV TCSLTRUN FiMoOnlineData			special data flow, MARCH 93
		SPECIALEVTZII	=> => => => => => => => => => => => => => => => =>	HESBORIII O2BORZI O4BORII TCBORZI TFBORZ2 TRBORZ2 TLTBORZI XXBORZI HESEORIII O2EORZI O4EORII TFEORZ2 TREORZ2 TLTEORZI LMSPECZI O2ENVRZI TCSLTRUN			special data flow, SEP 92
		SRBOR1	=> => => =>	{SRBMIP_} {SRBAD_} {SRTBOR_} {SREBOR_}			Begin of Run data .

V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
ZEUSONLINE4BOR ZEUSONLINE5BOR	<= <=	SRBOR2	=> => => => =>	{SRBMIP_} {SRBAD_} {SRTBOR_} {SREBOR_} {SRITBO_}			Begin of Run data .
ZEUSTEST6BOR ZEUSONLINE6BOR ZEUSTEST7BOR	<= <= <=	SRBOR3	=> => =>	{SRBMIP_} {SRBAD_} {SRBECA_}			Begin of Run data .
ZEUSTEST8BOR ZEUSONLINE7BOR ZEUSTEST9BOR ZEUSONLINE8BOR ZEUSONLINE9BOR RCALONLINE1 ZEUSONLINE15BOR ZEUSONLINE16BOR ZEUSONLINE17BOR	<= <= <= <= <= <= <= <= <=	SRBOR4	=> => => =>	{SRBMIP_} {SRBAD_} {SRBECA_} {SRPMNO_}			Begin of Run data .
ZEUSONLINE4ENV ZEUSONLINE5ENV	<= <=	SRENV1	=> => =>	{SRDCCN_} {SRDMON_} {SRSCAL_}			SRTD data for Environmental trigger.
ZEUSTEST6ENV ZEUSONLINE6ENV ZEUSTEST7ENV ZEUSTEST8ENV ZEUSONLINE7ENV ZEUSTEST9ENV ZEUSONLINE8ENV ZEUSONLINE9ENV RCALONLINE1 ZEUSONLINE15ENV ZEUSONLINE16ENV ZEUSONLINE17ENV	<= <= <= <= <= <= <= <= <= <= <= <=	SRENV2	=> =>	{SRDCCN_} {SRDMON_}			SRTD data for Environmental trigger.
ZEUSONLINE4EOR ZEUSONLINE5EOR ZEUSTEST6EOR ZEUSONLINE6EOR ZEUSTEST7EOR ZEUSTEST8EOR ZEUSONLINE7EOR ZEUSTEST9EOR ZEUSONLINE8EOR ZEUSONLINE9EOR RCALONLINE1 ZEUSONLINE15EOR ZEUSONLINE16EOR ZEUSONLINE17EOR	<= <= <= <= <= <= <= <= <= <= <= <= <= <=	SREOR1	=> => => => =>	{SRPQMS_} {SRPPMS_} {SRPLMS_} {SRPDMS_} {SRDUMS_}			SRTD data for End of Run trigger.
ZEUSONLINE4EVT ZEUSONLINE5EVT	<= <=	SREVT1	=> => => => => => => =>	{SRDCCN_} {SRTENE_} {SR6SAM_} {SR8SAM_} {SRXOR_} {SRFLT_} {SRFHIT_} {SRFTIM_}			SRTD data for a normal event.
ZEUSTEST6EVT ZEUSONLINE6EVT ZEUSTEST7EVT	<= <= <=	SREVT2	=> => => => =>	{SRDCCN_} {SRTENE_} {SR6SAM_} {SR8SAM_} {SRXOR_}			SRTD data for a normal event.
ZEUSTEST8EVT ZEUSONLINE7EVT ZEUSTEST9EVT ZEUSONLINE8EVT ZEUSONLINE9EVT ZEUSONLINE10EVT ZEUSTEST11EVT ZEUSONLINE11EVT RCALONLINE1 ZEUSONLINE15EVT ZEUSONLINE16EVT ZEUSONLINE17EVT	<= <= <= <= <= <= <= <= <= <= <= <=	SREVT3	=> => => => => =>	{SRDCCN_} {SRTENE_} {SRCOEN_} {SR6SAM_} {SR8SAM_} {SRXOR_}			SRTD data for a normal event.
		SRGeometry1	=> => => => => => => => => => =>	{SRDIV_} {SRPARA_} {SRRJCT_} {SRVOLU_} {SRSDET_} {SRSDTA_} {SRSDTD_} {SRSDTH_} {SRSDTU_} {SRSDTV_} {SRDICO_}			
		SRGeometry2	=>	{SRPOS_}			
SRTST1	<=	SRLASER5	=> => => => =>	{SRDCCN_} {SRTENE_} {SR6SAM_} {SR8SAM_} {SRXOR_}			SRTD data for a LASER test trigger event.
SRTST3	<=	SRLASER6	=> => => => => =>	{SRDCCN_} {SRTENE_} {SRCOEN_} {SR6SAM_} {SR8SAM_} {SRXOR_}			SRTD data for a LASER test trigger event.

|

V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
SRTST2	<=	SRLASERZ4	=> => => => => => => =>	{SRDCCN_} {SRTENE_} {SR6SAM_} {SR8SAM_} {SRXOR_} {SRFLT_} {SRFHIT_} {SRFTIM_}			SRTD data for a LASER test trigger event.
SRTST1	<=	SRLED5	=> => => => =>	{SRDCCN_} {SRTENE_} {SR6SAM_} {SR8SAM_} {SRXOR_}			SRTD data for a LED test trigger event.
SRTST3	<=	SRLED6	=> => => => => =>	{SRDCCN_} {SRTENE_} {SRCOEN_} {SR6SAM_} {SR8SAM_} {SRXOR_}			SRTD data for a LED test trigger event.
SRTST2	<=	SRLEDZ4	=> => => => => => => =>	{SRDCCN_} {SRTENE_} {SR6SAM_} {SR8SAM_} {SRXOR_} {SRFLT_} {SRFHIT_} {SRFTIM_}			SRTD data for a LED test trigger event.
SRTST1	<=	SRQINJEMPTY5	=> => => => =>	{SRDCCN_} {SRTENE_} {SR6SAM_} {SR8SAM_} {SRXOR_}			SRTD data for a QINJ/PED test trigger event.
SRTST3	<=	SRQINJEMPTY6	=> => => => => =>	{SRDCCN_} {SRTENE_} {SRCOEN_} {SR6SAM_} {SR8SAM_} {SRXOR_}			SRTD data for a QINJ/PED test trigger event.
SRTST2	<=	SRQINJEMPTYZ4	=> => => => => => => =>	{SRDCCN_} {SRTENE_} {SR6SAM_} {SR8SAM_} {SRXOR_} {SRFLT_} {SRFHIT_} {SRFTIM_}			SRTD data for a QINJ/PED test trigger event.
		SRTDflow	=> =>	{SrCali_} {SrCal2_}			SRTD calibration constants (1) Energy corrections, (2) Time offsets
ZEUSONLINE4TST ZEUSONLINE5TST	<= <=	SRTST1	=> => => =>	SRQINJEMPTY5 SRLASER5 SRLED5 SRUNOZ4			
ZEUSTEST6TST ZEUSONLINE6TST ZEUSTEST7TST	<= <= <=	SRTST2	=> => => =>	SRQINJEMPTYZ4 SRLASERZ4 SRLEDZ4 SRUNOZ4			
ZEUSTEST8TST ZEUSONLINE7TST ZEUSTEST9TST ZEUSONLINE8TST ZEUSONLINE9TST RCALONLINE1 ZEUSONLINE15TST ZEUSONLINE16TST ZEUSONLINE17TST	<= <= <= <= <= <= <= <= <=	SRTST3	=> => => =>	SRQINJEMPTY6 SRLASER6 SRLED6 SRUNOZ4			
SRTST1 SRTST2 SRTST3	<= <= <=	SRUNOZ4	=> => =>	{SRDCCN_} {SRUN_} {SRUM_}			SRTD data for a DUNO test trigger.
		STCALIB	=> => =>	{STGCAL_} {STSCAL_} {STT0CAL_}			STT Data Calibration Data
		STENVIRON	=>	{STTENV_}			STT Environmental Records
		STEVTHDR	=>	{STSEVT_}			STT Event Header
		STGeometry1	=> => => => => => => => => =>	{STDIV_} {STPARA_} {STRJCT_} {STVOLU_} {STSDET_} {STSDTA_} {STSDTD_} {STSDTH_} {STSDTU_} {STSDTV_}			
		STGeometry2	=>	{STPOS_}			

V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
		STGeometry3	=> => => => => => => => => =>	{STSEC_} {STGDSTT_} {STGDSEC_} {STGDSTR_} {STGSSTT_} {STGSSEC_} {STGSSTR_} {STGASTT_} {STGASEC_} {STGASTR_}			STT Data Geometry
		STMAPP	=>	{STTMAP_}			STT Mapping Table
		STMCCALIB	=> => =>	{STGCAL_} {STSCAL_} {STT0CAL_}			STT MC Calibration Data
		STMCGeometry3	=> => => => => => => => => =>	{STSEC_} {STGDSTT_} {STGDSEC_} {STGDSTR_} {STGSSTT_} {STGSSEC_} {STGSSTR_} {STGASTT_} {STGASEC_} {STGASTR_}			STT MC Geometry
		STMCMap1	=>	{STTMAP_}			STT MC Mapping Table
		STMCSTAT	=> =>	{STATSEC_} {STATSTR_}			STT MC Status Table
		STMap1	=>	{STTMAP_}			STT Data Mapping Table
		STSTAT	=> =>	{STATSEC_} {STATSTR_}			STT Data Status Table
ZEUSONLINE15BOR ZEUSONLINE16BOR ZEUSONLINE17BOR	<= <= <=	STTBOR1	=>	{STSOR_}			STT data for a begin of run event.
ZEUSONLINE15EOR ZEUSONLINE16EOR ZEUSONLINE17EOR	<= <= <=	STTEOR1	=>	{STEOR_}			STT data for a end of run event.
ZEUSONLINE15EVT ZEUSONLINE16EVT ZEUSONLINE17EVT	<= <= <=	STTEVT1	=> => => =>	{STTRAW_} {STSEVT_} {STSYNC_} {STTTST_}			STT data
		STTMCTRUTH	=> => =>	{STGHIT_} {STASDQ_} {STDMUX_}			STT Monte Carlo Truth
ZEUSONLINE13 ZEUSONLINE14	<= <=	STTONLINE1	=> => => => => =>	{STSEVT_} {STSOR_} {STTRAW_} {STTTST_} {STEOR_} {STSYNC_}			
		STTPH1	=>	{STTRAW_}			STT Phase 1 of reconstruction process
		STTRAK	=> => => =>	{STTREC_} {STPUSE_} {STPRHL_} {STPHELIX_}			STT Tracking information
ZEUSTEST7ENV ZEUSTEST8ENV ZEUSONLINE7ENV ZEUSTEST9ENV ZEUSONLINE8ENV ZEUSONLINE9ENV	<= <= <= <= <= <=	T8ENV1	=> => =>	{T8LIGH_} {T8DUMP_} {T8SELE_}			
T8EVT2 T8TST1 ZEUSTEST7EVT ZEUSTEST8EVT ZEUSONLINE7EVT ZEUSTEST9EVT ZEUSONLINE8EVT ZEUSONLINE9EVT ZEUSONLINE10EVT ZEUSTEST11EVT	<= <= <= <= <= <= <= <= <= <=	T8EVT1	=> =>	{T8MAIN_} {LMES_}			
ZEUSONLINE11EVT	<=	T8EVT2	=> =>	T8EVT1 {T8RO_}			
ZEUSTEST7TST ZEUSTEST8TST ZEUSONLINE7TST ZEUSTEST9TST ZEUSONLINE8TST ZEUSONLINE9TST	<= <= <= <= <= <=	T8TST1	=>	T8EVT1			
		TCBOR	=> =>	{TCSOR_} {TCSORC_}			

V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
		TCBOR3	=> => => => => => => =>	TCSLTRUN TCFADCBOR TCLTCBOR TCCndsBORA01 {TCFBOR_} {TCSOR_} {TCSORC_} {TCSBOR_}			Data of the CTD Begin of Run Event. MARCH 93
ZEUSONLINE4BOR	<=	TCBOR4	=> => => => => => =>	{TCFBOR_} {TCSOR_} {TCSORC_} {TCSBOR_} TCFADCBOR1 TCLTCBOR TCCndsBORA01			Data of the CTD Begin of Run Event
ZEUSONLINE5BOR	<=	TCBOR5	=> => => => => => =>	{TCFBOR_} {TCSOR_} {TCSORC_} {TCSBOR_} TCFADCBOR2 TCLTCBOR TCCndsBORA01			Data of the CTD Begin of Run Event
ZEUSTEST6BOR ZEUSONLINE6BOR ZEUSTEST7BOR ZEUSTEST8BOR ZEUSONLINE7BOR ZEUSTEST9BOR ZEUSONLINE8BOR ZEUSONLINE9BOR CTDONLINE1 ZEUSONLINE15BOR ZEUSONLINE16BOR ZEUSONLINE17BOR	<= <= <= <= <= <= <= <= <= <= <= <=	TCBOR6	=> => => => => => => => => =>	{TCFBOR_} {TCSOR_} {TCSORC_} {TCSBOR_} {TCBZC_} {TCENV_} TCFADCBOR2 TCLTCBOR TCCndsBORA01 TCZBOR			Data of the CTD Begin of Run Event
		TCBORII	=> => => => => =>	{TCSOR_} {TCSORC_} {TCSBOR_} {TCCFGZ_} {TCFDPM_} {TCFILT_}			
SPECIALEVTZ3 ZEUSTEST2BOR	<= <=	TCBORZ2	=> => => => => => =>	{TCFBOR_} {TCSOR_} {TCSORC_} {TCSBOR_} TCFADCBOR TCLTCBOR TCCndsBORA01			Data of the CTD Begin of Run Event. MARCH 93
SPECIALEVTZII	<=	TCBORZI	=> => => => => =>	{TCSOR_} {TCSORC_} {TCSBOR_} {TCFDPM_} {TCFILT_} {TCLTCB_}			
TCEVT2 TCEVT3	<= <=	TCBPUDATA	=> => =>	{TCBPUT_} {TCBPUS_} {TCBPUZ_}			CTD beam pickup data
		TCCALIB	=>	{TCZCB_}			
		TCCALIBII	=>	{TCZCB_}			
CALIBIII	<=	TCCALIBIII	=> =>	{TCZCB_} {TCBZC_}			
CALIBZI CALIBZ3	<= <=	TCCALIBZI	=>	{TCBZC_}			
TCBORZ2 TCBOR3 TCBOR4 TCBOR5 TCBOR6	<= <= <= <= <=	TCCndsBORA01	=> => => => => => => => =>	{TCGASS_} {TCGASA_} {TCGASF_} {TCGASP_} {TCGASM_} {TCGASC_} {TCGASV_} {TCHVS_} {TCHV_}			CTD BOR conditions
TCEORZ2 TCEOR3 TCEOR4 TCEOR5	<= <= <= <=	TCCndsEORA01	=> => => => => => => => =>	{TCGASS_} {TCGASA_} {TCGASF_} {TCGASP_} {TCGASM_} {TCGASC_} {TCGASV_} {TCHVS_} {TCHV_}			CTD EOR conditions
ZEUSONLINE4ENV ZEUSONLINE5ENV ZEUSTEST6ENV	<= <= <=	TCENV1	=> => =>	{TCSTIX_} {TCENV_} {TCHV_}			CTD Environmental records.

|
V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
ZEUSONLINE6ENV ZEUSTEST7ENV ZEUSTEST8ENV ZEUSONLINE7ENV ZEUSTEST9ENV ZEUSONLINE8ENV ZEUSONLINE9ENV CTDONLINE1 ZEUSONLINE15ENV ZEUSONLINE16ENV ZEUSONLINE17ENV	<= <= <= <= <= <= <= <= <= <= <=	TCENV2	=> => => =>	{TCSTIX_} {TCENV_} {TCHV_} {TCBMNZ_}			CTD Environmental records.
		TCEOR3	=> => => => =>	TCSLTRUN TCFADCEOR TCCndsEORA01 {TCFEOR_} {TCSTIX_}			Data of the CTD End of Run Event. MARCH 93
ZEUSONLINE4EOR ZEUSONLINE5EOR	<= <=	TCEOR4	=> => => =>	{TCFEOR_} {TCSTIX_} TCFADCEOR TCCndsEORA01			Data of the CTD End of Run Event
ZEUSTEST6EOR ZEUSONLINE6EOR ZEUSTEST7EOR ZEUSTEST8EOR ZEUSONLINE7EOR ZEUSTEST9EOR ZEUSONLINE8EOR ZEUSONLINE9EOR CTDONLINE1 ZEUSONLINE15EOR ZEUSONLINE16EOR ZEUSONLINE17EOR	<= <= <= <= <= <= <= <= <= <= <= <=	TCEOR5	=> => => => => =>	{TCFEOR_} {TCSTIX_} {TCBZC_} {TCENV_} TCFADCEOR TCCndsEORA01			Data of the CTD End of Run Event
SPECIALEVTZ3 ZEUSTEST2EOR	<= <=	TCEORZ2	=> => =>	{TCFEOR_} TCFADCEOR TCCndsEORA01			Data of the CTD End of Run Event. MARCH 93
		TCEVT1	=> => => => => => => => => => => =>	{TCENV_} {TCLTCB_} TCEVTHDTL TCRAWFLT TCFLTRESULT TCSLTDATA TCSLTRESULT TCFADCMON TCLTCMON TCRAWDATA TCRPDATAMON TCZFLTMN			CTD Event Data. shutdown 93/94
ZEUSONLINE4EVT ZEUSONLINE5EVT ZEUSTEST6TST	<= <= <=	TCEVT2	=> => => => => => => => => => => =>	{TCLTCB_} TCEVTHDTL TCRAWFLT TCFLTRESULT TCSLTDATA TCSLTRESULT TCFADCMON TCLTCMON TCRAWDATA TCBPUDATA TCRPDATAMON TCZFLTMN			CTD Event Data.
ZEUSTEST6EVT ZEUSONLINE6EVT ZEUSONLINE6TST ZEUSTEST7EVT ZEUSTEST7TST ZEUSTEST8EVT ZEUSTEST8TST ZEUSONLINE7EVT ZEUSONLINE7TST ZEUSTEST9EVT ZEUSTEST9TST ZEUSONLINE8EVT ZEUSONLINE8TST ZEUSONLINE9TST ZEUSONLINE9EVT ZEUSONLINE10EVT ZEUSTEST11EVT ZEUSONLINE11EVT CTDONLINE1 ZEUSONLINE15EVT ZEUSONLINE15TST ZEUSONLINE16EVT ZEUSONLINE16TST ZEUSONLINE17EVT ZEUSONLINE17TST	<= <= <= <= <= <= <= <= <= <= <= <= <= <= <= <= <= <= <= <= <= <= <= <= <=	TCEVT3	=> => => => => => => => => => => =>	{TCLTCB_} TCEVTHDTL TCRAWFLT TCFLTRESULT TCSLTDATA TCSLTRESULT TCFADCMON TCLTCMON TCRAWDATA2 TCBPUDATA TCRPDATAMON TCZFLTMN			CTD Event Data.
TCEVT1 TCEVT2 TCEVT3	<= <= <=	TCEVTHDTL	=> =>	{TCSEVT_} {TCEEVT_}			CTD Event Header and Trailer
TCBORZ2 TCBOR3	<= <=	TCFADCBOR	=> => => => =>	{TCCRTF_} {TCFWIR_} {TCFDPM_} {TCDFPM_} {TCMTCW_}			CTD FADC information tables for BOR.

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
TCBOR4	<=	TCFADCBOR1	=> => => => => =>	{TCCRTF_} {TCFWIR_} {TCFDPM_} {TCDFPM_} {TCMTCW_} {TCDSPO_}			CTD FADC information tables for BOR.
TCBOR5 TCBOR6	<= <=	TCFADCBOR2	=> => => => => => =>	{TCCRTF_} {TCFWIR_} {TCFDPM_} {TCDFPM_} {TCMTCW_} {TCDSPO_} {TCFVER_}			CTD FADC information tables for BOR.
TCEORZ2 TCEOR3 TCEOR4 TCEOR5	<= <= <= <=	TCFADCEOR	=> => =>	{TCCRTF_} {TCDSPL_} {TCFTRG_}			CTD FADC information tables for EOR.
TCRAWEVENTZ2 TCRAWEVENTZ3 TCEVT1 TCEVT2 TCEVT3	<= <= <= <= <=	TCFADCMON	=> =>	{TCBTCF_} {TCBMNF_}			CTD FADC Event monitoring.
TCRAWEVENTZI TCRAWEVENTZ2 TCRAWEVENTZ3 TCEVT1 TCEVT2 TCEVT3	<= <= <= <= <= <=	TCFLTRESULT	=> => =>	{TCFCPF_} {TCFSCF_} {TCFOUT_}			CTD FLT results
		TCFLTRUN	=> =>	{TCFBOR_} {TCFEOR_}			CTD-FLT begin and end of run data
TCBORZ2 TCBOR3 TCBOR4 TCBOR5 TCBOR6	<= <= <= <= <=	TCLTCBOR	=>	{TCLTCW_}			CTD Z/Trig LTC information tables for BOR.
TCRAWEVENTZ2 TCRAWEVENTZ3 TCEVT1 TCEVT2 TCEVT3	<= <= <= <= <=	TCLTCMON	=>	{TCBTCZ_}			CTD Z/Trig LTC Event monitoring.
		TCMCTEST	=>	{TCGMTM_}			CTD Monte Carlo test tables
		TCMCTRUTH	=> => =>	{TCGSTP_} {TCBGHT_} {TCBNHT_}			CTD Monte Carlo truth
		TCPH1OUT	=> => => =>	{TCHIT_} {TCHREL_} {TCTRAK_} {TCEVCN_}			CTD Phase1 output
		TCPH1RECO	=> =>	{TCBIT_} {TCCAND_}			CTD Phase1 pattern recognition
TCRAWEVENTZI TCRAWEVENTZ2 TCRAWEVENTZ3 TCEVT1 TCEVT2	<= <= <= <= <=	TCRAWDATA	=> => => => => => =>	{TCBRP_} {TCBPS_} {TCBZ_} {TCBZL_} {TCBZC_} {TCBFP_} {TCBFPF_}			CTD raw data
TCEVT3	<=	TCRAWDATA2	=> => => => => =>	{TCBRP_} {TCBPS_} {TCBZ_} {TCBZC_} {TCBFP_} {TCBFPF_}			CTD raw data
		TCRAWEVENT	=> => => =>	{TCZB_} {TCPTB_} {TCRPB_} {TCSEVT_}			

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
		TCRAWEVENTII	=> =>	{TCSEVT_} {TCBZ_} {TCBZL_} {TCBRP_} {TCBPS_} {TCBFP_} {TCBFPF_} {TCZB_} {TCRPB_} {TCPTB_} {TCLTCB_} {TCBCP_} {TCBSP_} {TCFZHT_} {TCFHOK_} {TCFSEG_} {TCFCPF_} {TCFSCF_} {TCFOUT_} {TCSGEV_} {TCSGTK_} {TCSTSH_} {TCSTSP_} {TCSTVH_} {TCSTTK_} {TCSPSH_} {TCSPSP_} {TCSPVH_} {TCSPTK_}			
		TCRAWEVENTZ2	=> => => => => => => => => =>	{TCSEVT_} TCRAWFLT TCFLTRESULT TCSLTDATA TCSLTRESULT TCFADCMON TCLTCMON TCRAWDATA TCRPDATAMON TCZFLTMN			CTD Event Data. MARCH 93
		TCRAWEVENTZ3	=> => => => => => => => => => =>	{TCSEVT_} {TCLTCB_} TCRAWFLT TCFLTRESULT TCSLTDATA TCSLTRESULT TCFADCMON TCLTCMON TCRAWDATA TCRPDATAMON TCZFLTMN			CTD Event Data. SUMMER 93
		TCRAWEVENTZI	=> => => => => => =>	{TCSEVT_} TCRAWFLT TCFLTRESULT TCSLTDATA TCSLTRESULT TCRAWDATA {TCLTCB_}			CTD Event Data.
TCRAWEVENTZI TCRAWEVENTZ2 TCRAWEVENTZ3 TCEVT1 TCEVT2 TCEVT3	<= <= <= <= <= <=	TCRAWFLT	=> => => => =>	{TCBCP_} {TCBSP_} {TCBHCM_} {TCBOTM_} {TCBFDM_}			CTD Raw FLT Data
TCRAWEVENTZ2 TCRAWEVENTZ3 TCEVT1 TCEVT2 TCEVT3	<= <= <= <= <=	TCRPDATAMON	=>	{TCBRPM_}			CTD r-phi data monitoring data
TCRAWEVENTZI TCRAWEVENTZ2 TCRAWEVENTZ3 TCEVT1 TCEVT2 TCEVT3	<= <= <= <= <= <=	TCSLTDATA	=> =>	TCSLTMON TCSLTSCA			CTD-SLT monitor and scalar data
TCSLTDATA	<=	TCSLTMON	=> => => =>	{TCSTSH_} {TCSTSP_} {TCSTVH_} {TCSTTK_}			CTD-SLT monitor parameter data
TCRAWEVENTZI TCRAWEVENTZ2 TCRAWEVENTZ3 TCEVT1 TCEVT2 TCEVT3	<= <= <= <= <= <=	TCSLTRESULT	=> =>	{TCSGEV_} {TCSGTK_}			CTD SLT summary results
TCBOR3 TCEOR3 SPECIALEVTZII SPECIALEVTZ3 ZEUSTEST2BOR ZEUSTEST2EOR	<= <= <= <= <= <=	TCSLTRUN	=> =>	{TCSBOR_} {TCSEOR_}			CTD-SLT begin and end of run data
TCSLTDATA	<=	TCSLTSCA	=> => => =>	{TCSPSH_} {TCSPSP_} {TCSPVH_} {TCSPTK_}			CTD-SLT scalar parameter data
ZEUSONLINE4TST ZEUSONLINE5TST	<= <=	TCTST1	=>	{TCBZC_}			

V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
TCBOR6	<=	TCZBOR	=>	{TCCRTZ_}			CTD Z-by-Timing information tables for BOR.
TCRAWEVENTZ2 TCRAWEVENTZ3 TCEVT1 TCEVT2 TCEVT3	<= <= <= <= <=	TCZFLTMN	=> =>	{TCBMNT_} {TCBMNZ_}			CTD Z & FLT Event monitoring.
ZEUSTEST6BOR ZEUSONLINE6BOR ZEUSTEST7BOR	<= <= <=	TDBOR1	=>	{TDBECA_}			Begin of Run data .
ZEUSTEST8BOR	<=	TDBOR2	=> =>	{TDBECA_} {TDPMNO_}			Begin of Run data .
ZEUSONLINE7BOR ZEUSTEST9BOR ZEUSONLINE8BOR ZEUSONLINE9BOR RCALONLINE1 ZEUSONLINE15BOR ZEUSONLINE16BOR ZEUSONLINE17BOR	<= <= <= <= <= <= <= <=	TDBOR3	=> => =>	{TDBECA_} {TDPMNO_} {TDBAD_}			Begin of Run data .
ZEUSTEST6ENV ZEUSONLINE6ENV ZEUSTEST7ENV ZEUSTEST8ENV ZEUSONLINE7ENV ZEUSTEST9ENV ZEUSONLINE8ENV ZEUSONLINE9ENV RCALONLINE1 ZEUSONLINE15ENV ZEUSONLINE16ENV ZEUSONLINE17ENV	<= <= <= <= <= <= <= <= <= <= <= <=	TDENV1	=> =>	{TDDCCN_} {TDDMON_}			TD data for Environmental trigger.
ZEUSTEST6EOR ZEUSONLINE6EOR ZEUSTEST7EOR ZEUSTEST8EOR ZEUSONLINE7EOR ZEUSTEST9EOR ZEUSONLINE8EOR ZEUSONLINE9EOR RCALONLINE1 ZEUSONLINE15EOR ZEUSONLINE16EOR ZEUSONLINE17EOR	<= <= <= <= <= <= <= <= <= <= <= <=	TDEOR1	=> => => => => =>	{CR4LMS_} {TDPQMS_} {TDPPMS_} {TDPLMS_} {TDPDMS_} {TDDUMS_}			TD data for End of Run trigger.
ZEUSTEST6EVT ZEUSONLINE6EVT ZEUSTEST7EVT	<= <= <=	TDEVT1	=> => => => =>	{TDDCCN_} {TDTENE_} {TD6SAM_} {TD8SAM_} {TDXOR_}			TD data for a normal event.
ZEUSTEST8EVT ZEUSONLINE7EVT ZEUSTEST9EVT ZEUSONLINE8EVT ZEUSONLINE9EVT ZEUSONLINE10EVT ZEUSTEST11EVT ZEUSONLINE11EVT RCALONLINE1 ZEUSONLINE15EVT ZEUSONLINE16EVT ZEUSONLINE17EVT	<= <= <= <= <= <= <= <= <= <= <= <=	TDEVT2	=> => => => => =>	{TDDCCN_} {TDTENE_} {TDCOEN_} {TD6SAM_} {TD8SAM_} {TDXOR_}			TD data for a normal event.
TDTST2	<=	TDLASER5	=> => => => => => =>	{CRL4CA_} {TDDCCN_} {TDTENE_} {TDCOEN_} {TD6SAM_} {TD8SAM_} {TDXOR_}			TD data for a LASER test trigger event.
TDTST1	<=	TDLASERZ4	=> => => => =>	{TDDCCN_} {TDTENE_} {TD6SAM_} {TD8SAM_} {TDXOR_}			TD data for a LASER test trigger event.
TDTST2	<=	TDLED5	=> => => => => => =>	{CRL4CA_} {TDDCCN_} {TDTENE_} {TDCOEN_} {TD6SAM_} {TD8SAM_} {TDXOR_}			TD data for a LED test trigger event.
TDTST1	<=	TDLEDZ4	=> => => => =>	{TDDCCN_} {TDTENE_} {TD6SAM_} {TD8SAM_} {TDXOR_}			TD data for a LED test trigger event.
TDTST2	<=	TDQINJEMPTY5	=> => => => => =>	{TDDCCN_} {TDTENE_} {TDCOEN_} {TD6SAM_} {TD8SAM_} {TDXOR_}			TD data for a QINJ/PED test trigger event.

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
TDTST1	<=	TDQINJEMPTYZ4	=> => => => =>	{TDDCCN_} {TDTENE_} {TD6SAM_} {TD8SAM_} {TDXOR_}			TD data for a QINJ/PED test trigger event.
ZEUSTEST6TST ZEUSONLINE6TST ZEUSTEST7TST	<= <= <=	TDTST1	=> => => =>	TDQINJEMPTYZ4 TDLASERZ4 TDLEDZ4 TDUNOZ4			
ZEUSTEST8TST ZEUSONLINE7TST ZEUSTEST9TST ZEUSONLINE8TST ZEUSONLINE9TST RCALONLINE1 ZEUSONLINE15TST ZEUSONLINE16TST ZEUSONLINE17TST	<= <= <= <= <= <= <= <= <=	TDTST2	=> => => =>	TDQINJEMPTY5 TDLASER5 TDLED5 TDUNOZ4			
TDTST1 TDTST2	<= <=	TDUNOZ4	=> =>	{TDDCCN_} {TDUM_}			TD data for a DUNO test trigger.
SPECIALEVTZII SPECIALEVTZ3 ZEUSTEST2BOR ZEUSONLINE4BOR ZEUSONLINE5BOR ZEUSTEST6BOR ZEUSONLINE6BOR ZEUSTEST7BOR ZEUSTEST8BOR ZEUSONLINE7BOR ZEUSTEST9BOR ZEUSONLINE8BOR ZEUSONLINE9BOR FRTDONLINE1 ZEUSONLINE15BOR ZEUSONLINE16BOR ZEUSONLINE17BOR	<= <= <= <= <= <= <= <= <= <= <= <= <= <= <= <= <=	TFBORZ2	=> =>	{TFSOR_} {TFSORC_}			FTD data for a begin of run event.
SPECIALEVTZII SPECIALEVTZ3 ZEUSTEST2EOR ZEUSONLINE4EOR ZEUSONLINE5EOR ZEUSTEST6EOR ZEUSONLINE6EOR ZEUSTEST7EOR ZEUSTEST8EOR ZEUSONLINE7EOR ZEUSTEST9EOR ZEUSONLINE8EOR ZEUSONLINE9EOR FRTDONLINE1 ZEUSONLINE15EOR ZEUSONLINE16EOR ZEUSONLINE17EOR	<= <= <= <= <= <= <= <= <= <= <= <= <= <= <= <= <=	TFEORZ2	=>	{TFEOR_}			FTD data for a end of run event.
ZEUSONLINE4EVT ZEUSONLINE5EVT ZEUSTEST6EVT ZEUSONLINE6EVT ZEUSTEST7EVT ZEUSTEST8EVT ZEUSONLINE7EVT ZEUSTEST9EVT ZEUSONLINE8EVT ZEUSONLINE9EVT ZEUSONLINE10EVT ZEUSTEST11EVT	<= <= <= <= <= <= <= <= <= <= <= <=	TFEVT3	=> =>	{TFDRAW_} {TFDTST_}			F/RTD Siegen Card data 1994.
ZEUSONLINE11EVT FRTDONLINE1 ZEUSONLINE15EVT ZEUSONLINE16EVT ZEUSONLINE17EVT	<= <= <= <= <=	TFEVT4	=> => =>	{TFDRAW_} {TFSYNC_} {TFDTST_}			F/RTD Siegen Card data since 1998.
		TFRAWEVENTZ2	=> => =>	{TFB_} {TFPTB_} {TFBFP_}			FTD data for a normal event.
		TLTBOR	=>	O3BOR_			
ZEUSONLINE4BOR ZEUSONLINE5BOR ZEUSTEST6BOR ZEUSONLINE6BOR ZEUSTEST7BOR ZEUSTEST8BOR ZEUSONLINE7BOR ZEUSTEST9BOR ZEUSONLINE8BOR ZEUSONLINE9BOR TLTONLINE1 ZEUSONLINE15BOR ZEUSONLINE16BOR ZEUSONLINE17BOR	<= <= <= <= <= <= <= <= <= <= <= <= <= <=	TLTBOR1	=> =>	{O3BOR_} {O3TRIG_}			
		TLTBORII	=> =>	{O3BOR_} {O1SETU_}			
		TLTBORIII	=> => =>	{O3BOR_} {O3TRIG_} {O1SETU_}			

V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
SPECIALEVTZ3	<=	TLTBORZ2	=>	{O1SETU_}			
ZEUSTEST2BOR	<=		=>	{O3BOR_}			
			=>	{O3TRIG_}			
SPECIALEVTZII	<=	TLTBORZI	=>	{O1SETU_}			
			=>	{O3BOR_}			
			=>	{O3TRIG_}			
CALIBZI	<=	TLTDATAZI	=>	O3DATAIII			TLT data for normal event.
CALIBZ3	<=		=>	TLTTRKZI			
ZEUSONLINE4TST	<=						
ZEUSONLINE5TST	<=						
		TLTEOR	=>	O3EOR_			
		TLTEORII	=>	O3EOR_			Data for TLT for the End of Run event.
SPECIALEVTZII	<=	TLTEORZI	=>	{O3EOR_}			Data for TLT for the End of Run event.
SPECIALEVTZ3	<=		=>	{O3SUM_}			
ZEUSTEST2EOR	<=						
ZEUSONLINE4EOR	<=						
ZEUSONLINE5EOR	<=						
ZEUSTEST6EOR	<=						
ZEUSONLINE6EOR	<=						
ZEUSTEST7EOR	<=						
ZEUSTEST8EOR	<=						
ZEUSONLINE7EOR	<=						
ZEUSTEST9EOR	<=						
ZEUSONLINE8EOR	<=						
ZEUSONLINE9EOR	<=						
TLTONLINE1	<=						
ZEUSONLINE15EOR	<=						
ZEUSONLINE16EOR	<=						
ZEUSONLINE17EOR	<=						
ZEUSTEST6EVT	<=	TLTEVT1	=>	{TLTCAL_}			Data for normal event.
			=>	{TLTVTX_}			
			=>	{TLTJET_}			
			=>	{TLTKTJET_}			
			=>	{TLTEVT_}			
			=>	{TLTMAT_}			
			=>	{TLTDBG_}			
			=>	{TLTFIL_}			
			=>	{TLTVAR_}			
			=>	{TLTVCPR_}			
			=>	{TLTVCAT_}			
			=>	{TLTELE_}			
			=>	{TLTLPS_}			
			=>	{TLTVCHL_}			
			=>	{TLTVCPK_}			
ZEUSONLINE6EVT	<=	TLTEVT2	=>	{TLTCAL_}			Data for normal event.
ZEUSTEST7EVT	<=		=>	{TLTVTX_}			
ZEUSTEST8EVT	<=		=>	{TLTJET_}			
			=>	{TLTKTJET_}			
			=>	{TLTEVT_}			
			=>	{TLTMAT_}			
			=>	{TLTDBG_}			
			=>	{TLTFIL_}			
			=>	{TLTVAR_}			
			=>	{TLTVCPR_}			
			=>	{TLTVCAT_}			
			=>	{TLTELE_}			
			=>	{TLTLPS_}			
			=>	{TLTMF_}			
			=>	{TLTVCHL_}			
			=>	{TLTVCPK_}			
ZEUSONLINE7EVT	<=	TLTEVT3	=>	{TLTCAL_}			Data for normal event.
ZEUSTEST9EVT	<=		=>	{TLTVTX_}			
ZEUSONLINE8EVT	<=		=>	{TLTJET_}			
			=>	{TLTEVT_}			
			=>	{TLTMAT_}			
			=>	{TLTDBG_}			
			=>	{TLTFIL_}			
			=>	{TLTVAR_}			
			=>	{TLTELE_}			
			=>	{TLTEMC_}			
			=>	{TLTLPS_}			
			=>	{TLTMF_}			
			=>	{TLTVCPR_}			
			=>	{TLTVCAT_}			
			=>	{TLTVCHL_}			
			=>	{TLTVCPK_}			
			=>	{TLTVCTKS_}			
ZEUSONLINE9EVT	<=	TLTEVT4	=>	{TLTCAL_}			Data for normal event.
			=>	{TLTVTX_}			
			=>	{TLTJET_}			
			=>	{TLTKTJET_}			
			=>	{TLTEVT_}			
			=>	{TLTMAT_}			
			=>	{TLTDBG_}			
			=>	{TLTFIL_}			
			=>	{TLTVAR_}			
			=>	{TLTELE_}			
			=>	{TLTEMC_}			
			=>	{TLTLPS_}			
			=>	{TLTMF_}			
			=>	{TLTVCPR_}			
			=>	{TLTVCAT_}			
			=>	{TLTVCHL_}			
			=>	{TLTVCPK_}			
			=>	{TLTVCTKS_}			

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
ZEUSONLINE10EVT ZEUSTEST11EVT ZEUSONLINE11EVT TLTONLINE1 ZEUSONLINE15EVT ZEUSONLINE16EVT ZEUSONLINE17EVT	<= <= <= <= <= <= <=	TLTEVT5	=> => => => => => => => => => => => => => => => => => =>	{TLTCAL_} {TLTVTX_} {TLTJET_} {TLTKTJET_} {TLTEVT_} {TLTMAT_} {TLTDBG_} {TLTFIL_} {TLTVAR_} {TLTELE_} {TLTEMC_} {TLTLPS_} {TLTMF_} {TLTVCPR_} {TLTVCAT_} {TLTVCHL_} {TLTVCPK_} {TLTVCTKS_} {TLTBPT_}			Data for normal event.
ZEUSONLINE13 ZEUSONLINE14	<= <=	TLTONLINE1	=> => =>	TLTEVT5 TLTBOR1 TLTEORZI			
TLTDATAZI ZEUSONLINE4EVT ZEUSONLINE5EVT MCRAWDATA93A MCRAWDATA94A MCRAWDATA95A	<= <= <= <= <= <=	TLTTRKZI	=> =>	{TLTVCHL_} {TLTVCPK_}			VCTRAK track finding output, part of TLT output.
		TNLGeometry1	=> => => => => => => => => => =>	{TNDIV_} {TNPARA_} {TNRJCT_} {TNVOLU_} {TNSDET_} {TNSDTA_} {TNSDTD_} {TNSDTH_} {TNSDTU_} {TNSDTV_} {TNDICO_}			
		TNLGeometry2	=>	{TNPOS_}			
SPECIALEVTZII SPECIALEVTZ3 ZEUSTEST2BOR ZEUSONLINE4BOR ZEUSONLINE5BOR ZEUSTEST6BOR ZEUSONLINE6BOR ZEUSTEST7BOR ZEUSTEST8BOR ZEUSONLINE7BOR ZEUSTEST9BOR ZEUSONLINE8BOR ZEUSONLINE9BOR ZEUSONLINE15BOR ZEUSONLINE16BOR ZEUSONLINE17BOR	<= <= <= <= <= <= <= <= <= <= <= <= <= <= <= <=	TRBORZ2	=> =>	{TRSOR_} {TRSORC_}			FTD data for a begin of run event.
		TRDCalibGlob	=>	{TRCLBG_}			
		TRDCalibWire	=> => => => => =>	{TRCLBWTC_} {TRCLBWTAT_} {TRCLBWNCL_} {TRCLBWPH_} {TRCLBWTB_} {TRSTATUS_}			
		TRDGeometry1	=> => => => => => => => => =>	{TRDIV_} {TRPARA_} {TRRJCT_} {TRVOLU_} {TRSDET_} {TRSDTA_} {TRSDTD_} {TRSDTH_} {TRSDTU_} {TRSDTV_}			
		TRDGeometry2	=>	{TRPOS_}			
SPECIALEVTZII SPECIALEVTZ3 ZEUSTEST2EOR ZEUSONLINE4EOR ZEUSONLINE5EOR ZEUSTEST6EOR ZEUSONLINE6EOR ZEUSTEST7EOR ZEUSTEST8EOR ZEUSONLINE7EOR ZEUSTEST9EOR ZEUSONLINE8EOR ZEUSONLINE9EOR	<= <= <= <= <= <= <= <= <= <= <= <= <=	TREORZ2	=>	{TREOR_}			FTD data for a end of run event.

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
ZEUSONLINE4EVT ZEUSONLINE5EVT ZEUSTEST6EVT ZEUSONLINE6EVT ZEUSTEST7EVT ZEUSTEST8EVT ZEUSONLINE7EVT ZEUSTEST9EVT ZEUSONLINE8EVT ZEUSONLINE9EVT ZEUSONLINE10EVT	<= <= <= <= <= <= <= <= <= <= <=	TREVT3	=> =>	{TRDRAW_} {TRDTST_}			TRD data 1994.
ZEUSTEST11EVT ZEUSONLINE11EVT ZEUSONLINE15EVT ZEUSONLINE16EVT ZEUSONLINE17EVT	<= <= <= <= <=	TREVT5	=> => => =>	{TRDRAW_} {TRDRW2_} {TRSYNC_} {TRDTST_}			TRD data 1998.
		TRRAWEVENTZ2	=> => =>	{TRB_} {TRPTB_} {TRBFP_}			TRD data for a normal event.
		UCALGeometry1	=> => => => => => => => => =>	{CUDIV_} {CUPARA_} {CURJCT_} {CUVOLU_} {CUSDET_} {CUSDTA_} {CUSDTD_} {CUSDTH_} {CUSDTU_} {CUSDTV_}			
		UCALGeometry2	=>	{CUPOS_}			
		UCALGeometry3	=> =>	{CCAdJa_} {CUAdCl_}			Reconstruction geometry of the UCAL
		UCALGeometry4	=> => => => =>	{Ctrcon_} {Ctrgem_} {Ctrgha_} {CRemc_} {CRhac_}			Constants and geometry for the SLCT algorithm
		UCALGeometry5	=> => => => => =>	{CFPMDC_} {CBPMDC_} {CRPMDC_} {CFDCPM_} {CBDCPM_} {CRDCPM_}			DC-PMT cross reference information
		USRTBL	=> => =>	{USRTB1_} {USRTB2_} {USRTB3_}			User Tables
		VCCAND	=> =>	{VCTRHL_} {VCTRPK_}			
		VCCANDII	=> =>	{VCTRHL_} {VCTRPK_}			VCTRACK track finding output, part of ZEPHYR output.
ZEUSONLINE17EVT	<=	VCTMVD1	=> => => => => =>	{VCMVCLU_} {VCMVHLX_} {VCMVVTXP_} {VCMVVTXS_} {VCMVHLXP_} {VCMVHLXS_}			MVD TLT VCtrack dataflow
		VCTcalib1	=> => =>	{VCGCCZ_} {VCGCXY_} {VCGCVX_}			VCTRAK global constants 1
SPECIALEVTZ3 ZEUSTEST2BOR ZEUSONLINE4BOR ZEUSONLINE5BOR ZEUSTEST6BOR ZEUSONLINE6BOR ZEUSTEST7BOR ZEUSTEST8BOR ZEUSONLINE7BOR ZEUSTEST9BOR ZEUSONLINE8BOR ZEUSONLINE9BOR VETOONLINE1 ZEUSONLINE15BOR ZEUSONLINE16BOR ZEUSONLINE17BOR	<= <= <= <= <= <= <= <= <= <= <= <= <= <= <= <=	VEBOR	=>	{VECON_}			
SPECIALEVTZ3 ZEUSTEST2EOR ZEUSONLINE4EOR ZEUSONLINE5EOR ZEUSTEST6EOR ZEUSONLINE6EOR ZEUSTEST7EOR ZEUSTEST8EOR ZEUSONLINE7EOR ZEUSTEST9EOR ZEUSONLINE8EOR ZEUSONLINE9EOR VETOONLINE1 ZEUSONLINE15EOR ZEUSONLINE16EOR ZEUSONLINE17EOR	<= <= <= <= <= <= <= <= <= <= <= <= <= <= <= <=	VEEOR	=> => => =>	{VEEND_} {VEHV_} {VETH_} {VETDC_}			

V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
		VEGeometry1	=>	{VEDIV_}			
			=>	{VEPARA_}			
			=>	{VERJCT_}			
			=>	{VEVOLU_}			
			=>	{VESDET_}			
			=>	{VESDTA_}			
			=>	{VESDTD_}			
			=>	{VESDTH_}			
			=>	{VESDTU_}			
			=>	{VESDTV_}			
		VEGeometry2	=>	{VEPOS_}			
ZEUSONLINE4ENV	<=	VERAWEVENTIII	=>	{VERAW_}			
ZEUSONLINE4EVT	<=		=>	{VEDATA_}			
ZEUSONLINE4TST	<=		=>	{VEENV_}			
ZEUSONLINE5ENV	<=		=>	{VEAUX_}			
ZEUSONLINE5EVT	<=						
ZEUSONLINE5TST	<=						
ZEUSTEST6ENV	<=						
ZEUSTEST6EVT	<=						
ZEUSTEST6TST	<=						
ZEUSONLINE6ENV	<=						
ZEUSONLINE6EVT	<=						
ZEUSONLINE6TST	<=						
ZEUSTEST7ENV	<=						
ZEUSTEST7EVT	<=						
ZEUSTEST7TST	<=						
ZEUSTEST8ENV	<=						
ZEUSTEST8EVT	<=						
ZEUSTEST8TST	<=						
ZEUSONLINE7ENV	<=						
ZEUSONLINE7EVT	<=						
ZEUSONLINE7TST	<=						
ZEUSTEST9ENV	<=						
ZEUSTEST9EVT	<=						
ZEUSTEST9TST	<=						
ZEUSONLINE8ENV	<=						
ZEUSONLINE8EVT	<=						
ZEUSONLINE8TST	<=						
ZEUSONLINE9ENV	<=						
ZEUSONLINE9TST	<=						
ZEUSONLINE9EVT	<=						
ZEUSONLINE10EVT	<=						
ZEUSTEST11EVT	<=						
ZEUSONLINE11EVT	<=						
VETOONLINE1	<=						
ZEUSONLINE15ENV	<=						
ZEUSONLINE15EVT	<=						
ZEUSONLINE15TST	<=						
ZEUSONLINE16ENV	<=						
ZEUSONLINE16EVT	<=						
ZEUSONLINE16TST	<=						
ZEUSONLINE17ENV	<=						
ZEUSONLINE17EVT	<=						
ZEUSONLINE17TST	<=						
		VETOGeometry	=>	{VEWall_}			
			=>	{VETofs_}			
			=>	{VECou_}			
ZEUSONLINE13	<=	VETOONLINE1	=>	VERAWEVENTIII			
ZEUSONLINE14	<=		=>	VEBOR			
			=>	VEEOR			
		VTBOR	=>	{VTTDCBCH_}			
			=>	{VTVXDBCH_}			
			=>	{VTTDC_}			
			=>	{VTTHRESH_}			
			=>	{VTHV_}			
			=>	{vtraw_}			
			=>	{VTVERSION_}			
		VTENV	=>	{VTHV_}			
			=>	{VTDIAG_}			
			=>	{vtraw_}			
			=>	{VTCPU_}			
		VTEOR	=>	{VTHV_}			
			=>	{VTCPU_}			
			=>	{vtraw_}			
			=>	{VTDIAG_}			
		VTEVT	=>	{vtraw_}			
		VTTST	=>	{VTHV_}			
			=>	{VTDIAG_}			
			=>	{VTCPU_}			
			=>	{vtraw_}			
		VXDCalibration1	=>	{vtt0_}			
			=>	{vtsmea_}			
			=>	{vtreso_}			
			=>	{vtttod_}			
			=>	{vtdtot_}			
		VXDGeometry1	=>	{VTDIV_}			
			=>	{VTPARA_}			
			=>	{VTRJCT_}			
			=>	{VTVOLU_}			
			=>	{VTSDET_}			
			=>	{VTSDTA_}			
			=>	{VTSDTD_}			
			=>	{VTSDTH_}			
			=>	{VTSDTU_}			
			=>	{VTSDTV_}			

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
		VXDGeometry2	=>	{VTPOS_}			
		VXDGeometry3	=>	{vtdico_}			
		XBACalibration1	=>	{XTClb_}			Energy calibrations definities
		XBACondition1	=>	{XTCond_}			Tower or X-Layer Hardware Status
		XBACondition2	=> =>	{XHEff_} {XTEff_}			Efficiency of digital and analog channels
		XBAGeometry1	=> => => => => => => => => =>	{XBDIV_} {XBPARA_} {XBRJCT_} {XBVOLU_} {XBSDET_} {XBSDTA_} {XBSDTD_} {XBSDTH_} {XBSDTU_} {XBSDTV_}			
		XBAGeometry2	=>	{XBPOS_}			
		XBAGeometry3	=> => =>	{XBCLEN_} {XBNLEN_} {XBMAPS_}			
		XBAGeometry4	=> => => => => => => =>	{XBAC_} {XXLay_} {XDim_} {XPos_} {XRot_} {XSTow_} {XPTow_} {XWTow_}			Geometry tables specific for BAC Reconstruction
		XBAGeometry5	=> =>	{XHASS_} {XNOD_}			ON-LINE Configuration
ZEUSTEST8BOR ZEUSONLINE7BOR ZEUSTEST9BOR ZEUSONLINE8BOR ZEUSONLINE9BOR BACONLINE1 ZEUSONLINE15BOR ZEUSONLINE16BOR ZEUSONLINE17BOR	<= <= <= <= <= <= <= <= <=	XXBOR3	=> => => => => => => =>	XXBORZI {SCXXHVBE_} {SCXXLVBE_} {SCXXTEBE_} {SCXXGABE_} {SCXXMIBE_} {SCXXAIBE_} {SCXXFEBE_}			BAC Begin Of Run dataflow
XXBORZII XXBOR3 SPECIALEVTZII	<= <= <=	XXBORZI	=>	{XXTPST_}			
SPECIALEVTZ3 ZEUSTEST2BOR ZEUSONLINE4BOR ZEUSONLINE5BOR ZEUSTEST6BOR ZEUSONLINE6BOR ZEUSTEST7BOR	<= <= <= <= <= <= <=	XXBORZII	=> => => => => => => => =>	XXBORZI {XXHVST_} {XXLVST_} {XXTEMP_} {XXGASF_} {XXFEPE_} {XXAIRP_} {XXMIXT_}			BAC Begin Of Run dataflow
ZEUSTEST8ENV ZEUSONLINE7ENV ZEUSTEST9ENV ZEUSONLINE8ENV ZEUSONLINE9ENV BACONLINE1 ZEUSONLINE15ENV ZEUSONLINE16ENV ZEUSONLINE17ENV	<= <= <= <= <= <= <= <= <=	XXENV1	=> => => => => => =>	{SCXXHVER_} {SCXXLVER_} {SCXXTEER_} {SCXXGAER_} {SCXXMIER_} {SCXXAIER_} {SCXXFEER_}			BAC Environmental Record dataflow
ZEUSTEST8EOR ZEUSONLINE7EOR ZEUSTEST9EOR ZEUSONLINE8EOR ZEUSONLINE9EOR BACONLINE1 ZEUSONLINE15EOR ZEUSONLINE16EOR ZEUSONLINE17EOR	<= <= <= <= <= <= <= <= <=	XXEOR3	=> => => => => => =>	{SCXXHVBE_} {SCXXLVBE_} {SCXXTEBE_} {SCXXGABE_} {SCXXMIBE_} {SCXXAIBE_} {SCXXFEBE_}			BAC End Of Run dataflow
SPECIALEVTZ3 ZEUSTEST2EOR ZEUSONLINE4EOR ZEUSONLINE5EOR ZEUSTEST6EOR ZEUSONLINE6EOR ZEUSTEST7EOR	<= <= <= <= <= <= <=	XXEORZII	=> => => => => =>	{XXHVST_} {XXLVST_} {XXTEMP_} {XXAIRP_} {XXMIXT_} {XXFEPE_}			BAC End Of Run dataflow
ZEUSTEST7EVT ZEUSTEST8EVT ZEUSONLINE7EVT ZEUSTEST9EVT	<= <= <= <=	XXEVT4	=> => => => => => => => => => => =>	{XXW1RD_} {XXW6RD_} {XXSTRD_} {XXPTRD_} {XXXLRD_} {XXPSRD_} {XXDbug_} {XXSTAT_} {XXNODE_} {XXTRIG_} {XXHRST_} {XXBBUF_}			

|
V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
ZEUSONLINE8EVT	<=	XXEVT5	=>	{XXW1RD_}			
ZEUSONLINE9EVT	<=		=>	{XXW6RD_}			
ZEUSONLINE10EVT	<=		=>	{XXSTRD_}			
ZEUSTEST11EVT	<=		=>	{XXPTRD_}			
ZEUSONLINE11EVT	<=		=>	{XXXLRD_}			
BACONLINE1	<=		=>	{XXPSRD_}			
ZEUSONLINE15EVT	<=		=>	{XXDbug_}			
ZEUSONLINE16EVT	<=		=>	{XXSTAT_}			
ZEUSONLINE17EVT	<=		=>	{XXNODE_}			
			=>	{XXTRIG_}			
			=>	{XXHRST_}			
			=>	{XXBBUF_}			
		XXRAWEVENT	=>	{XXPTRD_}			
			=>	{XXSTRD_}			
			=>	{XXDbug_}			
CALIBIII	<=	XXRAWEVENTII	=>	{XXW1RD_}			
CALIBZI	<=		=>	{XXW6RD_}			
CALIBZ3	<=		=>	{XXPTRD_}			
ZEUSONLINE4TST	<=		=>	{XXSTRD_}			
ZEUSONLINE5TST	<=		=>	{XXDbug_}			
ZEUSTEST6TST	<=		=>	{XXXLRD_}			
ZEUSONLINE6TST	<=		=>	{XXPSRD_}			
ZEUSTEST7TST	<=						
ZEUSTEST8TST	<=						
ZEUSONLINE7TST	<=						
ZEUSTEST9TST	<=						
ZEUSONLINE8TST	<=						
ZEUSONLINE9TST	<=						
BACONLINE1	<=						
ZEUSONLINE15EVT	<=						
ZEUSONLINE15TST	<=						
ZEUSONLINE16EVT	<=						
ZEUSONLINE16TST	<=						
ZEUSONLINE17EVT	<=						
ZEUSONLINE17TST	<=						
MCRAWDATA93A	<=						
MCRAWDATA94A	<=						
MCRAWDATA95A	<=						
ZEUSONLINE4EVT	<=	XXRAWEVENTIII	=>	{XXW1RD_}			
ZEUSONLINE5EVT	<=		=>	{XXW6RD_}			
ZEUSTEST6EVT	<=		=>	{XXSTRD_}			
ZEUSONLINE6EVT	<=		=>	{XXPTRD_}			
			=>	{XXXLRD_}			
			=>	{XXPSRD_}			
			=>	{XXDbug_}			
			=>	{XXSTAT_}			
			=>	{XXNODE_}			
			=>	{XXTRIG_}			
		ZDCCAT	=>	{ZDCAT_}			archive catalogue
			=>	{ZDPVAL_}			
			=>	{ZDCPVI_}			
			=>	{ZDARCH_}			
		ZDDCAT	=>	{ZDLOAD_}			default catalogue
			=>	{ZDPUSE_}			
			=>	{ZDPVIR_}			
			=>	{ZDFILE_}			
		ZEUSONLINE10	=>	ZEUSONLINE10BOR			EVB output dataflow 97
			=>	ZEUSONLINE10EOR			
			=>	ZEUSONLINE10ENV			
			=>	ZEUSONLINE10EVT			
			=>	ZEUSONLINE10TST			
ZEUSONLINE10	<=	ZEUSONLINE10BOR	=>	ZEUSONLINE9BOR			
ZEUSONLINE10	<=	ZEUSONLINE10ENV	=>	ZEUSONLINE9ENV			
ZEUSONLINE10	<=	ZEUSONLINE10EOR	=>	ZEUSONLINE9EOR			
ZEUSONLINE10	<=	ZEUSONLINE10EVT	=>	BCEvent			EVB dataflow 97 for physics events (EVT)
			=>	BPEVT2			
			=>	BPTEVT1			
			=>	CBEVT3			
			=>	CFEVT3			
			=>	CREVT3			
			=>	FCEVT1			
			=>	FNEVT2			
			=>	HESEVT5			
			=>	LMRAWEVENTIII			
			=>	LPEVT1			
			=>	MBRAWEVENTIV			
			=>	MFRAWEVENTII			
			=>	O2EVT1			
			=>	PBEVT1			
			=>	PREVT2			
			=>	PTEVT3			
			=>	SFEVT1			
			=>	SREVT3			
			=>	SCDEVT1			
			=>	T8EVT1			
			=>	TCEVT3			
			=>	TDEVT2			
			=>	TFEVT3			
			=>	TLTEVT5			
			=>	TREVT3			
			=>	VERAWEVENTIII			
			=>	XXEVT5			
			=>	GARBAGE			
ZEUSONLINE10	<=	ZEUSONLINE10TST	=>	ZEUSONLINE9TST			

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
ZEUSONLINE12	<=	ZEUSONLINE11	=>	ZEUSONLINE11BOR			EVB dataflow 98
			=>	ZEUSONLINE11EOR			
			=>	ZEUSONLINE11ENV			
			=>	ZEUSONLINE11EVT			
			=>	ZEUSONLINE11TST			
ZEUSONLINE11	<=	ZEUSONLINE11BOR	=>	ZEUSTEST11BOR			
ZEUSONLINE11	<=	ZEUSONLINE11ENV	=>	ZEUSTEST11ENV			
ZEUSONLINE11	<=	ZEUSONLINE11EOR	=>	ZEUSTEST11EOR			
ZEUSONLINE11	<=	ZEUSONLINE11EVT	=>	BCEvent			EVB dataflow 98 for physics events (EVT)
			=>	BPEVT2			
			=>	BPTEVT1			
			=>	CBEVT4			
			=>	CFEVT4			
			=>	CREVT4			
			=>	FCEVT1			
			=>	FNEVT2			
			=>	FPEVT2			
			=>	HESEVT5			
			=>	LMEVT4			
			=>	LPEVT1			
			=>	MBRAWEVENTIV			
			=>	MFRAWEVENTII			
			=>	O2EVT1			
			=>	PBEVT1			
			=>	PREVT2			
			=>	PTEVT3			
			=>	SFEVT1			
			=>	SREVT3			
			=>	SCDEVT1			
			=>	T8EVT2			
			=>	TCEVT3			
			=>	TDEVT2			
			=>	TFEVT4			
			=>	TLTEVT5			
			=>	TREVT5			
			=>	VERAWEVENTIII			
			=>	XXEVT5			
			=>	GARBAGE			
ZEUSONLINE11	<=	ZEUSONLINE11TST	=>	ZEUSTEST11TST			
		ZEUSONLINE12	=>	ZEUSONLINE11			EVB dataflow 2001
			=>	MVEVT1			
		ZEUSONLINE13	=>	GSLTONLINE1			EVB dataflow 2001
			=>	BMUOONLINE1			
			=>	FMUOONLINE1			
			=>	BCALONLINE1			
			=>	RCALONLINE1			
			=>	FCALONLINE1			
			=>	BACONLINE1			
			=>	CTDONLINE1			
			=>	LUMIONLINE1			
			=>	STTONLINE1			
			=>	VETOONLINE1			
			=>	FCLRONLINE1			
			=>	HESONLINE1			
			=>	MVEVT1			
			=>	FRTDONLINE1			
			=>	SCDONLINE1			
			=>	TLTONLINE1			
			=>	GARBAGE			
		ZEUSONLINE14	=>	GSLTONLINE1			EVB dataflow 2002
			=>	BMUOONLINE1			
			=>	FMUOONLINE1			
			=>	BCALONLINE1			
			=>	RCALONLINE1			
			=>	FCALONLINE1			
			=>	BACONLINE1			
			=>	CTDONLINE1			
			=>	LM2ONLINE			
			=>	STTONLINE1			
			=>	VETOONLINE1			
			=>	FCLRONLINE1			
			=>	HESONLINE1			
			=>	MVEVT1			
			=>	GTEVT1			
			=>	GTBOR1			
			=>	FRTDONLINE1			
			=>	SCDONLINE1			
			=>	TLTONLINE1			
			=>	GARBAGE			
		ZEUSONLINE15	=>	ZEUSONLINE15BOR			EVB dataflow 2002
			=>	ZEUSONLINE15EOR			
			=>	ZEUSONLINE15ENV			
			=>	ZEUSONLINE15EVT			
			=>	ZEUSONLINE15TST			

V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
ZEUSONLINE15	<=	ZEUSONLINE15BOR	=>	CCBOR4			EVB output dataflow for BOR events
			=>	CTBOR1			
			=>	FCBOR1			
			=>	FiMoOnlineData			
			=>	FNBOR3			
			=>	FPBOR3			
			=>	GTBOR1			
			=>	HESBOR7			
			=>	LEBOR1			
			=>	MBBOR1			
			=>	MFBOR			
			=>	O2BORZ2			
			=>	PBBOR1			
			=>	PRBOR2			
			=>	PTBOR2			
			=>	SCDBOR2			
			=>	SFBOR1			
			=>	SRBOR4			
			=>	STTBOR1			
			=>	TLTBOR1			
			=>	TCBOR6			
			=>	TDBOR3			
			=>	TFBORZ2			
			=>	TRBORZ2			
			=>	VEBOR			
			=>	XXBOR3			
			=>	GARBAGE			
ZEUSONLINE15	<=	ZEUSONLINE15ENV	=>	CBENV3			EVB output dataflow for ENV events
			=>	CFENV3			
			=>	CRENV3			
			=>	FNENV1			
			=>	FPENV1			
			=>	HESENV3			
			=>	LMENV1			
			=>	MBENV1			
			=>	MFENV			
			=>	O2ENVRZ2			
			=>	PBENV1			
			=>	PRENV1			
			=>	PTENV1			
			=>	SCDENV2			
			=>	SFENV1			
			=>	SRENV2			
			=>	TCENV2			
			=>	TDENV1			
			=>	VERAWEVENTIII			
			=>	XXENV1			
			=>	GARBAGE			
ZEUSONLINE15	<=	ZEUSONLINE15EOR	=>	CBEOR2			EVB output dataflow for EOR events
			=>	CFEOR2			
			=>	CREOR3			
			=>	FCEOR1			
			=>	FNEOR1			
			=>	FPEOR1			
			=>	HESEOR4			
			=>	LEEOR1			
			=>	MBEOR1			
			=>	MFEOR			
			=>	O2EORZI			
			=>	PBEOR1			
			=>	PREOR1			
			=>	PTEOR1			
			=>	SCDEOR2			
			=>	SFEOR1			
			=>	SREOR1			
			=>	STTEOR1			
			=>	TLTEORZI			
			=>	TCEOR5			
			=>	TDEOR1			
			=>	TFEORZ2			
			=>	VEEOR			
			=>	XXEOR3			
			=>	GARBAGE			

|
V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
ZEUSONLINE15	<=	ZEUSONLINE15EVT	=>	BPEVT2			EVB dataflow for physics events (EVT)
			=>	CBEVT4			
			=>	CFEVT4			
			=>	CREVT4			
			=>	FCEVT1			
			=>	FNEVT2			
			=>	FPEVT2			
			=>	GTEVT1			
			=>	HESEVT5			
			=>	LMEVT4			
			=>	MBEVT1			
			=>	MBRAWEVENTIV			
			=>	MFRAWEVENTII			
			=>	MVEVT1			
			=>	{O1FCEV_}			
			=>	O2EVT1			
			=>	PBEVT1			
			=>	PREVT2			
			=>	PTEVT3			
			=>	SCDEVT1			
			=>	SFEVT1			
			=>	SREVT3			
			=>	STTEVT1			
			=>	TCEVT3			
			=>	TDEVT2			
			=>	TFEVT4			
			=>	TLTEVT5			
			=>	TREVT5			
			=>	VERAWEVENTIII			
			=>	XXEVT5			
			=>	XXRAWEVENTII			
			=>	GARBAGE			
ZEUSONLINE15	<=	ZEUSONLINE15TST	=>	CBTST3			EVB dataflow for calibration events (TST)
			=>	CFTST3			
			=>	CRTST4			
			=>	FNTST2			
			=>	FPTST2			
			=>	HESTST2			
			=>	MBEVT1			
			=>	MFRAWEVENTII			
			=>	O2DATAZI			
			=>	PBTST1			
			=>	PRTST2			
			=>	SFTST1			
			=>	SRTST3			
			=>	TCEVT3			
			=>	TDTST2			
			=>	VERAWEVENTIII			
			=>	XXRAWEVENTII			
			=>	GARBAGE			
		ZEUSONLINE16	=>	ZEUSONLINE16BOR			EVB dataflow 2002
			=>	ZEUSONLINE16EOR			
			=>	ZEUSONLINE16ENV			
			=>	ZEUSONLINE16EVT			
			=>	ZEUSONLINE16TST			
ZEUSONLINE16	<=	ZEUSONLINE16BOR	=>	CCBOR4			EVB output dataflow for BOR events
			=>	CTBOR1			
			=>	FCBOR1			
			=>	FiMoOnlineData			
			=>	FNBOR3			
			=>	FPBOR3			
			=>	GTBOR1			
			=>	HESBOR7			
			=>	LEBOR1			
			=>	LM2ONLINE			
			=>	MBBOR1			
			=>	MFBOR			
			=>	O2BORZ2			
			=>	PBBOR1			
			=>	PRBOR2			
			=>	PTBOR2			
			=>	SCDBOR2			
			=>	SFBOR1			
			=>	SRBOR4			
			=>	STTBOR1			
			=>	TLTBOR1			
			=>	TCBOR6			
			=>	TDBOR3			
			=>	TFBORZ2			
			=>	TRBORZ2			
			=>	VEBOR			
			=>	XXBOR3			
			=>	GARBAGE			

V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
ZEUSONLINE16	<=	ZEUSONLINE16ENV	=>	CBENV3			EVB output dataflow for ENV events
			=>	CFENV3			
			=>	CRENV3			
			=>	FNENV1			
			=>	FPENV1			
			=>	HESENV3			
			=>	LM2ONLINE			
			=>	MBENV1			
			=>	MFENV			
			=>	O2ENVRZ2			
			=>	PBENV1			
			=>	PRENV1			
			=>	PTENV1			
			=>	SCDENV2			
			=>	SFENV1			
			=>	SRENV2			
			=>	TCENV2			
			=>	TDENV1			
			=>	VERAWEVENTIII			
			=>	XXENV1			
			=>	GARBAGE			
ZEUSONLINE16	<=	ZEUSONLINE16EOR	=>	CBEOR2			EVB output dataflow for EOR events
			=>	CFEOR2			
			=>	CREOR3			
			=>	FCEOR1			
			=>	FNEOR1			
			=>	FPEOR1			
			=>	HESEOR4			
			=>	LEEOR1			
			=>	LM2ONLINE			
			=>	MBEOR1			
			=>	MFEOR			
			=>	O2EORZI			
			=>	PBEOR1			
			=>	PREOR1			
			=>	PTEOR1			
			=>	SCDEOR2			
			=>	SFEOR1			
			=>	SREOR1			
			=>	STTEOR1			
			=>	TLTEORZI			
			=>	TCEOR5			
			=>	TDEOR1			
			=>	TFEORZ2			
			=>	VEEOR			
			=>	XXEOR3			
			=>	GARBAGE			
ZEUSONLINE16	<=	ZEUSONLINE16EVT	=>	BPEVT2			EVB dataflow for physics events (EVT)
			=>	CBEVT4			
			=>	CFEVT4			
			=>	CREVT4			
			=>	FCEVT1			
			=>	FNEVT2			
			=>	FPEVT2			
			=>	GTEVT1			
			=>	HESEVT5			
			=>	LM2ONLINE			
			=>	MBEVT1			
			=>	MBRAWEVENTIV			
			=>	MFRAWEVENTII			
			=>	MVEVT1			
			=>	{O1FCEV_}			
			=>	O2EVT1			
			=>	PBEVT1			
			=>	PREVT2			
			=>	PTEVT3			
			=>	SCDEVT1			
			=>	SFEVT1			
			=>	SREVT3			
			=>	STTEVT1			
			=>	TCEVT3			
			=>	TDEVT2			
			=>	TFEVT4			
			=>	TLTEVT5			
			=>	TREVT5			
			=>	VERAWEVENTIII			
			=>	XXEVT5			
			=>	XXRAWEVENTII			
			=>	GARBAGE			
ZEUSONLINE16	<=	ZEUSONLINE16TST	=>	CBTST3			EVB dataflow for calibration events (TST)
			=>	CFTST3			
			=>	CRTST4			
			=>	FNTST2			
			=>	FPTST2			
			=>	HESTST2			
			=>	LM2ONLINE			
			=>	MBEVT1			
			=>	MFRAWEVENTII			
			=>	O2DATAZI			
			=>	PBTST1			
			=>	PRTST2			
			=>	SFTST1			
			=>	SRTST3			
			=>	TCEVT3			
			=>	TDTST2			
			=>	VERAWEVENTIII			
			=>	XXRAWEVENTII			
			=>	GARBAGE			
		ZEUSONLINE17	=>	ZEUSONLINE17BOR			EVB dataflow Feb 2003
			=>	ZEUSONLINE17EOR			
			=>	ZEUSONLINE17ENV			
			=>	ZEUSONLINE17EVT			
			=>	ZEUSONLINE17TST			

V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
ZEUSONLINE17	<=	ZEUSONLINE17BOR	=>	CCBOR4			EVB output dataflow for BOR events
			=>	CTBOR1			
			=>	FCBOR1			
			=>	FiMoOnlineData			
			=>	FNBOR3			
			=>	FPBOR3			
			=>	GTBOR1			
			=>	HESBOR7			
			=>	LEBOR1			
			=>	LM2ONLINE			
			=>	MBBOR1			
			=>	MFBOR			
			=>	MVBOR3			
			=>	MVBOR4			
			=>	MVBORSL1			
			=>	O2BORZ2			
			=>	PBBOR1			
			=>	PRBOR2			
			=>	PTBOR2			
			=>	SCDBOR2			
			=>	SFBOR1			
			=>	SRBOR4			
			=>	STTBOR1			
			=>	TLTBOR1			
			=>	TCBOR6			
			=>	TDBOR3			
			=>	TFBORZ2			
			=>	TRBORZ2			
			=>	VEBOR			
			=>	XXBOR3			
			=>	GARBAGE			
ZEUSONLINE17	<=	ZEUSONLINE17ENV	=>	CBENV3			EVB output dataflow for ENV events
			=>	CFENV3			
			=>	CRENV3			
			=>	FNENV1			
			=>	FPENV1			
			=>	HESENV3			
			=>	LM2ONLINE			
			=>	MBENV1			
			=>	MFENV			
			=>	MVENV1			
			=>	MVEVT3			
			=>	MVENVSL1			
			=>	O2ENVRZ2			
			=>	PBENV1			
			=>	PRENV1			
			=>	PTENV1			
			=>	SCDENV2			
			=>	SFENV1			
			=>	SRENV2			
			=>	TCENV2			
			=>	TDENV1			
			=>	VERAWEVENTIII			
			=>	XXENV1			
			=>	GARBAGE			
ZEUSONLINE17	<=	ZEUSONLINE17EOR	=>	CBEOR2			EVB output dataflow for EOR events
			=>	CFEOR2			
			=>	CREOR3			
			=>	FCEOR1			
			=>	FNEOR1			
			=>	FPEOR1			
			=>	HESEOR4			
			=>	LEEOR1			
			=>	LM2ONLINE			
			=>	MBEOR1			
			=>	MFEOR			
			=>	MVEVT3			
			=>	O2EORZI			
			=>	PBEOR1			
			=>	PREOR1			
			=>	PTEOR1			
			=>	SCDEOR2			
			=>	SFEOR1			
			=>	SREOR1			
			=>	STTEOR1			
			=>	TLTEORZI			
			=>	TCEOR5			
			=>	TDEOR1			
			=>	TFEORZ2			
			=>	VEEOR			
			=>	XXEOR3			
			=>	GARBAGE			

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
ZEUSONLINE17	<=	ZEUSONLINE17EVT	=>	BPEVT2			EVB dataflow for physics events (EVT)
			=>	CBEVT4			
			=>	CFEVT4			
			=>	CREVT4			
			=>	FCEVT1			
			=>	FNEVT2			
			=>	FPEVT2			
			=>	GTEVT2			
			=>	HESEVT5			
			=>	LM2ONLINE			
			=>	MBEVT1			
			=>	MBRAWEVENTIV			
			=>	MFRAWEVENTII			
			=>	MVEVT2			
			=>	MVEVT3			
			=>	{O1FCEV_}			
			=>	O2EVT1			
			=>	PBEVT1			
			=>	PREVT2			
			=>	PTEVT3			
			=>	SCDEVT1			
			=>	SFEVT1			
			=>	SREVT3			
			=>	STTEVT1			
			=>	TCEVT3			
			=>	TDEVT2			
			=>	TFEVT4			
			=>	TLTEVT5			
			=>	TREVT5			
			=>	VCTMVD1			
			=>	VERAWEVENTIII			
			=>	XXEVT5			
			=>	XXRAWEVENTII			
			=>	GARBAGE			
ZEUSONLINE17	<=	ZEUSONLINE17TST	=>	CBTST3			EVB dataflow for calibration events (TST)
			=>	CFTST3			
			=>	CRTST4			
			=>	FNTST2			
			=>	FPTST2			
			=>	HESTST2			
			=>	LM2ONLINE			
			=>	MBEVT1			
			=>	MFRAWEVENTII			
			=>	MVEVT3			
			=>	O2DATAZI			
			=>	PBTST1			
			=>	PRTST2			
			=>	SFTST1			
			=>	SRTST3			
			=>	TCEVT3			
			=>	TDTST2			
			=>	VERAWEVENTIII			
			=>	XXRAWEVENTII			
			=>	GARBAGE			
		ZEUSONLINE4	=>	ZEUSONLINE4BOR			EVB output dataflow data taking 94
			=>	ZEUSONLINE4EOR			
			=>	ZEUSONLINE4ENV			
			=>	ZEUSONLINE4EVT			
			=>	ZEUSONLINE4TST			
ZEUSONLINE4	<=	ZEUSONLINE4BOR	=>	BCBOREORENV			EVB output dataflow shutdown 93/94 for BOR events
			=>	CCBOR2			
			=>	FCBOR1			
			=>	FiMoOnlineData			
			=>	FNBOR1			
			=>	HESBOR5			
			=>	LPBORZ1			
			=>	MBBOR1			
			=>	MFBOR			
			=>	O2BORZ2			
			=>	SCDBOR2			
			=>	SRBOR2			
			=>	TLTBOR1			
			=>	TCBOR4			
			=>	TFBORZ2			
			=>	TRBORZ2			
			=>	VEBOR			
			=>	XXBORZII			
			=>	GARBAGE			
ZEUSONLINE4	<=	ZEUSONLINE4ENV	=>	BCBOREORENV			EVB output dataflow summer 94 for ENV events
			=>	CBENV2			
			=>	CFENV2			
			=>	CRENV2			
			=>	FiMoOnlineData			
			=>	FNENV1			
			=>	HESENV2			
			=>	LMSPECZI			
			=>	LPENV1			
			=>	MBENV1			
			=>	MFENV			
			=>	O2ENVRZ2			
			=>	SCDENV2			
			=>	SRENV1			
			=>	TCENV1			
			=>	VERAWEVENTIII			
			=>	GARBAGE			

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
ZEUSONLINE4	<=	ZEUSONLINE4EOR	=>	BCBOREORENV			EVB output dataflow shutdown 93/94 for EOR events
			=>	CBEOR2			
			=>	CFEOR2			
			=>	CREOR2			
			=>	FCEOR1			
			=>	FiMoOnlineData			
			=>	FNEOR1			
			=>	HESEORIII			
			=>	LPEOR1			
			=>	MBEOR1			
			=>	MFEOR			
			=>	O2EORZI			
			=>	SCDEOR2			
			=>	SREOR1			
			=>	TLTEORZI			
			=>	TCEOR4			
			=>	TFEORZ2			
			=>	TREORZ2			
			=>	VEEOR			
			=>	XXEORZII			
			=>	GARBAGE			
ZEUSONLINE4	<=	ZEUSONLINE4EVT	=>	BCEvent			EVB dataflow shutdown 93/94 for physics events (EVT)
			=>	CBRAWEVENTZ4			
			=>	CFRAWEVENTZ4			
			=>	CREVT1			
			=>	FCEVT1			
			=>	FNEVT1			
			=>	HESRAWEVENT4			
			=>	LMRAWEVENTIII			
			=>	LPEVT1			
			=>	MBRAWEVENTIV			
			=>	MFRAWEVENTII			
			=>	O2EVT1			
			=>	O3EVT1			
			=>	SREVT1			
			=>	SCDEVT1			
			=>	TCEVT2			
			=>	TFEVT3			
			=>	TLTTRKZI			
			=>	TREVT3			
			=>	VERAWEVENTIII			
			=>	XXRAWEVENTIII			
			=>	GARBAGE			
ZEUSONLINE4	<=	ZEUSONLINE4TST	=>	BCEvent			EVB dataflow shutdown 93/94 for calibration events (TST)
			=>	CBTST1			
			=>	CFTST1			
			=>	CRTST1			
			=>	FNTST1			
			=>	HESTST			
			=>	MBEVT1			
			=>	MFRAWEVENTII			
			=>	O2DATAZI			
			=>	SRTST1			
			=>	TCTST1			
			=>	TLTDATAZI			
			=>	VERAWEVENTIII			
			=>	XXRAWEVENTII			
			=>	GARBAGE			
		ZEUSONLINE5	=>	ZEUSONLINE5BOR			EVB output dataflow data taking 94
			=>	ZEUSONLINE5EOR			
			=>	ZEUSONLINE5ENV			
			=>	ZEUSONLINE5EVT			
			=>	ZEUSONLINE5TST			
ZEUSONLINE5	<=	ZEUSONLINE5BOR	=>	BCBOREORENV			EVB output dataflow summer 94 for BOR events
			=>	CCBOR2			
			=>	FCBOR1			
			=>	FiMoOnlineData			
			=>	FNBOR1			
			=>	HESBOR6			
			=>	LPBORZ1			
			=>	MBBOR1			
			=>	MFBOR			
			=>	O2BORZ2			
			=>	SCDBOR2			
			=>	SRBOR2			
			=>	TLTBOR1			
			=>	TCBOR5			
			=>	TFBORZ2			
			=>	TRBORZ2			
			=>	VEBOR			
			=>	XXBORZII			
			=>	GARBAGE			
ZEUSONLINE5	<=	ZEUSONLINE5ENV	=>	BCBOREORENV			EVB output dataflow summer 94 for ENV events
			=>	CBENV2			
			=>	CFENV2			
			=>	CRENV2			
			=>	FiMoOnlineData			
			=>	FNENV1			
			=>	HESENV2			
			=>	LMENV1			
			=>	LPENV1			
			=>	MBENV1			
			=>	MFENV			
			=>	O2ENVRZ2			
			=>	SCDENV2			
			=>	SRENV1			
			=>	TCENV1			
			=>	VERAWEVENTIII			
			=>	GARBAGE			

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
ZEUSONLINE5	<=	ZEUSONLINE5EOR	=>	BCBOREORENV			EVB output dataflow summer 94 for EOR events
			=>	CBEOR2			
			=>	CFEOR2			
			=>	CREOR2			
			=>	FCEOR1			
			=>	FiMoOnlineData			
			=>	FNEOR1			
			=>	HESEORIII			
			=>	LPEOR1			
			=>	MBEOR1			
			=>	MFEOR			
			=>	O2EORZI			
			=>	SCDEOR2			
			=>	SREOR1			
			=>	TLTEORZI			
			=>	TCEOR4			
			=>	TFEORZ2			
			=>	TREORZ2			
			=>	VEEOR			
			=>	XXEORZII			
			=>	GARBAGE			
ZEUSONLINE5	<=	ZEUSONLINE5EVT	=>	BCEvent			EVB dataflow summer 94 for physics events (EVT)
			=>	CBRAWEVENTZ4			
			=>	CFRAWEVENTZ4			
			=>	CREVT1			
			=>	FCEVT1			
			=>	FNEVT1			
			=>	HESRAWEVENT4			
			=>	LMRAWEVENTIII			
			=>	LPEVT1			
			=>	MBRAWEVENTIV			
			=>	MFRAWEVENTII			
			=>	O2EVT1			
			=>	O3EVT2			
			=>	SREVT1			
			=>	SCDEVT1			
			=>	TCEVT2			
			=>	TFEVT3			
			=>	TLTTRKZI			
			=>	TREVT3			
			=>	VERAWEVENTIII			
			=>	XXRAWEVENTIII			
			=>	GARBAGE			
ZEUSONLINE5	<=	ZEUSONLINE5TST	=>	BCEvent			EVB dataflow summer 94 for calibration events (TST)
			=>	CBTST1			
			=>	CFTST1			
			=>	CRTST1			
			=>	FNTST1			
			=>	HESTST			
			=>	MBEVT1			
			=>	MFRAWEVENTII			
			=>	O2DATAZI			
			=>	SRTST1			
			=>	TCTST1			
			=>	TLTDATAZI			
			=>	VERAWEVENTIII			
			=>	XXRAWEVENTII			
			=>	GARBAGE			
		ZEUSONLINE6	=>	ZEUSONLINE6BOR			EVB output dataflow pre data taking 95
			=>	ZEUSONLINE6EOR			
			=>	ZEUSONLINE6ENV			
			=>	ZEUSONLINE6EVT			
			=>	ZEUSONLINE6TST			
ZEUSONLINE6	<=	ZEUSONLINE6BOR	=>	BCBOREORENV			EVB output dataflow data taking 95 for BOR events
			=>	BPBOR1			
			=>	CCBOR3			
			=>	CTBOR1			
			=>	FCBOR1			
			=>	FiMoOnlineData			
			=>	FNBOR2			
			=>	HESBOR6			
			=>	LEBOR1			
			=>	LPBORZ1			
			=>	MBBOR1			
			=>	MFBOR			
			=>	O2BORZ2			
			=>	PRBOR1			
			=>	PTBOR1			
			=>	SCDBOR2			
			=>	SFBOR1			
			=>	SRBOR3			
			=>	TLTBOR1			
			=>	TCBOR6			
			=>	TDBOR1			
			=>	TFBORZ2			
			=>	TRBORZ2			
			=>	VEBOR			
			=>	XXBORZII			
			=>	GARBAGE			

|
V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
ZEUSONLINE6	<=	ZEUSONLINE6ENV	=>	BCBOREORENV			EVB output dataflow data taking 95 for ENV events
			=>	BPENV1			
			=>	CBENV2			
			=>	CFENV2			
			=>	CRENV3			
			=>	FiMoOnlineData			
			=>	FNENV1			
			=>	HESENV2			
			=>	LMENV1			
			=>	LPENV1			
			=>	MBENV1			
			=>	MFENV			
			=>	O2ENVRZ2			
			=>	PRENV1			
			=>	PTENV1			
			=>	SCDENV2			
			=>	SFENV1			
			=>	SRENV2			
			=>	TCENV2			
			=>	TDENV1			
			=>	VERAWEVENTIII			
			=>	GARBAGE			
ZEUSONLINE6	<=	ZEUSONLINE6EOR	=>	BCBOREORENV			EVB output dataflow data taking 95 for EOR events
			=>	BPEOR1			
			=>	CBEOR2			
			=>	CFEOR2			
			=>	CREOR3			
			=>	FCEOR1			
			=>	FiMoOnlineData			
			=>	FNEOR1			
			=>	HESEORIII			
			=>	LEEOR1			
			=>	LPEOR1			
			=>	MBEOR1			
			=>	MFEOR			
			=>	O2EORZI			
			=>	PREOR1			
			=>	PTEOR1			
			=>	SCDEOR2			
			=>	SFEOR1			
			=>	SREOR1			
			=>	TLTEORZI			
			=>	TCEOR5			
			=>	TDEOR1			
			=>	TFEORZ2			
			=>	TREORZ2			
			=>	VEEOR			
			=>	XXEORZII			
			=>	GARBAGE			
ZEUSONLINE6	<=	ZEUSONLINE6EVT	=>	BCEvent			EVB dataflow data taking 95 for physics events (EVT)
			=>	BPEVT1			
			=>	CBRAWEVENTZ4			
			=>	CFRAWEVENTZ4			
			=>	CREVT2			
			=>	FCEVT1			
			=>	FNEVT1			
			=>	HESRAWEVENT4			
			=>	LMRAWEVENTIII			
			=>	LPEVT1			
			=>	MBRAWEVENTIV			
			=>	MFRAWEVENTII			
			=>	O2EVT1			
			=>	PREVT1			
			=>	PTEVT1			
			=>	SFEVT1			
			=>	SREVT2			
			=>	SCDEVT1			
			=>	TCEVT3			
			=>	TDEVT1			
			=>	TFEVT3			
			=>	TLTEVT2			
			=>	TREVT3			
			=>	VERAWEVENTIII			
			=>	XXRAWEVENTIII			
			=>	GARBAGE			
ZEUSONLINE6	<=	ZEUSONLINE6TST	=>	BCEvent			EVB dataflow data taking 95 for calibration events (TST)
			=>	BPTST1			
			=>	CBTST1			
			=>	CFTST1			
			=>	CRTST3			
			=>	FNTST1			
			=>	HESTST			
			=>	LETST1			
			=>	MBEVT1			
			=>	MFRAWEVENTII			
			=>	O2DATAZI			
			=>	PRTST1			
			=>	PTTST1			
			=>	SFTST1			
			=>	SRTST2			
			=>	TCEVT3			
			=>	TDTST1			
			=>	VERAWEVENTIII			
			=>	XXRAWEVENTII			
			=>	GARBAGE			
		ZEUSONLINE7	=>	ZEUSONLINE7BOR			EVB output dataflow 96
			=>	ZEUSONLINE7EOR			
			=>	ZEUSONLINE7ENV			
			=>	ZEUSONLINE7EVT			
			=>	ZEUSONLINE7TST			

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
ZEUSONLINE7	<=	ZEUSONLINE7BOR	=>	BCBOREORENV			EVB output dataflow 96 for BOR events
			=>	BPBOR2			
			=>	CCBOR4			
			=>	CTBOR1			
			=>	FCBOR1			
			=>	FiMoOnlineData			
			=>	FNBOR3			
			=>	HESBOR7			
			=>	LEBOR1			
			=>	LPBORZ1			
			=>	MBBOR1			
			=>	MFBOR			
			=>	O2BORZ2			
			=>	PRBOR2			
			=>	PTBOR2			
			=>	SCDBOR2			
			=>	SFBOR1			
			=>	SRBOR4			
			=>	TLTBOR1			
			=>	TCBOR6			
			=>	TDBOR3			
			=>	TFBORZ2			
			=>	TRBORZ2			
			=>	VEBOR			
			=>	XXBOR3			
			=>	GARBAGE			
ZEUSONLINE7	<=	ZEUSONLINE7ENV	=>	BCBOREORENV			EVB output dataflow 96 for ENV events
			=>	BPENV1			
			=>	CBENV3			
			=>	CFENV3			
			=>	CRENV3			
			=>	FiMoOnlineData			
			=>	FNENV1			
			=>	HESENV3			
			=>	LMENV1			
			=>	LPENV2			
			=>	MBENV1			
			=>	MFENV			
			=>	O2ENVRZ2			
			=>	PRENV1			
			=>	PTENV1			
			=>	SCDENV2			
			=>	SFENV1			
			=>	SRENV2			
			=>	T8ENV1			
			=>	TCENV2			
			=>	TDENV1			
			=>	VERAWEVENTIII			
			=>	XXENV1			
			=>	GARBAGE			
ZEUSONLINE7	<=	ZEUSONLINE7EOR	=>	BCBOREORENV			EVB output dataflow 96 for EOR events
			=>	BPEOR1			
			=>	CBEOR2			
			=>	CFEOR2			
			=>	CREOR3			
			=>	FCEOR1			
			=>	FiMoOnlineData			
			=>	FNEOR1			
			=>	HESEOR4			
			=>	LEEOR1			
			=>	LPEOR1			
			=>	MBEOR1			
			=>	MFEOR			
			=>	O2EORZI			
			=>	PREOR1			
			=>	PTEOR1			
			=>	SCDEOR2			
			=>	SFEOR1			
			=>	SREOR1			
			=>	TLTEORZI			
			=>	TCEOR5			
			=>	TDEOR1			
			=>	TFEORZ2			
			=>	TREORZ2			
			=>	VEEOR			
			=>	XXEOR3			
			=>	GARBAGE			
ZEUSONLINE7	<=	ZEUSONLINE7EVT	=>	BCEvent			EVB dataflow 96 for physics events (EVT)
			=>	BPEVT2			
			=>	CBEVT3			
			=>	CFEVT3			
			=>	CREVT3			
			=>	FCEVT1			
			=>	FNEVT2			
			=>	HESEVT5			
			=>	LMRAWEVENTIII			
			=>	LPEVT1			
			=>	MBRAWEVENTIV			
			=>	MFRAWEVENTII			
			=>	O2EVT1			
			=>	PREVT2			
			=>	PTEVT2			
			=>	SFEVT1			
			=>	SREVT3			
			=>	SCDEVT1			
			=>	T8EVT1			
			=>	TCEVT3			
			=>	TDEVT2			
			=>	TFEVT3			
			=>	TLTEVT3			
			=>	TREVT3			
			=>	VERAWEVENTIII			
			=>	XXEVT4			
			=>	GARBAGE			

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
ZEUSONLINE7	<=	ZEUSONLINE7TST	=>	BCEvent			EVB dataflow 96 for calibration events (TST)
			=>	BPTST2			
			=>	CBTST3			
			=>	CFTST3			
			=>	CRTST4			
			=>	FNTST2			
			=>	HESTST2			
			=>	LETST1			
			=>	MBEVT1			
			=>	MFRAWEVENTII			
			=>	O2DATAZI			
			=>	PRTST2			
			=>	PTTST2			
			=>	SFTST1			
			=>	SRTST3			
			=>	T8TST1			
			=>	TCEVT3			
			=>	TDTST2			
			=>	VERAWEVENTIII			
			=>	XXRAWEVENTII			
			=>	GARBAGE			
		ZEUSONLINE8	=>	ZEUSONLINE8BOR			EVB output dataflow 97
			=>	ZEUSONLINE8EOR			
			=>	ZEUSONLINE8ENV			
			=>	ZEUSONLINE8EVT			
			=>	ZEUSONLINE8TST			
ZEUSONLINE8	<=	ZEUSONLINE8BOR	=>	BCBOREORENV			EVB output dataflow 97 for BOR events
			=>	BPBOR2			
			=>	BPTBOR1			
			=>	CCBOR4			
			=>	CTBOR1			
			=>	FCBOR1			
			=>	FiMoOnlineData			
			=>	FNBOR3			
			=>	HESBOR7			
			=>	LEBOR1			
			=>	LPBORZ1			
			=>	MBBOR1			
			=>	MFBOR			
			=>	O2BORZ2			
			=>	PBBOR1			
			=>	PRBOR2			
			=>	PTBOR2			
			=>	SCDBOR2			
			=>	SFBOR1			
			=>	SRBOR4			
			=>	TLTBOR1			
			=>	TCBOR6			
			=>	TDBOR3			
			=>	TFBORZ2			
			=>	TRBORZ2			
			=>	VEBOR			
			=>	XXBOR3			
			=>	GARBAGE			
ZEUSONLINE8	<=	ZEUSONLINE8ENV	=>	BCBOREORENV			EVB output dataflow 97 for ENV events
			=>	BPENV1			
			=>	CBENV3			
			=>	CFENV3			
			=>	CRENV3			
			=>	FiMoOnlineData			
			=>	FNENV1			
			=>	HESENV3			
			=>	LMENV1			
			=>	LPENV2			
			=>	MBENV1			
			=>	MFENV			
			=>	O2ENVRZ2			
			=>	PBENV1			
			=>	PRENV1			
			=>	PTENV1			
			=>	SCDENV2			
			=>	SFENV1			
			=>	SRENV2			
			=>	T8ENV1			
			=>	TCENV2			
			=>	TDENV1			
			=>	VERAWEVENTIII			
			=>	XXENV1			
			=>	GARBAGE			

|
V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
ZEUSONLINE8	<=	ZEUSONLINE8EOR	=>	BCBOREORENV			EVB output dataflow 97 for EOR events
			=>	BPEOR1			
			=>	CBEOR2			
			=>	CFEOR2			
			=>	CREOR3			
			=>	FCEOR1			
			=>	FiMoOnlineData			
			=>	FNEOR1			
			=>	HESEOR4			
			=>	LEEOR1			
			=>	LPEOR1			
			=>	MBEOR1			
			=>	MFEOR			
			=>	O2EORZI			
			=>	PBEOR1			
			=>	PREOR1			
			=>	PTEOR1			
			=>	SCDEOR2			
			=>	SFEOR1			
			=>	SREOR1			
			=>	TLTEORZI			
			=>	TCEOR5			
			=>	TDEOR1			
			=>	TFEORZ2			
			=>	TREORZ2			
			=>	VEEOR			
			=>	XXEOR3			
			=>	GARBAGE			
ZEUSONLINE8	<=	ZEUSONLINE8EVT	=>	BCEvent			EVB dataflow 97 for physics events (EVT)
			=>	BPEVT2			
			=>	BPTEVT1			
			=>	CBEVT3			
			=>	CFEVT3			
			=>	CREVT3			
			=>	FCEVT1			
			=>	FNEVT2			
			=>	HESEVT5			
			=>	LMRAWEVENTIII			
			=>	LPEVT1			
			=>	MBRAWEVENTIV			
			=>	MFRAWEVENTII			
			=>	O2EVT1			
			=>	PBEVT1			
			=>	PREVT2			
			=>	PTEVT3			
			=>	SFEVT1			
			=>	SREVT3			
			=>	SCDEVT1			
			=>	T8EVT1			
			=>	TCEVT3			
			=>	TDEVT2			
			=>	TFEVT3			
			=>	TLTEVT3			
			=>	TREVT3			
			=>	VERAWEVENTIII			
			=>	XXEVT5			
			=>	GARBAGE			
ZEUSONLINE8	<=	ZEUSONLINE8TST	=>	BCEvent			EVB dataflow 97 for calibration events (TST)
			=>	BPTST2			
			=>	CBTST3			
			=>	CFTST3			
			=>	CRTST4			
			=>	FNTST2			
			=>	HESTST2			
			=>	LETST1			
			=>	MBEVT1			
			=>	MFRAWEVENTII			
			=>	O2DATAZI			
			=>	PBTST1			
			=>	PRTST2			
			=>	PTTST2			
			=>	SFTST1			
			=>	SRTST3			
			=>	T8TST1			
			=>	TCEVT3			
			=>	TDTST2			
			=>	VERAWEVENTIII			
			=>	XXRAWEVENTII			
			=>	GARBAGE			
		ZEUSONLINE9	=>	ZEUSONLINE9BOR			EVB output dataflow 97
			=>	ZEUSONLINE9EOR			
			=>	ZEUSONLINE9ENV			
			=>	ZEUSONLINE9EVT			
			=>	ZEUSONLINE9TST			

|
V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
ZEUSONLINE9	<=	ZEUSONLINE9BOR	=>	BCBOREORENV			EVB output dataflow 97 for BOR events
ZEUSONLINE10BOR	<=		=>	BPBOR2			
			=>	BPTBOR1			
			=>	CCBOR4			
			=>	CTBOR1			
			=>	FCBOR1			
			=>	FiMoOnlineData			
			=>	FNBOR3			
			=>	HESBOR7			
			=>	LEBOR1			
			=>	LPBORZ1			
			=>	MBBOR1			
			=>	MFBOR			
			=>	O2BORZ2			
			=>	PBBOR1			
			=>	PRBOR2			
			=>	PTBOR2			
			=>	SCDBOR2			
			=>	SFBOR1			
			=>	SRBOR4			
			=>	TLTBOR1			
			=>	TCBOR6			
			=>	TDBOR3			
			=>	TFBORZ2			
			=>	TRBORZ2			
			=>	VEBOR			
			=>	XXBOR3			
			=>	GARBAGE			
ZEUSONLINE9	<=	ZEUSONLINE9ENV	=>	BCBOREORENV			EVB output dataflow 97 for ENV events
ZEUSONLINE10ENV	<=		=>	BPENV1			
			=>	CBENV3			
			=>	CFENV3			
			=>	CRENV3			
			=>	FiMoOnlineData			
			=>	FNENV1			
			=>	HESENV3			
			=>	LMENV1			
			=>	LPENV2			
			=>	MBENV1			
			=>	MFENV			
			=>	O2ENVRZ2			
			=>	PBENV1			
			=>	PRENV1			
			=>	PTENV1			
			=>	SCDENV2			
			=>	SFENV1			
			=>	SRENV2			
			=>	T8ENV1			
			=>	TCENV2			
			=>	TDENV1			
			=>	VERAWEVENTIII			
			=>	XXENV1			
			=>	GARBAGE			
ZEUSONLINE9	<=	ZEUSONLINE9EOR	=>	BCBOREORENV			EVB output dataflow 97 for EOR events
ZEUSONLINE10EOR	<=		=>	BPEOR1			
			=>	CBEOR2			
			=>	CFEOR2			
			=>	CREOR3			
			=>	FCEOR1			
			=>	FiMoOnlineData			
			=>	FNEOR1			
			=>	HESEOR4			
			=>	LEEOR1			
			=>	LPEOR1			
			=>	MBEOR1			
			=>	MFEOR			
			=>	O2EORZI			
			=>	PBEOR1			
			=>	PREOR1			
			=>	PTEOR1			
			=>	SCDEOR2			
			=>	SFEOR1			
			=>	SREOR1			
			=>	TLTEORZI			
			=>	TCEOR5			
			=>	TDEOR1			
			=>	TFEORZ2			
			=>	TREORZ2			
			=>	VEEOR			
			=>	XXEOR3			
			=>	GARBAGE			

|
V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
ZEUSONLINE9	<=	ZEUSONLINE9EVT	=>	BCEvent			EVB dataflow 97 for physics events (EVT)
			=>	BPEVT2			
			=>	BPTEVT1			
			=>	CBEVT3			
			=>	CFEVT3			
			=>	CREVT3			
			=>	FCEVT1			
			=>	FNEVT2			
			=>	HESEVT5			
			=>	LMRAWEVENTIII			
			=>	LPEVT1			
			=>	MBRAWEVENTIV			
			=>	MFRAWEVENTII			
			=>	O2EVT1			
			=>	PBEVT1			
			=>	PREVT2			
			=>	PTEVT3			
			=>	SFEVT1			
			=>	SREVT3			
			=>	SCDEVT1			
			=>	T8EVT1			
			=>	TCEVT3			
			=>	TDEVT2			
			=>	TFEVT3			
			=>	TLTEVT4			
			=>	TREVT3			
			=>	VERAWEVENTIII			
			=>	XXEVT5			
			=>	GARBAGE			
ZEUSONLINE9	<=	ZEUSONLINE9TST	=>	BCEvent			EVB dataflow 97 for calibration events (TST)
ZEUSONLINE10TST	<=		=>	BPTST2			
			=>	CBTST3			
			=>	CFTST3			
			=>	CRTST4			
			=>	FNTST2			
			=>	HESTST2			
			=>	LETST1			
			=>	MBEVT1			
			=>	MFRAWEVENTII			
			=>	O2DATAZI			
			=>	PBTST1			
			=>	PRTST2			
			=>	PTTST2			
			=>	SFTST1			
			=>	SRTST3			
			=>	T8TST1			
			=>	TCEVT3			
			=>	TDTST2			
			=>	VERAWEVENTIII			
			=>	XXRAWEVENTII			
			=>	GARBAGE			
		ZEUSTEST11	=>	ZEUSTEST11BOR			EVB test output dataflow 98
			=>	ZEUSTEST11EOR			
			=>	ZEUSTEST11ENV			
			=>	ZEUSTEST11EVT			
			=>	ZEUSTEST11TST			
ZEUSTEST11	<=	ZEUSTEST11BOR	=>	ZEUSTEST9BOR			
ZEUSONLINE11BOR	<=		=>	FPBOR3			
ZEUSTEST11	<=	ZEUSTEST11ENV	=>	ZEUSTEST9ENV			
ZEUSONLINE11ENV	<=		=>	FPENV1			
ZEUSTEST11	<=	ZEUSTEST11EOR	=>	ZEUSTEST9EOR			
ZEUSONLINE11EOR	<=		=>	FPEOR1			
ZEUSTEST11	<=	ZEUSTEST11EVT	=>	BCEvent			EVB test dataflow 98 for physics events (EVT)
			=>	BPEVT2			
			=>	BPTEVT1			
			=>	CBEVT3			
			=>	CFEVT3			
			=>	CREVT3			
			=>	FCEVT1			
			=>	FNEVT2			
			=>	FPEVT2			
			=>	HESEVT5			
			=>	LMRAWEVENTIII			
			=>	LPEVT1			
			=>	MBRAWEVENTIV			
			=>	MFRAWEVENTII			
			=>	O2EVT1			
			=>	PBEVT1			
			=>	PREVT2			
			=>	PTEVT3			
			=>	SFEVT1			
			=>	SREVT3			
			=>	SCDEVT1			
			=>	T8EVT1			
			=>	TCEVT3			
			=>	TDEVT2			
			=>	TFEVT3			
			=>	TLTEVT5			
			=>	TREVT5			
			=>	VERAWEVENTIII			
			=>	XXEVT5			
			=>	GARBAGE			
ZEUSTEST11	<=	ZEUSTEST11TST	=>	ZEUSTEST9TST			
ZEUSONLINE11TST	<=		=>	FPTST2			

V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
		ZEUSTEST2BOR	=>	BCBOREORENV			EVB output dataflow shutdown 92 for BOR events
			=>	LPBOREORZI			
			=>	MBBOR			
			=>	O2BORZ2			
			=>	TLTBORZ2			
			=>	TCSLTRUN			
			=>	TFBORZ2			
			=>	TRBORZ2			
			=>	XXBORZII			
			=>	FCBOR1			
			=>	HESBOR4			
			=>	O4BORII			
			=>	TCBORZ2			
			=>	VEBOR			
			=>	GARBAGE			
		ZEUSTEST2ENV	=>	BCBOREORENV			EVB output dataflow shutdown 92 for ENV events
			=>	CBENVZ2			
			=>	CFENVZ2			
			=>	LMSPECZI			
			=>	MBENVREC			
			=>	O2ENVRZ2			
			=>	HESENV			
			=>	GARBAGE			
		ZEUSTEST2EOR	=>	BCBOREORENV			EVB output dataflow shutdown 92 for EOR events
			=>	CBCALEORZ2			
			=>	CFCALEORZ2			
			=>	LPBOREORZI			
			=>	MBEOR			
			=>	O2EORZI			
			=>	TLTEORZI			
			=>	TCSLTRUN			
			=>	TFEORZ2			
			=>	TREORZ2			
			=>	XXEORZII			
			=>	HESEORIII			
			=>	O4EORII			
			=>	TCEORZ2			
			=>	VEEOR			
			=>	GARBAGE			
		ZEUSTEST6	=>	ZEUSTEST6BOR			EVB output dataflow pre data taking 95
			=>	ZEUSTEST6EOR			
			=>	ZEUSTEST6ENV			
			=>	ZEUSTEST6EVT			
			=>	ZEUSTEST6TST			
ZEUSTEST6	<=	ZEUSTEST6BOR	=>	BCBOREORENV			EVB output dataflow pre data taking 95 for BOR events
			=>	BPBOR1			
			=>	CCBOR3			
			=>	CTBOR1			
			=>	FCBOR1			
			=>	FiMoOnlineData			
			=>	FNBOR2			
			=>	HESBOR6			
			=>	LEBOR1			
			=>	LPBORZ1			
			=>	MBBOR1			
			=>	MFBOR			
			=>	O2BORZ2			
			=>	PRBOR1			
			=>	RTBOR1			
			=>	SCDBOR2			
			=>	SFBOR1			
			=>	SRBOR3			
			=>	TLTBOR1			
			=>	TCBOR6			
			=>	TDBOR1			
			=>	TFBORZ2			
			=>	TRBORZ2			
			=>	VEBOR			
			=>	XXBORZII			
			=>	GARBAGE			
ZEUSTEST6	<=	ZEUSTEST6ENV	=>	BCBOREORENV			EVB output dataflow pre data taking 95 for ENV events
			=>	BPENV1			
			=>	CBENV2			
			=>	CFENV2			
			=>	CRENV3			
			=>	FiMoOnlineData			
			=>	FNENV1			
			=>	HESENV2			
			=>	LMENV1			
			=>	LPENV1			
			=>	MBENV1			
			=>	MFENV			
			=>	O2ENVRZ2			
			=>	PRENV1			
			=>	RTENV1			
			=>	SCDENV2			
			=>	SFENV1			
			=>	SRENV2			
			=>	TCENV1			
			=>	TDENV1			
			=>	VERAWEVENTIII			
			=>	GARBAGE			

|
V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
ZEUSTEST6	<=	ZEUSTEST6EOR	=>	BCBOREORENV			EVB output dataflow pre data taking 95 for EOR events
			=>	BPEOR1			
			=>	CBEOR2			
			=>	CFEOR2			
			=>	CREOR3			
			=>	FCEOR1			
			=>	FiMoOnlineData			
			=>	FNEOR1			
			=>	HESEORIII			
			=>	LEEOR1			
			=>	LPEOR1			
			=>	MBEOR1			
			=>	MFEOR			
			=>	O2EORZI			
			=>	PREOR1			
			=>	RTEOR1			
			=>	SCDEOR2			
			=>	SFEOR1			
			=>	SREOR1			
			=>	TLTEORZI			
			=>	TCEOR5			
			=>	TDEOR1			
			=>	TFEORZ2			
			=>	TREORZ2			
			=>	VEEOR			
			=>	XXEORZII			
			=>	GARBAGE			
ZEUSTEST6	<=	ZEUSTEST6EVT	=>	BCEvent			EVB dataflow pre data taking 95 for physics events (EVT)
			=>	BPEVT1			
			=>	CBRAWEVENTZ4			
			=>	CFRAWEVENTZ4			
			=>	CREVT2			
			=>	FCEVT1			
			=>	FNEVT1			
			=>	HESRAWEVENT4			
			=>	LMRAWEVENTIII			
			=>	LPEVT1			
			=>	MBRAWEVENTIV			
			=>	MFRAWEVENTII			
			=>	O2EVT1			
			=>	PREVT1			
			=>	RTEVT1			
			=>	SFEVT1			
			=>	SREVT2			
			=>	SCDEVT1			
			=>	TCEVT3			
			=>	TDEVT1			
			=>	TFEVT3			
			=>	TLTEVT1			
			=>	TREVT3			
			=>	VERAWEVENTIII			
			=>	XXRAWEVENTIII			
			=>	GARBAGE			
ZEUSTEST6	<=	ZEUSTEST6TST	=>	BCEvent			EVB dataflow pre data taking 95 for calibration events (TST)
			=>	BPTST1			
			=>	CBTST1			
			=>	CFTST1			
			=>	CRTST3			
			=>	FNTST1			
			=>	HESTST			
			=>	LETST1			
			=>	MBEVT1			
			=>	MFRAWEVENTII			
			=>	O2DATAZI			
			=>	PRTST1			
			=>	RTTST1			
			=>	SFTST1			
			=>	SRTST2			
			=>	TCEVT2			
			=>	TDTST1			
			=>	VERAWEVENTIII			
			=>	XXRAWEVENTII			
			=>	GARBAGE			
		ZEUSTEST7	=>	ZEUSTEST7BOR			EVB output dataflow cosmic run 96
			=>	ZEUSTEST7EOR			
			=>	ZEUSTEST7ENV			
			=>	ZEUSTEST7EVT			
			=>	ZEUSTEST7TST			

|
V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
ZEUSTEST7	<=	ZEUSTEST7BOR	=>	BCBOREORENV			EVB output dataflow cosmic run 96 for BOR events
			=>	BPBOR1			
			=>	CCBOR3			
			=>	CTBOR1			
			=>	FCBOR1			
			=>	FiMoOnlineData			
			=>	FNBOR2			
			=>	HESBOR7			
			=>	LEBOR1			
			=>	LPBORZ1			
			=>	MBBOR1			
			=>	MFBOR			
			=>	O2BORZ2			
			=>	PRBOR1			
			=>	PTBOR1			
			=>	SCDBOR2			
			=>	SFBOR1			
			=>	SRBOR3			
			=>	TLTBOR1			
			=>	TCBOR6			
			=>	TDBOR1			
			=>	TFBORZ2			
			=>	TRBORZ2			
			=>	VEBOR			
			=>	XXBORZII			
			=>	GARBAGE			
ZEUSTEST7	<=	ZEUSTEST7ENV	=>	BCBOREORENV			EVB output dataflow cosmic run 96 for ENV events
			=>	BPENV1			
			=>	CBENV2			
			=>	CFENV2			
			=>	CRENV3			
			=>	FiMoOnlineData			
			=>	FNENV1			
			=>	HESENV3			
			=>	LMENV1			
			=>	LPENV1			
			=>	MBENV1			
			=>	MFENV			
			=>	O2ENVRZ2			
			=>	PRENV1			
			=>	PTENV1			
			=>	SCDENV2			
			=>	SFENV1			
			=>	SRENV2			
			=>	T8ENV1			
			=>	TCENV2			
			=>	TDENV1			
			=>	VERAWEVENTIII			
			=>	GARBAGE			
ZEUSTEST7	<=	ZEUSTEST7EOR	=>	BCBOREORENV			EVB output dataflow cosmic run 96 for EOR events
			=>	BPEOR1			
			=>	CBEOR2			
			=>	CFEOR2			
			=>	CREOR3			
			=>	FCEOR1			
			=>	FiMoOnlineData			
			=>	FNEOR1			
			=>	HESEOR4			
			=>	LEEOR1			
			=>	LPEOR1			
			=>	MBEOR1			
			=>	MFEOR			
			=>	O2EORZI			
			=>	PREOR1			
			=>	PTEOR1			
			=>	SCDEOR2			
			=>	SFEOR1			
			=>	SREOR1			
			=>	TLTEORZI			
			=>	TCEOR5			
			=>	TDEOR1			
			=>	TFEORZ2			
			=>	TREORZ2			
			=>	VEEOR			
			=>	XXEORZII			
			=>	GARBAGE			
ZEUSTEST7	<=	ZEUSTEST7EVT	=>	BCEvent			EVB dataflow cosmic run 96 for physics events (EVT)
			=>	BPEVT1			
			=>	CBRAWEVENTZ4			
			=>	CFRAWEVENTZ4			
			=>	CREVT2			
			=>	FCEVT1			
			=>	FNEVT1			
			=>	HESEVT5			
			=>	LMRAWEVENTIII			
			=>	LPEVT1			
			=>	MBRAWEVENTIV			
			=>	MFRAWEVENTII			
			=>	O2EVT1			
			=>	PREVT1			
			=>	PTEVT1			
			=>	SFEVT1			
			=>	SREVT2			
			=>	SCDEVT1			
			=>	T8EVT1			
			=>	TCEVT3			
			=>	TDEVT1			
			=>	TFEVT3			
			=>	TLTEVT2			
			=>	TREVT3			
			=>	VERAWEVENTIII			
			=>	XXEVT4			
			=>	GARBAGE			

|
V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
ZEUSTEST7	<=	ZEUSTEST7TST	=>	BCEvent			EVB dataflow cosmic run 96 for calibration events (TST)
			=>	BPTST1			
			=>	CBTST1			
			=>	CFTST1			
			=>	CRTST3			
			=>	FNTST1			
			=>	HESTST2			
			=>	LETST1			
			=>	MBEVT1			
			=>	MFRAWEVENTII			
			=>	O2DATAZI			
			=>	PRTST1			
			=>	PTTST1			
			=>	SFTST1			
			=>	SRTST2			
			=>	T8TST1			
			=>	TCEVT3			
			=>	TDTST1			
			=>	VERAWEVENTIII			
			=>	XXRAWEVENTII			
			=>	GARBAGE			
		ZEUSTEST8	=>	ZEUSTEST8BOR			EVB output dataflow pre 96
			=>	ZEUSTEST8EOR			
			=>	ZEUSTEST8ENV			
			=>	ZEUSTEST8EVT			
			=>	ZEUSTEST8TST			
ZEUSTEST8	<=	ZEUSTEST8BOR	=>	BCBOREORENV			EVB output dataflow pre 96 for BOR events
			=>	BPBOR2			
			=>	CCBOR4			
			=>	CTBOR1			
			=>	FCBOR1			
			=>	FiMoOnlineData			
			=>	FNBOR3			
			=>	HESBOR7			
			=>	LEBOR1			
			=>	LPBORZ1			
			=>	MBBOR1			
			=>	MFBOR			
			=>	O2BORZ2			
			=>	PRBOR2			
			=>	PTBOR2			
			=>	SCDBOR2			
			=>	SFBOR1			
			=>	SRBOR4			
			=>	TLTBOR1			
			=>	TCBOR6			
			=>	TDBOR2			
			=>	TFBORZ2			
			=>	TRBORZ2			
			=>	VEBOR			
			=>	XXBOR3			
			=>	GARBAGE			
ZEUSTEST8	<=	ZEUSTEST8ENV	=>	BCBOREORENV			EVB output dataflow pre 96 for ENV events
			=>	BPENV1			
			=>	CBENV3			
			=>	CFENV3			
			=>	CRENV3			
			=>	FiMoOnlineData			
			=>	FNENV1			
			=>	HESENV3			
			=>	LMENV1			
			=>	LPENV2			
			=>	MBENV1			
			=>	MFENV			
			=>	O2ENVRZ2			
			=>	PRENV1			
			=>	PTENV1			
			=>	SCDENV2			
			=>	SFENV1			
			=>	SRENV2			
			=>	T8ENV1			
			=>	TCENV2			
			=>	TDENV1			
			=>	VERAWEVENTIII			
			=>	XXENV1			
			=>	GARBAGE			
ZEUSTEST8	<=	ZEUSTEST8EOR	=>	BCBOREORENV			EVB output dataflow pre 96 for EOR events
			=>	BPEOR1			
			=>	CBEOR2			
			=>	CFEOR2			
			=>	CREOR3			
			=>	FCEOR1			
			=>	FiMoOnlineData			
			=>	FNEOR1			
			=>	HESEOR4			
			=>	LEEOR1			
			=>	LPEOR1			
			=>	MBEOR1			
			=>	MFEOR			
			=>	O2EORZI			
			=>	PREOR1			
			=>	PTEOR1			
			=>	SCDEOR2			
			=>	SFEOR1			
			=>	SREOR1			
			=>	TLTEORZI			
			=>	TCEOR5			
			=>	TDEOR1			
			=>	TFEORZ2			
			=>	TREORZ2			
			=>	VEEOR			
			=>	XXEOR3			
			=>	GARBAGE			

|
V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
ZEUSTEST8	<=	ZEUSTEST8EVT	=>	BCEvent, BPEVT2, CBEVT3, CFEVT3, CREVT3, FCEVT1, FNEVT2, HESEVT5, LMRAWEVENTIII, LPEVT1, MBRAWEVENTIV, MFRAWEVENTII, O2EVT1, PREVT2, PTEVT2, SFEVT1, SREVT3, SCDEVT1, T8EVT1, TCEVT3, TDEVT2, TFEVT3, TLTEVT2, TREVT3, VERAWEVENTIII, XXEVT4, GARBAGE			EVB dataflow pre 96 for physics events (EVT)
ZEUSTEST8	<=	ZEUSTEST8TST	=>	BCEvent, BPTST2, CBTST3, CFTST3, CRTST4, FNTST2, HESTST2, LETST1, MBEVT1, MFRAWEVENTII, O2DATAZI, PRTST2, PTTST2, SFTST1, SRTST3, T8TST1, TCEVT3, TDTST2, VERAWEVENTIII, XXRAWEVENTII, GARBAGE			EVB dataflow pre 96 for calibration events (TST)
		ZEUSTEST9	=>	ZEUSTEST9BOR, ZEUSTEST9EOR, ZEUSTEST9ENV, ZEUSTEST9EVT, ZEUSTEST9TST			EVB output dataflow pre 97
ZEUSTEST9 ZEUSTEST11BOR	<= <=	ZEUSTEST9BOR	=>	BCBOREORENV, BPBOR2, BPTBOR1, CCBOR4, CTBOR1, FCBOR1, FiMoOnlineData, FNBOR3, HESBOR7, LEBOR1, LPBORZ1, MBBOR1, MFBOR, O2BORZ2, PBBOR1, PRBOR2, PTBOR2, SCDBOR2, SFBOR1, SRBOR4, TLTBOR1, TCBOR6, TDBOR3, TFBORZ2, TRBORZ2, VEBOR, XXBOR3, GARBAGE			EVB output dataflow pre 97 for BOR events

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
ZEUSTEST9 ZEUSTEST11ENV	<= <=	ZEUSTEST9ENV	=>	BCBOREORENV BPENV1 CBENV3 CFENV3 CRENV3 FiMoOnlineData FNENV1 HESENV3 LMENV1 LPENV2 MBENV1 MFENV O2ENVRZ2 PBENV1 PRENV1 PTENV1 SCDENV2 SFENV1 SRENV2 T8ENV1 TCENV2 TDENV1 VERAWEVENTIII XXENV1 GARBAGE			EVB output dataflow pre 97 for ENV events
ZEUSTEST9 ZEUSTEST11EOR	<= <=	ZEUSTEST9EOR	=>	BCBOREORENV BPEOR1 CBEOR2 CFEOR2 CREOR3 FCEOR1 FiMoOnlineData FNEOR1 HESEOR4 LEEOR1 LPEOR1 MBEOR1 MFEOR O2EORZI PBEOR1 PREOR1 PTEOR1 SCDEOR2 SFEOR1 SREOR1 TLTEORZI TCEOR5 TDEOR1 TFEORZ2 TREORZ2 VEEOR XXEOR3 GARBAGE			EVB output dataflow pre 97 for EOR events
ZEUSTEST9	<=	ZEUSTEST9EVT	=>	BCEvent BPEVT2 BPTEVT1 CBEVT3 CFEVT3 CREVT3 FCEVT1 FNEVT2 HESEVT5 LMRAWEVENTIII LPEVT1 MBRAWEVENTIV MFRAWEVENTII O2EVT1 PBEVT1 PREVT2 PTEVT3 SFEVT1 SREVT3 SCDEVT1 T8EVT1 TCEVT3 TDEVT2 TFEVT3 TLTEVT3 TREVT3 VERAWEVENTIII XXEVT4 GARBAGE			EVB dataflow pre 97 for physics events (EVT)
ZEUSTEST9 ZEUSTEST11TST	<= <=	ZEUSTEST9TST	=>	BCEvent BPTST2 CBTST3 CFTST3 CRTST4 FNTST2 HESTST2 LETST1 MBEVT1 MFRAWEVENTII O2DATAZI PBTST1 PRTST2 PTTST2 SFTST1 SRTST3 T8TST1 TCEVT3 TDTST2 VERAWEVENTIII XXRAWEVENTII GARBAGE			EVB dataflow pre 97 for calibration events (TST)

|
V

Page (1, 1)

Father	F	Dataflow	S	Son	DFIO	Process	Comment
		ZTPATT	=> => => =>	{ZTTRUSE_} {ZTTRHL_} {ZTTRMS_} {ZTTRCAL_}			ZT Pattern Recognition
		ZeusGeometry1	=> => => => => => => => => =>	{ZWDIV_} {ZWPARA_} {ZWRJCT_} {ZWVOLU_} {ZWSDET_} {ZWSDTA_} {ZWSDTD_} {ZWSDTH_} {ZWSDTU_} {ZWSDTV_}			
		ZeusGeometry2	=>	{ZWPOS_}			

|
V

Page (1, 1)

FrESet	By	FrC	Arrow	ToCar	ToESet	Attribute	Type	P	Comment
BPCCOND	Ncalib	1,1	----|->>	0,99	BPCMOD				Each condition period has north calibration information
BPCCOND	Scalib	1,1	----|->>	0,99	BPCMOD				Each condition period has south calibration information
BPCTRUE	FMCKin	0,1	-|--|->>	0,99	FMCKin				Geant hits comes from a track
BPPARA	of	1,1	===-|->> ===-|->>	0,99 0,99	BPVOLU BPPOS				A parameter is of a volume or a position
BPPOS	rotm	1,1	----|->>	0,99	rotm				each positioned volume is related to a rotation matrix
BPPOS	Detector	0,1	-|---->>	1,99	BPDICO				each sensible volume positioned is related to some digitization parameter
BPPOS	volu	1,1	----|->>	0,99	BPVOLU				A position belongs to a volume
BPRJCT	of	1,1	===-|->> ===-|->>	0,99 0,99	BPVOLU BPPOS				Rejected volumes and positions
BPSDTA	sdet	1,1	----|->>	0,99	BPSDET				Some detectors give more than one type signals
BPSDTD	of	1,1	===-|->> ===-|->>	0,99 0,99	BPSDET BPSDTA				Sensible detectors and aliases digitizations
BPSDTH	of	1,1	===-|->> ===-|->>	0,99 0,99	BPSDET BPSDTA				each detec. element needs the parameter definition
BPSDTU	of	1,1	===-|->> ===-|->>	0,99 0,99	BPSDET BPSDTA				User parameters for sensible detectors and aliases
BPSDTV	sdet	1,1	------>>	1,99	BPSDET				Physical detectors for the master detector identifier
BPTMCH	BPTMCI	1,1	----|->>	0,99	BPTMCI				Each hit is associated with exactly one interaction
BPTMCI	FMCKin	0,1	-|--|->>	0,99	FMCKin				Each interaction is associated with at most one particle
BPTRECS	BestDIS	0,1	-|--|->>	0,99	BPTTRAK				Probably the best DIS track in the event, with vertex Z constraint
BPTRECS	BestTrak	0,1	-|--|->>	0,99	BPTTRAK				Probably the best track in the event, without vertex Z constraint
BPTTRAK	HitP1	0,1	-|--|->>	0,99	BPTCLUS				A track is associated with at most one hit in plane 1
BPTTRAK	HitP2	0,1	-|--|->>	0,99	BPTCLUS				A track is associated with at most one hit in plane 2
BPTTRAK	HitP3	0,1	-|--|->>	0,99	BPTCLUS				A track is associated with at most one hit in plane 3
BPTTRAK	HitP4	0,1	-|--|->>	0,99	BPTCLUS				A track is associated with at most one hit in plane 4
BPTTRAK	HitP5	0,1	-|--|->>	0,99	BPTCLUS				A track is associated with at most one hit in plane 5
BPVOLU	div	0,1	-|----->	1, 1	BPDIV				some volumes may be subdived
BPVOLU	sdet	0,1	-|---->>	1,99	BPSDET				some volumes may be also active detectors
BPVOLU	tmed	1,1	------>>	1,99	tmed				Volume tracking medium number
C5PARA	of	1,1	===-|->> ===-|->>	0,99 0,99	C5VOLU C5POS				A parameter is of a volume or a position
C5POS	rotm	1,1	----|->>	0,99	rotm				each positioned volume is related to a rotation matrix
C5POS	Detector	0,1	-|---->>	1,99	C5DICO				each sensible volume positioned is related to some digitization parameter
C5POS	volu	1,1	----|->>	0,99	C5VOLU				A position belongs to a volume
C5RJCT	of	1,1	===-|->> ===-|->>	0,99 0,99	C5VOLU C5POS				Rejected volumes and positions
C5SCGH	FMCKin	1,1	----|->>	0,99	FMCKin				Each hit in the C5 SCint. is caused by a track. Not all tracks leave hits in C5 SCint.
C5SDTA	sdet	1,1	----|->>	0,99	C5SDET				Some detectors give more than one type signals
C5SDTD	of	1,1	===-|->> ===-|->>	0,99 0,99	C5SDET C5SDTA				Sensible detectors and aliases digitizations
C5SDTH	of	1,1	===-|->> ===-|->>	0,99 0,99	C5SDET C5SDTA				each detec. element needs the parameter definition
C5SDTU	of	1,1	===-|->> ===-|->>	0,99 0,99	C5SDET C5SDTA				User parameters for sensible detectors and aliases
C5SDTV	sdet	1,1	------>>	1,99	C5SDET				Physical detectors for the master detector identifier

|
V

Page (1, 1)

FrESet	By	FrC	Arrow	ToCar	ToESet	Attribute	Type	P	Comment
C5SHGH	FMCKin	1,1	----|->>	0,99	FMCKin				Each hit in the C5 SHower is caused by a track. Not all tracks leave hits in C5 SHower.
C5VOLU	div	0,1	-|----->	1, 1	C5DIV				some volumes may be subdived
C5VOLU	sdet	0,1	-|---->>	1,99	C5SDET				some volumes may be also active detectors
C5VOLU	tmed	1,1	------>>	1,99	tmed				Volume tracking medium number
CBDCPM	CBDCCN	1,1	------->	1, 1	CBDCCN				Each row in CBDCPM corresponds to a row in CBDCCN
CBPMDC	CBDCCN	1,1	------>>	1,99	CBDCCN				Every phototube in BCAL is connected to a digital card
CCLHIT	FMCKin	1,1	------>>	1,99	FMCKin				Track generating CAL hit
CConSa	Cidclu	0,1	-|--|->>	0,99	Cidclu				condensates may contribute to jets
CFDCPM	CFDCCN	1,1	------->	1, 1	CFDCCN				Each row in CFDCPM corresponds to a row in CFDCCN
CFPMDC	CFDCCN	1,1	------>>	1,99	CFDCCN				Every phototube in FCAL is connected to a digital card
CL2VTX	CR2obj	1,1	------->	1, 1	CR2obj				Relation between CR2obj and the vertex used to obtain the results therein
CMPARA	of	1,1	===-|->> ===-|->>	0,99 0,99	CMVOLU CMPOS				A parameter is of a volume or a position
CMPOS	rotm	1,1	----|->>	0,99	rotm				each positioned volume is related to a rotation matrix
CMPOS	Detector	0,1	-|---->>	1,99	CMDICO				each sensible volume positioned is related to some digitization parameter
CMPOS	volu	1,1	----|->>	0,99	CMVOLU				A position belongs to a volume
CMRJCT	of	1,1	===-|->> ===-|->>	0,99 0,99	CMVOLU CMPOS				Rejected volumes and positions
CMSDTA	sdet	1,1	----|->>	0,99	CMSDET				Some detectors give more than one type signals
CMSDTD	of	1,1	===-|->> ===-|->>	0,99 0,99	CMSDET CMSDTA				Sensible detectors and aliases digitizations
CMSDTH	of	1,1	===-|->> ===-|->>	0,99 0,99	CMSDET CMSDTA				each detec. element needs the parameter definition
CMSDTU	of	1,1	===-|->> ===-|->>	0,99 0,99	CMSDET CMSDTA				User parameters for sensible detectors and aliases
CMSDTV	sdet	1,1	------>>	1,99	CMSDET				Physical detectors for the master detector identifier
CMVOLU	div	0,1	-|----->	1, 1	CMDIV				some volumes may be subdived
CMVOLU	sdet	0,1	-|---->>	1,99	CMSDET				some volumes may be also active detectors
CMVOLU	tmed	1,1	------>>	1,99	tmed				Volume tracking medium number
CP2Lin	CConSa	1,1	------>>	1,99	CConSa				1st leg of many-to-many relationship CConSa/CuPaOb, the condensates of phase 1 can be merged or split to form the condensates of phase 2
CP2Lin	CuPaOb	1,1	------>>	1,99	CuPaOb				2nd leg of many-to-many relationship CConSa/CuPaOb, the condensates of phase 1 can be merged or split to form the condensates of phase 2
CRDCPM	CRDCCN	1,1	------->	1, 1	CRDCCN				Each row in CRDCPM corresponds to a row in CRDCCN
CRPMDC	CRDCCN	1,1	------>>	1,99	CRDCCN				Every phototube in RCAL is connected to a digital card
CUAdCl	CUCELL	1,1	----|-->	0, 1	CUCELL				first leg of cell-adjacency relation
CUAdCl	CCAdJa	1,1	----|->>	0,99	CCAdJa				second leg of cell-adjacency relation
CUCELL	Volu	1,1	----|->>	0,99	CUVOLU				connects the cell to a volume describing its shape
CUCELL	rotm	0,1	-|---->>	1,99	rotm				a cell has a rotation matrix (from official table)
CUCELL	tmed	0,1	-|--|->>	0,99	tmed				note the tracking medium (if any)
CUPARA	of	1,1	===-|->> ===-|->>	0,99 0,99	CUVOLU CUPOS				A parameter is of a volume or a position
CUPOS	rotm	1,1	----|->>	0,99	rotm				each positioned volume is related to a rotation matrix
CUPOS	volu	1,1	----|->>	0,99	CUVOLU				A position belongs to a volume

|
V

Page (1, 1)

<table>
<tr><th>FrESet</th><th>By</th><th>FrC</th><th>Arrow</th><th>ToCar</th><th>ToESet</th><th>Attribute</th><th>Type</th><th>P</th><th>Comment</th></tr>
<tr><td>CUPOS</td><td>Detector</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>CULINK</td><td></td><td></td><td></td><td>gives handle to links into hard kernel of BOLOGNA scheme</td></tr>
<tr><td>CURJCT</td><td>of</td><td>1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>CUVOLU
CUPOS</td><td></td><td></td><td></td><td>Rejected volumes and positions</td></tr>
<tr><td>CUSDTA</td><td>sdet</td><td>1,1</td><td>----|->></td><td>0,99</td><td>CUSDET</td><td></td><td></td><td></td><td>Some detectors give more than one type signals</td></tr>
<tr><td>CUSDTD</td><td>of</td><td>1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>CUSDET
CUSDTA</td><td></td><td></td><td></td><td>Sensible detectors and aliases digitizations</td></tr>
<tr><td>CUSDTH</td><td>of</td><td>1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>CUSDET
CUSDTA</td><td></td><td></td><td></td><td>each detec. element needs the parameter definition</td></tr>
<tr><td>CUSDTU</td><td>of</td><td>1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>CUSDET
CUSDTA</td><td></td><td></td><td></td><td>User parameters for sensible detectors and aliases</td></tr>
<tr><td>CUSDTV</td><td>sdet</td><td>1,1</td><td>------>></td><td>1,99</td><td>CUSDET</td><td></td><td></td><td></td><td>Physical detectors for the master detector identifier</td></tr>
<tr><td>CUVOLU</td><td>div</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>CUDIV</td><td></td><td></td><td></td><td>some volumes may be subdived</td></tr>
<tr><td>CUVOLU</td><td>sdet</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>CUSDET</td><td></td><td></td><td></td><td>some volumes may be also active detectors</td></tr>
<tr><td>CUVOLU</td><td>tmed</td><td>1,1</td><td>------>></td><td>1,99</td><td>tmed</td><td></td><td></td><td></td><td>Volume tracking medium number</td></tr>
<tr><td>Caldup</td><td>Condup</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>Condup</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Caltru</td><td>CConSa</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>CConSa</td><td></td><td></td><td></td><td>cells may form condensates</td></tr>
<tr><td>Caltru</td><td>CuPaOb</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>CuPaOb</td><td></td><td></td><td></td><td>cells may form condensates after phase 2</td></tr>
<tr><td>Canvar</td><td>Cidclu</td><td>1,1</td><td>------>></td><td>1,99</td><td>Cidclu</td><td></td><td></td><td></td><td>an identified cluster is classified by the value of its canonical variables</td></tr>
<tr><td>CcGHit</td><td>FMCKin</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>FMCKin</td><td></td><td></td><td></td><td>Tracks may cause one or more hits in the UCAL</td></tr>
<tr><td>CcGHit</td><td>Component</td><td>0,1</td><td>=|=-|->>
=|=-|->>
=|=-|->></td><td>0,99
0,99
0,99</td><td>CBTENE
CFTENE
CRTENE</td><td></td><td></td><td></td><td>Monte Carlo hits give rise to raw calorimeter data</td></tr>
<tr><td>CcNewH</td><td>FMCKin</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>FMCKin</td><td></td><td></td><td></td><td>Tracks may cause one or more hits in the UCAL</td></tr>
<tr><td>Cclugr</td><td>Cidclu</td><td>1,1</td><td>------>></td><td>1,99</td><td>Cidclu</td><td></td><td></td><td></td><td>1st leg of many-to-many relationship between Cidclu/Cclust, cluster candidates lead to classified clusters</td></tr>
<tr><td>Cclugr</td><td>Cclust</td><td>1,1</td><td>----|->></td><td>0,99</td><td>Cclust</td><td></td><td></td><td></td><td>2nd leg of many-to-many relationship between Cidclu/Cclust, cluster candidates lead to classified clusters</td></tr>
<tr><td>Cellgr</td><td>Caltru</td><td>1,1</td><td>----|->></td><td>0,99</td><td>Caltru</td><td></td><td></td><td></td><td>1st leg of many-to-many relationship Cclust/Caltru, cells form clusters</td></tr>
<tr><td>Cellgr</td><td>Cclust</td><td>1,1</td><td>------>></td><td>1,99</td><td>Cclust</td><td></td><td></td><td></td><td>2nd leg of many-to-many relationship Cclust/Caltru, cells form clusters</td></tr>
<tr><td>Cidcel</td><td>Cidclu</td><td>1,1</td><td>------>></td><td>1,99</td><td>Cidclu</td><td></td><td></td><td></td><td>1st leg of many-to-many relationship between Cidclu/Caltru, cells contribute to classified clusters</td></tr>
<tr><td>Cidcel</td><td>Caltru</td><td>1,1</td><td>----|->></td><td>0,99</td><td>Caltru</td><td></td><td></td><td></td><td>2nd leg of many-to-many relationship between Cidclu/Caltru, cells contribute to classified clusters</td></tr>
<tr><td>Cidclu</td><td>CR1obj</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>CR1obj</td><td></td><td></td><td></td><td>a subset (?) of identified clusters leads to evaluation of physics objects</td></tr>
<tr><td>Ciddup</td><td>Cludup</td><td>1,1</td><td>------>></td><td>1,99</td><td>Cludup</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Ciddup</td><td>Caldup</td><td>1,1</td><td>----|->></td><td>0,99</td><td>Caldup</td><td></td><td></td><td></td><td></td></tr>
<tr><td>CofCel</td><td>CPsPar</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>CPsPar</td><td></td><td></td><td></td><td>Pseudo particles consist of cell combinations</td></tr>
<tr><td>Condup</td><td>Cludup</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>Cludup</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Ctepli</td><td>Ctrepc</td><td>1,1</td><td>----|->></td><td>0,99</td><td>Ctrepc</td><td></td><td></td><td></td><td>An EMC pre-cluster may consist of trigger cells</td></tr>
<tr><td>Cthpli</td><td>Ctrhpc</td><td>1,1</td><td>------>></td><td>1,99</td><td>Ctrhpc</td><td></td><td></td><td></td><td>A HAC pre-cluster consists of trigger cells</td></tr>
<tr><td>Ctlink</td><td>Ctrclu</td><td>1,1</td><td>------>></td><td>1,99</td><td>Ctrclu</td><td></td><td></td><td></td><td>A trigger cluster consists of trigger cells</td></tr>
<tr><td>Ctreem</td><td>Ctrgem</td><td>1,1</td><td>-------></td><td>1, 1</td><td>Ctrgem</td><td></td><td></td><td></td><td>Each EMC energy is related to one set of geometries</td></tr>
<tr><td>Ctreha</td><td>Ctrgha</td><td>1,1</td><td>-------></td><td>1, 1</td><td>Ctrgha</td><td></td><td></td><td></td><td>Each HAC energy is related to one set of geometries</td></tr>
<tr><td>Ctrepc</td><td>Ctrhpc</td><td>0,1</td><td>-|--|--></td><td>0, 1</td><td>Ctrhpc</td><td></td><td></td><td></td><td>There is a possibility to link EMC and HAC pre-clusters</td></tr>
</table>

|
V

Page (1, 1)

FrESet	By	FrC	Arrow	ToCar	ToESet	Attribute	Type	P	Comment
Cuepli	Cutepc	1,1	----|->>	0,99	Cutepc				An EMC pre-cluster may consist of trigger cells
Cuhpli	Cuthpc	1,1	------>>	1,99	Cuthpc				A HAC pre-cluster consists of trigger cells
Cuteem	Ctrgem	1,1	------->	1, 1	Ctrgem				Each EMC energy is related to one set of geometries
Cuteha	Ctrgha	1,1	------->	1, 1	Ctrgha				Each HAC energy is related to one set of geometries
Cutepc	Cuthpc	0,1	-|--|-->	0, 1	Cuthpc				There is a possibility to link EMC and HAC pre-clusters
Cutlin	Cutclu	1,1	------>>	1,99	Cutclu				A trigger cluster consists of trigger cells
DEADIR	DEAPAR	1,1	------>>	1,99	DEAPAR				
FMCEvt	Generator	1,1	===-|--> ===-|--> ===-|--> ===-|--> ===-|-->	0, 1 0, 1 0, 1 0, 1 0, 1	LPTEvt HEREvt PHOEvt BMGEvt USGEvt				Each physics generator header table is related to the FMCRun table in order to record the run cnditions.
FMCFte	FMCKin	1,1	----|-->	0, 1	FMCKin				Every "fate" entry is related to a "physics" track in FMCKin
FMCKin	PRoducedAt	0,1	-|---->>	1,99	FMCVtx				Each four-momentum is produced in a vertex, or is external (beam)
FMCKin	DaughterOf	0,1	-|---->>	1,99	FMCKin				Some particles are generated by other particles
FMCKin	FMCPrt	1,1	----|->>	0,99	FMCPrt				Every four-momentum is of a given particle type
FMCRun	Generator	1,1	===-|--> ===-|--> ===-|--> ===-|--> ===-|-->	0, 1 0, 1 0, 1 0, 1 0, 1	LPTRun HERRun PHORun BMGRun USGRun				Each physics generator header table is related to the FMCRun table in order to record the run cnditions.
FMCVtx	PRoducedBy	0,1	-|--|-->	0, 1	FMCKin				Each vertex is produced by one particle except the beam-vertex
FNGHIT	FMCKin	0,1	-|--|->>	0,99	FMCKin				Tracks may cause one or more hits in the FNCAL
FNGHIT	FNTENE	0,1	-|--|->>	0,99	FNTENE				Monte Carlo hits give rise to raw calorimeter data
FNPARA	of	1,1	===-|->> ===-|->>	0,99 0,99	FNVOLU FNPOS				A parameter is of a volume or a position
FNPOS	rotm	1,1	----|->>	0,99	rotm				each positioned volume is related to a rotation matrix
FNPOS	Detector	0,1	-|---->>	1,99	FNDICO				each sensible volume positioned is related to some digitization parameter
FNPOS	volu	1,1	----|->>	0,99	FNVOLU				A position belong to a volume
FNRJCT	of	1,1	===-|->> ===-|->>	0,99 0,99	FNVOLU FNPOS				Rejected volumes and positions
FNSDTA	sdet	1,1	----|->>	0,99	FNSDET				
FNSDTD	of	1,1	===-|->> ===-|->>	0,99 0,99	FNSDET FNSDTA				Sensible detectors and aliases digitizations
FNSDTH	of	1,1	===-|->> ===-|->>	0,99 0,99	FNSDET FNSDTA				Each detector element needs the parameter definition
FNSDTU	of	1,1	===-|->> ===-|->>	0,99 0,99	FNSDET FNSDTA				User parameters for sensible detectors and aliases
FNSDTV	sdet	1,1	------>>	1,99	FNSDET				Physical detectors for the master detector identifier
FNVOLU	div	0,1	-|----->	1, 1	FNDIV				Some volumes may be subdived
FNVOLU	sdet	0,1	-|---->>	1,99	FNSDET				Some volumes maybe also active detectors
FNVOLU	tmed	1,1	------>>	1,99	tmed				Volume tracking medium number
FPGHit	FMCKin	0,1	-|--|->>	0,99	FMCKin				Tracks may cause one or more hits in the FPC
FPGHit	FPTENE	0,1	-|--|->>	0,99	FPTENE				Monte Carlo hits give rise to raw FPC data
GLCELL	TGTRAK	0,1	-|---->>	1,99	TGTRAK				A TGTRAK MAY enter a calorimeter cell. Each entry must have been caused by a TGTRAK
GLENTR	TGTRAK	0,1	-|---->>	1,99	TGTRAK				A TGTRAK MAY reach the calorimeter. Each entry must have been caused by a TGTRAK
GLTKPG	VFTEMP	1,1	------->	1, 1	VFTEMP				RELATION BETWEEN INTERNAL VTXFIT VARIABLES AND GLTKPG

|
V

Page (1, 1)

FrESet	By	FrC	Arrow	ToCar	ToESet	Attribute	Type	P	Comment
GLTKPG	TGTRAK	1,1	----|->>	0,99	TGTRAK				to each track of the event corresponds some perigee parametrisation
GLTKPG	RECPR2	0,1	-|----->	1, 1	RECPR2				to each track corresponds the parameters at the vertex
GMTrCs	TGTRAK	1,1	----|->>	0,99	TGTRAK				First leg of many-to-many relation between Global Tracks and Global Condensates.
GMTrCs	XMCSEt	1,1	----|->>	0,99	XMCSEt				Second leg of many-to-many relation between Global Tracks and Global Condensates. Some tracks are linked to some condensates. Many tracks could be linked to single condensate e.g. narrow, dense jet. Track may be linked to more then one condensate, e.g. if the condensate has been split into two, due to lacking edge-type of neighbourhood. Some tracks are not linked to any condensate, e.g. they never reached CAL or BAC. Some condensatess may have no tracks pointing to them, e.g. condensate caused by neutrals.
HEShit	FMCKin	0,1	-|--|->>	0,99	FMCKin				
HEShit	HESraw	0,1	-|--|->>	0,99	HESraw				
HSPARA	of	1,1	===-|->> ===-|->>	0,99 0,99	HSVOLU HSPOS				A parameter is of a volume or a position
HSPOS	rotm	1,1	----|->>	0,99	rotm				each positioned volume is related to a rotation matrix
HSPOS	Detector	0,1	-|---->>	1,99	HSDTCT				Every Superlayer is positioned.
HSPOS	volu	1,1	----|->>	0,99	HSVOLU				A position belongs to a volume
HSRJCT	of	1,1	===-|->> ===-|->>	0,99 0,99	HSVOLU HSPOS				Rejected volumes and positions
HSSDTA	sdet	1,1	----|->>	0,99	HSSDET				Some detectors give more than one type signals
HSSDTD	of	1,1	===-|->> ===-|->>	0,99 0,99	HSSDET HSSDTA				Sensible detectors and aliases digitizations
HSSDTH	of	1,1	===-|->> ===-|->>	0,99 0,99	HSSDET HSSDTA				each detec. element needs the parameter definition
HSSDTU	of	1,1	===-|->> ===-|->>	0,99 0,99	HSSDET HSSDTA				User parameters for sensible detectors and aliases
HSSDTV	sdet	1,1	------>>	1,99	HSSDET				Physical detectors for the master detector identifier
HSVOLU	div	0,1	-|----->	1, 1	HSDIV				some volumes may be subdived
HSVOLU	sdet	0,1	-|---->>	1,99	HSSDET				some volumes may be also active detectors
HSVOLU	tmed	1,1	------>>	1,99	tmed				Volume tracking medium number
JobKwP	JobHMM	1,1	------>>	1,99	JobHMM				part 1 of JobHMM to KwPHMM relationship via JobKwP switch-yard
JobKwP	KWPHMM	1,1	------->	1, 1	KWPHMM				part 2 of JobHMM to KwPHMM relationship via JobKwP switch-yard
JobZdP	JobHMM	1,1	------>>	1,99	JobHMM				part 1 of JobHMM to ZDPHMM relationship via JobZdP switch-yard
JobZdP	ZDPHMM	1,1	------->	1, 1	ZDPHMM				part 2 of JobHMM to ZDPHMM relationship via JobZdP switch-yard
KWPHMM	KWGHMM	0,1	-|--|->>	0,99	KWGHMM				entries into kwparm are sorted in groups by their relation to kwgrp, identification of a prefix with a processor name will allow an integration of program control and program monitoring
KWPOut	KWGOut	0,1	-|--|->>	0,99	KWGOut				entries into kwparm are sorted in groups by their relation to kwgrp, identification of a prefix with a processor name will allow an integration of program control and program monitoring
LMPARA	of	1,1	===-|->> ===-|->>	0,99 0,99	LMVOLU LMPOS				A parameter is of a volume or a position
LMPOS	rotm	1,1	----|->>	0,99	rotm				Each positioned volume is related to a rotation matrix
LMPOS	Detector	0,1	-|---->>	1,99	LMDTCT				Each sensible volume is positioned
LMPOS	volu	1,1	----|->>	0,99	LMVOLU				A position belong to a volume
LMRJCT	of	1,1	===-|->> ===-|->>	0,99 0,99	LMVOLU LMPOS				Rejected volumes and positions

|
V

Page (1, 1)

<table>
<tr><th>FrESet</th><th>By</th><th>FrC</th><th>Arrow</th><th>ToCar</th><th>ToESet</th><th>Attribute</th><th>Type</th><th>P</th><th>Comment</th></tr>
<tr><td>LMSDTA</td><td>sdet</td><td>1,1</td><td>----|->></td><td>0,99</td><td>LMSDET</td><td></td><td></td><td></td><td>Some detectors give more than one type signals</td></tr>
<tr><td>LMSDTD</td><td>of</td><td>1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>LMSDET
LMSDTA</td><td></td><td></td><td></td><td>Sensible detectors and aliases digitizations</td></tr>
<tr><td>LMSDTH</td><td>of</td><td>1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>LMSDET
LMSDTA</td><td></td><td></td><td></td><td>Each detector element needs the parameter definition</td></tr>
<tr><td>LMSDTU</td><td>of</td><td>1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>LMSDET
LMSDTA</td><td></td><td></td><td></td><td>User parameters for sensible detectors and aliases</td></tr>
<tr><td>LMSDTV</td><td>sdet</td><td>1,1</td><td>------>></td><td>1,99</td><td>LMSDET</td><td></td><td></td><td></td><td>Physical detectors for the master detector identifier</td></tr>
<tr><td>LMVOLU</td><td>div</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>LMDIV</td><td></td><td></td><td></td><td>Some volumes may be subdived</td></tr>
<tr><td>LMVOLU</td><td>sdet</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>LMSDET</td><td></td><td></td><td></td><td>Some volumes maybe also active detectors</td></tr>
<tr><td>LMVOLU</td><td>tmed</td><td>1,1</td><td>------>></td><td>1,99</td><td>tmed</td><td></td><td></td><td></td><td>Volume tracking medium number</td></tr>
<tr><td>LPCLCO</td><td>LPCLUS</td><td>1,1</td><td>----|->></td><td>0,99</td><td>LPCLUS</td><td></td><td></td><td></td><td>A coordinate can be made by many clusters</td></tr>
<tr><td>LPCLCO</td><td>LPCOOR</td><td>1,1</td><td>------>></td><td>1,99</td><td>LPCOOR</td><td></td><td></td><td></td><td>A coordinate can be made by many clusters</td></tr>
<tr><td>LPCOOR</td><td>MatchTo</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>LPCOOR</td><td></td><td></td><td></td><td>Two coordinates in opposite pots can match and give rise to a global coordinate</td></tr>
<tr><td>LPCOTR</td><td>LPCOOR</td><td>1,1</td><td>----|->></td><td>0,99</td><td>LPCOOR</td><td></td><td></td><td></td><td>A track can be made by many coordinates</td></tr>
<tr><td>LPCOTR</td><td>LPTRAK</td><td>1,1</td><td>------>></td><td>1,99</td><td>LPTRAK</td><td></td><td></td><td></td><td>A track can be made by many coordinates</td></tr>
<tr><td>LPEVTR</td><td>LPMOTR</td><td>1,1</td><td>----|->></td><td>0,99</td><td>LPMOTR</td><td></td><td></td><td></td><td>Every motor setting is valid for one or more Event ranges</td></tr>
<tr><td>LPEVTR</td><td>LPBEAM</td><td>1,1</td><td>----|->></td><td>0,99</td><td>LPBEAM</td><td></td><td></td><td></td><td>Every beam set of constants is valid for one or more Event ranges</td></tr>
<tr><td>LPPARA</td><td>of</td><td>1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>LPVOLU
LPPOS</td><td></td><td></td><td></td><td>A parameter is of a volume or a position</td></tr>
<tr><td>LPPOS</td><td>rotm</td><td>1,1</td><td>----|->></td><td>0,99</td><td>rotm</td><td></td><td></td><td></td><td>each positioned volume is related to a rotation matrix</td></tr>
<tr><td>LPPOS</td><td>Detector</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>LPDICO</td><td></td><td></td><td></td><td>each sensible volume positioned is related to some digitization parameter</td></tr>
<tr><td>LPPOS</td><td>volu</td><td>1,1</td><td>----|->></td><td>0,99</td><td>LPVOLU</td><td></td><td></td><td></td><td>A position belongs to a volume</td></tr>
<tr><td>LPRJCT</td><td>of</td><td>1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>LPVOLU
LPPOS</td><td></td><td></td><td></td><td>Rejected volumes and positions</td></tr>
<tr><td>LPSDTA</td><td>sdet</td><td>1,1</td><td>----|->></td><td>0,99</td><td>LPSDET</td><td></td><td></td><td></td><td>Some detectors give more than one type signals</td></tr>
<tr><td>LPSDTD</td><td>of</td><td>1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>LPSDET
LPSDTA</td><td></td><td></td><td></td><td>Sensible detectors and aliases digitizations</td></tr>
<tr><td>LPSDTH</td><td>of</td><td>1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>LPSDET
LPSDTA</td><td></td><td></td><td></td><td>each detec. element needs the parameter definition</td></tr>
<tr><td>LPSDTU</td><td>of</td><td>1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>LPSDET
LPSDTA</td><td></td><td></td><td></td><td>User parameters for sensible detectors and aliases</td></tr>
<tr><td>LPSDTV</td><td>sdet</td><td>1,1</td><td>------>></td><td>1,99</td><td>LPSDET</td><td></td><td></td><td></td><td>Physical detectors for the master detector identifier</td></tr>
<tr><td>LPSREC</td><td>BestVtx</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>LPTRAK</td><td></td><td></td><td></td><td>The best track in the event, with vertex constraint</td></tr>
<tr><td>LPSREC</td><td>BestNoVtx</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>LPTRAK</td><td></td><td></td><td></td><td>The best track in the event, without vertex constraint</td></tr>
<tr><td>LPTSMM</td><td>lpts</td><td>1,1</td><td>----|->></td><td>0,99</td><td>lpts</td><td></td><td></td><td></td><td>A candidate track may belong to 0 or more global candidate</td></tr>
<tr><td>LPTSMM</td><td>LPKFO</td><td>1,1</td><td>----|->></td><td>0,99</td><td>LPKFO</td><td></td><td></td><td></td><td>A candidate track may belong to 0 or more global candidate</td></tr>
<tr><td>LPVOLU</td><td>div</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>LPDIV</td><td></td><td></td><td></td><td>some volumes may be subdived</td></tr>
<tr><td>LPVOLU</td><td>sdet</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>LPSDET</td><td></td><td></td><td></td><td>some volumes may be also active detectors</td></tr>
<tr><td>LPVOLU</td><td>tmed</td><td>1,1</td><td>------>></td><td>1,99</td><td>tmed</td><td></td><td></td><td></td><td>Volume tracking medium number</td></tr>
<tr><td>MBGA</td><td>MBPL</td><td>1,1</td><td>----|->></td><td>0,99</td><td>MBPL</td><td></td><td></td><td></td><td>A wire signal belongs to a plane</td></tr>
<tr><td>MBGD</td><td>FMCKin</td><td>1,1</td><td>----|->></td><td>0,99</td><td>FMCKin</td><td></td><td></td><td></td><td>A track may originate many digitizations</td></tr>
<tr><td>MBGD</td><td>DTYP</td><td>1,1</td><td>===-|->>
===-|->>
===-|->></td><td>0, 3
0, 3
0, 3</td><td>MBSTAR
MBSGS
MBHODO</td><td></td><td></td><td></td><td>Up to 3 tracks may pile up in a digitization</td></tr>
<tr><td>MBGH</td><td>FMCKin</td><td>1,1</td><td>----|->></td><td>0,99</td><td>FMCKin</td><td></td><td></td><td></td><td>A Hit originates from a Track</td></tr>
<tr><td>MBGH</td><td>MBPL</td><td>1,1</td><td>----|->></td><td>0,99</td><td>MBPL</td><td></td><td></td><td></td><td>A Hit belongs to a Muon Barrel limited streamer tube PLane</td></tr>
</table>

|
V

Page (1, 1)

<table>
<tr><th>FrESet</th><th>By</th><th>FrC</th><th>Arrow</th><th>ToCar</th><th>ToESet</th><th>Attribute</th><th>Type</th><th>P</th><th>Comment</th></tr>
<tr><td>MBPARA</td><td>of</td><td>1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>MBVOLU
MBPOS</td><td></td><td></td><td></td><td>Shape parameters are used either by GSVOLU or by GSPOSP</td></tr>
<tr><td>MBPL</td><td>MBCH</td><td>1,1</td><td>------>></td><td>1, 4</td><td>MBCH</td><td></td><td></td><td></td><td>A chamber has four planes</td></tr>
<tr><td>MBPL</td><td>MBSE</td><td>1,1</td><td>------>></td><td>1,32</td><td>MBSE</td><td>X3(3)
IRot</td><td>REAL
INTE</td><td></td><td>The planes are positioned w.r.t. the sector
A Coordinate in space
Identifier of a rotation matrix</td></tr>
<tr><td>MBPOS</td><td>rotm</td><td>1,1</td><td>----|->></td><td>0,99</td><td>rotm</td><td></td><td></td><td></td><td>each positioned volume is related to a rotation matrix</td></tr>
<tr><td>MBPOS</td><td>volu</td><td>1,1</td><td>----|->></td><td>0,99</td><td>MBVOLU</td><td></td><td></td><td></td><td>A position belongs to a volume</td></tr>
<tr><td>MBPOS</td><td>Detector</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>MBAR</td><td></td><td></td><td></td><td>We comply with ZGEN</td></tr>
<tr><td>MBQY</td><td>MBPL</td><td>1,1</td><td>----|->></td><td>0,99</td><td>MBPL</td><td></td><td></td><td></td><td>A hit belongs to a plane</td></tr>
<tr><td>MBRJCT</td><td>of</td><td>1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>MBVOLU
MBPOS</td><td></td><td></td><td></td><td>Rejected volumes and positions</td></tr>
<tr><td>MBSDTA</td><td>sdet</td><td>1,1</td><td>----|->></td><td>0,99</td><td>MBSDET</td><td></td><td></td><td></td><td>Some detectors give more than one type signals</td></tr>
<tr><td>MBSDTD</td><td>of</td><td>1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>MBSDET
MBSDTA</td><td></td><td></td><td></td><td>Sensitive detectors and aliases digitizations</td></tr>
<tr><td>MBSDTH</td><td>of</td><td>1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>MBSDET
MBSDTA</td><td></td><td></td><td></td><td>each detec. element needs the parameter definition</td></tr>
<tr><td>MBSDTU</td><td>of</td><td>1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>MBSDET
MBSDTA</td><td></td><td></td><td></td><td>User parameters for sensitive detectors and aliases</td></tr>
<tr><td>MBSDTV</td><td>sdet</td><td>1,1</td><td>------>></td><td>1,99</td><td>MBSDET</td><td></td><td></td><td></td><td>Physical detectors for the master detector identifier</td></tr>
<tr><td>MBSE</td><td>MBZEUS</td><td>1,1</td><td>------>></td><td>1, 9</td><td>MBZEUS</td><td>X3(3)
IRot</td><td>REAL
INTE</td><td></td><td>The nine sectors are positioned relative to ZEUS
A Coordinate in space
Identifier of a rotation matrix</td></tr>
<tr><td>MBSQ</td><td>MBPL</td><td>1,1</td><td>----|->></td><td>0,99</td><td>MBPL</td><td></td><td></td><td></td><td>A strip quadruplet belongs to a plane</td></tr>
<tr><td>MBSQQY</td><td>MBSQ</td><td>1,1</td><td>------>></td><td>1, 2</td><td>MBSQ</td><td></td><td></td><td></td><td>A Quadrplet coordinate is made of 1 or 2 Quadruplets</td></tr>
<tr><td>MBSQQY</td><td>MBQY</td><td>1,1</td><td>-------></td><td>1, 1</td><td>MBQY</td><td></td><td></td><td></td><td>A quadruplet belongs to a digital hit</td></tr>
<tr><td>MBST</td><td>MBPL</td><td>1,1</td><td>----|->></td><td>0,99</td><td>MBPL</td><td></td><td></td><td></td><td>A strip belongs to a plane</td></tr>
<tr><td>MBSTD</td><td>MBST</td><td>1,1</td><td>----|--></td><td>0, 1</td><td>MBST</td><td></td><td></td><td></td><td>Some strips are copied to working area</td></tr>
<tr><td>MBSTSY</td><td>MBST</td><td>1,1</td><td>----|->></td><td>0, 2</td><td>MBST</td><td></td><td></td><td></td><td>A strip may belong to one or two hits</td></tr>
<tr><td>MBSTSY</td><td>MBSY</td><td>1,1</td><td>------>></td><td>2,99</td><td>MBSY</td><td></td><td></td><td></td><td>A hit is reconstructed from at least 2 strips</td></tr>
<tr><td>MBSTT</td><td>MBST</td><td>1,1</td><td>----|--></td><td>0, 1</td><td>MBST</td><td></td><td></td><td></td><td>Some strips are copied further to working area</td></tr>
<tr><td>MBSY</td><td>MBPL</td><td>1,1</td><td>----|->></td><td>0,99</td><td>MBPL</td><td></td><td></td><td></td><td>A hit belongs to a plane</td></tr>
<tr><td>MBSYYE</td><td>MBSY</td><td>1,1</td><td>----|->></td><td>0, 2</td><td>MBSY</td><td></td><td></td><td></td><td>A strip cluster belongs to at most 2 track elements</td></tr>
<tr><td>MBSYYE</td><td>MBYE</td><td>1,1</td><td>------>></td><td>2, 4</td><td>MBYE</td><td></td><td></td><td></td><td>There are 2 to 4 strip clusters to one track element</td></tr>
<tr><td>MBTS</td><td>MBWE</td><td>1,1</td><td>----|->></td><td>0,99</td><td>MBWE</td><td>DD(4)</td><td>REAL</td><td></td><td>A Track Element may belong to 0,1 or more Track Segment
drift distance with sign as selected from fit</td></tr>
<tr><td>MBTS</td><td>MBYE</td><td>1,1</td><td>----|->></td><td>0,99</td><td>MBYE</td><td></td><td></td><td></td><td>A Track Element may belong to 0,1 or more Track Segment</td></tr>
<tr><td>MBTSSG</td><td>MBTS</td><td>1,1</td><td>----|->></td><td>0,99</td><td>MBTS</td><td></td><td></td><td></td><td>A Track Segment may belong to 0,1 or more Global Segment</td></tr>
<tr><td>MBTSSG</td><td>MBXYSG</td><td>1,1</td><td>------>></td><td>2, 2</td><td>MBXYSG</td><td></td><td></td><td></td><td>It takes a BMUI and a BMUO segment to make a Global Segment</td></tr>
<tr><td>MBVOLU</td><td>div</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>MBDIV</td><td></td><td></td><td></td><td>some volumes may be subdived</td></tr>
<tr><td>MBVOLU</td><td>sdet</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>MBSDET</td><td></td><td></td><td></td><td>some volumes may be also active detectors</td></tr>
<tr><td>MBVOLU</td><td>tmed</td><td>1,1</td><td>------>></td><td>1,99</td><td>tmed</td><td></td><td></td><td></td><td>A volume is filled by a tracking medium</td></tr>
<tr><td>MBWE</td><td>MBCH</td><td>1,1</td><td>----|->></td><td>0,99</td><td>MBCH</td><td></td><td></td><td></td><td>A track belongs to a chamber</td></tr>
<tr><td>MBWR</td><td>MBPL</td><td>1,1</td><td>----|->></td><td>0,99</td><td>MBPL</td><td></td><td></td><td></td><td>A wire belongs to a plane</td></tr>
<tr><td>MBWX</td><td>MBPL</td><td>1,1</td><td>----|->></td><td>0,99</td><td>MBPL</td><td></td><td></td><td></td><td>A wire coordinate belongs to a plane</td></tr>
<tr><td>MBWX</td><td>MBWR</td><td>1,1</td><td>-------></td><td>1, 1</td><td>MBWR</td><td></td><td></td><td></td><td>A wire coordinates correspond to a wire digitization</td></tr>
<tr><td>MBWX</td><td>MBWX</td><td>0,1</td><td>-|--|--></td><td>0, 1</td><td>MBWX</td><td></td><td></td><td></td><td>Neighbouring wires may belong to the same hit</td></tr>
</table>

|
V

Page (1, 1)

<table>
<tr><th>FrESet</th><th>By</th><th>FrC</th><th>Arrow</th><th>ToCar</th><th>ToESet</th><th>Attribute</th><th>Type</th><th>P</th><th>Comment</th></tr>
<tr><td>MBWXWE</td><td>MBWX</td><td>1,1</td><td>----|->></td><td>0, 2</td><td>MBWX</td><td></td><td></td><td></td><td>A wire belongs to at most 2 track elements</td></tr>
<tr><td>MBWXWE</td><td>MBWE</td><td>1,1</td><td>------>></td><td>2, 8</td><td>MBWE</td><td></td><td></td><td></td><td>There are 2 to 8 wires to one track element</td></tr>
<tr><td>MBYE</td><td>MBCH</td><td>1,1</td><td>----|->></td><td>0,99</td><td>MBCH</td><td></td><td></td><td></td><td>A track belongs to a chamber</td></tr>
<tr><td>MFKLH</td><td>mfrtl</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>mfrtl</td><td></td><td></td><td></td><td>Link header table to reconstructed track</td></tr>
<tr><td>MFKLH</td><td>mfct</td><td>1,1</td><td>----|--></td><td>0, 1</td><td>mfct</td><td></td><td></td><td></td><td>Link header table to candidate track</td></tr>
<tr><td>MFKLH</td><td>mfcts</td><td>1,1</td><td>----|--></td><td>0, 1</td><td>mfcts</td><td></td><td></td><td></td><td>Link header table to spline-candidate track</td></tr>
<tr><td>MFPARA</td><td>of</td><td>1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>MFVOLU
MFPOS</td><td></td><td></td><td></td><td>A parameter is of a volume or a position</td></tr>
<tr><td>MFPOS</td><td>rotm</td><td>1,1</td><td>----|->></td><td>0,99</td><td>rotm</td><td></td><td></td><td></td><td>each positioned volume is related to a rotation matrix</td></tr>
<tr><td>MFPOS</td><td>Detector</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>mfdico</td><td></td><td></td><td></td><td>each sensible volume positioned is related to some digitization parameter</td></tr>
<tr><td>MFPOS</td><td>volu</td><td>1,1</td><td>----|->></td><td>0,99</td><td>MFVOLU</td><td></td><td></td><td></td><td>A position belongs to a volume</td></tr>
<tr><td>MFRJCT</td><td>of</td><td>1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>MFVOLU
MFPOS</td><td></td><td></td><td></td><td>Rejected volumes and positions</td></tr>
<tr><td>MFSDTA</td><td>sdet</td><td>1,1</td><td>----|->></td><td>0,99</td><td>MFSDET</td><td></td><td></td><td></td><td>Some detectors give more than one type signals</td></tr>
<tr><td>MFSDTD</td><td>of</td><td>1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>MFSDET
MFSDTA</td><td></td><td></td><td></td><td>Sensible detectors and aliases digitizations</td></tr>
<tr><td>MFSDTH</td><td>of</td><td>1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>MFSDET
MFSDTA</td><td></td><td></td><td></td><td>each detec. element needs the parameter definition</td></tr>
<tr><td>MFSDTU</td><td>of</td><td>1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>MFSDET
MFSDTA</td><td></td><td></td><td></td><td>User parameters for sensible detectors and aliases</td></tr>
<tr><td>MFSDTV</td><td>sdet</td><td>1,1</td><td>------>></td><td>1,99</td><td>MFSDET</td><td></td><td></td><td></td><td>Physical detectors for the master detector identifier</td></tr>
<tr><td>MFVOLU</td><td>div</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>MFDIV</td><td></td><td></td><td></td><td>some volumes may be subdived</td></tr>
<tr><td>MFVOLU</td><td>sdet</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>MFSDET</td><td></td><td></td><td></td><td>some volumes may be also active detectors</td></tr>
<tr><td>MFVOLU</td><td>tmed</td><td>1,1</td><td>------>></td><td>1,99</td><td>tmed</td><td></td><td></td><td></td><td>Volume tracking medium number</td></tr>
<tr><td>MVDIGC</td><td>MVRAWC</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>MVRAWC</td><td></td><td></td><td></td><td>one or more cluster dig. correspond to one raw cluster</td></tr>
<tr><td>MVDIGS</td><td>MVGHIT</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>MVGHIT</td><td></td><td></td><td></td><td>one Geant hit corresponds to many strips</td></tr>
<tr><td>MVDIGS</td><td>MVDIGC</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>MVDIGC</td><td></td><td></td><td></td><td>one or more strips correspond to one cluster, a cluster is composed of at least 1 strip</td></tr>
<tr><td>MVDIGS</td><td>MVRAWS</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>MVRAWS</td><td></td><td></td><td></td><td>one or more strip dig. correspond to one raw strip data</td></tr>
<tr><td>MVGAL</td><td>MVGSL</td><td>1,1</td><td>-------></td><td>1, 1</td><td>MVGSL</td><td></td><td></td><td></td><td>link from the tracking alignment corrections to the survey corrections for the ladder/wheel</td></tr>
<tr><td>MVGAM</td><td>MVGSM</td><td>1,1</td><td>-------></td><td>1, 1</td><td>MVGSM</td><td></td><td></td><td></td><td>link from the tracking alignment corrections to the survey corrections for the MVD</td></tr>
<tr><td>MVGAW</td><td>MVGSW</td><td>1,1</td><td>-------></td><td>1, 1</td><td>MVGSW</td><td></td><td></td><td></td><td>link from the tracking alignment corrections to the survey corrections for the wafer</td></tr>
<tr><td>MVGDL</td><td>MVGDM</td><td>1,1</td><td>------>></td><td>1,99</td><td>MVGDM</td><td></td><td></td><td></td><td>link from the ladders to the MVD for the design geometry</td></tr>
<tr><td>MVGDW</td><td>MVGDL</td><td>1,1</td><td>------>></td><td>1,99</td><td>MVGDL</td><td></td><td></td><td></td><td>link from the wafers to the ladder for the design geometry</td></tr>
<tr><td>MVGHIT</td><td>FMCKin</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>FMCKin</td><td></td><td></td><td></td><td>one or more Geant hits correspond to one track</td></tr>
<tr><td>MVGSL</td><td>MVGDL</td><td>1,1</td><td>-------></td><td>1, 1</td><td>MVGDL</td><td></td><td></td><td></td><td>link from survey corrections to the design geometry for the ladder/wheel</td></tr>
<tr><td>MVGSM</td><td>MVGDM</td><td>1,1</td><td>-------></td><td>1, 1</td><td>MVGDM</td><td></td><td></td><td></td><td>link from survey corrections to the design geometry for the MVD</td></tr>
<tr><td>MVGSW</td><td>MVGDW</td><td>1,1</td><td>-------></td><td>1, 1</td><td>MVGDW</td><td></td><td></td><td></td><td>link from survey corrections to the design geometry for the wafer</td></tr>
<tr><td>MVPARA</td><td>of</td><td>1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>MVVOLU
MVPOS</td><td></td><td></td><td></td><td>A parameter is of a volume or a position</td></tr>
<tr><td>MVPOS</td><td>rotm</td><td>1,1</td><td>----|->></td><td>0,99</td><td>rotm</td><td></td><td></td><td></td><td>each positioned volume is related to a rotation matrix</td></tr>
<tr><td>MVPOS</td><td>volu</td><td>1,1</td><td>----|->></td><td>0,99</td><td>MVVOLU</td><td></td><td></td><td></td><td>A position belongs to a volume</td></tr>
</table>

V

Page (1, 1)

FrESet	By	FrC	Arrow	ToCar	ToESet	Attribute	Type	P	Comment
MVRECC	MVWAF	0,1	-|--|->>	0,99	MVWAF				zero or more MV clusters belong to a wafer
MVRJCT	of	1,1	===-|->> ===-|->>	0,99 0,99	MVVOLU MVPOS				Rejected volumes and positions
MVSDTA	sdet	1,1	----|->>	0,99	MVSDET				Some detectors give more than one type signals
MVSDTD	of	1,1	===-|->> ===-|->>	0,99 0,99	MVSDET MVSDTA				Sensible detectors and aliases digitizations
MVSDTH	of	1,1	===-|->> ===-|->>	0,99 0,99	MVSDET MVSDTA				each detec. element needs the parameter definition
MVSDTU	of	1,1	===-|->> ===-|->>	0,99 0,99	MVSDET MVSDTA				User parameters for sensible detectors and aliases
MVSDTV	sdet	1,1	------>>	1,99	MVSDET				Physical detectors for the master detector identifier
MVVOLU	div	0,1	-|----->	1, 1	MVDIV				some volumes may be subdived
MVVOLU	sdet	0,1	-|---->>	1,99	MVSDET				some volumes may be also active detectors
MVVOLU	tmed	1,1	------>>	1,99	tmed				Volume tracking medium number
MVWAF	Ambig	1,1	------->	1, 1	MVWAF				link to ganged wafer in this MVWAF table
MVWAF	MVGDW	1,1	------->	1, 1	MVGDW				link from the wafer to the design geometry table of the wafer
MVWAF	MVGSHW	1,1	------->	1, 1	MVGSHW				link from the wafer to the shape table of the wafer
PMT	TRGTWR	1,1	----|->>	0,99	TRGTWR				Each CELL belongs to a trigger tower
PMTF	ANLCRD	1,1	----|->>	0,99	ANLCRD				Each PMT belongs to an analog card
PMTF	PMT	1,1	----|->>	0,99	PMT				Each PMT l/r belongs to a CELL
PMTF	TSUMCD	1,1	----|->>	0,99	TSUMCD				Each PMT belongs to a Trigger Sum Card
PREHIT	FMCKin	0,1	-|--|->>	0,99	FMCKin				Particles may cause one or more hits in the Presampler
PROPOR	in	1,1	----|->>	0,99	ZEMATE				
PROPOR	of	1,1	----|->>	0,99	ZEMATE				
PRPARA	of	1,1	===-|->> ===-|->>	0,99 0,99	PRVOLU PRPOS				A parameter is of a volume or a position
PRPOS	rotm	1,1	----|->>	0,99	rotm				each positioned volume is related to a rotation matrix
PRPOS	Detector	0,1	-|---->>	1,99	PRDICO				each sensible volume positioned is related to some digitization parameter
PRPOS	volu	1,1	----|->>	0,99	PRVOLU				A position belong to a volume
PRRES	CConSa	0,1	-|--|->>	0,99	CConSa				Presampler result is linked to a condensate
PRRJCT	of	1,1	===-|->> ===-|->>	0,99 0,99	PRVOLU PRPOS				Rejected volumes and positions
PRSDTA	sdet	1,1	----|->>	0,99	PRSDET				
PRSDTD	of	1,1	===-|->> ===-|->>	0,99 0,99	PRSDET PRSDTA				Sensible detectors and aliases digitizations
PRSDTH	of	1,1	===-|->> ===-|->>	0,99 0,99	PRSDET PRSDTA				Each detector element needs the parameter definition
PRSDTU	of	1,1	===-|->> ===-|->>	0,99 0,99	PRSDET PRSDTA				User parameters for sensible detectors and aliases
PRSDTV	sdet	1,1	------>>	1,99	PRSDET				Physical detectors for the master detector identifier
PRTRUE	PRRES	0,1	-|--|->>	0,99	PRRES				Presampler energies may result in a correction
PRVOLU	div	0,1	-|----->	1, 1	PRDIV				Some volumes may be subdived
PRVOLU	sdet	0,1	-|---->>	1,99	PRSDET				Some volumes maybe also active detectors
PRVOLU	tmed	1,1	------>>	1,99	tmed				Volume tracking medium number
PTGHIT	FMCKin	0,1	-|--|->>	0,99	FMCKin				Geant hits comes from a track
PhysDet	DetComp	1,1	===-|->> ===-|->>	0,99 0,99	Caltru TGTRAK				First leg of pointer to a detector component data structure, can be anything, calorimeter cell, HES diode, reconstructed track.
PhysDet	PhysObj	1,1	------>>	1,99	PhysObj				Second leg of above RSET.

|
V

Page (1, 1)

<table>
<tr><th>FrESet</th><th>By</th><th>FrC</th><th>Arrow</th><th>ToCar</th><th>ToESet</th><th>Attribute</th><th>Type</th><th>P</th><th>Comment</th></tr>
<tr><td>PhysKin</td><td>PhysObj</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>PhysObj</td><td></td><td></td><td></td><td>A Physics object may define the event kinematics, a hypothesis about a scattered lepton.</td></tr>
<tr><td>PhysKin</td><td>Vertex</td><td>1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>VCTVTX
TCVTX</td><td></td><td></td><td></td><td>Different ways of finding the vertex.</td></tr>
<tr><td>PhysKinC</td><td>PhysObjC</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>PhysObjC</td><td></td><td></td><td></td><td>Corresponding relationship for the compressed tables</td></tr>
<tr><td>PhysKinC</td><td>VCTVTX</td><td>1,1</td><td>----|->></td><td>0,99</td><td>VCTVTX</td><td></td><td></td><td></td><td>Only one type of vertex in compression.</td></tr>
<tr><td>PhysObj</td><td>PhysAlg</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>PhysAlg</td><td></td><td></td><td></td><td>Every Physics Object is found by an algorithm, but an algorithm may not find anything</td></tr>
<tr><td>PhysObjC</td><td>PhysAlgC</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>PhysAlgC</td><td></td><td></td><td></td><td>Corresponding relationship for the compressed tables</td></tr>
<tr><td>RECPR2</td><td>PRoducedAt</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>RECVTX</td><td></td><td></td><td></td><td>Each track is produced at one vertex</td></tr>
<tr><td>RECPR2</td><td>DaughterOf</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>RECPR2</td><td></td><td></td><td></td><td>Some particles are generated by other particles</td></tr>
<tr><td>RTMMTM</td><td>RECVTX</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>RECVTX</td><td></td><td></td><td></td><td>A RTMMTM MUST come from a vertex. And a vertex must have at least one RTMMTM</td></tr>
<tr><td>SRPARA</td><td>of</td><td>1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>SRVOLU
SRPOS</td><td></td><td></td><td></td><td>A parameter is of a volume or a position</td></tr>
<tr><td>SRPOS</td><td>rotm</td><td>1,1</td><td>----|->></td><td>0,99</td><td>rotm</td><td></td><td></td><td></td><td>each positioned volume is related to a rotation matrix</td></tr>
<tr><td>SRPOS</td><td>Detector</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>SRDICO</td><td></td><td></td><td></td><td>each sensible volume positioned is related to some digitization parameter</td></tr>
<tr><td>SRPOS</td><td>volu</td><td>1,1</td><td>----|->></td><td>0,99</td><td>SRVOLU</td><td></td><td></td><td></td><td>A position belong to a volume</td></tr>
<tr><td>SRRJCT</td><td>of</td><td>1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>SRVOLU
SRPOS</td><td></td><td></td><td></td><td>Rejected volumes and positions</td></tr>
<tr><td>SRSDTA</td><td>sdet</td><td>1,1</td><td>----|->></td><td>0,99</td><td>SRSDET</td><td></td><td></td><td></td><td></td></tr>
<tr><td>SRSDTD</td><td>of</td><td>1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>SRSDET
SRSDTA</td><td></td><td></td><td></td><td>Sensible detectors and aliases digitizations</td></tr>
<tr><td>SRSDTH</td><td>of</td><td>1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>SRSDET
SRSDTA</td><td></td><td></td><td></td><td>Each detector element needs the parameter definition</td></tr>
<tr><td>SRSDTU</td><td>of</td><td>1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>SRSDET
SRSDTA</td><td></td><td></td><td></td><td>User parameters for sensible detectors and aliases</td></tr>
<tr><td>SRSDTV</td><td>sdet</td><td>1,1</td><td>------>></td><td>1,99</td><td>SRSDET</td><td></td><td></td><td></td><td>Physical detectors for the master detector identifier</td></tr>
<tr><td>SRTHIT</td><td>FMCKin</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>FMCKin</td><td></td><td></td><td></td><td>Geant hits comes from a track</td></tr>
<tr><td>SRVOLU</td><td>div</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>SRDIV</td><td></td><td></td><td></td><td>Some volumes may be subdived</td></tr>
<tr><td>SRVOLU</td><td>sdet</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>SRSDET</td><td></td><td></td><td></td><td>Some volumes maybe also active detectors</td></tr>
<tr><td>SRVOLU</td><td>tmed</td><td>1,1</td><td>------>></td><td>1,99</td><td>tmed</td><td></td><td></td><td></td><td>Volume tracking medium number</td></tr>
<tr><td>STASDQ</td><td>STDMUX</td><td>1,1</td><td>------>></td><td>1,99</td><td>STDMUX</td><td></td><td></td><td></td><td>each ASDQ signal will take part in one multiplexed signal, but a multiplex output signal will be made of one or more ASDQ signals</td></tr>
<tr><td>STDMUX</td><td>STTRAW</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>STTRAW</td><td></td><td></td><td></td><td>each multiplexer signal will either produce one piece of raw data or not, but each piece of raw data can be produced only be produced by one multiplexer signal</td></tr>
<tr><td>STGASEC</td><td>STGSSEC</td><td>1,1</td><td>-------></td><td>1, 1</td><td>STGSSEC</td><td></td><td></td><td></td><td>link from the tracking alignment corrections to the survey corrections for the sector</td></tr>
<tr><td>STGASTR</td><td>STGSSTR</td><td>1,1</td><td>-------></td><td>1, 1</td><td>STGSSTR</td><td></td><td></td><td></td><td>link from the tracking alignment corrections to the survey corrections for the straw</td></tr>
<tr><td>STGASTT</td><td>STGSSTT</td><td>1,1</td><td>-------></td><td>1, 1</td><td>STGSSTT</td><td></td><td></td><td></td><td>link from the tracking alignment corrections to the survey corrections for the STT</td></tr>
<tr><td>STGDSTR</td><td>STGDSEC</td><td>1,1</td><td>------>></td><td>1,99</td><td>STGDSEC</td><td></td><td></td><td></td><td>link from the straws to the sector for the design geometry</td></tr>
<tr><td>STGDSTR</td><td>STSEC</td><td>1,1</td><td>------>></td><td>1,99</td><td>STSEC</td><td></td><td></td><td></td><td>link from the straws to the sector</td></tr>
<tr><td>STGHIT</td><td>FMCKin</td><td>1,1</td><td>----|--></td><td>0, 1</td><td>FMCKin</td><td></td><td></td><td></td><td>Each hit comes from one track, a track may have 0 or more hits</td></tr>
<tr><td>STGHIT</td><td>STASDQ</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>STASDQ</td><td></td><td></td><td></td><td>a geant hit will either produce an signal or not, but each ASDQ signal will be produced by one or more geant hits</td></tr>
<tr><td>STGSSEC</td><td>STGDSEC</td><td>1,1</td><td>-------></td><td>1, 1</td><td>STGDSEC</td><td></td><td></td><td></td><td>link from survey corrections to the design geometry for the sector</td></tr>
</table>

|
V

Page (1, 1)

FrESet	By	FrC	Arrow	ToCar	ToESet	Attribute	Type	P	Comment
STGSSTR	STGDSTR	1,1	------->	1, 1	STGDSTR				link from survey corrections to the design geometry for the straw
STGSSTT	STGDSTT	1,1	------->	1, 1	STGDSTT				link from survey corrections to the design geometry for the STT
STPARA	of	1,1	===-|->> ===-|->>	0,99 0,99	STVOLU STPOS				A parameter is of a volume or a position
STPHELIX	STPRHL	1,1	------>>	1,99	STPRHL				Each track relates to several helices
STPOS	rotm	1,1	----|->>	0,99	rotm				each positioned volume is related to a rotation matrix
STPOS	volu	1,1	----|->>	0,99	STVOLU				A position belongs to a volume
STPRHL	STPUSE	1,1	------->	1, 1	STPUSE				Each set of PR information relates to one set of hits
STPUSE	STTREC	0,1	-|--|->>	0,99	STTREC				One reconstructed straw will be part of one track and one track will be made up of many different straws
STRJCT	of	1,1	===-|->> ===-|->>	0,99 0,99	STVOLU STPOS				Rejected volumes and positions
STSDTA	sdet	1,1	----|->>	0,99	STSDET				Some detectors give more than one type signals
STSDTD	of	1,1	===-|->> ===-|->>	0,99 0,99	STSDET STSDTA				Sensible detectors and aliases digitizations
STSDTH	of	1,1	===-|->> ===-|->>	0,99 0,99	STSDET STSDTA				each detec. element needs the parameter definition
STSDTU	of	1,1	===-|->> ===-|->>	0,99 0,99	STSDET STSDTA				User parameters for sensible detectors and aliases
STSDTV	sdet	1,1	------>>	1,99	STSDET				Physical detectors for the master detector identifier
STSEC	Ambig	1,1	------->	1, 1	STSEC				link to ganged sector in this STSEC table
STSEC	STGDSEC	1,1	------->	1, 1	STGDSEC				link from the sector to the design geometry table of the sector
STTREC	STTRAW	1,1	------>>	1,99	STTRAW				Each RO channel relates to several straws
STVOLU	div	0,1	-|----->	1, 1	STDIV				some volumes may be subdived
STVOLU	sdet	0,1	-|---->>	1,99	STSDET				some volumes may be also active detectors
STVOLU	tmed	1,1	------>>	1,99	tmed				Volume tracking medium number
SiNeut	SiOKIN	1,1	----|->>	0,99	SiOKIN				Intersection of Primary Neutrals with Silicon Pads plane
SiOKIN	SiTrak	0,1	-|----->	1, 1	SiTrak				Tracks contains charged only
SiScEM	SiOKIN	1,1	----|->>	0,99	SiOKIN				Intersection of secondary Electro-Magnetic tracks with Silicon Pads plane
SiTrak	SiVert	0,1	-|---->>	1,99	SiVert				Tracks joining in a vertex
Siadja	Sipad	1,1	------->	1, 1	Sipad				FRADJA transformation for adjacent Pads
Sinter	SiTrak	1,1	----|->>	0,99	SiTrak				Intersection of Charged Tracks with Silicon Pads plane
Sinter	Sipad	1,1	------->	1, 1	Sipad				Transformation X Y of a Track intersection with Si plane to Pad number NUMPAD
Sipdcl	Sipad	0,1	-|---->>	1,99	Sipad				Silicon pads forming cluster
Sipdcl	Siclus	1,1	------>>	1,99	Siclus				because same pads can form more cluster
Sitrcl	SiTrak	0,1	-|--|->>	0,99	SiTrak				Tracks maching Silicon Pads cluster
Sitrcl	Siclus	0,1	-|--|->>	0,99	Siclus				Tracks maching Silicon Pads cluster
SrtTru	SreHit	0,1	-|---->>	1,99	SreHit				Relation that links strip hits with sector hits
T8TRUE	FMCKin	0,1	-|--|->>	0,99	FMCKin				Geant hits comes from a track
TCAXLY	TCHIT	1,1	----|->>	0, 2	TCHIT	Sense	CHA4		Due to the left-right ambiguity each chamber hit gives rise to two points in CTD XY space. Sense of sign for v coord in CTD LNO. Recorded as + or -.
TCAXLY	TCWIRE	1,1	----|->>	0,99	TCWIRE				For convenience each hit in CTD coords is related to TCWIRE.
TCAXLY	TCCELL	1,1	----|->>	0,99	TCCELL				For convenience each hit in CTD coords is related to TCCELL.

Page (1, 1)

FrESet	By	FrC	Arrow	ToCar	ToESet	Attribute	Type	P	Comment
TCAXLY	TCLAYR	1,1	----|->>	0,99	TCLAYR				For convenience each hit in CTD coords is related to TCLAYR.
TCBIT	TCCAND	1,1	------>>	1,99	TCCAND				A track is made of many objects. Objects can be segments or hits.
TCBIT	Point	1,1	===-|->> ===---->	0,99 1, 1	TCAXLY TCSTLY				An object placed on a track is either a point or a segment but not both. The points may be stereo or non-stereo.
TCBIT	TCHIT	1,1	----|->>	0,99	TCHIT				Each bit originiates as a hit. The relationship TCBIT -> TCHIT is established for efficiency in going from TCBIT to TCHIT.
TCCALW	TCCREL	0,1	-|---->>	1,99	TCCREL				Every wire has a set of calibration constants and data, unless it has been killed off for some reason such as noisy electronics. A calibration set can be common to many wires
TCCAND	TCCELL	1,1	----|-->	0, 1	TCCELL				A candidate start reference surface belongs to in a particular cell not all cells have candidates.
TCCELL	TCLAYR	1,1	------>>	1,99	TCLAYR				A super layer is made up of many cells and every cell is in a Superlayer
TCCREL	TCLRZA	1,1	------>>	1,99	TCLRZA				A wire must have a set of calibrations accessed through TCCREL. A particular set of Lorentz angle coefficients may be common to different calibration sets. TCCREL is the "address" for that set of calibrations.
TCCREL	TCLRZD	1,1	------>>	1,99	TCLRZD				A wire must have a set of calibrations accessed through TCCREL. A particular set of z drift coeeficients may be common to different calibration sets. TCCREL is the "address" for that set of calibrations.
TCCREL	TCDRFV	1,1	------>>	1,99	TCDRFV				A wire must have a set of calibrations accessed through TCCREL. A particular set of drift velocities may be common to different calibration sets. TCCREL is the "address" for that set of calibrations.
TCCREL	TCRESE	1,1	------>>	1,99	TCRESE				A wire must have a set of calibrations accessed through TCCREL. A particular set of dE/dx resolutions may be common to different calibration sets. TCCREL is the "address" for that set of calibrations.
TCCREL	TCRESR	1,1	------>>	1,99	TCRESR				A wire must have a set of calibrations accessed through TCCREL. A particular set of r-phi resolutions may be common to different calibration sets. TCCREL is the "address" for that set of calibrations.
TCCREL	TCRESZ	1,1	------>>	1,99	TCRESZ				A wire must have a set of calibrations accessed through TCCREL. A particular set of z-by-timing resolutions may be common to different calibration sets. TCCREL is the "address" for that set of calibrations.
TCCREL	TCTTOZ	1,1	------>>	1,99	TCTTOZ				A wire must have a set of calibrations accessed through TCCREL. A particular parameterisation of the Z calibration S shape may be common to different calibration sets. TCCREL is the "address" for that set of calibrations.
TCCREL	TCZTOT	1,1	------>>	1,99	TCZTOT				A wire must have a set of calibrations accessed through TCCREL. A particular parameterisation of the Z calibration S shape may be common to different calibration sets. TCCREL is the "address" for that set of calibrations.
TCCREL	TCHEFF	1,1	------>>	1,99	TCHEFF				A wire must have a set of calibrations accessed through TCCREL. A particular set of efficiencies etc, may be common to different calibration sets. TCCREL is the "address" for that set of calibrations.

|
V

Page (1, 1)

FrESet	By	FrC	Arrow	ToCar	ToESet	Attribute	Type	P	Comment
TCCREL	TCPEDS	1,1	------>>	1,99	TCPEDS				A wire must have a set of calibrations accessed through TCCREL. A particular set of pedestals may be common to different calibration sets. TCCREL is the "address" for that set of calibrations.
TCCREL	TCSEPS	1,1	------>>	1,99	TCSEPS				A wire must have a set of calibrations accessed through TCCREL. A particular set of two hit separation efficiencies may be common to different calibration sets. TCCREL is the "address" for that set of calibrations.
TCCSEG	TCCELL	1,1	----|-->	0, 1	TCCELL				A segment must be described with reference to a cell, but a cell need not define a segment.
TCCSEL	TCLZAN	1,1	------>>	1,99	TCLZAN				A wire must have a set of calibrations accessed through TCCSEL. A particular set of Lorentz angle coefficients may be common to different calibration sets. TCCSEL is the "address" for that set of calibrations.
TCCSEL	TCLZZD	1,1	------>>	1,99	TCLZZD				A wire must have a set of calibrations accessed through TCCSEL. A particular set of z drift coefficients may be common to different calibration sets. TCCSEL is the "address" for that set of calibrations.
TCCSEL	TCERES	1,1	------>>	1,99	TCERES				A wire must have a set of calibrations accessed through TCCSEL. A particular set of pulse size resolution and conversion coefficients may be common to different calibration sets. TCCSEL is the "address" for that set of calibrations.
TCCSEL	TCRRES	1,1	------>>	1,99	TCRRES				A wire must have a set of calibrations accessed through TCCSEL. A particular set of r-phi resolution coefficients may be common to different calibration sets. TCCSEL is the "address" for that set of calibrations.
TCCSEL	TCZRES	1,1	------>>	1,99	TCZRES				A wire must have a set of calibrations accessed through TCCSEL. A particular set of z resolution coefficients may be common to different calibration sets. TCCSEL is the "address" for that set of calibrations.
TCCSEL	TCTTOD	1,1	------>>	1,99	TCTTOD				A wire must have a set of calibrations accessed through TCCSEL. A particular set of time to distance coefficients may be common to different calibration sets. TCCSEL is the "address" for that set of calibrations.
TCCSEL	TCTTOZ	1,1	------>>	1,99	TCTTOZ				A wire must have a set of calibrations accessed through TCCSEL. A particular parameterisation of the Z calibration S shape may be common to different calibration sets. TCCSEL is the "address" for that set of calibrations.
TCCSEL	TCDTOT	1,1	------>>	1,99	TCDTOT				A wire must have a set of calibrations accessed through TCCSEL. A particular set of distance to time coefficients may be common to different calibration sets. TCCSEL is the "address" for that set of calibrations.
TCCSEL	TCZTOT	1,1	------>>	1,99	TCZTOT				A wire must have a set of calibrations accessed through TCCSEL. A particular parameterisation of the Z calibration S shape may be common to different calibration sets. TCCSEL is the "address" for that set of calibrations.
TCCSEL	TCEFFS	1,1	------>>	1,99	TCEFFS				A wire must have a set of calibrations accessed through TCCSEL. A particular set of efficiencies etc, may be common to different calibration sets. TCCSEL is the "address" for that set of calibrations.

|
V

Page (1, 1)

FrESet	By	FrC	Arrow	ToCar	ToESet	Attribute	Type	P	Comment
TCCSEL	TCSEPS	1,1	------>>	1,99	TCSEPS				A wire must have a set of calibrations accessed through TCCSEL. A particular set of two hit separation efficiencies may be common to different calibration sets. TCCSEL is the "address" for that set of calibrations.
TCCSEL	TCIPDR	1,1	------>>	1,99	TCIPDR				A wire must have a set of calibrations accessed through TCCSEL. A particular effective radius may be common to different calibration sets. TCCSEL is the "address" for that set of calibrations.
TCCWIR	TCCSEL	0,1	-|---->>	1,99	TCCSEL				Every wire has a set of calibration constants and data, unless it has been killed off for some reason such as noisy electronics. A calibration set can be common to many wires
TCFCPF	TCFLCP	1,1	----|->>	0,99	TCFLCP				Many flags in one cell pair
TCFDOF	TCPAOF	0,1	-|--|-->	0, 1	TCPAOF				A offset as seen by the FADC board is associated with a cable delay offset.
TCFHOK	TCFZHT	1,1	----|->>	0,99	TCFZHT				ok hits are those assigned to segments
TCFHOK	TCFSEG	1,1	------>>	1,99	TCFSEG				Many-many relationship between hits and segments - all segments have hits but some hits may not lie on segments
TCFLAY	TCLAYR	1,1	------>>	1,99	TCLAYR				There are many wire layers in a given SuperLayer.
TCFSCF	TCFLSC	1,1	----|->>	0,99	TCFLSC				Many flags in one sector
TCFSEG	TCFLCP	1,1	----|->>	0,99	TCFLCP				Many segs in one cell pair
TCFTEM	TCFZHT	1,1	----|-->	0, 1	TCFZHT				Allows posibility that no associated z-hit ..
TCFTOH	TCPULS	1,1	------->	1, 1	TCPULS				Every pulse is assigned a time and pulse size.
TCFTOH	TCDHIT	1,1	------->	1, 1	TCDHIT				Every hit found offline is stored.
TCFTRN	TCBFPF	0,1	-|---->>	1,99	TCBFPF				A filtered FADC train has many FADC bins. It may have been filtered offline so not come from TCBFPF.
TCFTRN	TCRTRN	0,1	-|----->	1, 1	TCRTRN				Every raw unfiltered FADC signal is processed and filtered. Some FADC signals were filtered online.
TCFZHT	TCWIRE	1,1	----|->>	0,99	TCWIRE				Many z-hits to given wire, but have wire with no z-hit
TCGHIT	TCWIRE	1,1	----|->>	0,99	TCWIRE				Every Geant hit must be on a wire, a wire may have zero, one or many hits.
TCGHIT	TCRP	0,1	-|--|-->	0, 1	TCRP				A Geant hit may produce a digitized r-phi drift hit, a digitized r-phi drift hit may have come from a Geant hit.
TCGHIT	TCZ	0,1	-|--|-->	0, 1	TCZ				A Geant hit may produce a digitized z-by-timing hit, a digitized z-by-timing hit may have come from a Geant hit.
TCGHIT	FMCKin	0,1	-|--|->>	0,99	FMCKin				A Geant hit comes from a track unless it is noise, a track may not have any CTD hits (e.g. neutral particle) or many CTD hits.
TCGSTP	FMCKin	1,1	----|->>	0,99	FMCKin				Every Geant step is associated with a Kine track, a Kine track need not pass through the CTD, but can have many steps through the CTD if it does.
TCGSTP	TCTRAK	0,1	-|--|->>	0,99	TCTRAK				Many Geant steps make up a CTD track if processed by the fast tracking, not every step need result in the formation of a CTD track.
TCHIT	TCWIRE	1,1	----|->>	0,99	TCWIRE				Every hit must be on a wire, and a wire may have zero, one, or many hits
TCHIT	TCTRAK	0,1	-|---->>	1,99	TCTRAK				A track is made of many hits, but a hit need not lie on a track.
						Sense	INTE		Sense of the left right ambiguity. If Sense=-1 then the hit is on the LOW Phi side of the wire, if Sense=+1 then it is on the HIGH Phi side.

Page (1, 1)

FrESet	By	FrC	Arrow	ToCar	ToESet	Attribute	Type	P	Comment
TCPADL	TCCDEL	1,1	------->	1, 1	TCCDEL				The combined signal and calibration cable delay to the postamps must have an association with a calibration cable. Each calibration cable fans out to serve the eight sense wires in a cell.
TCPAOF	TCPADL	1,1	------>>	1,99	TCPADL				A offset to the combined signal and calibration cable delay must have an association with the overall delay measured for the reference wire in a cell.
TCPARA	of	1,1	===-|->> ===-|->>	0,99 0,99	TCVOLU TCPOS				The volume shape parameters are stored in TCPARA. They are passed to Geant by a call to GSVOLU, in which case TCPARA points to TCVOLU, or by a call to GSPOSP, in which case TCPARA points to TCPOS.
TCPOS	rotm	1,1	----|->>	0,99	rotm				Every positioned volume has an associated rotation matrix. Note that the rotation matrix with ID = 0 is the unit matrix. This conforms with Geants interpretation of IROT=0 in GSPOS, GSPOSP.
TCPOS	Detector	0,1	-|---->>	1,99	TCLAYR				Every Superlayer is positioned. "BY Detector" forces the relationship column to be TCPOS_Detector. This is ESSENTIAL for the working of the ZGEN generic routines.
TCPOS	volu	1,1	----|->>	0,99	TCVOLU				A position belongs to a volume. "BY volu" is essential for the ZGEN generic routines to work.
TCRJCT	of	1,1	===-|->> ===-|->>	0,99 0,99	TCVOLU TCPOS				Every entry in TCRJCT points to an entry in TCVOLU or TCPOS which is to be REJECTED.
TCRP	TCWIRE	1,1	----|->>	0,99	TCWIRE				Every r-phi hit must be on a wire, a wire may have zero, one or many r-phi hits.
TCRTRN	TCBFP	1,1	------>>	1,99	TCBFP				An unfiltered FADC train has many FADC bins.
TCSDTA	sdet	1,1	----|->>	0,99	TCSDET				Some detectors give more than one type of signal
TCSDTD	of	1,1	===-|->> ===-|->>	0,99 0,99	TCSDET TCSDTA				Digitizations belong either to a sensitive detector or to an "alias" (TCSDTA).
TCSDTH	of	1,1	===-|->> ===-|->>	0,99 0,99	TCSDET TCSDTA				Hits belong either to a sensitive detector or to an "alias" (TCSDTA).
TCSDTU	of	1,1	===-|->> ===-|->>	0,99 0,99	TCSDET TCSDTA				User Parameters belong either to a sensitive detector or to an "alias" (TCSDTA).
TCSDTV	sdet	1,1	------>>	1,99	TCSDET				Physical detectors which identify the sensitive detector. The entries in TCSDTV are usually entries in TCVOLU. (But this is not strictly necessary, hence this separate table.) See also example in Geant manual HITS 110.
TCSTLY	TCHIT	1,1	----|->>	0,99	TCHIT	Sense	CHA4		Since the XYZ value depend on the track the hit is placed on many values for a single hit are possible. Sense of sign for v coord in CTD LNO. Recorded as + or -.
TCSTLY	TCWIRE	1,1	----|->>	0,99	TCWIRE				For convenience each hit in CTD coords is related to TCWIRE.
TCSTLY	TCCELL	1,1	----|->>	0,99	TCCELL				For convenience each hit in CTD coords is related to TCCELL.
TCSTLY	TCLAYR	1,1	----|->>	0,99	TCLAYR				For convenience each hit in CTD coords is related to TCLAYR.
TCTRAK	TCVTX	0,1	-|---->>	1,99	TCVTX				Every vertex must be found from at least one track. Not every track need be used to make a vertex.
TCUNCL	TCLAYR	1,1	------>>	1,99	TCLAYR				Wires in TCUNCL point back to their corresponding super layer in TCLAYR.
TCUNCL	TCWRTP	1,1	------>>	1,99	TCWRTP				Wires in TCUNCL point to the definition of the wire properties stored in TCWRTP.
TCVOLU	div	0,1	-|----->	1, 1	TCDIV				Some volumes may be subdived
TCVOLU	sdet	0,1	-|---->>	1,99	TCSDET				Some volumes may be "sensitive" detectors
TCVOLU	tmed	1,1	------>>	1,99	tmed				Every Volume is a tracking medium.

|
V

Page (1, 1)

FrESet	By	FrC	Arrow	ToCar	ToESet	Attribute	Type	P	Comment
TCWIRE	TCCELL	1,1	------>>	1,99	TCCELL				A cell contains many sense wires and every sense wire is in a cell.
TCWRTP	ZEMATE	1,1	----|->>	0,99	ZEMATE				Each Wire type is made of some material.
TCZ	TCWIRE	1,1	----|->>	0,99	TCWIRE				Every z-by-timing hit must be on a wire, a wire may have zero, one or many z-by-timing hits.
TECONA	TEC	1,1	----|->>	0,99	TEC				Each connector A (TOP) belongs to a TEC
TECONB	TEC	1,1	----|->>	0,99	TEC				Each connecter B (bottom) belongs to a TEC
TFBPLA	Cable	1,1	----|-->	0, 1	TFCABL				each Half-Connector at the backplane of the Postamp Modules refers to one cell, but there are spare cables
TFCABL	Cell	0,1	-|--|->>	0, 3	TFVOLU				each cable connects to one specific Cell, since Cells in different Projections are alike and appear only once in TFVOLU, the maximal cardinality is three. Minimal Cardinality on each side is 0 , as there are insensitive volumes in TFVOLU and there are spare cables in TFCABL, which are not connected at all.
TFCABL	Layer	0,1	-|--|->>	0,99	TFPOS				the cell to which the cable belongs ,is in a specific layer. Maximal Cardinality on the right side is 100 which is the maximum number of Cells in one layer (case of FTD3). Minimal Cardinality on each side is 0 , as there may be layers in TFPOS not connected at all, and there are spare cables in TFCABL.
TFCHAN	Backplane	0,1	-|---->>	1, 6	TFBPLA				A Maximum of 6 Channels refer to a specific Half-Connector at the backplane
TFCHAN	Postamp	0,1	-|---->>	1, 8	TFPAMP				A Maximum of 8 Channels refer to a specific Postamp-Connector at the front of the Postamp-Modules
TFCLBW	channel	1,1	----|-->	0, 1	TFCHAN				each wire corresponds to exactly one channel. Minimal Cardinality on right side is 0 , as there may be channels which are dead or not connected at all.
TFCORD	digit	1,1	------->	1, 1	TFDIGI				A coordinate belongs exactly to one digit
TFCORD	LTE	0,1	-|---->>	2,99	TFLATE				each LTE is made of at least 2 coordinates
TFDIGI	cell	1,1	----|->>	0,99	TFVOLU				each digit belongs to a sensitive volume
TFDIGI	copy	1,1	----|->>	0,99	TFPOS				the volume to which the digit belongs to is in a given projection
TFFCON	FADC	1,1	------>>	4, 4	TFFADC				There are exactly 4 Plugs on the front-end of every FADC - Board
TFHITS	digit	0,1	-|--|->>	0,99	TFDIGI				A digit belongs to one or many hits or it is Background, hits may cause no digits due to inefficiences
TFHITS	FMCKin	1,1	----|-->	0, 1	FMCKin				each hit is related to a track
TFLATE	of	0,1	=|=-|->> =|=-|->>	0,99 0,99	TFTRAC TFMSEG				each local track element belongs either to a track or to a segment
TFMSEG	TFTRAC	0,1	-|--|->>	0,99	TFTRAC				A segment may belong to a track
TFPAMP	Plug	0,1	-|--|-->	0, 1	TFFCON				Every Plug from the front-end Postamp-Modules connects to exactly one Plug of the FADC Modules, however there may be modules not connected
TFPARA	of	1,1	===-|->> ===-|->>	0,99 0,99	TFVOLU TFPOS				A parameter is of a volume or a position
TFPOS	rotm	1,1	----|->>	0,99	rotm				each positioned volume is related to a rotation matrix
TFPOS	Detector	0,1	-|---->>	1,99	TFDICO				Sensitive Detectors need additional input held in TFDICO.
TFPOS	volu	1,1	----|->>	0,99	TFVOLU				A position belongs to a volume
TFRJCT	of	1,1	===-|->> ===-|->>	0,99 0,99	TFVOLU TFPOS				Rejected volumes and positions
TFSDTA	sdet	1,1	----|->>	0,99	TFSDET				Some detectors give more than one type signals

Page (1, 1)

<table>
<tr><th>FrESet</th><th>By</th><th>FrC</th><th>Arrow</th><th>ToCar</th><th>ToESet</th><th>Attribute</th><th>Type</th><th>P</th><th>Comment</th></tr>
<tr><td>TFSDTD</td><td>of</td><td>1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>TFSDET
TFSDTA</td><td></td><td></td><td></td><td>Digitization storage-characteristic for a given detector set</td></tr>
<tr><td>TFSDTH</td><td>of</td><td>1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>TFSDET
TFSDTA</td><td></td><td></td><td></td><td>Hit storage characteristics for a given detector set</td></tr>
<tr><td>TFSDTU</td><td>of</td><td>1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>TFSDET
TFSDTA</td><td></td><td></td><td></td><td>User parameters for sensible detectors and aliases</td></tr>
<tr><td>TFSDTV</td><td>sdet</td><td>1,1</td><td>------>></td><td>1,99</td><td>TFSDET</td><td></td><td></td><td></td><td>Physical detectors for the master detector identifier</td></tr>
<tr><td>TFTRDM</td><td>of</td><td>1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>TFTRAC
TFMSEG</td><td></td><td></td><td></td><td>Left part of TFMSEG/TFTRAC - TFTR relationship: Each TFTR entity belongs either to a track segment or to a track, one track may have many TFTR entities</td></tr>
<tr><td>TFTRDM</td><td>TFTR</td><td>1,1</td><td>------>></td><td>1,99</td><td>TFTR</td><td></td><td></td><td></td><td>Right part of TFMSEG/TFTRAC - TFTR relationship: Each TFTR entity belongs either to a track segment or to a track, one TFTR entity may have many tracks</td></tr>
<tr><td>TFVOLU</td><td>div</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>TFDIV</td><td></td><td></td><td></td><td>some volumes may be subdived</td></tr>
<tr><td>TFVOLU</td><td>sdet</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>TFSDET</td><td></td><td></td><td></td><td>some volumes may belong to a detector-set</td></tr>
<tr><td>TFVOLU</td><td>tmed</td><td>1,1</td><td>------>></td><td>1,99</td><td>tmed</td><td></td><td></td><td></td><td>A volume belongs to a certain tracking medium</td></tr>
<tr><td>TGCAND</td><td>vtct</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>vtct</td><td></td><td></td><td></td><td>Many global candidates can contain the same VXD segments</td></tr>
<tr><td>TGCAND</td><td>TCTRAK</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>TCTRAK</td><td></td><td></td><td></td><td>Many global candidates can contain the same CTD segments</td></tr>
<tr><td>TGCAND</td><td>FTD1</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>TFMSEG</td><td></td><td></td><td></td><td>Many global candidates can contain the same FTD1 segments</td></tr>
<tr><td>TGCAND</td><td>FTD2</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>TFMSEG</td><td></td><td></td><td></td><td>Many global candidates can contain the same FTD2 segments</td></tr>
<tr><td>TGCAND</td><td>FTD3</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>TFMSEG</td><td></td><td></td><td></td><td>Many global candidates can contain the same FTD3 segments</td></tr>
<tr><td>TGCAND</td><td>RTD</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>TFMSEG</td><td></td><td></td><td></td><td>Many global candidates can contain the same FTD3 segments</td></tr>
<tr><td>TGCAND</td><td>mfrtz</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>mfrtz</td><td></td><td></td><td></td><td>Many global candidates can contain the same FMUON segments</td></tr>
<tr><td>TGCAND</td><td>MBXYSG</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>MBXYSG</td><td></td><td></td><td></td><td>Many global candidates can contain the same BMUON segments</td></tr>
<tr><td>TGCAND</td><td>Ambig</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>TGTRAK</td><td></td><td></td><td></td><td>Many GLobal CANDidates could go to the same GLobal TRAK</td></tr>
<tr><td>TGCAND</td><td>TGTCVT</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>TGTCVT</td><td></td><td></td><td></td><td>Many global candidates can contain same CTD/VXD segment</td></tr>
<tr><td>TGFWCN</td><td>TCTRAK</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>TCTRAK</td><td></td><td></td><td></td><td>Many global candidates can contain the same CTD segments</td></tr>
<tr><td>TGFWCN</td><td>TGTCVT</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>TGTCVT</td><td></td><td></td><td></td><td>Many global candidates can contain the same CTD+VXD segments</td></tr>
<tr><td>TGFWCN</td><td>FTD1</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>TFMSEG</td><td></td><td></td><td></td><td>Many global candidates can contain the same FTD1 segments</td></tr>
<tr><td>TGFWCN</td><td>FTD2</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>TFMSEG</td><td></td><td></td><td></td><td>Many global candidates can contain the same FTD2 segments</td></tr>
<tr><td>TGFWCN</td><td>FTD3</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>TFMSEG</td><td></td><td></td><td></td><td>Many global candidates can contain the same FTD3 segments</td></tr>
<tr><td>TGPHYS</td><td>TGTRAK</td><td>1,1</td><td>-------></td><td>1, 1</td><td>TGTRAK</td><td></td><td></td><td></td><td>Every entry in TGPHYS has an entry in TGTRAK</td></tr>
<tr><td>TGPHYS</td><td>RECVTX</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>RECVTX</td><td></td><td></td><td></td><td>TGPHYS track maybe associated with a vertex</td></tr>
<tr><td>TGPHYS</td><td>VCTRHL</td><td>1,1</td><td>-------></td><td>1, 1</td><td>VCTRHL</td><td></td><td></td><td></td><td>Every entry in TGPHYS has an entry in VCTRHL</td></tr>
<tr><td>TGPHYS</td><td>VCTVTX</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>VCTVTX</td><td></td><td></td><td></td><td>TGPHYS track maybe associated with a vertex</td></tr>
<tr><td>TGSEGS</td><td>TGSCOV</td><td>1,1</td><td>----|--></td><td>0, 1</td><td>TGSCOV</td><td></td><td></td><td></td><td>relation between a TGSEGS row and its covariance matrix</td></tr>
<tr><td>TGTCVT</td><td>VCTRHL</td><td>1,1</td><td>----|--></td><td>0, 1</td><td>VCTRHL</td><td></td><td></td><td></td><td>relation between a TGTCVT track and VCTRHL CTD track</td></tr>
<tr><td>TGTCVT</td><td>TCTRAK</td><td>1,1</td><td>----|--></td><td>0, 1</td><td>TCTRAK</td><td></td><td></td><td></td><td>relation between a TGTCVT track and TCTRAK CTD track</td></tr>
<tr><td>TGTCVT</td><td>vtct</td><td>1,1</td><td>----|--></td><td>0, 1</td><td>vtct</td><td></td><td></td><td></td><td>relation between a TGTCVT track and VXD segments</td></tr>
</table>

|
V

Page (1, 1)

FrESet	By	FrC	Arrow	ToCar	ToESet	Attribute	Type	P	Comment
TGTMCF	TGTRAK	1,1	----|->>	0,99	TGTRAK				1st leg of many-to-many relationship between TGTRAK and FMCKin (not all stable true tracks may have corresponding reconstructed tracks, but some may have several reconstr. tracks)
TGTMCF	FMCKin	1,1	----|->>	0,99	FMCKin				2nd leg of many-to-many relationship between TGTRAK and FMCKin
TGTMCT	TGTRAK	1,1	----|->>	0,99	TGTRAK				1st leg of many-to-many relationship between TGTRAK and FMCKin (not all stable true tracks may have corresponding reconstructed tracks, but some may have several reconstr. tracks)
TGTMCT	FMCKin	1,1	----|->>	0,99	FMCKin				2nd leg of many-to-many relationship between TGTRAK and FMCKin
TGTRAK	TGCAND	0,1	-|--|-->	0, 1	TGCAND				A GLobal TRAK corresponds to a global candidate track or it may be directly given e.g. from a TGTCVT
TGTRAK	XMatEt	0,1	-|--|->>	0,99	XMatEt				This is a many-to-one relation between Global Tracks and Global Clusters. Some tracks are linked to some clusters. Many tracks could be linked to single cluster e.g. narrow, dense jet. Track is linked to only one cluster, namely to that with which it shares most energy. Some tracks are not linked to any cluster, e.g. they never reached CAL or BAC. Some clusters may have no tracks pointing to them, e.g. cluster caused by neutrals.
TGTRAK	TGTCVT	0,1	-|--|->>	0,99	TGTCVT				A GLobal TRAK can contain VXD+CTD or CTD-only segments
TNPARA	of	1,1	===-|->> ===-|->>	0,99 0,99	TNVOLU TNPOS				A parameter is of a volume or a position
TNPOS	rotm	1,1	----|->>	0,99	rotm				each positioned volume is related to a rotation matrix
TNPOS	Detector	0,1	-|---->>	1,99	TNDICO				each sensible volume positioned is related to some digitization parameter
TNPOS	volu	1,1	----|->>	0,99	TNVOLU				A position belongs to a volume
TNRJCT	of	1,1	===-|->> ===-|->>	0,99 0,99	TNVOLU TNPOS				Rejected volumes and positions
TNSDTA	sdet	1,1	----|->>	0,99	TNSDET				Some detectors give more than one type signals
TNSDTD	of	1,1	===-|->> ===-|->>	0,99 0,99	TNSDET TNSDTA				Sensible detectors and aliases digitizations
TNSDTH	of	1,1	===-|->> ===-|->>	0,99 0,99	TNSDET TNSDTA				each detec. element needs the parameter definition
TNSDTU	of	1,1	===-|->> ===-|->>	0,99 0,99	TNSDET TNSDTA				User parameters for sensible detectors and aliases
TNSDTV	sdet	1,1	------>>	1,99	TNSDET				Physical detectors for the master detector identifier
TNVOLU	div	0,1	-|----->	1, 1	TNDIV				some volumes may be subdived
TNVOLU	sdet	0,1	-|---->>	1,99	TNSDET				some volumes may be also active detectors
TNVOLU	tmed	1,1	------>>	1,99	tmed				Volume tracking medium number
TRCLUSTER	FMCKin	1,1	----|->>	0,99	FMCKin				track in FMCKin that produced this cluster
TRGTWR	TEC	1,1	----|->>	0,99	TEC				Triggers tower are digitized and summed on the TEC
TRPARA	of	1,1	===-|->> ===-|->>	0,99 0,99	TRVOLU TRPOS				A parameter is of a volume or a position
TRPOS	rotm	1,1	----|->>	0,99	rotm				each positioned volume is related to a rotation matrix
TRPOS	volu	1,1	----|->>	0,99	TRVOLU				A position belongs to a volume
TRPOS	Detector	0,1	-|---->>	1,99	TRDTCT				general Bologna scheme relationship: ESSENTIAL! NMcC
TRRJCT	of	1,1	===-|->> ===-|->>	0,99 0,99	TRVOLU TRPOS				Rejected volumes and positions
TRSDTA	sdet	1,1	----|->>	0,99	TRSDET				Some detectors give more than one type signals

|
V

Page (1, 1)

<table>
<tr><th>FrESet</th><th>By</th><th>FrC</th><th>Arrow</th><th>ToCar</th><th>ToESet</th><th>Attribute</th><th>Type</th><th>P</th><th>Comment</th></tr>
<tr><td>TRSDTD</td><td>of</td><td>1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>TRSDET
TRSDTA</td><td></td><td></td><td></td><td>Digitization storage-characteristic for a given detector set</td></tr>
<tr><td>TRSDTH</td><td>of</td><td>1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>TRSDET
TRSDTA</td><td></td><td></td><td></td><td>Hit storage characteristics for a given detector set</td></tr>
<tr><td>TRSDTU</td><td>of</td><td>1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>TRSDET
TRSDTA</td><td></td><td></td><td></td><td>User parameters for sensible detectors and aliases</td></tr>
<tr><td>TRSDTV</td><td>sdet</td><td>1,1</td><td>------>></td><td>1,99</td><td>TRSDET</td><td></td><td></td><td></td><td>Physical detectors for the master detector identifier</td></tr>
<tr><td>TRVOLU</td><td>div</td><td>0,1</td><td>-|----->></td><td>1, 1</td><td>TRDIV</td><td></td><td></td><td></td><td>some volumes may be subdived</td></tr>
<tr><td>TRVOLU</td><td>sdet</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>TRSDET</td><td></td><td></td><td></td><td>some volumes may belong to a detector-set</td></tr>
<tr><td>TRVOLU</td><td>tmed</td><td>1,1</td><td>------>></td><td>1,99</td><td>tmed</td><td></td><td></td><td></td><td>A volume belongs to a certain tracking medium</td></tr>
<tr><td>TSUMCD</td><td>Cable</td><td>1,1</td><td>----|->></td><td>0,99</td><td>Cable</td><td></td><td></td><td></td><td>Each TrigSumCard belongs to a Cable</td></tr>
<tr><td>VCLCF</td><td>VCTRHL</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>VCTRHL</td><td></td><td></td><td></td><td>Relation between trajectory at outer detector and VCTRHL</td></tr>
<tr><td>VCLCF</td><td>VCLCF</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>VCLCF</td><td></td><td></td><td></td><td>Some VCLCF may have a relationship to another VCLCF</td></tr>
<tr><td>VCLCF</td><td>TFMSEG</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>TFMSEG</td><td></td><td></td><td></td><td>Some VCLCF may have a relationship to TFMSEG</td></tr>
<tr><td>VCLCF</td><td>SreHit</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>SreHit</td><td></td><td></td><td></td><td>Some VCLCF may have a relationship to SreHit</td></tr>
<tr><td>VCPARSEC</td><td>VCTRHL</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>VCTRHL</td><td></td><td></td><td></td><td>Relation between SECONDARY VERTEX TRACKS and VCTRHL</td></tr>
<tr><td>VCPARSEC</td><td>PRoducedAt</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>VCVTXSEC</td><td></td><td></td><td></td><td>Each SECONDARY track is produced at one SECONDARY vertex</td></tr>
<tr><td>VCPARSEC</td><td>DaughterOf</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>VCPARSEC</td><td></td><td></td><td></td><td>Some particles are generated by other particles</td></tr>
<tr><td>VCPARSEC</td><td>ZTPRHL</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>ZTPRHL</td><td></td><td></td><td></td><td>Relation between SECONDARY VERTEX TRACKS and ZTPRHL, added for MVD 14.06.02</td></tr>
<tr><td>VCTKPG</td><td>VFTEMP</td><td>1,1</td><td>-------></td><td>1, 1</td><td>VFTEMP</td><td></td><td></td><td></td><td>RELATION BETWEEN INTERNAL VTXFIT VARIABLES AND GLTKPG</td></tr>
<tr><td>VCTKPG</td><td>VCTRHL</td><td>1,1</td><td>----|->></td><td>0,99</td><td>VCTRHL</td><td></td><td></td><td></td><td>to each track of the event corresponds some perigee parametrisation</td></tr>
<tr><td>VCTKPG</td><td>VCTPAR</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>VCTPAR</td><td></td><td></td><td></td><td>to each track corresponds the parameters at the vertex</td></tr>
<tr><td>VCTMCCTD</td><td>VCTRHL</td><td>1,1</td><td>----|->></td><td>0,99</td><td>VCTRHL</td><td></td><td></td><td></td><td>1st leg of many-to-many relationship between VCTRHL and FMCKin (not all stable true tracks may have corresponding reconstructed tracks, but some may have several reconstr. tracks)</td></tr>
<tr><td>VCTMCCTD</td><td>FMCKin</td><td>1,1</td><td>----|->></td><td>0,99</td><td>FMCKin</td><td></td><td></td><td></td><td>2nd leg of many-to-many relationship between VCTRHL and FMCKin</td></tr>
<tr><td>VCTMCREG</td><td>VCTRHL</td><td>1,1</td><td>----|->></td><td>0,99</td><td>VCTRHL</td><td></td><td></td><td></td><td>1st leg of many-to-many relationship between VCTRHL and FMCKin (not all stable true tracks may have corresponding reconstructed tracks, but some may have several reconstr. tracks)</td></tr>
<tr><td>VCTMCREG</td><td>FMCKin</td><td>1,1</td><td>----|->></td><td>0,99</td><td>FMCKin</td><td></td><td></td><td></td><td>2nd leg of many-to-many relationship between VCTRHL and FMCKin</td></tr>
<tr><td>VCTMCT</td><td>VCTRHL</td><td>1,1</td><td>----|->></td><td>0,99</td><td>VCTRHL</td><td></td><td></td><td></td><td>1st leg of many-to-many relationship between VCTRHL and FMCKin (not all stable true tracks may have corresponding reconstructed tracks, but some may have several reconstr. tracks)</td></tr>
<tr><td>VCTMCT</td><td>FMCKin</td><td>1,1</td><td>----|->></td><td>0,99</td><td>FMCKin</td><td></td><td></td><td></td><td>2nd leg of many-to-many relationship between VCTRHL and FMCKin</td></tr>
<tr><td>VCTPAR</td><td>VCTRHL</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>VCTRHL</td><td></td><td></td><td></td><td>Relation between final track parameters at the vertex and VCTRHL</td></tr>
<tr><td>VCTPAR</td><td>PRoducedAt</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>VCTVTX</td><td></td><td></td><td></td><td>Each track is produced at one vertex</td></tr>
<tr><td>VCTPAR</td><td>DaughterOf</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>VCTPAR</td><td></td><td></td><td></td><td>Some particles are generated by other particles</td></tr>
<tr><td>VCTPAR</td><td>ZTPRHL</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>ZTPRHL</td><td></td><td></td><td></td><td>Relation between PRIMARY VERTEX TRACKS and ZTPRHL, added for MVD 14.06.02</td></tr>
<tr><td>VECou</td><td>VETofs</td><td>1,1</td><td>------>></td><td>1,99</td><td>VETofs</td><td></td><td></td><td></td><td>Every counter belongs to one of TOF planes</td></tr>
</table>

|
V

Page (1, 1)

FrESet	By	FrC	Arrow	ToCar	ToESet	Attribute	Type	P	Comment
VEGHit	FMCKin	1,1	----|->>	0,99	FMCKin				Each hit in the TOF plane was generated by one track
VEPARA	of	1,1	===-|->> ===-|->>	0,99 0,99	VEVOLU VEPOS				A parameter is of a volume or a position
VEPOS	volu	1,1	----|->>	0,99	VEVOLU				A position belong to a volume
VERJCT	of	1,1	===-|->> ===-|->>	0,99 0,99	VEVOLU VEPOS				Rejected volumes and positions
VESDTA	sdet	1,1	----|->>	0,99	VESDET				
VESDTD	of	1,1	===-|->> ===-|->>	0,99 0,99	VESDET VESDTA				Sensible detectors and aliases digitizations
VESDTH	of	1,1	===-|->> ===-|->>	0,99 0,99	VESDET VESDTA				Each detector element needs the parameter definition
VESDTU	of	1,1	===-|->> ===-|->>	0,99 0,99	VESDET VESDTA				User parameters for sensible detectors and aliases
VESDTV	sdet	1,1	------>>	1,99	VESDET				Physical detectors for the master detector identifier
VETHIT	FMCKin	1,1	----|->>	0,99	FMCKin				Each hit in the Veta Wall is caused by a track. Not all tracks leave hits in the veto wall.
VEVOLU	div	0,1	-|----->	1, 1	VEDIV				Some volumes may be subdived
VEVOLU	sdet	0,1	-|---->>	1,99	VESDET				Some volumes maybe also active detectors
VEVOLU	tmed	1,1	------>>	1,99	tmed				Volume tracking medium number
VTPARA	of	1,1	===-|->> ===-|->>	0,99 0,99	VTVOLU VTPOS				A parameter is of a volume or a position
VTPOS	rotm	1,1	----|->>	0,99	rotm				each positioned volume is related to a rotation matrix
VTPOS	Detector	0,1	-|---->>	1,99	vtdico				each sensible volume positioned is related to some digitization parameter
VTPOS	volu	1,1	----|->>	0,99	VTVOLU				A position belongs to a volume
VTRJCT	of	1,1	===-|->> ===-|->>	0,99 0,99	VTVOLU VTPOS				Rejected volumes and positions
VTSDTA	sdet	1,1	----|->>	0,99	VTSDET				Some detectors give more than one type signals
VTSDTD	of	1,1	===-|->> ===-|->>	0,99 0,99	VTSDET VTSDTA				Sensible detectors and aliases digitizations
VTSDTH	of	1,1	===-|->> ===-|->>	0,99 0,99	VTSDET VTSDTA				each detec. element needs the parameter definition
VTSDTU	of	1,1	===-|->> ===-|->>	0,99 0,99	VTSDET VTSDTA				User parameters for sensible detectors and aliases
VTSDTV	sdet	1,1	------>>	1,99	VTSDET				Physical detectors for the master detector identifier
VTVOLU	div	0,1	-|----->	1, 1	VTDIV				some volumes may be subdived
VTVOLU	sdet	0,1	-|---->>	1,99	VTSDET				some volumes may be also active detectors
VTVOLU	tmed	1,1	------>>	1,99	tmed				Volume tracking medium number
XBPARA	of	1,1	===-|->> ===-|->>	0,99 0,99	XBVOLU XBPOS				A parameter is of a volume or a position
XBPOS	rotm	1,1	----|->>	0,99	rotm				each positioned volume is related to a rotation matrix
XBPOS	volu	1,1	----|->>	0,99	XBVOLU				A position belongs to a volume
XBPOS	Detector	0,1	-|----->	1, 1	XBNLEN				{...}
XBRJCT	of	1,1	===-|->> ===-|->>	0,99 0,99	XBVOLU XBPOS				Rejected volumes and positions
XBSDTA	sdet	1,1	----|->>	0,99	XBSDET				Some detectors give more than one type signals
XBSDTD	of	1,1	===-|->> ===-|->>	0,99 0,99	XBSDET XBSDTA				Sensible detectors and aliases digitizations
XBSDTH	of	1,1	===-|->> ===-|->>	0,99 0,99	XBSDET XBSDTA				each detec. element needs the parameter definition
XBSDTU	of	1,1	===-|->> ===-|->>	0,99 0,99	XBSDET XBSDTA				User parameters for sensible detectors and aliases
XBSDTV	sdet	1,1	------>>	1,99	XBSDET				Physical detectors for the master detector identifier
XBVOLU	div	0,1	-|----->	1, 1	XBDIV				some volumes may be subdived
XBVOLU	sdet	0,1	-|---->>	1,99	XBSDET				some volumes may be also active detectors
XBVOLU	tmed	1,1	------>>	1,99	tmed				Volume tracking medium number

|
V

Page (1, 1)

FrESet	By	FrC	Arrow	ToCar	ToESet	Attribute	Type	P	Comment
XCluHP	XJetEt	0,1	-|--|->>	0,99	XJetEt				Wire hits specified by XCluHP belong to energy cluster stored in XJetEt
XCluHP	XMIPEt	0,1	-|--|->>	0,99	XMIPEt				Wire hits specified by XCluHP belong to MIP track candidate stored in XMIPEt
XJetEt	XEntit	1,1	----|->>	0,99	XEntit				Each Jet will be linked to XEntit bank, There may be no jets in a event.
XJetEt	XMatEt	1,1	----|->>	0,99	XMatEt				Each Jet will be linked to XMatEt bank, There may be no jets for a given entry to XMatEt; e.g. muon or shower totally absorbed in UCAL.
XJetEt	XMCSEt	1,1	----|->>	0,99	XMCSEt				Each Jet will be linked to XMCSEt bank, There may be no jets for a given entry to XMCSEt; e.g. for condensates totally absorbed in UCAL.
XMCSEt	CConSa	0,1	-|----->	1, 1	CConSa				Every UCAL condensate has a corresponding entry in XMCSEt table. If among the BAC entieties none has been found to match with this UCAL condensate there will be no links from XJetEt (or XMIPEt) to the corrsponding XMCSEt entry and Esum=EUCAL; EBAC=0. Those BAC clusters which are not matched with any of the UCAL condensates also give entry to XMCSEt. In this case there will be no link to CConSa and EUCAL=0.; Esum will contain corrected BAC energy as if it originated from the end of UCAL.
XMIPEt	XEntit	1,1	----|->>	0,99	XEntit				Each MIP will be linked to XEntit bank, There may be no mips in a event.
XMIPEt	XJetEt	1,1	----|->>	0,99	XJetEt				Each MIP candidate belongs to one of the energy clusters
XMIPEt	XMatEt	1,1	----|->>	0,99	XMatEt				Each MIP will be linked to XMatEt bank, There may be no MIPs for a given entry to XMatEt; e.g. non-muon or shower totally absorbed in UCAL.
XMIPEt	XMCSEt	1,1	----|->>	0,99	XMCSEt				Each MIP will be linked to XMCSEt bank, There may be no MIPs for a given entry to XMCSEt; e.g. for condensates totally absorbed in UCAL.
XMatEt	Cidclu	0,1	-|----->	1, 1	Cidclu				Every UCAL cluster has a corresponding entry in XMatEt table. If among the BAC entieties none has been found to match with this UCAL cluster there will be no links from XJetEt (or XMIPEt) to the corrsponding XMatEt entry and Esum=EUCAL; EBAC=0. Those BAC clusters which are not matched with any of the UCAL clusters also give entry to XMatET. In this case there will be no link to Cidclu and EUCAL=0.; Esum will contain corrected BAC energy as if it originated from the end of UCAL.
XPTPH	XMIPEt	0,1	-|--|->>	0,99	XMIPEt				Not every Pad Tower produces a MIP (some Pad Towers give Jets). Many Pad Towers may lead to a single MIP (this is unlikely, but possible), and some MIPses may be produced even if there is no PAd deposit (e.g. from crossing of Wire and Strip Tower).
XPTPH	XJetEt	0,1	-|--|->>	0,99	XJetEt				Not every Pad Tower produces a Jet (some Pad Towers give MIPses). Many Pad Towers may lead to a single Jet (this is very likely), and some Jets may be produced even if there is no PAD deposit (e.g. from crossing of Wire and Strip Tower).
XPTow	XBAC	1,1	------>>	1,99	XBAC				Every Pad Tower belongs to a certain part of BAC
XPTow	XSTow	1,1	------>>	1,99	XSTow				Every Pad Tower belongs to a certain Strip Tower
XSTow	XBAC	1,1	------>>	1,99	XBAC				Every Strip Tower belongs to a certain part of BAC
XTrkEt	XMIPEt	1,1	----|-->	0, 1	XMIPEt				For some MIPs there will be one XTrkEt bank. This will happen in BAC bottom, where we have Sensitive Pad readout and we can hopefully reconstruct MIPs momentum.

|
V

Page (1, 1)

<table>
<tr><th>FrESet</th><th>By</th><th>FrC</th><th>Arrow</th><th>ToCar</th><th>ToESet</th><th>Attribute</th><th>Type</th><th>P</th><th>Comment</th></tr>
<tr><td>XWTPH</td><td>XMIPEt</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>XMIPEt</td><td></td><td></td><td></td><td>Not every Wire Tower produces a MIP (some Wire Towers give Jets). Many Wire Towers may lead to a single MIP (this is unlikely, but possible), and some MIPses may be produced even if there is no Wire deposit (e.g. from Pad cluster, which does not cross with any of the Wire Towers).</td></tr>
<tr><td>XWTPH</td><td>XJetEt</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>XJetEt</td><td></td><td></td><td></td><td>Not every Wire Tower produces a Jet (some Wire Towers give MIPses). Many Wire Towers may lead to a single MIP (this is very likely), and some Jets may be produced even if there is no Wire deposit (e.g. from Pad cluster, which does not cross with any of the Wire Towers).</td></tr>
<tr><td>XWTow</td><td>XBAC</td><td>1,1</td><td>------>></td><td>1,99</td><td>XBAC</td><td></td><td></td><td></td><td>Every Wire Tower belongs to a certain part of BAC</td></tr>
<tr><td>XXGHit</td><td>FMCKin</td><td>1,1</td><td>----|->></td><td>0,99</td><td>FMCKin</td><td></td><td></td><td></td><td>Each hit was generated by a track</td></tr>
<tr><td>XXGHit</td><td>XXWRDG</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>XXWRDG</td><td></td><td></td><td></td><td>Each wire digitisation is generated by at least one hit</td></tr>
<tr><td>XXGHit</td><td>XXSTDG</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>XXSTDG</td><td></td><td></td><td></td><td>Each strip digitisation is generated by at least one hit</td></tr>
<tr><td>XXGHit</td><td>XXPTDG</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>XXPTDG</td><td></td><td></td><td></td><td>Each pad digitisation is generated by at least one hit</td></tr>
<tr><td>XXGHit</td><td>XXXLDG</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>XXXLDG</td><td></td><td></td><td></td><td>Each hit pattern is generated by at least one hit</td></tr>
<tr><td>XXGHit</td><td>XXPSDG</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>XXPSDG</td><td></td><td></td><td></td><td>Each sensitive pad digitisation is generated by at least one hit</td></tr>
<tr><td>XXLay</td><td>XDim</td><td>1,1</td><td>----|->></td><td>0,99</td><td>XDim</td><td></td><td></td><td></td><td>Every X-Layer is related to the Chamber Set bank</td></tr>
<tr><td>XXLay</td><td>XPos</td><td>1,1</td><td>----|->></td><td>0,99</td><td>XPos</td><td></td><td></td><td></td><td>Every X-Layer has its own Position bank</td></tr>
<tr><td>XXLay</td><td>XRot</td><td>1,1</td><td>----|->></td><td>0,99</td><td>XRot</td><td></td><td></td><td></td><td>Every X-Layer is related to the Rot. Matrix bank</td></tr>
<tr><td>XXLay</td><td>XBAC</td><td>1,1</td><td>------>></td><td>1,99</td><td>XBAC</td><td></td><td></td><td></td><td>Every X-Layer belongs to a certain part of BAC.</td></tr>
<tr><td>ZDCAT</td><td>ZDARCH</td><td>1,1</td><td>------>></td><td>1,99</td><td>ZDARCH</td><td></td><td></td><td></td><td>each version of a data flow in the master catalogue is found on one file, which in turn may contain a number of different versions of data flows</td></tr>
<tr><td>ZDLHMM</td><td>ZDFHMM</td><td>1,1</td><td>------>></td><td>1,99</td><td>ZDFHMM</td><td></td><td></td><td></td><td>each version of a data flow is found on one file, which in turn may contain a number of different versions of data flows</td></tr>
<tr><td>ZDLOAD</td><td>ZDFILE</td><td>1,1</td><td>------>></td><td>1,99</td><td>ZDFILE</td><td></td><td></td><td></td><td>each version of a data flow is found on one file, which in turn may contain a number of different versions of data flows</td></tr>
<tr><td>ZDLOut</td><td>ZDFOut</td><td>1,1</td><td>------>></td><td>1,99</td><td>ZDFOut</td><td></td><td></td><td></td><td>each version of a data flow is found on one file, which in turn may contain a number of different versions of data flows</td></tr>
<tr><td>ZDPHMM</td><td>ZDLHMM</td><td>1,1</td><td>------>></td><td>1,99</td><td>ZDLHMM</td><td></td><td></td><td></td><td>each version of a data flow is used for specific periods of time, in most cases this will be a one-to-one relationship</td></tr>
<tr><td>ZDPOut</td><td>ZDLOut</td><td>1,1</td><td>------>></td><td>1,99</td><td>ZDLOut</td><td></td><td></td><td></td><td>each version of a data flow is used for specific periods of time, in most cases this will be a one-to-one relationship</td></tr>
<tr><td>ZDPUSE</td><td>ZDLOAD</td><td>1,1</td><td>------>></td><td>1,99</td><td>ZDLOAD</td><td></td><td></td><td></td><td>each version of a data flow is used for specific periods of time, in most cases this will be a one-to-one relationship</td></tr>
<tr><td>ZDPVAL</td><td>ZDCAT</td><td>1,1</td><td>------>></td><td>1,99</td><td>ZDCAT</td><td></td><td></td><td></td><td>each version of a data flow is valid for specific periods of time, in most cases this will be a one-to-one relationship, BUT: a specific version may be valid at different times</td></tr>
<tr><td>ZDUNIT</td><td>ZDFILE</td><td>1,1</td><td>----|--></td><td>0, 1</td><td>ZDFILE</td><td></td><td></td><td></td><td>if a file is opened it is attached to a specific GAF reference number (sort of unit number)</td></tr>
<tr><td>ZFCADC</td><td>ZFPPan</td><td>1,1</td><td>-------></td><td>1, 1</td><td>ZFPPan</td><td></td><td></td><td></td><td>Every ADC channel has a cable coming from the patch panel</td></tr>
<tr><td>ZFForc</td><td>ZFDatG</td><td>1,1</td><td>-------></td><td>1, 1</td><td>ZFDatG</td><td></td><td></td><td></td><td>Every strain gauge has its raw data analysed</td></tr>
</table>

|
V

Page (1, 1)

FrESet	By	FrC	Arrow	ToCar	ToESet	Attribute	Type	P	Comment
ZFGaug	ZFCalG	1,1	------>>	1,99	ZFCalG				Each strain gauge channel has a set of calibrations. A set of calibrations can be applicable to more than one strain gauge.
ZFHall	ZFCalH	1,1	------>>	1,99	ZFCalH			-	A Hall probe channel has a set of calibrations. A set of calibrations is applicable to all Hall probe sensors or the temperature sensor on a module.
ZFMagF	ZFDatH	1,1	------->	1, 1	ZFDatH			-	Every Hall probe has its raw data analysed
ZFPPan	Device	0,1	=|=----> =|=---->	1, 1 1, 1	ZFHall ZFGaug			-	Every Hall probe and strain gauge has a cable to the patch panel. Not every cable to the patch panel is attached to an active device.
ZFRawD	DataType	0,1	=|=--->> =|=---->	1,99 1, 1	ZFDatH ZFDatG			-	Every read raw data channel contains either raw data from one of the chips on a Hall probe module or from a strain gauge or it is empty
ZINDFL	ZRINPT	1,1	----|->>	0,99	ZRINPT			-	Each i/p file might have many sets of dataflow selections
ZINRCD	ZRINPT	1,1	----|->>	0,99	ZRINPT			-	Each i/p file might have many sets of GAFTYP selections
ZOUDFL	ZROUTP	1,1	----|->>	0,99	ZROUTP			-	Each o/p file might have many sets of dataflow selections
ZOURCD	ZROUTP	1,1	----|->>	0,99	ZROUTP			-	Each o/p file might have many sets of GAFTYP selections
ZRECTD	ZREDFL	1,1	------>>	1,99	ZREDFL			-	dataflow leg of many-to-many relationship between components and dataflows
ZRECTD	ZRECMP	1,1	------>>	1,99	ZRECMP			-	component leg of many-to-many relationship between components and dataflows
ZRINPT	ZINOPT	0,1	-|----->	1, 1	ZINOPT			-	Each i/p file has one option except the summary
ZROUTP	ZOUOPT	0,1	-|----->	1, 1	ZOUOPT			-	Each o/p file has one option except the summary
ZRXKFO	ZRXKSO	1,1	------>>	1,99	ZRXKSO			-	The last filtered-smoothed point identifies a set of ZRXKFO points
ZTPRHL	VCTRHL	0,1	-|----->	1, 1	VCTRHL			-	Relation between ZTPRHL and VCTRHL
ZTPRUSE	MVRECC	0,1	-|--|->>	0,99	MVRECC			-	zero or one MV clusters are used in the PR helix; first leg of many-to-many relationship between MV clusters and ZT tracks
ZTPRUSE	VCCTDM	0,1	-|--|->>	0,99	VCCTDM			-	zero or one CTD hits are used in the PR helix; first leg of many-to-many relationship between CTD hits and ZT tracks
ZTPRUSE	ZTPRHL	0,1	-|---->>	1,99	ZTPRHL			-	a PR trajectory helix is linked to the used hits in MVD or CTD; second leg of many-to-many relationship between MVD/CTD objects and PR trajectory helix
ZTTRCAL	ZTTRHL	1,1	------->	1, 1	ZTTRHL			-	correspondence between track at CAL and ZT track
ZTTRHL	ZTPRHL	0,1	-|----->	1, 1	ZTPRHL			-	Relation between ZTTRHL and ZTPRHL
ZTTRHL	VCTRHL	0,1	-|----->	1, 1	VCTRHL			-	Relation between ZTTRHL and VCTRHL
ZTTRMS	ZTTRHL	0,1	-|--|->>	0,99	ZTTRHL			-	every track may have zero or more kinks
ZTTRPRM	ZTTRHL	0,1	-|----->	1, 1	ZTTRHL			-	Relation between final track parameters at the vertex and ZTTRHL
ZTTRPRM	PRoducedAt	0,1	-|---->>	1,99	ZTVTXPRM			-	Each track is produced at one vertex
ZTTRPRM	DaughterOf	0,1	-|--|->>	0,99	ZTTRPRM			-	Some particles are generated by other particles
ZTTRSEC	ZTTRHL	0,1	-|----->	1, 1	ZTTRHL			-	Relation between SECONDARY VERTEX TRACKS and ZTTRHL
ZTTRSEC	PRoducedAt	0,1	-|---->>	1,99	ZTVTXSEC			-	Each SECONDARY track is produced at one SECONDARY vertex
ZTTRSEC	DaughterOf	0,1	-|--|->>	0,99	ZTTRSEC			-	Some particles are generated by other particles
ZTTRUSE	MVRECC	0,1	-|--|->>	0,99	MVRECC			-	zero or one MV clusters are used in the fitted track: first leg of many-to-many relationship between MV clusters and ZT tracks

|
V

Page (1, 1)

FrESet	By	FrC	Arrow	ToCar	ToESet	Attribute	Type	P	Comment
ZTTRUSE	VCCTDM	0,1	-|--|->>	0,99	VCCTDM				zero or one CTD hits are used in the fitted track: first leg of many-to-many relationship between CTD hits and ZT tracks
ZTTRUSE	ZTTRHL	0,1	-|---->>	1,99	ZTTRHL				link from track to used hits: second leg of many-to-many relationship between MVD/CTD hits or STT/FTD hits and ZT tracks
ZWPARA	of	1,1	===-|->> ===-|->>	0,99 0,99	ZWVOLU ZWPOS				A parameter is of a volume or a position
ZWPOS	rotm	1,1	----|->>	0,99	rotm				each positioned volume is related to a rotation matrix
ZWPOS	Detector	0,1	-|---->>	1,99	ZWDTCT				Every Superlayer is positioned.
ZWPOS	volu	1,1	----|->>	0,99	ZWVOLU				A position belongs to a volume
ZWRJCT	of	1,1	===-|->> ===-|->>	0,99 0,99	ZWVOLU ZWPOS				Rejected volumes and positions
ZWSDTA	sdet	1,1	----|->>	0,99	ZWSDET				Some detectors give more than one type signals
ZWSDTD	of	1,1	===-|->> ===-|->>	0,99 0,99	ZWSDET ZWSDTA				Sensible detectors and aliases digitizations
ZWSDTH	of	1,1	===-|->> ===-|->>	0,99 0,99	ZWSDET ZWSDTA				each detec. element needs the parameter definition
ZWSDTU	of	1,1	===-|->> ===-|->>	0,99 0,99	ZWSDET ZWSDTA				User parameters for sensible detectors and aliases
ZWSDTV	sdet	1,1	------>>	1,99	ZWSDET				Physical detectors for the master detector identifier
ZWVOLU	div	0,1	-|----->	1, 1	ZWDIV				some volumes may be subdived
ZWVOLU	sdet	0,1	-|---->>	1,99	ZWSDET				some volumes may be also active detectors
ZWVOLU	tmed	1,1	------>>	1,99	tmed				Volume tracking medium number
kwparm	kwgrp	0,1	-|--|->>	0,99	kwgrp				entries into kwparm are sorted in groups by their relation to kwgrp, identification of a prefix with a processor name will allow an integration of program control and program monitoring
lmhit	lmdig	0,1	-|--|->>	0,99	lmdig				One or more hits correspond to one digit
lphit	FMCKin	0,1	-|--|->>	0,99	FMCKin				one or more hits correspond to one track
lphit	lpdig	0,1	-|--|->>	0,99	lpdig				one or more hits correspond to one digit
lppjpp	lppjp	1,1	----|->>	0, 2	lppjp				A coordinate belongs to at most 2 track elements
lppjpp	lprhit	1,1	------>>	2, 8	lprhit				There are 2 to 8 -coordinates to one track element
lprhit	lpdig	1,1	----|-->	0, 1	lpdig				each reconstructed hit comes from a digitized quantity
mfdm	mfct	1,1	------>>	1,99	mfct				second part of mfrh-mfct relation
mfdm	mfrh	1,1	----|->>	0,99	mfrh				first part of mfrh-mfct relation: each candidate will have many associated reconstructed hits and the same rec. hit can be associated to different candidates
mfdm1	mfrh	1,1	----|->>	0,99	mfrh				First part of mfdcse-mfrh relationship
mfdm1	mfdcse	1,1	------>>	1,99	mfdcse				First part of mfdcse-mfrh relationship: each candidate will have many associated DC segments, and the DC segment can be associated to different candidates
mfdm2	mfrh	1,1	----|->>	0,99	mfrh				
mfdm2	mfgrid	1,1	------>>	1,99	mfgrid				
mfdm3	mfrh	1,1	----|->>	0,99	mfrh				first part of mfrh-mfcts relation: each candidate will have many associated reconstructed hits and the same rec. hit can be associated to different candidates
mfdm3	mfcts	1,1	------>>	1,99	mfcts				second part of mfrh-mfcts relation
mfdr	from	1,1	----|->>	0,99	mfdig				A digit can have more digits of the same kind associated with it
mfdr	to	1,1	------>>	1,99	mfdig				A digit in mfdr must have a digit in mfdig
mfdtoh	mfdig	0,1	-|---->>	1,99	mfdig				Many hits can come from the same digit (i.e. L/R ambiguity)

|
V

Page (1, 1)

<table>
<tr><th>FrESet</th><th>By</th><th>FrC</th><th>Arrow</th><th>ToCar</th><th>ToESet</th><th>Attribute</th><th>Type</th><th>P</th><th>Comment</th></tr>
<tr><td>mfdtoh</td><td>mfrh</td><td>1,1</td><td>------>></td><td>1,99</td><td>mfrh</td><td></td><td></td><td></td><td>Many digits can go to the same rec. hit (i.e. cluster-average)</td></tr>
<tr><td>mfhit</td><td>mfdig</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>mfdig</td><td></td><td></td><td></td><td>one or more hits correspond to one digit</td></tr>
<tr><td>mfhit</td><td>FMCKin</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>FMCKin</td><td></td><td></td><td></td><td>one or more hits correspond to one track</td></tr>
<tr><td>mfkinp</td><td>mfdcse</td><td>1,1</td><td>----|->></td><td>0,99</td><td>mfdcse</td><td></td><td></td><td></td><td>a set of rec. DC segments is the input to the Kalman Filtering</td></tr>
<tr><td>mfkinp</td><td>mfct</td><td>1,1</td><td>----|->></td><td>0,99</td><td>mfct</td><td></td><td></td><td></td><td>relation between Kalman input mesaruments and cand. track</td></tr>
<tr><td>mfkinp</td><td>mfcts</td><td>1,1</td><td>----|->></td><td>0,99</td><td>mfcts</td><td></td><td></td><td></td><td>relation between Kalman input mesaruments and spline-cand. track</td></tr>
<tr><td>mfrtl</td><td>mfrtz</td><td>1,1</td><td>-------></td><td>1, 1</td><td>mfrtz</td><td></td><td></td><td></td><td>relationship between rec. track zeus<->local</td></tr>
<tr><td>mfsect</td><td>pos</td><td>1,1</td><td>----|--></td><td>0, 1</td><td>MFPOS</td><td></td><td></td><td></td><td>relationship between FMUON sector and pos table</td></tr>
<tr><td>mfsect</td><td>mfrot</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>mfrot</td><td></td><td></td><td></td><td>a sector can be linked to a local rotation matrix</td></tr>
<tr><td>moacc</td><td>module</td><td>1,1</td><td>----|->></td><td>0,99</td><td>module</td><td></td><td></td><td></td><td>accounts are kept per module and condition</td></tr>
<tr><td>mocond</td><td>mostck</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>mostck</td><td></td><td></td><td></td><td>condition keeps only those conditions which were set during the latest execution of a module, condition will be cleared with the reading-in of a new event</td></tr>
<tr><td>mostck</td><td>module</td><td>1,1</td><td>----|--></td><td>0, 1</td><td>module</td><td></td><td></td><td></td><td>the callstack keeps track of the behaviour of the program on an event-by-event basis, each module which is called in the processing of an event is linked to the module table which does the bookkeeping for the processing of a complete run</td></tr>
<tr><td>tmed</td><td>ZEMATE</td><td>1,1</td><td>----|->></td><td>0,99</td><td>ZEMATE</td><td></td><td></td><td></td><td></td></tr>
<tr><td>tpar</td><td>tmed</td><td>1,1</td><td>----|->></td><td>0,99</td><td>tmed</td><td></td><td></td><td></td><td></td></tr>
<tr><td>vtdig</td><td>vtraw</td><td>1,1</td><td>-------></td><td>1, 1</td><td>vtraw</td><td></td><td></td><td></td><td>each digitisation corresponds to a packed data in vtraw</td></tr>
<tr><td>vtdm</td><td>vtct</td><td>1,1</td><td>------>></td><td>1,99</td><td>vtct</td><td></td><td></td><td></td><td>second part of vtrh-vtct relation</td></tr>
<tr><td>vtdm</td><td>vtrh</td><td>1,1</td><td>----|->></td><td>0,99</td><td>vtrh</td><td></td><td></td><td></td><td>first part of vtrh-vtct relation: each candidate will have many associated reconstructed hits and the same rec. hit can be associated to different candidates</td></tr>
<tr><td>vthit</td><td>vtdig</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>vtdig</td><td></td><td></td><td></td><td>one or more hits correspond to one digitised time</td></tr>
<tr><td>vthit</td><td>FMCKin</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>FMCKin</td><td></td><td></td><td></td><td>one or more hits correspond to one track</td></tr>
<tr><td>vtrh</td><td>vtraw</td><td>1,1</td><td>------>></td><td>1,99</td><td>vtraw</td><td></td><td></td><td></td><td>two recontructed hits correspond to one digitised time</td></tr>
</table>

|
V

Page (1, 1)

<table>
<tr><th>FrESet</th><th>FromBy</th><th>Frc</th><th>Arrow1</th><th>Tocar</th><th>ESet</th><th>ToBy</th><th>Frc</th><th>Arrow2</th><th>Tocar</th><th>ToESet</th></tr>
<tr><td>PMTF</td><td>ANLCRD</td><td>1,1</td><td>----|->></td><td>0,99</td><td>ANLCRD</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>FMCEvt</td><td>Generator</td><td>1,1</td><td>===-|--></td><td>0, 1</td><td>BMGEvt</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>FMCRun</td><td>Generator</td><td>1,1</td><td>===-|--></td><td>0, 1</td><td>BMGRun</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>BPCCOND</td><td>Ncalib
Scalib</td><td>1,1
1,1</td><td>----|->>
----|->></td><td>0,99
0,99</td><td>BPCMOD
BPCMOD</td></tr>
<tr><td>BPCCOND
BPCCOND</td><td>Ncalib
Scalib</td><td>1,1
1,1</td><td>----|->>
----|->></td><td>0,99
0,99</td><td>BPCMOD</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>BPCTRUE</td><td>FMCKin</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>FMCKin</td></tr>
<tr><td>BPPOS</td><td>Detector</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>BPDICO</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>BPVOLU</td><td>div</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>BPDIV</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>BPPARA</td><td>of
of</td><td>1,1
1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>BPPOS
BPVOLU</td></tr>
<tr><td>BPPARA
BPRJCT</td><td>of
of</td><td>1,1
1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>BPPOS</td><td>Detector
volu
rotm</td><td>0,1
1,1
1,1</td><td>-|---->>
----|->>
----|->></td><td>1,99
0,99
0,99</td><td>BPDICO
BPVOLU
rotm</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>BPRJCT</td><td>of
of</td><td>1,1
1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>BPPOS
BPVOLU</td></tr>
<tr><td>BPSDTA
BPSDTD
BPSDTH
BPSDTU
BPSDTV
BPVOLU</td><td>sdet
of
of
of
sdet
sdet</td><td>1,1
1,1
1,1
1,1
1,1
0,1</td><td>----|->>
===-|->>
===-|->>
===-|->>
------>>
-|---->></td><td>0,99
0,99
0,99
0,99
1,99
1,99</td><td>BPSDET</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>BPSDTD
BPSDTH
BPSDTU</td><td>of
of
of</td><td>1,1
1,1
1,1</td><td>===-|->>
===-|->>
===-|->></td><td>0,99
0,99
0,99</td><td>BPSDTA</td><td>sdet</td><td>1,1</td><td>----|->></td><td>0,99</td><td>BPSDET</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>BPSDTD</td><td>of
of</td><td>1,1
1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>BPSDET
BPSDTA</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>BPSDTH</td><td>of
of</td><td>1,1
1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>BPSDET
BPSDTA</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>BPSDTU</td><td>of
of</td><td>1,1
1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>BPSDET
BPSDTA</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>BPSDTV</td><td>sdet</td><td>1,1</td><td>------>></td><td>1,99</td><td>BPSDET</td></tr>
<tr><td>BPTTRAK
BPTTRAK
BPTTRAK
BPTTRAK
BPTTRAK</td><td>HitP1
HitP2
HitP3
HitP4
HitP5</td><td>0,1
0,1
0,1
0,1
0,1</td><td>-|--|->>
-|--|->>
-|--|->>
-|--|->>
-|--|->></td><td>0,99
0,99
0,99
0,99
0,99</td><td>BPTCLUS</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>BPTMCH</td><td>BPTMCI</td><td>1,1</td><td>----|->></td><td>0,99</td><td>BPTMCI</td></tr>
<tr><td>BPTMCH</td><td>BPTMCI</td><td>1,1</td><td>----|->></td><td>0,99</td><td>BPTMCI</td><td>FMCKin</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>FMCKin</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>BPTRECS</td><td>BestDIS
BestTrak</td><td>0,1
0,1</td><td>-|--|->>
-|--|->></td><td>0,99
0,99</td><td>BPTTRAK
BPTTRAK</td></tr>
<tr><td>BPTRECS
BPTRECS</td><td>BestDIS
BestTrak</td><td>0,1
0,1</td><td>-|--|->>
-|--|->></td><td>0,99
0,99</td><td>BPTTRAK</td><td>HitP1
HitP2
HitP3
HitP4
HitP5</td><td>0,1
0,1
0,1
0,1
0,1</td><td>-|--|->>
-|--|->>
-|--|->>
-|--|->>
-|--|->></td><td>0,99
0,99
0,99
0,99
0,99</td><td>BPTCLUS
BPTCLUS
BPTCLUS
BPTCLUS
BPTCLUS</td></tr>
<tr><td>BPPARA
BPPOS
BPRJCT</td><td>of
volu
of</td><td>1,1
1,1
1,1</td><td>===-|->>
----|->>
===-|->></td><td>0,99
0,99
0,99</td><td>BPVOLU</td><td>div
sdet
tmed</td><td>0,1
0,1
1,1</td><td>-|----->
-|---->>
------>></td><td>1, 1
1,99
1,99</td><td>BPDIV
BPSDET
tmed</td></tr>
<tr><td>C5POS</td><td>Detector</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>C5DICO</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>C5VOLU</td><td>div</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>C5DIV</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>C5PARA</td><td>of
of</td><td>1,1
1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>C5POS
C5VOLU</td></tr>
<tr><td>C5PARA
C5RJCT</td><td>of
of</td><td>1,1
1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>C5POS</td><td>Detector
volu
rotm</td><td>0,1
1,1
1,1</td><td>-|---->>
----|->>
----|->></td><td>1,99
0,99
0,99</td><td>C5DICO
C5VOLU
rotm</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>C5RJCT</td><td>of
of</td><td>1,1
1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>C5POS
C5VOLU</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>C5SCGH</td><td>FMCKin</td><td>1,1</td><td>----|->></td><td>0,99</td><td>FMCKin</td></tr>
<tr><td>C5SDTA
C5SDTD
C5SDTH
C5SDTU
C5SDTV
C5VOLU</td><td>sdet
of
of
of
sdet
sdet</td><td>1,1
1,1
1,1
1,1
1,1
0,1</td><td>----|->>
===-|->>
===-|->>
===-|->>
------>>
-|---->></td><td>0,99
0,99
0,99
0,99
1,99
1,99</td><td>C5SDET</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>C5SDTD
C5SDTH
C5SDTU</td><td>of
of
of</td><td>1,1
1,1
1,1</td><td>===-|->>
===-|->>
===-|->></td><td>0,99
0,99
0,99</td><td>C5SDTA</td><td>sdet</td><td>1,1</td><td>----|->></td><td>0,99</td><td>C5SDET</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>C5SDTD</td><td>of
of</td><td>1,1
1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>C5SDET
C5SDTA</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>C5SDTH</td><td>of
of</td><td>1,1
1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>C5SDET
C5SDTA</td></tr>
</table>

|
V

Page (1, 1)

<table>
<tr><th>FrESet</th><th>FromBy</th><th>Frc</th><th>Arrow1</th><th>Tocar</th><th>ESet</th><th>ToBy</th><th>Frc</th><th>Arrow2</th><th>Tocar</th><th>ToESet</th></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>C5SDTU</td><td>of
of</td><td>1,1
1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>C5SDET
C5SDTA</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>C5SDTV</td><td>sdet</td><td>1,1</td><td>------>></td><td>1,99</td><td>C5SDET</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>C5SHGH</td><td>FMCKin</td><td>1,1</td><td>----|->></td><td>0,99</td><td>FMCKin</td></tr>
<tr><td>C5PARA
C5POS
C5RJCT</td><td>of
volu
of</td><td>1,1
1,1
1,1</td><td>===-|->>
----|->>
===-|->></td><td>0,99
0,99
0,99</td><td>C5VOLU</td><td>div
sdet
tmed</td><td>0,1
0,1
1,1</td><td>-|----->
-|---->>
------>></td><td>1, 1
1,99
1,99</td><td>C5DIV
C5SDET
tmed</td></tr>
<tr><td>CBDCPM
CBPMDC</td><td>CBDCCN
CBDCCN</td><td>1,1
1,1</td><td>------->
------>></td><td>1, 1
1,99</td><td>CBDCCN</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>CBDCPM</td><td>CBDCCN</td><td>1,1</td><td>-------></td><td>1, 1</td><td>CBDCCN</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>CBPMDC</td><td>CBDCCN</td><td>1,1</td><td>------>></td><td>1,99</td><td>CBDCCN</td></tr>
<tr><td>CcGHit</td><td>Component</td><td>0,1</td><td>=|=-|->></td><td>0,99</td><td>CBTENE</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>CUAdCl</td><td>CCAdJa</td><td>1,1</td><td>----|->></td><td>0,99</td><td>CCAdJa</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>CCLHIT</td><td>FMCKin</td><td>1,1</td><td>------>></td><td>1,99</td><td>FMCKin</td></tr>
<tr><td>CP2Lin
Caltru
PRRES
XMCSEt</td><td>CConSa
CConSa
CConSa
CConSa</td><td>1,1
0,1
0,1
0,1</td><td>------>>
-|---->>
-|--|->>
-|-----></td><td>1,99
1,99
0,99
1, 1</td><td>CConSa</td><td>Cidclu</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>Cidclu</td></tr>
<tr><td>CFDCPM
CFPMDC</td><td>CFDCCN
CFDCCN</td><td>1,1
1,1</td><td>------->
------>></td><td>1, 1
1,99</td><td>CFDCCN</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>CFDCPM</td><td>CFDCCN</td><td>1,1</td><td>-------></td><td>1, 1</td><td>CFDCCN</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>CFPMDC</td><td>CFDCCN</td><td>1,1</td><td>------>></td><td>1,99</td><td>CFDCCN</td></tr>
<tr><td>CcGHit</td><td>Component</td><td>0,1</td><td>=|=-|->></td><td>0,99</td><td>CFTENE</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>CL2VTX</td><td>CR2obj</td><td>1,1</td><td>-------></td><td>1, 1</td><td>CR2obj</td></tr>
<tr><td>CMPOS</td><td>Detector</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>CMDICO</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>CMVOLU</td><td>div</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>CMDIV</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>CMPARA</td><td>of
of</td><td>1,1
1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>CMPOS
CMVOLU</td></tr>
<tr><td>CMPARA
CMRJCT</td><td>of
of</td><td>1,1
1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>CMPOS</td><td>Detector
volu
rotm</td><td>0,1
1,1
1,1</td><td>-|---->>
----|->>
----|->></td><td>1,99
0,99
0,99</td><td>CMDICO
CMVOLU
rotm</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>CMRJCT</td><td>of
of</td><td>1,1
1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>CMPOS
CMVOLU</td></tr>
<tr><td>CMSDTA
CMSDTD
CMSDTH
CMSDTU
CMSDTV
CMVOLU</td><td>sdet
of
of
of
sdet
sdet</td><td>1,1
1,1
1,1
1,1
1,1
0,1</td><td>----|->>
===-|->>
===-|->>
===-|->>
------>>
-|---->></td><td>0,99
0,99
0,99
0,99
1,99
1,99</td><td>CMSDET</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>CMSDTD
CMSDTH
CMSDTU</td><td>of
of
of</td><td>1,1
1,1
1,1</td><td>===-|->>
===-|->>
===-|->></td><td>0,99
0,99
0,99</td><td>CMSDTA</td><td>sdet</td><td>1,1</td><td>----|->></td><td>0,99</td><td>CMSDET</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>CMSDTD</td><td>of
of</td><td>1,1
1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>CMSDET
CMSDTA</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>CMSDTH</td><td>of
of</td><td>1,1
1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>CMSDET
CMSDTA</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>CMSDTU</td><td>of
of</td><td>1,1
1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>CMSDET
CMSDTA</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>CMSDTV</td><td>sdet</td><td>1,1</td><td>------>></td><td>1,99</td><td>CMSDET</td></tr>
<tr><td>CMPARA
CMPOS
CMRJCT</td><td>of
volu
of</td><td>1,1
1,1
1,1</td><td>===-|->>
----|->>
===-|->></td><td>0,99
0,99
0,99</td><td>CMVOLU</td><td>div
sdet
tmed</td><td>0,1
0,1
1,1</td><td>-|----->
-|---->>
------>></td><td>1, 1
1,99
1,99</td><td>CMDIV
CMSDET
tmed</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>CP2Lin</td><td>CConSa
CuPaOb</td><td>1,1
1,1</td><td>------>>
------>></td><td>1,99
1,99</td><td>CConSa
CuPaOb</td></tr>
<tr><td>CofCel</td><td>CPsPar</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>CPsPar</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Cidclu</td><td>CR1obj</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>CR1obj</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>CL2VTX</td><td>CR2obj</td><td>1,1</td><td>-------></td><td>1, 1</td><td>CR2obj</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>CRDCPM
CRPMDC</td><td>CRDCCN
CRDCCN</td><td>1,1
1,1</td><td>------->
------>></td><td>1, 1
1,99</td><td>CRDCCN</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>CRDCPM</td><td>CRDCCN</td><td>1,1</td><td>-------></td><td>1, 1</td><td>CRDCCN</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>CRPMDC</td><td>CRDCCN</td><td>1,1</td><td>------>></td><td>1,99</td><td>CRDCCN</td></tr>
<tr><td>CcGHit</td><td>Component</td><td>0,1</td><td>=|=-|->></td><td>0,99</td><td>CRTENE</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>CUAdCl</td><td>CCAdJa
CUCELL</td><td>1,1
1,1</td><td>----|->>
----|--></td><td>0,99
0, 1</td><td>CCAdJa
CUCELL</td></tr>
<tr><td>CUAdCl</td><td>CUCELL</td><td>1,1</td><td>----|--></td><td>0, 1</td><td>CUCELL</td><td>Volu
rotm
tmed</td><td>1,1
0,1
0,1</td><td>----|->>
-|---->>
-|--|->></td><td>0,99
1,99
0,99</td><td>CUVOLU
rotm
tmed</td></tr>
<tr><td>CUVOLU</td><td>div</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>CUDIV</td><td></td><td></td><td></td><td></td><td></td></tr>
</table>

|
V

Page (1, 1)

<table>
<tr><th>FrESet</th><th>FromBy</th><th>Frc</th><th>Arrow1</th><th>Tocar</th><th>ESet</th><th>ToBy</th><th>Frc</th><th>Arrow2</th><th>Tocar</th><th>ToESet</th></tr>
<tr><td>CUPOS</td><td>Detector</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>CULINK</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>CUPARA</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>CUPOS</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>CUVOLU</td></tr>
<tr><td>CUPARA</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>CUPOS</td><td>Detector</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>CULINK</td></tr>
<tr><td>CURJCT</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td>volu</td><td>1,1</td><td>----|->></td><td>0,99</td><td>CUVOLU</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>rotm</td><td>1,1</td><td>----|->></td><td>0,99</td><td>rotm</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>CURJCT</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>CUPOS</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>CUVOLU</td></tr>
<tr><td>CUSDTA</td><td>sdet</td><td>1,1</td><td>----|->></td><td>0,99</td><td>CUSDET</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>CUSDTD</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>CUSDTH</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>CUSDTU</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>CUSDTV</td><td>sdet</td><td>1,1</td><td>------>></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>CUVOLU</td><td>sdet</td><td>0,1</td><td>-|---->></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>CUSDTD</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>CUSDTA</td><td>sdet</td><td>1,1</td><td>----|->></td><td>0,99</td><td>CUSDET</td></tr>
<tr><td>CUSDTH</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>CUSDTU</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>CUSDTD</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>CUSDET</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>CUSDTA</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>CUSDTH</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>CUSDET</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>CUSDTA</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>CUSDTU</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>CUSDET</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>CUSDTA</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>CUSDTV</td><td>sdet</td><td>1,1</td><td>------>></td><td>1,99</td><td>CUSDET</td></tr>
<tr><td>CUCELL</td><td>Volu</td><td>1,1</td><td>----|->></td><td>0,99</td><td>CUVOLU</td><td>div</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>CUDIV</td></tr>
<tr><td>CUPARA</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td>sdet</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>CUSDET</td></tr>
<tr><td>CUPOS</td><td>volu</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td>tmed</td><td>1,1</td><td>------>></td><td>1,99</td><td>tmed</td></tr>
<tr><td>CURJCT</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TSUMCD</td><td>Cable</td><td>1,1</td><td>----|->></td><td>0,99</td><td>Cable</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Ciddup</td><td>Caldup</td><td>1,1</td><td>----|->></td><td>0,99</td><td>Caldup</td><td>Condup</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>Condup</td></tr>
<tr><td>Cellgr</td><td>Caltru</td><td>1,1</td><td>----|->></td><td>0,99</td><td>Caltru</td><td>CConSa</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>CConSa</td></tr>
<tr><td>Cidcel</td><td>Caltru</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td>CuPaOb</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>CuPaOb</td></tr>
<tr><td>PhysDet</td><td>DetComp</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>Canvar</td><td>Cidclu</td><td>1,1</td><td>------>></td><td>1,99</td><td>Cidclu</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>CcGHit</td><td>Component</td><td>0,1</td><td>=|=-|->></td><td>0,99</td><td>CBTENE</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>Component</td><td>0,1</td><td>=|=-|->></td><td>0,99</td><td>CFTENE</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>Component</td><td>0,1</td><td>=|=-|->></td><td>0,99</td><td>CRTENE</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>FMCKin</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>FMCKin</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>CcNewH</td><td>FMCKin</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>FMCKin</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>Cclugr</td><td>Cclust</td><td>1,1</td><td>----|->></td><td>0,99</td><td>Cclust</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>Cidclu</td><td>1,1</td><td>------>></td><td>1,99</td><td>Cidclu</td></tr>
<tr><td>Cclugr</td><td>Cclust</td><td>1,1</td><td>----|->></td><td>0,99</td><td>Cclust</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Cellgr</td><td>Cclust</td><td>1,1</td><td>------>></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>Cellgr</td><td>Caltru</td><td>1,1</td><td>----|->></td><td>0,99</td><td>Caltru</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>Cclust</td><td>1,1</td><td>------>></td><td>1,99</td><td>Cclust</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>Cidcel</td><td>Caltru</td><td>1,1</td><td>----|->></td><td>0,99</td><td>Caltru</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>Cidclu</td><td>1,1</td><td>------>></td><td>1,99</td><td>Cidclu</td></tr>
<tr><td>CConSa</td><td>Cidclu</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>Cidclu</td><td>CR1obj</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>CR1obj</td></tr>
<tr><td>Canvar</td><td>Cidclu</td><td>1,1</td><td>------>></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Cclugr</td><td>Cidclu</td><td>1,1</td><td>------>></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Cidcel</td><td>Cidclu</td><td>1,1</td><td>------>></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>XMatEt</td><td>Cidclu</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>Ciddup</td><td>Caldup</td><td>1,1</td><td>----|->></td><td>0,99</td><td>Caldup</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>Cludup</td><td>1,1</td><td>------>></td><td>1,99</td><td>Cludup</td></tr>
<tr><td>Ciddup</td><td>Cludup</td><td>1,1</td><td>------>></td><td>1,99</td><td>Cludup</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Condup</td><td>Cludup</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>CofCel</td><td>CPsPar</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>CPsPar</td></tr>
<tr><td>Caldup</td><td>Condup</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>Condup</td><td>Cludup</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>Cludup</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>Ctepli</td><td>Ctrepc</td><td>1,1</td><td>----|->></td><td>0,99</td><td>Ctrepc</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>Cthpli</td><td>Ctrhpc</td><td>1,1</td><td>------>></td><td>1,99</td><td>Ctrhpc</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>Ctlink</td><td>Ctrclu</td><td>1,1</td><td>------>></td><td>1,99</td><td>Ctrclu</td></tr>
<tr><td>Ctlink</td><td>Ctrclu</td><td>1,1</td><td>------>></td><td>1,99</td><td>Ctrclu</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>Ctreem</td><td>Ctrgem</td><td>1,1</td><td>-------></td><td>1, 1</td><td>Ctrgem</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>Ctreha</td><td>Ctrgha</td><td>1,1</td><td>-------></td><td>1, 1</td><td>Ctrgha</td></tr>
<tr><td>Ctepli</td><td>Ctrepc</td><td>1,1</td><td>----|->></td><td>0,99</td><td>Ctrepc</td><td>Ctrhpc</td><td>0,1</td><td>-|--|--></td><td>0, 1</td><td>Ctrhpc</td></tr>
<tr><td>Ctreem</td><td>Ctrgem</td><td>1,1</td><td>-------></td><td>1, 1</td><td>Ctrgem</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Cuteem</td><td>Ctrgem</td><td>1,1</td><td>-------></td><td>1, 1</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Ctreha</td><td>Ctrgha</td><td>1,1</td><td>-------></td><td>1, 1</td><td>Ctrgha</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Cuteha</td><td>Ctrgha</td><td>1,1</td><td>-------></td><td>1, 1</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Cthpli</td><td>Ctrhpc</td><td>1,1</td><td>------>></td><td>1,99</td><td>Ctrhpc</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Ctrepc</td><td>Ctrhpc</td><td>0,1</td><td>-|--|--></td><td>0, 1</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
</table>

V

Page (1, 1)

<table>
<tr><th>FrESet</th><th>FromBy</th><th>Frc</th><th>Arrow1</th><th>Tocar</th><th>ESet</th><th>ToBy</th><th>Frc</th><th>Arrow2</th><th>Tocar</th><th>ToESet</th></tr>
<tr><td>CP2Lin</td><td>CuPaOb</td><td>1,1</td><td>------>></td><td>1,99</td><td>CuPaOb</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Caltru</td><td>CuPaOb</td><td>0,1</td><td>-|---->></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>Cuepli</td><td>Cutepc</td><td>1,1</td><td>----|->></td><td>0,99</td><td>Cutepc</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>Cuhpli</td><td>Cuthpc</td><td>1,1</td><td>------>></td><td>1,99</td><td>Cuthpc</td></tr>
<tr><td>Cutlin</td><td>Cutclu</td><td>1,1</td><td>------>></td><td>1,99</td><td>Cutclu</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>Cuteem</td><td>Ctrgem</td><td>1,1</td><td>-------></td><td>1, 1</td><td>Ctrgem</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>Cuteha</td><td>Ctrgha</td><td>1,1</td><td>-------></td><td>1, 1</td><td>Ctrgha</td></tr>
<tr><td>Cuepli</td><td>Cutepc</td><td>1,1</td><td>----|->></td><td>0,99</td><td>Cutepc</td><td>Cuthpc</td><td>0,1</td><td>-|--|--></td><td>0, 1</td><td>Cuthpc</td></tr>
<tr><td>Cuhpli</td><td>Cuthpc</td><td>1,1</td><td>------>></td><td>1,99</td><td>Cuthpc</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Cutepc</td><td>Cuthpc</td><td>0,1</td><td>-|--|--></td><td>0, 1</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>Cutlin</td><td>Cutclu</td><td>1,1</td><td>------>></td><td>1,99</td><td>Cutclu</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>DEADIR</td><td>DEAPAR</td><td>1,1</td><td>------>></td><td>1,99</td><td>DEAPAR</td></tr>
<tr><td>DEADIR</td><td>DEAPAR</td><td>1,1</td><td>------>></td><td>1,99</td><td>DEAPAR</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>FMCEvt</td><td>Generator</td><td>1,1</td><td>===-|--></td><td>0, 1</td><td>BMGEvt</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>Generator</td><td>1,1</td><td>===-|--></td><td>0, 1</td><td>HEREvt</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>Generator</td><td>1,1</td><td>===-|--></td><td>0, 1</td><td>LPTEvt</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>Generator</td><td>1,1</td><td>===-|--></td><td>0, 1</td><td>PHOEvt</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>Generator</td><td>1,1</td><td>===-|--></td><td>0, 1</td><td>USGEvt</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>FMCFte</td><td>FMCKin</td><td>1,1</td><td>----|--></td><td>0, 1</td><td>FMCKin</td></tr>
<tr><td>BPCTRUE</td><td>FMCKin</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>FMCKin</td><td>DaughterOf</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>FMCKin</td></tr>
<tr><td>BPTMCI</td><td>FMCKin</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td></td><td>FMCPrt</td><td>1,1</td><td>----|->></td><td>0,99</td><td>FMCPrt</td></tr>
<tr><td>C5SCGH</td><td>FMCKin</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td>PRoducedAt</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>FMCVtx</td></tr>
<tr><td>C5SHGH</td><td>FMCKin</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>CCLHIT</td><td>FMCKin</td><td>1,1</td><td>------>></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>CcGHit</td><td>FMCKin</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>CcNewH</td><td>FMCKin</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>FMCFte</td><td>FMCKin</td><td>1,1</td><td>----|--></td><td>0, 1</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>FMCKin</td><td>DaughterOf</td><td>0,1</td><td>-|---->></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>FMCVtx</td><td>PRoducedBy</td><td>0,1</td><td>-|--|--></td><td>0, 1</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>FNGHIT</td><td>FMCKin</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>FPGHit</td><td>FMCKin</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>HEShit</td><td>FMCKin</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MBGD</td><td>FMCKin</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MBGH</td><td>FMCKin</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MVGHIT</td><td>FMCKin</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>PREHIT</td><td>FMCKin</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>PTGHIT</td><td>FMCKin</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>SRTHIT</td><td>FMCKin</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>STGHIT</td><td>FMCKin</td><td>1,1</td><td>----|--></td><td>0, 1</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>T8TRUE</td><td>FMCKin</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TCGHIT</td><td>FMCKin</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TCGSTP</td><td>FMCKin</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TFHITS</td><td>FMCKin</td><td>1,1</td><td>----|--></td><td>0, 1</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TGTMCF</td><td>FMCKin</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TGTMCT</td><td>FMCKin</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TRCLUSTER</td><td>FMCKin</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>VCTMCCTD</td><td>FMCKin</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>VCTMCREG</td><td>FMCKin</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>VCTMCT</td><td>FMCKin</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>VEGHit</td><td>FMCKin</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>VETHIT</td><td>FMCKin</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>XXGHit</td><td>FMCKin</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>lphit</td><td>FMCKin</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>mfhit</td><td>FMCKin</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>vthit</td><td>FMCKin</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>FMCKin</td><td>FMCPrt</td><td>1,1</td><td>----|->></td><td>0,99</td><td>FMCPrt</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>FMCRun</td><td>Generator</td><td>1,1</td><td>===-|--></td><td>0, 1</td><td>BMGRun</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>Generator</td><td>1,1</td><td>===-|--></td><td>0, 1</td><td>HERRun</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>Generator</td><td>1,1</td><td>===-|--></td><td>0, 1</td><td>LPTRun</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>Generator</td><td>1,1</td><td>===-|--></td><td>0, 1</td><td>PHORun</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>Generator</td><td>1,1</td><td>===-|--></td><td>0, 1</td><td>USGRun</td></tr>
<tr><td>FMCKin</td><td>PRoducedAt</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>FMCVtx</td><td>PRoducedBy</td><td>0,1</td><td>-|--|--></td><td>0, 1</td><td>FMCKin</td></tr>
<tr><td>FNPOS</td><td>Detector</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>FNDICO</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>FNVOLU</td><td>div</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>FNDIV</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>FNGHIT</td><td>FMCKin</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>FMCKin</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>FNTENE</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>FNTENE</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>FNPARA</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>FNPOS</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>FNVOLU</td></tr>
<tr><td>FNPARA</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>FNPOS</td><td>Detector</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>FNDICO</td></tr>
<tr><td>FNRJCT</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td>volu</td><td>1,1</td><td>----|->></td><td>0,99</td><td>FNVOLU</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>rotm</td><td>1,1</td><td>----|->></td><td>0,99</td><td>rotm</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>FNRJCT</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>FNPOS</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>FNVOLU</td></tr>
<tr><td>FNSDTA</td><td>sdet</td><td>1,1</td><td>----|->></td><td>0,99</td><td>FNSDET</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>FNSDTD</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>FNSDTH</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>FNSDTU</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>FNSDTV</td><td>sdet</td><td>1,1</td><td>------>></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>FNVOLU</td><td>sdet</td><td>0,1</td><td>-|---->></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>FNSDTD</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>FNSDTA</td><td>sdet</td><td>1,1</td><td>----|->></td><td>0,99</td><td>FNSDET</td></tr>
<tr><td>FNSDTH</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>FNSDTU</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
</table>

Page (1, 1)

FrESet	FromBy	Frc	Arrow1	Tocar	ESet	ToBy	Frc	Arrow2	Tocar	ToESet
					FNSDTD	of	1,1	===-|->>	0,99	FNSDET
						of	1,1	===-|->>	0,99	FNSDTA
					FNSDTH	of	1,1	===-|->>	0,99	FNSDET
						of	1,1	===-|->>	0,99	FNSDTA
					FNSDTU	of	1,1	===-|->>	0,99	FNSDET
						of	1,1	===-|->>	0,99	FNSDTA
					FNSDTV	sdet	1,1	------>>	1,99	FNSDET
FNGHIT	FNTENE	0,1	-|--|->>	0,99	FNTENE					
FNPARA	of	1,1	===-|->>	0,99	FNVOLU	div	0,1	-|----->	1, 1	FNDIV
FNPOS	volu	1,1	----|->>	0,99		sdet	0,1	-|---->>	1,99	FNSDET
FNRJCT	of	1,1	===-|->>	0,99		tmed	1,1	------>>	1,99	tmed
					FPGHit	FMCKin	0,1	-|--|->>	0,99	FMCKin
						FPTENE	0,1	-|--|->>	0,99	FPTENE
FPGHit	FPTENE	0,1	-|--|->>	0,99	FPTENE					
					GLCELL	TGTRAK	0,1	-|---->>	1,99	TGTRAK
					GLENTR	TGTRAK	0,1	-|---->>	1,99	TGTRAK
					GLTKPG	RECPR2	0,1	-|----->	1, 1	RECPR2
						TGTRAK	1,1	----|->>	0,99	TGTRAK
						VFTEMP	1,1	------->	1, 1	VFTEMP
					GMTrCs	TGTRAK	1,1	----|->>	0,99	TGTRAK
						XMCSEt	1,1	----|->>	0,99	XMCSEt
FMCEvt	Generator	1,1	===-|-->	0, 1	HEREvt					
FMCRun	Generator	1,1	===-|-->	0, 1	HERRun					
					HEShit	FMCKin	0,1	-|--|->>	0,99	FMCKin
						HESraw	0,1	-|--|->>	0,99	HESraw
HEShit	HESraw	0,1	-|--|->>	0,99	HESraw					
HSVOLU	div	0,1	-|----->	1, 1	HSDIV					
HSPOS	Detector	0,1	-|---->>	1,99	HSDTCT					
					HSPARA	of	1,1	===-|->>	0,99	HSPOS
						of	1,1	===-|->>	0,99	HSVOLU
HSPARA	of	1,1	===-|->>	0,99	HSPOS	Detector	0,1	-|---->>	1,99	HSDTCT
HSRJCT	of	1,1	===-|->>	0,99		volu	1,1	----|->>	0,99	HSVOLU
						rotm	1,1	----|->>	0,99	rotm
					HSRJCT	of	1,1	===-|->>	0,99	HSPOS
						of	1,1	===-|->>	0,99	HSVOLU
HSSDTA	sdet	1,1	----|->>	0,99	HSSDET					
HSSDTD	of	1,1	===-|->>	0,99						
HSSDTH	of	1,1	===-|->>	0,99						
HSSDTU	of	1,1	===-|->>	0,99						
HSSDTV	sdet	1,1	------>>	1,99						
HSVOLU	sdet	0,1	-|---->>	1,99						
HSSDTD	of	1,1	===-|->>	0,99	HSSDTA	sdet	1,1	----|->>	0,99	HSSDET
HSSDTH	of	1,1	===-|->>	0,99						
HSSDTU	of	1,1	===-|->>	0,99						
					HSSDTD	of	1,1	===-|->>	0,99	HSSDET
						of	1,1	===-|->>	0,99	HSSDTA
					HSSDTH	of	1,1	===-|->>	0,99	HSSDET
						of	1,1	===-|->>	0,99	HSSDTA
					HSSDTU	of	1,1	===-|->>	0,99	HSSDET
						of	1,1	===-|->>	0,99	HSSDTA
					HSSDTV	sdet	1,1	------>>	1,99	HSSDET
HSPARA	of	1,1	===-|->>	0,99	HSVOLU	div	0,1	-|----->	1, 1	HSDIV
HSPOS	volu	1,1	----|->>	0,99		sdet	0,1	-|---->>	1,99	HSSDET
HSRJCT	of	1,1	===-|->>	0,99		tmed	1,1	------>>	1,99	tmed
JobKwP	JobHMM	1,1	------>>	1,99	JobHMM					
JobZdP	JobHMM	1,1	------>>	1,99						
					JobKwP	JobHMM	1,1	------>>	1,99	JobHMM
						KWPHMM	1,1	------->	1, 1	KWPHMM
					JobZdP	JobHMM	1,1	------>>	1,99	JobHMM
						ZDPHMM	1,1	------->	1, 1	ZDPHMM
KWPHMM	KWGHMM	0,1	-|--|->>	0,99	KWGHMM					
KWPOut	KWGOut	0,1	-|--|->>	0,99	KWGOut					
JobKwP	KWPHMM	1,1	------->	1, 1	KWPHMM	KWGHMM	0,1	-|--|->>	0,99	KWGHMM
					KWPOut	KWGOut	0,1	-|--|->>	0,99	KWGOut
LMVOLU	div	0,1	-|----->	1, 1	LMDIV					
LMPOS	Detector	0,1	-|---->>	1,99	LMDTCT					
					LMPARA	of	1,1	===-|->>	0,99	LMPOS
						of	1,1	===-|->>	0,99	LMVOLU

V

Page (1, 1)

FrESet	FromBy	Frc	Arrow1	Tocar	ESet	ToBy	Frc	Arrow2	Tocar	ToESet
LMPARA	of	1,1	===-|->>	0,99	LMPOS	Detector	0,1	-|---->>	1,99	LMDTCT
LMRJCT	of	1,1	===-|->>	0,99		volu	1,1	----|->>	0,99	LMVOLU
						rotm	1,1	----|->>	0,99	rotm
					LMRJCT	of	1,1	===-|->>	0,99	LMPOS
						of	1,1	===-|->>	0,99	LMVOLU
LMSDTA	sdet	1,1	----|->>	0,99	LMSDET					
LMSDTD	of	1,1	===-|->>	0,99						
LMSDTH	of	1,1	===-|->>	0,99						
LMSDTU	of	1,1	===-|->>	0,99						
LMSDTV	sdet	1,1	------>>	1,99						
LMVOLU	sdet	0,1	-|---->>	1,99						
LMSDTD	of	1,1	===-|->>	0,99	LMSDTA	sdet	1,1	----|->>	0,99	LMSDET
LMSDTH	of	1,1	===-|->>	0,99						
LMSDTU	of	1,1	===-|->>	0,99						
					LMSDTD	of	1,1	===-|->>	0,99	LMSDET
						of	1,1	===-|->>	0,99	LMSDTA
					LMSDTH	of	1,1	===-|->>	0,99	LMSDET
						of	1,1	===-|->>	0,99	LMSDTA
					LMSDTU	of	1,1	===-|->>	0,99	LMSDET
						of	1,1	===-|->>	0,99	LMSDTA
					LMSDTV	sdet	1,1	------>>	1,99	LMSDET
LMPARA	of	1,1	===-|->>	0,99	LMVOLU	div	0,1	-|----->	1, 1	LMDIV
LMPOS	volu	1,1	----|->>	0,99		sdet	0,1	-|---->>	1,99	LMSDET
LMRJCT	of	1,1	===-|->>	0,99		tmed	1,1	------>>	1,99	tmed
LPEVTR	LPBEAM	1,1	----|->>	0,99	LPBEAM					
					LPCLCO	LPCLUS	1,1	----|->>	0,99	LPCLUS
						LPCOOR	1,1	------>>	1,99	LPCOOR
LPCLCO	LPCLUS	1,1	----|->>	0,99	LPCLUS					
LPCLCO	LPCOOR	1,1	------>>	1,99	LPCOOR	MatchTo	0,1	-|--|->>	0,99	LPCOOR
LPCOOR	MatchTo	0,1	-|--|->>	0,99						
LPCOTR	LPCOOR	1,1	----|->>	0,99						
					LPCOTR	LPCOOR	1,1	----|->>	0,99	LPCOOR
						LPTRAK	1,1	------>>	1,99	LPTRAK
LPPOS	Detector	0,1	-|---->>	1,99	LPDICO					
LPVOLU	div	0,1	-|----->	1, 1	LPDIV					
					LPEVTR	LPBEAM	1,1	----|->>	0,99	LPBEAM
						LPMOTR	1,1	----|->>	0,99	LPMOTR
LPTSMM	LPKFO	1,1	----|->>	0,99	LPKFO					
LPEVTR	LPMOTR	1,1	----|->>	0,99	LPMOTR					
					LPPARA	of	1,1	===-|->>	0,99	LPPOS
						of	1,1	===-|->>	0,99	LPVOLU
LPPARA	of	1,1	===-|->>	0,99	LPPOS	Detector	0,1	-|---->>	1,99	LPDICO
LPRJCT	of	1,1	===-|->>	0,99		volu	1,1	----|->>	0,99	LPVOLU
						rotm	1,1	----|->>	0,99	rotm
					LPRJCT	of	1,1	===-|->>	0,99	LPPOS
						of	1,1	===-|->>	0,99	LPVOLU
LPSDTA	sdet	1,1	----|->>	0,99	LPSDET					
LPSDTD	of	1,1	===-|->>	0,99						
LPSDTH	of	1,1	===-|->>	0,99						
LPSDTU	of	1,1	===-|->>	0,99						
LPSDTV	sdet	1,1	------>>	1,99						
LPVOLU	sdet	0,1	-|---->>	1,99						
LPSDTD	of	1,1	===-|->>	0,99	LPSDTA	sdet	1,1	----|->>	0,99	LPSDET
LPSDTH	of	1,1	===-|->>	0,99						
LPSDTU	of	1,1	===-|->>	0,99						
					LPSDTD	of	1,1	===-|->>	0,99	LPSDET
						of	1,1	===-|->>	0,99	LPSDTA
					LPSDTH	of	1,1	===-|->>	0,99	LPSDET
						of	1,1	===-|->>	0,99	LPSDTA
					LPSDTU	of	1,1	===-|->>	0,99	LPSDET
						of	1,1	===-|->>	0,99	LPSDTA
					LPSDTV	sdet	1,1	------>>	1,99	LPSDET
					LPSREC	BestVtx	0,1	-|--|->>	0,99	LPTRAK
						BestNoVtx	0,1	-|--|->>	0,99	LPTRAK
FMCEvt	Generator	1,1	===-|-->	0, 1	LPTEvt					
LPCOTR	LPTRAK	1,1	------>>	1,99	LPTRAK					
LPSREC	BestVtx	0,1	-|--|->>	0,99						
LPSREC	BestNoVtx	0,1	-|--|->>	0,99						
FMCRun	Generator	1,1	===-|-->	0, 1	LPTRun					
					LPTSMM	LPKFO	1,1	----|->>	0,99	LPKFO
						lpts	1,1	----|->>	0,99	lpts
LPPARA	of	1,1	===-|->>	0,99	LPVOLU	div	0,1	-|----->	1, 1	LPDIV
LPPOS	volu	1,1	----|->>	0,99		sdet	0,1	-|---->>	1,99	LPSDET
LPRJCT	of	1,1	===-|->>	0,99		tmed	1,1	------>>	1,99	tmed

Page (1, 1)

<table>
<tr><th>FrESet</th><th>FromBy</th><th>Frc</th><th>Arrow1</th><th>Tocar</th><th>ESet</th><th>ToBy</th><th>Frc</th><th>Arrow2</th><th>Tocar</th><th>ToESet</th></tr>
<tr><td>MBPOS</td><td>Detector</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>MBAR</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MBPL</td><td>MBCH</td><td>1,1</td><td>------>></td><td>1, 4</td><td>MBCH</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MBWE</td><td>MBCH</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MBYE</td><td>MBCH</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MBVOLU</td><td>div</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>MBDIV</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>MBGA</td><td>MBPL</td><td>1,1</td><td>----|->></td><td>0,99</td><td>MBPL</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>MBGD</td><td>FMCKin</td><td>1,1</td><td>----|->></td><td>0,99</td><td>FMCKin</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>DTYP</td><td>1,1</td><td>===-|->></td><td>0, 3</td><td>MBHODO</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>DTYP</td><td>1,1</td><td>===-|->></td><td>0, 3</td><td>MBSGS</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>DTYP</td><td>1,1</td><td>===-|->></td><td>0, 3</td><td>MBSTAR</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>MBGH</td><td>FMCKin</td><td>1,1</td><td>----|->></td><td>0,99</td><td>FMCKin</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>MBPL</td><td>1,1</td><td>----|->></td><td>0,99</td><td>MBPL</td></tr>
<tr><td>MBGD</td><td>DTYP</td><td>1,1</td><td>===-|->></td><td>0, 3</td><td>MBHODO</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>MBPARA</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>MBPOS</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>MBVOLU</td></tr>
<tr><td>MBGA</td><td>MBPL</td><td>1,1</td><td>----|->></td><td>0,99</td><td>MBPL</td><td>MBCH</td><td>1,1</td><td>------>></td><td>1, 4</td><td>MBCH</td></tr>
<tr><td>MBGH</td><td>MBPL</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td>MBSE</td><td>1,1</td><td>------>></td><td>1,32</td><td>MBSE</td></tr>
<tr><td>MBQY</td><td>MBPL</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MBSQ</td><td>MBPL</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MBST</td><td>MBPL</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MBSY</td><td>MBPL</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MBWR</td><td>MBPL</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MBWX</td><td>MBPL</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MBPARA</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>MBPOS</td><td>Detector</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>MBAR</td></tr>
<tr><td>MBRJCT</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td>volu</td><td>1,1</td><td>----|->></td><td>0,99</td><td>MBVOLU</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>rotm</td><td>1,1</td><td>----|->></td><td>0,99</td><td>rotm</td></tr>
<tr><td>MBSQQY</td><td>MBQY</td><td>1,1</td><td>-------></td><td>1, 1</td><td>MBQY</td><td>MBPL</td><td>1,1</td><td>----|->></td><td>0,99</td><td>MBPL</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>MBRJCT</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>MBPOS</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>MBVOLU</td></tr>
<tr><td>MBSDTA</td><td>sdet</td><td>1,1</td><td>----|->></td><td>0,99</td><td>MBSDET</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MBSDTD</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MBSDTH</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MBSDTU</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MBSDTV</td><td>sdet</td><td>1,1</td><td>------>></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MBVOLU</td><td>sdet</td><td>0,1</td><td>-|---->></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MBSDTD</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>MBSDTA</td><td>sdet</td><td>1,1</td><td>----|->></td><td>0,99</td><td>MBSDET</td></tr>
<tr><td>MBSDTH</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MBSDTU</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>MBSDTD</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>MBSDET</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>MBSDTA</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>MBSDTH</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>MBSDET</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>MBSDTA</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>MBSDTU</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>MBSDET</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>MBSDTA</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>MBSDTV</td><td>sdet</td><td>1,1</td><td>------>></td><td>1,99</td><td>MBSDET</td></tr>
<tr><td>MBPL</td><td>MBSE</td><td>1,1</td><td>------>></td><td>1,32</td><td>MBSE</td><td>MBZEUS</td><td>1,1</td><td>------>></td><td>1, 9</td><td>MBZEUS</td></tr>
<tr><td>MBGD</td><td>DTYP</td><td>1,1</td><td>===-|->></td><td>0, 3</td><td>MBSGS</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MBSQQY</td><td>MBSQ</td><td>1,1</td><td>------>></td><td>1, 2</td><td>MBSQ</td><td>MBPL</td><td>1,1</td><td>----|->></td><td>0,99</td><td>MBPL</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>MBSQQY</td><td>MBQY</td><td>1,1</td><td>-------></td><td>1, 1</td><td>MBQY</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>MBSQ</td><td>1,1</td><td>------>></td><td>1, 2</td><td>MBSQ</td></tr>
<tr><td>MBSTD</td><td>MBST</td><td>1,1</td><td>----|--></td><td>0, 1</td><td>MBST</td><td>MBPL</td><td>1,1</td><td>----|->></td><td>0,99</td><td>MBPL</td></tr>
<tr><td>MBSTSY</td><td>MBST</td><td>1,1</td><td>----|->></td><td>0, 2</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MBSTT</td><td>MBST</td><td>1,1</td><td>----|--></td><td>0, 1</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MBGD</td><td>DTYP</td><td>1,1</td><td>===-|->></td><td>0, 3</td><td>MBSTAR</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>MBSTD</td><td>MBST</td><td>1,1</td><td>----|--></td><td>0, 1</td><td>MBST</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>MBSTSY</td><td>MBST</td><td>1,1</td><td>----|->></td><td>0, 2</td><td>MBST</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>MBSY</td><td>1,1</td><td>------>></td><td>2,99</td><td>MBSY</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>MBSTT</td><td>MBST</td><td>1,1</td><td>----|--></td><td>0, 1</td><td>MBST</td></tr>
<tr><td>MBSTSY</td><td>MBSY</td><td>1,1</td><td>------>></td><td>2,99</td><td>MBSY</td><td>MBPL</td><td>1,1</td><td>----|->></td><td>0,99</td><td>MBPL</td></tr>
<tr><td>MBSYYE</td><td>MBSY</td><td>1,1</td><td>----|->></td><td>0, 2</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>MBSYYE</td><td>MBSY</td><td>1,1</td><td>----|->></td><td>0, 2</td><td>MBSY</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>MBYE</td><td>1,1</td><td>------>></td><td>2, 4</td><td>MBYE</td></tr>
<tr><td>MBTSSG</td><td>MBTS</td><td>1,1</td><td>----|->></td><td>0,99</td><td>MBTS</td><td>MBWE</td><td>1,1</td><td>----|->></td><td>0,99</td><td>MBWE</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>MBYE</td><td>1,1</td><td>----|->></td><td>0,99</td><td>MBYE</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>MBTSSG</td><td>MBTS</td><td>1,1</td><td>----|->></td><td>0,99</td><td>MBTS</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>MBXYSG</td><td>1,1</td><td>------>></td><td>2, 2</td><td>MBXYSG</td></tr>
<tr><td>MBPARA</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>MBVOLU</td><td>div</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>MBDIV</td></tr>
<tr><td>MBPOS</td><td>volu</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td>sdet</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>MBSDET</td></tr>
<tr><td>MBRJCT</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td>tmed</td><td>1,1</td><td>------>></td><td>1,99</td><td>tmed</td></tr>
<tr><td>MBTS</td><td>MBWE</td><td>1,1</td><td>----|->></td><td>0,99</td><td>MBWE</td><td>MBCH</td><td>1,1</td><td>----|->></td><td>0,99</td><td>MBCH</td></tr>
<tr><td>MBWXWE</td><td>MBWE</td><td>1,1</td><td>------>></td><td>2, 8</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MBWX</td><td>MBWR</td><td>1,1</td><td>-------></td><td>1, 1</td><td>MBWR</td><td>MBPL</td><td>1,1</td><td>----|->></td><td>0,99</td><td>MBPL</td></tr>
</table>

|
V

Page (1, 1)

<table>
<tr><th>FrESet</th><th>FromBy</th><th>Frc</th><th>Arrow1</th><th>Tocar</th><th>ESet</th><th>ToBy</th><th>Frc</th><th>Arrow2</th><th>Tocar</th><th>ToESet</th></tr>
<tr><td>MBWX</td><td>MBWX</td><td>0,1</td><td>-|--|--></td><td>0, 1</td><td>MBWX</td><td>MBPL</td><td>1,1</td><td>----|->></td><td>0,99</td><td>MBPL</td></tr>
<tr><td>MBWXWE</td><td>MBWX</td><td>1,1</td><td>----|->></td><td>0, 2</td><td></td><td>MBWR</td><td>1,1</td><td>-------></td><td>1, 1</td><td>MBWR</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>MBWX</td><td>0,1</td><td>-|--|--></td><td>0, 1</td><td>MBWX</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>MBWXWE</td><td>MBWE</td><td>1,1</td><td>------>></td><td>2, 8</td><td>MBWE</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>MBWX</td><td>1,1</td><td>----|->></td><td>0, 2</td><td>MBWX</td></tr>
<tr><td>MBTSSG</td><td>MBXYSG</td><td>1,1</td><td>------>></td><td>2, 2</td><td>MBXYSG</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TGCAND</td><td>MBXYSG</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MBSYYE</td><td>MBYE</td><td>1,1</td><td>------>></td><td>2, 4</td><td>MBYE</td><td>MBCH</td><td>1,1</td><td>----|->></td><td>0,99</td><td>MBCH</td></tr>
<tr><td>MBTS</td><td>MBYE</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MBSE</td><td>MBZEUS</td><td>1,1</td><td>------>></td><td>1, 9</td><td>MBZEUS</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MFVOLU</td><td>div</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>MFDIV</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>MFKLH</td><td>mfct</td><td>1,1</td><td>----|--></td><td>0, 1</td><td>mfct</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>mfcts</td><td>1,1</td><td>----|--></td><td>0, 1</td><td>mfcts</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>mfrtl</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>mfrtl</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>MFPARA</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>MFPOS</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>MFVOLU</td></tr>
<tr><td>MFPARA</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>MFPOS</td><td>volu</td><td>1,1</td><td>----|->></td><td>0,99</td><td>MFVOLU</td></tr>
<tr><td>MFRJCT</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td>Detector</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>mfdico</td></tr>
<tr><td>mfsect</td><td>pos</td><td>1,1</td><td>----|--></td><td>0, 1</td><td></td><td>rotm</td><td>1,1</td><td>----|->></td><td>0,99</td><td>rotm</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>MFRJCT</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>MFPOS</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>MFVOLU</td></tr>
<tr><td>MFSDTA</td><td>sdet</td><td>1,1</td><td>----|->></td><td>0,99</td><td>MFSDET</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MFSDTD</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MFSDTH</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MFSDTU</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MFSDTV</td><td>sdet</td><td>1,1</td><td>------>></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MFVOLU</td><td>sdet</td><td>0,1</td><td>-|---->></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MFSDTD</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>MFSDTA</td><td>sdet</td><td>1,1</td><td>----|->></td><td>0,99</td><td>MFSDET</td></tr>
<tr><td>MFSDTH</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MFSDTU</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>MFSDTD</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>MFSDET</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>MFSDTA</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>MFSDTH</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>MFSDET</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>MFSDTA</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>MFSDTU</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>MFSDET</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>MFSDTA</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>MFSDTV</td><td>sdet</td><td>1,1</td><td>------>></td><td>1,99</td><td>MFSDET</td></tr>
<tr><td>MFPARA</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>MFVOLU</td><td>div</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>MFDIV</td></tr>
<tr><td>MFPOS</td><td>volu</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td>sdet</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>MFSDET</td></tr>
<tr><td>MFRJCT</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td>tmed</td><td>1,1</td><td>------>></td><td>1,99</td><td>tmed</td></tr>
<tr><td>MVDIGS</td><td>MVDIGC</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>MVDIGC</td><td>MVRAWC</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>MVRAWC</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>MVDIGS</td><td>MVDIGC</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>MVDIGC</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>MVGHIT</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>MVGHIT</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>MVRAWS</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>MVRAWS</td></tr>
<tr><td>MVVOLU</td><td>div</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>MVDIV</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>MVGAL</td><td>MVGSL</td><td>1,1</td><td>-------></td><td>1, 1</td><td>MVGSL</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>MVGAM</td><td>MVGSM</td><td>1,1</td><td>-------></td><td>1, 1</td><td>MVGSM</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>MVGAW</td><td>MVGSW</td><td>1,1</td><td>-------></td><td>1, 1</td><td>MVGSW</td></tr>
<tr><td>MVGDW</td><td>MVGDL</td><td>1,1</td><td>------>></td><td>1,99</td><td>MVGDL</td><td>MVGDM</td><td>1,1</td><td>------>></td><td>1,99</td><td>MVGDM</td></tr>
<tr><td>MVGSL</td><td>MVGDL</td><td>1,1</td><td>-------></td><td>1, 1</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MVGDL</td><td>MVGDM</td><td>1,1</td><td>------>></td><td>1,99</td><td>MVGDM</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MVGSM</td><td>MVGDM</td><td>1,1</td><td>-------></td><td>1, 1</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MVGSW</td><td>MVGDW</td><td>1,1</td><td>-------></td><td>1, 1</td><td>MVGDW</td><td>MVGDL</td><td>1,1</td><td>------>></td><td>1,99</td><td>MVGDL</td></tr>
<tr><td>MVWAF</td><td>MVGDW</td><td>1,1</td><td>-------></td><td>1, 1</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MVDIGS</td><td>MVGHIT</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>MVGHIT</td><td>FMCKin</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>FMCKin</td></tr>
<tr><td>MVWAF</td><td>MVGSHW</td><td>1,1</td><td>-------></td><td>1, 1</td><td>MVGSHW</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MVGAL</td><td>MVGSL</td><td>1,1</td><td>-------></td><td>1, 1</td><td>MVGSL</td><td>MVGDL</td><td>1,1</td><td>-------></td><td>1, 1</td><td>MVGDL</td></tr>
<tr><td>MVGAM</td><td>MVGSM</td><td>1,1</td><td>-------></td><td>1, 1</td><td>MVGSM</td><td>MVGDM</td><td>1,1</td><td>-------></td><td>1, 1</td><td>MVGDM</td></tr>
<tr><td>MVGAW</td><td>MVGSW</td><td>1,1</td><td>-------></td><td>1, 1</td><td>MVGSW</td><td>MVGDW</td><td>1,1</td><td>-------></td><td>1, 1</td><td>MVGDW</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>MVPARA</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>MVPOS</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>MVVOLU</td></tr>
<tr><td>MVPARA</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>MVPOS</td><td>volu</td><td>1,1</td><td>----|->></td><td>0,99</td><td>MVVOLU</td></tr>
<tr><td>MVRJCT</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td>rotm</td><td>1,1</td><td>----|->></td><td>0,99</td><td>rotm</td></tr>
<tr><td>MVDIGC</td><td>MVRAWC</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>MVRAWC</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MVDIGS</td><td>MVRAWS</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>MVRAWS</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>ZTPRUSE</td><td>MVRECC</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>MVRECC</td><td>MVWAF</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>MVWAF</td></tr>
<tr><td>ZTTRUSE</td><td>MVRECC</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>MVRJCT</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>MVPOS</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>MVVOLU</td></tr>
</table>

Page (1, 1)

<table>
<tr><th>FrESet</th><th>FromBy</th><th>Frc</th><th>Arrow1</th><th>Tocar</th><th>ESet</th><th>ToBy</th><th>Frc</th><th>Arrow2</th><th>Tocar</th><th>ToESet</th></tr>
<tr><td>MVSDTA</td><td>sdet</td><td>1,1</td><td>----|->></td><td>0,99</td><td>MVSDET</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MVSDTD</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MVSDTH</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MVSDTU</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MVSDTV</td><td>sdet</td><td>1,1</td><td>------>></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MVVOLU</td><td>sdet</td><td>0,1</td><td>-|---->></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MVSDTD</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>MVSDTA</td><td>sdet</td><td>1,1</td><td>----|->></td><td>0,99</td><td>MVSDET</td></tr>
<tr><td>MVSDTH</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MVSDTU</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>MVSDTD</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>MVSDET</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>MVSDTA</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>MVSDTH</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>MVSDET</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>MVSDTA</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>MVSDTU</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>MVSDET</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>MVSDTA</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>MVSDTV</td><td>sdet</td><td>1,1</td><td>------>></td><td>1,99</td><td>MVSDET</td></tr>
<tr><td>MVPARA</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>MVVOLU</td><td>div</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>MVDIV</td></tr>
<tr><td>MVPOS</td><td>volu</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td>sdet</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>MVSDET</td></tr>
<tr><td>MVRJCT</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td>tmed</td><td>1,1</td><td>------>></td><td>1,99</td><td>tmed</td></tr>
<tr><td>MVRECC</td><td>MVWAF</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>MVWAF</td><td>MVGDW</td><td>1,1</td><td>-------></td><td>1, 1</td><td>MVGDW</td></tr>
<tr><td>MVWAF</td><td>Ambig</td><td>1,1</td><td>-------></td><td>1, 1</td><td></td><td>MVGSHW</td><td>1,1</td><td>-------></td><td>1, 1</td><td>MVGSHW</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>Ambig</td><td>1,1</td><td>-------></td><td>1, 1</td><td>MVWAF</td></tr>
<tr><td>FMCEvt</td><td>Generator</td><td>1,1</td><td>===-|--></td><td>0, 1</td><td>PHOEvt</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>FMCRun</td><td>Generator</td><td>1,1</td><td>===-|--></td><td>0, 1</td><td>PHORun</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>PMTF</td><td>PMT</td><td>1,1</td><td>----|->></td><td>0,99</td><td>PMT</td><td>TRGTWR</td><td>1,1</td><td>----|->></td><td>0,99</td><td>TRGTWR</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>PMTF</td><td>ANLCRD</td><td>1,1</td><td>----|->></td><td>0,99</td><td>ANLCRD</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>PMT</td><td>1,1</td><td>----|->></td><td>0,99</td><td>PMT</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>TSUMCD</td><td>1,1</td><td>----|->></td><td>0,99</td><td>TSUMCD</td></tr>
<tr><td>PRPOS</td><td>Detector</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>PRDICO</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>PRVOLU</td><td>div</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>PRDIV</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>PREHIT</td><td>FMCKin</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>FMCKin</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>PROPOR</td><td>in</td><td>1,1</td><td>----|->></td><td>0,99</td><td>ZEMATE</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>of</td><td>1,1</td><td>----|->></td><td>0,99</td><td>ZEMATE</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>PRPARA</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>PRPOS</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>PRVOLU</td></tr>
<tr><td>PRPARA</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>PRPOS</td><td>Detector</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>PRDICO</td></tr>
<tr><td>PRRJCT</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td>volu</td><td>1,1</td><td>----|->></td><td>0,99</td><td>PRVOLU</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>rotm</td><td>1,1</td><td>----|->></td><td>0,99</td><td>rotm</td></tr>
<tr><td>PRTRUE</td><td>PRRES</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>PRRES</td><td>CConSa</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>CConSa</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>PRRJCT</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>PRPOS</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>PRVOLU</td></tr>
<tr><td>PRSDTA</td><td>sdet</td><td>1,1</td><td>----|->></td><td>0,99</td><td>PRSDET</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>PRSDTD</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>PRSDTH</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>PRSDTU</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>PRSDTV</td><td>sdet</td><td>1,1</td><td>------>></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>PRVOLU</td><td>sdet</td><td>0,1</td><td>-|---->></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>PRSDTD</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>PRSDTA</td><td>sdet</td><td>1,1</td><td>----|->></td><td>0,99</td><td>PRSDET</td></tr>
<tr><td>PRSDTH</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>PRSDTU</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>PRSDTD</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>PRSDET</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>PRSDTA</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>PRSDTH</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>PRSDET</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>PRSDTA</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>PRSDTU</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>PRSDET</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>PRSDTA</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>PRSDTV</td><td>sdet</td><td>1,1</td><td>------>></td><td>1,99</td><td>PRSDET</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>PRTRUE</td><td>PRRES</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>PRRES</td></tr>
<tr><td>PRPARA</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>PRVOLU</td><td>div</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>PRDIV</td></tr>
<tr><td>PRPOS</td><td>volu</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td>sdet</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>PRSDET</td></tr>
<tr><td>PRRJCT</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td>tmed</td><td>1,1</td><td>------>></td><td>1,99</td><td>tmed</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>PTGHIT</td><td>FMCKin</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>FMCKin</td></tr>
<tr><td>PhysObj</td><td>PhysAlg</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>PhysAlg</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>PhysObjC</td><td>PhysAlgC</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>PhysAlgC</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>PhysDet</td><td>DetComp</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>Caltru</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>PhysObj</td><td>1,1</td><td>------>></td><td>1,99</td><td>PhysObj</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>DetComp</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>TGTRAK</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>PhysKin</td><td>PhysObj</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>PhysObj</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>Vertex</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>TCVTX</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>Vertex</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>VCTVTX</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>PhysKinC</td><td>PhysObjC</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>PhysObjC</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>VCTVTX</td><td>1,1</td><td>----|->></td><td>0,99</td><td>VCTVTX</td></tr>
</table>

Page (1, 1)

FrESet	FromBy	Frc	Arrow1	Tocar	ESet	ToBy	Frc	Arrow2	Tocar	ToESet
PhysDet	PhysObj	1,1	------>>	1,99	PhysObj	PhysAlg	0,1	-|---->>	1,99	PhysAlg
PhysKin	PhysObj	0,1	-|--|->>	0,99						
PhysKinC	PhysObjC	0,1	-|--|->>	0,99	PhysObjC	PhysAlgC	0,1	-|---->>	1,99	PhysAlgC
GLTKPG	RECPR2	0,1	-|----->	1, 1	RECPR2	DaughterOf	0,1	-|--|->>	0,99	RECPR2
RECPR2	DaughterOf	0,1	-|--|->>	0,99		PRoducedAt	0,1	-|---->>	1,99	RECVTX
RECPR2	PRoducedAt	0,1	-|---->>	1,99	RECVTX					
RTMMTM	RECVTX	0,1	-|----->	1, 1						
TGPHYS	RECVTX	0,1	-|---->>	1,99						
					RTMMTM	RECVTX	0,1	-|----->	1, 1	RECVTX
SRPOS	Detector	0,1	-|---->>	1,99	SRDICO					
SRVOLU	div	0,1	-|----->	1, 1	SRDIV					
					SRPARA	of	1,1	===-|->>	0,99	SRPOS
						of	1,1	===-|->>	0,99	SRVOLU
SRPARA	of	1,1	===-|->>	0,99	SRPOS	Detector	0,1	-|---->>	1,99	SRDICO
SRRJCT	of	1,1	===-|->>	0,99		volu	1,1	----|->>	0,99	SRVOLU
						rotm	1,1	----|->>	0,99	rotm
					SRRJCT	of	1,1	===-|->>	0,99	SRPOS
						of	1,1	===-|->>	0,99	SRVOLU
SRSDTA	sdet	1,1	----|->>	0,99	SRSDET					
SRSDTD	of	1,1	===-|->>	0,99						
SRSDTH	of	1,1	===-|->>	0,99						
SRSDTU	of	1,1	===-|->>	0,99						
SRSDTV	sdet	1,1	------>>	1,99						
SRVOLU	sdet	0,1	-|---->>	1,99						
SRSDTD	of	1,1	===-|->>	0,99	SRSDTA	sdet	1,1	----|->>	0,99	SRSDET
SRSDTH	of	1,1	===-|->>	0,99						
SRSDTU	of	1,1	===-|->>	0,99						
					SRSDTD	of	1,1	===-|->>	0,99	SRSDET
						of	1,1	===-|->>	0,99	SRSDTA
					SRSDTH	of	1,1	===-|->>	0,99	SRSDET
						of	1,1	===-|->>	0,99	SRSDTA
					SRSDTU	of	1,1	===-|->>	0,99	SRSDET
						of	1,1	===-|->>	0,99	SRSDTA
					SRSDTV	sdet	1,1	------>>	1,99	SRSDET
					SRTHIT	FMCKin	0,1	-|--|->>	0,99	FMCKin
SRPARA	of	1,1	===-|->>	0,99	SRVOLU	div	0,1	-|----->	1, 1	SRDIV
SRPOS	volu	1,1	----|->>	0,99		sdet	0,1	-|---->>	1,99	SRSDET
SRRJCT	of	1,1	===-|->>	0,99		tmed	1,1	------>>	1,99	tmed
STGHIT	STASDQ	0,1	-|---->>	1,99	STASDQ	STDMUX	1,1	------>>	1,99	STDMUX
STVOLU	div	0,1	-|----->	1, 1	STDIV					
STASDQ	STDMUX	1,1	------>>	1,99	STDMUX	STTRAW	0,1	-|----->	1, 1	STTRAW
					STGASEC	STGSSEC	1,1	------->	1, 1	STGSSEC
					STGASTR	STGSSTR	1,1	------->	1, 1	STGSSTR
					STGASTT	STGSSTT	1,1	------->	1, 1	STGSSTT
STGDSTR	STGDSEC	1,1	------>>	1,99	STGDSEC					
STGSSEC	STGDSEC	1,1	------->	1, 1						
STSEC	STGDSEC	1,1	------->	1, 1						
STGSSTR	STGDSTR	1,1	------->	1, 1	STGDSTR	STGDSEC	1,1	------>>	1,99	STGDSEC
						STSEC	1,1	------>>	1,99	STSEC
STGSSTT	STGDSTT	1,1	------->	1, 1	STGDSTT					
					STGHIT	FMCKin	1,1	----|-->	0, 1	FMCKin
						STASDQ	0,1	-|---->>	1,99	STASDQ
STGASEC	STGSSEC	1,1	------->	1, 1	STGSSEC	STGDSEC	1,1	------->	1, 1	STGDSEC
STGASTR	STGSSTR	1,1	------->	1, 1	STGSSTR	STGDSTR	1,1	------->	1, 1	STGDSTR
STGASTT	STGSSTT	1,1	------->	1, 1	STGSSTT	STGDSTT	1,1	------->	1, 1	STGDSTT
					STPARA	of	1,1	===-|->>	0,99	STPOS
						of	1,1	===-|->>	0,99	STVOLU
					STPHELIX	STPRHL	1,1	------>>	1,99	STPRHL
STPARA	of	1,1	===-|->>	0,99	STPOS	volu	1,1	----|->>	0,99	STVOLU
STRJCT	of	1,1	===-|->>	0,99		rotm	1,1	----|->>	0,99	rotm
STPHELIX	STPRHL	1,1	------>>	1,99	STPRHL	STPUSE	1,1	------->	1, 1	STPUSE
STPRHL	STPUSE	1,1	------->	1, 1	STPUSE	STTREC	0,1	-|--|->>	0,99	STTREC
					STRJCT	of	1,1	===-|->>	0,99	STPOS
						of	1,1	===-|->>	0,99	STVOLU
STSDTA	sdet	1,1	----|->>	0,99	STSDET					
STSDTD	of	1,1	===-|->>	0,99						
STSDTH	of	1,1	===-|->>	0,99						
STSDTU	of	1,1	===-|->>	0,99						
STSDTV	sdet	1,1	------>>	1,99						
STVOLU	sdet	0,1	-|---->>	1,99						

Page (1, 1)

FrESet	FromBy	Frc	Arrow1	Tocar	ESet	ToBy	Frc	Arrow2	Tocar	ToESet
STSDTD	of	1,1	===-|->>	0,99	STSDTA	sdet	1,1	----|->>	0,99	STSDET
STSDTH	of	1,1	===-|->>	0,99						
STSDTU	of	1,1	===-|->>	0,99						
					STSDTD	of	1,1	===-|->>	0,99	STSDET
						of	1,1	===-|->>	0,99	STSDTA
					STSDTH	of	1,1	===-|->>	0,99	STSDET
						of	1,1	===-|->>	0,99	STSDTA
					STSDTU	of	1,1	===-|->>	0,99	STSDET
						of	1,1	===-|->>	0,99	STSDTA
					STSDTV	sdet	1,1	------>>	1,99	STSDET
STGDSTR	STSEC	1,1	------>>	1,99	STSEC	STGDSEC	1,1	------->	1, 1	STGDSEC
STSEC	Ambig	1,1	------->	1, 1		Ambig	1,1	------->	1, 1	STSEC
STDMUX	STTRAW	0,1	-|----->	1, 1	STTRAW					
STTREC	STTRAW	1,1	------>>	1,99						
STPUSE	STTREC	0,1	-|--|->>	0,99	STTREC	STTRAW	1,1	------>>	1,99	STTRAW
STPARA	of	1,1	===-|->>	0,99	STVOLU	div	0,1	-|----->	1, 1	STDIV
STPOS	volu	1,1	----|->>	0,99		sdet	0,1	-|---->>	1,99	STSDET
STRJCT	of	1,1	===-|->>	0,99		tmed	1,1	------>>	1,99	tmed
					SiNeut	SiOKIN	1,1	----|->>	0,99	SiOKIN
SiNeut	SiOKIN	1,1	----|->>	0,99	SiOKIN	SiTrak	0,1	-|----->	1, 1	SiTrak
SiScEM	SiOKIN	1,1	----|->>	0,99						
					SiScEM	SiOKIN	1,1	----|->>	0,99	SiOKIN
SiOKIN	SiTrak	0,1	-|----->	1, 1	SiTrak	SiVert	0,1	-|---->>	1,99	SiVert
Sinter	SiTrak	1,1	----|->>	0,99						
Sitrcl	SiTrak	0,1	-|--|->>	0,99						
SiTrak	SiVert	0,1	-|---->>	1,99	SiVert					
					Siadja	Sipad	1,1	------->	1, 1	Sipad
Sipdcl	Siclus	1,1	------>>	1,99	Siclus					
Sitrcl	Siclus	0,1	-|--|->>	0,99						
					Sinter	SiTrak	1,1	----|->>	0,99	SiTrak
						Sipad	1,1	------->	1, 1	Sipad
Siadja	Sipad	1,1	------->	1, 1	Sipad					
Sinter	Sipad	1,1	------->	1, 1						
Sipdcl	Sipad	0,1	-|---->>	1,99						
					Sipdcl	Siclus	1,1	------>>	1,99	Siclus
						Sipad	0,1	-|---->>	1,99	Sipad
					Sitrcl	SiTrak	0,1	-|--|->>	0,99	SiTrak
						Siclus	0,1	-|--|->>	0,99	Siclus
SrtTru	SreHit	0,1	-|---->>	1,99	SreHit					
VCLCF	SreHit	0,1	-|----->	1, 1						
					SrtTru	SreHit	0,1	-|---->>	1,99	SreHit
					T8TRUE	FMCKin	0,1	-|--|->>	0,99	FMCKin
TCBIT	Point	1,1	===-|->>	0,99	TCAXLY	TCCELL	1,1	----|->>	0,99	TCCELL
						TCHIT	1,1	----|->>	0, 2	TCHIT
						TCLAYR	1,1	----|->>	0,99	TCLAYR
						TCWIRE	1,1	----|->>	0,99	TCWIRE
TCRTRN	TCBFP	1,1	------>>	1,99	TCBFP					
TCFTRN	TCBFPF	0,1	-|---->>	1,99	TCBFPF					
					TCBIT	Point	1,1	===-|->>	0,99	TCAXLY
						TCCAND	1,1	------>>	1,99	TCCAND
						TCHIT	1,1	----|->>	0,99	TCHIT
						Point	1,1	===---->	1, 1	TCSTLY
					TCCALW	TCCREL	0,1	-|---->>	1,99	TCCREL
TCBIT	TCCAND	1,1	------>>	1,99	TCCAND	TCCELL	1,1	----|-->	0, 1	TCCELL
TCPADL	TCCDEL	1,1	------->	1, 1	TCCDEL					
TCAXLY	TCCELL	1,1	----|->>	0,99	TCCELL	TCLAYR	1,1	------>>	1,99	TCLAYR
TCCAND	TCCELL	1,1	----|-->	0, 1						
TCCSEG	TCCELL	1,1	----|-->	0, 1						
TCSTLY	TCCELL	1,1	----|->>	0,99						
TCWIRE	TCCELL	1,1	------>>	1,99						
TCCALW	TCCREL	0,1	-|---->>	1,99	TCCREL	TCDRFV	1,1	------>>	1,99	TCDRFV
						TCHEFF	1,1	------>>	1,99	TCHEFF
						TCLRZA	1,1	------>>	1,99	TCLRZA
						TCLRZD	1,1	------>>	1,99	TCLRZD
						TCPEDS	1,1	------>>	1,99	TCPEDS
						TCRESE	1,1	------>>	1,99	TCRESE
						TCRESR	1,1	------>>	1,99	TCRESR
						TCRESZ	1,1	------>>	1,99	TCRESZ
						TCSEPS	1,1	------>>	1,99	TCSEPS
						TCTTOZ	1,1	------>>	1,99	TCTTOZ
						TCZTOT	1,1	------>>	1,99	TCZTOT
					TCCSEG	TCCELL	1,1	----|-->	0, 1	TCCELL

V

Page (1, 1)

FrESet	FromBy	Frc	Arrow1	Tocar	ESet	ToBy	Frc	Arrow2	Tocar	ToESet
TCCWIR	TCCSEL	0,1	-|---->>	1,99	TCCSEL	TCDTOT	1,1	------>>	1,99	TCDTOT
						TCEFFS	1,1	------>>	1,99	TCEFFS
						TCERES	1,1	------>>	1,99	TCERES
						TCIPDR	1,1	------>>	1,99	TCIPDR
						TCLZAN	1,1	------>>	1,99	TCLZAN
						TCLZZD	1,1	------>>	1,99	TCLZZD
						TCRRES	1,1	------>>	1,99	TCRRES
						TCSEPS	1,1	------>>	1,99	TCSEPS
						TCTTOD	1,1	------>>	1,99	TCTTOD
						TCTTOZ	1,1	------>>	1,99	TCTTOZ
						TCZRES	1,1	------>>	1,99	TCZRES
						TCZTOT	1,1	------>>	1,99	TCZTOT
					TCCWIR	TCCSEL	0,1	-|---->>	1,99	TCCSEL
TCFTOH	TCDHIT	1,1	------->	1, 1	TCDHIT					
TCVOLU	div	0,1	-|----->	1, 1	TCDIV					
TCCREL	TCDRFV	1,1	------>>	1,99	TCDRFV					
TCCSEL	TCDTOT	1,1	------>>	1,99	TCDTOT					
TCCSEL	TCEFFS	1,1	------>>	1,99	TCEFFS					
TCCSEL	TCERES	1,1	------>>	1,99	TCERES					
					TCFCPF	TCFLCP	1,1	----|->>	0,99	TCFLCP
					TCFDOF	TCPAOF	0,1	-|--|-->	0, 1	TCPAOF
					TCFHOK	TCFSEG	1,1	------>>	1,99	TCFSEG
						TCFZHT	1,1	----|->>	0,99	TCFZHT
					TCFLAY	TCLAYR	1,1	------>>	1,99	TCLAYR
TCFCPF	TCFLCP	1,1	----|->>	0,99	TCFLCP					
TCFSEG	TCFLCP	1,1	----|->>	0,99						
TCFSCF	TCFLSC	1,1	----|->>	0,99	TCFLSC					
					TCFSCF	TCFLSC	1,1	----|->>	0,99	TCFLSC
TCFHOK	TCFSEG	1,1	------>>	1,99	TCFSEG	TCFLCP	1,1	----|->>	0,99	TCFLCP
					TCFTEM	TCFZHT	1,1	----|-->	0, 1	TCFZHT
					TCFTOH	TCDHIT	1,1	------->	1, 1	TCDHIT
						TCPULS	1,1	------->	1, 1	TCPULS
					TCFTRN	TCBFPF	0,1	-|---->>	1,99	TCBFPF
						TCRTRN	0,1	-|----->	1, 1	TCRTRN
TCFHOK	TCFZHT	1,1	----|->>	0,99	TCFZHT	TCWIRE	1,1	----|->>	0,99	TCWIRE
TCFTEM	TCFZHT	1,1	----|-->	0, 1						
					TCGHIT	FMCKin	0,1	-|--|->>	0,99	FMCKin
						TCRP	0,1	-|--|-->	0, 1	TCRP
						TCWIRE	1,1	----|->>	0,99	TCWIRE
						TCZ	0,1	-|--|-->	0, 1	TCZ
					TCGSTP	FMCKin	1,1	----|->>	0,99	FMCKin
						TCTRAK	0,1	-|--|->>	0,99	TCTRAK
TCCREL	TCHEFF	1,1	------>>	1,99	TCHEFF					
TCAXLY	TCHIT	1,1	----|->>	0, 2	TCHIT	TCTRAK	0,1	-|---->>	1,99	TCTRAK
TCBIT	TCHIT	1,1	----|->>	0,99		TCWIRE	1,1	----|->>	0,99	TCWIRE
TCSTLY	TCHIT	1,1	----|->>	0,99						
TCCSEL	TCIPDR	1,1	------>>	1,99	TCIPDR					
TCAXLY	TCLAYR	1,1	----|->>	0,99	TCLAYR					
TCCELL	TCLAYR	1,1	------>>	1,99						
TCFLAY	TCLAYR	1,1	------>>	1,99						
TCPOS	Detector	0,1	-|---->>	1,99						
TCSTLY	TCLAYR	1,1	----|->>	0,99						
TCUNCL	TCLAYR	1,1	------>>	1,99						
TCCREL	TCLRZA	1,1	------>>	1,99	TCLRZA					
TCCREL	TCLRZD	1,1	------>>	1,99	TCLRZD					
TCCSEL	TCLZAN	1,1	------>>	1,99	TCLZAN					
TCCSEL	TCLZZD	1,1	------>>	1,99	TCLZZD					
TCPAOF	TCPADL	1,1	------>>	1,99	TCPADL	TCCDEL	1,1	------->	1, 1	TCCDEL
TCFDOF	TCPAOF	0,1	-|--|-->	0, 1	TCPAOF	TCPADL	1,1	------>>	1,99	TCPADL
					TCPARA	of	1,1	===-|->>	0,99	TCPOS
						of	1,1	===-|->>	0,99	TCVOLU
TCCREL	TCPEDS	1,1	------>>	1,99	TCPEDS					
TCPARA	of	1,1	===-|->>	0,99	TCPOS	Detector	0,1	-|---->>	1,99	TCLAYR
TCRJCT	of	1,1	===-|->>	0,99		volu	1,1	----|->>	0,99	TCVOLU
						rotm	1,1	----|->>	0,99	rotm
TCFTOH	TCPULS	1,1	------->	1, 1	TCPULS					
TCCREL	TCRESE	1,1	------>>	1,99	TCRESE					
TCCREL	TCRESR	1,1	------>>	1,99	TCRESR					
TCCREL	TCRESZ	1,1	------>>	1,99	TCRESZ					

V

Page (1, 1)

<table>
<tr><th>FrESet</th><th>FromBy</th><th>Frc</th><th>Arrow1</th><th>Tocar</th><th>ESet</th><th>ToBy</th><th>Frc</th><th>Arrow2</th><th>Tocar</th><th>ToESet</th></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>TCRJCT</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>TCPOS</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>TCVOLU</td></tr>
<tr><td>TCGHIT</td><td>TCRP</td><td>0,1</td><td>-|--|--></td><td>0, 1</td><td>TCRP</td><td>TCWIRE</td><td>1,1</td><td>----|->></td><td>0,99</td><td>TCWIRE</td></tr>
<tr><td>TCCSEL</td><td>TCRRES</td><td>1,1</td><td>------>></td><td>1,99</td><td>TCRRES</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TCFTRN</td><td>TCRTRN</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>TCRTRN</td><td>TCBFP</td><td>1,1</td><td>------>></td><td>1,99</td><td>TCBFP</td></tr>
<tr><td>TCSDTA</td><td>sdet</td><td>1,1</td><td>----|->></td><td>0,99</td><td>TCSDET</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TCSDTD</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TCSDTH</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TCSDTU</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TCSDTV</td><td>sdet</td><td>1,1</td><td>------>></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TCVOLU</td><td>sdet</td><td>0,1</td><td>-|---->></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TCSDTD</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>TCSDTA</td><td>sdet</td><td>1,1</td><td>----|->></td><td>0,99</td><td>TCSDET</td></tr>
<tr><td>TCSDTH</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TCSDTU</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>TCSDTD</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>TCSDET</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>TCSDTA</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>TCSDTH</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>TCSDET</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>TCSDTA</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>TCSDTU</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>TCSDET</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>TCSDTA</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>TCSDTV</td><td>sdet</td><td>1,1</td><td>------>></td><td>1,99</td><td>TCSDET</td></tr>
<tr><td>TCCREL</td><td>TCSEPS</td><td>1,1</td><td>------>></td><td>1,99</td><td>TCSEPS</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TCCSEL</td><td>TCSEPS</td><td>1,1</td><td>------>></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TCBIT</td><td>Point</td><td>1,1</td><td>===----></td><td>1, 1</td><td>TCSTLY</td><td>TCCELL</td><td>1,1</td><td>----|->></td><td>0,99</td><td>TCCELL</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>TCHIT</td><td>1,1</td><td>----|->></td><td>0,99</td><td>TCHIT</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>TCLAYR</td><td>1,1</td><td>----|->></td><td>0,99</td><td>TCLAYR</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>TCWIRE</td><td>1,1</td><td>----|->></td><td>0,99</td><td>TCWIRE</td></tr>
<tr><td>TCGSTP</td><td>TCTRAK</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>TCTRAK</td><td>TCVTX</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>TCVTX</td></tr>
<tr><td>TCHIT</td><td>TCTRAK</td><td>0,1</td><td>-|---->></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TGCAND</td><td>TCTRAK</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TGFWCN</td><td>TCTRAK</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TGTCVT</td><td>TCTRAK</td><td>1,1</td><td>----|--></td><td>0, 1</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TCCSEL</td><td>TCTTOD</td><td>1,1</td><td>------>></td><td>1,99</td><td>TCTTOD</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TCCREL</td><td>TCTTOZ</td><td>1,1</td><td>------>></td><td>1,99</td><td>TCTTOZ</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TCCSEL</td><td>TCTTOZ</td><td>1,1</td><td>------>></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>TCUNCL</td><td>TCLAYR</td><td>1,1</td><td>------>></td><td>1,99</td><td>TCLAYR</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>TCWRTP</td><td>1,1</td><td>------>></td><td>1,99</td><td>TCWRTP</td></tr>
<tr><td>TCPARA</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>TCVOLU</td><td>div</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>TCDIV</td></tr>
<tr><td>TCPOS</td><td>volu</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td>sdet</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>TCSDET</td></tr>
<tr><td>TCRJCT</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td>tmed</td><td>1,1</td><td>------>></td><td>1,99</td><td>tmed</td></tr>
<tr><td>PhysKin</td><td>Vertex</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>TCVTX</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TCTRAK</td><td>TCVTX</td><td>0,1</td><td>-|---->></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TCAXLY</td><td>TCWIRE</td><td>1,1</td><td>----|->></td><td>0,99</td><td>TCWIRE</td><td>TCCELL</td><td>1,1</td><td>------>></td><td>1,99</td><td>TCCELL</td></tr>
<tr><td>TCFZHT</td><td>TCWIRE</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TCGHIT</td><td>TCWIRE</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TCHIT</td><td>TCWIRE</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TCRP</td><td>TCWIRE</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TCSTLY</td><td>TCWIRE</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TCZ</td><td>TCWIRE</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TCUNCL</td><td>TCWRTP</td><td>1,1</td><td>------>></td><td>1,99</td><td>TCWRTP</td><td>ZEMATE</td><td>1,1</td><td>----|->></td><td>0,99</td><td>ZEMATE</td></tr>
<tr><td>TCGHIT</td><td>TCZ</td><td>0,1</td><td>-|--|--></td><td>0, 1</td><td>TCZ</td><td>TCWIRE</td><td>1,1</td><td>----|->></td><td>0,99</td><td>TCWIRE</td></tr>
<tr><td>TCCSEL</td><td>TCZRES</td><td>1,1</td><td>------>></td><td>1,99</td><td>TCZRES</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TCCREL</td><td>TCZTOT</td><td>1,1</td><td>------>></td><td>1,99</td><td>TCZTOT</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TCCSEL</td><td>TCZTOT</td><td>1,1</td><td>------>></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TECONA</td><td>TEC</td><td>1,1</td><td>----|->></td><td>0,99</td><td>TEC</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TECONB</td><td>TEC</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TRGTWR</td><td>TEC</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>TECONA</td><td>TEC</td><td>1,1</td><td>----|->></td><td>0,99</td><td>TEC</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>TECONB</td><td>TEC</td><td>1,1</td><td>----|->></td><td>0,99</td><td>TEC</td></tr>
<tr><td>TFCHAN</td><td>Backplane</td><td>0,1</td><td>-|---->></td><td>1, 6</td><td>TFBPLA</td><td>Cable</td><td>1,1</td><td>----|--></td><td>0, 1</td><td>TFCABL</td></tr>
<tr><td>TFBPLA</td><td>Cable</td><td>1,1</td><td>----|--></td><td>0, 1</td><td>TFCABL</td><td>Layer</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>TFPOS</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>Cell</td><td>0,1</td><td>-|--|->></td><td>0, 3</td><td>TFVOLU</td></tr>
<tr><td>TFCLBW</td><td>channel</td><td>1,1</td><td>----|--></td><td>0, 1</td><td>TFCHAN</td><td>Backplane</td><td>0,1</td><td>-|---->></td><td>1, 6</td><td>TFBPLA</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>Postamp</td><td>0,1</td><td>-|---->></td><td>1, 8</td><td>TFPAMP</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>TFCLBW</td><td>channel</td><td>1,1</td><td>----|--></td><td>0, 1</td><td>TFCHAN</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>TFCORD</td><td>digit</td><td>1,1</td><td>-------></td><td>1, 1</td><td>TFDIGI</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>LTE</td><td>0,1</td><td>-|---->></td><td>2,99</td><td>TFLATE</td></tr>
<tr><td>TFPOS</td><td>Detector</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>TFDICO</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TFCORD</td><td>digit</td><td>1,1</td><td>-------></td><td>1, 1</td><td>TFDIGI</td><td>copy</td><td>1,1</td><td>----|->></td><td>0,99</td><td>TFPOS</td></tr>
<tr><td>TFHITS</td><td>digit</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td></td><td>cell</td><td>1,1</td><td>----|->></td><td>0,99</td><td>TFVOLU</td></tr>
<tr><td>TFVOLU</td><td>div</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>TFDIV</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TFFCON</td><td>FADC</td><td>1,1</td><td>------>></td><td>4, 4</td><td>TFFADC</td><td></td><td></td><td></td><td></td><td></td></tr>
</table>

|
V

Page (1, 1)

FrESet	FromBy	Frc	Arrow1	Tocar	ESet	ToBy	Frc	Arrow2	Tocar	ToESet
TFPAMP	Plug	0,1	-|--|-->	0, 1	TFFCON	FADC	1,1	------>>	4, 4	TFFADC
					TFHITS	FMCKin	1,1	----|-->	0, 1	FMCKin
						digit	0,1	-|--|->>	0,99	TFDIGI
TFCORD	LTE	0,1	-|---->>	2,99	TFLATE	of	0,1	=|=-|->>	0,99	TFMSEG
						of	0,1	=|=-|->>	0,99	TFTRAC
TFLATE	of	0,1	=|=-|->>	0,99	TFMSEG	TFTRAC	0,1	-|--|->>	0,99	TFTRAC
TFTRDM	of	1,1	===-|->>	0,99						
TGCAND	FTD1	0,1	-|--|->>	0,99						
TGCAND	FTD2	0,1	-|--|->>	0,99						
TGCAND	FTD3	0,1	-|--|->>	0,99						
TGCAND	RTD	0,1	-|--|->>	0,99						
TGFWCN	FTD1	0,1	-|--|->>	0,99						
TGFWCN	FTD2	0,1	-|--|->>	0,99						
TGFWCN	FTD3	0,1	-|--|->>	0,99						
VCLCF	TFMSEG	0,1	-|----->	1, 1						
TFCHAN	Postamp	0,1	-|---->>	1, 8	TFPAMP	Plug	0,1	-|--|-->	0, 1	TFFCON
					TFPARA	of	1,1	===-|->>	0,99	TFPOS
						of	1,1	===-|->>	0,99	TFVOLU
TFCABL	Layer	0,1	-|--|->>	0,99	TFPOS	Detector	0,1	-|---->>	1,99	TFDICO
TFDIGI	copy	1,1	----|->>	0,99		volu	1,1	----|->>	0,99	TFVOLU
TFPARA	of	1,1	===-|->>	0,99		rotm	1,1	----|->>	0,99	rotm
TFRJCT	of	1,1	===-|->>	0,99						
					TFRJCT	of	1,1	===-|->>	0,99	TFPOS
						of	1,1	===-|->>	0,99	TFVOLU
TFSDTA	sdet	1,1	----|->>	0,99	TFSDET					
TFSDTD	of	1,1	===-|->>	0,99						
TFSDTH	of	1,1	===-|->>	0,99						
TFSDTU	of	1,1	===-|->>	0,99						
TFSDTV	sdet	1,1	------>>	1,99						
TFVOLU	sdet	0,1	-|---->>	1,99						
TFSDTD	of	1,1	===-|->>	0,99	TFSDTA	sdet	1,1	----|->>	0,99	TFSDET
TFSDTH	of	1,1	===-|->>	0,99						
TFSDTU	of	1,1	===-|->>	0,99						
					TFSDTD	of	1,1	===-|->>	0,99	TFSDET
						of	1,1	===-|->>	0,99	TFSDTA
					TFSDTH	of	1,1	===-|->>	0,99	TFSDET
						of	1,1	===-|->>	0,99	TFSDTA
					TFSDTU	of	1,1	===-|->>	0,99	TFSDET
						of	1,1	===-|->>	0,99	TFSDTA
					TFSDTV	sdet	1,1	------>>	1,99	TFSDET
TFTRDM	TFTR	1,1	------>>	1,99	TFTR					
TFLATE	of	0,1	=|=-|->>	0,99	TFTRAC					
TFMSEG	TFTRAC	0,1	-|--|->>	0,99						
TFTRDM	of	1,1	===-|->>	0,99						
					TFTRDM	of	1,1	===-|->>	0,99	TFMSEG
						TFTR	1,1	------>>	1,99	TFTR
						of	1,1	===-|->>	0,99	TFTRAC
TFCABL	Cell	0,1	-|--|->>	0, 3	TFVOLU	div	0,1	-|----->	1, 1	TFDIV
TFDIGI	cell	1,1	----|->>	0,99		sdet	0,1	-|---->>	1,99	TFSDET
TFPARA	of	1,1	===-|->>	0,99		tmed	1,1	------>>	1,99	tmed
TFPOS	volu	1,1	----|->>	0,99						
TFRJCT	of	1,1	===-|->>	0,99						
TGTRAK	TGCAND	0,1	-|--|-->	0, 1	TGCAND	MBXYSG	0,1	-|--|->>	0,99	MBXYSG
						TCTRAK	0,1	-|--|->>	0,99	TCTRAK
						FTD1	0,1	-|--|->>	0,99	TFMSEG
						FTD2	0,1	-|--|->>	0,99	TFMSEG
						FTD3	0,1	-|--|->>	0,99	TFMSEG
						RTD	0,1	-|--|->>	0,99	TFMSEG
						TGTCVT	0,1	-|--|->>	0,99	TGTCVT
						Ambig	0,1	-|---->>	1,99	TGTRAK
						mfrtz	0,1	-|--|->>	0,99	mfrtz
						vtct	0,1	-|--|->>	0,99	vtct
					TGFWCN	TCTRAK	0,1	-|--|->>	0,99	TCTRAK
						FTD1	0,1	-|--|->>	0,99	TFMSEG
						FTD2	0,1	-|--|->>	0,99	TFMSEG
						FTD3	0,1	-|--|->>	0,99	TFMSEG
						TGTCVT	0,1	-|--|->>	0,99	TGTCVT
					TGPHYS	RECVTX	0,1	-|---->>	1,99	RECVTX
						TGTRAK	1,1	------->	1, 1	TGTRAK
						VCTRHL	1,1	------->	1, 1	VCTRHL
						VCTVTX	0,1	-|---->>	1,99	VCTVTX
TGSEGS	TGSCOV	1,1	----|-->	0, 1	TGSCOV					
					TGSEGS	TGSCOV	1,1	----|-->	0, 1	TGSCOV
TGCAND	TGTCVT	0,1	-|--|->>	0,99	TGTCVT	TCTRAK	1,1	----|-->	0, 1	TCTRAK
TGFWCN	TGTCVT	0,1	-|--|->>	0,99		VCTRHL	1,1	----|-->	0, 1	VCTRHL
TGTRAK	TGTCVT	0,1	-|--|->>	0,99		vtct	1,1	----|-->	0, 1	vtct
					TGTMCF	FMCKin	1,1	----|->>	0,99	FMCKin
						TGTRAK	1,1	----|->>	0,99	TGTRAK
					TGTMCT	FMCKin	1,1	----|->>	0,99	FMCKin
						TGTRAK	1,1	----|->>	0,99	TGTRAK

Page (1, 1)

<table>
<tr><th>FrESet</th><th>FromBy</th><th>Frc</th><th>Arrow1</th><th>Tocar</th><th>ESet</th><th>ToBy</th><th>Frc</th><th>Arrow2</th><th>Tocar</th><th>ToESet</th></tr>
<tr><td>GLCELL
GLENTR
GLTKPG
GMTrCs
PhysDet
TGCAND
TGPHYS
TGTMCF
TGTMCT</td><td>TGTRAK
TGTRAK
TGTRAK
TGTRAK
DetComp
Ambig
TGTRAK
TGTRAK
TGTRAK</td><td>0,1
0,1
1,1
1,1
1,1
0,1
1,1
1,1
1,1</td><td>-|---->>
-|---->>
----|->>
----|->>
===-|->>
-|---->>
------->
----|->>
----|->></td><td>1,99
1,99
0,99
0,99
0,99
1,99
1, 1
0,99
0,99</td><td>TGTRAK</td><td>TGCAND
TGTCVT
XMatEt</td><td>0,1
0,1
0,1</td><td>-|--|-->
-|--|->>
-|--|->></td><td>0, 1
0,99
0,99</td><td>TGCAND
TGTCVT
XMatEt</td></tr>
<tr><td>TNPOS</td><td>Detector</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>TNDICO</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TNVOLU</td><td>div</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>TNDIV</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>TNPARA</td><td>of
of</td><td>1,1
1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>TNPOS
TNVOLU</td></tr>
<tr><td>TNPARA
TNRJCT</td><td>of
of</td><td>1,1
1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>TNPOS</td><td>Detector
volu
rotm</td><td>0,1
1,1
1,1</td><td>-|---->>
----|->>
----|->></td><td>1,99
0,99
0,99</td><td>TNDICO
TNVOLU
rotm</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>TNRJCT</td><td>of
of</td><td>1,1
1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>TNPOS
TNVOLU</td></tr>
<tr><td>TNSDTA
TNSDTD
TNSDTH
TNSDTU
TNSDTV
TNVOLU</td><td>sdet
of
of
of
sdet
sdet</td><td>1,1
1,1
1,1
1,1
1,1
0,1</td><td>----|->>
===-|->>
===-|->>
===-|->>
------>>
-|---->></td><td>0,99
0,99
0,99
0,99
1,99
1,99</td><td>TNSDET</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TNSDTD
TNSDTH
TNSDTU</td><td>of
of
of</td><td>1,1
1,1
1,1</td><td>===-|->>
===-|->>
===-|->></td><td>0,99
0,99
0,99</td><td>TNSDTA</td><td>sdet</td><td>1,1</td><td>----|->></td><td>0,99</td><td>TNSDET</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>TNSDTD</td><td>of
of</td><td>1,1
1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>TNSDET
TNSDTA</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>TNSDTH</td><td>of
of</td><td>1,1
1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>TNSDET
TNSDTA</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>TNSDTU</td><td>of
of</td><td>1,1
1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>TNSDET
TNSDTA</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>TNSDTV</td><td>sdet</td><td>1,1</td><td>------>></td><td>1,99</td><td>TNSDET</td></tr>
<tr><td>TNPARA
TNPOS
TNRJCT</td><td>of
volu
of</td><td>1,1
1,1
1,1</td><td>===-|->>
----|->>
===-|->></td><td>0,99
0,99
0,99</td><td>TNVOLU</td><td>div
sdet
tmed</td><td>0,1
0,1
1,1</td><td>-|----->
-|---->>
------>></td><td>1, 1
1,99
1,99</td><td>TNDIV
TNSDET
tmed</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>TRCLUSTER</td><td>FMCKin</td><td>1,1</td><td>----|->></td><td>0,99</td><td>FMCKin</td></tr>
<tr><td>TRVOLU</td><td>div</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>TRDIV</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TRPOS</td><td>Detector</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>TRDTCT</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>PMT</td><td>TRGTWR</td><td>1,1</td><td>----|->></td><td>0,99</td><td>TRGTWR</td><td>TEC</td><td>1,1</td><td>----|->></td><td>0,99</td><td>TEC</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>TRPARA</td><td>of
of</td><td>1,1
1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>TRPOS
TRVOLU</td></tr>
<tr><td>TRPARA
TRRJCT</td><td>of
of</td><td>1,1
1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>TRPOS</td><td>Detector
volu
rotm</td><td>0,1
1,1
1,1</td><td>-|---->>
----|->>
----|->></td><td>1,99
0,99
0,99</td><td>TRDTCT
TRVOLU
rotm</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>TRRJCT</td><td>of
of</td><td>1,1
1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>TRPOS
TRVOLU</td></tr>
<tr><td>TRSDTA
TRSDTD
TRSDTH
TRSDTU
TRSDTV
TRVOLU</td><td>sdet
of
of
of
sdet
sdet</td><td>1,1
1,1
1,1
1,1
1,1
0,1</td><td>----|->>
===-|->>
===-|->>
===-|->>
------>>
-|---->></td><td>0,99
0,99
0,99
0,99
1,99
1,99</td><td>TRSDET</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TRSDTD
TRSDTH
TRSDTU</td><td>of
of
of</td><td>1,1
1,1
1,1</td><td>===-|->>
===-|->>
===-|->></td><td>0,99
0,99
0,99</td><td>TRSDTA</td><td>sdet</td><td>1,1</td><td>----|->></td><td>0,99</td><td>TRSDET</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>TRSDTD</td><td>of
of</td><td>1,1
1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>TRSDET
TRSDTA</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>TRSDTH</td><td>of
of</td><td>1,1
1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>TRSDET
TRSDTA</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>TRSDTU</td><td>of
of</td><td>1,1
1,1</td><td>===-|->>
===-|->></td><td>0,99
0,99</td><td>TRSDET
TRSDTA</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>TRSDTV</td><td>sdet</td><td>1,1</td><td>------>></td><td>1,99</td><td>TRSDET</td></tr>
<tr><td>TRPARA
TRPOS
TRRJCT</td><td>of
volu
of</td><td>1,1
1,1
1,1</td><td>===-|->>
----|->>
===-|->></td><td>0,99
0,99
0,99</td><td>TRVOLU</td><td>div
sdet
tmed</td><td>0,1
0,1
1,1</td><td>-|----->
-|---->>
------>></td><td>1, 1
1,99
1,99</td><td>TRDIV
TRSDET
tmed</td></tr>
<tr><td>PMTF</td><td>TSUMCD</td><td>1,1</td><td>----|->></td><td>0,99</td><td>TSUMCD</td><td>Cable</td><td>1,1</td><td>----|->></td><td>0,99</td><td>Cable</td></tr>
<tr><td>FMCEvt</td><td>Generator</td><td>1,1</td><td>===-|--></td><td>0, 1</td><td>USGEvt</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>FMCRun</td><td>Generator</td><td>1,1</td><td>===-|--></td><td>0, 1</td><td>USGRun</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>ZTPRUSE
ZTTRUSE</td><td>VCCTDM
VCCTDM</td><td>0,1
0,1</td><td>-|--|->>
-|--|->></td><td>0,99
0,99</td><td>VCCTDM</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>VCLCF</td><td>VCLCF</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>VCLCF</td><td>SreHit
TFMSEG
VCLCF
VCTRHL</td><td>0,1
0,1
0,1
0,1</td><td>-|----->
-|----->
-|----->
-|-----></td><td>1, 1
1, 1
1, 1
1, 1</td><td>SreHit
TFMSEG
VCLCF
VCTRHL</td></tr>
</table>

|
V

Page (1, 1)

<table>
<tr><th>FrESet</th><th>FromBy</th><th>Frc</th><th>Arrow1</th><th>Tocar</th><th>ESet</th><th>ToBy</th><th>Frc</th><th>Arrow2</th><th>Tocar</th><th>ToESet</th></tr>
<tr><td>VCPARSEC</td><td>DaughterOf</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>VCPARSEC</td><td>DaughterOf</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>VCPARSEC</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>VCTRHL</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>VCTRHL</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>PRoducedAt</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>VCVTXSEC</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>ZTPRHL</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>ZTPRHL</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>VCTKPG</td><td>VCTPAR</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>VCTPAR</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>VCTRHL</td><td>1,1</td><td>----|->></td><td>0,99</td><td>VCTRHL</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>VFTEMP</td><td>1,1</td><td>-------></td><td>1, 1</td><td>VFTEMP</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>VCTMCCTD</td><td>FMCKin</td><td>1,1</td><td>----|->></td><td>0,99</td><td>FMCKin</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>VCTRHL</td><td>1,1</td><td>----|->></td><td>0,99</td><td>VCTRHL</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>VCTMCREG</td><td>FMCKin</td><td>1,1</td><td>----|->></td><td>0,99</td><td>FMCKin</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>VCTRHL</td><td>1,1</td><td>----|->></td><td>0,99</td><td>VCTRHL</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>VCTMCT</td><td>FMCKin</td><td>1,1</td><td>----|->></td><td>0,99</td><td>FMCKin</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>VCTRHL</td><td>1,1</td><td>----|->></td><td>0,99</td><td>VCTRHL</td></tr>
<tr><td>VCTKPG</td><td>VCTPAR</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>VCTPAR</td><td>DaughterOf</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>VCTPAR</td></tr>
<tr><td>VCTPAR</td><td>DaughterOf</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td></td><td>VCTRHL</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>VCTRHL</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>PRoducedAt</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>VCTVTX</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>ZTPRHL</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>ZTPRHL</td></tr>
<tr><td>TGPHYS</td><td>VCTRHL</td><td>1,1</td><td>-------></td><td>1, 1</td><td>VCTRHL</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TGTCVT</td><td>VCTRHL</td><td>1,1</td><td>----|--></td><td>0, 1</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>VCLCF</td><td>VCTRHL</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>VCPARSEC</td><td>VCTRHL</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>VCTKPG</td><td>VCTRHL</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>VCTMCCTD</td><td>VCTRHL</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>VCTMCREG</td><td>VCTRHL</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>VCTMCT</td><td>VCTRHL</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>VCTPAR</td><td>VCTRHL</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>ZTPRHL</td><td>VCTRHL</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>ZTTRHL</td><td>VCTRHL</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>PhysKin</td><td>Vertex</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>VCTVTX</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>PhysKinC</td><td>VCTVTX</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TGPHYS</td><td>VCTVTX</td><td>0,1</td><td>-|---->></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>VCTPAR</td><td>PRoducedAt</td><td>0,1</td><td>-|---->></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>VCPARSEC</td><td>PRoducedAt</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>VCVTXSEC</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>VECou</td><td>VETofs</td><td>1,1</td><td>------>></td><td>1,99</td><td>VETofs</td></tr>
<tr><td>VEVOLU</td><td>div</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>VEDIV</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>VEGHit</td><td>FMCKin</td><td>1,1</td><td>----|->></td><td>0,99</td><td>FMCKin</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>VEPARA</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>VEPOS</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>VEVOLU</td></tr>
<tr><td>VEPARA</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>VEPOS</td><td>volu</td><td>1,1</td><td>----|->></td><td>0,99</td><td>VEVOLU</td></tr>
<tr><td>VERJCT</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>VERJCT</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>VEPOS</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>VEVOLU</td></tr>
<tr><td>VESDTA</td><td>sdet</td><td>1,1</td><td>----|->></td><td>0,99</td><td>VESDET</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>VESDTD</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>VESDTH</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>VESDTU</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>VESDTV</td><td>sdet</td><td>1,1</td><td>------>></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>VEVOLU</td><td>sdet</td><td>0,1</td><td>-|---->></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>VESDTD</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>VESDTA</td><td>sdet</td><td>1,1</td><td>----|->></td><td>0,99</td><td>VESDET</td></tr>
<tr><td>VESDTH</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>VESDTU</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>VESDTD</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>VESDET</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>VESDTA</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>VESDTH</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>VESDET</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>VESDTA</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>VESDTU</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>VESDET</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>VESDTA</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>VESDTV</td><td>sdet</td><td>1,1</td><td>------>></td><td>1,99</td><td>VESDET</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>VETHIT</td><td>FMCKin</td><td>1,1</td><td>----|->></td><td>0,99</td><td>FMCKin</td></tr>
<tr><td>VECou</td><td>VETofs</td><td>1,1</td><td>------>></td><td>1,99</td><td>VETofs</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>VEPARA</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>VEVOLU</td><td>div</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>VEDIV</td></tr>
<tr><td>VEPOS</td><td>volu</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td>sdet</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>VESDET</td></tr>
<tr><td>VERJCT</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td>tmed</td><td>1,1</td><td>------>></td><td>1,99</td><td>tmed</td></tr>
<tr><td>GLTKPG</td><td>VFTEMP</td><td>1,1</td><td>-------></td><td>1, 1</td><td>VFTEMP</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>VCTKPG</td><td>VFTEMP</td><td>1,1</td><td>-------></td><td>1, 1</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>VTVOLU</td><td>div</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>VTDIV</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>VTPARA</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>VTPOS</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>VTVOLU</td></tr>
<tr><td>VTPARA</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>VTPOS</td><td>volu</td><td>1,1</td><td>----|->></td><td>0,99</td><td>VTVOLU</td></tr>
<tr><td>VTRJCT</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td></td><td>rotm</td><td>1,1</td><td>----|->></td><td>0,99</td><td>rotm</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>Detector</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>vtdico</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>VTRJCT</td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>VTPOS</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>of</td><td>1,1</td><td>===-|->></td><td>0,99</td><td>VTVOLU</td></tr>
</table>

V

Page (1, 1)

FrESet	FromBy	Frc	Arrow1	Tocar	ESet	ToBy	Frc	Arrow2	Tocar	ToESet
VTSDTA	sdet	1,1	----|->>	0,99	VTSDET					
VTSDTD	of	1,1	===-|->>	0,99						
VTSDTH	of	1,1	===-|->>	0,99						
VTSDTU	of	1,1	===-|->>	0,99						
VTSDTV	sdet	1,1	------>>	1,99						
VTVOLU	sdet	0,1	-|---->>	1,99						
VTSDTD	of	1,1	===-|->>	0,99	VTSDTA	sdet	1,1	----|->>	0,99	VTSDET
VTSDTH	of	1,1	===-|->>	0,99						
VTSDTU	of	1,1	===-|->>	0,99						
					VTSDTD	of	1,1	===-|->>	0,99	VTSDET
						of	1,1	===-|->>	0,99	VTSDTA
					VTSDTH	of	1,1	===-|->>	0,99	VTSDET
						of	1,1	===-|->>	0,99	VTSDTA
					VTSDTU	of	1,1	===-|->>	0,99	VTSDET
						of	1,1	===-|->>	0,99	VTSDTA
					VTSDTV	sdet	1,1	------>>	1,99	VTSDET
VTPARA	of	1,1	===-|->>	0,99	VTVOLU	div	0,1	-|----->	1, 1	VTDIV
VTPOS	volu	1,1	----|->>	0,99		sdet	0,1	-|---->>	1,99	VTSDET
VTRJCT	of	1,1	===-|->>	0,99		tmed	1,1	------>>	1,99	tmed
XPTow	XBAC	1,1	------>>	1,99	XBAC					
XSTow	XBAC	1,1	------>>	1,99						
XWTow	XBAC	1,1	------>>	1,99						
XXLay	XBAC	1,1	------>>	1,99						
XBVOLU	div	0,1	-|----->	1, 1	XBDIV					
XBPOS	Detector	0,1	-|----->	1, 1	XBNLEN					
					XBPARA	of	1,1	===-|->>	0,99	XBPOS
						of	1,1	===-|->>	0,99	XBVOLU
XBPARA	of	1,1	===-|->>	0,99	XBPOS	Detector	0,1	-|----->	1, 1	XBNLEN
XBRJCT	of	1,1	===-|->>	0,99		volu	1,1	----|->>	0,99	XBVOLU
						rotm	1,1	----|->>	0,99	rotm
					XBRJCT	of	1,1	===-|->>	0,99	XBPOS
						of	1,1	===-|->>	0,99	XBVOLU
XBSDTA	sdet	1,1	----|->>	0,99	XBSDET					
XBSDTD	of	1,1	===-|->>	0,99						
XBSDTH	of	1,1	===-|->>	0,99						
XBSDTU	of	1,1	===-|->>	0,99						
XBSDTV	sdet	1,1	------>>	1,99						
XBVOLU	sdet	0,1	-|---->>	1,99						
XBSDTD	of	1,1	===-|->>	0,99	XBSDTA	sdet	1,1	----|->>	0,99	XBSDET
XBSDTH	of	1,1	===-|->>	0,99						
XBSDTU	of	1,1	===-|->>	0,99						
					XBSDTD	of	1,1	===-|->>	0,99	XBSDET
						of	1,1	===-|->>	0,99	XBSDTA
					XBSDTH	of	1,1	===-|->>	0,99	XBSDET
						of	1,1	===-|->>	0,99	XBSDTA
					XBSDTU	of	1,1	===-|->>	0,99	XBSDET
						of	1,1	===-|->>	0,99	XBSDTA
					XBSDTV	sdet	1,1	------>>	1,99	XBSDET
XBPARA	of	1,1	===-|->>	0,99	XBVOLU	div	0,1	-|----->	1, 1	XBDIV
XBPOS	volu	1,1	----|->>	0,99		sdet	0,1	-|---->>	1,99	XBSDET
XBRJCT	of	1,1	===-|->>	0,99		tmed	1,1	------>>	1,99	tmed
					XCluHP	XJetEt	0,1	-|--|->>	0,99	XJetEt
						XMIPEt	0,1	-|--|->>	0,99	XMIPEt
XXLay	XDim	1,1	----|->>	0,99	XDim					
XJetEt	XEntit	1,1	----|->>	0,99	XEntit					
XMIPEt	XEntit	1,1	----|->>	0,99						
XCluHP	XJetEt	0,1	-|--|->>	0,99	XJetEt	XEntit	1,1	----|->>	0,99	XEntit
XMIPEt	XJetEt	1,1	----|->>	0,99		XMCSEt	1,1	----|->>	0,99	XMCSEt
XPTPH	XJetEt	0,1	-|--|->>	0,99		XMatEt	1,1	----|->>	0,99	XMatEt
XWTPH	XJetEt	0,1	-|--|->>	0,99						
GMTrCs	XMCSEt	1,1	----|->>	0,99	XMCSEt	CConSa	0,1	-|----->	1, 1	CConSa
XJetEt	XMCSEt	1,1	----|->>	0,99						
XMIPEt	XMCSEt	1,1	----|->>	0,99						
XCluHP	XMIPEt	0,1	-|--|->>	0,99	XMIPEt	XEntit	1,1	----|->>	0,99	XEntit
XPTPH	XMIPEt	0,1	-|--|->>	0,99		XJetEt	1,1	----|->>	0,99	XJetEt
XTrkEt	XMIPEt	1,1	----|-->	0, 1		XMCSEt	1,1	----|->>	0,99	XMCSEt
XWTPH	XMIPEt	0,1	-|--|->>	0,99		XMatEt	1,1	----|->>	0,99	XMatEt
TGTRAK	XMatEt	0,1	-|--|->>	0,99	XMatEt	Cidclu	0,1	-|----->	1, 1	Cidclu
XJetEt	XMatEt	1,1	----|->>	0,99						
XMIPEt	XMatEt	1,1	----|->>	0,99						
					XPTPH	XJetEt	0,1	-|--|->>	0,99	XJetEt
						XMIPEt	0,1	-|--|->>	0,99	XMIPEt
					XPTow	XBAC	1,1	------>>	1,99	XBAC
						XSTow	1,1	------>>	1,99	XSTow
XXLay	XPos	1,1	----|->>	0,99	XPos					
XXLay	XRot	1,1	----|->>	0,99	XRot					

Page (1, 1)

FrESet	FromBy	Frc	Arrow1	Tocar	ESet	ToBy	Frc	Arrow2	Tocar	ToESet
XPTow	XSTow	1,1	------>>	1,99	XSTow	XBAC	1,1	------>>	1,99	XBAC
					XTrkEt	XMIPEt	1,1	----|-->	0, 1	XMIPEt
					XWTPH	XJetEt	0,1	-|--|->>	0,99	XJetEt
						XMIPEt	0,1	-|--|->>	0,99	XMIPEt
					XWTow	XBAC	1,1	------>>	1,99	XBAC
					XXGHit	FMCKin	1,1	----|->>	0,99	FMCKin
						XXPSDG	0,1	-|---->>	1,99	XXPSDG
						XXPTDG	0,1	-|---->>	1,99	XXPTDG
						XXSTDG	0,1	-|---->>	1,99	XXSTDG
						XXWRDG	0,1	-|---->>	1,99	XXWRDG
						XXXLDG	0,1	-|---->>	1,99	XXXLDG
					XXLay	XBAC	1,1	------>>	1,99	XBAC
						XDim	1,1	----|->>	0,99	XDim
						XPos	1,1	----|->>	0,99	XPos
						XRot	1,1	----|->>	0,99	XRot
XXGHit	XXPSDG	0,1	-|---->>	1,99	XXPSDG					
XXGHit	XXPTDG	0,1	-|---->>	1,99	XXPTDG					
XXGHit	XXSTDG	0,1	-|---->>	1,99	XXSTDG					
XXGHit	XXWRDG	0,1	-|---->>	1,99	XXWRDG					
XXGHit	XXXLDG	0,1	-|---->>	1,99	XXXLDG					
ZDCAT	ZDARCH	1,1	------>>	1,99	ZDARCH					
ZDPVAL	ZDCAT	1,1	------>>	1,99	ZDCAT	ZDARCH	1,1	------>>	1,99	ZDARCH
ZDLHMM	ZDFHMM	1,1	------>>	1,99	ZDFHMM					
ZDLOAD	ZDFILE	1,1	------>>	1,99	ZDFILE					
ZDUNIT	ZDFILE	1,1	----|-->	0, 1						
ZDLOut	ZDFOut	1,1	------>>	1,99	ZDFOut					
ZDPHMM	ZDLHMM	1,1	------>>	1,99	ZDLHMM	ZDFHMM	1,1	------>>	1,99	ZDFHMM
ZDPUSE	ZDLOAD	1,1	------>>	1,99	ZDLOAD	ZDFILE	1,1	------>>	1,99	ZDFILE
ZDPOut	ZDLOut	1,1	------>>	1,99	ZDLOut	ZDFOut	1,1	------>>	1,99	ZDFOut
JobZdP	ZDPHMM	1,1	------->	1, 1	ZDPHMM	ZDLHMM	1,1	------>>	1,99	ZDLHMM
					ZDPOut	ZDLOut	1,1	------>>	1,99	ZDLOut
					ZDPUSE	ZDLOAD	1,1	------>>	1,99	ZDLOAD
					ZDPVAL	ZDCAT	1,1	------>>	1,99	ZDCAT
					ZDUNIT	ZDFILE	1,1	----|-->	0, 1	ZDFILE
PROPOR	in	1,1	----|->>	0,99	ZEMATE					
PROPOR	of	1,1	----|->>	0,99						
TCWRTP	ZEMATE	1,1	----|->>	0,99						
tmed	ZEMATE	1,1	----|->>	0,99						
					ZFCADC	ZFPPan	1,1	------->	1, 1	ZFPPan
ZFGaug	ZFCalG	1,1	------>>	1,99	ZFCalG					
ZFHall	ZFCalH	1,1	------>>	1,99	ZFCalH					
ZFForc	ZFDatG	1,1	------->	1, 1	ZFDatG					
ZFRawD	DataType	0,1	=|=---->	1, 1						
ZFMagF	ZFDatH	1,1	------->	1, 1	ZFDatH					
ZFRawD	DataType	0,1	=|=--->>	1,99						
					ZFForc	ZFDatG	1,1	------->	1, 1	ZFDatG
ZFPPan	Device	0,1	=|=---->	1, 1	ZFGaug	ZFCalG	1,1	------>>	1,99	ZFCalG
ZFPPan	Device	0,1	=|=---->	1, 1	ZFHall	ZFCalH	1,1	------>>	1,99	ZFCalH
					ZFMagF	ZFDatH	1,1	------->	1, 1	ZFDatH
ZFCADC	ZFPPan	1,1	------->	1, 1	ZFPPan	Device	0,1	=|=---->	1, 1	ZFGaug
						Device	0,1	=|=---->	1, 1	ZFHall
					ZFRawD	DataType	0,1	=|=---->	1, 1	ZFDatG
						DataType	0,1	=|=--->>	1,99	ZFDatH
					ZINDFL	ZRINPT	1,1	----|->>	0,99	ZRINPT
ZRINPT	ZINOPT	0,1	-|----->	1, 1	ZINOPT					
					ZINRCD	ZRINPT	1,1	----|->>	0,99	ZRINPT
					ZOUDFL	ZROUTP	1,1	----|->>	0,99	ZROUTP
ZROUTP	ZOUOPT	0,1	-|----->	1, 1	ZOUOPT					
					ZOURCD	ZROUTP	1,1	----|->>	0,99	ZROUTP
ZRECTD	ZRECMP	1,1	------>>	1,99	ZRECMP					
					ZRECTD	ZRECMP	1,1	------>>	1,99	ZRECMP
						ZREDFL	1,1	------>>	1,99	ZREDFL
ZRECTD	ZREDFL	1,1	------>>	1,99	ZREDFL					

|
V

Page (1, 1)

FrESet	FromBy	Frc	Arrow1	Tocar	ESet	ToBy	Frc	Arrow2	Tocar	ToESet
ZINDFL	ZRINPT	1,1	----|->>	0,99	ZRINPT	ZINOPT	0,1	-|----->	1, 1	ZINOPT
ZINRCD	ZRINPT	1,1	----|->>	0,99						
ZOUDFL	ZROUTP	1,1	----|->>	0,99	ZROUTP	ZOUOPT	0,1	-|----->	1, 1	ZOUOPT
ZOURCD	ZROUTP	1,1	----|->>	0,99						
					ZRXKFO	ZRXKSO	1,1	------>>	1,99	ZRXKSO
ZRXKFO	ZRXKSO	1,1	------>>	1,99	ZRXKSO					
VCPARSEC	ZTPRHL	0,1	-|----->	1, 1	ZTPRHL	VCTRHL	0,1	-|----->	1, 1	VCTRHL
VCTPAR	ZTPRHL	0,1	-|----->	1, 1						
ZTPRUSE	ZTPRHL	0,1	-|---->>	1,99						
ZTTRHL	ZTPRHL	0,1	-|----->	1, 1						
					ZTPRUSE	MVRECC	0,1	-|--|->>	0,99	MVRECC
						VCCTDM	0,1	-|--|->>	0,99	VCCTDM
						ZTPRHL	0,1	-|---->>	1,99	ZTPRHL
					ZTTRCAL	ZTTRHL	1,1	------->	1, 1	ZTTRHL
ZTTRCAL	ZTTRHL	1,1	------->	1, 1	ZTTRHL	VCTRHL	0,1	-|----->	1, 1	VCTRHL
ZTTRMS	ZTTRHL	0,1	-|--|->>	0,99		ZTPRHL	0,1	-|----->	1, 1	ZTPRHL
ZTTRPRM	ZTTRHL	0,1	-|----->	1, 1						
ZTTRSEC	ZTTRHL	0,1	-|----->	1, 1						
ZTTRUSE	ZTTRHL	0,1	-|---->>	1,99						
					ZTTRMS	ZTTRHL	0,1	-|--|->>	0,99	ZTTRHL
ZTTRPRM	DaughterOf	0,1	-|--|->>	0,99	ZTTRPRM	ZTTRHL	0,1	-|----->	1, 1	ZTTRHL
						DaughterOf	0,1	-|--|->>	0,99	ZTTRPRM
						PRoducedAt	0,1	-|---->>	1,99	ZTVTXPRM
ZTTRSEC	DaughterOf	0,1	-|--|->>	0,99	ZTTRSEC	ZTTRHL	0,1	-|----->	1, 1	ZTTRHL
						DaughterOf	0,1	-|--|->>	0,99	ZTTRSEC
						PRoducedAt	0,1	-|---->>	1,99	ZTVTXSEC
					ZTTRUSE	MVRECC	0,1	-|--|->>	0,99	MVRECC
						VCCTDM	0,1	-|--|->>	0,99	VCCTDM
						ZTTRHL	0,1	-|---->>	1,99	ZTTRHL
ZTTRPRM	PRoducedAt	0,1	-|---->>	1,99	ZTVTXPRM					
ZTTRSEC	PRoducedAt	0,1	-|---->>	1,99	ZTVTXSEC					
ZWVOLU	div	0,1	-|----->	1, 1	ZWDIV					
ZWPOS	Detector	0,1	-|---->>	1,99	ZWDTCT					
					ZWPARA	of	1,1	===-|->>	0,99	ZWPOS
						of	1,1	===-|->>	0,99	ZWVOLU
ZWPARA	of	1,1	===-|->>	0,99	ZWPOS	Detector	0,1	-|---->>	1,99	ZWDTCT
ZWRJCT	of	1,1	===-|->>	0,99		volu	1,1	----|->>	0,99	ZWVOLU
						rotm	1,1	----|->>	0,99	rotm
					ZWRJCT	of	1,1	===-|->>	0,99	ZWPOS
						of	1,1	===-|->>	0,99	ZWVOLU
ZWSDTA	sdet	1,1	----|->>	0,99	ZWSDET					
ZWSDTD	of	1,1	===-|->>	0,99						
ZWSDTH	of	1,1	===-|->>	0,99						
ZWSDTU	of	1,1	===-|->>	0,99						
ZWSDTV	sdet	1,1	------>>	1,99						
ZWVOLU	sdet	0,1	-|---->>	1,99						
ZWSDTD	of	1,1	===-|->>	0,99	ZWSDTA	sdet	1,1	----|->>	0,99	ZWSDET
ZWSDTH	of	1,1	===-|->>	0,99						
ZWSDTU	of	1,1	===-|->>	0,99						
					ZWSDTD	of	1,1	===-|->>	0,99	ZWSDET
						of	1,1	===-|->>	0,99	ZWSDTA
					ZWSDTH	of	1,1	===-|->>	0,99	ZWSDET
						of	1,1	===-|->>	0,99	ZWSDTA
					ZWSDTU	of	1,1	===-|->>	0,99	ZWSDET
						of	1,1	===-|->>	0,99	ZWSDTA
					ZWSDTV	sdet	1,1	------>>	1,99	ZWSDET
ZWPARA	of	1,1	===-|->>	0,99	ZWVOLU	div	0,1	-|----->	1, 1	ZWDIV
ZWPOS	volu	1,1	----|->>	0,99		sdet	0,1	-|---->>	1,99	ZWSDET
ZWRJCT	of	1,1	===-|->>	0,99		tmed	1,1	------>>	1,99	tmed
kwparm	kwgrp	0,1	-|--|->>	0,99	kwgrp					
					kwparm	kwgrp	0,1	-|--|->>	0,99	kwgrp
lmhit	lmdig	0,1	-|--|->>	0,99	lmdig					
					lmhit	lmdig	0,1	-|--|->>	0,99	lmdig
lphit	lpdig	0,1	-|--|->>	0,99	lpdig					
lprhit	lpdig	1,1	----|-->	0, 1						
					lphit	FMCKin	0,1	-|--|->>	0,99	FMCKin
						lpdig	0,1	-|--|->>	0,99	lpdig
lppjpp	lppjp	1,1	----|->>	0, 2	lppjp					
					lppjpp	lppjp	1,1	----|->>	0, 2	lppjp
						lprhit	1,1	------>>	2, 8	lprhit
lppjpp	lprhit	1,1	------>>	2, 8	lprhit	lpdig	1,1	----|-->	0, 1	lpdig
LPTSMM	lpts	1,1	----|->>	0,99	lpts					

Page (1, 1)

<table>
<tr><th>FrESet</th><th>FromBy</th><th>Frc</th><th>Arrow1</th><th>Tocar</th><th>ESet</th><th>ToBy</th><th>Frc</th><th>Arrow2</th><th>Tocar</th><th>ToESet</th></tr>
<tr><td>MFKLH</td><td>mfct</td><td>1,1</td><td>----|--></td><td>0, 1</td><td>mfct</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>mfdm</td><td>mfct</td><td>1,1</td><td>------>></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>mfkinp</td><td>mfct</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MFKLH</td><td>mfcts</td><td>1,1</td><td>----|--></td><td>0, 1</td><td>mfcts</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>mfdm3</td><td>mfcts</td><td>1,1</td><td>------>></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>mfkinp</td><td>mfcts</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>mfdm1</td><td>mfdcse</td><td>1,1</td><td>------>></td><td>1,99</td><td>mfdcse</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>mfkinp</td><td>mfdcse</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MFPOS</td><td>Detector</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>mfdico</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>mfdr</td><td>from</td><td>1,1</td><td>----|->></td><td>0,99</td><td>mfdig</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>mfdr</td><td>to</td><td>1,1</td><td>------>></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>mfdtoh</td><td>mfdig</td><td>0,1</td><td>-|---->></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>mfhit</td><td>mfdig</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>mfdm</td><td>mfct</td><td>1,1</td><td>------>></td><td>1,99</td><td>mfct</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>mfrh</td><td>1,1</td><td>----|->></td><td>0,99</td><td>mfrh</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>mfdm1</td><td>mfdcse</td><td>1,1</td><td>------>></td><td>1,99</td><td>mfdcse</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>mfrh</td><td>1,1</td><td>----|->></td><td>0,99</td><td>mfrh</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>mfdm2</td><td>mfgrid</td><td>1,1</td><td>------>></td><td>1,99</td><td>mfgrid</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>mfrh</td><td>1,1</td><td>----|->></td><td>0,99</td><td>mfrh</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>mfdm3</td><td>mfcts</td><td>1,1</td><td>------>></td><td>1,99</td><td>mfcts</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>mfrh</td><td>1,1</td><td>----|->></td><td>0,99</td><td>mfrh</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>mfdr</td><td>from</td><td>1,1</td><td>----|->></td><td>0,99</td><td>mfdig</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>to</td><td>1,1</td><td>------>></td><td>1,99</td><td>mfdig</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>mfdtoh</td><td>mfdig</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>mfdig</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>mfrh</td><td>1,1</td><td>------>></td><td>1,99</td><td>mfrh</td></tr>
<tr><td>mfdm2</td><td>mfgrid</td><td>1,1</td><td>------>></td><td>1,99</td><td>mfgrid</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>mfhit</td><td>FMCKin</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>FMCKin</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>mfdig</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>mfdig</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>mfkinp</td><td>mfct</td><td>1,1</td><td>----|->></td><td>0,99</td><td>mfct</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>mfcts</td><td>1,1</td><td>----|->></td><td>0,99</td><td>mfcts</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>mfdcse</td><td>1,1</td><td>----|->></td><td>0,99</td><td>mfdcse</td></tr>
<tr><td>mfdm</td><td>mfrh</td><td>1,1</td><td>----|->></td><td>0,99</td><td>mfrh</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>mfdm1</td><td>mfrh</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>mfdm2</td><td>mfrh</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>mfdm3</td><td>mfrh</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>mfdtoh</td><td>mfrh</td><td>1,1</td><td>------>></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>mfsect</td><td>mfrot</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>mfrot</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MFKLH</td><td>mfrtl</td><td>0,1</td><td>-|-----></td><td>1, 1</td><td>mfrtl</td><td>mfrtz</td><td>1,1</td><td>-------></td><td>1, 1</td><td>mfrtz</td></tr>
<tr><td>TGCAND</td><td>mfrtz</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>mfrtz</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>mfrtl</td><td>mfrtz</td><td>1,1</td><td>-------></td><td>1, 1</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>mfsect</td><td>pos</td><td>1,1</td><td>----|--></td><td>0, 1</td><td>MFPOS</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>mfrot</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>mfrot</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>moacc</td><td>module</td><td>1,1</td><td>----|->></td><td>0,99</td><td>module</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>mocond</td><td>mostck</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>mostck</td></tr>
<tr><td>moacc</td><td>module</td><td>1,1</td><td>----|->></td><td>0,99</td><td>module</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>mostck</td><td>module</td><td>1,1</td><td>----|--></td><td>0, 1</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>mocond</td><td>mostck</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>mostck</td><td>module</td><td>1,1</td><td>----|--></td><td>0, 1</td><td>module</td></tr>
<tr><td>BPPOS</td><td>rotm</td><td>1,1</td><td>----|->></td><td>0,99</td><td>rotm</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>C5POS</td><td>rotm</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>CMPOS</td><td>rotm</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>CUCELL</td><td>rotm</td><td>0,1</td><td>-|---->></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>CUPOS</td><td>rotm</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>FNPOS</td><td>rotm</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>HSPOS</td><td>rotm</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>LMPOS</td><td>rotm</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>LPPOS</td><td>rotm</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MBPOS</td><td>rotm</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MFPOS</td><td>rotm</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MVPOS</td><td>rotm</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>PRPOS</td><td>rotm</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>SRPOS</td><td>rotm</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>STPOS</td><td>rotm</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TCPOS</td><td>rotm</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TFPOS</td><td>rotm</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TNPOS</td><td>rotm</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TRPOS</td><td>rotm</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>VTPOS</td><td>rotm</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>XBPOS</td><td>rotm</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>ZWPOS</td><td>rotm</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
</table>

|
V

Page (1, 1)

<table>
<tr><th>FrESet</th><th>FromBy</th><th>Frc</th><th>Arrow1</th><th>Tocar</th><th>ESet</th><th>ToBy</th><th>Frc</th><th>Arrow2</th><th>Tocar</th><th>ToESet</th></tr>
<tr><td>BPVOLU</td><td>tmed</td><td>1,1</td><td>------>></td><td>1,99</td><td>tmed</td><td>ZEMATE</td><td>1,1</td><td>----|->></td><td>0,99</td><td>ZEMATE</td></tr>
<tr><td>C5VOLU</td><td>tmed</td><td>1,1</td><td>------>></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>CMVOLU</td><td>tmed</td><td>1,1</td><td>------>></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>CUCELL</td><td>tmed</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>CUVOLU</td><td>tmed</td><td>1,1</td><td>------>></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>FNVOLU</td><td>tmed</td><td>1,1</td><td>------>></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>HSVOLU</td><td>tmed</td><td>1,1</td><td>------>></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>LMVOLU</td><td>tmed</td><td>1,1</td><td>------>></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>LPVOLU</td><td>tmed</td><td>1,1</td><td>------>></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MBVOLU</td><td>tmed</td><td>1,1</td><td>------>></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MFVOLU</td><td>tmed</td><td>1,1</td><td>------>></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>MVVOLU</td><td>tmed</td><td>1,1</td><td>------>></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>PRVOLU</td><td>tmed</td><td>1,1</td><td>------>></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>SRVOLU</td><td>tmed</td><td>1,1</td><td>------>></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>STVOLU</td><td>tmed</td><td>1,1</td><td>------>></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TCVOLU</td><td>tmed</td><td>1,1</td><td>------>></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TFVOLU</td><td>tmed</td><td>1,1</td><td>------>></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TNVOLU</td><td>tmed</td><td>1,1</td><td>------>></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TRVOLU</td><td>tmed</td><td>1,1</td><td>------>></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>VEVOLU</td><td>tmed</td><td>1,1</td><td>------>></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>VTVOLU</td><td>tmed</td><td>1,1</td><td>------>></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>XBVOLU</td><td>tmed</td><td>1,1</td><td>------>></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>ZWVOLU</td><td>tmed</td><td>1,1</td><td>------>></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>tpar</td><td>tmed</td><td>1,1</td><td>----|->></td><td>0,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>tpar</td><td>tmed</td><td>1,1</td><td>----|->></td><td>0,99</td><td>tmed</td></tr>
<tr><td>TGCAND</td><td>vtct</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>vtct</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>TGTCVT</td><td>vtct</td><td>1,1</td><td>----|--></td><td>0, 1</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>vtdm</td><td>vtct</td><td>1,1</td><td>------>></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>VTPOS</td><td>Detector</td><td>0,1</td><td>-|---->></td><td>1,99</td><td>vtdico</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>vthit</td><td>vtdig</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>vtdig</td><td>vtraw</td><td>1,1</td><td>-------></td><td>1, 1</td><td>vtraw</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>vtdm</td><td>vtct</td><td>1,1</td><td>------>></td><td>1,99</td><td>vtct</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>vtrh</td><td>1,1</td><td>----|->></td><td>0,99</td><td>vtrh</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>vthit</td><td>FMCKin</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>FMCKin</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td>vtdig</td><td>0,1</td><td>-|--|->></td><td>0,99</td><td>vtdig</td></tr>
<tr><td>vtdig</td><td>vtraw</td><td>1,1</td><td>-------></td><td>1, 1</td><td>vtraw</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>vtrh</td><td>vtraw</td><td>1,1</td><td>------>></td><td>1,99</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>vtdm</td><td>vtrh</td><td>1,1</td><td>----|->></td><td>0,99</td><td>vtrh</td><td>vtraw</td><td>1,1</td><td>------>></td><td>1,99</td><td>vtraw</td></tr>
</table>

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
ANLCRD					Analog Card Info	CFLCALT
	ID	SNUM				
	CAL	CHA4				
	Module	INTE				
	ACnum	INTE				
	Type	CHA4				
	I(1)	CHA8				
	.					
	I(12)	CHA8				
BCCal					BCCal contains the calibration data as used by the local SLT of the Beampipe calorimeter	BEAMLINECal
	ID	SNUM				
	Chan	INTE	0,31		channel number	
	Offset	REAL			offset for calibration curve	
	Slope	REAL			slope of calibration curve	
	Quad	REAL			quadratic term in calibration curve	
BCPed					BCPed contains the raw-pedestal data of the Beampipe calorimeter	BEAMLINECal
	ID	SNUM				
	Chan	INTE	0,31		channel number	
	Data	INTE	0,4095		the ADC data	
BCRaw					BCRaw contains the ADC readout from the Beampipe calorimeter	BEAMLINECal
	ID	SNUM				
	Chan	INTE	0,31		channel number	
	Data	INTE	0,4095		the ADC data	
	Status	INTE			status information for the channels	
BCReco					BCReco contains the reconstructed data of the BEAMPIPE calorimeter	BEAMLINECal
	ID	SNUM				
	Energy	REAL			reconstructed BPC energy	
	StripFlag	INTE	0,1		Flag whether strips allow position recontruction	
	XStrip	REAL			reconstructed X from strips	
	YStrip	REAL			reconstructed Y from strips	
	XNorm	REAL			norm of hits in x-strips	
	YNorm	REAL			norm of hits in y-strips	
	XAsy	REAL			reconstructed x from asymmetry	
	YAsy	REAL			reconstructed Y from asymmetry	
	Rho	REAL			Rho-coordinate of hit in cm	
	Phi	REAL			Phi-coordinate of hit in radians	
	Time	REAL			TDC timing information in ns	
BCSLT					BCSLT contains local SLT data of the Beampipe calorimeter	BEAMLINECal
	ID	SNUM				
	Energy	REAL			energy as calculated by local SLT	
	X	REAL			X-coordinate of hit	
	Y	REAL			Y-coordinate of hit	
	Rho	REAL			Rho-coordinate of hit in cm (from local SLT)	
	Phi	REAL			Phi-coordinate of hit in radians (from LSLT)	
	Time	INTE	0,65535		16bit TDC timing information	
	BCN	INTE	0,255		8bit Bunch-Crossing-Number	
	Count	INTE			32bit local FLT number	
	GFLT	INTE			GFLT decision number	
	GSLT	INTE			GSLT decision number	
	GSLTTy	INTE			GSLT trigger type	
	LFLTSt	INTE	0,65535		16bit Status information of LFLT	
	Status	INTE			Status information of GFLT interface	
BMGEvt					Physics generator event header information. Event parameters for beam gas event generators. References : Zeus-Note-91-13	FMCZEvt
	ID	SNUM				
	Generator	CHA8			Beam gas event generator name	
	NTracks	INTE			Number of stable particles (charged and neutral) in the event.	
	Inter	INTE			Interaction type (1=elastic, 2=inelastic,3=single diffr., 4=double diffr.	
	CrosSect	REAL			Cross section for current process	
	Target	INTE			Atomic number of target	
BMGRun					The contents of the common lines in this table record the conditions under which the beam gas generator was run. References : Zeus-Note-91-13	FMCZRUNS
	ID	SNUM				
	Comment(1)	CH16			Free format comment line describing the run conditions of HERWIG.	
	.				""	
	Comment(5)	CH16			""	
BP6SAM					BP6SAM contains samples info per PM after DSP processing for those PMs which were not successfully processed in DSP energy determination. The samples are the CORRECTED samples. BPC signals only.	BPBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		BPC PM number	
	Sam1Sam0	INTE			16 bits sample 1, 16 bits sample 0	
	Sam3Sam2	INTE			16 bits sample 3, 16 bits sample 2	
	Sam5Sam4	INTE			16 bits sample 5, 16 bits sample 4	
BP8SAM					BP8SAM contains samples info per PM after DSP processing for those PMs which were not successfully processed in DSP energy determination. The samples are the CORRECTED samples. BPC signals only.	BPBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		BPC PM number	
	Sam1Sam0	INTE			16 bits sample 1, 16 bits sample 0	
	Sam3Sam2	INTE			16 bits sample 3, 16 bits sample 2	
	Sam5Sam4	INTE			16 bits sample 5, 16 bits sample 4	
	Sam7Sam6	INTE			16 bits sample 7, 16 bits sample 6	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
BPBAD					Bad channel list for the BPC	BPBANK
Static	ID	IMPL				
	Channelcontrol	BITP			bad channel error code	
	PMNr	INTE	0,*		BPC PM number	
	Hardwarenumber	BITP			hardware number	
BPBECA					BOR Electronics Calibration Data, contains calibration data which changes rather frequently, Data is packed to reduce bank size.	BPBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number.	
	H2Q(1)	BITP			H->Q, bits 0-24: factor, bits 25-31: offset	
	.				""	
	H2Q(24)	BITP			""	
	TimeOff(1)	INTE			Time offset: bits 0-16: used, bits 17-31: unused	
	.				""	
	TimeOff(24)	INTE			""	
BPBSCA					Scale Factors for BPCAL channels	BPBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		BPC PM number	
	ScaleFact	REAL			scale factor	
BPBSLT					constants used in SLT calculations	BPBANK
Static	ID	IMPL				
	Misc	INTE			to be defined later	
BPCCOND					Master index into BPC calibration tree	BPCcond
	ID	SNUM				
	Name	CH32			Name/Description of this condition	
	BoU(1)	INTE			Start date of validity (duplicated in catalog)	
	BoU(2)	INTE			""	
	EoU(1)	INTE			End data of validity (duplicated in catalog)	
	EoU(2)	INTE			""	
	Npos(1)	REAL			Alignment position (x,y,z) of north module	
	Npos(2)	REAL			""	
	Npos(3)	REAL			""	
	Spos(1)	REAL			Alignment position (x,y,z) of south module	
	Spos(2)	REAL			""	
	Spos(3)	REAL			""	
	Spare(1)	REAL			Reserved for future use	
	.				""	
	Spare(6)	REAL			""	
	Ncalib	REL			Each condition period has north calibration information	
	Scalib	REL			Each condition period has south calibration information	
BPCMOD					Information on the calibration of one module	BPCcond
	ID	SNUM				
	AttCxRf	REAL			Attenuation x reference value	
	AttCyRf	REAL			Attenuation y reference value	
	LambdaX	REAL			Attenuation x length (cm)	
	LambdaY	REAL			Attenuation y length (cm)	
	XtransX(1)	REAL			Transverse shower leakage correction x/x	
	XtransX(2)	REAL			""	
	XtransY(1)	REAL			Transverse shower leakage correction x/y	
	XtransY(2)	REAL			""	
	YtransX(1)	REAL			Transverse shower leakage correction y/x	
	YtransX(2)	REAL			""	
	YtransY(1)	REAL			Transverse shower leakage correction y/y	
	YtransY(2)	REAL			""	
	Cx(1)	REAL			Correction factor x fingers	
	.				""	
	Cx(15)	REAL			""	
	Cy(1)	REAL			Correction factor y fingers	
	.				""	
	Cy(16)	REAL			""	
	Cv(1)	REAL			Correction factor veto counters + misc	
	.				""	
	Cv(6)	REAL			""	
	Ex	REAL			Overall energy scale correction x fingers	
	Ey	REAL			Overall energy scale correction y fingers	
BPCOEN					BPC PM energy, low byte only; the order of PMs in this bank corresponds to the PM-number order given in the corresponding xxPMNO-bank	BPBANK
Static	ID	IMPL				
	PMEnLowBytes	BITP			Bits 0- 7: Energy cell n, Bits 8-15: Energy cell n+1, Bits 16-23: Energy cell n+2, Bits 24-31: Energy cell n+3	
BPCTRUE					BPC truth information.	BPCSIM
Static	ID	IMPL				
	XTRUE	REAL			X of the first recorded position.	
	YTRUE	REAL			Y of the first recorded position.	
	ZTRUE	REAL			Z of the first recorded position.	
	EN(1)	REAL			Energy deposition of each PMT (GeV).	
	.				""	
	EN(60)	REAL			""	
	FMCKin	REL		P	Geant hits comes from a track	
BPDCCN					BPC Digital Card Control Bank. Bits described from Most Significant Bits down to Least Significant Bits. More details available from ONLINE experts.	BPBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number.	
	DCFLTword	BITP			8 bits parity check (#80 is correct value, other are errors), 8 bits DC page number (0-15), 8 bits FLT bits, 8 bits FLT number	
	PCellnumber	BITP			8 bits Pipeline cell number, 24 bits bit=1:samples available	
	Readoutinfo	BITP			8 bits readout info, 24 bits bit=1:Dead or Bad channel	
	TPGinfo	BITP			8 bits Test Pulse Generator, 24 bits bit=1:low gain samples used	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
BPDICO					Just to have the table there!	BPGEOM
	ID	SNUM				
	Word1	REAL			PlaceHolder for now! NMcC 30Aug92	
BPDIV						BPGEOM
	ID	SNUM				
	mother	CHA4			Name of the mother volume	
	step	REAL	-0.100E+05,0....		Division step	
	axis	INTE	1,3		Axis division	
	ndiv	INTE	1,9999		Number of divisions	
BPDMON					BPDMON contains monitor information produced at the DSP for BPC	BPBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number.	
	Baseline(1)	INTE			baseline: 1 per PM	
	.				""	
	Baseline(24)	INTE			""	
	TimeAverage(1)	INTE			average time: 1 per PM	
	.				""	
	TimeAverage(24)	INTE			""	
	Counter(1)	INTE				
	Counter(2)	INTE				
	NoRcnErr(1)	INTE			reconstruction error counters, 16 bits per PM.	
	.				""	
	NoRcnErr(12)	INTE			""	
	Spare(1)	INTE			To be defined later	
	.				""	
	Spare(12)	INTE			""	
BPDUMS					BPC Front End Card/ADC characteristics, means and r.m.s.	BPBANK
Static	ID	IMPL				
	TpDcAdcId	BITP			Bitpattern giving the ADC: Bits 0-7 ADC No. (1-4) Bits 9-15 DC No.(1-17) Bits 16-31 Crate identifier.	
	gndDU1M	REAL				
	gndDU1S	REAL				
	VtemporVidM	REAL				
	VtemporVidS	REAL				
	VpowerM	REAL				
	VpowerS	REAL				
	VprecM	REAL				
	VprecS	REAL				
	DU0M	REAL				
	DU0S	REAL				
	DU1M	REAL				
	DU1S	REAL				
	DU2M	REAL				
	DU2S	REAL				
	DU3M	REAL				
	DU3S	REAL				
	DU4M	REAL				
	DU4S	REAL				
	DU5M	REAL				
	DU5S	REAL				
	muxVrM	REAL				
	muxVrS	REAL				
	gndDU2M	REAL				
	gndDU2S	REAL				
BPELEC					BPELEC contains info on reconstructe electron on BPC	BPOFFL
	ID	SNUM				
	IdM	INTE	0,1		BPC Module, North South	
	Algo	CHA8			Reconstruction Algorithm	
	ETot	REAL			Electron energy	
	X	REAL			X-coordinate of hit	
	Y	REAL			Y-coordinate of hit	
	PX	REAL			X-momentum	
	PY	REAL			Y-momentum	
	PZ	REAL			Z momentum	
	GElec1	REAL			Electron goodness	
	GElec2	REAL			Electron goodness	
	TX	REAL			Timing info, X-channels	
	TY	REAL			Timing info, Y-channels	
	EVeto	REAL			Energy in the veto tile	
	TVeto	REAL			Veto timing info	
	Z0	REAL			Zvertex used in reconst.	
BPEMPZ					BPEMPZ contains info on the total reconstructed var. in BPC	BPOFFL
	ID	SNUM				
	ETotN	REAL			BPC North:Total energy	
	XN	REAL			BPC North:Average X-coordinate	
	YN	REAL			BPC North:Average Y-coordinate	
	PXN	REAL			BPC North:Average X-momentum	
	PYN	REAL			BPC North:Average Y-moomenum	
	PZN	REAL			BPC North:Average Z-momentum	
	PTN	REAL			BPC North:Average Transv-momentum	
	TXN	REAL			BPC North:Average Timing info	
	TYN	REAL			BPC North:Average Timing info	
	EVetoN	REAL			BPC North: Energy in the veto tile	
	TVetoN	REAL			BPC North: Veto timing info	
	ETotS	REAL			BPC South:Total energy	
	XS	REAL			BPC South:Average X-coordinate	
	YS	REAL			BPC South:Average Y-coordinate	
	PXS	REAL			BPC South:Average X-momentum	
	PYS	REAL			BPC South:Average Y-moomenum	
	PZS	REAL			BPC South:Average Z-momentum	
	PTS	REAL			BPC South:Average Transv-momentum	
	TXS	REAL			BPC South:Average Timing info	
	TYS	REAL			BPC South:Average Timing info	
	EVetoS	REAL			BPC South: Energy in the veto tile	
	TVetoS	REAL			BPC South: Veto timing info	
	Z0	REAL			Zvertex used in reconst.	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
BPPARA						BPGEOM
	ID	SNUM				
	par	REAL	0.0,0.100E+05		A parameter defining a volume	
	of	GEN			A parameter is of a volume or a position	
	of_	REL			""	
BPPCHI					BPCAL Pipeline cell hit histogram for each DSP.	BPBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number.	
	PCellCnt(1)	INTE			pipeline cell hit histogram.	
	.				""	
	PCellCnt(58)	INTE			""	
BPPDMS					BPPDMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for LED testtriggers for BPC.	BPBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		BPC PM Nr	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
	NoRecoErr	INTE			number of reconstruction errors	
BPPLMS					BPPLMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for LASER testtriggers for BPC.	BPBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		BPC PM Nr	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
	NoRecoErr	INTE			number of reconstruction errors	
BPPMNO					BPC PM numbers the order of PM-numbers in this bank corresponds to the order of the entries of energy low-bytes in the corresponding xxCOEN-bank NB: there may be entries with zero value	BPBANK
Static	ID	IMPL				
	PMNrs	BITP			Bits 0-15: Number of PM n, Bits 16-31: Number of PM n+1	
BPPOS						BPGEOM
	ID	SNUM				
	nr	INTE	1,9999		Serial number	
	mother	CHA4			Name of the mother volume	
	x	REAL	-0.100E+06,0....		X linear dimension	
	y	REAL	-0.100E+06,0....		Y linear dimension	
	z	REAL	-0.100E+06,0....		Z linear dimension	
	konly	CHA4	MANY,MANY ONLY,ONLY		If MANY,a point in this volume may be in another	
	Detector	REL		P	each sensible volume positioned is related to some digitization parameter	
	rotm	REL			each positioned volume is related to a rotation matrix	
	volu	REL			A position belongs to a volume	
BPPPMS					BPPPMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for PED testtriggers for BPC.	BPBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		BPC PM Nr	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
	NoRecoErr	INTE			number of reconstruction errors	
BPPQMS					BPPQMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for QINJ testtriggers for BPC.	BPBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		BPC PM Nr	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
	NoRecoErr	INTE			number of reconstruction errors	
BPRJCT						BPGEOM
	ID	SNUM				
	config	INTE	0,9999		Selects configuration	
	of	GEN			Rejected volumes and positions	
	of_	REL			""	
BPSDET						BPGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	type	INTE	1,9999		detector type	
	nwhi	INTE	1,9999		Numb. words primary alloc. HITS	
	nwdi	INTE	1,9999		Numb. words DIGI when primary not suff.	
BPSDTA						BPGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nwhi	INTE	1,9999		Initial HITS allocation	
	nwdi	INTE	1,9999		Increment of DIGI allocation	
	sdet	REL			Some detectors give more than one type signals	
BPSDTD						BPGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	of	GEN			Sensible detectors and aliases digitizations	
	of_	REL			""	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
BPSDTH						BPGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	orig	REAL			to define the hit elem. positive	
	fact	REAL			IVAR= VAR + ORIG*FACT	
	of	GEN			each detec. element needs the parameter definition	
	of_	REL			""	
BPSDTU						BPGEOM
	ID	SNUM				
	upar	REAL			User parameter	
	of	GEN			User parameters for sensible detectors and aliases	
	of_	REL			""	
BPSDTV						BPGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	sdet	REL			Physical detectors for the master detector identifier	
BPSLT					BPC SLT data	BPBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number.	
	ESumXstrips	INTE			Energy sum of BPC X strips	
	ESumYstrips	INTE			Energy sum of BPC Y strips	
	MaxEIndex	INTE			Index of max E of BPC Y,X strips	
	ESumMaxEX	INTE			Energy sum of max E with adjacent +/- 1 BPC X strips	
	ESumMaxEY	INTE			Energy sum of max E with adjacent +/- 1 BPC Y strips	
	TimeX	INTE			Energy weighed time from all X strips	
	TimeY	INTE			Energy weighed time from all Y strips	
	Reserved	INTE			Reserved word	
BPTBOR					BPT BOR Table	BPTrawEvent
Static	ID	IMPL				
	PTAPL01	BITP			bit (16*j+i) set if DTSC i plane j=(0,1)&1 active	
	PTAPL23	BITP			bit (16*j+i) set if DTSC i plane j=(2,3)&1 active	
	PTAPL45	BITP			bit (16*j+i) set if DTSC i plane j=(4,5)&1 active	
	THRRES(1)	REAL			Front end threshold (V)	
	.				""	
	THRRES(5)	REAL			""	
	BIAS(1)	REAL			Detector bias voltage (V)	
	.				""	
	BIAS(5)	REAL			""	
	LEAK(1)	REAL			Detector bias leakage current (mAmp)	
	.				""	
	LEAK(5)	REAL			""	
	TIMES(1)	INTE			Readout delay time, each section (nSec)	
	TIMES(2)	INTE			""	
	TIMROC	INTE			ROC main delay time (nSec)	
BPTCAL					BPT Calibration constants	BPTcalib
	ID	SNUM				
	Name	CH16			Calibration set name	
	RunNr	INTE			Associated run number	
	EvtF	INTE			First event number that applies	
	EvtL	INTE			Last event number that applies	
	Vtx(1)	REAL			Average IP vertex position (cm)	
	Vtx(2)	REAL			""	
	Vtx(3)	REAL			""	
	Dvtx(1)	REAL			Gaussian errors in Vtx (cm)	
	Dvtx(2)	REAL			""	
	Dvtx(3)	REAL			""	
	Xtilt	REAL			Dx/Dz tilt of (electron) beam (radian)	
	Ytilt	REAL			Dy/Dz tilt of (electron) beam (radian)	
	Dxtilt	REAL			Error in Xtilt (emittance)	
	Dytilt	REAL			Error in Ytilt (emittance)	
BPTCLUS					BPT Reconstructed hit cluster, after noise suppression	BPTrecon
	ID	SNUM				
	HitsCode	BITP			Code word 0x0PXXXYYY P=Plane XXX=Start-hit XXX=End-hit	
	S	REAL			Position of hit perpendicular to strip (cm)	
	DS	REAL			Error in S (cm)	
BPTCONF					Information on BPT detector condition	BPTcond
	ID	SNUM				
	Name	CH32			Name/Description of this condition	
	Status	INTE			Status word	
	Rx(1)	REAL			Strip Equation parameter Rx (cm)	
	.				""	
	Rx(5)	REAL			""	
	Ry(1)	REAL			Strip Equation parameter Ry (cm)	
	.				""	
	Ry(5)	REAL			""	
	S0(1)	REAL			Strip Equation parameter S0 (cm)	
	.				""	
	S0(5)	REAL			""	
	StrpWid(1)	REAL			Effective strip width (cm)	
	.				""	
	StrpWid(5)	REAL			""	
	Z(1)	REAL			Plane Z location	
	.				""	
	Z(5)	REAL			""	
	Peffic(1)	REAL			Global plane efficiencies	
	.				""	
	Peffic(5)	REAL			""	
	Pitch(1)	REAL			Effective pitch (cm)	
	.				""	
	Pitch(5)	REAL			""	
	Bfield(1)	REAL			B field calibration parameters	
	.				""	
	Bfield(6)	REAL			""	

V

Page (1, 1)

Table		Column	Type	Range	P	Comment	Subschema
BPTCST						The status of individual strips in the detector	BPTcond
		ID	SNUM				
		HitCode	BITP			Hit code = 0xSSEP0XXX S=status E=special P=plane X=hit	
BPTENE						BPTENE contains signals from BPC after DSP processing in the 2TP system.	BPBANK
	Static	ID	IMPL				
		PMNr	INTE	0,*		BPC PM number	
		ETWord	BITP			Least significant 24 bits contain energy recorded in this PM. Most significant 8 bits contain time.	
BPTHEA						BPT Raw data event header	BPTrawEvent
	Static	ID	IMPL				
		TOTNUMW	INTE			total number of 16 bits hit codes for the BPT	
		GFLTN	BITP			Global FLT number	
		GSLTN	BITP			Global SLT number=addr4 of ZEBRA table	
		RUNNUM	INTE			Run Number	
		ROCSTAT	BITP			Roc Status register : Ambiguities trigger type, SRC state, Empty p and e ...	
		BEAMCRO	BITP			information on the bunch crossing	
		OVERFLO	BITP			20 sects of 3 planes,bit i=1 if overflow on section i	
		TIMEOUT	BITP			20 sects of 3 planes,bit i=1 if timeout on section i	
		SRCERRO	BITP			10 pots,bit i=1 if src n0 i error	
		SCSTATUS	BITP			0 ro 1. 0 if no bad slow control stat	
		LPSL2VAL	BITP			data to test LPS/BPT Level 2 trigger	
BPTHIG						List of BPT hot channels for BOR	BPTrawEvent
	Static	ID	IMPL				
		TOTNUMW	INTE			total number of 16 bits hit codes for the BPT	
		GFLTN	BITP			Reserved	
		GSLTN	BITP			Should be -1 for BOR	
		RUNNUM	INTE			Run Number	
		STUCK	BITP			Should be 1	
		SPARE1	BITP			Reserved	
		SPARE2	BITP			Reserved	
		SPARE3	BITP			Reserved	
		SPARE4	BITP			Reserved	
		SPARE5	BITP			Reserved	
		SPARE6	BITP			Reserved	
BPTLOW						List of BPT dead channels for BOR	BPTrawEvent
	Static	ID	IMPL				
		TOTNUMW	INTE			total number of 16 bits hit codes for the BPT	
		GFLTN	BITP			Reserved	
		GSLTN	BITP			Should be -1 for BOR	
		RUNNUM	INTE			Run Number	
		STUCK	BITP			Should be 0	
		SPARE1	BITP			Reserved	
		SPARE2	BITP			Reserved	
		SPARE3	BITP			Reserved	
		SPARE4	BITP			Reserved	
		SPARE5	BITP			Reserved	
		SPARE6	BITP			Reserved	
BPTMCH						Monte Carlo single strip hit	BPTmozart
		ID	SNUM				
		HitCode	BITP			Hit code 0x000P0XXX P=Plane X=hit	
		BPTMCI	REL			Each hit is associated with exactly one interaction	
BPTMCI						Monte Carlo interaction in the BPT	BPTmozart
		ID	SNUM				
		X	REAL			X position of interaction/noise (cm)	
		Y	REAL			Y position of interaction/noise (cm)	
		Z	REAL			Z position of interaction/noise (cm)	
		DpxDpz	REAL			Incident angle x direction Dpx/Dpz	
		DpyDpz	REAL			Incident angle y direction Dpy/Dpz	
		Itype	INTE			Interaction type	
		Edep	REAL			Energy deposited (dE/dx, GeV), if applicable	
		FMCKin	REL		P	Each interaction is associated with at most one particle	
BPTRECS						BPT Reconstruction status	BPTrecon
		ID	SNUM				
		Version	INTE			Reconstruction code version	
		Options	BITP			Reconstruction options in effect	
		Status	BITP			Reconstruction status	
		BestDIS	REL		P	Probably the best DIS track in the event, with vertex Z constraint	
		BestTrak	REL		P	Probably the best track in the event, without vertex Z constraint	
BPTRWD						The HIT codes, BPT raw data, 2 hits per word	BPTrawEvent
	Static	ID	IMPL				
		DIG	BITP			32 bits informations	
BPTRWH						The HIT codes for hot channels, BPT raw data, 2 hits per word	BPTrawEvent
	Static	ID	IMPL				
		DIG	BITP			32 bits informations	
BPTRWL						The HIT codes for dead channels, BPT raw data, 2 hits per word	BPTrawEvent
	Static	ID	IMPL				
		DIG	BITP			32 bits informations	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
BPTTRAK					BPT Reconstructed track	BPTrecon
	ID	SNUM				
	Status	BITP			Status bit word	
	Spred(1)	REAL			Predicted hit positions S from the fit (cm)	
	.				""	
	Spred(5)	REAL			""	
	Vtx(1)	REAL			Position of track at origin (x,y,z) (IP) (cm)	
	Vtx(2)	REAL			""	
	Vtx(3)	REAL			""	
	Tx	REAL			Dx/Dz x angle of track at origin	
	Ty	REAL			Dy/Dz y angle of track at origin	
	QoverP	REAL			Charge over momentum of track (electron/GeV)	
	ErrMtx(1)	REAL			Error matrix of (Xvtx,Yvtx,Zvtx,Tx,Ty,Q/P)	
	.				""	
	ErrMtx(21)	REAL			""	
	ChiSq	REAL			Total chi-squared (not divided by ndof)	
	Ndof	INTE			Number of degrees freedom in fit	
	Theta	REAL			Theta of track at origin (radian)	
	Phi	REAL			Phi of track at origin (radian)	
	Dtp(1)	REAL			Error matrix of (theta,phi)	
	Dtp(2)	REAL			""	
	Dtp(3)	REAL			""	
	Bpc(1)	REAL			X/Y position of track on BPC front face (cm)	
	Bpc(2)	REAL			""	
	DBpc(1)	REAL			Error matrix for Bpc	
	DBpc(2)	REAL			""	
	DBpc(3)	REAL			""	
	MissProb	REAL			Probability (due to plane efficiency)of this track	
	HitP1	REL		P	A track is associated with at most one hit in plane 1	
	HitP2	REL		P	A track is associated with at most one hit in plane 2	
	HitP3	REL		P	A track is associated with at most one hit in plane 3	
	HitP4	REL		P	A track is associated with at most one hit in plane 4	
	HitP5	REL		P	A track is associated with at most one hit in plane 5	
BPUM					BPC Front End Card/ADC characteristics.	BPBANK
Static	ID	IMPL				
	TpDcAdcId	BITP			Bitpattern giving the ADC: Bits 0-7 ADC No. (1-4) Bits 9-15 DC No.(1-17) Bits 16-31 Crate identifier.	
	gndDU1	INTE				
	VtemporVid	INTE				
	Vpower	INTE				
	Vprec	INTE				
	DU0	INTE				
	DU1	INTE				
	DU2	INTE				
	DU3	INTE				
	DU4	INTE				
	DU5	INTE				
	muxVr	INTE				
	gndDU2	INTE				
BPVCAL					contains the ADC->Volt conversion recalculated during a UNO M&S run	BPBANK
Static	ID	IMPL				
	TpDcAdcId	BITP			Adc identifier	
	NewAdcToVolt	REAL			New ADC->Volt conversion	
	DelAdcToVolt	REAL			New - Old ADC->Volt conversion	
BPVOLU						BPGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	shape	CHA4	BOX,BOX TRD1,TRD1 TRD2,TRD2 TRAP,TRAP TUBE,TUBE TUBS,TUBS CONE,CONE CONS,CONS SPHE,SPHE PARA,PARA PGON,PGON PCON,PCON GTRA,GTRA		Shape of the volume	
	div	REL		P	some volumes may be subdived	
	sdet	REL		P	some volumes may be also active detectors	
	tmed	REL			Volume tracking medium number	
BPXOR					BPC data checksums, Details available from CAL ONLINE experts.	BPBANK
Static	ID	IMPL				
	TPId	INTE			Crate identifier.	
	BPDCCNRows	INTE			Number of rows in BPDCCN bank.	
	BPTENERows	INTE			Number of rows in BPTENE bank.	
	BPCOENRows	INTE			Number of rows in BPCOEN bank.	
	BP8SAMRows	INTE			Number of rows in BP8SAM bank.	
	BP6SAMRows	INTE			Number of rows in BP6SAM bank.	
	ChkWord	BITP			Checksum word.	
	Reserved	INTE			Reserved word.	
C5DICO					Just to have the table there!	C5GEOM
	ID	SNUM				
	Word1	REAL			PlaceHolder for now! NMcC 30Aug92	
C5DIV						C5GEOM
	ID	SNUM				
	mother	CHA4			Name of the mother volume	
	step	REAL	-0.100E+05,0....		Division step	
	axis	INTE	1,3		Axis division	
	ndiv	INTE	1,9999		Number of divisions	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
C5HIST					Componnet status	O5BANK
Static	ID	IMPL				
	HistId	INTE			Histogram identifier	
	PrTime	REAL			p time	
	PrRMS	REAL			Rms width of p	
	Zero0	REAL			???	
	PrPeak	REAL			Peak height of p	
	PrChi2	REAL			Chi**2 of p time	
	PrFree	REAL			Number of p-degs of freedom	
	ElTime	REAL			e time	
	ElRMS	REAL			Rms width of e	
	Zero1	REAL			???	
	MainPeak	REAL			e main peak height	
	SatPeak	REAL			e satillite peak height	
	ElChi2	REAL			Chi**2 of e time	
	ElFree	REAL			Number of e-degs of freedom	
	rawdata(1)	INTE			The raw histogram	
	.				""	
	rawdata(400)	INTE			""	
C5PARA						C5GEOM
	ID	SNUM				
	par	REAL	0.0,0.100E+05		A parameter defining a volume	
	of	GEN			A parameter is of a volume or a position	
	of_	REL			""	
C5POS						C5GEOM
	ID	SNUM				
	nr	INTE	1,9999		Serial number	
	mother	CHA4			Name of the mother volume	
	x	REAL	-0.100E+06,0....		X linear dimension	
	y	REAL	-0.100E+06,0....		Y linear dimension	
	z	REAL	-0.100E+06,0....		Z linear dimension	
	konly	CHA4	MANY,MANY ONLY,ONLY		If MANY,a point in this volume may be in another	
	Detector	REL		P	each sensible volume positioned is related to some digitization parameter	
	rotm	REL			each positioned volume is related to a rotation matrix	
	volu	REL			A position belongs to a volume	
C5RJCT						C5GEOM
	ID	SNUM				
	config	INTE	0,9999		Selects configuration	
	of	GEN			Rejected volumes and positions	
	of_	REL			""	
C5SCGH					Results of the simulation of HITS in the C5 Scintillator. References : ZG313T4,P=C5SI,D=C5SIDOC	C5HITS
	ID	SNUM				
	xEDep	REAL			X(cm) of first energy deposit Co-ord. frame??	
	yEDep	REAL			Y(cm) of first energy deposit	
	zEDep	REAL			Z(cm) of first energy deposit	
	tEDep	REAL			time (seconds) wrt ep crossing	
	p	REAL			momentum (GeV/c)	
	nx	REAL			px/p	
	ny	REAL			py/p	
	nz	REAL			pz/p	
	IPART	INTE			Geant particle ID	
	DE1	REAL			Energy deposit (GeV) SC 1 SC 1: top-front (y>0, ip-side)	
	DE2	REAL			Energy deposit (GeV) SC 2 SC 2: top-back (y>0, upstream-side)	
	DE3	REAL			Energy deposit (GeV) SC 3 SC 3: bottom-front (y<0, ip-side)	
	DE4	REAL			Energy deposit (GeV) SC 4 SC 4: bottom-back (y<0, upstream-side)	
	FMCKin	REL			Each hit in the C5 SCint. is caused by a track. Not all tracks leave hits in C5 SCint.	
C5SDET						C5GEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	type	INTE	1,9999		detector type	
	nwhi	INTE	1,9999		Numb. words primary alloc. HITS	
	nwdi	INTE	1,9999		Numb. words DIGI when primary not suff.	
C5SDTA						C5GEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nwhi	INTE	1,9999		Initial HITS allocation	
	nwdi	INTE	1,9999		Increment of DIGI allocation	
	sdet	REL			Some detectors give more than one type signals	
C5SDTD						C5GEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	of	GEN			Sensible detectors and aliases digitizations	
	of_	REL			""	
C5SDTH						C5GEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	orig	REAL			to define the hit elem. positive	
	fact	REAL			IVAR= VAR + ORIG*FACT	
	of	GEN			each detec. element needs the parameter definition	
	of_	REL			""	
C5SDTU						C5GEOM
	ID	SNUM				
	upar	REAL			User parameter	
	of	GEN			User parameters for sensible detectors and aliases	
	of_	REL			""	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
C5SDTV						C5GEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	sdet	REL			Physical detectors for the master detector identifier	
C5SHGH					Results of the simulation of HITS in the C5 SHower counter. References : ZG313T4,P=C5SI,D=C5SIDOC	C5HITS
	ID	SNUM				
	xEDep	REAL			X(cm) of first energy deposit Co-ord. frame??	
	yEDep	REAL			Y(cm) of first energy deposit	
	zEDep	REAL			Z(cm) of first energy deposit	
	tEDep	REAL			time (seconds) wrt ep crossing	
	p	REAL			momentum (GeV/c)	
	nx	REAL			px/p	
	ny	REAL			py/p	
	nz	REAL			pz/p	
	IPART	INTE			Geant particle ID	
	DE1	REAL			Sum of energy deposit (GeV) in Si detectors Sumchannel	
	DE2	REAL			Energy deposit in ch. Ia	
	DE3	REAL			Energy deposit in ch. Ib	
	DE4	REAL			Energy deposit in ch. Ic	
	DE5	REAL			Energy deposit in ch. Id	
	DE6	REAL			Energy deposit in ch. II	
	DE7	REAL			Energy deposit in ch. III	
	DE8	REAL			Energy deposit in Si-strip (X-coord.)	
	DE9	REAL			Energy deposit in Si-strip (Y-coord.)	
	FMCKin	REL			Each hit in the C5 SHower is caused by a track. Not all tracks leave hits in C5 SHower.	
C5TIME					Componnet status	C5TIME
Static	ID	IMPL				
	Device	INTE			Counter device number	
	Peak	INTE			Peak identfier e or p	
	BCN	INTE			BCN number	
	Mean	REAL			Mean value of peak	
	Sigma	REAL			Sigma of peak	
	Const	REAL			Const of peak fit	
	Chi2	REAL		P	Chi**2 of fit	
	Nfree	REAL			N of freedom	
C5TRAW					Componnet status	C5TRAW
Static	ID	IMPL				
	Device	INTE			Counter device number	
	Nbin	INTE			Number of bins	
	Time	REAL			Histogramming time	
	Width	REAL			Width of bin	
	Data(1)	REAL			Data	
	.				""	
	Data(500)	REAL			""	
C5VOLU						C5GEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	shape	CHA4	BOX,BOX TRD1,TRD1 TRD2,TRD2 TRAP,TRAP TUBE,TUBE TUBS,TUBS CONE,CONE CONS,CONS SPHE,SPHE PARA,PARA PGON,PGON PCON,PCON GTRA,GTRA		Shape of the volume	
	div	REL		P	some volumes may be subdived	
	sdet	REL		P	some volumes may be also active detectors	
	tmed	REL			Volume tracking medium number	
CABLST					Zeus Detector Cable Info	CFLCALT
	ID	SNUM				
	CAL	CHA4				
	Module	INTE				
	Num	CHA4				
	Type	CHA4				
	I(1)	CHA8				
	.					
	I(8)	CHA8				
CB6SAM					CB6SAM contains samples info per PM after DSP processing for those PMs which were not successfully processed in DSP energy determination. The samples are the CORRECTED samples. BCAL signals only.	CCBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		PM number as given in ZEUS note 89-48 scheme 2.	
	HighSam1Sam0	INTE			16 bits sample 1, 16 bits sample 0, high gain.	
	HighSam3Sam2	INTE			16 bits sample 3, 16 bits sample 2, high gain.	
	HighSam5Sam4	INTE			16 bits sample 5, 16 bits sample 4, high gain.	
	LowSam1Sam0	INTE			16 bits sample 1, 16 bits sample 0, low gain.	
	LowSam3Sam2	INTE			16 bits sample 3, 16 bits sample 2, low gain.	
	LowSam5Sam4	INTE			16 bits sample 5, 16 bits sample 4, low gain.	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
CB8SAM					CB8SAM contains samples info per PM after DSP processing for those PMs which were not successfully processed in DSP energy determination. The samples are the CORRECTED samples. BCAL signals only.	CCBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		PM number as given in ZEUS note 89-48 scheme 2.	
	HighSam1Sam0	INTE			16 bits sample 1, 16 bits sample 0, high gain.	
	HighSam3Sam2	INTE			16 bits sample 3, 16 bits sample 2, high gain.	
	HighSam5Sam4	INTE			16 bits sample 5, 16 bits sample 4, high gain.	
	HighSam7Sam6	INTE			16 bits sample 7, 16 bits sample 6, high gain.	
	LowSam1Sam0	INTE			16 bits sample 1, 16 bits sample 0, low gain.	
	LowSam3Sam2	INTE			16 bits sample 3, 16 bits sample 2, low gain.	
	LowSam5Sam4	INTE			16 bits sample 5, 16 bits sample 4, low gain.	
	LowSam7Sam6	INTE			16 bits sample 7, 16 bits sample 6, low gain.	
CBBAD					Bad channel list for the BCAL	CCBANK
Static	ID	IMPL				
	Channelcontrol	BITP			bad channel error code	
	PMNr	INTE	0,*		PM number as given in ZEUS note 89-48 scheme 2.	
	Hardwarenumber	BITP			hardware number	
CBBECA					BOR Electronics Calibration Data, contains calibration data which changes rather frequently.	CCBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number	
	HGainH2Q(1)	INTE			H->Q high gain, bits 0-23: factor, bits 24-31: offset	
	.				""	
	HGainH2Q(24)	INTE			""	
	LGainH2Q(1)	INTE			H->Q low gain, bits 0-23: factor, bits 24-31: offset	
	.				""	
	LGainH2Q(24)	INTE			""	
	TimeOff(1)	INTE			Time offset: bits 0-15: high gain, bits 16-31: low gain	
	.				""	
	TimeOff(24)	INTE			""	

V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
CBBOR					Calorimeter Begin of Run Bank. Note this bank comes through the BCAL link. The same bank but then the name CFBOR or CRBOR is send via the FCAL and RCAL respectively.	CCBANK
Static	ID	IMPL				
	ExperimentNo	INTE	0,*		Experiment number.	
	RunNumber	INTE	0,*		Run Number.	
	DateOfRun	INTE			Date of run (DD+100*MM+1000*YY).	
	RunStartTime	INTE			Start Time of run (SS+100*MM+10000*HH).	
	RunType	INTE			Run Type.	
	FCALBootMask	BITP			Crate boot mask for FCAL.	
	RCALBootMask	BITP			Crate boot mask for RCAL.	
	BCALBootMask	BITP			Crate boot mask for BCAL.	
	FCALReadMask	BITP			Crate read mask for RCAL.	
	RCALReadMask	BITP			Crate read mask for RCAL.	
	BCALReadMask	BITP			Crate read mask for BCAL.	
	FCALCards(1)	INTE	0,17		Number of FCAL digital cards per each crate in readout.	
	.		0,17		""	
	FCALCards(16)	INTE	0,17		""	
	RCALCards(1)	INTE	0,17		Number of RCAL digital cards per each crate in readout.	
	.		0,17		""	
	RCALCards(16)	INTE	0,17		""	
	BCALCards(1)	INTE	0,17		Number of BCAL digital cards per each crate in readout.	
	.		0,17		""	
	BCALCards(16)	INTE	0,17		""	
	FCALbanks	BITP			banks read for FCAL	
	RCALbanks	BITP			banks read for RCAL	
	BCALbanks	BITP			banks read for BCAL	
	TriggersConf	INTE	0,*		Number of Triggers per configuration requested.	
	TriggerRate	INTE	0,*		Requested Trigger Rate.	
	Connections	BITP			bit0: GFLT, bit1: GSLT, bit3: EVB , bit4: CALEC	
	Percenttocalec	INTE			percentage of events to CALEC	
	ZeroSuppress	INTE			1 for zero suppression. 0 for no zero suppression	
	LaserFilter	INTE			Laser filter setting for laser mode (0 otherwise).	
	SoleniodCur	INTE			Current in Solenoid (-1 if not available.	
	CompensaCur	INTE			Current in Conpensator (-1 if not available.)	
	CNFName(1)	CHA4			Name of the CNF file.	
	.				""	
	CNFName(5)	CHA4			""	
	LEDCNFName(1)	CHA4			Name of the LED CNF file.	
	.				""	
	LEDCNFName(5)	CHA4			""	
	DSPcodeversion	INTE			0 for old, 1 for newest	
	OperMsg(1)	CHA4			Operator message.	
	.				""	
	OperMsg(10)	CHA4			""	
	NumberOfBanks	INTE			number of banks in readout.	
	HollerIDs(1)	INTE			Hollerith IDs of the banks in the readout.	
	.				""	
	HollerIDs(120)	INTE			""	
	SCMstatus	INTE			status of Slow Control: 1=Normal, 2=Bad, 3=Very Bad, 4=Not Running, 7=Solenoid task in inactive, 8=Unknown, 9=In transition.	
	BeamTypeNegZ	INTE			e-=23, e+=24	
	BeamTypePosZ	INTE			p+=190,p-=191,d=408	
	BeamMomNegZ	INTE			Beam Momentum	
	BeamMomPosZ	INTE			Beam Momentum	
	BeamCurNegZ	INTE			Beam current	
	BeamCurPosZ	INTE			Beam current	
	TTBanks(1)	BITP			F/R/B banks read out for 6 testtriggers	
	.				""	
	TTBanks(18)	BITP			""	
	CalFLTThresh(1)	INTE			CAL FLT Threshold	
	.				""	
	CalFLTThresh(84)	INTE			""	
	CalCalibVersion	INTE			Calibration version	
	CalSLTVersion	INTE			CAL SLT constants version	
	Eventstoget	BITP			bit 0 =1: testtriggers bit 1 =1: fraction bit 2 =1: all you can	
	YokeCur	INTE			Current of Yoke (-1 if not available)	
	CalPosition	BITP			Positon of F/RCAL as reported to BBL3	
	Misc(1)	INTE			to be defined later	
	.				""	
	Misc(100)	INTE			""	
CBBUNO					UNO Scale Factors for all BCAL channels	CCBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		PM number as given in ZEUS note 98-48 scheme 2.	
	UNOScaleFact	REAL			UNO scale factor	
CBCENV					BCal crate environmental trigger information, cleared after each environmental SLT trigger.	CCBANK
Static	ID	IMPL				
	CrateId	INTE			crate identifier.	
	NoFlts	INTE			number of FLT triggers since last environmental trigger	
	NoSlts	INTE			number of positive SLTs	
	NoRows(1)	INTE			number of rows sent in the data banks	
	.				""	
	NoRows(32)	INTE			""	
	NoErrors(1)	INTE			number of detected errors	
	.				""	
	NoErrors(32)	INTE			""	
CBCOEN					BCAL cell energy, low byte only; the order of cells in this bank corresponds to the cell-number order given in the corresponding xxPMNO-bank	CCBANK
Static	ID	IMPL				
	CellEnLowBytes	BITP			Bits 0- 7: Energy cell n low PHI, Bits 8-15: Energy cell n high PHI, Bits 16-23: Energy cell n+1 low PHI, Bits 24-31: Energy cell n+1 high PHI	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
CBDBOR					==>OBSOLETE; BCAL DSP constants.	CCBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number.	
	HCut	INTE			H cut value, if H is above this value, time is calculated.	
	SLECut	INTE			E cut value. if E is above this value, time gets reported to the SLT.	
	HEPoly(1)	INTE			Polynomial constants for correcting H in powers of T for non-QINJ triggers.	
	.				""	
	HEPoly(4)	INTE			""	
	HQPoly(1)	INTE			Polynomial constants for correcting H in powers of T for QINJ testtriggers.	
	.				""	
	HQPoly(4)	INTE			""	
	TEPoly(1)	INTE			Polynomial constants for turning T into time in ns/2. for non-QINJ triggers.	
	TEPoly(2)	INTE			""	
	TEPoly(3)	INTE			""	
	TQPoly(1)	INTE			Polynomial constants for turning T into time in ns/2 for QINJ testtriggers.	
	TQPoly(2)	INTE			""	
	TQPoly(3)	INTE			""	
	QToMeV	INTE			Conversion factor PC->MeV	
	DACValue	INTE			DAC setting	
	Reserved(1)	INTE			reserved for future use	
	.				""	
	Reserved(8)	INTE			""	
CBDCCN					BCAL Digital Card Control Bank. Bits described from Most Significant Bits down to Least Significant Bits. More details available from ONLINE experts.	CCBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number.	
	DCFLTword	BITP			8 bits parity check (#80 is correct value, other are errors), 8 bits DC page number (0-15), 8 bits FLT bits, 8 bits FLT number	
	PCellnumber	BITP			8 bits Pipeline cell number, 24 bits bit=1:samples available	
	Readoutinfo	BITP			8 bits readout info, 24 bits bit=1:Dead or Bad channel	
	TPGinfo	BITP			8 bits Test Pulse Generator, 24 bits bit=1:low gain samples used	
CBDCPM					CBDCPM is used to get the BCAL phototube numbers for a known digital card	CDCAPM
	ID	SNUM				
	PMTnr(1)	BITP			List of PMTs (Poser number) connected to a digital card	
	.				""	
	PMTnr(24)	BITP			""	
	CBDCCN	REL			Each row in CBDCPM corresponds to a row in CBDCCN	
CBDIST					ZEUS CFLT CABLE DISTRIBUTION TO CRATES	CFLCALT
	ID	SNUM				
	CAL	CHA4				
	Module	INTE				
	Num	CHA4				
	Type	CHA4				
	Crate(1)	BITP				
	.					
	Crate(8)	BITP				
CBDMON					CBDMON contains monitor information produced at the DSP for BCAL	CCBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number.	
	Baseline(1)	INTE			baseline: 1 per PM	
	.				""	
	Baseline(24)	INTE			""	
	TimeAverage(1)	INTE			average time: 1 per PM	
	.				""	
	TimeAverage(24)	INTE			""	
	Counter(1)	INTE				
	Counter(2)	INTE				
	NoRcnErr(1)	INTE			reconstruction error counters, 16 bits per PM.	
	.				""	
	NoRcnErr(12)	INTE			""	
	Spare(1)	INTE			To be defined later	
	.				""	
	Spare(12)	INTE			""	

|
V

Page (1, 1)

Table		Column	Type	Range	P	Comment	Subschema
CBDUMS						BCAL Front End Card/ADC characteristics, means and r.m.s.	CCBANK
	Static	ID	IMPL				
		TpDcAdcId	BITP			Bitpattern giving the ADC: Bits 0-7 ADC No. (1-4) Bits 9-15 DC No.(1-17) Bits 16-31 Crate identifier.	
		gndDU1M	REAL				
		gndDU1S	REAL				
		VtemporVidM	REAL				
		VtemporVidS	REAL				
		VpowerM	REAL				
		VpowerS	REAL				
		VprecM	REAL				
		VprecS	REAL				
		DU0M	REAL				
		DU0S	REAL				
		DU1M	REAL				
		DU1S	REAL				
		DU2M	REAL				
		DU2S	REAL				
		DU3M	REAL				
		DU3S	REAL				
		DU4M	REAL				
		DU4S	REAL				
		DU5M	REAL				
		DU5S	REAL				
		muxVrM	REAL				
		muxVrS	REAL				
		gndDU2M	REAL				
		gndDU2S	REAL				
CBENER						==>OBSOLETE; CBENER contains signals from BCAL after DSP processing and zero suppression in 2TP system key only relevant in offline context	CCBANK
	Static	ID	IMPL				
		CellNr	INTE	0,*		Cell number as given in ZEUS Note 89-48, scheme 2	
		ELeft	INTE			Least significant 24 bits contain energy recorded in left PM.	
		ERight	INTE			Least significant 24 bits contain energy recorded in right PM.	
		TLeft	INTE			bit pattern containing time and tail info of left PM as delivered by DSP.	
		TRight	INTE			bit pattern containing time and tail info of right PM as delivered by DSP.	
CBEOR						BCAL End of Run Bank.	CCBANK
	Static	ID	IMPL				
		TotalEvents	INTE			Number of events in this run.	
		RunEndDate	INTE			Run end date (DD+100*MM+1000*YYYY).	
		RunEndTime	INTE			End time of run (SS+100*MM+10000*HH).	
		IntLum	INTE			Integrated Luminosity	
		RunEndCond	INTE			End of run condition.	
		EndMsg(1)	CHA4			End of run message.	
		.				""	
		EndMsg(10)	CHA4			""	
CBHSA6						==>OBSOLETE; CBHSA6 contains samples info per PM after DSP processing for those PMs which were not successfully processed in DSP energy determination. Only the first six high gain samples are read. BCAL signals only.	CCBANK
	Static	ID	IMPL				
		PMNr	INTE	0,*		PM number as given in ZEUS note 89-48 scheme 2.	
		HighSam1Sam0	INTE			8 bits unused, 12 bits sample 1, 12 bits sample 0, high gain.	
		HighSam3Sam2	INTE			8 bits unused, 12 bits sample 3, 12 bits sample 2, high gain.	
		HighSam5Sam4	INTE			8 bits unused, 12 bits sample 5, 12 bits sample 4, high gain.	
CBLKEY							CFLCALT
		ID	SNUM				
		GAFTyp	CHA4	CABL,CABL			
		Number	INTE				
		DFLNam	CH32				
CBPBOR						==>OBSOLETE; BCAL photomultiplier readout constants.	CCBANK
	Static	ID	IMPL				
		PMNr	INTE	0,*		Calorimeter photomultiplier number as given in ZEUS Note 89-48, scheme 2	
		HardwareNr	BITP			hardware number	
		ChanCtrl	BITP			channel control word	
		HGainH2Q	INTE			conversion H->Q for high gain	
		LGainH2Q	INTE			conversion H->Q for low gain	
		HGainTOff	INTE			time offset for high gain	
		LGainTOff	INTE			time offset for low gain	
		UNOScaleFact	REAL			UNO scale factor	
		MinTime	INTE			min. allowed reconstr. time	
		MaxTime	INTE			max. allowed reconstr. time	
		MinBLineShft	INTE			min. allowed baseline shift	
		MaxBLineShft	INTE			max. allowed baseline shift	
		LinConst(1)	INTE			linearity correction constant	
		.				""	
		LinConst(4)	INTE			""	
CBPCHI						BCAL Pipeline cell hit histogram for each DSP.	CCBANK
	Static	ID	IMPL				
		TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number.	
		PCellCnt(1)	INTE			pipeline cell hit histogram.	
		.				""	
		PCellCnt(58)	INTE			""	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
CBPDMS					CBPDMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for LED testtriggers for BCAL.	CCBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		Calorimeter photomultiplier number as given in ZEUS Note 89-48, scheme 2	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
	NoRecoErr	INTE			number of reconstruction errors	
CBPECO					Barrel Calorimeter Cell energy. If the energy in both PMs is less than some cut value and bigger than some other cut value the energy of both PMs is packed together with the cell number into this word. Bit 8 of each energy byte is set if negative energy. Cell number see ZEUS Note 89-48, scheme 2.	CCBANK
Static	ID	IMPL				
	CellEAndNr	BITP			Bits 0-15: Cell number, Bits 16-23: E low phi PM, Bits 24-31: E high phi PM.	
CBPLMS					CBPLMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for LASER testtriggers for BCAL.	CCBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		Calorimeter photomultiplier number as given in ZEUS Note 89-48, scheme 2	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
	NoRecoErr	INTE			number of reconstruction errors	
CBPMDC					CBPMDC is used to access digital card information using a known BCAL phototube number	CDCAPM
	ID	SNUM				
	PMTnr	BITP			PMT (Poser) number	
	DCBitnr	INTE	1,24		bit number on digital card	
	CBDCCN	REL			Every phototube in BCAL is connected to a digital card	
CBPMNO					BCAL cell numbers, as given in ZEUS Note 89-48, scheme 2; the order of Cell-numbers in this bank corresponds to the order of the entries of energy low-bytes in the corresponding xxCOEN-bank; NB: there may be entries with zero value	CCBANK
Static	ID	IMPL				
	CellNrs	BITP			Bits 0-15: Number of cell n, Bits 16-31: Number of cell n+1	
CBPPMS					CBPPMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for PED testtriggers for BCAL.	CCBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		Calorimeter photomultiplier number as given in ZEUS Note 89-48, scheme 2	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
	NoRecoErr	INTE			number of reconstruction errors	
CBPQMS					CBPQMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for QINJ testtriggers for BCAL.	CCBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		Calorimeter photomultiplier number as given in ZEUS Note 89-48, scheme 2	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
	NoRecoErr	INTE			number of reconstruction errors	
CBSAM8					==>OBSOLETE; CBSAM8 contains samples info per PM after DSP processing for those PMs which were not successfully processed in DSP energy determination. BCAL signals only.	CCBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		PM number as given in ZEUS note 89-48 scheme 2.	
	HighSam1Sam0	INTE			8 bits unused, 12 bits sample 1, 12 bits sample 0, high gain.	
	HighSam3Sam2	INTE			8 bits unused, 12 bits sample 3, 12 bits sample 2, high gain.	
	HighSam5Sam4	INTE			8 bits unused, 12 bits sample 5, 12 bits sample 4, high gain.	
	HighSam7Sam6	INTE			8 bits unused, 12 bits sample 7, 12 bits sample 6, high gain.	
	LowSam1Sam0	INTE			8 bits unused, 12 bits sample 1, 12 bits sample 0, low gain.	
	LowSam3Sam2	INTE			8 bits unused, 12 bits sample 3, 12 bits sample 2, low gain.	
	LowSam5Sam4	INTE			8 bits unused, 12 bits sample 5, 12 bits sample 4, low gain.	
	LowSam7Sam6	INTE			8 bits unused, 12 bits sample 7, 12 bits sample 6, low gain.	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
CBSLCT					==>OBSOLETE; BCAL constants used in CAL SLT calculations	CCBANK
Static	ID	IMPL				
	TPID	BITP			transputer ID defining CAL SLT region	
	Scale	INTE			cut scaling factor	
	ecute	INTE			Electron energy cut	
	ecutj	INTE			Jet/hadron energy cut	
	ecutce	INTE			EMC cell energy cut	
	ecutch	INTE			HAC cell energy cut	
	ecutpje	INTE			EMC precluster energy cut	
	ecutpjh	INTE			HAC precluster energy cut	
	rfact	INTE			hadron cluster radius multiplier	
	rofs	INTE			hadron cluster radius offset	
	radem	INTE			minimum radius EMC cluster	
	emuemclow	INTE			Low energy muon cut for EMC	
	emuemchigh	INTE			High energy muon cut for EMC	
	emuhaclow	INTE			Low energy muon cut for HAC	
	emuhachigh	INTE			High energy muon cut for HAC	
	Rmulow	INTE			Low ratio cut for muon	
	Rmuhigh	INTE			High ratio cut for muon	
	Nmulow	INTE			Low cell count for muons	
	Nmuhigh	INTE			High cell count for muons	
	Emulti	INTE			Energy multiplier	
	Ediv	INTE			Energy divider	
	rdist	INTE			CAL distance to Z-plane or r-cylinder	
CBSYNC					Used by EVB to validate FCLR synchronisation.	CCBANK
Static	ID	IMPL				
	gflt	INTE			GFLT number	
	gslt	INTE			GSLT number	
	bcn	INTE			Bunch crossing number	
	rot	INTE			Readout type	
CBTBAD					==>OBSOLETE; Trigger bad channel list for the CAL (same as CFTBAD)	CCBANK
Static	ID	IMPL				
	Channelcontrol	BITP			bad channel error code	
	PMNr	INTE	0,*		PM number as given in ZEUS note 89-48 scheme 2.	
	Hardwarenumber	BITP			hardware number	
CBTCNT					BCAL event counters.	CCBANK
Static	ID	IMPL				
	CrateId	INTE			crate identifier.	
	TotNoEvents	INTE			total no. of events.	
	TotNoPhyTrig	INTE			total no. of physics triggers.	
	TotNoQINTrig	INTE			total no. of QINJ triggers.	
	TotNoPEDTrig	INTE			total no. of PED triggers.	
	TotNoUNOTrig	INTE			total no. of UNO triggers.	
	TotNoLEDTrig	INTE			total no. of LED triggers.	
	TotNoLASTrig	INTE			total no. of LASER triggers.	
	Reserved(1)	INTE			reserved for future use.	
	.				""	
	Reserved(64)	INTE			""	
CBTENE					CBTENE contains signals from BCAL after DSP processing and zero suppression in 2TP system.	CCBANK
Static	ID	IMPL				
	CellNr	INTE	0,*		Cell number as given in ZEUS Note 89-48, scheme 2 (poser numbers)	
	ETlow	BITP			Least significant 24 bits contain energy recorded in low PHI PM. Most significant 8 bits contain time.	
	EThigh	BITP			Least significant 24 bits contain energy recorded in high PHI PM. Most significant 8 bits contain time.	
CBTIL1					FCAL second level trigger processing time on layer1 of the trigger network. Time in microseconds.	CCBANK
Static	ID	IMPL				
	TPID	BITP			transputer identifier	
	NoTriggers	INTE			number of physics triggers accumulated in this timingsums	
	CheckTime	INTE			total time spent in checking the input data	
	CheckSq	REAL			total squared time spent in checking the input data	
	HacTime	INTE			total time spent in Hac scan	
	HacSq	REAL			total squared time spent in Hac scan	
	HacPerClusTime	INTE			total time per cluster spent in Hac scan	
	HacPerClusSq	REAL			total squared time per cluster spent in Hac scan	
	EmcTime	INTE			total time spent in Emc scan	
	EmcSq	REAL			total squared time spent in Emc scan	
	EmcPerClusTime	INTE			total time per cluster spent in Emc scan	
	EmcPerClusSq	REAL			total squared time per cluster spent in Emc scan	
	MergeTime	INTE			total time spent in merging	
	MergeSq	REAL			total squared time spent in merging	
	MergePerClusTime	INTE			total time per cluster spent in merging	
	MergePerClusSq	REAL			total squared time per cluster spent in merging	
	LocCutTime	INTE			total time spent in precluster cut	
	LocCutSq	REAL			total squared time spent in percluster cut	
	LocCutPerClusTim	INTE			total time per cluster spent in precluster cut	
	LocCutPerClusSq	REAL			total squared time per cluster spent in precluster cut	
	TimeAlgoTime	INTE			total time spent in timing algorithm	
	TimeAlgoSq	REAL			total squared time spent in timing algorithm	
	InpBufHisto(1)	INTE			Input Buffer usage histogram	
	.				""	
	InpBufHisto(16)	INTE			""	
	OutBufHisto(1)	INTE			Output Buffer usage histogram	
	.				""	
	OutBufHisto(16)	INTE			""	
	Reserv(1)	INTE			Reserved for future use.	
	.				""	
	Reserv(8)	INTE			""	

V

Page (1, 1)

Table		Column	Type	Range	P	Comment	Subschema
CBUM						BCAL Front End Card/ADC characteristics.	CCBANK
	Static	ID	IMPL				
		TpDcAdcId	BITP			Bitpattern giving the ADC: Bits 0-7 ADC No. (1-4) Bits 9-15 DC No.(1-17) Bits 16-31 Crate identifier.	
		gndDU1	INTE				
		VtemporVid	INTE				
		Vpower	INTE				
		Vprec	INTE				
		DU0	INTE				
		DU1	INTE				
		DU2	INTE				
		DU3	INTE				
		DU4	INTE				
		DU5	INTE				
		muxVr	INTE				
		gndDU2	INTE				
CBUN						==>OBSOLETE; BCAL Front End Card/ADC characteristics.	CCBANK
	Static	ID	IMPL				
		gndDU1	INTE				
		VtemporVid	INTE				
		Vpower	INTE				
		Vprec	INTE				
		DU0	INTE				
		DU1	INTE				
		DU2	INTE				
		DU3	INTE				
		DU4	INTE				
		DU5	INTE				
		muxVr	INTE				
		gndDU2	INTE				
CBVCAL						contains the ADC->Volt conversion recalculated during a UNO M&S run	CCBANK
	Static	ID	IMPL				
		TpDcAdcId	BITP			Adc identifier	
		NewAdcToVolt	REAL			New ADC->Volt conversion	
		DelAdcToVolt	REAL			New - Old ADC->Volt conversion	
CBXOR						BCAL Crate digital monitoring information. Details available from CAL ONLINE experts.	CCBANK
	Static	ID	IMPL				
		TPId	INTE			Crate identifier.	
		CBDCCNRows	INTE			Number of rows in CBDCCN bank.	
		CBTENERows	INTE			Number of rows in CBTENE bank.	
		CBPECORows	INTE			Number of rows in CBPECO bank.	
		CB8SAMRows	INTE			Number of rows in CB8SAM bank.	
		CB6SAMRows	INTE			Number of rows in CB6SAM bank.	
		ChkWord	BITP			Checksum word.	
		Reserved	INTE			Reserved word.	
CCAdJa						describes the neighbourhood of the cell via the ajacency class, one class might serve many cells	CUgeom3
		ID	SNUM				
		No	INTE			is the number of ajacent cells	
		par(1)	INTE			contains the offsets to the ajacent cells in the geometry numbering scheme	
		.				""	
		par(30)	INTE			""	
CCBHIS						BCAL timing histogram, details to be defined	O2BANK
	Static	ID	IMPL				
		Bcalhisto	BITP			BCAL Timing histogram data	
CCBPTW						Calorimeter BeamPipe ToWer/channel energies and times. All energies in GeV. Times in ns.	O2BANK
	Static	ID	IMPL				
		ChannelId	INTE			Channel number.	
		ChannelTime	REAL			Channel time.	
		ChannelEnergy	REAL			Channel Energy.	
CCCAMU						CAL MUON cluster data.	O2BANK
	Static	ID	IMPL				
		EmcClusEnergy	REAL			Cluster energy (GeV).	
		EmcClusTheta	REAL	0.0,3.14		Theta of cluster (rad)	
		EmcClusPhi	REAL	0.0,6.28		Phi of cluster (rad)	
		EmcClusNcells	REAL			Number of cells in cluster	
		EmcClusRadius	REAL			Cluster radius (rad)	
		HacClusEnergy	REAL			Cluster energy (GeV).	
		HacClusTheta	REAL	0.0,3.14		Theta of cluster (rad)	
		HacClusPhi	REAL	0.0,6.28		Phi of cluster (rad)	
		HacClusNcells	REAL			Number of cells in cluster	
		HacClusRadius	REAL			Cluster radius (rad).	
CCELEC						CAL Electron candidate cluster data (Electromagnetic cluster with the highest energy). Electron clusters are allowed to have a small fraction in the HAC also (probably not yet from day1 on)	O2BANK
	Static	ID	IMPL				
		EmcClusEnergy	REAL			Cluster energy (GeV).	
		EmcClusTheta	REAL	0.0,3.14		Theta of cluster (rad)	
		EmcClusPhi	REAL	0.0,6.28		Phi of cluster (rad)	
		EmcClusNcells	REAL			Number of cells in cluster	
		EmcClusRadius	REAL			Cluster radius (rad)	
		HacClusEnergy	REAL			Cluster energy (GeV).	
		HacClusTheta	REAL	0.0,3.14		Theta of cluster (rad)	
		HacClusPhi	REAL	0.0,6.28		Phi of cluster (rad)	
		HacClusNcells	REAL			Number of cells in cluster	
		HacClusRadius	REAL			Cluster radius (rad).	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
CCEMCL					CAL other electromagnetic cluster data.	O2BANK
Static	ID	IMPL				
	EmcClusEnergy	REAL			Cluster energy (GeV).	
	EmcClusTheta	REAL	0.0,3.14		Theta of cluster (rad)	
	EmcClusPhi	REAL	0.0,6.28		Phi of cluster (rad)	
	EmcClusNcells	REAL			Number of cells in cluster	
	EmcClusRadius	REAL			Cluster radius (rad)	
	HacClusEnergy	REAL			Cluster energy (GeV).	
	HacClusTheta	REAL	0.0,3.14		Theta of cluster (rad)	
	HacClusPhi	REAL	0.0,6.28		Phi of cluster (rad)	
	HacClusNcells	REAL			Number of cells in cluster	
	HacClusRadius	REAL			Cluster radius (rad).	
CCFHIS					FCAL timing histogram, details to be defined	O2BANK
Static	ID	IMPL				
	Fcalhisto	BITP			BCAL Timing histogram data	
CCGSUM					Calorimeter global sums. Separate values for HAC and EMC. All energies in GeV. Times in ns.	O2BANK
Static	ID	IMPL				
	ETotalEmc	REAL			Total Energy in EMC cells	
	ETotalHac	REAL			in HAC cells	
	CellsHitEmc	REAL			# Cells above threshold EMC	
	CellsHitHac	REAL			HAC	
	ETransEmc	REAL			Transverse energy EMC	
	PxEmc	REAL			Momentum along x-axis EMC	
	PyEmc	REAL			Momentum along y-axis EMC	
	PzEmc	REAL			Momentum along z-axis EMC	
	PlMinEmc	REAL			Et excl. 2FCAL inner rings EMC	
	EtransHac	REAL			HAC	
	PxHac	REAL			HAC	
	PyHac	REAL			HAC	
	PzHac	REAL			HAC	
	PlMinHac	REAL			HAC	
	FcalTime	REAL			FCAL time	
	BcalTime	REAL			BCAL time	
	RcalTime	REAL			RCAL time	
	TimeFlag	INTE			Concludes CAL timing results.	
	NoOfClusters	BITP			number of clusters found: (4 bytes packed) byte 0: # muon clusters, byte 1: # hadron jets, byte 2: # em clusters, byte 3: # elec candidates	
	SltErrors	BITP			Bitpattern of SLT errors, bit 0: energies crazy, bit 1: timing info crazy , bit 2: global sums on layer1, bit 3: hac precluster scan, bit 4: emc precluster scan, bit 5: precluster merging, bit 6: cluster cut on layer1, bit 7: timing algo layer1, bit 8: global sums on layer2, bit 9: cluster merge on layer2, bit 10: cluster cut/coordinateransformation on layer2, bit 11: timing algo layer2,bit 15: global sums on layer3, bit 16: cluster merge on layer3, bit 17: cluster cut/coordinatensformation on layer3, bit 18: timing algo on layer3,bit 19: converting to gslt, bit 29: GSLT-message:dont use global sums, bit 30: GSLT-message:dont use clusters, bit 31: GSLT-message:dont use the timing	
	ETotalFCal	REAL			Total Energy FCal	
	ETotalBCal	REAL			Total Energy BCal	
	ETotalRCal	REAL			Total Energy RCal	
	NoPMsFCalTi	REAL			no. of PMs used for FCal time	
	NoPMsBCalTi	REAL			no. of PMs used for BCal time	
	NoPMsRCalTi	REAL			no. of PMs used for RCal time	
	ETotalFEmc	REAL			Total Energy FCal EMC	
	ETotalBEmc	REAL			Total Energy BCal EMC	
	ETotalREmc	REAL			Total Energy RCal EMC	
	UpTime	REAL			av. time of upper regions	
	DownTime	REAL			av. time of lower regions	
	NoPMsUpTi	REAL			no. PMs used for up time	
	NoPMsDownTi	REAL			no. PMs used for down time	
	UpETotal	REAL			energy in upper regions	
	DownETotal	REAL			energy in lower regions	
	GlobTime	REAL			av. time of entire CAL	
	NoPMsGlobTi	REAL			no. PMs used for global CAL time	
	FCalBPEEmc	REAL			E in FCAL Emc beampipe region	
	FCalBPEHac	REAL			E in FCAL Hac beampipe region	
	FCalBPPxEmc	REAL			Px in FCAL Emc beampipe region	
	FCalBPPyEmc	REAL			Py in FCAL Emc beampipe region	
	FCalBPPxHac	REAL			Px in FCAL Hac beampipe region	
	FCalBPPyHac	REAL			Py in FCAL Hac beampipe region	
	FCalBPEtEmc	REAL			Et in FCAL Emc beampipe region	
	FCalBPEtHac	REAL			Et in FCAL Hac beampipe region	
	Reserv(1)	REAL			Reserved for future use.	
	.				""	
	Reserv(6)	REAL			""	
CCHADR					CAL hadronic cluster data.	O2BANK
Static	ID	IMPL				
	EmcClusEnergy	REAL			Cluster energy (GeV).	
	EmcClusTheta	REAL	0.0,3.14		Theta of cluster (rad)	
	EmcClusPhi	REAL	0.0,6.28		Phi of cluster (rad)	
	EmcClusNcells	REAL			Number of cells in cluster	
	EmcClusRadius	REAL			Cluster radius (rad)	
	HacClusEnergy	REAL			Cluster energy (GeV).	
	HacClusTheta	REAL	0.0,3.14		Theta of cluster (rad)	
	HacClusPhi	REAL	0.0,6.28		Phi of cluster (rad)	
	HacClusNcells	REAL			Number of cells in cluster	
	HacClusRadius	REAL			Cluster radius (rad).	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
CCLHIT					entity set for FCAL, BCAL and RCAL photomultiplier readout. Ordering is by cell. Energy recorded is the calibrated energy.	CcMCTr
	ID	SNUM				
	momentum	REAL			particle momentum	
	numpo	INTE			cell number in ZeusGean scheme	
	lowphot	REAL	0.0,*		excitation low-x pm	
	higphot	REAL	0.0,*		excitation high-x pm	
	lowwls	REAL	0.0,*		excitation low-x WLS	
	higwls	REAL	0.0,*		excitation high-x WLS	
	lowtime	REAL	0.0,*		sampling time low-x PM	
	higtime	REAL	0.0,*		sampling time high-x PM	
	FMCKin	REL			Track generating CAL hit	
CCNNOIS1					PMT statistics for one run for NOISE1 sample, high energy noise Note that a negative PMTNr indicates that the other PMT in the cell was marked as bad	CCNOISE
	ID	SNUM				
	PMTNr	INTE			Poser Number of PMT, sign indicates that other PMT is bad	
	NHit	INTE			Number of Noise hits for that PMT	
	AvgEne	REAL			Average Energy	
	RMS	REAL			RMS of noise energy	
CCNNOIS2					PMT statistics for one run for NOISE2 sample, In this sample the other PMT in the cell is always marked as bad	CCNOISE
	ID	SNUM				
	PMTNr	INTE			Poser Number of PMT	
	NHit	INTE			Number of Noise hits for that PMT	
	AvgEne	REAL			Average Energy	
	RMS	REAL			RMS of noise energy	
CCNNOIS3					PMT statistics for one run for NOISE3 sample, Note that in this sample the other PMT in the cell is *NOT* marked as bad	CCNOISE
	ID	SNUM				
	PMTNr	INTE			Poser Number of PMT	
	NHit	INTE			Number of Noise hits for that PMT	
	AvgEne	REAL			Average Energy	
	RMS	REAL			RMS of noise energy	
CCNNOIS4					PMT statistics for one run for NOISE4 sample, In this sample the imbalance is low and both PMTs are not marked as bad.	CCNOISE
	ID	SNUM				
	PMTNr	INTE			Poser Number of PMT	
	NHit	INTE			Number of Noise hits for that PMT	
	AvgEne	REAL			Average Energy	
	RMS	REAL			RMS of noise energy	
CCNPHYSI					PMT statistics for one run for PHYSICS sample	CCNOISE
	ID	SNUM				
	PMTNr	INTE			Poser Number of PMT	
	NHit	INTE			Number of hits for that PMT	
	AvgImb	REAL			Average Imbalance/Energy	
	RMS	REAL			RMS of energy	
CCNPHYST					PMT statistics for one run for PHYSICS sample	CCNOISE
	ID	SNUM				
	PMTNr	INTE			Poser Number of PMT	
	NHit	INTE			Number of hits for that PMT	
	AvgTim	REAL			Weighted time average	
	RMSTim	REAL			Weighted time RMS	
	Sweight	REAL			Sum of weights	
	S2weigh	REAL			Sum of square of weights	
CCNSAMP					Samples for Calorimter noise	CCNOISE
	ID	SNUM				
	SPARK	INTE			Events in Spark sample	
	NOISE1	INTE			Events in Noise1 sample (high energy)	
	NOISE2	INTE			Events in Noise2 sample (other PMT bad)	
	NOISE3	INTE			Events in Noise3 sample (high imb)	
	NOISE4	INTE			Events in Noise4 sample (low imb)	
	PHYS	INTE			Events in Physics sample	
	PHYSTIM	INTE			Events in Physics timing sample	
CCNSPARK					Spark statistics for one run	CCNOISE
	ID	SNUM				
	PMTNr	INTE			Poser Number of PMT	
	NHit	INTE			Number of Sparks for that PMT	
	AvgEne	REAL			Average Energy	
	RMS	REAL			RMS of spark energy	
CCOR					Table to store timing corrections	CcPhs2
	ID	SNUM				
	C5VTX	REAL			Position of C5vtx	
	Lateness	REAL			C5lateness	
	Foffset	REAL			Offset by Ioannis (FCAL)	
	Roffset	REAL			Ofsset by Ioannis (RCAL)	
CCRHIS					RCAL timing histogram, details to be defined	O2BANK
Static	ID	IMPL				
	Rcalhisto	BITP			BCAL Timing histogram data	
CCSTAT					Calorimeter timing statistics, details to be defined	O2BANK
Static	ID	IMPL				
	Timestat	BITP			Timing statistics	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
CCTIL2					Calorimeter second level trigger processing time on layer2 of the trigger network. Time in microseconds. This bank will be sent via the GSLT	CCBANK
Static	ID	IMPL				
	TPID	BITP			transputer identifier	
	NoTriggers	INTE			number of physics triggers accumulated in the timesums	
	GlobSumTime	INTE			time for summing globals and reordering the clusters	
	GlobSumSq	REAL			total squared time for summing globals and reordering the cluster data	
	MergeTime	INTE			total time for merging	
	MergeSq	REAL			total squared time for merging	
	MergePerClusTime	INTE			total time per cluster spent in merging	
	MergePerClusSq	REAL			total squared time per cluster spent in merging	
	FinCutTime	INTE			total time for cluster cut	
	FinCutSq	REAL			total squared time for cluster cut	
	FinCutPerClusTim	INTE			total time per cluster spent in cluster cut	
	FinCutPerClusSq	REAL			total squared time per cluster spent in cluster cut	
	TimeAlgoTime	INTE			total time for timing algorithm	
	TimeAlgoSq	REAL			total squared time spent in timing algorithm	
	InpBufHisto(1)	INTE			Input Buffer usage histogram	
	.				""	
	InpBufHisto(16)	INTE			""	
	OutBufHisto(1)	INTE			Output Buffer usage histogram	
	.				""	
	OutBufHisto(16)	INTE			""	
	Reserv(1)	INTE			Reserved for future use.	
	.				""	
	Reserv(8)	INTE			""	
CCTIL3					Calorimeter second level trigger processing time on layer2 of the trigger network. Time in microseconds. This bank will be sent via the GSLT	CCBANK
Static	ID	IMPL				
	TPID	BITP			transputer identifier	
	NoTriggers	INTE			number of physics triggers accumulated in the timesums	
	GlobSumTime	INTE			time for summing globals and reordering the clusters	
	GlobSumSq	REAL			total squared time for summing globals and reordering clusters	
	MergeTime	INTE			total time spent in merging	
	MergeSq	REAL			total squared time for merging	
	MergePerClusTime	INTE			total time per cluster spent in merging	
	MergePerClusSq	REAL			total squared time per cluster for merging	
	FinCutTime	INTE			total time for cluster cut	
	FinCutSq	REAL			total squared time spent in cluster cut	
	FinCutPerClusTim	INTE			total time per cluster spent in cluster cut	
	FinCutPerClusSq	REAL			total squared time per cluster for cluster cut	
	TimeAlgoTime	INTE			total time fortiming algorithm	
	TimeAlgoSq	REAL			total squared time spent in timing algorithm	
	ToGsltTime	INTE			total time for conversion	
	ToGsltSq	REAL			total squared time spent in conversion	
	ToGsltPerClusTim	INTE			total time per cluster spent in conversion	
	ToGsltPerClusSq	REAL			total squared time per cluster in conversion	
	InpBufHisto(1)	INTE			Input Buffer usage histogram	
	.				""	
	InpBufHisto(16)	INTE			""	
	OutBufHisto(1)	INTE			Output Buffer usage histogram	
	.				""	
	OutBufHisto(16)	INTE			""	
	Reserv(1)	INTE			Reserved for future use.	
	.				""	
	Reserv(8)	INTE			""	
CCTimOff					Time offsets to be used offline, for the moment only in reprocessing data before 20 AUGUST 92	CalDPhs1
	ID	SNUM				
	CPMnr	BITP			PM number	
	Cvalue	REAL			Time offset (sec)	
	Cerror	INTE			error status of time offset	
CConSa					A condensate consists of hit cells that are physically adjacent, and represents the excitations of one or more particles in the calorimeter. It is an intermediate object between cells and clusters	CalDPhs1
	ID	SNUM				
	class	CHA8			classification name of condensate	
	x	REAL			x coordinate in ZEUS	
	y	REAL			y coordinate in ZEUS	
	z	REAL			z coordinate in ZEUS	
	E	REAL	0.0,*		total energy of condensate	
	radius	REAL	0.0,*		radius of condensate	
	cx	REAL	-1.0,1.0	P	cosine of Euler angle w.r.t. to x axis	
	cy	REAL	-1.0,1.0	P	cosine of Euler angle w.r.t. to y axis	
	cz	REAL	-1.0,1.0	P	cosine of Euler angle w.r.t. to z axis	
	Eemc	REAL	0.0,*		EMC energy of condensate	
	Cemc(1)	REAL		P	condensate centre in EMC	
	Cemc(2)	REAL		P	""	
	Cemc(3)	REAL		P	""	
	Ehac1	REAL	0.0,*		HAC1 energy of condensate	
	Chac1(1)	REAL		P	condensate centre in HAC1	
	Chac1(2)	REAL		P	""	
	Chac1(3)	REAL		P	""	
	Ehac2	REAL	0.0,*	P	HAC2 energy of condensate	
	Chac2(1)	REAL		P	condensate centre in HAC2	
	Chac2(2)	REAL		P	""	
	Chac2(3)	REAL		P	""	
	NcEmc	INTE			Number of EMC cells hit	
	NcHac1	INTE			Number of HAC1 cells hit	
	NcHac2	INTE			Number of HAC2 cells hit	
	Cidclu	REL		P	condensates may contribute to jets	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
CF6SAM					CF6SAM contains samples info per PM after DSP processing for those PMs which were not successfully processed in DSP energy determination. The samples are the CORRECTED samples. FCAL signals only.	CCBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		PM number as given in ZEUS note 89-48 scheme 2.	
	HighSam1Sam0	INTE			16 bits sample 1, 16 bits sample 0, high gain.	
	HighSam3Sam2	INTE			16 bits sample 3, 16 bits sample 2, high gain.	
	HighSam5Sam4	INTE			16 bits sample 5, 16 bits sample 4, high gain.	
	LowSam1Sam0	INTE			16 bits sample 1, 16 bits sample 0, low gain.	
	LowSam3Sam2	INTE			16 bits sample 3, 16 bits sample 2, low gain.	
	LowSam5Sam4	INTE			16 bits sample 5, 16 bits sample 4, low gain.	
CF8SAM					CF8SAM contains samples info per PM after DSP processing for those PMs which were not successfully processed in DSP energy determination. The samples are the CORRECTED samples. FCAL signals only.	CCBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		PM number as given in ZEUS note 89-48 scheme 2.	
	HighSam1Sam0	INTE			16 bits sample 1, 16 bits sample 0, high gain.	
	HighSam3Sam2	INTE			16 bits sample 3, 16 bits sample 2, high gain.	
	HighSam5Sam4	INTE			16 bits sample 5, 16 bits sample 4, high gain.	
	HighSam7Sam6	INTE			16 bits sample 7, 16 bits sample 6, high gain.	
	LowSam1Sam0	INTE			16 bits sample 1, 16 bits sample 0, low gain.	
	LowSam3Sam2	INTE			16 bits sample 3, 16 bits sample 2, low gain.	
	LowSam5Sam4	INTE			16 bits sample 5, 16 bits sample 4, low gain.	
	LowSam7Sam6	INTE			16 bits sample 7, 16 bits sample 6, low gain.	
CFBAD					Bad channel list for the FCAL	CCBANK
Static	ID	IMPL				
	Channelcontrol	BITP			bad channel error code	
	PMNr	INTE	0,*		PM number as given in ZEUS note 89-48 scheme 2.	
	Hardwarenumber	BITP			hardware number	
CFBECA					BOR Electronics Calibration Data, contains calibration data which changes rather frequently.	CCBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number	
	HGainH2Q(1)	INTE			H->Q high gain, bits 0-23: factor, bits 24-31: offset	
	.				""	
	HGainH2Q(24)	INTE			""	
	LGainH2Q(1)	INTE			H->Q low gain, bits 0-23: factor, bits 24-31: offset	
	.				""	
	LGainH2Q(24)	INTE			""	
	TimeOff(1)	INTE			Time offset: bits 0-15: high gain, bits 16-31: low gain	
	.				""	
	TimeOff(24)	INTE			""	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
CFBOR					Calorimeter Begin of Run Bank. Note this bank comes through the FCAL link. The same bank but then the name CBBOR or CRBOR is send via the BCAL and RCAL respectively.	CCBANK
Static	ID	IMPL				
	ExperimentNo	INTE	0,*		Experiment number.	
	RunNumber	INTE	0,*		Run Number.	
	DateOfRun	INTE			Date of run (DD+100*MM+1000*YY).	
	RunStartTime	INTE			Start Time of run (SS+100*MM+10000*HH).	
	RunType	INTE			Run Type.	
	FCALBootMask	BITP			Crate boot mask for FCAL.	
	RCALBootMask	BITP			Crate boot mask for RCAL.	
	BCALBootMask	BITP			Crate boot mask for BCAL.	
	FCALReadMask	BITP			Crate read mask for RCAL.	
	RCALReadMask	BITP			Crate read mask for RCAL.	
	BCALReadMask	BITP			Crate read mask for BCAL.	
	FCALCards(1)	INTE	0,17		Number of FCAL digital cards per each crate in readout.	
	.		0,17		""	
	FCALCards(16)	INTE	0,17		""	
	RCALCards(1)	INTE	0,17		Number of RCAL digital cards per each crate in readout.	
	.		0,17		""	
	RCALCards(16)	INTE	0,17		""	
	BCALCards(1)	INTE	0,17		Number of BCAL digital cards per each crate in readout.	
	.		0,17		""	
	BCALCards(16)	INTE	0,17		""	
	FCALbanks	BITP			banks read for FCAL	
	RCALbanks	BITP			banks read for RCAL	
	BCALbanks	BITP			banks read for BCAL	
	TriggersConf	INTE	0,*		Number of Triggers per configuration requested.	
	TriggerRate	INTE	0,*		Requested Trigger Rate.	
	Connections	BITP			bit0: GFLT, bit1: GSLT, bit3: EVB , bit4: CALEC	
	Percenttocalec	INTE			percentage of events to CALEC	
	ZeroSuppress	INTE			1 for zero suppression. 0 for no zero suppression	
	LaserFilter	INTE			Laser filter setting for laser mode (0 otherwise).	
	SoleniodCur	INTE			Current in Solenoid (-1 if not available.	
	CompensaCur	INTE			Current in Conpensator (-1 if not available.)	
	CNFName(1)	CHA4			Name of the CNF file.	
	.				""	
	CNFName(5)	CHA4			""	
	LEDCNFName(1)	CHA4			Name of the LED CNF file.	
	.				""	
	LEDCNFName(5)	CHA4			""	
	DSPcodeversion	INTE			0 for old, 1 for newest	
	OperMsg(1)	CHA4			Operator message.	
	.				""	
	OperMsg(10)	CHA4			""	
	NumberOfBanks	INTE			number of banks in readout.	
	HollerIDs(1)	INTE			Hollerith IDs of the banks in the readout.	
	.				""	
	HollerIDs(120)	INTE			""	
	SCMstatus	INTE			status of Slow Control: 1=Normal, 2=Bad, 3=Very Bad, 4=Not Running, 7=Solenoid task in inactive, 8=Unknown, 9=In transition.	
	BeamTypeNegZ	INTE			e-=23, e+=24	
	BeamTypePosZ	INTE			p+=190,p-=191,d=408	
	BeamMomNegZ	INTE			Beam Momentum	
	BeamMomPosZ	INTE			Beam Momentum	
	BeamCurNegZ	INTE			Beam current	
	BeamCurPosZ	INTE			Beam current	
	TTBanks(1)	BITP			F/R/B banks read out for 6 testtriggers	
	.				""	
	TTBanks(18)	BITP			""	
	CalFLTThresh(1)	INTE			CAL FLT Threshold	
	.				""	
	CalFLTThresh(84)	INTE			""	
	CalCalibVersion	INTE			Calibration version	
	CalSLTVersion	INTE			CAL SLT constants version	
	Eventstoget	BITP			bit 0 =1: testtriggers bit 1 =1: fraction bit 2 =1: all you can	
	YokeCur	INTE			Current of Yoke (-1 if not available)	
	CalPosition	BITP			Positon of F/RCAL as reported to BBL3	
	Misc(1)	INTE			to be defined later	
	.				""	
	Misc(100)	INTE			""	
CFBRob					physics quantities per calorimeter part	CalDPhs1
	ID	SNUM				
	FCALEtot	REAL			Total energy deposited in FCAL	
	BCALEtot	REAL			Total energy deposited in BCAL	
	RCALEtot	REAL			Total energy deposited in RCAL	
	FCALTime	REAL			Average time of FCAL in seconds	
	BCALTime	REAL			Average time of BCAL in seconds	
	RCALTime	REAL			Average time of RCAL in seconds	
	FCALEemc	REAL			Total energy deposited in FCAL emc	
	FCALEhac	REAL			Total energy deposited in FCAL hac	
	BCALEemc	REAL			Total energy deposited in BCAL emc	
	BCALEhac	REAL			Total energy deposited in BCAL hac	
	RCALEemc	REAL			Total energy deposited in RCAL emc	
	RCALEhac	REAL			Total energy deposited in RCAL hac	
	NrFCal	INTE			Number of Fcal cells in Caltru	
	NrBCal	INTE			Number of Bcal cells in Caltru	
	NrRCal	INTE			Number of Rcal cells in Caltru	
CFBUNO					UNO Scale Factors for all FCAL channels	CCBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		PM number as given in ZEUS note 98-48 scheme 2.	
	UNOScaleFact	REAL			UNO scale factor	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
CFCENV					FCal crate environmental trigger information, cleared after each environmental SLT trigger.	CCBANK
Static	ID	IMPL				
	CrateId	INTE			crate identifier.	
	NoFlts	INTE			number of FLT triggers since last environmental trigger	
	NoSlts	INTE			number of positive SLTs	
	NoRows(1)	INTE			number of rows sent in the data banks	
	.				""	
	NoRows(32)	INTE			""	
	NoErrors(1)	INTE			number of detected errors	
	.				""	
	NoErrors(32)	INTE			""	
CFCOEN					FCAL cell energy, low byte only; the order of cells in this bank corresponds to the cell-number order given in the corresponding xxPMNO-bank	CCBANK
Static	ID	IMPL				
	CellEnLowBytes	BITP			Bits 0- 7: Energy cell n low X, Bits 8-15: Energy cell n high X, Bits 16-23: Energy cell n+1 low X, Bits 24-31: Energy cell n+1 high X	
CFDBOR					==>OBSOLETE; FCAL DSP constants.	CCBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number.	
	HCut	INTE			H cut value, if H is above this value, time is calculated.	
	SLECut	INTE			E cut value. if E is above this value, time gets reported to the SLT.	
	HEPoly(1)	INTE			Polynomial constants for correcting H in powers of T for non-QINJ triggers.	
	.				""	
	HEPoly(4)	INTE			""	
	HQPoly(1)	INTE			Polynomial constants for correcting H in powers of T for QINJ testtriggers.	
	.				""	
	HQPoly(4)	INTE			""	
	TEPoly(1)	INTE			Polynomial constants for turning T into time in ns/2. for non-QINJ triggers.	
	TEPoly(2)	INTE			""	
	TEPoly(3)	INTE			""	
	TQPoly(1)	INTE			Polynomial constants for turning T into time in ns/2 for QINJ testtriggers.	
	TQPoly(2)	INTE			""	
	TQPoly(3)	INTE			""	
	QToMeV	INTE			Conversion factor PC->MeV	
	DACValue	INTE			DAC setting	
	Reserved(1)	INTE			reserved for future use	
	.				""	
	Reserved(8)	INTE			""	
CFDCCN					FCAL Digital Card Control Bank Bits described from Most Significant Bits down to Least Significant Bits. More details available from ONLINE experts.	CCBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number.	
	DCFLTword	BITP			8 bits parity check (#80 is correct value, other are errors), 8 bits DC page number (0-15), 8 bits FLT bits, 8 bits FLT number	
	PCellnumber	BITP			8 bits Pipeline cell number, 24 bits bit=1:samples available	
	Readoutinfo	BITP			8 bits readout info, 24 bits bit=1:Dead or Bad channel	
	TPGinfo	BITP			8 bits Test Pulse Generator, 24 bits bit=1:low gain samples used	
CFDCPM					CFDCPM is used to get the FCAL phototube numbers for a known digital card	CDCAPM
	ID	SNUM				
	PMTnr(1)	BITP			List of PMTs (Poser number) connected to a digital card	
	.				""	
	PMTnr(24)	BITP			""	
	CFDCCN	REL			Each row in CFDCPM corresponds to a row in CFDCCN	
CFDMON					CFDMON contains monitor information produced at the DSP for FCAL	CCBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number.	
	Baseline(1)	INTE			baseline: 1 per PM	
	.				""	
	Baseline(24)	INTE			""	
	TimeAverage(1)	INTE			average time: 1 per PM	
	.				""	
	TimeAverage(24)	INTE			""	
	Counter(1)	INTE				
	Counter(2)	INTE				
	NoRcnErr(1)	INTE			reconstruction error counters, 16 bits per PM.	
	.				""	
	NoRcnErr(12)	INTE			""	
	Spare(1)	INTE			To be defined later	
	.				""	
	Spare(12)	INTE			""	

|
V

Page (1, 1)

Table		Column	Type	Range	P	Comment	Subschema
CFDUMS						FCAL Front End Card/ADC characteristics, means and r.m.s.	CCBANK
	Static	ID	IMPL				
		TpDcAdcId	BITP			Bitpattern giving the ADC: Bits 0-7 ADC No. (1-4) Bits 9-15 DC No.(1-17) Bits 16-31 Crate identifier.	
		gndDU1M	REAL				
		gndDU1S	REAL				
		VtemporVidM	REAL				
		VtemporVidS	REAL				
		VpowerM	REAL				
		VpowerS	REAL				
		VprecM	REAL				
		VprecS	REAL				
		DU0M	REAL				
		DU0S	REAL				
		DU1M	REAL				
		DU1S	REAL				
		DU2M	REAL				
		DU2S	REAL				
		DU3M	REAL				
		DU3S	REAL				
		DU4M	REAL				
		DU4S	REAL				
		DU5M	REAL				
		DU5S	REAL				
		muxVrM	REAL				
		muxVrS	REAL				
		gndDU2M	REAL				
		gndDU2S	REAL				
CFENER						==>OBSOLETE; CFENER contains signals from FCAL after DSP processing and zero suppression in 2TP system key only relevant in offline context	CCBANK
	Static	ID	IMPL				
		CellNr	INTE	0,*		Cell number as given in ZEUS Note 89-48, scheme 2	
		ELeft	INTE			Least significant 24 bits contain energy recorded in left PM.	
		ERight	INTE			Least significant 24 bits contain energy recorded in right PM.	
		TLeft	INTE			bit pattern containing time and tail info of left PM as delivered by DSP.	
		TRight	INTE			bit pattern containing time and tail info of right PM as delivered by DSP.	
CFEOR						FCAL End of Run Bank.	CCBANK
	Static	ID	IMPL				
		TotalEvents	INTE			Number of events in this run.	
		RunEndDate	INTE			Run end date (DD+100*MM+1000*YYYY).	
		RunEndTime	INTE			End time of run (SS+100*MM+10000*HH).	
		IntLum	INTE			Integrated Luminosity	
		RunEndCond	INTE			End of run condition.	
		EndMsg(1)	CHA4			End of run message.	
		.				""	
		EndMsg(10)	CHA4			""	
CFHSA6						==>OBSOLETE; CFHSA6 contains samples info per PM after DSP processing for those PMs which were not successfully processed in DSP energy determination. Only the first six high gain samples are read. FCAL signals only.	CCBANK
	Static	ID	IMPL				
		PMNr	INTE	0,*		PM number as given in ZEUS note 89-48 scheme 2.	
		HighSam1Sam0	INTE			8 bits unused, 12 bits sample 1, 12 bits sample 0, high gain.	
		HighSam3Sam2	INTE			8 bits unused, 12 bits sample 3, 12 bits sample 2, high gain.	
		HighSam5Sam4	INTE			8 bits unused, 12 bits sample 5, 12 bits sample 4, high gain.	
CFPBOR						==>OBSOLETE; FCAL photomultiplier readout constants.	CCBANK
	Static	ID	IMPL				
		PMNr	INTE	0,*		Calorimeter photomultiplier number as given in ZEUS Note 89-48, scheme 2	
		HardwareNr	BITP			hardware number	
		ChanCtrl	BITP			channel control word	
		HGainH2Q	INTE			conversion H->Q for high gain	
		LGainH2Q	INTE			conversion H->Q for low gain	
		HGainTOff	INTE			time offset for high gain	
		LGainTOff	INTE			time offset for low gain	
		UNOScaleFact	REAL			UNO scale factor	
		MinTime	INTE			min. allowed reconstr. time	
		MaxTime	INTE			max. allowed reconstr. time	
		MinBLineShft	INTE			min. allowed baseline shift	
		MaxBLineShft	INTE			max. allowed baseline shift	
		LinConst(1)	INTE			linearity correction constant	
		.				""	
		LinConst(4)	INTE			""	
CFPCHI						FCAL Pipeline cell hit histogram for each DSP.	CCBANK
	Static	ID	IMPL				
		TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number.	
		PCellCnt(1)	INTE			pipeline cell hit histogram.	
		.				""	
		PCellCnt(58)	INTE			""	
CFPDMS						CFPDMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for LED testtriggers for FCAL.	CCBANK
	Static	ID	IMPL				
		PMNr	INTE	0,*		Calorimeter photomultiplier number as given in ZEUS Note 89-48, scheme 2	
		EMean	REAL			Mean of all energy values.	
		ERMS	REAL			R.M.S. of energy values.	
		TMean	REAL			Mean of all time values.	
		TRMS	REAL			R.M.S. of time values.	
		NoRecoErr	INTE			number of reconstruction errors	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
CFPECO					Forward Calorimeter Cell energy. If the energy in both PMs is less than some cut value and bigger than some other cut value the energy of both PMs is packed together with the cell number into this word. Bit 8 of each energy byte is set if negative energy. Cell number see ZEUS Note 89-48, scheme 2.	CCBANK
Static	ID	IMPL				
	CellEAndNr	BITP			Bits 0-15: Cell number, Bits 16-23: E low X PM, Bits 24-31: E high X PM.	
CFPLMS					CFPLMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for LASER testtriggers for FCAL.	CCBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		Calorimeter photomultiplier number as given in ZEUS Note 89-48, scheme 2	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
	NoRecoErr	INTE			number of reconstruction errors	
CFPMDC					CFPMDC is used to access digital card information using a known FCAL phototube number	CDCAPM
	ID	SNUM				
	PMTnr	BITP			PMT (Poser) number	
	DCBitnr	INTE	1,24		bit number on digital card	
	CFDCCN	REL			Every phototube in FCAL is connected to a digital card	
CFPMNO					FCAL cell numbers, as given in ZEUS Note 89-48, scheme 2; the order of Cell-numbers in this bank corresponds to the order of the entries of energy low-bytes in the corresponding xxCOEN-bank; NB: there may be entries with zero value	CCBANK
Static	ID	IMPL				
	CellNrs	BITP			Bits 0-15: Number of cell n, Bits 16-31: Number of cell n+1	
CFPPMS					CFPPMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for PED testtriggers for FCAL.	CCBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		Calorimeter photomultiplier number as given in ZEUS Note 89-48, scheme 2	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
	NoRecoErr	INTE			number of reconstruction errors	
CFPQMS					CFPQMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for QINJ testtriggers for FCAL.	CCBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		Calorimeter photomultiplier number as given in ZEUS Note 89-48, scheme 2	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
	NoRecoErr	INTE			number of reconstruction errors	
CFSAM8					==>OBSOLETE; CFSAM8 contains samples info per PM after DSP processing for those PMs which were not successfully processed in DSP energy determination. FCAL signals only.	CCBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		PM number as given in ZEUS note 89-48 scheme 2.	
	HighSam1Sam0	INTE			8 bits unused, 12 bits sample 1, 12 bits sample 0, high gain.	
	HighSam3Sam2	INTE			8 bits unused, 12 bits sample 3, 12 bits sample 2, high gain.	
	HighSam5Sam4	INTE			8 bits unused, 12 bits sample 5, 12 bits sample 4, high gain.	
	HighSam7Sam6	INTE			8 bits unused, 12 bits sample 7, 12 bits sample 6, high gain.	
	LowSam1Sam0	INTE			8 bits unused, 12 bits sample 1, 12 bits sample 0, low gain.	
	LowSam3Sam2	INTE			8 bits unused, 12 bits sample 3, 12 bits sample 2, low gain.	
	LowSam5Sam4	INTE			8 bits unused, 12 bits sample 5, 12 bits sample 4, low gain.	
	LowSam7Sam6	INTE			8 bits unused, 12 bits sample 7, 12 bits sample 6, low gain.	

|
V

Page (1, 1)

Table		Column	Type	Range	P	Comment	Subschema
CFSLCT						==>OBSOLETE; FCAL constants used in CAL SLT calculations	CCBANK
	Static	ID	IMPL				
		TPID	BITP			transputer ID defining CAL SLT region	
		Scale	INTE			cut scaling factor	
		ecute	INTE			Electron energy cut	
		ecutj	INTE			Jet/hadron energy cut	
		ecutce	INTE			EMC cell energy cut	
		ecutch	INTE			HAC cell energy cut	
		ecutpje	INTE			EMC precluster energy cut	
		ecutpjh	INTE			HAC precluster energy cut	
		rfact	INTE			hadron cluster radius multiplier	
		rofs	INTE			hadron cluster rad offset	
		radem	INTE			minimum radius EMC cluster	
		emuemclow	INTE			Low energy muon cut for EMC	
		emuemchigh	INTE			High energy muon cut for EMC	
		emuhaclow	INTE			Low energy muon cut for HAC	
		emuhachigh	INTE			High energy muon cut for HAC	
		Rmulow	INTE			Low ratio cut for muon	
		Rmuhigh	INTE			High ratio cut for muon	
		Nmulow	INTE			Low cell count for muons	
		Nmuhigh	INTE			High cell count for muons	
		Emulti	INTE			Energy multiplier	
		Ediv	INTE			Energy divider	
		rdist	INTE			CAL distance to Z-plane or r-cylinder	
CFSYNC	Static	ID	IMPL			Used by EVB to validate FCLR synchronisation.	CCBANK
		gflt	INTE			GFLT number	
		gslt	INTE			GSLT number	
		bcn	INTE			Bunch crossing number	
		rot	INTE			Readout type	
CFTBAD	Static	ID	IMPL			==>OBSOLETE; Trigger bad channel list for the CAL	CCBANK
		Channelcontrol	BITP			bad channel error code	
		PMNr	INTE	0,*		PM number as given in ZEUS note 89-48 scheme 2.	
		Hardwarenumber	BITP			hardware number	
CFTCNT	Static	ID	IMPL			FCAL event counters.	CCBANK
		CrateId	INTE			crate identifier.	
		TotNoEvents	INTE			total no. of events.	
		TotNoPhyTrig	INTE			total no. of physics triggers.	
		TotNoQINTrig	INTE			total no. of QINJ triggers.	
		TotNoPEDTrig	INTE			total no. of PED triggers.	
		TotNoUNOTrig	INTE			total no. of UNO triggers.	
		TotNoLEDTrig	INTE			total no. of LED triggers.	
		TotNoLASTrig	INTE			total no. of LASER triggers.	
		Reserved(1)	INTE			reserved for future use.	
		.				""	
		Reserved(64)	INTE			""	
CFTENE						CFTENE contains signals from FCAL after DSP processing and zero suppression in 2TP system.	CCBANK
	Static	ID	IMPL				
		CellNr	INTE	0,*		Calorimeter cell number as given in ZEUS Note 89-48, scheme 2	
		ETlow	BITP			Least significant 24 bits contain energy recorded in low X PM. Most significant 8 bits contain time.	
		EThigh	BITP			Least significant 24 bits contain energy recorded in high X PM. Most significant 8 bits contain time.	
CFTIL1						FCAL second level trigger processing time on layer1 of the trigger network. Time in microseconds.	CCBANK
	Static	ID	IMPL				
		TPID	BITP			transputer identifier	
		NoTriggers	INTE			number of physics triggers accumulated in this timingsums	
		CheckTime	INTE			total time spent in checking the input data	
		CheckSq	REAL			total squared time spent in checking the input data	
		HacTime	INTE			total time spent in Hac scan	
		HacSq	REAL			total squared time spent in Hac scan	
		HacPerClusTime	INTE			total time per cluster spent in Hac scan	
		HacPerClusSq	REAL			total squared time per cluster spent in Hac scan	
		EmcTime	INTE			total time spent in Emc scan	
		EmcSq	REAL			total squared time spent in Emc scan	
		EmcPerClusTime	INTE			total time per cluster spent in Emc scan	
		EmcPerClusSq	REAL			total squared time per cluster spent in Emc scan	
		MergeTime	INTE			total time spent in merging	
		MergeSq	REAL			total squared time spent in merging	
		MergePerClusTime	INTE			total time per cluster spent in merging	
		MergePerClusSq	REAL			total squared time per cluster spent in merging	
		LocCutTime	INTE			total time spent in precluster cut	
		LocCutSq	REAL			total squared time spent in percluster cut	
		LocCutPerClusTim	INTE			total time per cluster spent in precluster cut	
		LocCutPerClusSq	REAL			total squared time per cluster spent in precluster cut	
		TimeAlgoTime	INTE			total time spent in timing algorithm	
		TimeAlgoSq	REAL			total squared time spent in timing algorithm	
		InpBufHisto(1)	INTE			Input Buffer usage histogram	
		.				""	
		InpBufHisto(16)	INTE			""	
		OutBufHisto(1)	INTE			Output Buffer usage histogram	
		.				""	
		OutBufHisto(16)	INTE			""	
		Reserv(1)	INTE			Reserved for future use.	
		.				""	
		Reserv(8)	INTE			""	
CFTTCA						CFLT TEC pedestal correction, details available from CAL-FLT experts	CCBANK
	Static	ID	IMPL				
		TecId	BITP			TEC identifier	
		TecPedCalib	INTE			TEC pedestal correction	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
CFUM					FCAL Front End Card/ADC characteristics.	CCBANK
Static	ID	IMPL				
	TpDcAdcId	BITP			Bitpattern giving the ADC: Bits 0-7 ADC No. (1-4) Bits 9-15 DC No.(1-17) Bits 16-31 Crate identifier.	
	gndDU1	INTE				
	VtemporVid	INTE				
	Vpower	INTE				
	Vprec	INTE				
	DU0	INTE				
	DU1	INTE				
	DU2	INTE				
	DU3	INTE				
	DU4	INTE				
	DU5	INTE				
	muxVr	INTE				
	gndDU2	INTE				
CFUN					==>OBSOLETE; FCAL Front End Card/ADC characteristics.	CCBANK
Static	ID	IMPL				
	gndDU1	INTE				
	VtemporVid	INTE				
	Vpower	INTE				
	Vprec	INTE				
	DU0	INTE				
	DU1	INTE				
	DU2	INTE				
	DU3	INTE				
	DU4	INTE				
	DU5	INTE				
	muxVr	INTE				
	gndDU2	INTE				
CFVCAL					contains the ADC->Volt conversion recalculated during a UNO M&S run	CCBANK
Static	ID	IMPL				
	TpDcAdcId	BITP			Adc identifier	
	NewAdcToVolt	REAL			New ADC->Volt conversion	
	DelAdcToVolt	REAL			New - Old ADC->Volt conversion	
CFXOR					FCAL Crate digital monitoring information. Details available from CAL ONLINE experts.	CCBANK
Static	ID	IMPL				
	TPId	INTE			Crate identifier.	
	CFDCCNRows	INTE			Number of rows in CFDCCN bank.	
	CFTENERows	INTE			Number of rows in CFTENE bank.	
	CFPECORows	INTE			Number of rows in CFPECO bank.	
	CF8SAMRows	INTE			Number of rows in CF8SAM bank.	
	CF6SAMRows	INTE			Number of rows in CF6SAM bank.	
	ChkWord	BITP			Checksum word.	
	Reserved	INTE			Reserved word.	
CHist					Table to record processing options	CcPhs2
	ID	SNUM				
	CCVersion	INTE			CCRECON version of processed data	
	UNOCal	LOGI			UNO calibration of data (T/F)	
	TimeCal	LOGI			time (hardware) calibrations (T/F)	
	C5Cor	LOGI			C5 corrections on CTIME2	
	Vtx	CHA8			Vertex used in phase2	
CL2VTX					Keeping track of the vertex used in the phase2 calorimeter reconstruction	CcPhs2
	ID	SNUM				
	X	REAL			X position of the VTX used	
	Y	REAL			Y, ditto for Y	
	Z	REAL			Z, ditto for Z	
	Which	CHA8			which vertex was used	
	CR2obj	REL			Relation between CR2obj and the vertex used to obtain the results therein	
CMDICO					Just to have the table there!	CMGEOM
	ID	SNUM				
	Word1	REAL			PlaceHolder for now! NMcC 30Aug92	
CMDIV						CMGEOM
	ID	SNUM				
	mother	CHA4			Name of the mother volume	
	step	REAL	-0.100E+05,0....		Division step	
	axis	INTE	1,3		Axis division	
	ndiv	INTE	1,9999		Number of divisions	
CMPARA						CMGEOM
	ID	SNUM				
	par	REAL	0.0,0.100E+05		A parameter defining a volume	
	of	GEN			A parameter is of a volume or a position	
	of_	REL			""	
CMPOS						CMGEOM
	ID	SNUM				
	nr	INTE	1,9999		Serial number	
	mother	CHA4			Name of the mother volume	
	x	REAL	-0.100E+06,0....		X linear dimension	
	y	REAL	-0.100E+06,0....		Y linear dimension	
	z	REAL	-0.100E+06,0....		Z linear dimension	
	konly	CHA4	MANY,MANY ONLY,ONLY		If MANY,a point in this volume may be in another	
	Detector	REL		P	each sensible volume positioned is related to some digitization parameter	
	rotm	REL			each positioned volume is related to a rotation matrix	
	volu	REL			A position belongs to a volume	
CMRJCT						CMGEOM
	ID	SNUM				
	config	INTE	0,9999		Selects configuration	
	of	GEN			Rejected volumes and positions	
	of_	REL			""	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
CMSDET						CMGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	type	INTE	1,9999		detector type	
	nwhi	INTE	1,9999		Numb. words primary alloc. HITS	
	nwdi	INTE	1,9999		Numb. words DIGI when primary not suff.	
CMSDTA						CMGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nwhi	INTE	1,9999		Initial HITS allocation	
	nwdi	INTE	1,9999		Increment of DIGI allocation	
	sdet	REL			Some detectors give more than one type signals	
CMSDTD						CMGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	of	GEN			Sensible detectors and aliases digitizations	
	of_	REL			""	
CMSDTH						CMGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	orig	REAL			to define the hit elem. positive	
	fact	REAL			IVAR= VAR + ORIG*FACT	
	of	GEN			each detec. element needs the parameter definition	
	of_	REL			""	
CMSDTU						CMGEOM
	ID	SNUM				
	upar	REAL			User parameter	
	of	GEN			User parameters for sensible detectors and aliases	
	of_	REL			""	
CMSDTV						CMGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	sdet	REL			Physical detectors for the master detector identifier	
CMVOLU						CMGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	shape	CHA4	BOX,BOX TRD1,TRD1 TRD2,TRD2 TRAP,TRAP TUBE,TUBE TUBS,TUBS CONE,CONE CONS,CONS SPHE,SPHE PARA,PARA PGON,PGON PCON,PCON GTRA,GTRA		Shape of the volume	
	div	REL		P	some volumes may be subdived	
	sdet	REL		P	some volumes may be also active detectors	
	tmed	REL			Volume tracking medium number	
COACal					Calibration constants from DUNO measurements	CalDPhs1
	ID	SNUM				
	CPMnr	BITP			PM number	
	Cvalue	REAL	0.0,*		calibration constant	
	Cerror	INTE			error status of PMT	
CP2Lin					Intermediate table for many-to-many relation between CuPaOb and CConSa.	CcPhs2
	ID	SNUM				
	CConSa	REL			1st leg of many-to-many relationship CConSa/CuPaOb, the condensates of phase 1 can be merged or split to form the condensates of phase 2	
	CuPaOb	REL			2nd leg of many-to-many relationship CConSa/CuPaOb, the condensates of phase 1 can be merged or split to form the condensates of phase 2	
CPsPar					Pseudo particle is formed by cell combinations	JadeAlgo
	ID	SNUM				
	Type	CHA4	EMC,EMC MIX,MIX HAC,HAC		Resulting cluster type	
	E	REAL			Energy of pseudo particle	
	Px	REAL			Momentum x-component	
	Py	REAL			Momentum y-component	
	Pz	REAL			Momentum z-component	
CR1obj					physics quantities reconstructed in calorimeter reconstruction phase 1	CalDPhs1
	ID	SNUM				
	Ex	REAL			energy flow along x axis	
	Ey	REAL			energy flow along y axis	
	SumE	REAL	0.0,*		total -scalar- energy sum	
	Et	REAL			transverse energy	
	Etmiss	REAL			missing transverse energy	
	El	REAL			energy flow along z axis	
	Plmin	REAL			pl of all cells rearward from the IP	
	Eminuspz	REAL			Energy minus pz (=El)	
	Algorithm	CHA8			cluster algorithm used	
	NrCell	INTE			number of calorimeter cells hit	
	NrCnds	INTE			number of condensates found	
	NrClus	INTE			number of clusters found	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
CR2BEC					BOR Electronics Calibration Data, contains calibration data which changes rather frequently.	LEBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number	
	HGainH2Q(1)	INTE			H->Q high gain, bits 0-23: factor, bits 24-31: offset	
	.				""	
	HGainH2Q(24)	INTE			""	
	LGainH2Q(1)	INTE			H->Q low gain, bits 0-23: factor, bits 24-31: offset	
	.				""	
	LGainH2Q(24)	INTE			""	
	TimeOff(1)	INTE			Time offset: bits 0-15: high gain, bits 16-31: low gain	
	.				""	
	TimeOff(24)	INTE			""	
CR2DMS					CR2DMS contains for each LED monitor the mean and r.m.s. of the energy and time reconstructed by the DSP for LED testtriggers.	LEBANK
Static	ID	IMPL				
	MonitorNr	INTE	0,*		LASER/LED Monitor Nr	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
	NoRecoErr	INTE			number of reconstruction errors	
CR2LMS					CR2LMS contains for each LED monitor the mean and r.m.s. of the energy and time reconstructed by the DSP for LASER testtriggers.	LEBANK
Static	ID	IMPL				
	MonitorNr	INTE	0,*		LASER/LED Monitor Nr	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
	NoRecoErr	INTE			number of reconstruction errors	
CR2PMS					CR2PMS contains for each LED monitor the mean and r.m.s. of the energy and time reconstructed by the DSP for PED testtriggers.	LEBANK
Static	ID	IMPL				
	MonitorNr	INTE	0,*		LASER/LED Monitor Nr	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
	NoRecoErr	INTE			number of reconstruction errors	
CR2QMS					CR2QMS contains for each LED monitor the mean and r.m.s. of the energy and time reconstructed by the DSP for QINJ testtriggers.	LEBANK
Static	ID	IMPL				
	MonitorNr	INTE	0,*		LASER/LED Monitor Nr	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
	NoRecoErr	INTE			number of reconstruction errors	
CR2UMS					LED Monitor Front End Card/ADC characteristics, means and r.m.s.	LEBANK
Static	ID	IMPL				
	TpDcAdcId	BITP			Bitpattern giving the ADC: Bits 0-7 ADC No. (1-4) Bits 9-15 DC No.(1-17) Bits 16-31 Crate identifier.	
	gndDU1M	REAL				
	gndDU1S	REAL				
	VtemporVidM	REAL				
	VtemporVidS	REAL				
	VpowerM	REAL				
	VpowerS	REAL				
	VprecM	REAL				
	VprecS	REAL				
	DU0M	REAL				
	DU0S	REAL				
	DU1M	REAL				
	DU1S	REAL				
	DU2M	REAL				
	DU2S	REAL				
	DU3M	REAL				
	DU3S	REAL				
	DU4M	REAL				
	DU4S	REAL				
	DU5M	REAL				
	DU5S	REAL				
	muxVrM	REAL				
	muxVrS	REAL				
	gndDU2M	REAL				
	gndDU2S	REAL				
CR2obj					physics quantities reconstructed in calorimeter reconstruction phase 2	CcPhs2
	ID	SNUM				
	Ex	REAL			energy flow along x axis	
	Ey	REAL			energy flow along y axis	
	SumE	REAL	0.0,*		total -scalar- energy sum	
	Et	REAL			transverse energy	
	Etmiss	REAL			missing transverse energy	
	El	REAL			energy flow along z axis	
	Plmin	REAL			pl of all cells rearward from the IP	
	Eminuspz	REAL			Energy minus pz (=El)	
	Algorithm	CHA8			cluster algorithm used	
	NrCell	INTE			number of calorimeter cells hit	
	NrCnds	INTE			number of condensates found	
	NrClus	INTE			number of clusters found	

|
V

Page (1, 1)

Table		Column	Type	Range	P	Comment	Subschema
CR4LMS						LASER CAMAC readout: lecroy 2249 ADC/ lecroy 2228 TDC, Means and R.M.S. for all triggers for which the CAMAC could be read out successfully	TDBANK
	Static	ID	IMPL				
		NoTriggers	INTE			Number of triggers processed	
		LMONMean(1)	REAL			Mean for PMT monitor 1-12	
		.				""	
		LMONMean(12)	REAL			""	
		LMONRMS(1)	REAL			R.M.S. for PMT monitor 1-12	
		.				""	
		LMONRMS(12)	REAL			""	
		LTDCMean(1)	REAL			Mean for time monitor 1-8	
		.				""	
		LTDCMean(8)	REAL			""	
		LTDCRMS(1)	REAL			R.M.S. for time monitor 1-8	
		.				""	
		LTDCRMS(8)	REAL			""	
CR6SAM						CR6SAM contains samples info per PM after DSP processing for those PMs which were not successfully processed in DSP energy determination. The samples are the CORRECTED samples. RCAL signals only.	CCBANK
	Static	ID	IMPL				
		PMNr	INTE	0,*		PM number as given in ZEUS note 89-48 scheme 2.	
		HighSam1Sam0	INTE			16 bits sample 1, 16 bits sample 0, high gain.	
		HighSam3Sam2	INTE			16 bits sample 3, 16 bits sample 2, high gain.	
		HighSam5Sam4	INTE			16 bits sample 5, 16 bits sample 4, high gain.	
		LowSam1Sam0	INTE			16 bits sample 1, 16 bits sample 0, low gain.	
		LowSam3Sam2	INTE			16 bits sample 3, 16 bits sample 2, low gain.	
		LowSam5Sam4	INTE			16 bits sample 5, 16 bits sample 4, low gain.	
CR8SAM						CR8SAM contains samples info per PM after DSP processing for those PMs which were not successfully processed in DSP energy determination. The samples are the CORRECTED samples. RCAL signals only.	CCBANK
	Static	ID	IMPL				
		PMNr	INTE	0,*		PM number as given in ZEUS note 89-48 scheme 2.	
		HighSam1Sam0	INTE			16 bits sample 1, 16 bits sample 0, high gain.	
		HighSam3Sam2	INTE			16 bits sample 3, 16 bits sample 2, high gain.	
		HighSam5Sam4	INTE			16 bits sample 5, 16 bits sample 4, high gain.	
		HighSam7Sam6	INTE			16 bits sample 7, 16 bits sample 6, high gain.	
		LowSam1Sam0	INTE			16 bits sample 1, 16 bits sample 0, low gain.	
		LowSam3Sam2	INTE			16 bits sample 3, 16 bits sample 2, low gain.	
		LowSam5Sam4	INTE			16 bits sample 5, 16 bits sample 4, low gain.	
		LowSam7Sam6	INTE			16 bits sample 7, 16 bits sample 6, low gain.	
CRBAD						Bad channel list for the RCAL	CCBANK
	Static	ID	IMPL				
		Channelcontrol	BITP			bad channel error code	
		PMNr	INTE	0,*		PM number as given in ZEUS note 89-48 scheme 2.	
		Hardwarenumber	BITP			hardware number	
CRBECA						BOR Electronics Calibration Data, contains calibration data which changes rather frequently.	CCBANK
	Static	ID	IMPL				
		TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number	
		HGainH2Q(1)	INTE			H->Q high gain, bits 0-23: factor, bits 24-31: offset	
		.				""	
		HGainH2Q(24)	INTE			""	
		LGainH2Q(1)	INTE			H->Q low gain, bits 0-23: factor, bits 24-31: offset	
		.				""	
		LGainH2Q(24)	INTE			""	
		TimeOff(1)	INTE			Time offset: bits 0-15: high gain, bits 16-31: low gain	
		.				""	
		TimeOff(24)	INTE			""	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
CRBOR					Calorimeter Begin of Run Bank. Note this bank comes through the RCAL link. The same bank but then the name CBBOR or CFBOR is send via the BCAL and FCAL respectively.	CCBANK
Static	ID	IMPL				
	ExperimentNo	INTE	0,*		Experiment number.	
	RunNumber	INTE	0,*		Run Number.	
	DateOfRun	INTE			Date of run (DD+100*MM+1000*YY).	
	RunStartTime	INTE			Start Time of run (SS+100*MM+10000*HH).	
	RunType	INTE			Run Type.	
	FCALBootMask	BITP			Crate boot mask for FCAL.	
	RCALBootMask	BITP			Crate boot mask for RCAL.	
	BCALBootMask	BITP			Crate boot mask for BCAL.	
	FCALReadMask	BITP			Crate read mask for RCAL.	
	RCALReadMask	BITP			Crate read mask for RCAL.	
	BCALReadMask	BITP			Crate read mask for BCAL.	
	FCALCards(1)	INTE	0,17		Number of FCAL digital cards per each crate in readout.	
	.		0,17		""	
	FCALCards(16)	INTE	0,17		""	
	RCALCards(1)	INTE	0,17		Number of RCAL digital cards per each crate in readout.	
	.		0,17		""	
	RCALCards(16)	INTE	0,17		""	
	BCALCards(1)	INTE	0,17		Number of BCAL digital cards per each crate in readout.	
	.		0,17		""	
	BCALCards(16)	INTE	0,17		""	
	FCALbanks	BITP			banks read for FCAL	
	RCALbanks	BITP			banks read for RCAL	
	BCALbanks	BITP			banks read for BCAL	
	TriggersConf	INTE	0,*		Number of Triggers per configuration requested.	
	TriggerRate	INTE	0,*		Requested Trigger Rate.	
	Connections	BITP			bit0: GFLT, bit1: GSLT, bit3: EVB , bit4: CALEC	
	Percenttocalec	INTE			percentage of events to CALEC	
	ZeroSuppress	INTE			1 for zero suppression. 0 for no zero suppression	
	LaserFilter	INTE			Laser filter setting for laser mode (0 otherwise).	
	SoleniodCur	INTE			Current in Solenoid (-1 if not available.	
	CompensaCur	INTE			Current in Conpensator (-1 if not available.)	
	CNFName(1)	CHA4			Name of the CNF file.	
	.				""	
	CNFName(5)	CHA4			""	
	LEDCNFName(1)	CHA4			Name of the LED CNF file.	
	.				""	
	LEDCNFName(5)	CHA4			""	
	DSPcodeversion	INTE			0 for old, 1 for newest	
	OperMsg(1)	CHA4			Operator message.	
	.				""	
	OperMsg(10)	CHA4			""	
	NumberOfBanks	INTE			number of banks in readout.	
	HollerIDs(1)	INTE			Hollerith IDs of the banks in the readout.	
	.				""	
	HollerIDs(120)	INTE			""	
	SCMstatus	INTE			status of Slow Control: 1=Normal, 2=Bad, 3=Very Bad, 4=Not Running, 7=Solenoid task in inactive, 8=Unknown, 9=In transition.	
	BeamTypeNegZ	INTE			e-=23, e+=24	
	BeamTypePosZ	INTE			p+=190,p-=191,d=408	
	BeamMomNegZ	INTE			Beam Momentum	
	BeamMomPosZ	INTE			Beam Momentum	
	BeamCurNegZ	INTE			Beam current	
	BeamCurPosZ	INTE			Beam current	
	TTBanks(1)	BITP			F/R/B banks read out for 6 testtriggers	
	.				""	
	TTBanks(18)	BITP			""	
	CalFLTThresh(1)	INTE			CAL FLT Threshold	
	.				""	
	CalFLTThresh(84)	INTE			""	
	CalCalibVersion	INTE			Calibration version	
	CalSLTVersion	INTE			CAL SLT constants version	
	Eventstoget	BITP			bit 0 =1: testtriggers bit 1 =1: fraction bit 2 =1: all you can	
	YokeCur	INTE			Current of Yoke (-1 if not available)	
	CalPosition	BITP			Positon of F/RCAL as reported to BBL3	
	Misc(1)	INTE			to be defined later	
	.				""	
	Misc(100)	INTE			""	
CRBUNO					UNO Scale Factors for all RCAL channels	CCBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		PM number as given in ZEUS note 98-48 scheme 2.	
	UNOScaleFact	REAL			UNO scale factor	
CRCENV					RCal crate environmental trigger information, cleared after each environmental SLT trigger.	CCBANK
Static	ID	IMPL				
	CrateId	INTE			crate identifier.	
	NoFlts	INTE			number of FLT triggers since last environmental trigger	
	NoSlts	INTE			number of positive SLTs	
	NoRows(1)	INTE			number of rows sent in the data banks	
	.				""	
	NoRows(32)	INTE			""	
	NoErrors(1)	INTE			number of detected errors	
	.				""	
	NoErrors(32)	INTE			""	
CRCOEN					RCAL cell energy, low byte only; the order of cells in this bank corresponds to the cell-number order given in the corresponding xxPMNO-bank	CCBANK
Static	ID	IMPL				
	CellEnLowBytes	BITP			Bits 0- 7: Energy cell n low X, Bits 8-15: Energy cell n high X, Bits 16-23: Energy cell n+1 low X, Bits 24-31: Energy cell n+1 high X	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
CRDBOR					==>OBSOLETE; RCAL DSP constants.	CCBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number.	
	HCut	INTE			H cut value, if H is above this value, time is calculated.	
	SLECut	INTE			E cut value. if E is above this value, time gets reported to the SLT.	
	HEPoly(1)	INTE			Polynomial constants for correcting H in powers of T for non-QINJ triggers.	
	.				""	
	HEPoly(4)	INTE			""	
	HQPoly(1)	INTE			Polynomial constants for correcting H in powers of T for QINJ testtriggers.	
	.				""	
	HQPoly(4)	INTE			""	
	TEPoly(1)	INTE			Polynomial constants for turning T into time in ns/2. for non-QINJ triggers.	
	TEPoly(2)	INTE			""	
	TEPoly(3)	INTE			""	
	TQPoly(1)	INTE			Polynomial constants for turning T into time in ns/2 for QINJ testtriggers.	
	TQPoly(2)	INTE			""	
	TQPoly(3)	INTE			""	
	QToMeV	INTE			Conversion factor PC->MeV	
	DACValue	INTE			DAC setting	
	Reserved(1)	INTE			reserved for future use	
	.				""	
	Reserved(8)	INTE			""	
CRDCCN					RCAL Digital Card Control Bank. Bits described from Most Significant Bits down to Least Significant Bits. More details available from ONLINE experts.	CCBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number.	
	DCFLTword	BITP			8 bits parity check (#80 is correct value, other are errors), 8 bits DC page number (0-15), 8 bits FLT bits, 8 bits FLT number	
	PCellnumber	BITP			8 bits Pipeline cell number, 24 bits bit=1:samples available	
	Readoutinfo	BITP			8 bits readout info, 24 bits bit=1:Dead or Bad channel	
	TPGinfo	BITP			8 bits Test Pulse Generator, 24 bits bit=1:low gain samples used	
CRDCPM					CRDCPM is used to get the RCAL phototube numbers for a known digital card	CDCAPM
	ID	SNUM				
	PMTnr(1)	BITP			List of PMTs (Poser number) connected to a digital card	
	.				""	
	PMTnr(24)	BITP			""	
	CRDCCN	REL			Each row in CRDCPM corresponds to a row in CRDCCN	
CRDMON					CRDMON contains monitor information produced at the DSP for RCAL	CCBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number.	
	Baseline(1)	INTE			baseline: 1 per PM	
	.				""	
	Baseline(24)	INTE			""	
	TimeAverage(1)	INTE			average time: 1 per PM	
	.				""	
	TimeAverage(24)	INTE			""	
	Counter(1)	INTE				
	Counter(2)	INTE				
	NoRcnErr(1)	INTE			reconstruction error counters, 16 bits per PM.	
	.				""	
	NoRcnErr(12)	INTE			""	
	Spare(1)	INTE			To be defined later	
	.				""	
	Spare(12)	INTE			""	
CRDUMS					RCAL Front End Card/ADC characteristics, means and r.m.s.	CCBANK
Static	ID	IMPL				
	TpDcAdcId	BITP			Bitpattern giving the ADC: Bits 0-7 ADC No. (1-4) Bits 9-15 DC No.(1-17) Bits 16-31 Crate identifier.	
	gndDU1M	REAL				
	gndDU1S	REAL				
	VtemporVidM	REAL				
	VtemporVidS	REAL				
	VpowerM	REAL				
	VpowerS	REAL				
	VprecM	REAL				
	VprecS	REAL				
	DU0M	REAL				
	DU0S	REAL				
	DU1M	REAL				
	DU1S	REAL				
	DU2M	REAL				
	DU2S	REAL				
	DU3M	REAL				
	DU3S	REAL				
	DU4M	REAL				
	DU4S	REAL				
	DU5M	REAL				
	DU5S	REAL				
	muxVrM	REAL				
	muxVrS	REAL				
	gndDU2M	REAL				
	gndDU2S	REAL				

Page (1, 1)

Table		Column	Type	Range	P	Comment	Subschema
CRENER						==>OBSOLETE; CRENER contains signals from RCAL after DSP processing and zero suppression in 2TP system key only relevant in offline context	CCBANK
	Static	ID	IMPL				
		CellNr	INTE	0,*		Cell number as given in ZEUS Note 89-48, scheme 2	
		ELeft	INTE			Least significant 24 bits contain energy recorded in left PM.	
		ERight	INTE			Least significant 24 bits contain energy recorded in right PM.	
		TLeft	INTE			bit pattern containing time and tail info of left PM as delivered by DSP.	
		TRight	INTE			bit pattern containing time and tail info of right PM as delivered by DSP.	
CREOR						RCAL End of Run Bank.	CCBANK
	Static	ID	IMPL				
		TotalEvents	INTE			Number of events in this run.	
		RunEndDate	INTE			Run end date (DD+100*MM+1000*YYYY).	
		RunEndTime	INTE			End time of run (SS+100*MM+10000*HH).	
		IntLum	INTE			Integrated Luminosity	
		RunEndCond	INTE			End of run condition.	
		EndMsg(1)	CHA4			End of run message.	
		.				""	
		EndMsg(10)	CHA4			""	
CRHSA6						==>OBSOLETE; CRHSA6 contains samples info per PM after DSP processing for those PMs which were not successfully processed in DSP energy determination. Only the first six high gain samples are read. RCAL signals only.	CCBANK
	Static	ID	IMPL				
		PMNr	INTE	0,*		PM number as given in ZEUS note 89-48 scheme 2.	
		HighSam1Sam0	INTE			8 bits unused, 12 bits sample 1, 12 bits sample 0, high gain.	
		HighSam3Sam2	INTE			8 bits unused, 12 bits sample 3, 12 bits sample 2, high gain.	
		HighSam5Sam4	INTE			8 bits unused, 12 bits sample 5, 12 bits sample 4, high gain.	
CRL1DC						LED crate Digital Card Control Bank. Bits described from Most Significant Bits down to Least Significant Bits. More details available from ONLINE experts.	LEBANK
	Static	ID	IMPL				
		TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number.	
		DCFLTword	BITP			8 bits parity check (#80 is correct value, other are errors), 8 bits DC page number (0-15), 8 bits FLT bits, 8 bits FLT number	
		PCellnumber	BITP			8 bits Pipeline cell number, 24 bits empty	
		Readoutinfo	BITP			8 bits readout info, 24 bits empty	
		TPGinfo	BITP			8 bits Test Pulse Generator, 24 bits empty	
CRL2EN						CRL2EN contains signals from LED monitors after DSP and Transputer processing.	LEBANK
	Static	ID	IMPL				
		MonitorNr	INTE	0,*		LED/LASER monitor number	
		Charge	REAL			Charge	
		Time	REAL			Time	
CRL3SA						LED Monitor 8-Sample Data Bank.	LEBANK
	Static	ID	IMPL				
		LMNumber	INTE	0,*		Laser test number.	
		HighSam1Sam0	INTE			16 bits sample 1, 16 bits sample 0, P/high gain.	
		HighSam3Sam2	INTE			16 bits sample 3, 16 bits sample 2, P/high gain.	
		HighSam5Sam4	INTE			16 bits sample 5, 16 bits sample 4, P/high gain.	
		HighSam7Sam6	INTE			16 bits sample 7, 16 bits sample 6, P/high gain.	
		LowSam1Sam0	INTE			16 bits sample 1, 16 bits sample 0, R/low gain.	
		LowSam3Sam2	INTE			16 bits sample 3, 16 bits sample 2, R/low gain.	
		LowSam5Sam4	INTE			16 bits sample 5, 16 bits sample 4, R/low gain.	
		LowSam7Sam6	INTE			16 bits sample 7, 16 bits sample 6, R/low gain.	
CRL4CA						LASER CAMAC readout: lecroy 2249 ADC/ lecroy 2228 TDC	TDBANK
	Static	ID	IMPL				
		LMON1LMON2	INTE			PMT monitor 1 and 2	
		LMON3LMON4	INTE			PMT monitor 3 and table diode	
		LMON5LMON6	INTE			spares	
		LMON7LMON8	INTE			spares	
		LMON9LMON10	INTE			spares	
		LMON11LMON12	INTE			spares	
		LTDC1LTDC2	INTE			overall time and laser jitter time	
		LTDC3LTDC4	INTE			spares	
		LTDC5LTDC6	INTE			spares	
		LTDC7LTDC8	INTE			spares	
		CAMACSTATUS	BITP			CAMAC status word	
CRL5SA						LED Monitor 6-Sample Data Bank.	LEBANK
	Static	ID	IMPL				
		LMNumber	INTE	0,*		Laser test number.	
		HighSam1Sam0	INTE			16 bits sample 1, 16 bits sample 0, P/high gain.	
		HighSam3Sam2	INTE			16 bits sample 3, 16 bits sample 2, P/high gain.	
		HighSam5Sam4	INTE			16 bits sample 5, 16 bits sample 4, P/high gain.	
		LowSam1Sam0	INTE			16 bits sample 1, 16 bits sample 0, R/low gain.	
		LowSam3Sam2	INTE			16 bits sample 3, 16 bits sample 2, R/low gain.	
		LowSam5Sam4	INTE			16 bits sample 5, 16 bits sample 4, R/low gain.	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
CRLMSA					Laser Monitor Sample Data Bank. Note that all the laser monitors are read out through the RCAL link.	X1
Static	ID	IMPL				
	LMNumber	INTE	0,*		Laser test number.	
	HighSam1Sam0	INTE			8 bits unused, 12 bits sample 1, 12 bits sample 0, R/high gain.	
	HighSam3Sam2	INTE			8 bits unused, 12 bits sample 3, 12 bits sample 2, R/high gain.	
	HighSam5Sam4	INTE			8 bits unused, 12 bits sample 5, 12 bits sample 4, R/high gain.	
	HighSam7Sam6	INTE			8 bits unused, 12 bits sample 7, 12 bits sample 6, R/high gain.	
	LowSam1Sam0	INTE			8 bits unused, 12 bits sample 1, 12 bits sample 0, P/low gain.	
	LowSam3Sam2	INTE			8 bits unused, 12 bits sample 3, 12 bits sample 2, P/low gain.	
	LowSam5Sam4	INTE			8 bits unused, 12 bits sample 5, 12 bits sample 4, P/low gain.	
	LowSam7Sam6	INTE			8 bits unused, 12 bits sample 7, 12 bits sample 6, P/low gain.	
CRPBOR					==>OBSOLETE; RCAL photomultiplier readout constants.	CCBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		Calorimeter photomultiplier number as given in ZEUS Note 89-48, scheme 2	
	HardwareNr	BITP			hardware number	
	ChanCtrl	BITP			channel control word	
	HGainH2Q	INTE			conversion H->Q for high gain	
	LGainH2Q	INTE			conversion H->Q for low gain	
	HGainTOff	INTE			time offset for high gain	
	LGainTOff	INTE			time offset for low gain	
	UNOScaleFact	REAL			UNO scale factor	
	MinTime	INTE			min. allowed reconstr. time	
	MaxTime	INTE			max. allowed reconstr. time	
	MinBLineShft	INTE			min. allowed baseline shift	
	MaxBLineShft	INTE			max. allowed baseline shift	
	LinConst(1)	INTE			linearity correction constant	
	.				""	
	LinConst(4)	INTE			""	
CRPCHI					RCAL Pipeline cell hit histogram for each DSP.	CCBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number.	
	PCellCnt(1)	INTE			pipeline cell hit histogram.	
	.				""	
	PCellCnt(58)	INTE			""	
CRPDMS					CRPDMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for LED testtriggers for RCAL.	CCBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		Calorimeter photomultiplier number as given in ZEUS Note 89-48, scheme 2	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
	NoRecoErr	INTE			number of reconstruction errors	
CRPECO					Rear Calorimeter Cell energy. If the energy in both PMs is less than some cut value and bigger than some other cut value the energy of both PMs is packed together with the cell number into this word. Bit 8 of each energy byte is set if negative energy. Cell number see ZEUS Note 89-48, scheme 2.	CCBANK
Static	ID	IMPL				
	CellEAndNr	BITP			Bits 0-15: Cell number, Bits 16-23: E low X PM, Bits 24-31: E high X PM.	
CRPLMS					CRPLMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for LASER testtriggers for RCAL.	CCBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		Calorimeter photomultiplier number as given in ZEUS Note 89-48, scheme 2	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
	NoRecoErr	INTE			number of reconstruction errors	
CRPMDC					CRPMDC is used to access digital card information using a known RCAL phototube number	CDCAPM
	ID	SNUM				
	PMTnr	BITP			PMT (Poser) number	
	DCBitnr	INTE	1,24		bit number on digital card	
	CRDCCN	REL			Every phototube in RCAL is connected to a digital card	
CRPMNO					RCAL cell numbers, as given in ZEUS Note 89-48, scheme 2; the order of Cell-numbers in this bank corresponds to the order of the entries of energy low-bytes in the corresponding xxCOEN-bank; NB: there may be entries with zero value	CCBANK
Static	ID	IMPL				
	CellNrs	BITP			Bits 0-15: Number of cell n, Bits 16-31: Number of cell n+1	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
CRPPMS					CRPPMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for PED testtriggers for RCAL.	CCBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		Calorimeter photomultiplier number as given in ZEUS Note 89-48, scheme 2	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
	NoRecoErr	INTE			number of reconstruction errors	
CRPQMS					CRPQMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for QINJ testtriggers for RCAL.	CCBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		Calorimeter photomultiplier number as given in ZEUS Note 89-48, scheme 2	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
	NoRecoErr	INTE			number of reconstruction errors	
CRPTAB					CFLTP Table specifications, details available from CAL-FLT Processor experts	CCBANK
Static	ID	IMPL				
	TableId	BITP			CFLTP table specification id	
	TableParam(1)	BITP			CFLTP table	
	.				""	
	TableParam(4)	BITP			""	
CRSAM8					==>OBSOLETE; CRSAM8 contains samples info per PM after DSP processing for those PMs which were not successfully processed in DSP energy determination. RCAL signals only.	CCBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		PM number as given in ZEUS note 89-48 scheme 2.	
	HighSam1Sam0	INTE			8 bits unused, 12 bits sample 1, 12 bits sample 0, high gain.	
	HighSam3Sam2	INTE			8 bits unused, 12 bits sample 3, 12 bits sample 2, high gain.	
	HighSam5Sam4	INTE			8 bits unused, 12 bits sample 5, 12 bits sample 4, high gain.	
	HighSam7Sam6	INTE			8 bits unused, 12 bits sample 7, 12 bits sample 6, high gain.	
	LowSam1Sam0	INTE			8 bits unused, 12 bits sample 1, 12 bits sample 0, low gain.	
	LowSam3Sam2	INTE			8 bits unused, 12 bits sample 3, 12 bits sample 2, low gain.	
	LowSam5Sam4	INTE			8 bits unused, 12 bits sample 5, 12 bits sample 4, low gain.	
	LowSam7Sam6	INTE			8 bits unused, 12 bits sample 7, 12 bits sample 6, low gain.	
CRSLCT					==>OBSOLETE; RCAL constants used in CAL SLT calculations	CCBANK
Static	ID	IMPL				
	TPID	BITP			transputer ID defining CAL SLT region	
	Scale	INTE			cut scaling factor	
	ecute	INTE			Electron energy cut	
	ecutj	INTE			Jet/hadron energy cut	
	ecutce	INTE			EMC cell energy cut	
	ecutch	INTE			HAC cell energy cut	
	ecutpje	INTE			EMC precluster energy cut	
	ecutpjh	INTE			HAC precluster energy cut	
	rfact	INTE			hadron cluster radius multiplier	
	rofs	INTE			hadron cluster radius offset	
	radem	INTE			minimum radius EMC cluster	
	emuemclow	INTE			Low energy muon cut for EMC	
	emuemchigh	INTE			High energy muon cut for EMC	
	emuhaclow	INTE			Low energy muon cut for HAC	
	emuhachigh	INTE			High energy muon cut for HAC	
	Rmulow	INTE			Low ratio cut for muon	
	Rmuhigh	INTE			High ratio cut for muon	
	Nmulow	INTE			Low cell count for muons	
	Nmuhigh	INTE			High cell count for muons	
	Emulti	INTE			Energy multiplier	
	Ediv	INTE			Energy divider	
	rdist	INTE			CAL distance to Z-plane or r-cylinder	
CRSYNC					Used by EVB to validate FCLR synchronisation.	CCBANK
Static	ID	IMPL				
	gflt	INTE			GFLT number	
	gslt	INTE			GSLT number	
	bcn	INTE			Bunch crossing number	
	rot	INTE			Readout type	
CRTADD					CFLT Adder card pattern logic, details available from CAL-FLT experts	CCBANK
Static	ID	IMPL				
	ADDId	INTE			Pattern logic identifier	
	Param(1)	BITP			Pattern logic parameter	
	.				""	
	Param(512)	BITP			""	
	Reserv(1)	BITP			Reserved	
	.				""	
	Reserv(16)	BITP			""	
CRTBAD					==>OBSOLETE; Trigger bad channel list for the CAL (same as CFTBAD)	CCBANK
Static	ID	IMPL				
	Channelcontrol	BITP			bad channel error code	
	PMNr	INTE	0,*		PM number as given in ZEUS note 89-48 scheme 2.	
	Hardwarenumber	BITP			hardware number	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
CRTCAL					CFLT tower gains calibration, details available from CAL-FLT experts	CCBANK
Static	ID	IMPL				
	TowerId	BITP			Tower identifier	
	LowGainCalib	INTE			low gain calibration	
	HighGainCalib	INTE			high gain calibration	
CRTCNT					RCAL event counters.	CCBANK
Static	ID	IMPL				
	CrateId	INTE			crate identifier.	
	TotNoEvents	INTE			total no. of events.	
	TotNoPhyTrig	INTE			total no. of physics triggers.	
	TotNoQINTrig	INTE			total no. of QINJ triggers.	
	TotNoPEDTrig	INTE			total no. of PED triggers.	
	TotNoUNOTrig	INTE			total no. of UNO triggers.	
	TotNoLEDTrig	INTE			total no. of LED triggers.	
	TotNoLASTrig	INTE			total no. of LASER triggers.	
	Reserved(1)	INTE			reserved for future use.	
	.				""	
	Reserved(64)	INTE			""	
CRTENE					CRTENE contains signals from RCAL after DSP processing and zero suppression in 2TP system.	CCBANK
Static	ID	IMPL				
	CellNr	INTE	0,*		Cell number as given in ZEUS Note 89-48, scheme 2 (poser numbers)	
	EThigh	BITP			Least significant 24 bits contain energy recorded in high X PM. Most significant 8 bits contain time.	
	ETlow	BITP			Least significant 24 bits contain energy recorded in low X PM. Most significant 8 bits contain time.	
CRTIL1					FCAL second level trigger processing time on layer1 of the trigger network. Time in microseconds.	CCBANK
Static	ID	IMPL				
	TPID	BITP			transputer identifier	
	NoTriggers	INTE			number of physics triggers accumulated in this timingsums	
	CheckTime	INTE			total time spent in checking the input data	
	CheckSq	REAL			total squared time spent in checking the input data	
	HacTime	INTE			total time spent in Hac scan	
	HacSq	REAL			total squared time spent in Hac scan	
	HacPerClusTime	INTE			total time per cluster spent in Hac scan	
	HacPerClusSq	REAL			total squared time per cluster spent in Hac scan	
	EmcTime	INTE			total time spent in Emc scan	
	EmcSq	REAL			total squared time spent in Emc scan	
	EmcPerClusTime	INTE			total time per cluster spent in Emc scan	
	EmcPerClusSq	REAL			total squared time per cluster spent in Emc scan	
	MergeTime	INTE			total time spent in merging	
	MergeSq	REAL			total squared time spent in merging	
	MergePerClusTime	INTE			total time per cluster spent in merging	
	MergePerClusSq	REAL			total squared time per cluster spent in merging	
	LocCutTime	INTE			total time spent in precluster cut	
	LocCutSq	REAL			total squared time spent in percluster cut	
	LocCutPerClusTim	INTE			total time per cluster spent in precluster cut	
	LocCutPerClusSq	REAL			total squared time per cluster spent in precluster cut	
	TimeAlgoTime	INTE			total time spent in timing algorithm	
	TimeAlgoSq	REAL			total squared time spent in timing algorithm	
	InpBufHisto(1)	INTE			Input Buffer usage histogram	
	.				""	
	InpBufHisto(16)	INTE			""	
	OutBufHisto(1)	INTE			Output Buffer usage histogram	
	.				""	
	OutBufHisto(16)	INTE			""	
	Reserv(1)	INTE			Reserved for future use.	
	.				""	
	Reserv(8)	INTE			""	
CRTOFF					CFLT FADC timing offset words, details available from CAL-FLT experts	CCBANK
Static	ID	IMPL				
	TECId	BITP			TEC identifier	
	TOffset(1)	BITP			FADC timing offsets (packed)	
	TOffset(2)	BITP			""	

V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
CRTPAR					CFLT parameter words, describing the energy scale, zero-suppression level, towers excluded from energy sums, etc. Details available from CAL-FLT experts	CCBANK
Static	ID	IMPL				
	ESumScale	INTE			Full scale energy sums	
	ETSumScale	INTE			Full scale transv. energy sums	
	EMSumScale	INTE			Full scale missing energy sums	
	Reserv1(1)	INTE			reserved	
	.				""	
	Reserv1(11)	INTE			""	
	ESumZSupFEmc	INTE			Zero supp. ESum FCal Emc	
	ESumZSupFHac	INTE			Zero supp. ESum FCal Hac	
	ESumZSupREmc	INTE			Zero supp. ESum RCal Emc	
	ESumZSupRHac	INTE			Zero supp. ESum RCal Hac	
	ESumZSupBEmc	INTE			Zero supp. ESum BCal Emc	
	ESumZSupBHac	INTE			Zero supp. ESum BCal Hac	
	ESumZeroFEmc	INTE			zeroed ESum FCal Emc rings	
	ESumZeroFHac	INTE			zeroed ESum FCal Hac rings	
	ESumZeroREmc	INTE			zeroed ESum RCal Emc rings	
	ESumZeroRHac	INTE			zeroed ESum RCal Hac rings	
	Reserv2(1)	INTE			reserved	
	.				""	
	Reserv2(4)	INTE			""	
	ETZSupFEmc	INTE			Zero supp. ET FCal Emc	
	ETZSupFHac	INTE			Zero supp. ET FCal Hac	
	ETZSupREmc	INTE			Zero supp. ET RCal Emc	
	ETZSupRHac	INTE			Zero supp. ET RCal Hac	
	ETZSupBEmc	INTE			Zero supp. ET BCal Emc	
	ETZSupBHac	INTE			Zero supp. ET BCal Hac	
	ETZeroFEmc	INTE			zeroed ET FCal Emc rings	
	ETZeroFHac	INTE			zeroed ET FCal Hac rings	
	ETZeroREmc	INTE			zeroed ET RCal Emc rings	
	ETZeroRHac	INTE			zeroed ET RCal Hac rings	
	Reserv3(1)	INTE			reserved	
	.				""	
	Reserv3(4)	INTE			""	
	EMissZSupFEmc	INTE			Zero supp. EMiss FCal Emc	
	EMissZSupFHac	INTE			Zero supp. EMiss FCal Hac	
	EMissZSupREmc	INTE			Zero supp. EMiss RCal Emc	
	EMissZSupRHac	INTE			Zero supp. EMiss RCal Hac	
	EMissZSupBEmc	INTE			Zero supp. EMiss BCal Emc	
	EMissZSupBHac	INTE			Zero supp. EMiss BCal Hac	
	EMissZeroFEmc	INTE			zeroed EMiss FCal Emc rings	
	EMissZeroFHac	INTE			zeroed EMiss FCal Hac rings	
	EMissZeroREmc	INTE			zeroed EMiss RCal Emc rings	
	EMissZeroRHac	INTE			zeroed EMiss RCal Hac rings	
	Reserv4(1)	INTE			reserved	
	.				""	
	Reserv4(4)	INTE			""	
	Reserv5(1)	INTE			reserved	
	.				""	
	Reserv5(16)	INTE			""	
CRUM					RCAL Front End Card/ADC characteristics.	CCBANK
Static	ID	IMPL				
	TpDcAdcId	BITP			Bitpattern giving the ADC: Bits 0-7 ADC No. (1-4) Bits 9-15 DC No.(1-17) Bits 16-31 Crate identifier.	
	gndDU1	INTE				
	VtemporVid	INTE				
	Vpower	INTE				
	Vprec	INTE				
	DU0	INTE				
	DU1	INTE				
	DU2	INTE				
	DU3	INTE				
	DU4	INTE				
	DU5	INTE				
	muxVr	INTE				
	gndDU2	INTE				
CRUN					==>OBSOLETE; RCAL Front End Card/ADC characteristics.	CCBANK
Static	ID	IMPL				
	gndDU1	INTE				
	VtemporVid	INTE				
	Vpower	INTE				
	Vprec	INTE				
	DU0	INTE				
	DU1	INTE				
	DU2	INTE				
	DU3	INTE				
	DU4	INTE				
	DU5	INTE				
	muxVr	INTE				
	gndDU2	INTE				
CRVCAL					contains the ADC->Volt conversion recalculated during a UNO M&S run	CCBANK
Static	ID	IMPL				
	TpDcAdcId	BITP			Adc identifier	
	NewAdcToVolt	REAL			New ADC->Volt conversion	
	DelAdcToVolt	REAL			New - Old ADC->Volt conversion	
CRXOR					RCAL Crate digital monitoring information. Details available from CAL ONLINE experts.	CCBANK
Static	ID	IMPL				
	TPId	INTE			Crate identifier.	
	CRDCCNRows	INTE			Number of rows in CRDCCN bank.	
	CRTENERows	INTE			Number of rows in CRTENE bank.	
	CRPECORows	INTE			Number of rows in CRPECO bank.	
	CR8SAMRows	INTE			Number of rows in CR8SAM bank.	
	CR6SAMRows	INTE			Number of rows in CR6SAM bank.	
	ChkWord	BITP			Checksum word.	
	Reserved	INTE			Reserved word.	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
CRemc					Cross reference table to connect raw CAL energies with trigger cell energies for EMC cells	CALSLCT
	ID	SNUM				
	CPMnr	INTE	1,44301		PM number	
	Cal	INTE	51,54		F/RCAL or BCAL	
	MCnum	INTE	1,4232		trigger MC cell number	
	regnum	INTE	0,*		region number of this cell	
	seqnum	INTE	1,*		sequence number of this cell in this region	
CRhac					Cross reference table to connect raw CAL energies with trigger cell energies for HAC cells	CALSLCT
	ID	SNUM				
	CPMnr	INTE	1,44301		PM number	
	Cal	INTE	51,54		F/RCAL or BCAL	
	MCnum	INTE	1,4232		trigger MC cell number	
	regnum	INTE	0,*		region number of this cell	
	seqnum	INTE	1,*		sequence number of this cell in this region	
CSPLIT					ZEUS CFLT CABLE DISTRIBUTION TO TECs	CFLCALT
	ID	SNUM				
	CAL	CHA4				
	Module	INTE				
	Num	CHA4				
	Dest(1)	CHA8				
	.					
	Dest(8)	CHA8				
CTADDP					CFLT Adder card pattern logic, details available from CAL-FLT experts	CTBANK
Static	ID	IMPL				
	ADDId	INTE			Pattern logic identifier	
	Param(1)	BITP			Pattern logic parameter	
	.				""	
	Param(512)	BITP			""	
	Reserv(1)	BITP			Reserved	
	.				""	
	Reserv(16)	BITP			""	
CTBCal					General calibration fine tuning constant	CalDPhs1
	ID	SNUM				
	CPMnr	BITP			PM number	
	Cvalue	REAL	0.0,*		calibration constant	
	Cerror	INTE			error status of PMT	
CTPARA					CFLT parameter words, describing the energy scale, zero-suppression level, towers excluded from energy sums, etc. Details available from CAL-FLT experts	CTBANK
Static	ID	IMPL				
	ESumScale	INTE			Full scale energy sums	
	ETSumScale	INTE			Full scale transv. energy sums	
	EMSumScale	INTE			Full scale missing energy sums	
	Reserv1(1)	INTE			reserved	
	.				""	
	Reserv1(11)	INTE			""	
	ESumZSupFEmc	INTE			Zero supp. ESum FCal Emc	
	ESumZSupFHac	INTE			Zero supp. ESum FCal Hac	
	ESumZSupREmc	INTE			Zero supp. ESum RCal Emc	
	ESumZSupRHac	INTE			Zero supp. ESum RCal Hac	
	ESumZSupBEmc	INTE			Zero supp. ESum BCal Emc	
	ESumZSupBHac	INTE			Zero supp. ESum BCal Hac	
	ESumZeroFEmc	INTE			zeroed ESum FCal Emc rings	
	ESumZeroFHac	INTE			zeroed ESum FCal Hac rings	
	ESumZeroREmc	INTE			zeroed ESum RCal Emc rings	
	ESumZeroRHac	INTE			zeroed ESum RCal Hac rings	
	Reserv2(1)	INTE			reserved	
	.				""	
	Reserv2(4)	INTE			""	
	ETZSupFEmc	INTE			Zero supp. ET FCal Emc	
	ETZSupFHac	INTE			Zero supp. ET FCal Hac	
	ETZSupREmc	INTE			Zero supp. ET RCal Emc	
	ETZSupRHac	INTE			Zero supp. ET RCal Hac	
	ETZSupBEmc	INTE			Zero supp. ET BCal Emc	
	ETZSupBHac	INTE			Zero supp. ET BCal Hac	
	ETZeroFEmc	INTE			zeroed ET FCal Emc rings	
	ETZeroFHac	INTE			zeroed ET FCal Hac rings	
	ETZeroREmc	INTE			zeroed ET RCal Emc rings	
	ETZeroRHac	INTE			zeroed ET RCal Hac rings	
	Reserv3(1)	INTE			reserved	
	.				""	
	Reserv3(4)	INTE			""	
	EMissZSupFEmc	INTE			Zero supp. EMiss FCal Emc	
	EMissZSupFHac	INTE			Zero supp. EMiss FCal Hac	
	EMissZSupREmc	INTE			Zero supp. EMiss RCal Emc	
	EMissZSupRHac	INTE			Zero supp. EMiss RCal Hac	
	EMissZSupBEmc	INTE			Zero supp. EMiss BCal Emc	
	EMissZSupBHac	INTE			Zero supp. EMiss BCal Hac	
	EMissZeroFEmc	INTE			zeroed EMiss FCal Emc rings	
	EMissZeroFHac	INTE			zeroed EMiss FCal Hac rings	
	EMissZeroREmc	INTE			zeroed EMiss RCal Emc rings	
	EMissZeroRHac	INTE			zeroed EMiss RCal Hac rings	
	Reserv4(1)	INTE			reserved	
	.				""	
	Reserv4(4)	INTE			""	
	Reserv5(1)	INTE			reserved	
	.				""	
	Reserv5(16)	INTE			""	
CTPTAB					CFLTP Table specifications, details available from CAL-FLT Processor experts	CTBANK
Static	ID	IMPL				
	TableId	BITP			CFLTP table specification id	
	TableParam(1)	BITP			CFLTP table	
	.				""	
	TableParam(4)	BITP			""	

V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
CTTCAL					CFLT tower gains calibration, details available from CAL-FLT experts	CTBANK
Static	ID	IMPL				
	TowerId	BITP			Tower identifier	
	LowGainCalib	INTE			low gain calibration	
	HighGainCalib	INTE			high gain calibration	
CTTECA					CFLT TEC pedestal correction, details available from CAL-FLT experts	CTBANK
Static	ID	IMPL				
	TecId	BITP			TEC identifier	
	TecPedCalib	INTE			TEC pedestal correction	
CTTOFF					CFLT FADC timing offset words, details available from CAL-FLT experts	CTBANK
Static	ID	IMPL				
	TECId	BITP			TEC identifier	
	TOffset(1)	BITP			FADC timing offsets (packed)	
	TOffset(2)	BITP			""	
CTime2					Calorimeter timing table	CcPhs2
	ID	SNUM				
	avtime(1)	REAL			Average time for FBR and total Cal	
	.				""	
	avtime(5)	REAL			""	
	ertime(1)	REAL			Errors for FBR and total Cal	
	.				""	
	ertime(5)	REAL			""	
	chisq(1)	REAL			Ditto for chi squared	
	.				""	
	chisq(5)	REAL			""	
	npmt(1)	REAL			Number of PMTs contributing	
	.				""	
	npmt(5)	REAL			""	
	prob(1)	REAL			Prob for chi2 to be >= observed chi2	
	.				""	
	prob(5)	REAL			""	
	Esum(1)	REAL			total energy of PMTs in the average	
	.				""	
	Esum(5)	REAL			""	
	Eminpmt	REAL			Minimum energy for a pmt to participate	
	Imbalcut	REAL			Cut on abs((Ehi-Elow)over(Ehi+Elow))	
	zint	REAL			Estimated z of IP	
	tint	REAL			Estimated t of IP	
	version	CHA4			version number	
CUAdCl					describes the link between a cell and its adjacency class	CUgeom3
	ID	SNUM				
	CCAdJa	REL			second leg of cell-adjacency relation	
	CUCELL	REL			first leg of cell-adjacency relation	
CUCELL					gives the location and connections of a CAL cell	CUgeom3
	ID	SNUM				
	Nr	BITP			is the cell number in the geometry numbering scheme	
	x	REAL			global coord in HERA frame	
	y	REAL			global coord in HERA frame	
	z	REAL			global coord in HERA frame	
	Volu	REL			connects the cell to a volume describing its shape	
	rotm	REL		P	a cell has a rotation matrix (from official table)	
	tmed	REL		P	note the tracking medium (if any)	
CUDIV						CUgeom
	ID	SNUM				
	mother	CHA4			Name of the mother volume	
	step	REAL	-0.100E+05,0....		Division step	
	axis	INTE	1,3		Axis division	
	ndiv	INTE	1,9999		Number of divisions	
CULINK					table requested to be compatible with BOLOGNA scheme for the tme being it is dummy 25.5.90 NPA	CUgeom
	ID	SNUM				
CUPARA						CUgeom
	ID	SNUM				
	par	REAL	0.0,0.100E+05		A parameter defining a volume	
	of	GEN			A parameter is of a volume or a position	
	of_	REL			""	
CUPOS						CUgeom
	ID	SNUM				
	nr	INTE	1,9999		Serial number	
	mother	CHA4			Name of the mother volume	
	x	REAL	-0.100E+06,0....		X linear dimension	
	y	REAL	-0.100E+06,0....		Y linear dimension	
	z	REAL	-0.100E+06,0....		Z linear dimension	
	konly	CHA4	MANY,MANY ONLY,ONLY		If MANY,a point in this volume may be in another	
	Detector	REL		P	gives handle to links into hard kernel of BOLOGNA scheme	
	rotm	REL			each positioned volume is related to a rotation matrix	
	volu	REL			A position belongs to a volume	
CURJCT						CUgeom
	ID	SNUM				
	config	INTE	0,9999		Selects configuration	
	of	GEN			Rejected volumes and positions	
	of_	REL			""	
CUSDET						CUgeom
	ID	SNUM				
	name	CHA4			4 characters name	
	type	INTE	1,9999		detector type	
	nwhi	INTE	1,9999		Numb. words primary alloc. HITS	
	nwdi	INTE	1,9999		Numb. words DIGI when primary not suff.	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
CUSDTA						CUgeom
	ID	SNUM				
	name	CHA4			4 characters name	
	nwhi	INTE	1,9999		Initial HITS allocation	
	nwdi	INTE	1,9999		Increment of DIGI allocation	
	sdet	REL			Some detectors give more than one type signals	
CUSDTD						CUgeom
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	of	GEN			Sensible detectors and aliases digitizations	
	of_	REL			""	
CUSDTH						CUgeom
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	orig	REAL			to define the hit elem. positive	
	fact	REAL			IVAR= VAR + ORIG*FACT	
	of	GEN			each detec. element needs the parameter definition	
	of_	REL			""	
CUSDTU						CUgeom
	ID	SNUM				
	upar	REAL			User parameter	
	of	GEN			User parameters for sensible detectors and aliases	
	of_	REL			""	
CUSDTV						CUgeom
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	sdet	REL			Physical detectors for the master detector identifier	
CUVOLU						CUgeom
	ID	SNUM				
	name	CHA4			4 characters name	
	shape	CHA4	BOX,BOX TRD1,TRD1 TRD2,TRD2 TRAP,TRAP TUBE,TUBE TUBS,TUBS CONE,CONE CONS,CONS SPHE,SPHE PARA,PARA PGON,PGON PCON,PCON GTRA,GTRA		Shape of the volume	
	div	REL		P	some volumes may be subdived	
	sdet	REL		P	some volumes may be also active detectors	
	tmed	REL			Volume tracking medium number	
Cable					Zeus Detector Cable Info	CFLCALT
	ID	SNUM				
	CAL	CHA4				
	Module	INTE				
	Num	CHA4				
	Type	CHA4				
	I(1)	CHA8				
	.					
	I(8)	CHA8				
Caldup					Caltru duplicate table	CalDPhs1
	ID	SNUM				
	Cellnr	BITP			cell number as in POS table	
	E	REAL	0.0,*		energy found in cell	
	imbal	REAL		P	imbalance from comparison of two PM signals	
	t(1)	REAL		P	time info of both PMs	
	t(2)	REAL		P	""	
	Condup	REL		P		
Calre1					Cal recon reserve table	CcPhs2
	ID	SNUM				
	Iword1	INTE				
	Iword2	INTE				
	Word1	REAL				
	Word2	REAL				
	Word3	REAL				
	Cword1	CHA8				
	Cword2	CHA8				
Calre2					Cal recon reserve table	CcPhs2
	ID	SNUM				
	Iword1	INTE				
	Iword2	INTE				
	Word1	REAL				
	Word2	REAL				
	Word3	REAL				
	Cword1	CHA8				
	Cword2	CHA8				
Caltru					Caltru contains calibrated signals from DU calorimeter	CalDPhs1
	ID	SNUM				
	Cellnr	BITP			cell number as in POS table	
	E	REAL	0.0,*		energy found in cell	
	imbal	REAL		P	imbalance from comparison of two PM signals	
	t(1)	REAL		P	time info of both PMs	
	t(2)	REAL		P	""	
	CConSa	REL		P	cells may form condensates	
	CuPaOb	REL		P	cells may form condensates after phase 2	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
CaltruC					CaltruC is the compressed version of Caltru	CalDPhs1
	ID	SNUM				
	Cellnr	BITP			cell number as in POS table	
	info(1)	BITP				
	info(2)	BITP				
Canvar					Canvar holds all canonical variables on which cluster classification is based	CalDPhs1
	ID	SNUM				
	name	CHA8			name of canonical variable	
	value	REAL			value of canonical variable	
	Cidclu	REL			an identified cluster is classified by the value of its canonical variables	
CcEvnt					Raw data readout scheme	CalDPhs1
	ID	SNUM				
	CPMnr	BITP			PM number	
	CE	INTE	0,*		PM energy	
	Ct	INTE			time info	
	Ceoh	INTE			e/h ratio	
CcGHit					Monte Carlo hits in the uranium calorimeter, per PM. Energy recorded is the energy deposited by Geant	CcMCTr
	ID	SNUM				
	CPMnr	BITP			Photo Multiplier number	
	EScinDep	REAL			Energy deposited in scintillator	
	EWlsDep	REAL			Energy in wavelength shifter	
	TimeDep	REAL			Sampling time	
	Component	GEN		P	Monte Carlo hits give rise to raw calorimeter data	
	Component_	REL		P	""	
	FMCKin	REL		P	Tracks may cause one or more hits in the UCAL	
CcNewH					Monte Carlo hits in the uranium calorimeter, per PM. Energy recorded is the energy deposited by Geant	CcMCTr
	ID	SNUM				
	CPMnr	BITP			Photo Multiplier number	
	FMCKin	REL		P	Tracks may cause one or more hits in the UCAL	
Cclugr					Cclugr allows many-to-many relationships between identified clusters and cluster candidates	CalDPhs1
	ID	SNUM				
	Cclust	REL			2nd leg of many-to-many relationship between Cidclu/Cclust, cluster candidates lead to classified clusters	
	Cidclu	REL			1st leg of many-to-many relationship between Cidclu/Cclust, cluster candidates lead to classified clusters	
Cclust					unidentified cluster found in offline reconstruction	CalDPhs1
	ID	SNUM				
	x	REAL			x coordinate in ZEUS	
	y	REAL			y coordinate in ZEUS	
	z	REAL			z coordinate in ZEUS	
	slctx	REAL		P	x coordinate in ZEUS	
	slcty	REAL		P	y coordinate in ZEUS	
	slctz	REAL		P	z coordinate in ZEUS	
	E	REAL	0.0,*		total energy of cluster	
	radius	REAL	0.0,*		radius of cluster	
	slctradius	REAL	0.0,*	P	canonical radius in slct algorithm	
	cx	REAL	-1.0,1.0		cosine of Euler angle w.r.t. to x axis	
	cy	REAL	-1.0,1.0		cosine of Euler angle w.r.t. to y axis	
	cz	REAL	-1.0,1.0		cosine of Euler angle w.r.t. to z axis	
Cellgr					Cellgr allows many-to-many relationship between Caltru and Cclust, i.e. calorimeter cells and clusters	CalDPhs1
	ID	SNUM				
	fraction	REAL			cells may belong to more than one cluster, in which case only fractions of their energy contribute to a single cluster	
	Caltru	REL			1st leg of many-to-many relationship Cclust/Caltru, cells form clusters	
	Cclust	REL			2nd leg of many-to-many relationship Cclust/Caltru, cells form clusters	
Chole						CalDPhs1
	ID	SNUM				
	CellNr	INTE			cell number of calorimeter holes	
Cidcel					Cidcel allows many-to-many relationships between Caltru and Cidclu, i.e. calorimeter cells and identified clusters	CalDPhs1
	ID	SNUM				
	fraction	REAL			cells may belong to more than one cluster, in which case only fractions of their energy contribute to a single cluster	
	Caltru	REL			2nd leg of many-to-many relationship between Cidclu/Caltru, cells contribute to classified clusters	
	Cidclu	REL			1st leg of many-to-many relationship between Cidclu/Caltru, cells contribute to classified clusters	

V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
Cidclu					identified clusters	CalDPhs1
	ID	SNUM				
	class	CHA8			name of cluster class to which cluster belongs after classification	
	x	REAL			x coordinate in ZEUS	
	y	REAL			y coordinate in ZEUS	
	z	REAL			z coordinate in ZEUS	
	E	REAL	0.0,*		energy of identified cluster	
	radius	REAL	0.0,*		radius of identified cluster	
	cx	REAL	-1.0,1.0	P	cosine of Euler angle w.r.t. to x axis	
	cy	REAL	-1.0,1.0	P	cosine of Euler angle w.r.t. to y axis	
	cz	REAL	-1.0,1.0	P	cosine of Euler angle w.r.t. to z axis	
	Eemc	REAL	0.0,*		cluster EMC energy	
	Cemc(1)	REAL		P	cluster centre in EMC	
	Cemc(2)	REAL		P	""	
	Cemc(3)	REAL		P	""	
	Ehac1	REAL	0.0,*		cluster HAC1 energy	
	Chac1(1)	REAL		P	cluster centre in HAC1	
	Chac1(2)	REAL		P	""	
	Chac1(3)	REAL		P	""	
	Ehac2	REAL	0.0,*	P	cluster HAC2 energy	
	Chac2(1)	REAL		P	cluster centre in HAC2	
	Chac2(2)	REAL		P	""	
	Chac2(3)	REAL		P	""	
	CR1obj	REL		P	a subset (?) of identified clusters leads to evaluation of physics objects	
Ciddup					Cidcel duplicate table	CalDPhs1
	ID	SNUM				
	fraction	REAL			cells may belong to more than one cluster, in which case only fractions of their energy contribute to a single cluster	
	Caldup	REL				
	Cludup	REL				
Clucht					Offline reprocessing table for channels that are bad	CalDPhs1
	ID	SNUM				
	CPMnr	BITP			PM number	
Cludup					Cidclu duplicate table	CalDPhs1
	ID	SNUM				
	class	CHA8			name of cluster class to which cluster belongs after classification	
	x	REAL			x coordinate in ZEUS	
	y	REAL			y coordinate in ZEUS	
	z	REAL			z coordinate in ZEUS	
	E	REAL	0.0,*		energy of identified cluster	
	radius	REAL	0.0,*		radius of identified cluster	
	cx	REAL	-1.0,1.0	P	cosine of Euler angle w.r.t. to x axis	
	cy	REAL	-1.0,1.0	P	cosine of Euler angle w.r.t. to y axis	
	cz	REAL	-1.0,1.0	P	cosine of Euler angle w.r.t. to z axis	
	Eemc	REAL	0.0,*		cluster EMC energy	
	Cemc(1)	REAL		P	cluster centre in EMC	
	Cemc(2)	REAL		P	""	
	Cemc(3)	REAL		P	""	
	Ehac1	REAL	0.0,*		cluster HAC1 energy	
	Chac1(1)	REAL		P	cluster centre in HAC1	
	Chac1(2)	REAL		P	""	
	Chac1(3)	REAL		P	""	
	Ehac2	REAL	0.0,*	P	cluster HAC2 energy	
	Chac2(1)	REAL		P	cluster centre in HAC2	
	Chac2(2)	REAL		P	""	
	Chac2(3)	REAL		P	""	
Cluidc					Canonical constants table	CalDPhs1
	ID	SNUM				
	name	CHA8			name of canonical variable	
	valxlow	REAL			validity range low x	
	valxhigh	REAL			validity range high x	
	valylow	REAL			validity range low y	
	valyhigh	REAL			validity range high y	
	valzlow	REAL			validity range low z	
	valzhigh	REAL			validity range high z	
	valElow	REAL			validity range low E	
	valEhigh	REAL			validity range high E	
	cut	REAL			canonical cut	
	const(1)	REAL			canonical constants	
	.				""	
	const(16)	REAL			""	
CnoDsp						CalDPhs1
	ID	SNUM				
	CellNr	INTE			PMT number of the online recon errs	
CnoZsu					Quantities for those cells that did not survive offline zero suppression	CalDPhs1
	ID	SNUM				
	Ex	REAL			energy flow along x axis for noise cells	
	Ey	REAL			energy flow along y axis for noise cells	
	SumE	REAL	0.0,*		total -scalar- energy sum	
	Et	REAL			transverse energy for noise cells	
	Etmiss	REAL			missing transverse energy	
	El	REAL			energy flow along z axis for noise cells	
	yjb	REAL			y Jacquet-Blondel for noise cells	
	Q2jb	REAL			ditto Q2	
	xjb	REAL			ditto x	
CofCel					Cell contents in four-vector	JadeAlgo
	ID	SNUM				
	Nr	INTE	1,44300		Cell number in offline scheme	
	E	REAL			Energy in cell in GeV	
	Px	REAL			Momentum x-component	
	Py	REAL			Momentum y-component	
	Pz	REAL			Momentum z-component	
	Type	CHA4	EMC,EMC HAC,HAC		Cell type	
	CPsPar	REL		P	Pseudo particles consist of cell combinations	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
Condup					A condensate consists of hit cells that are physically adjacent, and represents the excitations of one or more particles in the calorimeter. It is an intermediate object between cells and clusters	CalDPhs1
	ID	SNUM				
	class	CHA8			classification name of condensate	
	x	REAL			x coordinate in ZEUS	
	y	REAL			y coordinate in ZEUS	
	z	REAL			z coordinate in ZEUS	
	E	REAL	0.0,*		total energy of condensate	
	radius	REAL	0.0,*		radius of condensate	
	cx	REAL	-1.0,1.0	P	cosine of Euler angle w.r.t. to x axis	
	cy	REAL	-1.0,1.0	P	cosine of Euler angle w.r.t. to y axis	
	cz	REAL	-1.0,1.0	P	cosine of Euler angle w.r.t. to z axis	
	Eemc	REAL	0.0,*		EMC energy of condensate	
	Cemc(1)	REAL		P	condensate centre in EMC	
	Cemc(2)	REAL		P	""	
	Cemc(3)	REAL		P	""	
	Ehac1	REAL	0.0,*		HAC1 energy of condensate	
	Chac1(1)	REAL		P	condensate centre in HAC1	
	Chac1(2)	REAL		P	""	
	Chac1(3)	REAL		P	""	
	Ehac2	REAL	0.0,*	P	HAC2 energy of condensate	
	Chac2(1)	REAL		P	condensate centre in HAC2	
	Chac2(2)	REAL		P	""	
	Chac2(3)	REAL		P	""	
	NcEmc	INTE			Number of EMC cells hit	
	NcHac1	INTE			Number of HAC1 cells hit	
	NcHac2	INTE			Number of HAC2 cells hit	
	Cludup	REL		P		
Corrupt					Flags indicating corrupt reconstruction	CcPhs2
	ID	SNUM				
	CalPhs1	LOGI			true if fatal errors occurred in cal phs1	
	Errorcode(1)	INTE			see Zeus-Note	
	Errorcode(2)	INTE			""	
	CalPhs2	LOGI			true if fatal errors occurred in cal phs2	
CredCon					Shorter version CConsa	CalDPhs1
	ID	SNUM				
	class	CHA8			classification name of condensate	
	x	REAL			x coordinate in ZEUS	
	y	REAL			y coordinate in ZEUS	
	z	REAL			z coordinate in ZEUS	
	E	REAL	0.0,*		total energy of condensate	
	EEMCoverEtot	REAL			EMC/(EMC+HAC)	
Ctepli					Link table between cells and EMC pre-clusters	CALSLCT
	ID	SNUM				
	Cal	INTE	51,54		F/RCAL or BCAL	
	regnum	INTE	0,*		region number of this cell	
	seqnum	INTE	1,*		sequence number of this cell in this region	
	Ctrepc	REL			An EMC pre-cluster may consist of trigger cells	
Cthpli					Link table between cells and HAC pre-clusters	CALSLCT
	ID	SNUM				
	Cal	INTE	51,54		F/RCAL or BCAL	
	regnum	INTE	0,*		region number of this cell	
	seqnum	INTE	1,*		sequence number of this cell in this region	
	Ctrhpc	REL			A HAC pre-cluster consists of trigger cells	
Ctlink					Link table between cells and trigger clusters	CALSLCT
	ID	SNUM				
	Cal	INTE	51,54		F/RCAL or BCAL	
	regnum	INTE	0,*		region number of this cell	
	seqnum	INTE	1,*		sequence number of this cell in this region	
	Ctrclu	REL			A trigger cluster consists of trigger cells	
Ctrclu					SLCT online cluster	CALSLCT
	ID	SNUM				
	regnum	INTE	0,*			
	Eemc	INTE	0,*			
	xemc	INTE	0,*		first coordinate in chart of the EMC sphere	
	yemc	INTE	0,*		second coordinate in chart of the EMC sphere	
	NCemc	INTE	1,*		number of EMC cells in this cluster	
	Remc	INTE	0,*			
	type	INTE	-4,*			
	Ehac	INTE	0,*			
	xhac	INTE	0,*		first coordinate in chart of the HAC sphere	
	yhac	INTE	0,*		second coordinate in chart of the HAC sphere	
	NChac	INTE	1,*		number of HAC cells in this cluster	
	Rhac	INTE	0,*			
	Etot	INTE	0,*			
	xtot	INTE	0,*		first coordinate in chart of the sphere	
	ytot	INTE	0,*		second coordinate in chart of the sphere	
	NCtot	INTE	1,*		HAC cells + 4 * EMC cells	
	Rtot	INTE	0,*			

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
Ctrcon					SLCT cluster finding constants	CALSLCT
	ID	SNUM				
	regnum	INTE	0,*		region number	
	scale	INTE	1,*		distance units in one cm	
	emcclucut	INTE	0,*		cut on energy EMC cluster in MeV	
	hacclucut	INTE	0,*		cut on energy HAC cluster in MeV	
	emccelcut	INTE	0,*		cut on EMC cell energy in MeV	
	haccelcut	INTE	0,*		cut on HAC cell energy in MeV	
	hacpreclucut	INTE	0,*		cut on energy HAC pre-cluster in MeV	
	emcpreclucut	INTE	0,*		cut on energy EMC pre-cluster in MeV	
	rfact	INTE	0,*		hadron cluster radius multiplier in cm*MeV	
	rofs	INTE	0,*		hadron cluster radius offset in cm	
	radem	INTE	0,*		EM cluster radius	
	EMUmin	INTE	0,*		minimum muon energy in EMC	
	EMUmax	INTE	0,*		maximum muon energy in EMC	
	HMUmin	INTE	0,*		minimum muon energy in HAC	
	HMUmax	INTE	0,*		maximum muon energy in HAC	
	MUratmin	INTE	0,*		minimal HAC/EMC muon energy ratio	
	MUratmax	INTE	0,*		maximal HAC/EMC muon energy ratio	
	MUcellmin	INTE	0,*		Low cell count for muons	
	MUcellmax	INTE	0,*		High cell count for muons	
	emult	INTE	0,*		energy multiplier in MeV	
	ediv	INTE	1,*		energy divider in PM counts	
	pldist	INTE	0,*		distance from IP to z-plane (F/RCAL) or r-cylinder (BCAL) in distance units	
Ctreem					Trigger energy table for EMC	CALSLCT
	ID	SNUM				
	E	INTE	0,*		energy in counts	
	regnum	INTE	0,*		region number of this cell	
	seqnum	INTE	1,*		sequence number of this cell in this region	
	Ctrgem	REL			Each EMC energy is related to one set of geometries	
Ctreha					Trigger energy table for HAC	CALSLCT
	ID	SNUM				
	E	INTE	0,*		energy in counts	
	regnum	INTE	0,*		region number of this cell	
	seqnum	INTE	1,*		sequence number of this cell in this region	
	Ctrgha	REL			Each HAC energy is related to one set of geometries	
Ctrepc					SLCT online EMC pre-cluster	CALSLCT
	ID	SNUM				
	regnum	INTE	0,*			
	Eemc	INTE	0,*			
	xemc	INTE	0,*		first coordinate in chart of the EMC sphere	
	yemc	INTE	0,*		second coordinate in chart of the EMC sphere	
	NCemc	INTE	1,*		number of EMC cells in this cluster	
	Remc	INTE	0,*			
	type	INTE	-4,*			
	Ctrhpc	REL		P	There is a possibility to link EMC and HAC pre-clusters	
Ctrgem					SLCT Calorimeter geometry constants for EMC cells	CALSLCT
	ID	SNUM				
	regnum	INTE	0,*		region number of this cell	
	seqnum	INTE	1,*		sequence number of this cell in this region	
	x	INTE	0,*		first coordinate in chart of the sphere	
	y	INTE	0,*		second coordinate in chart of the sphere	
	pt	INTE	0,1000		transverse projection	
	px	INTE	-1000,1000		projection on x axis	
	py	INTE	-1000,1000		projection on y axis	
	pz	INTE	-1000,1000		projection on z axis	
Ctrgha					SLCT Calorimeter geometry constants for HAC cells	CALSLCT
	ID	SNUM				
	regnum	INTE	0,*		region number of this cell	
	seqnum	INTE	1,*		sequence number of this cell in this region	
	x	INTE	0,*		first coordinate in chart of the sphere	
	y	INTE	0,*		second coordinate in chart of the sphere	
	pt	INTE	0,1000		transverse projection	
	px	INTE	-1000,1000		projection on x axis	
	py	INTE	-1000,1000		projection on y axis	
	pz	INTE	-1000,1000		projection on z axis	
Ctrglo					global sums resulting from SLCT algorithm	CALSLCT
	ID	SNUM				
	EtotEM	INTE	0,*		total energy deposition in EMC	
	EtotHA	INTE	0,*		total energy deposition in HAC	
	NcelEM	INTE	0,*		number of EMC cells above threshold	
	NcelHA	INTE	0,*		number of HAC cells above threshold	
	PtEMC	INTE	0,*		transverse momentum in EMC	
	PxEMC	INTE	0,*		x-momentum in EMC	
	PyEMC	INTE	0,*		y-momentum in EMC	
	PzEMC	INTE	0,*		z-momentum in EMC	
	PtHAC	INTE	0,*		transverse momentum in HAC	
	PxHAC	INTE	0,*		x-momentum in HAC	
	PyHAC	INTE	0,*		y-momentum in HAC	
	PzHAC	INTE	0,*		z-momentum in HAC	
Ctrhpc					SLCT online HAC pre-cluster	CALSLCT
	ID	SNUM				
	regnum	INTE	0,*			
	Ehac	INTE	0,*			
	xhac	INTE	0,*		first coordinate in chart of the HAC sphere	
	yhac	INTE	0,*		second coordinate in chart of the HAC sphere	
	NChac	INTE	1,*		number of HAC cells in this cluster	
	Rhac	INTE	0,*			

V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
CuPaOb					Condensates after reprocessing in phase 2.	CcPhs2
	ID	SNUM				
	class	CHA8			classification name of condensate	
	x	REAL			x coordinate in ZEUS	
	y	REAL			y coordinate in ZEUS	
	z	REAL			z coordinate in ZEUS	
	E	REAL	0.0,*		total energy of condensate	
	radius	REAL	0.0,*		radius of condensate	
	cx	REAL	-1.0,1.0	P	cosine of Euler angle w.r.t. to x axis	
	cy	REAL	-1.0,1.0	P	cosine of Euler angle w.r.t. to y axis	
	cz	REAL	-1.0,1.0	P	cosine of Euler angle w.r.t. to z axis	
	Eemc	REAL	0.0,*		EMC energy of condensate	
	Cemc(1)	REAL		P	condensate centre in EMC	
	Cemc(2)	REAL		P	""	
	Cemc(3)	REAL		P	""	
	Ehac1	REAL	0.0,*		HAC1 energy of condensate	
	Chac1(1)	REAL		P	condensate centre in HAC1	
	Chac1(2)	REAL		P	""	
	Chac1(3)	REAL		P	""	
	Ehac2	REAL	0.0,*	P	HAC2 energy of condensate	
	Chac2(1)	REAL		P	condensate centre in HAC2	
	Chac2(2)	REAL		P	""	
	Chac2(3)	REAL		P	""	
	NcEmc	INTE			Number of EMC cells hit	
	NcHac1	INTE			Number of HAC1 cells hit	
	NcHac2	INTE			Number of HAC2 cells hit	
Cuepli					Link table between cells and EMC pre-clusters	CUTRAL
	ID	SNUM				
	uCal	INTE	51,54		F/RCAL or BCAL	
	uregnum	INTE	0,*		region number of this cell	
	useqnum	INTE	0,*		sequence number of this cell in this region	
	Cutepc	REL			An EMC pre-cluster may consist of trigger cells	
Cuhpli					Link table between cells and HAC pre-clusters	CUTRAL
	ID	SNUM				
	uCal	INTE	51,54		F/RCAL or BCAL	
	uregnum	INTE	0,*		region number of this cell	
	useqnum	INTE	0,*		sequence number of this cell in this region	
	Cuthpc	REL			A HAC pre-cluster consists of trigger cells	
Cutclu					cluster found with SLCT algorithm	CUTRAL
	ID	SNUM				
	uregnum	INTE	0,*			
	uEemc	REAL	0.0,*			
	uxemc	REAL	0.0,*		first coordinate in chart of the EMC sphere	
	uyemc	REAL	0.0,*		second coordinate in chart of the EMC sphere	
	uNCemc	INTE	0,*		number of EMC cells in this cluster	
	uRemc	REAL	0.0,*			
	utype	INTE	-4,*			
	uEhac	REAL	0.0,*			
	uxhac	REAL	0.0,*		first coordinate in chart of the HAC sphere	
	uyhac	REAL	0.0,*		second coordinate in chart of the HAC sphere	
	uNChac	INTE	0,*		number of HAC cells in this cluster	
	uRhac	REAL	0.0,*			
	uEtot	REAL	0.0,*			
	uxtot	REAL	0.0,*		first coordinate in chart of the sphere	
	uytot	REAL	0.0,*		second coordinate in chart of the sphere	
	uNCtot	INTE	0,*		HAC cells + 4 * EMC cells	
	uRtot	REAL	0.0,*			
Cuteem					energy table for EMC	CUTRAL
	ID	SNUM				
	uE	REAL	0.0,*		energy in counts	
	uregnum	INTE	0,*		region number of this cell	
	useqnum	INTE	0,*		sequence number of this cell in this region	
	Ctrgem	REL			Each EMC energy is related to one set of geometries	
Cuteha					energy table for HAC	CUTRAL
	ID	SNUM				
	uE	REAL	0.0,*		energy in counts	
	uregnum	INTE	0,*		region number of this cell	
	useqnum	INTE	0,*		sequence number of this cell in this region	
	Ctrgha	REL			Each HAC energy is related to one set of geometries	
Cutepc					EMC pre-cluster	CUTRAL
	ID	SNUM				
	uregnum	INTE	0,*			
	uEemc	REAL	0.0,*			
	uxemc	REAL	0.0,*		first coordinate in chart of the EMC sphere	
	uyemc	REAL	0.0,*		second coordinate in chart of the EMC sphere	
	uNCemc	INTE	0,*		number of EMC cells in this cluster	
	uRemc	REAL	0.0,*			
	utype	INTE	-4,*			
	Cuthpc	REL		P	There is a possibility to link EMC and HAC pre-clusters	
Cuthpc					HAC pre-cluster	CUTRAL
	ID	SNUM				
	uregnum	INTE	0,*			
	uEhac	REAL	0.0,*			
	uxhac	REAL	0.0,*		first coordinate in chart of the HAC sphere	
	uyhac	REAL	0.0,*		second coordinate in chart of the HAC sphere	
	uNChac	INTE	0,*		number of HAC cells in this cluster	
	uRhac	REAL	0.0,*			
Cutlin					Link table between cells and clusters	CUTRAL
	ID	SNUM				
	uCal	INTE	51,54		F/RCAL or BCAL	
	uregnum	INTE	0,*		region number of this cell	
	useqnum	INTE	0,*		sequence number of this cell in this region	
	Cutclu	REL			A trigger cluster consists of trigger cells	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
DEADIR						DEAMAP
	ID	SNUM				
	MapName	CH32			Name of dead map file ("normal", "McHeavyFtdCables").	
	DflName	CH32			Name of Dataflow where map is stored.	
	MCvers	INTE			MC version:0 - "normal", 1 -"McHeavyFtdCables"	
	zvtxval	REAL			Z-position of vertex	
	DEAPAR	REL				
DEAMAP						DEAMAP
	ID	SNUM				
	dead(1)	REAL			Dead map	
	.				""	
	dead(6)	REAL			""	
DEAPAR						DEAMAP
	ID	SNUM				
	nPhi	INTE			Phi bins	
	nTheta	INTE			Theta bins	
	nZ	INTE			Number of asc2 files	
	Zmax	REAL			z-vertex maximum	
ENVERR					ENV Table Slow Conrol Outgoing Error Codes	LPRawEvent
Static	ID	IMPL				
	DIG	INTE			integer error codes	
EvCond						ZREVCOND
	ID	SNUM				
	B0Sol	REAL	0.0,20.0		Magnetic field (kG) at centre of solenoid	
	AtmPress	REAL	500.0,0.200E+04		Atmospheric pressure (mBar)	
	eCurrent	REAL	0.0,0.100E+04		HERA electron current (mA)	
	pCurrent	REAL	0.0,0.100E+04		HERA proton current (mA)	
	CTDHV	REAL	0.0,0.100E+04		Nominal CTD sense wire surface field (kV/cm). Note that this may be changed to compensate for atm. pressure fluctuations.	
	CTDGas	INTE	0,*		CTD gas composition code of form xxxyyyzz where: xxx = parts/1000 CO2, yyy = parts/1000 ethane (remainder is argon), zz = ethanol injection rate (microlitres/min)	
EvHMM					History table for EACH event. Note that there is no separate EvOut table - EvOut and EvHMM are one and the same table!	HISTHDRS
	ID	SNUM				
	jobname	CHA8			program name	
	computerid	INTE			Numerical identifier of computer on which job was run. Used in combination with jobtime(2) to provide unique identifier.	
	jobtime(1)	INTE			Job time in usual Zeus 2-word array YYYYMMDD,HHMMSS	
	jobtime(2)	INTE			""	
FCBDUMP						FC
	ID	SNUM				
	low	BITP			BIT(0-15) EMC Energy BIT(16-31) HAC Energy	
FCBOR						FC
	ID	SNUM				
	I(1)	INTE			Integer array for miscellaneous threshold info	
	.				""	
	I(10)	INTE			""	
FCBRAW						FC
	ID	SNUM				
	low	BITP			BIT(0-15) EMC Energy BIT(16-31) HAC Energy	
	high	BITP			BIT(0-3) Tower-Column BIT(4-8) Tower-Row BIT(9-10) Calorimeter Label (redundant) BIT(11) Member of cluster flag BIT(12) Member of periphery flag (11 & 12 are exclusive) BIT(13) First tower of cluster flag BIT(14-15) Unused BIT(16-31) SUM Energy	
FCCLU2						FC
	ID	SNUM				
	emchac	BITP			BIT(0-15) HAC Energy of cluster BIT(16-31) EMC Energy of cluster	
	ezper	BITP			BIT(0-15) Energy in periphery BIT(16-31) Z-Energy	
	amaxnt	BITP			BIT(0-15) Number of towers in cluster BIT(16-31) Address (as in table FC*RAW)	
	exeng	BITP			BIT(0-15) Energy of Cluster BIT(15-31) X-Energy	
	etey	BITP			BIT(0-15) Y-Energy BIT(15-31) Transverse Energy	
	reladr	BITP			BIT(0-15) relative-address BIT(15-31) relative-address (same bits repeated	
FCCLUS						FC
	ID	SNUM				
	hacemc	BITP			BIT(0-15) HAC Energy of cluster BIT(16-31) EMC Energy of cluster	
	pernum	BITP			BIT(0-15) Energy in periphery BIT(16-31) Number of towers in cluster	
	enemax	BITP			BIT(0-15) Address (as in table FC*RAW) BIT(16-31) Energy of Cluster	
	eyex	BITP			BIT(0-15) X-Energy BIT(15-31) Y-Energy	
FCEOR						FC
	ID	SNUM				
	I(1)	INTE			Integer array for EOR summary of FC performance statistics and readout status	
	.				""	
	I(10)	INTE			""	
FCFDUMP						FC
	ID	SNUM				
	low	BITP			BIT(0-15) EMC Energy BIT(16-31) HAC Energy	

V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
FCFIF2						FC
	ID	SNUM				
	B	BITP			BIT(0-15) starting address in dpm/BCAL BIT(16-31) word count (coutab(FCBRAW))	
	R	BITP			BIT(0-15) starting address in dpm/RCAL BIT(16-31) word count (coutab(FCRRAW))	
	F	BITP			BIT(0-15) starting address in dpm/FCAL BIT(16-31) word count (coutab(FCFRAW))	
	T	BITP			BIT(0-15) starting address in dpm/Trigger Card BIT(16-31) word count (5*coutab(FCCLUS))	
	RESULT	BITP			BIT(0-15) total energy BIT(16-23) FLT number BIT(24-25) FLT type BIT(26) FC abort BIT(27) Electron BIT(28) Missing ET flag BIT(29) Beam Gas flag BIT(30) Dump Flag BIT(31) GFLT Abort	
	ETLOW	BITP			BIT(0-15) missing ET low order BIT(16-31) processing time	
	ETHIG	BITP			BIT(0-15) missing ET high order BIT(16-31) error bits,e-pz bits BIT(16) Fatal, Done BIT(17) Fatal, Not Done BIT(18) Event too big BIT(19) Processing incomplete BIT(20) E-PZ low threshold BIT(21) E-PZ high threshold BIT(22) Cluster ET BIT(23-31) Reserved	
	EMPZ	BITP			BIT(0-15) E-PZ BIT(16-31) hex(FACE)(integrity check)	
FCFIFO						FC
	ID	SNUM				
	B	BITP			BIT(0-15) starting address in dpm/BCAL BIT(16-31) word count (coutab(FCBRAW))	
	R	BITP			BIT(0-15) starting address in dpm/RCAL BIT(16-31) word count (coutab(FCRRAW))	
	F	BITP			BIT(0-15) starting address in dpm/FCAL BIT(16-31) word count (coutab(FCFRAW))	
	T	BITP			BIT(0-15) starting address in dpm/Trigger Card BIT(16-31) word count (4*coutab(FCCLUS))	
	RESULT	BITP			BIT(0-15) total energy BIT(16-23) FLT number BIT(24-25) FLT type BIT(26) FC abort BIT(27) Electron BIT(28) Missing ET flag BIT(29) Beam Gas flag BIT(30) Dump Flag BIT(31) GFLT Abort	
	ETLOW	BITP			BIT(0-15) missing ET low order BIT(16-31) processing time	
	ETHIG	BITP			BIT(0-15) missing ET high order BIT(16-31) error bits	
FCFRAW						FC
	ID	SNUM				
	low	BITP			BIT(0-15) EMC Energy BIT(16-31) HAC Energy	
	high	BITP			BIT(0-3) Tower-Column BIT(4-8) Tower-Row BIT(9-10) Calorimeter Label (redundant) BIT(11) Member of cluster flag BIT(12) Member of periphery flag (11 & 12 are exclusive) BIT(13) First tower of cluster flag BIT(14-15) Unused BIT(16-31) SUM Energy	
FCICLUST						X1
	ID	SNUM				
	Cluengy	BITP			BIT(0-15) Cluster energy BIT(16-31) Perimeter energy	
	Exey	BITP			BIT(0-15) Ex BIT(16-31) Ey	
	Emchac	BITP			BIT(0-15) Emc BIT(16-31) Hac	
	Cluinfo	BITP			BIT(0-10) Cluster address BIT(11-18) Number of tower	
FCRCLUST						X1
	ID	SNUM				
	Towadd	BITP			BIT(0-8) Tower address BIT(9-10) Cage number BIT(11-14) Tag BIT(16-27) Energy sum	
	Remchac	BITP			BIT(0-11) EMC energy BIT(16-27) HAC energy	
FCRDUMP						FC
	ID	SNUM				
	low	BITP			BIT(0-15) EMC Energy BIT(16-31) HAC Energy	
FCRRAW						FC
	ID	SNUM				
	low	BITP			BIT(0-15) EMC Energy BIT(16-31) HAC Energy	
	high	BITP			BIT(0-3) Tower-Column BIT(4-8) Tower-Row BIT(9-10) Calorimeter Label (redundant) BIT(11) Member of cluster flag BIT(12) Member of periphery flag (11 & 12 are exclusive) BIT(13) First tower of cluster flag BIT(14-15) Unused BIT(16-31) SUM Energy	
FCSCLUST						X1
	ID	SNUM				
	Summary	BITP			BIT(0:7) FLT number BIT(8-9) GFLT type BIT(10) NC tag BIT(11) CC tag BIT(12) BG tag	
	Metel	BITP			BIT(0-19) Missing Et BIT(20-31) Isolated Electron Energy	
FCSTAT						FC
	ID	SNUM				
	I(1)	INTE			Integer array for transient summary of FC performance statistics and readout status	
	.				""	
	I(10)	INTE			""	
FECLST					Analog Card Info	CFLCALT
	ID	SNUM				
	CAL	CHA4				
	Number	CHA8				
	I(1)	CHA8				
	.					
	I(12)	CHA8				

V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
FMCBeam					Beam conditions of HERA generated for each Monte Carlo event and applied to FMCKIN and FMCVTX .	FMCZBeam
	ID	SNUM				
	Vtx(1)	REAL			Vertex of event (cm) produced to simulate the interaction point	
	Vtx(2)	REAL			""	
	Vtx(3)	REAL			""	
	VtxOption	INTE			Option used to generate vertex	
	Pproton(1)	REAL			Momentum of initial proton (GeV) accounting for beam tilt and emittance	
	Pproton(2)	REAL			""	
	Pproton(3)	REAL			""	
	Plepton(1)	REAL			Momentum of initial lepton (GeV) accounting for beam tilt and emittance	
	Plepton(2)	REAL			""	
	Plepton(3)	REAL			""	
	EmitOption	INTE			Option used to generate beam momenta	
FMCEvt					Physics generator event header information. The conditions of the particular physics generator are recorded in a table specific to each generator related to FMCEvt by a generalised relationship. References : Zeus-Note-91-13	FMCZEvt
	ID	SNUM				
	EvtNum	INTE			Generator event number.	
	MozRNDM(1)	INTE			Random number seeds in Mozart at start of event.	
	MozRNDM(2)	INTE			""	
	Weight	REAL			Event weight. This is the statistical weight. Add them up and you get the total weight of the sample.	
	Generator	GEN			Each physics generator header table is related to the FMCRun table in order to record the run cnditions.	
	Generator_	REL			""	
FMCFte					Records the "fate" of "physics" tracks. "Physics" tracks are tracks from the primary vertex, or their decay products. NOTE: One exception is the case of skipped tracks by GUSKIP (i.e. neutrino) In this case position and other information are taken from generated position and also KSENS is set to zero, even inside UCAL sensitive volume.	FMCZEvt
	ID	SNUM				
	IDCAL	INTE			= KVOL*10 + KSENS where, KVOL = 1(FCAL), 2(RCAL), 3(BCAL), 4(BPC) and 0 (other) KSENS = 1 -> reached calorimeter sensitive volume without loosing its identity. = 0 -> lost its identity before reaching calorimeter sensitive vol., (e.g. front Al plate, Pb sheet etc...) or missed it. (i.e. no deposit at all in UCAL) (NOTE: If USEd FASTUC, maybe KSENS=0)	
	R(1)	REAL			Position (cm) of first energy deposit in calorimeter if IDCAL.ne.0, otherwise the postion where the particle lost its identity.	
	R(2)	REAL			""	
	R(3)	REAL			""	
	N(1)	REAL			Unit vector (px/p,py/p,pz/p) at position R(3)	
	N(2)	REAL			""	
	N(3)	REAL			""	
	P	REAL			Momentum (GeV/c) at R(3)	
	TOF	REAL			Time of flight at R(3)	
	CELL	INTE			Cell number at R(3) or RM(3) with standard numbering scheme KSENS = 1 -> CellNr for first enegy deposit = 0 -> CellNr for identity lost	
	IDMEC	CHA4			Mechanism with which physics particle lost its identity	
	RM(1)	REAL			Position (cm) where the particle lost its identity.	
	RM(2)	REAL			""	
	RM(3)	REAL			""	
	NM(1)	REAL			Unit vector (px/p,py/p,pz/p) at position RM(3)	
	NM(2)	REAL			""	
	NM(3)	REAL			""	
	PM	REAL			Momentum (GeV/c) at RM(3)	
	TOFM	REAL			Time of flight at RM(3)	
	FMCKin	REL			Every "fate" entry is related to a "physics" track in FMCKin	
FMCKin					Record of the tracks created by both the PHYSICS generator and the DETECTOR SIMULATION. The tree is established by the relation of FMCKin to itself. The particle type is established by the relationship to FMCPrt. References : Zeus-Note-91-13	FMCZEvt
	ID	SNUM				
	P(1)	REAL			Four momentum (GeV) and Mass (GeV) of particle. P(1) = PX, P(2)=PY, P(3)=PZ,P(4)=E, P(5) = Mass. For spacelike particles P(5) = -Sqrt(-(E**2 - p**2)).	
	.				""	
	P(5)	REAL			""	
	Decay	LOGI			TRUE if particle has decayed or fragmented - false otherwise.	
	ISTHEP	INTE			ISTHEP code from ZDIS Generator and from MOZART. See full description a start of Subschema FMCZEvt.	
	DaughterOf	REL		P	Some particles are generated by other particles	
	FMCPrt	REL			Every four-momentum is of a given particle type	
	PRoducedAt	REL		P	Each four-momentum is produced in a vertex, or is external (beam)	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
FMCPCd					Corrispondence among particle codes of various generators	FMCZStat
	ID	SNUM				
	StandCod	INTE	-99999,100000		Standard code provided by Particle Data Group	
	HerCod	INTE			Herwig code for particles	
	IsaCod	INTE			Isojet code for particles	
	EuroCod	INTE			Euro code for particles	
	LundCod	INTE			Lund code for particles	
	GeantCod	INTE			Geant code for prticles	
FMCPrt					a particle type	FMCZStat
	ID	SNUM				
	Name	CH16				
	Mass	REAL	0.0,500.0		mass in GeV/C**2	
	Charge	REAL	-2.0,2.0		particle charge in elementary charge unit	
	LifeTime	REAL	0.0,*		particle life time in sec.	
FMCRun					Physics generator run header information. The conditions of the particular physics generator are recorded in a table specific to each generator related to FMCRun by a generalised relationship. References : Zeus-Note-91-13	FMCZRUNS
	ID	SNUM				
	GenerName	CH16			Generator name.	
	Institute	CH16			Institute which generated the events.	
	Date(1)	INTE			Date and time when generator was run. Format of Date(2) as defined for date/time stamping in subschema ZDIO.	
	Date(2)	INTE			""	
	Generator	GEN			Each physics generator header table is related to the FMCRun table in order to record the run cnditions.	
	Generator_	REL			""	
FMCVtx					Record of the vertices created both by the PHYSICS generator and the DETECTOR SIMULATION. References : Zeus-Note-91-13	FMCZEvt
	ID	SNUM				
	R(1)	REAL			X,Y,Z position of vertex. Coords are Zeus cartesian coordinates.	
	R(2)	REAL			""	
	R(3)	REAL			""	
	ProdTime	REAL			Production time of vertex in units of 3.33*10**(-12) seconds. (units used by /HEPEVT/)	
	Type	CHA8			Either the name of the physics generator creating this vertex and the tracks which hang from it, or the Geant process name which created this vertex and the tracks which hang from it.	
	PRoducedBy	REL		P	Each vertex is produced by one particle except the beam-vertex	
FN6SAM					FN6SAM contains samples info per PM after DSP processing for those PMs which were not successfully processed in DSP energy determination. The samples are the CORRECTED samples. FNC signals only.	FNBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		FNC PM number	
	HighSam1Sam0	INTE			16 bits sample 1, 16 bits sample 0, high gain.	
	HighSam3Sam2	INTE			16 bits sample 3, 16 bits sample 2, high gain.	
	HighSam5Sam4	INTE			16 bits sample 5, 16 bits sample 4, high gain.	
	LowSam1Sam0	INTE			16 bits sample 1, 16 bits sample 0, low gain.	
	LowSam3Sam2	INTE			16 bits sample 3, 16 bits sample 2, low gain.	
	LowSam5Sam4	INTE			16 bits sample 5, 16 bits sample 4, low gain.	
FN8SAM					FN8SAM contains samples info per PM after DSP processing for those PMs which were not successfully processed in DSP energy determination. The samples are the CORRECTED samples. FNC signals only.	FNBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		FNC PM number	
	HighSam1Sam0	INTE			16 bits sample 1, 16 bits sample 0, high gain.	
	HighSam3Sam2	INTE			16 bits sample 3, 16 bits sample 2, high gain.	
	HighSam5Sam4	INTE			16 bits sample 5, 16 bits sample 4, high gain.	
	HighSam7Sam6	INTE			16 bits sample 7, 16 bits sample 6, high gain.	
	LowSam1Sam0	INTE			16 bits sample 1, 16 bits sample 0, low gain.	
	LowSam3Sam2	INTE			16 bits sample 3, 16 bits sample 2, low gain.	
	LowSam5Sam4	INTE			16 bits sample 5, 16 bits sample 4, low gain.	
	LowSam7Sam6	INTE			16 bits sample 7, 16 bits sample 6, low gain.	
FNBAD					Bad channel list for the FNC	FNBANK
Static	ID	IMPL				
	Channelcontrol	BITP			bad channel error code	
	PMNr	INTE	0,*		FNC PM number	
	Hardwarenumber	BITP			hardware number	
FNBECA					BOR Electronics Calibration Data, contains calibration data which changes rather frequently.	FNBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number	
	HGainH2Q(1)	INTE			H->Q high gain, bits 0-23: factor, bits 24-31: offset	
	.				""	
	HGainH2Q(24)	INTE			""	
	LGainH2Q(1)	INTE			H->Q low gain, bits 0-23: factor, bits 24-31: offset	
	.				""	
	LGainH2Q(24)	INTE			""	
	TimeOff(1)	INTE			Time offset: bits 0-15: high gain, bits 16-31: low gain	
	.				""	
	TimeOff(24)	INTE			""	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
FNCDAT					Data for forward neutron calorimeter Bank.	FNC
Static	ID	IMPL				
	Idn	INTE	0,*		Phototube ID.	
	ADC	INTE	0,*		ADC value.	
	Ped	REAL	0.0,*		Pedestal values.	
	Gain	REAL	0.0,*		Gain of phototube.	
	Thresh	REAL	0.0,*		Threshold .	
	Spar1	REAL	0.0,*		First spare - real.	
	Spar2	INTE			Second spare - integer	
FNCOEN					FNC PM energy, low byte only; the order of PMs in this bank corresponds to the PM-number order given in the corresponding xxPMNO-bank	FNBANK
Static	ID	IMPL				
	PMEnLowBytes	BITP			Bits 0- 7: Energy cell n, Bits 8-15: Energy cell n+1, Bits 16-23: Energy cell n+2, Bits 24-31: Energy cell n+3	
FNCTRG					Trigger information for forward neutron calorimeter.	FNC
Static	ID	IMPL				
	Trg(1)	INTE	0,*		Four words for trigger info.	
	.		0,*		""	
	Trg(4)	INTE	0,*		""	
FNDCCN					FNC Digital Card Control Bank. Bits described from Most Significant Bits down to Least Significant Bits. More details available from ONLINE experts.	FNBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number.	
	DCFLTword	BITP			8 bits parity check (#80 is correct value, other are errors), 8 bits DC page number (0-15), 8 bits FLT bits, 8 bits FLT number	
	PCellnumber	BITP			8 bits Pipeline cell number, 24 bits bit=1:samples available	
	Readoutinfo	BITP			8 bits readout info, 24 bits bit=1:Dead or Bad channel	
	TPGinfo	BITP			8 bits Test Pulse Generator, 24 bits bit=1:low gain samples used	
FNDICO					Just to have the table there!	FNGEOM
	ID	SNUM				
	Word1	REAL			PlaceHolder for now! NMcC Aug93	
FNDIV						FNGEOM
	ID	SNUM				
	mother	CHA4			Name of the mother volume	
	step	REAL	-0.100E+05,0....		Division step	
	axis	INTE	1,3		Axis division	
	ndiv	INTE	1,9999		Number of divisions	
FNDMON					FNDMON contains monitor information produced at the DSP for FNC	FNBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number.	
	Baseline(1)	INTE			baseline: 1 per PM	
	.				""	
	Baseline(24)	INTE			""	
	TimeAverage(1)	INTE			average time: 1 per PM	
	.				""	
	TimeAverage(24)	INTE			""	
	Counter(1)	INTE				
	Counter(2)	INTE				
	NoRcnErr(1)	INTE			reconstruction error counters, 16 bits per PM.	
	.				""	
	NoRcnErr(12)	INTE			""	
	Spare(1)	INTE			To be defined later	
	.				""	
	Spare(12)	INTE			""	
FNDUMS					FNC Front End Card/ADC characteristics, means and r.m.s.	FNBANK
Static	ID	IMPL				
	TpDcAdcId	BITP			Bitpattern giving the ADC: Bits 0-7 ADC No. (1-4) Bits 9-15 DC No.(1-17) Bits 16-31 Crate identifier.	
	gndDU1M	REAL				
	gndDU1S	REAL				
	VtemporVidM	REAL				
	VtemporVidS	REAL				
	VpowerM	REAL				
	VpowerS	REAL				
	VprecM	REAL				
	VprecS	REAL				
	DU0M	REAL				
	DU0S	REAL				
	DU1M	REAL				
	DU1S	REAL				
	DU2M	REAL				
	DU2S	REAL				
	DU3M	REAL				
	DU3S	REAL				
	DU4M	REAL				
	DU4S	REAL				
	DU5M	REAL				
	DU5S	REAL				
	muxVrM	REAL				
	muxVrS	REAL				
	gndDU2M	REAL				
	gndDU2S	REAL				

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
FNGHIT					Possible definition of MC tables for the FNC	FNCaTr
	ID	SNUM				
	SignalNr	INTE			1 = Left PMT (low x in global Zeus coord) 2 = Right PMT (high x in global Zeus coord) 3 = Forward Scintillator 4 = Rear Scintillator 5 = Veto Scintillator	
	ScinDep	REAL			Deposited charge in PMT, mips or pC (to be decided) in scintillators	
	TimeDep	REAL			Deposition time	
	FMCKin	REL		P	Tracks may cause one or more hits in the FNCAL	
	FNTENE	REL		P	Monte Carlo hits give rise to raw calorimeter data	
FNOCal					FNC offlinecalibration constants	FNCaPhs1
	ID	SNUM				
	PMNr	BITP			PMT number	
	Gain	REAL			Gain for each PMT	
	WLS	REAL			Attenuation factor WLS	
FNPARA						FNGEOM
	ID	SNUM				
	par	REAL	0.0,0.100E+05		A parameter defining a volume	
	of	GEN			A parameter is of a volume or a position	
	of_	REL			""	
FNPDMS					FNPDMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for LED testtriggers for FNC.	FNBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		FNC PM Nr	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
	NoRecoErr	INTE			number of reconstruction errors	
FNPLMS					FNPLMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for LASER testtriggers for FNC.	FNBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		FNC PM Nr	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
	NoRecoErr	INTE			number of reconstruction errors	
FNPMNO					FNC PM numbers; the order of PM-numbers in this bank corresponds to the order of the entries of energy low-bytes in the corresponding xxCOEN-bank; NB: there may be entries with zero value	FNBANK
Static	ID	IMPL				
	PMNrs	BITP			Bits 0-15: Number of PM n, Bits 16-31: Number of PM n+1	
FNPOS						FNGEOM
	ID	SNUM				
	nr	INTE	1,9999		Serial number	
	mother	CHA4			Name of the mother volume	
	x	REAL	-0.100E+06,0....		X linear dimension	
	y	REAL	-0.100E+06,0....		Y linear dimension	
	z	REAL	-0.100E+06,0....		Z linear dimension	
	konly	CHA4	MANY,MANY ONLY,ONLY		If MANY,a point in this volume may be in another	
	Detector	REL		P	each sensible volume positioned is related to some digitization parameter	
	rotm	REL			each positioned volume is related to a rotation matrix	
	volu	REL			A position belong to a volume	
FNPPMS					FNPPMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for PED testtriggers for FNC.	FNBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		FNC PM Nr	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
	NoRecoErr	INTE			number of reconstruction errors	
FNPQMS					FNPQMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for QINJ testtriggers for FNC.	FNBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		FNC PM Nr	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
	NoRecoErr	INTE			number of reconstruction errors	
FNRJCT						FNGEOM
	ID	SNUM				
	config	INTE	0,9999		Selects configuration	
	of	GEN			Rejected volumes and positions	
	of_	REL			""	
FNSDET						FNGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	type	INTE	1,9999		detector type	
	nwhi	INTE	1,9999		Numb. words primary alloc. HITS	
	nwdi	INTE	1,9999		Numb. words DIGI when primary not suff.	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
FNSDTA						FNGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nwhi	INTE	1,9999		Initial HITS allocation	
	nwdi	INTE	1,9999		Increment of DIGI allocation	
	sdet	REL				
FNSDTD						FNGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	of	GEN			Sensible detectors and aliases digitizations	
	of_	REL			""	
FNSDTH						FNGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	orig	REAL			to define the hit elem. positive	
	fact	REAL			IVAR= VAR + ORIG*FACT	
	of	GEN			Each detector element needs the parameter definition	
	of_	REL			""	
FNSDTU						FNGEOM
	ID	SNUM				
	upar	REAL			User parameter	
	of	GEN			User parameters for sensible detectors and aliases	
	of_	REL			""	
FNSDTV						FNGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	sdet	REL			Physical detectors for the master detector identifier	
FNTENE					FNTENE contains signals from FNC after DSP processing in the 2TP system.	FNBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		FNC PM number	
	ETWord	BITP			Least significant 24 bits contain energy recorded in this PM. Most significant 8 bits contain time.	
FNUM					FNC Front End Card/ADC characteristics.	FNBANK
Static	ID	IMPL				
	TpDcAdcId	BITP			Bitpattern giving the ADC: Bits 0-7 ADC No. (1-4) Bits 9-15 DC No.(1-17) Bits 16-31 Crate identifier.	
	gndDU1	INTE				
	VtemporVid	INTE				
	Vpower	INTE				
	Vprec	INTE				
	DU0	INTE				
	DU1	INTE				
	DU2	INTE				
	DU3	INTE				
	DU4	INTE				
	DU5	INTE				
	muxVr	INTE				
	gndDU2	INTE				
FNUN					==>OBSOLETE; FNC Front End Card/ADC characteristics.	FNBANK
Static	ID	IMPL				
	gndDU1	INTE				
	VtemporVid	INTE				
	Vpower	INTE				
	Vprec	INTE				
	DU0	INTE				
	DU1	INTE				
	DU2	INTE				
	DU3	INTE				
	DU4	INTE				
	DU5	INTE				
	muxVr	INTE				
	gndDU2	INTE				
FNVOLU						FNGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	shape	CHA4	BOX,BOX TRD1,TRD1 TRD2,TRD2 TRAP,TRAP TUBE,TUBE TUBS,TUBS CONE,CONE CONS,CONS SPHE,SPHE PARA,PARA PGON,PGON PCON,PCON GTRA,GTRA		Shape of the volume	
	div	REL		P	Some volumes may be subdived	
	sdet	REL		P	Some volumes maybe also active detectors	
	tmed	REL			Volume tracking medium number	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
FNXOR					FNC data checksums, Details available from CAL ONLINE experts.	FNBANK
Static	ID	IMPL				
	TPId	INTE			Crate identifier.	
	FNDCCNRows	INTE			Number of rows in FNDCCN bank.	
	FNTENERows	INTE			Number of rows in FNTENE bank.	
	FNCOENRows	INTE			Number of rows in FNCOEN bank.	
	FN8SAMRows	INTE			Number of rows in FN8SAM bank.	
	FN6SAMRows	INTE			Number of rows in FN6SAM bank.	
	ChkWord	BITP			Checksum word.	
	Reserved	INTE			Reserved word.	
FP6SAM					FP6SAM contains samples info per PM after DSP processing for those PMs which were not successfully processed in DSP energy determination. The samples are the CORRECTED samples. FPC signals only.	FPBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		FPC PM number	
	HighSam1Sam0	INTE			16 bits sample 1, 16 bits sample 0, high gain.	
	HighSam3Sam2	INTE			16 bits sample 3, 16 bits sample 2, high gain.	
	HighSam5Sam4	INTE			16 bits sample 5, 16 bits sample 4, high gain.	
	LowSam1Sam0	INTE			16 bits sample 1, 16 bits sample 0, low gain.	
	LowSam3Sam2	INTE			16 bits sample 3, 16 bits sample 2, low gain.	
	LowSam5Sam4	INTE			16 bits sample 5, 16 bits sample 4, low gain.	
FP8SAM					FP8SAM contains samples info per PM after DSP processing for those PMs which were not successfully processed in DSP energy determination. The samples are the CORRECTED samples. FPC signals only.	FPBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		FPC PM number	
	HighSam1Sam0	INTE			16 bits sample 1, 16 bits sample 0, high gain.	
	HighSam3Sam2	INTE			16 bits sample 3, 16 bits sample 2, high gain.	
	HighSam5Sam4	INTE			16 bits sample 5, 16 bits sample 4, high gain.	
	HighSam7Sam6	INTE			16 bits sample 7, 16 bits sample 6, high gain.	
	LowSam1Sam0	INTE			16 bits sample 1, 16 bits sample 0, low gain.	
	LowSam3Sam2	INTE			16 bits sample 3, 16 bits sample 2, low gain.	
	LowSam5Sam4	INTE			16 bits sample 5, 16 bits sample 4, low gain.	
	LowSam7Sam6	INTE			16 bits sample 7, 16 bits sample 6, low gain.	
FPBAD					Bad channel list for the FPC	FPBANK
Static	ID	IMPL				
	Channelcontrol	BITP			bad channel error code	
	PMNr	INTE	0,*		FPC PM number	
	Hardwarenumber	BITP			hardware number	
FPBChan					Offline reprocessing table for channels that are bad	FPCCALIBRATION
	ID	SNUM				
	PMnr	BITP			PM number	
FPBECA					BOR Electronics Calibration Data, contains calibration data which changes rather frequently.	FPBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number	
	HGainH2Q(1)	INTE			H->Q high gain, bits 0-23: factor, bits 24-31: offset	
	.				""	
	HGainH2Q(24)	INTE			""	
	LGainH2Q(1)	INTE			H->Q low gain, bits 0-23: factor, bits 24-31: offset	
	.				""	
	LGainH2Q(24)	INTE			""	
	TimeOff(1)	INTE			Time offset: bits 0-15: high gain, bits 16-31: low gain	
	.				""	
	TimeOff(24)	INTE			""	
FPCBOR					FPC Calibration constants (from Muon events), sent with BOR	FPCCALIBRATION
	ID	SNUM				
	PMnr	INTE			PM number	
	value	REAL	0.0,*		calibration constant	
	error	INTE			error status of PMT	
FPCCal					FPC Calibration constants from cobalt scans	FPCCALIBRATION
	ID	SNUM				
	PMnr	INTE			PM number	
	value	REAL	0.0,*		calibration constant	
	error	INTE			error status of PMT	
FPCOEN					FPC PM energy, low byte only; the order of PMs in this bank corresponds to the PM-number order given in the corresponding xxPMNO-bank	FPBANK
Static	ID	IMPL				
	PMEnLowBytes	BITP			Bits 0- 7: Energy cell n, Bits 8-15: Energy cell n+1, Bits 16-23: Energy cell n+2, Bits 24-31: Energy cell n+3	
FPCPres					FPCPres contains the FPC presampler information	FPOFFL
	ID	SNUM				
	Cellnr	BITP			cell number 1..4	
	E	REAL	0.0,*		energy found in cell	
	t	REAL		P	time info PM	
FPCtru					FPCtru contains calibrated signals from the FPC	FPOFFL
	ID	SNUM				
	Cellnr	BITP			cell number as in POS table	
	E	REAL	0.0,*		energy found in cell	
	t	REAL		P	time info PM	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
FPDCCN					FPC Digital Card Control Bank. Bits described from Most Significant Bits down to Least Significant Bits. More details available from ONLINE experts.	FPBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number.	
	DCFLTword	BITP			8 bits parity check (#80 is correct value, other are errors), 8 bits DC page number (0-15), 8 bits FLT bits, 8 bits FLT number	
	PCellnumber	BITP			8 bits Pipeline cell number, 24 bits bit=1:samples available	
	Readoutinfo	BITP			8 bits readout info, 24 bits bit=1:Dead or Bad channel	
	TPGinfo	BITP			8 bits Test Pulse Generator, 24 bits bit=1:low gain samples used	
FPDMON					FPDMON contains monitor information produced at the DSP for FPC	FPBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number.	
	Baseline(1)	INTE			baseline: 1 per PM	
	.				""	
	Baseline(24)	INTE			""	
	TimeAverage(1)	INTE			average time: 1 per PM	
	.				""	
	TimeAverage(24)	INTE			""	
	Counter(1)	INTE				
	Counter(2)	INTE				
	NoRcnErr(1)	INTE			reconstruction error counters, 16 bits per PM.	
	.				""	
	NoRcnErr(12)	INTE			""	
	Spare(1)	INTE			To be defined later	
	.				""	
	Spare(12)	INTE			""	
FPDUMS					FPC Front End Card/ADC characteristics, means and r.m.s.	FPBANK
Static	ID	IMPL				
	TpDcAdcId	BITP			Bitpattern giving the ADC: Bits 0-7 ADC No. (1-4) Bits 9-15 DC No.(1-17) Bits 16-31 Crate identifier.	
	gndDU1M	REAL				
	gndDU1S	REAL				
	VtemporVidM	REAL				
	VtemporVidS	REAL				
	VpowerM	REAL				
	VpowerS	REAL				
	VprecM	REAL				
	VprecS	REAL				
	DU0M	REAL				
	DU0S	REAL				
	DU1M	REAL				
	DU1S	REAL				
	DU2M	REAL				
	DU2S	REAL				
	DU3M	REAL				
	DU3S	REAL				
	DU4M	REAL				
	DU4S	REAL				
	DU5M	REAL				
	DU5S	REAL				
	muxVrM	REAL				
	muxVrS	REAL				
	gndDU2M	REAL				
	gndDU2S	REAL				
FPFCal					final FPC Calibration constant	FPCCALIBRATION
	ID	SNUM				
	PMnr	INTE			PM number	
	value	REAL	0.0,*		calibration constant	
	error	INTE			error status of PMT	
FPGHit					Monte Carlo hits in the Forward plug Calorimeter, per PM. Energy recorded is the energy deposited by Geant	FPCSIM
	ID	SNUM				
	CPMnr	BITP			Photo Multiplier number	
	EScinDep	REAL			Energy deposited in scintillator	
	TimeDep	REAL			Sampling time	
	FMCKin	REL		P	Tracks may cause one or more hits in the FPC	
	FPTENE	REL		P	Monte Carlo hits give rise to raw FPC data	
FPICer					FPC initial calibration constants from CERN	FPCCALIBRATION
	ID	SNUM				
	PMnr	INTE			PM number	
	value	REAL	0.0,*		calibration constant	
	error	INTE			error status of PMT	
FPICob					FPC initial calibration constants from Cobalt scan 8/98	FPCCALIBRATION
	ID	SNUM				
	PMnr	INTE			PM number	
	value	REAL	0.0,*		calibration constant	
	error	INTE			error status of PMT	
FPLaCal					FPC Calibration constants from Laser runs	FPCCALIBRATION
	ID	SNUM				
	PMnr	INTE			PM number	
	value	REAL	0.0,*		calibration constant	
	error	INTE			error status of PMT	
FPLeCal					FPC Calibration constants from LED runs	FPCCALIBRATION
	ID	SNUM				
	PMnr	INTE			PM number	
	value	REAL	0.0,*		calibration constant	
	error	INTE			error status of PMT	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
FPMCal					FPC Calibration constants from Muon events	FPCCALIBRATION
	ID	SNUM				
	PMnr	INTE			PM number	
	value	REAL	0.0,*		calibration constant	
	error	INTE			error status of PMT	
FPPDMS					FPPDMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for LED testtriggers for FPC.	FPBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		FPC PM Nr	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
	NoRecoErr	INTE			number of reconstruction errors	
FPPLMS					FPPLMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for LASER testtriggers for FPC.	FPBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		FPC PM Nr	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
	NoRecoErr	INTE			number of reconstruction errors	
FPPMNO					FPC PM numbers; the order of PM-numbers in this bank corresponds to the order of the entries of energy low-bytes in the corresponding xxCOEN-bank; NB: there may be entries with zero value	FPBANK
Static	ID	IMPL				
	PMNrs	BITP			Bits 0-15: Number of PM n, Bits 16-31: Number of PM n+1	
FPPPMS					FPPPMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for PED testtriggers for FPC.	FPBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		FPC PM Nr	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
	NoRecoErr	INTE			number of reconstruction errors	
FPPQMS					FPPQMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for QINJ testtriggers for FPC.	FPBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		FPC PM Nr	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
	NoRecoErr	INTE			number of reconstruction errors	
FPQinj					FPC Calibration constants from Qinj runs	FPCCALIBRATION
	ID	SNUM				
	PMnr	INTE			PM number	
	value1	REAL	0.0,*		calibration constant 1	
	value2	REAL	0.0,*		calibration constant 2	
	error	INTE			error status of PMT	
FPTENE					FPTENE contains signals from FPC after DSP processing in the 2TP system.	FPBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		FPC PM number	
	ETWord	BITP			Least significant 24 bits contain energy recorded in this PM. Most significant 8 bits contain time.	
FPTimOff					Time offsets to be used offline	FPCCALIBRATION
	ID	SNUM				
	PMnr	INTE			PM number	
	value	REAL			Time offset (sec)	
	error	INTE			error status of time offset	
FPUM					FPC Front End Card/ADC characteristics.	FPBANK
Static	ID	IMPL				
	TpDcAdcId	BITP			Bitpattern giving the ADC: Bits 0-7 ADC No. (1-4) Bits 9-15 DC No.(1-17) Bits 16-31 Crate identifier.	
	gndDU1	INTE				
	VtemporVid	INTE				
	Vpower	INTE				
	Vprec	INTE				
	DU0	INTE				
	DU1	INTE				
	DU2	INTE				
	DU3	INTE				
	DU4	INTE				
	DU5	INTE				
	muxVr	INTE				
	gndDU2	INTE				

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
FPUN					==>OBSOLETE; FPC Front End Card/ADC characteristics.	FPBANK
Static	ID	IMPL				
	gndDU1	INTE				
	VtemporVid	INTE				
	Vpower	INTE				
	Vprec	INTE				
	DU0	INTE				
	DU1	INTE				
	DU2	INTE				
	DU3	INTE				
	DU4	INTE				
	DU5	INTE				
	muxVr	INTE				
	gndDU2	INTE				
FPXOR					FPC data checksums, Details available from CAL ONLINE experts.	FPBANK
Static	ID	IMPL				
	TPId	INTE			Crate identifier.	
	FPDCCNRows	INTE			Number of rows in FPDCCN bank.	
	FPTENERows	INTE			Number of rows in FPTENE bank.	
	FPCOENRows	INTE			Number of rows in FPCOEN bank.	
	FP8SAMRows	INTE			Number of rows in FP8SAM bank.	
	FP6SAMRows	INTE			Number of rows in FP6SAM bank.	
	ChkWord	BITP			Checksum word.	
	Reserved	INTE			Reserved word.	
Fhole						FPOFFL
	ID	SNUM				
	CellNr	INTE			cell number of calorimeter holes	
FncSci					Calibrated deposit in scintillator in mips	FNCaPhs1
	ID	SNUM				
	Forward	REAL			Number of mips	
	Rear	REAL			ditto	
	Veto	REAL			ditto	
	t(1)	REAL		P	timing for resp f r v	
	t(2)	REAL		P	""	
	t(3)	REAL		P	""	
Fnctru					No cell number, one cell	FNCaPhs1
	ID	SNUM				
	CellNr	BITP			Cell number	
	Energy	REAL			Total energy measured in the FN Calorimeter	
	imbal	REAL		P	Left -Right PMT, left is low x in ZEUS coord.	
	t(1)	REAL		P	time info of both PMTs	
	t(2)	REAL		P	""	
FnoDsp						FPOFFL
	ID	SNUM				
	CellNr	INTE			PMT number of the online recon errs	
GLCELL					As the Phase 2 processor takes TGTRAKs through the calorimeter. On the assumption that the track is a muon one can calculate the cells numbers through which the track passes and the position the track enters the cell.	GLImpact
	ID	SNUM				
	CellNr	INTE			Cell number hit by track. Cell number is in the reconstruction numbering scheme.	
	Pos(1)	REAL			Track parameters on entering cell. Cylindrical polars (Zeus system): Pos(1) = Radius - cm, Pos(2) = Phi, Pos(3) = Z - cm.	
	Pos(2)	REAL			""	
	Pos(3)	REAL			""	
	TGTRAK	REL		P	A TGTRAK MAY enter a calorimeter cell. Each entry must have been caused by a TGTRAK	
GLENTR					As the Phase 2 processor takes TGTRAKs through the calorimeter it stores the position at which the track enters the uranium calorimeter. The result is in the GLENTR table.	GLImpact
	ID	SNUM				
	Cal	CHA4			Entry point for UCal - either RCAL, BCAL or FCAL.	
	Pos(1)	REAL			Position of impact in UCal. Cylindrical polars (Zeus system): Pos(1) = Radius - cm, Pos(2) = Phi, Pos(3) = Psi, Pos(4) = Z - cm, Pos(5) = Theta, Pos(6) = Q/P - (GeV)**-1	
	.				""	
	Pos(6)	REAL			""	
	Cov(1)	REAL			Covariance matrix on Pos.	
	.				""	
	Cov(15)	REAL			""	
	TGTRAK	REL		P	A TGTRAK MAY reach the calorimeter. Each entry must have been caused by a TGTRAK	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
GLTKPG					Contains the track parameters in perigee representation	VTXFIT
	ID	SNUM				
	Par(1)	REAL			Perigee track parametrisation: Para(1) --> impact parameter in xy projection (in cm), with sign; Para(2) --> z coordinate (cm); Para(3) --> theta angle (rad); Para(4) --> phi angle (rad); Para(5) --> 1/Rtr (Rtr is the radius of track curvature (cm) with sign	
	.				""	
	Par(5)	REAL			""	
	Cov(1)	REAL			Covariance matrix	
	.				""	
	Cov(15)	REAL			""	
	Wgt(1)	REAL			Weight matrix	
	.				""	
	Wgt(15)	REAL			""	
	XV0	REAL			initial X-coord of the vertex	
	YV0	REAL			initial Y-coord of the vertex	
	RECPR2	REL		P	to each track corresponds the parameters at the vertex	
	TGTRAK	REL			to each track of the event corresponds some perigee parametrisation	
	VFTEMP	REL			RELATION BETWEEN INTERNAL VTXFIT VARIABLES AND GLTKPG	
GMTrCs						GMOUT
	ID	SNUM				
	NShare	INTE			# of shared cells between extrapolated track and condensate	
	EShare	REAL			Sum of energies of shared cells	
	TGTRAK	REL			First leg of many-to-many relation between Global Tracks and Global Condensates.	
	XMCSEt	REL			Second leg of many-to-many relation between Global Tracks and Global Condensates. Some tracks are linked to some condensates. Many tracks could be linked to single condensate e.g. narrow, dense jet. Track may be linked to more then one condensate, e.g. if the condensate has been split into two, due to lacking edge-type of neighbourhood. Some tracks are not linked to any condensate, e.g. they never reached CAL or BAC. Some condensatess may have no tracks pointing to them, e.g. condensate caused by neutrals.	
GTALGO					Algorithm configuration identifying the machines on which algorithms were running	GTBANK
Static	ID	IMPL				
	Port	INTE			Port number of algorithm input process	
	Addr	INTE			32 bit IP address of machine adaptor	
	Type	INTE			Processor type identifier	
GTASEG					Axial segments	GTBANK
Static	ID	IMPL				
	Cellid	INTE			cell ID	
	par(1)	REAL			segment fit parameters	
	par(2)	REAL			""	
	track	INTE			number of the track to this segment	
	flag	INTE			generic flag	
GTAVHT					axial vector hit information	GTBANK
Static	ID	IMPL				
	seg	INTE			pointer to the entry in GTASEG table	
	pos(1)	REAL			segment x,y,z position	
	pos(2)	REAL			""	
	pos(3)	REAL			""	
	r	REAL			segment radius	
	phi	REAL			segment phi	
GTBEVT					Summary of algorithm processing	GTBANK
Static	ID	IMPL				
	NVert	INTE			number of vertices	
	PrVert(1)	REAL			primary vertex position x,y,z	
	PrVert(2)	REAL			""	
	PrVert(3)	REAL			""	
	PVertWdth(1)	REAL			primary vertex width x,y,z	
	PVertWdth(2)	REAL			""	
	PVertWdth(3)	REAL			""	
	Ntrax	INTE			number of tracks	
	NAxtrax	INTE			number of axial-only tracks	
	NVtxtrax	INTE			number of tracks used in vertex	
	Nwts	INTE			??	
	Nvtxwts	INTE			??	
	NCTDtrax	INTE			number of tracks without MVD hits	
	Flag1	INTE			barrel algorithm bits	
	Flag2	INTE			background bits	
	Flag3	INTE			environment bits, time-limit etc.	
	Flag4	INTE			spare bits	
GTBUF					Present, when required, for each event	GTBANK
Static	ID	IMPL				
	word	INTE			generic storage for counters, timers etc.	
GTCONF					GTT configuration definition table	GTBANK
Static	ID	IMPL				
	TZero	REAL			Tzero used during GTT algorithm processing	
	VDrift	REAL			Vdrift used during GTT algorithm processing	
GTENV					Processing environment event information. For now just the barebones, see here below for documentation	GTBANK
Static	ID	IMPL				
	Index	INTE			Index	
	Value	INTE			Value	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
GTEVTS					Summary of algorithm processing	GTBANK
Static	ID	IMPL				
	NVert	INTE			number of vertices	
	PrVert(1)	REAL			primary vertex position x,y,z	
	PrVert(2)	REAL			""	
	PrVert(3)	REAL			""	
	PVertWdth(1)	REAL			primary vertex width x,y,z	
	PVertWdth(2)	REAL			""	
	PVertWdth(3)	REAL			""	
	Ntrax	INTE			number of tracks	
	NAxtrax	INTE			number of axial-only tracks	
	NCTDtrax	INTE			number of tracks without MVD	
	NUnmMVD	INTE			number of unmatched MVD hits	
	NUnmAxSeg	INTE			number of unmatched axial segments	
	NUnmStSeg	INTE			number of unmatched stereo segments	
GTFBUF					Present, when required, for each event	GTBANK
Static	ID	IMPL				
	word	INTE			generic storage for counters, timers etc.	
GTLBAL					Barrel algorithm latencies in milli-secs	GTBANK
Static	ID	IMPL				
	Index	INTE			Index	
	Value	REAL			Value	
GTLFAL					Forward algorithm latencies in milli-secs	GTBANK
Static	ID	IMPL				
	Index	INTE			Index	
	Value	REAL			Value	
GTPTRK					Pre-track information	GTBANK
Static	ID	IMPL				
	R	REAL			track radius	
	PT	REAL			track PT	
	theta	REAL			track theta	
	phi	REAL			track phi	
	zvert	REAL			track z-vertex position	
	zgrad	REAL			track z-path length gradient	
	NAxseg	INTE			number of axial segments	
	NStseg	INTE			number of stereo segments	
	NrMVD	INTE			number of MVD r-phi hits	
	NzMVD	INTE			number of MVD z hits	
	ISL	INTE			inner CTD superlayer	
	OSL	INTE			outer CTD superlayer	
	ChiAx	REAL			Chisq of axial fit	
	ChiSt	REAL			Chisq of z fit	
GTPVTX					Pre-vertex information	GTBANK
Static	ID	IMPL				
	Pos(1)	REAL			vertex x,y and z positions (first entry primary vertex)	
	Pos(2)	REAL			""	
	Pos(3)	REAL			""	
	width(1)	REAL			vertex widths in x,y,z	
	width(2)	REAL			""	
	width(3)	REAL			""	
	Ntrax	INTE			number of tracks associated with the vertex	
	flag1	INTE			generic flag	
	flag2	INTE			generic flag	
GTSSEG					Stereo segments	GTBANK
Static	ID	IMPL				
	Cellid	INTE			cell ID	
	par(1)	REAL			segment fit parameters	
	par(2)	REAL			""	
	track	INTE			number of the track to this segment	
	flag	INTE			generic flag	
GTSVHT					stereo vector hit information	GTBANK
Static	ID	IMPL				
	seg	INTE			pointer to the entry in GTSSEG table	
	pos(1)	REAL			segment x,y,z position	
	pos(2)	REAL			""	
	pos(3)	REAL			""	
	r	REAL			segment radius	
	phi	REAL			segment phi	
GTTRK1					Found track information	GTBANK
Static	ID	IMPL				
	R	REAL			track radius	
	PT	REAL			track PT	
	theta	REAL			track theta	
	phi	REAL			track phi	
	zvert	REAL			track z-vertex position	
	zgrad	REAL			track z-path length gradient	
	NAxseg	INTE			number of axial segments	
	NStseg	INTE			number of stereo segments	
	NrMVD	INTE			number of MVD r-phi hits	
	NzMVD	INTE			number of MVD z hits	
	ISL	INTE			inner CTD superlayer	
	OSL	INTE			outer CTD superlayer	
	ChiAx	REAL			Chisq of axial fit	
	ChiSt	REAL			Chisq of z fit	
	vertid	INTE			Pointer to the vertex to which the track is assigned, if any	

Page (1, 1)

Table		Column	Type	Range	P	Comment	Subschema
GTVTX						Found vertex information	GTBANK
	Static	ID	IMPL				
		Pos(1)	REAL			vertex x,y and z positions (first entry primary vertex)	
		Pos(2)	REAL			""	
		Pos(3)	REAL			""	
		width(1)	REAL			vertex widths in x,y,z	
		width(2)	REAL			""	
		width(3)	REAL			""	
		Ntrax	INTE			number of tracks associated with the vertex	
		flag1	INTE			generic flag	
		flag2	INTE			generic flag	
HEREvt							FMCZEvt
		ID	SNUM				
HERRun						The contents of the common lines in this table record the conditions under which the HERWIG event generator was run. References : Zeus-Note-91-13	FMCZRUNS
		ID	SNUM				
		Comment(1)	CH16			Free format comment line describing the run conditions of HERWIG.	
		.				""	
		Comment(5)	CH16			""	
HES2ts						Reduced test trigger result. When further reduction was needed in order to reduce dead time.	HESSAM
	Static	ID	IMPL				
		CellDQ	BITP			Pad number and DataQW, packed	
		ET	BITP			Energy and time, packed	
HES3ts						Test trigger result. Energy and time are packed in order to reduce the data size.	HESSAM
	Static	ID	IMPL				
		CellN	INTE			Pad number	
		ET	BITP			Energy and time, packed	
		DataQW	INTE			Data quality word	
HES4sm						Samples data readout scheme (4 sample version) sent when running without an energy reconstruction program in DSP. (DSP code checking purpose) Packing scheme (corrected samples) Higher 12 bits Sample2, lower 12 bits sample1 Higher 12 bits Sample4, lower 12 bits sample3	HESSAM
	Static	ID	IMPL				
		CellN	INTE			Pad number	
		Sam12	BITP			1st and 2nd samples, packed	
		Sam34	BITP			3rd and 4th samples, packed	
HESAMd						Active module list (entry exists if active)	HESBCL
		ID	SNUM				
		type	CHA4	FHES,FHES BHES,BHES RHES,RHES		module type	
		module	INTE			module id	
HESBlF						Filename extensions used for making this list	HESBCL
		ID	SNUM				
		offfile	CHA8			offline bad channel list	
		onfile	CHA8			monitor dump	
HESBlH						Bad channel list header	HESBCL
		ID	SNUM				
		valid	INTE			HES has valid bad channel list(1) or not(0)	
		nentry	INTE			number of bad channels	
HESBlL						Bad channel list	HESBCL
		ID	SNUM				
		offnum	INTE			offline number	
		mean	REAL			online TP dump mean	
		rms	REAL			RMS	
		offflag(1)	INTE			offline calibration flag	
		offflag(2)	INTE			""	
HESbor						Bank sent at the Begin of Run Trigger	HESSAM
	Static	ID	IMPL				
		BORpar(1)	INTE			Begin of Run parameters	
		.				""	
		BORpar(100)	INTE			""	
HESclb						Bank sent at begin of run trigger. Calibration status for each channel, such as good, dead, noisy, unstable or not calibrated.	HESSAM
	Static	ID	IMPL				
		CellN	INTE			Pad number - offline number	
		Status	BITP			Status of this channel	
HESdsp						DSP information in Digital Cards. (9 FIFO words)	HESSAM
	Static	ID	IMPL				
		IDdig	INTE			Digital Card ID	
		Fifo(1)	INTE			9 FIFO words	
		.				""	
		Fifo(9)	INTE			""	
HESeor						Bank sent at the End of Run Trigger	HESSAM
	Static	ID	IMPL				
		EORpar(1)	INTE			End of Run parameters	
		.				""	
		EORpar(100)	INTE			""	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
HESҺit						HESMC2
	ID	SNUM				
	CellN	INTE	1,44301		Pad number	
	Ed	REAL			Energy deposited	
	Toff	REAL			Time offset	
	DataQW	INTE			Data quality word	
	FMCKin	REL		P		
	HESraw	REL		P		
HEShkp					Bank sent at environmental triggers. 6 voltages from each Analog card output, containing Vgnd, Vhk, Vprec, Vtemp, Vsp and Vtest	HESSAM
Static	ID	IMPL				
	IDout	INTE			Analog Card output ID	
	V(1)	INTE			6 houskeeping words	
	.				""	
	V(6)	INTE			""	
HESlow					Bank sent at begin of run and eventually at environmental trigger. Reading from SCS system which shows slow control status from working module such as current, temperature, humidity.	HESSAM
Static	ID	IMPL				
	Channel	INTE			address of module/sensor/channel	
	Value	INTE			reading from this sensor	
HESncl					New calibration bank (auxiliary to HESclb). Calibration results such as gain and noise are encoded in two words for analysis of DQM experts.	HESSAM
Static	ID	IMPL				
	CellN	INTE			Pad number - offline number	
	Value(1)	BITP			Calibration results, packed	
	Value(2)	BITP			""	
HESpln					Auxiliary bank of HESclb. contains bad cell information of bad channel. each dead cell has its bit set.	HESSAM
Static	ID	IMPL				
	CellN	INTE			Pad number - offline number	
	Badcel(1)	BITP			Badcel(1) bit 0-28 = cell 0-28 Badcel(2) bit 0-28 = cell 29-57	
	Badcel(2)	BITP			""	
HESraw					Raw data readout scheme	HESMC1
Static	ID	IMPL				
	CellN	INTE	1,44301		Pad number	
	Ed	REAL	0.0,*		Energy deposit	
	Toff	REAL			Time offset	
	DataQW	INTE			Data quality word	
HESsam					Samples data readout scheme sent when DSP failed to reconstruct or when running without an energy reconstruction program in DSP. (calibration runs) Packing scheme (corrected samples) Higher 16 bits Sample2, lower 16 bits sample1 Higher 16 bits Sample4, lower 16 bits sample3 Higher 16 bits Sample6, lower 16 bits sample5	HESSAM
Static	ID	IMPL				
	CellN	INTE			Pad number	
	Sam12	BITP			1st and 2nd samples, packed	
	Sam34	BITP			3rd and 4th samples, packed	
	Sam56	BITP			5th and 6th samples, packed	
HFborp					Bank sent at the Begin of Run Trigger for FHES	HESSAM
Static	ID	IMPL				
	BORpar(1)	INTE			Begin of Run parameters	
	.				""	
	BORpar(100)	INTE			""	
HFcell					Auxiliary bank of HFoffc. Contains bad cell information of bad channel. Each dead cell has its bit set.	HESSAM
Static	ID	IMPL				
	CellN	INTE			Pad number - offline number	
	Badcel(1)	BITP			Badcel(1) bit 0-28 = cell 0-28 Badcel(2) bit 0-28 = cell 29-57	
	Badcel(2)	BITP			""	
HFcksm					To check data corruption.	HESSAM
Static	ID	IMPL				
	IDcrat	INTE			Crate ID	
	CHKSUM	INTE			Check sum number	
HFdatc					Raw data readout scheme for FHES. Energy and time are packed, 3 words	HESMC1
Static	ID	IMPL				
	CellN	INTE	1,44301		Pad number	
	ET	BITP			Energy and time, packed	
	DataQW	INTE			Data quality word	
HFdspi					DSP information in Digital Cards for FHES. (9 FIFO words)	HESSAM
Static	ID	IMPL				
	IDdig	INTE			Digital Card ID	
	Fifo(1)	INTE			9 FIFO words	
	.				""	
	Fifo(9)	INTE			""	
HFeorp					Bank sent at the End of Run Trigger for FHES	HESSAM
Static	ID	IMPL				
	EORpar(1)	INTE			End of Run parameters	
	.				""	
	EORpar(100)	INTE			""	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
HFgain					Gain constant.	HESSAM
Static	ID	IMPL				
	CellN	INTE			Pad number - offline number	
	Amplit	REAL			Gain constant for amplitude.	
	Timing	REAL			Gain constant for timing.	
HFhkpw					Bank sent at environmental triggers for FHES. 6 voltages from each Analog card output, containing Vgnd, Vhk, Vprec, Vtemp, Vsp and Vtest	HESSAM
Static	ID	IMPL				
	IDout	INTE			Analog Card output ID	
	V(1)	INTE			6 houskeeping words	
	.				""	
	V(6)	INTE			""	
HFoffc					Offline calibration bank for FHES. Calibration results such as gain and noise are encoded in two words for analysis of DQM experts.	HESSAM
Static	ID	IMPL				
	CellN	INTE			Pad number - offline number	
	Value(1)	BITP			Calibration results, packed	
	Value(2)	BITP			""	
HFonlc					Bank sent at begin of run trigger for FHES. Online calibration status for each channel, such as good, dead, noisy, unstable or not calibrated	HESSAM
Static	ID	IMPL				
	CellN	INTE			Pad number - offline number	
	Status	BITP			Status of this channel	
HFslow					Bank sent at begin of run for FHES and. Reading from SCS system which shows slow control status from working module such as current, temperature, humidity.	HESSAM
Static	ID	IMPL				
	Channel	INTE			address of module/sensor/channel	
	Value	INTE			reading from this sensor	
HFtstc					Test trigger result for FHES. Energy and time are packed, 2 words. This BANK has a fixed size to decode Pad number.	HESSAM
Static	ID	IMPL				
	ET	BITP			Energy and time, packed	
	DataQW	INTE			Data quality word	
HRborp					Bank sent at the Begin of Run Trigger for RHES	HESSAM
Static	ID	IMPL				
	BORpar(1)	INTE			Begin of Run parameters	
	.				""	
	BORpar(100)	INTE			""	
HRcell					Auxiliary bank of HRoffc. Contains bad cell information of bad channel. Each dead cell has its bit set.	HESSAM
Static	ID	IMPL				
	CellN	INTE			Pad number - offline number	
	Badcel(1)	BITP			Badcel(1) bit 0-28 = cell 0-28 Badcel(2) bit 0-28 = cell 29-57	
	Badcel(2)	BITP			""	
HRcksm					To check data corruption.	HESSAM
Static	ID	IMPL				
	IDcrat	INTE			Crate ID	
	CHKSUM	INTE			Check sum number	
HRdatc					Raw data readout scheme for RHES. Energy and time are packed, 3 words	HESMC1
Static	ID	IMPL				
	CellN	INTE	1,44301		Pad number	
	ET	BITP			Energy and time, packed	
	DataQW	INTE			Data quality word	
HRdspi					DSP information in Digital Cards for RHES. (9 FIFO words)	HESSAM
Static	ID	IMPL				
	IDdig	INTE			Digital Card ID	
	Fifo(1)	INTE			9 FIFO words	
	.				""	
	Fifo(9)	INTE			""	
HReorp					Bank sent at the End of Run Trigger for RHES	HESSAM
Static	ID	IMPL				
	EORpar(1)	INTE			End of Run parameters	
	.				""	
	EORpar(100)	INTE			""	
HRgain					Gain constant.	HESSAM
Static	ID	IMPL				
	CellN	INTE			Pad number - offline number	
	Amplit	REAL			Gain constant for amplitude.	
	Timing	REAL			Gain constant for timing.	
HRhkpw					Bank sent at environmental triggers for RHES. 6 voltages from each Analog card output, containing Vgnd, Vhk, Vprec, Vtemp, Vsp and Vtest	HESSAM
Static	ID	IMPL				
	IDout	INTE			Analog Card output ID	
	V(1)	INTE			6 houskeeping words	
	.				""	
	V(6)	INTE			""	
HRoffc					Offline calibration bank for RHES. Calibration results such as gain and noise are encoded in two words for analysis of DQM experts.	HESSAM
Static	ID	IMPL				
	CellN	INTE			Pad number - offline number	
	Value(1)	BITP			Calibration results, packed	
	Value(2)	BITP			""	

V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
HRonlc					Bank sent at begin of run trigger for RHES. Online calibration status for each channel, such as good, dead, noisy, unstable or not calibrated	HESSAM
Static	ID	IMPL				
	CellN	INTE			Pad number - offline number	
	Status	BITP			Status of this channel	
HRslow					Bank sent at begin of run for RHES and. Reading from SCS system which shows slow control status from working module such as current, temperature, humidity.	HESSAM
Static	ID	IMPL				
	Channel	INTE			address of module/sensor/channel	
	Value	INTE			reading from this sensor	
HRtstc					Test trigger result for RHES. Energy and time are packed, 2 words. This BANK has a fixed size to decode Pad number.	HESSAM
Static	ID	IMPL				
	ET	BITP			Energy and time, packed	
	DataQW	INTE			Data quality word	
HSDIV						HESGEOM
	ID	SNUM				
	mother	CHA4			Name of the mother volume	
	step	REAL	-0.100E+05,0....		Division step	
	axis	INTE	1,3		Axis division	
	ndiv	INTE	1,9999		Number of divisions	
HSDTCT					Place holder for detector relationship.	HESGEOM
	ID	SNUM				
HSPARA						HESGEOM
	ID	SNUM				
	par	REAL	0.0,0.100E+05		A parameter defining a volume	
	of	GEN			A parameter is of a volume or a position	
	of_	REL			""	
HSPOS						HESGEOM
	ID	SNUM				
	nr	INTE	1,9999		Serial number	
	mother	CHA4			Name of the mother volume	
	x	REAL	-0.100E+06,0....		X linear dimension	
	y	REAL	-0.100E+06,0....		Y linear dimension	
	z	REAL	-0.100E+06,0....		Z linear dimension	
	konly	CHA4	MANY,MANY ONLY,ONLY		If MANY,a point in this volume may be in another	
	Detector	REL		P	Every Superlayer is positioned.	
	rotm	REL			each positioned volume is related to a rotation matrix	
	volu	REL			A position belongs to a volume	
HSRJCT						HESGEOM
	ID	SNUM				
	config	INTE	0,9999		Selects configuration	
	of	GEN			Rejected volumes and positions	
	of_	REL			""	
HSSDET						HESGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	type	INTE	1,9999		detector type	
	nwhi	INTE	1,9999		Numb. words primary alloc. HITS	
	nwdi	INTE	1,9999		Numb. words DIGI when primary not suff.	
HSSDTA						HESGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nwhi	INTE	1,9999		Initial HITS allocation	
	nwdi	INTE	1,9999		Increment of DIGI allocation	
	sdet	REL			Some detectors give more than one type signals	
HSSDTD						HESGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	of	GEN			Sensible detectors and aliases digitizations	
	of_	REL			""	
HSSDTH						HESGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	orig	REAL			to define the hit elem. positive	
	fact	REAL			IVAR= VAR + ORIG*FACT	
	of	GEN			each detec. element needs the parameter definition	
	of_	REL			""	
HSSDTU						HESGEOM
	ID	SNUM				
	upar	REAL			User parameter	
	of	GEN			User parameters for sensible detectors and aliases	
	of_	REL			""	
HSSDTV						HESGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	sdet	REL			Physical detectors for the master detector identifier	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
HSVOLU						HESGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	shape	CHA4	BOX,BOX TRD1,TRD1 TRD2,TRD2 TRAP,TRAP TUBE,TUBE TUBS,TUBS CONE,CONE CONS,CONS SPHE,SPHE PARA,PARA PGON,PGON PCON,PCON GTRA,GTRA		Shape of the volume	
	div	REL		P	some volumes may be subdived	
	sdet	REL		P	some volumes may be also active detectors	
	tmed	REL			Volume tracking medium number	
JBPARS					JBPARS table with exactly the same attributes as EvHMM. This table is really just used as a COMMON block to hold these parameters for insertion into the EvHMM table	HISTHDRS
	ID	SNUM				
	jobname	CHA8			program name	
	computerid	INTE			Numerical identifier of computer on which job was run. Used in combination with jobtime(2) to provide unique identifier.	
	jobtime(1)	INTE			Job time in usual Zeus 2-word array YYYYMMDD,HHMMSS	
	jobtime(2)	INTE			""	
JobHMM					History in MeMory version of JobOut	HISTHDRS
	ID	SNUM				
	jobname	CHA8			program name	
	version	INTE			program version identification	
	computerid	INTE			Numerical identifier of computer on which job was run. Used in combination with jobtime(2) to provide unique identifier.	
	jobtime(1)	INTE			Job time in usual Zeus 2-word array YYYYMMDD,HHMMSS	
	jobtime(2)	INTE			""	
	computer	CH16			e.g. VXDESY	
	submitter	CH16			e.g. Norman McCubbin	
	comment(1)	CH16			80 character comment field	
	.				""	
	comment(5)	CH16			""	
JobKwP					No attributes: switch-yard table only	HISTHDRS
	ID	SNUM				
	JobHMM	REL			part 1 of JobHMM to KwPHMM relationship via JobKwP switch-yard	
	KWPHMM	REL			part 2 of JobHMM to KwPHMM relationship via JobKwP switch-yard	
JobOut					output table of Job parameters	HISTHDRS
	ID	SNUM				
	jobname	CHA8			program name	
	version	INTE			program version identification	
	computerid	INTE			Numerical identifier of computer on which job was run. Used in combination with jobtime(2) to provide unique identifier.	
	jobtime(1)	INTE			Job time in usual Zeus 2-word array YYYYMMDD,HHMMSS	
	jobtime(2)	INTE			""	
	computer	CH16			e.g. VXDESY	
	submitter	CH16			e.g. Norman McCubbin	
	comment(1)	CH16			80 character comment field	
	.				""	
	comment(5)	CH16			""	
JobZdP					No attributes: switch-yard table only	HISTHDRS
	ID	SNUM				
	JobHMM	REL			part 1 of JobHMM to ZDPHMM relationship via JobZdP switch-yard	
	ZDPHMM	REL			part 2 of JobHMM to ZDPHMM relationship via JobZdP switch-yard	
KWGHMM					History in MeMory version of KWGrp	HISTHDRS
	ID	SNUM				
	prefix	CHA8			prefix of control parameters, grouping keywords which belong together	
KWGOut					output version of KWGrp	HISTHDRS
	ID	SNUM				
	prefix	CHA8			prefix of control parameters, grouping keywords which belong together	
KWPHMM					History in MeMory version of KWparm	HISTHDRS
	ID	SNUM				
	keywrd	CHA8			keyword to be used by FFREAD	
	blockn	INTE	1,*		block number to count occurrency of prefix,keywrd combination in input	
	contn	INTE	1,*		continuation number within block	
	parmv(1)	CH16			character string which holds values of control parameters	
	.				""	
	parmv(5)	CH16			""	
	KWGHMM	REL		P	entries into kwparm are sorted in groups by their relation to kwgrp, identification of a prefix with a processor name will allow an integration of program control and program monitoring	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
KWPOut					output version of KWparm	HISTHDRS
	ID	SNUM				
	keywrd	CHA8			keyword to be used by FFREAD	
	blockn	INTE	1,*		block number to count occurrency of prefix,keywrd combination in input	
	contn	INTE	1,*		continuation number within block	
	parmv(1)	CH16			character string which holds values of control parameters	
	.				""	
	parmv(5)	CH16			""	
	KWGOut	REL		P	entries into kwparm are sorted in groups by their relation to kwgrp, identification of a prefix with a processor name will allow an integration of program control and program monitoring	
LM2BOR					Parameters from common hardware, Trigger board and Memory Boards Lookup Tables. First 20 rows are reserved for Trigger board params, rest are for all lookuptables in the system. The transrofmation applied here is: For trigger baord it has different meaning: X0 X1 are E windows parameters, C some additional constants	LMNEWENV
	ID	SNUM				
	C	INTE			bitwise parameter or cut	
	X0	REAL			lower window bound or factorization param	
	X1	REAL			upper window bound or linearity	
LM2CAL					New LUMI calorimeter data.	LMNEWSLT
	ID	SNUM				
	CAL	INTE			Correct ADCs from two, up and down, calorimeter tubes (in one word)	
	CALLOW	INTE			Correct ADCs from two, up and down, calorimeter tubes, in different energy range	
	AERO	INTE			Aerogel, two detectors raw ADCs	
	ECAL	INTE			Calibrated ADC from calorimeter	
	POS(1)	INTE			Position detector raw ADC, first 17 shorts are X position data, last 13 shorts are y position data	
	.				""	
	POS(15)	INTE			""	
	BCN	INTE			Bunch crossing number	
	TRIG	INTE			Coincidence flags, simply triggers flags, every bit shows some special internal and FLT trigger	
LM2CLBNC					Bremstrahlung rate per bunch crossing.	LMNEWENV
	ID	SNUM				
	BUNCH(1)	INTE			1-row 220 counters (half word each) for each bunch crossing. Here are events which energies are in energetic window, 2-row 220 counters (half word each) which counts all bremstrahlung events above ADC treshold	
	.				""	
	BUNCH(110)	INTE			""	
LM2CLBRE					Calorimeter bremsstrahlung data	LMNEWENV
	ID	SNUM				
	CAL	INTE			ADC from tube 1 and tube 2 coded in two short words	
	CALR	INTE			ADC from tube 1 and 2, from different energy range	
	AERO	INTE			ADCs from two Aerogel Cerenkow counters	
	POS(1)	INTE			17 vertical fingers + 13 horizontal 16bits ADC	
	.				""	
	POS(15)	INTE			""	
	IFLAG	INTE			2B triggers, then 1B bunch crossing number, and then 1B spare	
LM2CLCNT					Calorimeter counters.	LMNEWENV
	ID	SNUM				
	BREM(1)	INTE			bremstrahlung counters in 5 windows	
	.				""	
	BREM(5)	INTE			""	
	HDTIME	INTE			hardware dead time (lost events)	
	SDTIME	INTE			software dead time (lost events)	
LM2CLLT					light test, in format: underflow (1 word), then overflow (1 word), then left/right (1 word), then contents of 256 bins in selcted range of ADC. Coded in 128 remaining words.	LMNEWENV
	ID	SNUM				
	LIGHT(1)	INTE			1-row Cal tube 1 light test histogram , 2-row Cal tube 2 light test histogram, 3-row Cal tube 1 light test histogram form different range, 4-row Cal tube 2 light test histogram from different range, 5-row first Aerogel Cerenkow light test histogram, 6-row second Aerogel Cerenkow light test histogram	
	.				""	
	LIGHT(131)	INTE			""	
LM2CLPED					Pedestals measured in 217 bunch, formated like NLCL entity	LMNEWENV
	ID	SNUM				
	PEDE(1)	INTE			1-row Cal tube 1 light test histogram , 2-row Cal tube 2 light test histogram, 3-row Cal tube 1 light test histogram form different range of energy, 4-row Cal tube 2 light test histogram from different range of energy, 5-row first Aerogel Cerenkow light test histogram, 6-row second Aerogel Cerenkow light test histogram	
	.				""	
	PEDE(131)	INTE			""	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
LM2CLPIL					Pilot bunches data.	LMNEWENV
	ID	SNUM				
	CAL	INTE			ADC from tube 1 and tube 2 coded in two short words	
	CALR	INTE			ADC from tube 1 and 2, from different energy range	
	AERO	INTE			ADCs from two Aerogel Cerenkow counters	
	POS(1)	INTE			17 vertical fingers + 13 horizontal 16bits ADC	
	.				""	
	POS(15)	INTE			""	
LM2CLRND					Calorimeter random data	LMNEWENV
	ID	SNUM				
	CAL	INTE			ADC from tube 1 and tube 2 coded in two short words	
	CALR	INTE			ADC from tube 1 and 2, from different energy range	
	AERO	INTE			ADCs from two Aerogel Cerenkow counters	
	POS(1)	INTE			17 vertical fingers + 13 horizontal 16bits ADC	
	.				""	
	POS(15)	INTE			""	
	IFLAG	INTE			2B triggers, then 1B bunch crossing number, and then 1B spare	
LM2COMM					HERA currents.	LMNEWENV
	ID	SNUM				
	CURR(1)	INTE			1-row Electron currents, 2-row Proton currents	
	.				""	
	CURR(110)	INTE			""	
LM2LUBC					Luminosity calculation, working table (like LMLUWO but per bunch crossing). This is an offline table	LMNEWENV
	ID	SNUM				
	RunNr	BITP			Run number	
	EvtNr	BITP			Event number in run	
	V(1)	REAL			Luminosity calculation in run for each 16 seconds from ER (per bunch crossing)	
	.				""	
	V(220)	REAL			""	
LM2SPEC					New LUMI spectrometer data	LMNEWSLT
	ID	SNUM				
	RAWD(1)	INTE			Raw energies from spectrometer channels, down part, coded in 16 ints as 31 shorts, first 16 X next 15 Y	
	.				""	
	RAWD(16)	INTE			""	
	RAWU(1)	INTE			Raw energies from spectrometer channels, upper part, coded in 16 ints as 32 shorts, first 16 X next 11 Y	
	.				""	
	RAWU(16)	INTE			""	
	POS(1)	REAL			reconstructed position of hit	
	POS(2)	REAL			""	
	RECON	BITP			reconstruction flags (2 hits flag 0 bit), ...	
LM2SPHIS					Spectrometer counters	LMNEWENV
	ID	SNUM				
	BREM(1)	INTE			220(half words) counters of e+e- coincidences for every Bunch crossing	
	.				""	
	BREM(110)	INTE			""	
	ETOT(1)	INTE			50(half words) histogram of total energy sum in both spectrometer detectors	
	.				""	
	ETOT(25)	INTE			""	
	XWIN(1)	INTE			50(half words) histogram of X coordinate of origin of photon conversion	
	.				""	
	XWIN(25)	INTE			""	
	YWIN(1)	INTE			50(half words) histogram of Y coordinate of origin of photon conversion	
	.				""	
	YWIN(25)	INTE			""	
	MCURR	REAL			Magnet current in Amperes	
	SC(1)	INTE			additional counters	
	SC(2)	INTE			""	
	ACC	REAL			Spectrometer acceptance	
LM2SPLED					Spectrometer light test	LMNEWENV
	ID	SNUM				
	RAWD(1)	INTE			Raw energies from spectrometer channels, down part, coded in 16 ints as 31 shorts, first 16 X next 15 Y	
	.				""	
	RAWD(16)	INTE			""	
	RAWU(1)	INTE			Raw energies from spectrometer channels, upper part, coded in 16 ints as 32 shorts, first 16 X next 11 Y	
	.				""	
	RAWU(16)	INTE			""	
LM2SPRND					Spectrometer data from random trigger	LMNEWENV
	ID	SNUM				
	RAWD(1)	INTE			Raw energies from spectrometer channels, down part, coded in 16 ints as 31 shorts, first 16 X next 15 Y	
	.				""	
	RAWD(16)	INTE			""	
	RAWU(1)	INTE			Raw energies from spectrometer channels, upper part, coded in 16 ints as 32 shorts, first 16 X next 11 Y	
	.				""	
	RAWU(16)	INTE			""	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
LM2SYNC					Used by EVB to validate FCLR synchronisation.	LMNEWSLT
	ID	SNUM				
	gflt	INTE			GFLT number	
	gslt	INTE			GSLT number	
	bcn	INTE			Bunch crossing number	
	rot	INTE			Readout type	
LM2T6BNC					Bremstrahlung rate per bunch crossing.	LMNEWENV
	ID	SNUM				
	BUNCH(1)	INTE			1-row 220 counters (half word each) for each bunch crossing for energy in first trigger window, 2-row 220 counters (half word each) for each bunch crossing for energy in second trigger window, ... 5-row 220 counters (half word each) for each bunch crossing for energy in fifth trigger window	
	.				""	
	BUNCH(110)	INTE			""	
LM2T6CNT					6m Tagger counters	LMNEWENV
	ID	SNUM				
	BREM(1)	INTE			bremstrahlung counters in 5 energy windows	
	.				""	
	BREM(5)	INTE			""	
LM2T6HIT					6m Tagger RAW data - 1 row per event	LMNEWENV
	ID	SNUM				
	ADC(1)	INTE			Raw ADC energies all 70 6m Tagger channels	
	.				""	
	ADC(70)	INTE			""	
	TRIG	INTE			6 (internal) Trigger bits	
	ETYPE	INTE			Event Type 0:data 1:LED 2:QINJ 3:empty bunch	
LM2T6RAW					6m Tagger RAW data	LMNEWSLT
	ID	SNUM				
	ADC(1)	INTE			Raw ADC energies all 70 6m Tagger channels	
	.				""	
	ADC(35)	INTE			""	
	TRIG	INTE			6 (internal) Trigger bits	
	ETYPE	INTE			Event Type 0:data 1:LED 2:QINJ ...	
	SLTID	INTE			SLT subsequent number	
LM2T6REC					6m Tagger reconstructed data, allows for more than one hit in the tagger	LMNEWSLT
	ID	SNUM				
	E	REAL			total 6m Tagger energy 1-row : use Esum, 2-row : highest 5x5 cluster, 3-row : highest 3x3 cluster, 4-row : second highest 5x5, 5-row : second highest 3x3 ... etc	
	TYPE	INTE			Method of E reconstruction 1=5x5 cells, 2=3x3, 3=E sum, rows as above	
	TRIG	INTE			internal Trigger information, rows as above	
	X	REAL			reconstructed x position, rows as above	
	Y	REAL			reconstructed y position, rows as above	
	XL	REAL			reconstructed x position (corrected), rows as above	
	YL	REAL			reconstructed y position (corrected) rows as above	
	SLTID	INTE			SLT subsequent number	
LMCAC1					Offline calibration constants - 8 values	LMCLBA
	ID	SNUM				
	RunNr	BITP			Run number	
	cgce(1)	REAL			Calibration constants for up down -> gamma calorimeter, left right -> electron cal.	
	.				""	
	cgce(4)	REAL			""	
	pudlr(1)	REAL			Pedestals for up,down,left and right phototubes	
	.				""	
	pudlr(4)	REAL			""	
LMCAC2					Offline cal. constants since 95 - 6 values	LMCLBA
	ID	SNUM				
	RunNr	INTE			Run number	
	lgflt	INTE			Lower limit for GFLT number.	
	hgflt	INTE			Upper limit for GFLT number. The difference Upper - Lower define the range of GFLT number in which given set of calibration constants is valid	
	cge(1)	REAL			Calibration constants for gamma and electron	
	cge(2)	REAL			""	
	pge(1)	REAL			Pedestals for up,down,left and right phototubes	
	.				""	
	pge(4)	REAL			""	
LMCAC3					Offline cal. constants since 95 - 8 values	LMCLBA
	ID	SNUM				
	RunNr	INTE			Run number	
	lgflt	INTE			Lower limit for GFLT number.	
	hgflt	INTE			Upper limit for GFLT number. The difference Upper - Lower define the range of GFLT number in which given set of calibration constants is valid	
	cge(1)	REAL			Calibration constants for gamma and electron calorimeters: up down left right	
	.				""	
	cge(4)	REAL			""	
	pge(1)	REAL			Pedestals for up,down,left and right phototubes	
	.				""	
	pge(4)	REAL			""	
LMCACO					Offline calibration constants - 6 values	LMCLBA
	ID	SNUM				
	RunNr	BITP			Run number	
	cgce(1)	REAL			Calibration constants for gamma and electron	
	cgce(2)	REAL			""	
	pudlr(1)	REAL			Pedestals for up,down,left and right phototubes	
	.				""	
	pudlr(4)	REAL			""	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
LMCALC					Calorimeters calibration data	LMCLBA
	ID	SNUM				
	Nr	INTE	1,4		Each calorimeter elec. chan. has a number: i = 1 - 1st chan. of g-calorimeter, i = 2 - 2nd chan. of g-calorimeter, i = 3 - 1st chan. of e-calorimeter, i = 4 - 2nd chan. of e-calorimeter	
	Chfn(1)	BITP			Chan. calib. function in lookup table form	
	.				""	
	Chfn(64)	BITP			""	
	Chnfac	REAL			Chan. energy/bit factor	
	Chnslp	REAL			Chan. calibration slope	
	Chnesl	REAL			Error of chan. calibration slope	
	Chnitc	REAL			Chan. calibration intercept	
	Chnein	REAL			Error of chan. calibration intercept	
	Chnped	REAL			Chan. pedestal	
	Chnsig	REAL			Chan. pedestal width	
	Sigma0	REAL				
	Sigma1	REAL				
	Sigma2	REAL			Error of energy E seen by the channel Delta(E) = sqrt(Sigma0**2+Sigma1**2*E+Sigma2**2*E**2) For details see Zeus-Note-90-125	
	Emin	REAL			Minimum energy during calibration	
	Emax	REAL			Maximum energy during calibration	
	Date	DATE			When performed	
	Where	CH16			Where performed	
LMCALD				-	Lumi calorimeters energy_codes_data	LMDATA
	ID	SNUM				
	Ecalg	INTE	0,255		Energy code from g-calorimeter	
	Ecale	INTE	0,255		Energy code from e-calorimeter	
LMCALR				-	Response from calorimeters channels	LMRAWD
	ID	SNUM				
	Rgcal1	INTE	0,255		Response from g-cal. chan. 1	
	Rgcal2	INTE	0,255		Response from g-cal. chan. 2	
	Recal1	INTE	0,255		Response from e-cal. chan. 1	
	Recal2	INTE	0,255		Response from e-cal. chan. 2	
LMCUR				-	Information about Lumi energy limits for current run	LMCOND
	ID	SNUM				
	Gc	LOGI			Gamma calorimeter on/off	
	Gcchn	INTE			Number g-cal electronics channels	
	Gcchnb	INTE	0,2		Ordinal number of g_cal. bad channel	
	Ec	LOGI			Electron calorimeter on/off	
	Ecchn	INTE			Number e-cal electronics channels	
	Ecchnb	INTE	0,2		Ordinal number of e_cal. bad channel	
	Pdc(1)	LOGI			ith position detector on/off	
	Pdc(2)	LOGI			""	
	Pdcchn(1,1)	INTE			Number pos. det. electronics channels	
	.				""	
	Pdcchn(2,2)	INTE			""	
	Pdcchb(1,1)	BITP			Active/bad finger for pod_det	
	.				""	
	Pdcchb(2,2)	BITP			""	
	Cerenc	LOGI			Cerenkov counter on/off	
	Filtrc(1)	LOGI			Filter status	
	Filtrc(2)	LOGI			""	
	Filtrc(3)	LOGI			""	
	Eebrcl	REAL			Curr. run lower limit of accepted brems. electron energy	
	Eebrcu	REAL			Curr. run upper limit of accepted brems. electron energy	
	Egbrcl	REAL			Curr. run lower limit of accepted brems. photon energy	
	Egbrcu	REAL			Curr. run upper limit of accepted brems. photon energy	
	Ebrscl	REAL			Curr. run lower limit of energy conservation interval for bremsstrahlung	
	Ebrscu	REAL			Curr. run upper limit of energy conservation interval for bremsstrahlung	
	Eephcl	REAL			Curr. run lower limit of accepted photoprod. elec. energy	
	Eephcu	REAL			Curr. run upper limit of accepted photoprod. elec. energy	
	Egphcu	REAL			Curr. run upper limit for gamma energy if photoproduction	
	Egrdcl	REAL			Curr. run lower limit of accepted rad. photon energy	
	Egrdcu	REAL			Curr. run upper limit of acctepted rad. photon energy	
	Eerdcu	REAL			Curr. run upper limit for electron energy if radiative photon	
LMDIV				-		LMGEOM
	ID	SNUM				
	mother	CHA4			Name of the mother volume	
	step	REAL	-0.100E+05,0....		Division step	
	axis	INTE	1,3		Axis division	
	ndiv	INTE	1,9999		Number of divisions	
LMDP				-	ER : Random trigger events in ER	LMHELU
	ID	SNUM				
	cadc	BITP			ADC counts from gamma (up/down) and electron (left/right) calorimeter channels, cadc bits structure : 32-25 ADC up, 24-17 ADC down, 16-9 ADC left, 8-1 ADC right	
	dlup	BITP			Lumi processor data, dlup bits structure: 32-25 calibrated energy gamma cal. 24-17 calibrated energy electron cal. 16-9 flag, 8-1 bunch number	
LMDTCT				-	Place holder for Lumi relationship.	LMGEOM
	ID	SNUM				

V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
LMEB					TR : LUMI trigger data structure	LMRAWD
	ID	SNUM				
	ADCge	BITP			Responses from gamma (up and down) and electron (left and right) calorimeters channels ADCge bits structure: 32-25 ADC up 24-17 ADC down 16-9 ADC left 8-1 ADC right	
	EnFla	BITP			Lumi processor data, EnFla bits structure: 32-25 calibrated energy - gamma cal. 24-17 calibrated energy - electron cal. 16-9 flag 8-1 bunch number (yet dummy)	
	Rgxy(1)	BITP			Gamma position det. resp. from X and Y finger planes with the following structure: Rgxy(1)-Rgxy(4) -> ADCs vertical fingers 16 fingers, Rgxy(5)-Rgxy(8) -> ADCs horizontal fingers 14 fingers, each Rgxy() consists two fingers data	
	.				""	
	Rgxy(8)	BITP			""	
	Rexy(1)	BITP			Electron position det. resp. from X and Y finger planes with the following structure: Rexy(1)-Rexy(4) -> ADCs vertical fingers 16 fingers, Rexy(5)-Rexy(8) -> ADCs horizontal fingers 12 fingers, each Rexy() consists two fingers data	
	.				""	
	Rexy(8)	BITP			""	
LMEBAC					Energy output for bremsstrahlung events	LMHELU
	ID	SNUM				
	Enrg	REAL			Energy from g calorimeter	
	Denrg	REAL			Error of Enrg	
	Enre	REAL			Energy from e calorimeter	
	Denre	REAL			Error of Enre	
LMEBRE					Auxiliary for some Lumi data	LMHELU
	ID	SNUM				
	Enrg	REAL			Energy from g calorimeter	
	Denrg	REAL			Error of Enrg	
	Enre	REAL			Energy from e calorimeter	
	Denre	REAL			Error of Enre	
LMEDUM					Energy output for random trigger events	LMHELU
	ID	SNUM				
	Enrg	REAL			Energy from g calorimeter	
	Denrg	REAL			Error of Enrg	
	Enre	REAL			Energy from e calorimeter	
	Denre	REAL			Error of Enre	
LMES					ER : Energetical data in ER	LMHELU
	ID	SNUM				
	respge	BITP			ADCs for gamma and electron calorimeter channels respge bits: 32-25 ADC up, 24-17 ADC down gamma cal. 16-9 ADC left, 8-1 ADC right electron cal.	
	cefgbn	BITP			Lumi processor data, cefgbn bits : 32-25 calibrated energy gamma cal. 24-17 calibrated energy electron cal. 16-9 flag, 8-1 bunch number	
LMFINC					Position detectors calibrations	LMCLBA
	ID	SNUM				
	Nr	INTE	1,120		Each finger has a number: Nr = 1 - sum of Pdtchn i = 1,4	
	Finfac	REAL			Chan. energy/bit factor	
	Finslp	REAL			Chan. calibration slope	
	Finesl	REAL			Error of chan. calibration slope	
	Finitc	REAL			Chan. calibration intercept	
	Finein	REAL			Error of chan. calibration intercept	
	Finped	REAL			Chan. pedestal	
	Finsig	REAL			Chan. pedestal width	
	Emin	REAL			Minimum energy during calibration	
	Emax	REAL			Maximum energy during calibration	
	Date	DATE			When performed	
	Where	CH16			Where performed	
LMFLAG					Lumi event information	LMRUEV
	ID	SNUM				
	old	BITP			8 bits Lumi flag from VME. Lumi old flag type: = 1 - bremsstrahlung, = 2 - radiative photon, = 4 - photoproduction, = 8 - Cerenkov veto, = 16 - empty e-bunch, = 32 - empty p-bunch, = 64 - ecal transm. error, = 128 - gcal transm. error. For LMFLAG_old positive values for all bits were put to 1.	
	new	BITP			8 bits Lumi flag after the reconstruction. Meaning of bits as above. However, Cerenkov veto can appears together with 1 and 4	
LMFLB					Lumi flag structure before and after reconstruction	LMRUEV
	ID	SNUM				
	oldb	BITP			bremsstrahlung old	
	oldr	BITP			radiative photon old	
	oldp	BITP			photoproduction old	
	oldc	BITP			Cerenkov veto old	
	eno	BITP			empty electon bunch	
	epo	BITP			empty proton bunch	
	etr	BITP			ecal transmission error	
	gtr	BITP			gcal transmission error	
	newb	BITP			bremsstrahlung new	
	newr	BITP			radiative photon new	
	newp	BITP			photoproduction new	
	newc	BITP			Cerenkov veto new	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
LMHP					ER : HERA data in ER. The first row LMHP descibes electron beam values, the second one is related to proton beam. *** Part of MDM data structure in LMHP was used to store LUMI processor data ***	LMHELU
	ID	SNUM				
	currs(1)	BITP			The current for each electron and proton bunch. The column currs(i=1,110) contains two following bunch currents.	
	.				""	
	currs(110)	BITP			""	
	totc	BITP			Total currents for electron and proton bunches	
	hersta	BITP			HERA machine status (beam instability warning, beam lost,...) -> yet dummy	
	revc(1)	BITP			Number of revolutions -> revc(1) revc(2) -> dummy	
	revc(2)	BITP			""	
	posxy(1)	BITP			X and Y beam positions -> dummy	
	posxy(2)	BITP			""	
	sgxyz(1)	BITP			Beam size at crosing: sgxyz(1) = sigma_x, sgxyz(2) = sigma_y, sgxyz(3) = sigma_z -> dummy	
	sgxyz(2)	BITP			""	
	sgxyz(3)	BITP			""	
	energy	BITP			Electron and proton beam energies -> dummy	
	bpar(1)	BITP			LUMI processor data. Its collects data from all four processor counters: bpar(2) - bpar(8) and bpar(1) which gives ER number	
	.				""	
	bpar(8)	BITP			""	
LMLIM					General information about Lumi energy limits	LMCOND
	ID	SNUM				
	Eebrlw	REAL			Lower limit of accepted brems. electron energy for 30 GeV Hera e-beam energy	
	Eebrup	REAL			Upper limit of accepted brems. electron energy for 30 GeV Hera e-beam energy. Corresponding lower and upper limits for bremsstrahlung gammas are caluculated for current run (LMCUR table) as: Egbrcl = 30 GeV - Eebrup, Egbrcu = 30 GeV - Eebrlw, since there should be energy consevation	
	Ebrslw	REAL			Lower limit of energy consevation for bremsstrahlung	
	Ebrsup	REAL			Upper limit of energy conservation for bremsstrahlung. Sum of electron and photon energies has to be within interval <Ebrslw,Ebrdup>	
	Eephlw	REAL			Lower limit of accepted photoprod. elec. energy for 30 GeV Hera e-beam energy	
	Eephup	REAL			Upper limit of accepted photoprod. elec. energy for 30 GeV Hera e-beam energy	
	Egphup	REAL			Upper limit for the gamma energy if the photoproduction has occured	
	Egrdlw	REAL			Lower limit of accepted rad. photon energy for 30 GeV Hera e-beam energy	
	Egrdup	REAL			Upper limit of acctepted rad. photon energy for 30 GeV Hera e-beam energy Egrdup = 30 GeV	
	Eerdup	REAL			Upper limit for the electron energy if the radiative photon has been produced	
LMLT					ER : Light Test Data collected in ER	LMHELU
	ID	SNUM				
	cadc	BITP			ADCs for up/down (gamma calorimeter), and left/right (electron calorimeter) channels. cadc bits structure: 32-25 ADC up, 24-17 ADC down, 16-9 ADC left, 8-1 ADC right	
LMLUMI					Auxiliary table for Lumi data collection	LMHELU
	ID	SNUM				
	Vlum(1)	REAL			Collects some Lumi data	
	.				""	
	Vlum(20)	REAL			""	
LMLURU					Integrated luminosity in run	LMHELU
	ID	SNUM				
	RunNr	BITP			Run number	
	Runbeg	BITP			Begin of run	
	Runend	BITP			End of run	
	EvtNr	BITP			Event number in run	
	IntLumi	REAL			Integrated luminosity for run	
	Dlumi	REAL			Error of integrated luminosity	
LMLUWO					Luminosity calculation, working table	LMHELU
	ID	SNUM				
	RunNr	BITP			Run number	
	EvtNr	BITP			Event number in run	
	Vlum(1)	REAL			Luminosity calculation in run for each 16 seconds from ER	
	.				""	
	Vlum(60)	REAL			""	
LMPARA						LMGEOM
	ID	SNUM				
	par	REAL	0.0,0.100E+05		A parameter defining a volume	
	of	GEN			A parameter is of a volume or a position	
	of_	REL			""	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
LMPEB					Energies, shower position calculated for ER position data	LMHELU
	ID	SNUM				
	Nr	INTE	1,2		Each position detector has a number: i = 1 - in gamma calorimeter, i = 2 - in e calorimeter	
	Ex(1)	REAL			Energy from ith finger of X-layer	
	.				""	
	Ex(16)	REAL			""	
	Xcoord	REAL			Shower X coordinate calculated as Xcoord = Xcoord+(ith fin. energy)*xi	
	Xwgt	REAL			Sum of energy in fingers	
	Ey(1)	REAL			Energy from ith finger of Y-layer	
	.				""	
	Ey(16)	REAL			""	
	Ycoord	REAL			Shower Y coordinate Ycoord = Ycoord+(ith fin. energy)*yi	
	Ywgt	REAL			Sum of energy in fingers	
LMPOS						LMGEOM
	ID	SNUM				
	nr	INTE	1,9999		Serial number	
	mother	CHA4			Name of the mother volume	
	x	REAL	-0.100E+06,0....		X linear dimension	
	y	REAL	-0.100E+06,0....		Y linear dimension	
	z	REAL	-0.100E+06,0....		Z linear dimension	
	konly	CHA4	MANY,MANY ONLY,ONLY		If MANY,a point in this volume may be in another	
	Detector	REL		P	Each sensible volume is positioned	
	rotm	REL			Each positioned volume is related to a rotation matrix	
	volu	REL			A position belong to a volume	
LMPOSD					Energies from fingers of position detectors	LMDATA
	ID	SNUM				
	Nr	INTE	1,2		Each position detector has a number: i = 1 - gamma calorimeter, i = 2 - first layer in e calorimeter	
	Ex(1)	REAL			Energy from ith finger of x-layer	
	.				""	
	Ex(24)	REAL			""	
	Xcoord	REAL			Shower x coordinate Xcoord = Xcoord+(ith fin. energy code)*i	
	Xwgt	REAL			sum of energy codes	
	Ey(1)	REAL			Energy from ith finger of y-layer	
	.				""	
	Ey(24)	REAL			""	
	Ycoord	REAL			Shower y coordinate Ycoord = Ycoord+(ith fin. energy code)*i	
	Ywgt	REAL			sum of energy codes	
LMPOSR					Response from fingers channels	LMRAWD
	ID	SNUM				
	Nr	INTE	1,2		Each position detector has a number: i = 1 - gamma calorimeter, i = 2 - first layer in e calorimeter	
	Pdstat	BITP			Transmission status for a pos._det.	
	Rx(1)	BITP			Response from x-layer#i finger#1..Nfinx	
	.				""	
	Rx(6)	BITP			""	
	Ry(1)	BITP			Response from y-layer#i finger#1..Nfiny	
	.				""	
	Ry(6)	BITP			""	
LMPRB					ADCs from fingers for ER position data after unpacking LMPS	LMHELU
	ID	SNUM				
	Nr	INTE	1,2		Each position detector has a number: i = 1 - gamma calorimeter, i = 2 - first layer in e calorimeter	
	Rx(1)	BITP			Response from x-layer#i finger#1..Nfinx	
	.				""	
	Rx(4)	BITP			""	
	Ry(1)	BITP			Response from y-layer#i finger#1..Nfiny	
	.				""	
	Ry(4)	BITP			""	
	Eele	BITP			Calibrated energy for electron cal.	
	stat	BITP			Define quality of the output data: stat = 0 means no writing errors	
	Egam	BITP			Calibrated energy for gamma calorimeter	
	nbuc	BITP			Bunch number	
LMPS					ER : Position data in ER	LMHELU
	ID	SNUM				
	pgxy(1)	BITP			Gamma position detector data from X/Y finger planes with the following structure: pgxy(1) - pgxy(4) ADCs vertical fingers 16 fingers, pgxy(5) - pgxy(8) ADCs horizontal fingers 14 fingers, each pgxy() consists two fingers data	
	.				""	
	pgxy(8)	BITP			""	
	pexy(1)	BITP			Electron position det. data from X/Y finger planes with the following structure: pexy(1) - pexy(4) ADCs vertical fingers 16 fingers, pexy(5) - pexy(8) ADCs horizontal fingers 12 fingers, each pexy() consists two fingers data	
	.				""	
	pexy(8)	BITP			""	
	ecobuc	BITP			Calibrated energies for G/E calorimeters, bunch number, status data taking	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
LMRBAC					Bremsstrahlung events after unpacking LMES table	LMHELU
	ID	SNUM				
	Resg1	INTE	0,255		Response from g_cal. chan. 1	
	Resg2	INTE	0,255		Response from g_cal. chan. 2	
	Rese1	INTE	0,255		Response from e_cal. chan. 1	
	Rese2	INTE	0,255		Response from e_cal. chan. 2	
	Egcal	INTE	0,255		Calibrated energies from g_cal	
	Eecal	INTE	0,255		Calibrated energies from e_cal	
	eflag	BITP			Flags in background events	
	nbunc	BITP			Bunch number in background events	
	nbuft	BITP			Number of dumping buffors in background events	
LMRBRE					Auxiliary table for data in ER	LMHELU
	ID	SNUM				
	Resg1	INTE	0,255		Response from g_cal. chan. 1	
	Resg2	INTE	0,255		Response from g_cal. chan. 2	
	Rese1	INTE	0,255		Response from e_cal. chan. 1	
	Rese2	INTE	0,255		Response from e_cal. chan. 2	
	Egcal	INTE	0,255		Calibrated energies from g_cal	
	Eecal	INTE	0,255		Calibrated energies from e_cal	
	eflag	BITP			Flags in bremsstrahlung events	
	nbunc	BITP			Bunch number in bremss. events	
	nbufb	BITP			Number of dumping buffors in bremsstrahlung events	
LMRDUM					Random trigger events after unpacking LMDP table	LMHELU
	ID	SNUM				
	Resg1	INTE	0,255		Response from g_cal. chan. 1	
	Resg2	INTE	0,255		Response from g_cal. chan. 2	
	Rese1	INTE	0,255		Response from e_cal. chan. 1	
	Rese2	INTE	0,255		Response from e_cal. chan. 2	
	Egcal	INTE	0,255		Calibrated energies from g_cal	
	Eecal	INTE	0,255		Calibrated energies from e_cal	
	eflag	BITP			Flags in dump events	
	nbunc	BITP			Bunch number in dump events	
LMRESU					Lumi energy output	LMDATA
	ID	SNUM				
	Enrg	REAL			Energy from g calorimeter	
	Denrg	REAL			Error of Enrg	
	Enre	REAL			Energy from e calorimeter	
	Denre	REAL			Error of Enre	
LMRJCT						LMGEOM
	ID	SNUM				
	config	INTE	0,9999		Selects configuration	
	of	GEN			Rejected volumes and positions	
	of_	REL			""	
LMRO					Data structure for fast clear ????	LMRAWD
	ID	SNUM				
	FLT	INTE				
	SLT	INTE				
	BCN	INTE				
	ROT	INTE				
	INFO(1)	INTE				
	.					
	INFO(6)	INTE				
LMSC					ER : Monitoring Hardware data collected in ER	LMHELU
	ID	SNUM				
	hd(1)	BITP			Monitoring hardware data : hd(1)-hd(24) -> high voltage values for power supply channels, hd(25) -> gamma cal. temperature, hd(26) -> electron cal. temperature, hd(27) -> mean current phototube up, hd(28) -> mean current phototube down gamma cal, hd(29) -> mean current phototube left, hd(30) -> mean current phototube right electron cal., hd(31) -> time data taking	
	.				""	
	hd(31)	BITP			""	
LMSDET						LMGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	type	INTE	1,9999		detector type	
	nwhi	INTE	1,9999		Numb. words primary alloc. HITS	
	nwdi	INTE	1,9999		Numb. words DIGI when primary not suff.	
LMSDTA						LMGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nwhi	INTE	1,9999		Initial HITS allocation	
	nwdi	INTE	1,9999		Increment of DIGI allocation	
	sdet	REL			Some detectors give more than one type signals	
LMSDTD						LMGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	of	GEN			Sensible detectors and aliases digitizations	
	of_	REL			""	
LMSDTH						LMGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	orig	REAL			to define the hit elem. positive	
	fact	REAL			IVAR= VAR + ORIG*FACT	
	of	GEN			Each detector element needs the parameter definition	
	of_	REL			""	
LMSDTU						LMGEOM
	ID	SNUM				
	upar	REAL			User parameter	
	of	GEN			User parameters for sensible detectors and aliases	
	of_	REL			""	

V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
LMSDTV						LMGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	sdet	REL			Physical detectors for the master detector identifier	
LMSET					General information about Lumi setup	LMCOND
	ID	SNUM				
	Gcal	LOGI			Gamma calorimeter on/off	
	Gnrchn	INTE			Number g-cal electronics channels	
	Gchbad	INTE	0,2		Ordinal number of g_cal. bad channel	
	Ecal	LOGI			Electron calorimeter on/off	
	Enrchn	INTE			Number e-cal electronics channels	
	Echbad	INTE	0,2		Ordinal number of e_cal. bad channel	
	Posdet(1)	LOGI			ith position detector on/off: i = 1 in g-cal., i = 2 in e-cal.	
	Posdet(2)	LOGI			""	
	Pdtchn(1)	INTE			Number pos. det. electronics channels: i = 1, x-layer in g-cal., i = 2, y-layer in g-cal., i = 3, x-layer in e-cal., i = 4, y-layer in e-cal.	
	.				""	
	Pdtchn(4)	INTE			""	
	Pdtchb(1)	BITP			Active/bad channels of a layer	
	.				""	
	Pdtchb(4)	BITP			""	
	Ceren	LOGI			Cerenkov counter on/off	
	Filter(1)	LOGI			Filter status: i = 1 0.5 X0 1st piece in/out, i = 2 1.0 X0 2nd piece in/out, i = 3 2.0 X0 3rd piece in/out	
	Filter(2)	LOGI			""	
	Filter(3)	LOGI			""	
LMVOLU						LMGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	shape	CHA4	BOX,BOX TRD1,TRD1 TRD2,TRD2 TRAP,TRAP TUBE,TUBE TUBS,TUBS CONE,CONE CONS,CONS SPHE,SPHE PARA,PARA PGON,PGON PCON,PCON GTRA,GTRA		Shape of the volume	
	div	REL		P	Some volumes may be subdived	
	sdet	REL		P	Some volumes maybe also active detectors	
	tmed	REL			Volume tracking medium number	
LPBEAM					Beam related informations	LPSCalb
	ID	SNUM				
	Magnet(1)	REAL			Current in magnets in Amps. as from ENV	
	.				""	
	Magnet(20)	REAL			""	
	Mon(1)	REAL			Beam position Monitors (mm)	
	.				""	
	Mon(16)	REAL			""	
	Vtx(1)	REAL			Average vertex position	
	Vtx(2)	REAL			""	
	Vtx(3)	REAL			""	
	Dvtx(1)	REAL			Gaussian error in Vtx	
	Dvtx(2)	REAL			""	
	Dvtx(3)	REAL			""	
	Tilt(1)	REAL			Average hor./vert. tilt of the beam	
	Tilt(2)	REAL			""	
	Dtilt(1)	REAL			Error on Tilt	
	Dtilt(2)	REAL			""	
	Free(1)	REAL			Free parameters	
	.				""	
	Free(10)	REAL			""	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
LPBOR1					BOR Table Which of the 9 pots are used and which planes among these pots. (j=(A,B)&1 means j = 0 for A and 1 for B) LPS FLT matrix programation Information on Detector Positions : 21 words : 9 In-Out beam coordinates, 8 transverse coordinates, 4 FAR movements Z-coordinates are not run dependant. Threshold and bias for each plane, 2 timing /pot, 1 roc timing	LPRawEvent
Static	ID	IMPL				
	PT1PL01	BITP			bit (16*j+i) set if DTSC i plane j=(0,1)&1 active	
	PT1PL23	BITP			bit (16*j+i) set if DTSC i plane j=(2,3)&1 active	
	PT1PL45	BITP			bit (16*j+i) set if DTSC i plane j=(4,5)&1 active	
	PT2PL01	BITP			bit (16*j+i) set if DTSC i plane j=(0,1)&1 active	
	PT2PL23	BITP			bit (16*j+i) set if DTSC i plane j=(2,3)&1 active	
	PT2PL45	BITP			bit (16*j+i) set if DTSC i plane j=(4,5)&1 active	
	PT3PL01	BITP			bit (16*j+i) set if DTSC i plane j=(0,1)&1 active	
	PT3PL23	BITP			bit (16*j+i) set if DTSC i plane j=(2,3)&1 active	
	PT3PL45	BITP			bit (16*j+i) set if DTSC i plane j=(4,5)&1 active	
	PT4PL01	BITP			bit (16*j+i) set if DTSC i plane j=(0,1)&1 active	
	PT4PL23	BITP			bit (16*j+i) set if DTSC i plane j=(2,3)&1 active	
	PT4PL45	BITP			bit (16*j+i) set if DTSC i plane j=(4,5)&1 active	
	PT5PL01	BITP			bit (16*j+i) set if DTSC i plane j=(0,1)&1 active	
	PT5PL23	BITP			bit (16*j+i) set if DTSC i plane j=(2,3)&1 active	
	PT5PL45	BITP			bit (16*j+i) set if DTSC i plane j=(4,5)&1 active	
	PT6PL01	BITP			bit (16*j+i) set if DTSC i plane j=(0,1)&1 active	
	PT6PL23	BITP			bit (16*j+i) set if DTSC i plane j=(2,3)&1 active	
	PT6PL45	BITP			bit (16*j+i) set if DTSC i plane j=(4,5)&1 active	
	PT7PL01	BITP			bit (16*j+i) set if DTSC i plane j=(0,1)&1 active	
	PT7PL23	BITP			bit (16*j+i) set if DTSC i plane j=(2,3)&1 active	
	PT7PL45	BITP			bit (16*j+i) set if DTSC i plane j=(4,5)&1 active	
	PT8PL01	BITP			bit (16*j+i) set if DTSC i plane j=(0,1)&1 active	
	PT8PL23	BITP			bit (16*j+i) set if DTSC i plane j=(2,3)&1 active	
	PT8PL45	BITP			bit (16*j+i) set if DTSC i plane j=(4,5)&1 active	
	PT9PL01	BITP			bit (16*j+i) set if DTSC i plane j=(0,1)&1 active	
	PT9PL23	BITP			bit (16*j+i) set if DTSC i plane j=(2,3)&1 active	
	PT9PL45	BITP			bit (16*j+i) set if DTSC i plane j=(4,5)&1 active	
	DWDWS1(1)	BITP			LPS L1 Matrix S1_down-down	
	.				""	
	DWDWS1(20)	BITP			""	
	DWUPS1(1)	BITP			LPS L1 Matrix S1_down-up	
	.				""	
	DWUPS1(20)	BITP			""	
	UPDWS1(1)	BITP			LPS L1 Matrix S1_up-down	
	.				""	
	UPDWS1(20)	BITP			""	
	UPUPS1(1)	BITP			LPS L1 Matrix S1_up-up	
	.				""	
	UPUPS1(20)	BITP			""	
	DWDWS2(1)	BITP			LPS L1 Matrix S2_down-down	
	.				""	
	DWDWS2(20)	BITP			""	
	DWUPS2(1)	BITP			LPS L1 Matrix S2_down-up	
	.				""	
	DWUPS2(20)	BITP			""	
	UPDWS2(1)	BITP			LPS L1 Matrix S2_up-down	
	.				""	
	UPDWS2(20)	BITP			""	
	UPUPS2(1)	BITP			LPS L1 Matrix S2_up-up	
	.				""	
	UPUPS2(20)	BITP			""	
	DWDWS3(1)	BITP			LPS L1 Matrix S3_down-down	
	.				""	
	DWDWS3(20)	BITP			""	
	DWUPS3(1)	BITP			LPS L1 Matrix S3_down-up	
	.				""	
	DWUPS3(20)	BITP			""	
	UPDWS3(1)	BITP			LPS L1 Matrix S3_up-down	
	.				""	
	UPDWS3(20)	BITP			""	
	UPUPS3(1)	BITP			LPS L1 Matrix S3_up-up	
	.				""	
	UPUPS3(20)	BITP			""	
	H45RIGH(1)	BITP			LPS L1 Matrix H45_right	
	.				""	
	H45RIGH(20)	BITP			""	
	H46RIGH(1)	BITP			LPS L1 Matrix H46_right	
	.				""	
	H46RIGH(20)	BITP			""	
	V45RIGH(1)	BITP			LPS L1 Matrix V45_right	
	.				""	
	V45RIGH(20)	BITP			""	
	V46RIGH(1)	BITP			LPS L1 Matrix V46_right	
	.				""	
	V46RIGH(20)	BITP			""	
	H45LEFT(1)	BITP			LPS L1 Matrix H45_left	
	.				""	
	H45LEFT(20)	BITP			""	
	H46LEFT(1)	BITP			LPS L1 Matrix H46_left	
	.				""	
	H46LEFT(20)	BITP			""	
	V45LEFT(1)	BITP			LPS L1 Matrix V45_left	
	.				""	
	V45LEFT(20)	BITP			""	
	V46LEFT(1)	BITP			LPS L1 Matrix V46_left	
	.				""	
	V46LEFT(20)	BITP			""	
	MASK1ADW	BITP			FLT data mask pot 1 A D	
	MASK1AUP	BITP			FLT data mask pot 1 A U	
	MASK1BDW	BITP			FLT data mask pot 1 B D	
	MASK1BUP	BITP			FLT data mask pot 1 B U	
	MASK2ADW	BITP			FLT data mask pot 2 A D	
	MASK2AUP	BITP			FLT data mask pot 2 A U	
	MASK2BDW	BITP			FLT data mask pot 2 B D	
	MASK2BUP	BITP			FLT data mask pot 2 B U	
	MASK3ADW	BITP			FLT data mask pot 3 A D	
	MASK3AUP	BITP			FLT data mask pot 3 A U	
	MASK3BDW	BITP			FLT data mask pot 3 B D	

V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
	MASK3BUP	BITP			FLT data mask pot 3 B U	
	NOMOMASK4HR	BITP			FLT data mask pot 4 H R	
	NOMOMASK5HR	BITP			FLT data mask pot 5 H R	
	NOMOMASK6HR	BITP			FLT data mask pot 6 H R	
	NOMOMASK4VR	BITP			FLT data mask pot 4 V R	
	NOMOMASK5VR	BITP			FLT data mask pot 5 V R	
	NOMOMASK6VR	BITP			FLT data mask pot 6 V R	
	NOMOMASK4HL	BITP			FLT data mask pot 4 H L	
	NOMOMASK5HL	BITP			FLT data mask pot 5 H L	
	NOMOMASK6HL	BITP			FLT data mask pot 6 H L	
	NOMOMASK4VL	BITP			FLT data mask pot 4 V L	
	NOMOMASK5VL	BITP			FLT data mask pot 5 V L	
	NOMOMASK6VL	BITP			FLT data mask pot 6 V L	
	SCALRATES1	INTE			FLT scaler rate for S1 after mat	
	SCALRATES2	INTE			FLT scaler rate for S2 after mat	
	SCALRATES3	INTE			FLT scaler rate for S3 after mat	
	SCALMASK1AD	BITP			FLT data mask pot 1 A D	
	SCALMASK1AU	BITP			FLT data mask pot 1 A U	
	SCALMASK1BD	BITP			FLT data mask pot 1 B D	
	SCALMASK1BU	BITP			FLT data mask pot 1 B U	
	SCALMASK2AD	BITP			FLT data mask pot 2 A D	
	SCALMASK2AU	BITP			FLT data mask pot 2 A U	
	SCALMASK2BD	BITP			FLT data mask pot 2 B D	
	SCALMASK2BU	BITP			FLT data mask pot 2 B U	
	SCALMASK3AD	BITP			FLT data mask pot 3 A D	
	SCALMASK3AU	BITP			FLT data mask pot 3 A U	
	SCALMASK3BD	BITP			FLT data mask pot 3 B D	
	SCALMASK3BU	BITP			FLT data mask pot 3 B U	
	SCALMASK4HR	BITP			FLT SCAL mask pot 4 H R	
	SCALMASK5HR	BITP			FLT SCAL mask pot 5 H R	
	SCALMASK6HR	BITP			FLT SCAL mask pot 6 H R	
	SCALMASK4VR	BITP			FLT SCAL mask pot 4 V R	
	SCALMASK5VR	BITP			FLT SCAL mask pot 5 V R	
	SCALMASK6VR	BITP			FLT SCAL mask pot 6 V R	
	SCALMASK4HL	BITP			FLT SCAL mask pot 4 H L	
	SCALMASK5HL	BITP			FLT SCAL mask pot 5 H L	
	SCALMASK6HL	BITP			FLT SCAL mask pot 6 H L	
	SCALMASK4VL	BITP			FLT SCAL mask pot 4 V L	
	SCALMASK5VL	BITP			FLT SCAL mask pot 5 V L	
	SCALMASK6VL	BITP			FLT SCAL mask pot 6 V L	
	DETCONFIG1AD	BITP			FLT detector configuration pot 1 A D	
	DETCONFIG1AU	BITP			FLT detector configuration pot 1 A U	
	DETCONFIG1BD	BITP			FLT detector configuration pot 1 B D	
	DETCONFIG1BU	BITP			FLT detector configuration pot 1 B U	
	DETCONFIG2AD	BITP			FLT detector configuration pot 2 A D	
	DETCONFIG2AU	BITP			FLT detector configuration pot 2 A U	
	DETCONFIG2BD	BITP			FLT detector configuration pot 2 B D	
	DETCONFIG2BU	BITP			FLT detector configuration pot 2 B U	
	DETCONFIG3AD	BITP			FLT detector configuration pot 3 A D	
	DETCONFIG3AU	BITP			FLT detector configuration pot 3 A U	
	DETCONFIG3BD	BITP			FLT detector configuration pot 3 B D	
	DETCONFIG3BU	BITP			FLT detector configuration pot 3 B U	
	DETCONFIG4HR	BITP			FLT detector configuration pot 4 H R	
	DETCONFIG5HR	BITP			FLT detector configuration pot 5 H R	
	DETCONFIG6HR	BITP			FLT detector configuration pot 6 H R	
	DETCONFIG4VR	BITP			FLT detector configuration pot 4 V R	
	DETCONFIG5VR	BITP			FLT detector configuration pot 5 V R	
	DETCONFIG6VR	BITP			FLT detector configuration pot 6 V R	
	DETCONFIG4HL	BITP			FLT detector configuration pot 4 H L	
	DETCONFIG5HL	BITP			FLT detector configuration pot 5 H L	
	DETCONFIG6HL	BITP			FLT detector configuration pot 6 H L	
	DETCONFIG4VL	BITP			FLT detector configuration pot 4 V L	
	DETCONFIG5VL	BITP			FLT detector configuration pot 5 V L	
	DETCONFIG6VL	BITP			FLT detector configuration pot 6 V L	
	LPSMAXREV	BITP			4 Revision numbers for LPS MAX 456	
	LPSGFIREV	BITP			Revision number for LPS GFI 456	
	LPSMAXREV123	BITP			Revision numbers for LPS MAX 123	
	LPSGFIREV123	BITP			Revision number for LPS GFI 123	
	S1IO	REAL			motor setting of I/O Movement S1 in mm	
	S1TR	REAL			motor setting of tra Movement S1 in mm	
	S2IO	REAL			motor setting of I/O Movement S2 in mm	
	S2TR	REAL			motor setting of tra Movement S2 in mm	
	S3IO	REAL			motor setting of I/O Movement S3 in mm	
	S3TR	REAL			motor setting of tra Movement S3 in mm	
	S4UIO	REAL			motor setting of I/O Mvmt S4 UP in mm	
	S4UTR	REAL			motor setting of tra Movement S4 in mm	
	S4DIO	REAL			motor setting of I/O Mvmt S4 DW in mm	
	S4DTR	REAL			motor setting of tra Movement S4 in mm	
	S5UDC	REAL			DC motor setting for S5UP in mm	
	S5UTR	REAL			motor setting of tra Mvmt S5 UP in mm	
	S5DDC	REAL			DC motor setting for S5DW in mm	
	S5DTR	REAL			motor setting of tra Mvmt S5 DW in mm	
	S6UDC	REAL			DC motor setting for S6UP in mm	
	S6UTR	REAL			motor setting of tra Mvmt S6 UP in mm	
	S6DDC	REAL			DC motor setting for S6DW in mm	
	S6DTR	REAL			motor setting of tra Mvmt S6 DW in mm	
	S5UFAR	REAL			1 if detector at pot bottom S5UP	
	S5DFAR	REAL			1 if detector at pot bottom S5DW	
	S6UFAR	REAL			1 if detector at pot bottom S6UP	
	S6DFAR	REAL			1 if detector at pot bottom S6DW	
	THRS1P(1)	REAL			7 Threshold values S1 in V	
	.				""	
	THRS1P(7)	REAL			""	
	THRS2P(1)	REAL			7 Threshold values S2 in V	
	.				""	
	THRS2P(7)	REAL			""	
	THRS3P(1)	REAL			7 Threshold values S3 in V	
	.				""	
	THRS3P(7)	REAL			""	
	THRS4UP(1)	REAL			7 Threshold values S4 UP in V	
	.				""	
	THRS4UP(7)	REAL			""	
	THRS4DW(1)	REAL			7 Threshold values S4 DW in V	
	.				""	
	THRS4DW(7)	REAL			""	
	THRS5UP(1)	REAL			7 Threshold values S5 UP in V	
	.				""	

V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
	THRS5UP(7)	REAL			""	
	THRS5DW(1)	REAL			7 Threshold values S5 DW in V	
	.				""	
	THRS5DW(7)	REAL			""	
	THRS6UP(1)	REAL			7 Threshold values S6 UP in V	
	.				""	
	THRS6UP(7)	REAL			""	
	THRS6DW(1)	REAL			7 Threshold values S6 DW in V	
	.				""	
	THRS6DW(7)	REAL			""	
	BIASS1P(1)	REAL			7 Bias values S1 in V	
	.				""	
	BIASS1P(7)	REAL			""	
	BIASS2P(1)	REAL			7 Bias values S2 in V	
	.				""	
	BIASS2P(7)	REAL			""	
	BIASS3P(1)	REAL			7 Bias values S3 in V	
	.				""	
	BIASS3P(7)	REAL			""	
	BIASS4UP(1)	REAL			7 Bias values S4 UP in V	
	.				""	
	BIASS4UP(7)	REAL			""	
	BIASS4DW(1)	REAL			7 Bias values S4 DW in V	
	.				""	
	BIASS4DW(7)	REAL			""	
	BIASS5UP(1)	REAL			7 Bias values S5 UP in V	
	.				""	
	BIASS5UP(7)	REAL			""	
	BIASS5DW(1)	REAL			7 Bias values S5 DW in V	
	.				""	
	BIASS5DW(7)	REAL			""	
	BIASS6UP(1)	REAL			7 Bias values S6 UP in V	
	.				""	
	BIASS6UP(7)	REAL			""	
	BIASS6DW(1)	REAL			7 Bias values S6 DW in V	
	.				""	
	BIASS6DW(7)	REAL			""	
	LEAKS1P(1)	REAL			7 Leak current values S1 in mA	
	.				""	
	LEAKS1P(7)	REAL			""	
	LEAKS2P(1)	REAL			7 Leak current values S2 in mA	
	.				""	
	LEAKS2P(7)	REAL			""	
	LEAKS3P(1)	REAL			7 Leak current values S3 in mA	
	.				""	
	LEAKS3P(7)	REAL			""	
	LEAKS4UP(1)	REAL			7 Leak current values S4 UP in mA	
	.				""	
	LEAKS4UP(7)	REAL			""	
	LEAKS4DW(1)	REAL			7 Leak current values S4 DW in mA	
	.				""	
	LEAKS4DW(7)	REAL			""	
	LEAKS5UP(1)	REAL			7 Leak current values S5 UP in mA	
	.				""	
	LEAKS5UP(7)	REAL			""	
	LEAKS5DW(1)	REAL			7 Leak current values S5 DW in mA	
	.				""	
	LEAKS5DW(7)	REAL			""	
	LEAKS6UP(1)	REAL			7 Leak current values S6 UP in mA	
	.				""	
	LEAKS6UP(7)	REAL			""	
	LEAKS6DW(1)	REAL			7 Leak current values S6 DW in mA	
	.				""	
	LEAKS6DW(7)	REAL			""	
	TIMS1P(1)	INTE			2 Timing values S1 in ns	
	TIMS1P(2)	INTE			""	
	TIMS2P(1)	INTE			2 Timing values S2 in ns	
	TIMS2P(2)	INTE			""	
	TIMS3P(1)	INTE			2 Timing values S3 in ns	
	TIMS3P(2)	INTE			""	
	TIMS4UP(1)	INTE			2 Timing values S4 UP in ns	
	TIMS4UP(2)	INTE			""	
	TIMS4DW(1)	INTE			2 Timing values S4 DW in ns	
	TIMS4DW(2)	INTE			""	
	TIMS5UP(1)	INTE			2 Timing values S5 UP in ns	
	TIMS5UP(2)	INTE			""	
	TIMS5DW(1)	INTE			2 Timing values S5 DW in ns	
	TIMS5DW(2)	INTE			""	
	TIMS6UP(1)	INTE			2 Timing values S6 UP in ns	
	TIMS6UP(2)	INTE			""	
	TIMS6DW(1)	INTE			2 Timing values S6 DW in ns	
	TIMS6DW(2)	INTE			""	
	TIMROC	INTE			ROC main Delay in ns	
LPCLCO					Coordinate - Cluster relator	LP2hit
	ID	SNUM				
	LPCLUS	REL			A coordinate can be made by many clusters	
	LPCOOR	REL			A coordinate can be made by many clusters	
LPCLUS					A cluster is a group of adjacent strips firing on the same plane	LP2hit
	ID	SNUM				
	Nr	INTE	1,100		Detector Number	
	Pos	REAL			Cluster position in strip units	
	Width	INTE			Cluster width in strip units	
	Code	INTE		P	Cluster quality flag	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
LPCONF					Readout configuration for a specific period of running and pointers to LPnlst and LPdlst tables.	LPSCond
	ID	SNUM				
	CONFnam	CH32			Configuration name	
	DTSCMAP(1,1)	BITP			DTSC map, 32 bit words, 16 for each plane	
	.				""	
	DTSCMAP(3,9)	BITP			""	
	TOTNUMH	INTE			Total number of noisy channels	
	TOTNUML	INTE			Total number of dead channels	
	ADDPOTH(1)	INTE			Address where the noisy strip code begins for each pot	
	.				""	
	ADDPOTH(9)	INTE			""	
	ADDPOTL(1)	INTE			Address where the dead strip code begins for each pot	
	.				""	
	ADDPOTL(9)	INTE			""	
LPCOOR					List of local coordinates reconstructed in each pot	LP2hit
	ID	SNUM				
	sta	INTE	1,6		LPS Station number	
	hit(1)	REAL			Hit position in beam reference (cm)	
	hit(2)	REAL			""	
	hit(3)	REAL			""	
	slp(1)	REAL		P	Local dx/dz and dy/dz of the track	
	slp(2)	REAL		P	""	
	Cov(1)	REAL			Covariance Matrix	
	.				""	
	Cov(10)	REAL			""	
	Npla	INTE			Number of planes involved.	
	Mtch	INTE	0,1		1 if matching between two opposite pots	
	Code	INTE		P	Quality code of the coordinate	
	Pattrn	BITP			Sequence of hit planes	
	Chisq	REAL		P	Chisq. of fit	
	MatchTo	REL		P	Two coordinates in opposite pots can match and give rise to a global coordinate	
LPCOTR					Track - Coordinate relator	LP2hit
	ID	SNUM				
	LPCOOR	REL			A track can be made by many coordinates	
	LPTRAK	REL			A track can be made by many coordinates	
LPDETC					Silicon planes performance during data taking	LPSCond
	ID	SNUM				
	Pot	INTE			Pot number	
	Plane	INTE			Plane number	
	Eff	REAL			Plane efficiency 0<Eff<1	
	Shr(1)	REAL			Charge sharing parameterization	
	.				""	
	Shr(5)	REAL			""	
	Ctk(1)	REAL			Integrated probability of crosstalk	
	Ctk(2)	REAL			""	
	Noise	REAL			Mean value for Poisson noise distribution	
	Pos(1)	REAL			Plane x-y position (mm)	
	Pos(2)	REAL			""	
	Tilt	REAL			Plane tilt (mrad)	
LPDICO					Defines the constants for the digitization	LPGEOM
	ID	SNUM				
	STRN	REAL			SHIFT TO CALCULATE THE HITS	
	STRWD	REAL			STRIP WIDTH	
	ITY	INTE	1,4		PLANE TYPE	
	TYPL	CHA4			PLANE IDENTIFICATION	
	ORIG	REAL			DISPLACEMENT OF HERA ORIGIN	
	ZPLA	REAL			Z coordinate of plane in abs system	
LPDIV						LPGEOM
	ID	SNUM				
	mother	CHA4			Name of the mother volume	
	step	REAL	-0.100E+05,0....		Division step	
	axis	INTE	1,3		Axis division	
	ndiv	INTE	1,9999		Number of divisions	
LPDLST					The HIT codes corresponding to dead channels	LPSCond
	ID	SNUM				
	DIG	BITP			32 bits informations	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
LPENV						LPRawEvent
Static	ID	IMPL				
	GFLTN	BITP			Global FLT number	
	GSLTN	BITP			Global SLT number	
	RUNNUM	INTE			Run Number	
	ROCSTAT	BITP			Roc Status register : Ambiguities trigger type, SRC state, Empty p and e ...	
	BEAMCRO	BITP			information on the bunch crossing	
	L1FREQ	INTE			mean GFLT rate in Hz	
	L2FREQ	INTE			mean GSLT rate in Hz	
	H45RIGH(1)	BITP			LPS L1 Matrix H45_right	
	.				""	
	H45RIGH(20)	BITP			""	
	H46RIGH(1)	BITP			LPS L1 Matrix H46_right	
	.				""	
	H46RIGH(20)	BITP			""	
	V45RIGH(1)	BITP			LPS L1 Matrix V45_right	
	.				""	
	V45RIGH(20)	BITP			""	
	V46RIGH(1)	BITP			LPS L1 Matrix V46_right	
	.				""	
	V46RIGH(20)	BITP			""	
	H45LEFT(1)	BITP			LPS L1 Matrix H45_left	
	.				""	
	H45LEFT(20)	BITP			""	
	H46LEFT(1)	BITP			LPS L1 Matrix H46_left	
	.				""	
	H46LEFT(20)	BITP			""	
	V45LEFT(1)	BITP			LPS L1 Matrix V45_left	
	.				""	
	V45LEFT(20)	BITP			""	
	V46LEFT(1)	BITP			LPS L1 Matrix V46_left	
	.				""	
	V46LEFT(20)	BITP			""	
	SCALRATE4HR	INTE			right horiz FLT scaler rate for S4 Up	
	SCALRATE5HR	INTE			right horiz FLT scaler rate for S5 Up	
	SCALRATE6HR	INTE			right horiz FLT scaler rate for S6 Up	
	SCALRATE4VR	INTE			right vert FLT scaler rate for S4 Up	
	SCALRATE5VR	INTE			right vert FLT scaler rate for S5 Up	
	SCALRATE6VR	INTE			right vert FLT scaler rate for S6 Up	
	SCALRATE4HL	INTE			left horiz FLT scaler rate for S4 Up	
	SCALRATE5HL	INTE			left horiz FLT scaler rate for S5 Up	
	SCALRATE6HL	INTE			left horiz FLT scaler rate for S6 Up	
	SCALRATE4VL	INTE			left vert FLT scaler rate for S4 Up	
	SCALRATE5VL	INTE			left vert FLT scaler rate for S5 Up	
	SCALRATE6VL	INTE			left vert FLT scaler rate for S6 Up	
	RADMONRATE	INTE			Radiation monitors coincidences	
	S1IO	REAL			motor setting of I/O Movement S1 in mm	
	S1TR	REAL			motor setting of tra Movement S1 in mm	
	S2IO	REAL			motor setting of I/O Movement S2 in mm	
	S2TR	REAL			motor setting of tra Movement S2 in mm	
	S3IO	REAL			motor setting of I/O Movement S3 in mm	
	S3TR	REAL			motor setting of tra Movement S3 in mm	
	S4UIO	REAL			motor setting of I/O Mvmt S4 UP in mm	
	S4UTR	REAL			motor setting of tra Movement S4 in mm	
	S4DIO	REAL			motor setting of I/O Mvmt S4 DW in mm	
	S4DTR	REAL			motor setting of tra Movement S4 in mm	
	S5UDC	REAL			DC motor setting for S5UP in mm	
	S5UTR	REAL			motor setting of tra Mvmt S5 UP in mm	
	S5DDC	REAL			DC motor setting for S5DW in mm	
	S5DTR	REAL			motor setting of tra Mvmt S5 DW in mm	
	S6UDC	REAL			DC motor setting for S6UP in mm	
	S6UTR	REAL			motor setting of tra Mvmt S6 UP in mm	
	S6DDC	REAL			DC motor setting for S6DW in mm	
	S6DTR	REAL			motor setting of tra Mvmt S6 DW in mm	
	S5UFAR	REAL			1 if detector at pot bottom S5UP	
	S5DFAR	REAL			1 if detector at pot bottom S5DW	
	S6UFAR	REAL			1 if detector at pot bottom S6UP	
	S6DFAR	REAL			1 if detector at pot bottom S6DW	
	HERASTATUS	BITP			Indication of HERA magnets status	
	MAGNET(1)	REAL			current in magnets in A	
	.				""	
	MAGNET(32)	REAL			""	
	BEAMPos(1)	REAL			Hera Beam position Monitor (mm)	
	.				""	
	BEAMPos(16)	REAL			""	
	WCollPos(1)	REAL			Collimators position (mm)	
	.				""	
	WCollPos(12)	REAL			""	
	WCollRat(1)	INTE			Collimators rates (Hz)	
	WCollRat(2)	INTE			""	
	WCollRat(3)	INTE			""	
	EpsilonH	REAL			Horizontal Beam emittance (mm.mrad)	
	EpsilonV	REAL			Vertical Beam emittance (mm.mrad)	
	C5	INTE			C5 rate (Hz)	
	FNC	INTE			Forward Neutron Calorimeter rate (Hz)	
	NERROR	INTE			Number of error codes in table ENVERR	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
LPENV96						LPRawEvent
Static	ID	IMPL				
	GFLTN	BITP			Global FLT number	
	GSLTN	BITP			Global SLT number	
	RUNNUM	INTE			Run Number	
	ROCSTAT	BITP			Roc Status register : Ambiguities trigger type, SRC state, Empty p and e ...	
	BEAMCRO	BITP			information on the bunch crossing	
	L1FREQ	INTE			mean GFLT rate in Hz	
	L2FREQ	INTE			mean GSLT rate in Hz	
	SCSTATUS	BITP			Slow Control status	
	H45RIGH(1)	BITP			LPS L1 Matrix H45_right	
	.				""	
	H45RIGH(20)	BITP			""	
	H46RIGH(1)	BITP			LPS L1 Matrix H46_right	
	.				""	
	H46RIGH(20)	BITP			""	
	V45RIGH(1)	BITP			LPS L1 Matrix V45_right	
	.				""	
	V45RIGH(20)	BITP			""	
	V46RIGH(1)	BITP			LPS L1 Matrix V46_right	
	.				""	
	V46RIGH(20)	BITP			""	
	H45LEFT(1)	BITP			LPS L1 Matrix H45_left	
	.				""	
	H45LEFT(20)	BITP			""	
	H46LEFT(1)	BITP			LPS L1 Matrix H46_left	
	.				""	
	H46LEFT(20)	BITP			""	
	V45LEFT(1)	BITP			LPS L1 Matrix V45_left	
	.				""	
	V45LEFT(20)	BITP			""	
	V46LEFT(1)	BITP			LPS L1 Matrix V46_left	
	.				""	
	V46LEFT(20)	BITP			""	
	DWDWS1(1)	BITP			LPS L1 Matrix S1_down-down	
	.				""	
	DWDWS1(20)	BITP			""	
	DWUPS1(1)	BITP			LPS L1 Matrix S1_down-up	
	.				""	
	DWUPS1(20)	BITP			""	
	UPDWS1(1)	BITP			LPS L1 Matrix S1_up-down	
	.				""	
	UPDWS1(20)	BITP			""	
	UPUPS1(1)	BITP			LPS L1 Matrix S1_up-up	
	.				""	
	UPUPS1(20)	BITP			""	
	DWDWS2(1)	BITP			LPS L1 Matrix S2_down-down	
	.				""	
	DWDWS2(20)	BITP			""	
	DWUPS2(1)	BITP			LPS L1 Matrix S2_down-up	
	.				""	
	DWUPS2(20)	BITP			""	
	UPDWS2(1)	BITP			LPS L1 Matrix S2_up-down	
	.				""	
	UPDWS2(20)	BITP			""	
	UPUPS2(1)	BITP			LPS L1 Matrix S2_up-up	
	.				""	
	UPUPS2(20)	BITP			""	
	DWDWS3(1)	BITP			LPS L1 Matrix S3_down-down	
	.				""	
	DWDWS3(20)	BITP			""	
	DWUPS3(1)	BITP			LPS L1 Matrix S3_down-up	
	.				""	
	DWUPS3(20)	BITP			""	
	UPDWS3(1)	BITP			LPS L1 Matrix S3_up-down	
	.				""	
	UPDWS3(20)	BITP			""	
	UPUPS3(1)	BITP			LPS L1 Matrix S3_up-up	
	.				""	
	UPUPS3(20)	BITP			""	
	SCALRATES1	INTE			FLT scaler rate for S1 after mat	
	SCALRATES2	INTE			FLT scaler rate for S2 after mat	
	SCALRATES3	INTE			FLT scaler rate for S3 after mat	
	SCALRATE1DA	INTE			FLT scaler rate for S1A down	
	SCALRATE1UA	INTE			FLT scaler rate for S1A up	
	SCALRATE1DB	INTE			FLT scaler rate for S1B down	
	SCALRATE1UB	INTE			FLT scaler rate for S1B up	
	SCALRATE2DA	INTE			FLT scaler rate for S2A down	
	SCALRATE2UA	INTE			FLT scaler rate for S2A up	
	SCALRATE2DB	INTE			FLT scaler rate for S2B down	
	SCALRATE2UB	INTE			FLT scaler rate for S2B up	
	SCALRATE3DA	INTE			FLT scaler rate for S3A down	
	SCALRATE3UA	INTE			FLT scaler rate for S3A up	
	SCALRATE3DB	INTE			FLT scaler rate for S3B down	
	SCALRATE3UB	INTE			FLT scaler rate for S3B up	
	SCALRATE4HR	INTE			right horiz FLT scaler rate for S4 Up	
	SCALRATE5HR	INTE			right horiz FLT scaler rate for S5 Up	
	SCALRATE6HR	INTE			right horiz FLT scaler rate for S6 Up	
	SCALRATE4VR	INTE			right vert FLT scaler rate for S4 Up	
	SCALRATE5VR	INTE			right vert FLT scaler rate for S5 Up	
	SCALRATE6VR	INTE			right vert FLT scaler rate for S6 Up	
	SCALRATE4HL	INTE			left horiz FLT scaler rate for S4 Up	
	SCALRATE5HL	INTE			left horiz FLT scaler rate for S5 Up	
	SCALRATE6HL	INTE			left horiz FLT scaler rate for S6 Up	
	SCALRATE4VL	INTE			left vert FLT scaler rate for S4 Up	
	SCALRATE5VL	INTE			left vert FLT scaler rate for S5 Up	
	SCALRATE6VL	INTE			left vert FLT scaler rate for S6 Up	
	RADMONRATE	INTE			Radiation monitors coincidences	
	S1IO	REAL			motor setting of I/O Movement S1 in mm	
	S1TR	REAL			motor setting of tra Movement S1 in mm	
	S2IO	REAL			motor setting of I/O Movement S2 in mm	
	S2TR	REAL			motor setting of tra Movement S2 in mm	
	S3IO	REAL			motor setting of I/O Movement S3 in mm	
	S3TR	REAL			motor setting of tra Movement S3 in mm	
	S4UIO	REAL			motor setting of I/O Mvmt S4 UP in mm	
	S4UTR	REAL			motor setting of tra Movement S4 in mm	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
	S4DIO	REAL			motor setting of I/O Mvmt S4 DW in mm	
	S4DTR	REAL			motor setting of tra Movement S4 in mm	
	S5UDC	REAL			DC motor setting for S5UP in mm	
	S5UTR	REAL			motor setting of tra Mvmt S5 UP in mm	
	S5DDC	REAL			DC motor setting for S5DW in mm	
	S5DTR	REAL			motor setting of tra Mvmt S5 DW in mm	
	S6UDC	REAL			DC motor setting for S6UP in mm	
	S6UTR	REAL			motor setting of tra Mvmt S6 UP in mm	
	S6DDC	REAL			DC motor setting for S6DW in mm	
	S6DTR	REAL			motor setting of tra Mvmt S6 DW in mm	
	S5UFAR	REAL			1 if detector at pot bottom S5UP	
	S5DFAR	REAL			1 if detector at pot bottom S5DW	
	S6UFAR	REAL			1 if detector at pot bottom S6UP	
	S6DFAR	REAL			1 if detector at pot bottom S6DW	
	HERASTATUS	BITP			Indication of HERA magnets status	
	MAGNET(1)	REAL			current in magnets in A	
	.				""	
	MAGNET(32)	REAL			""	
	BEAMPos(1)	REAL			Hera Beam position Monitor (mm)	
	.				""	
	BEAMPos(16)	REAL			""	
	WCollPos(1)	REAL			Collimators position (mm)	
	.				""	
	WCollPos(16)	REAL			""	
	WCollRat(1)	INTE			Collimators rates (Hz)	
	.				""	
	WCollRat(4)	INTE			""	
	EpsilonH	REAL			Horizontal Beam emittance (mm.mrad)	
	EpsilonV	REAL			Vertical Beam emittance (mm.mrad)	
	C5	INTE			C5 rate (Hz)	
	FNC	INTE			Forward Neutron Calorimeter rate (Hz)	
	NERROR	INTE			Number of error codes in table ENVERR	
LPEORERR					EOR Table Slow Conrol Run Summary Error Codes	LPRawEvent
Static	ID	IMPL				
	DIG	INTE			integer error codes	
LPEVTR					Every run has its own set of calibration constants, defined in an event range. Status is used to monitor the run data quality	LPSCalb
	ID	SNUM				
	CALBnam	CH32			Calibration set name	
	RunNr	INTE			Run number	
	EvtF	INTE			First Event of validity	
	EvtL	INTE			Last Event of validity	
	Lumi	REAL			Corresponding luminosity (nb-1)	
	Status	BITP			LPS status during this Run	
	LPBEAM	REL			Every beam set of constants is valid for one or more Event ranges	
	LPMOTR	REL			Every motor setting is valid for one or more Event ranges	
LPFLT						LPRawEvent
Static	ID	IMPL				
	DATAPOT4HR	BITP			data FLT S4 RIGHT HORIZONTAL	
	DATAPOT5HR	BITP			data FLT S5 RIGHT HORIZONTAL	
	DATAPOT6HR	BITP			data FLT S6 RIGHT HORIZONTAL	
	DATAPOT4VR	BITP			data FLT S4 RIGHT VERTICAL	
	DATAPOT5VR	BITP			data FLT S5 RIGHT VERTICAL	
	DATAPOT6VR	BITP			data FLT S6 RIGHT VERTICAL	
	DATAPOT4HL	BITP			data FLT S4 LEFT HORIZONTAL	
	DATAPOT5HL	BITP			data FLT S5 LEFT HORIZONTAL	
	DATAPOT6HL	BITP			data FLT S6 LEFT HORIZONTAL	
	DATAPOT4VL	BITP			data FLT S4 LEFT VERTICAL	
	DATAPOT5VL	BITP			data FLT S5 LEFT VERTICAL	
	DATAPOT6VL	BITP			data FLT S6 LEFT VERTICAL	
	DATAPOT1DA	BITP			data FLT S1 DOWN SIDE A	
	DATAPOT1UA	BITP			data FLT S1 UP SIDE A	
	DATAPOT1DB	BITP			data FLT S1 DOWN SIDE B	
	DATAPOT1UB	BITP			data FLT S1 UP SIDE B	
	DATAPOT2DA	BITP			data FLT S2 DOWN SIDE A	
	DATAPOT2UA	BITP			data FLT S2 UP SIDE A	
	DATAPOT2DB	BITP			data FLT S2 DOWN SIDE B	
	DATAPOT2UB	BITP			data FLT S2 UP SIDE B	
	DATAPOT3DA	BITP			data FLT S3 DOWN SIDE A	
	DATAPOT3UA	BITP			data FLT S3 UP SIDE A	
	DATAPOT3DB	BITP			data FLT S3 DOWN SIDE B	
	DATAPOT3UB	BITP			data FLT S3 UP SIDE B	
	LPSL1DECIDE	BITP			LPS L1 DECISION 456	
	LPSL1DECIDE123	BITP			LPS L1 DECISION 123	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
LPHEAD					An event header	LPRawEvent
Static	ID	IMPL				
	TOTNUMW	INTE			total number of 16 bits hit codes	
	GFLTN	BITP			Global FLT number	
	GSLTN	BITP			Global SLT number=addr4 of ZEBRA table	
	RUNNUM	INTE			Run Number	
	ROCSTAT	BITP			Roc Status register : Ambiguities trigger type, SRC state, Empty p and e ...	
	BEAMCRO	BITP			information on the bunch crossing	
	BEAMPX1	INTE			info on beam position X POINT 1	
	BEAMPY1	INTE			info on beam position Y POINT 1	
	BEAMPX2	INTE			info on beam position X POINT 2	
	BEAMPY2	INTE			info on beam position Y POINT 2	
	ADDPOT1	INTE			address where the hit code begins	
	ADDPOT2	INTE			address where the hit code begins	
	ADDPOT3	INTE			address where the hit code begins	
	ADDPOT4	INTE			address where the hit code begins	
	ADDPOT5	INTE			address where the hit code begins	
	ADDPOT6	INTE			address where the hit code begins	
	ADDPOT7	INTE			address where the hit code begins	
	ADDPOT8	INTE			address where the hit code begins	
	ADDPOT9	INTE			address where the hit code begins	
	OVERFLO	BITP			18 sects of 3 planes,bit i=1 if overflow on section i	
	TIMEOUT	BITP			18 sects of 3 planes,bit i=1 if timeout on section i	
	SRCERRO	BITP			9 pots,bit i=1 if src n0 i error	
	SCSTATUS	BITP			0 ro 1. 0 if no bad slow control stat	
	LPSL2VAL	BITP			data to test LPS Level 2 trigger	
LPHIGH					BOR Table A map of high stucked strips, i.e. broken strips that ALWAYS give a hit.	LPRawEvent
Static	ID	IMPL				
	TOTNUMW	INTE			total number of 16 bits hit codes	
	GFLTN	BITP			not used 1	
	GSLTN	INTE			always -1 for BOR event	
	RUNNUM	INTE			Run Number	
	STUCK	BITP			always 1. this means HIGH stucked table	
	BEAMCRO	BITP			not used 2	
	BEAMPX1	INTE			not used 3	
	BEAMPY1	INTE			not used 4	
	BEAMPX2	INTE			not used 5	
	BEAMPY2	INTE			not used 6	
	ADDPOT1	INTE			address where the hit code begins pot 1	
	ADDPOT2	INTE			address where the hit code begins pot 2	
	ADDPOT3	INTE			address where the hit code begins pot 3	
	ADDPOT4	INTE			address where the hit code begins pot 4	
	ADDPOT5	INTE			address where the hit code begins pot 5	
	ADDPOT6	INTE			address where the hit code begins pot 6	
	ADDPOT7	INTE			address where the hit code begins pot 7	
	ADDPOT8	INTE			address where the hit code begins pot 8	
	ADDPOT9	INTE			address where the hit code begins pot 9	
	SPARE7	BITP			not used 7	
	SPARE8	BITP			not used 8	
	SPARE9	BITP			not used 9	
	SPARE10	BITP			not used 10	
	SPARE11	BITP			not used 11	
LPHLOW					BOR Table A map of low stucked strips,i.e. broken strips that NEVER give a hit.	LPRawEvent
Static	ID	IMPL				
	TOTNUMW	INTE			total number of 16 bits hit codes	
	GFLTN	BITP			not used 1	
	GSLTN	INTE			always -1 for BOR event	
	RUNNUM	INTE			Run Number	
	STUCK	BITP			always 0. this means LOW stucked table	
	BEAMCRO	BITP			not used 2	
	BEAMPX1	INTE			not used 3	
	BEAMPY1	INTE			not used 4	
	BEAMPX2	INTE			not used 5	
	BEAMPY2	INTE			not used 6	
	ADDPOT1	INTE			address where the hit code begins pot 1	
	ADDPOT2	INTE			address where the hit code begins pot 2	
	ADDPOT3	INTE			address where the hit code begins pot 3	
	ADDPOT4	INTE			address where the hit code begins pot 4	
	ADDPOT5	INTE			address where the hit code begins pot 5	
	ADDPOT6	INTE			address where the hit code begins pot 6	
	ADDPOT7	INTE			address where the hit code begins pot 7	
	ADDPOT8	INTE			address where the hit code begins pot 8	
	ADDPOT9	INTE			address where the hit code begins pot 9	
	SPARE7	BITP			not used 7	
	SPARE8	BITP			not used 8	
	SPARE9	BITP			not used 9	
	SPARE10	BITP			not used 10	
	SPARE11	BITP			not used 11	
LPKFO					Leading Proton Spectrometer Global track segment	LPTR
	ID	SNUM				
	XF(1)	REAL			Filtered coordinates.	
	.				""	
	XF(5)	REAL			""	
	COVF(1)	REAL			Covariance matrix of the filtered point, filled up to the (SUM(i)-NbPred(i))**2 sub-matrix.	
	.				""	
	COVF(15)	REAL			""	
	ChiQIncr	REAL			Chi-square increment.	
	XR(1)	REAL			Filtered residuals.	
	.				""	
	XR(5)	REAL			""	
	COVR(1)	REAL			Covariance matrix of filtered residuals.	
	.				""	
	COVR(15)	REAL			""	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
LPMCON					Same as LPCONF, this table defines a configuration for the events simulation. Contains pointers to LPMnls and LPMdls tables.	LPSCond
	ID	SNUM				
	CONFnam	CH32			Configuration name	
	DTSCMAP(1,1)	BITP			DTSC map, 32 bit words, 16 for each plane	
	.				""	
	DTSCMAP(3,9)	BITP			""	
	TOTNUMH	INTE			Total number of noisy channels	
	TOTNUML	INTE			Total number of dead channels	
	ADDPOTH(1)	INTE			Address where the noisy strip code begins for each pot	
	.				""	
	ADDPOTH(9)	INTE			""	
	ADDPOTL(1)	INTE			Address where the dead strip code begins for each pot	
	.				""	
	ADDPOTL(9)	INTE			""	
	Pbeam	REAL			Proton beam energy (GeV)	
	Ebeam	REAL			Lepton beam energy (GeV)	
	PType	INTE			Proton beam type	
	EType	INTE			Lepton beam type	
LPMDET					Constants for Digitisation and Noise simulation	LPSCond
	ID	SNUM				
	Pot	INTE			Pot number	
	Plane	INTE			Plane number	
	Eff	REAL			Plane efficiency 0<Eff<1	
	Shr(1)	REAL			Charge sharing parameterization	
	.				""	
	Shr(5)	REAL			""	
	Ctk(1)	REAL			Integrated probability of crosstalk	
	Ctk(2)	REAL			""	
	Noise	REAL			Mean value for Poisson noise distribution	
	Pos(1)	REAL			Plane x-y position (mm)	
	Pos(2)	REAL			""	
	Tilt	REAL			Plane tilt (mrad)	
LPMDLS					The HIT codes corresponding to dead channels	LPSCond
	ID	SNUM				
	DIG	BITP			32 bits informations	
LPMNLS					The HIT codes corresponding to noisy channels	LPSCond
	ID	SNUM				
	DIG	BITP			32 bits informations	
LPMOPT					Mozart simulation of the HERA optics elements	LPSCond
	ID	SNUM				
	Sequ	INTE			Sequence number of the beam element	
	Length	REAL			Length (m)	
	Name	CHA4			Element name	
	Type	CHA4			Element type (BEND,QUAD,STAT,GATE)	
	Par	REAL			Real parameter (bending angle, focal length...)	
	IPar	REAL			Interger parameter (pot number,...)	
	Bpos(1)	REAL			Beam position at the entrance of the element (mm)	
	Bpos(2)	REAL			""	
	Brot(1)	REAL			Beam tilt at the entrance of the element (mrad)	
	Brot(2)	REAL			""	
	Epos(1)	REAL			Element axis position at the entrance (mm)	
	Epos(2)	REAL			""	
	Erot(1)	REAL			Element axis tilt (mrad)	
	Erot(2)	REAL			""	
	Geom(1)	REAL			Additional geometry parameters	
	.				""	
	Geom(8)	REAL			""	
LPMOTR					Motor positions during data taking monitored by the Slow Control	LPSCalb
	ID	SNUM				
	Motor(1,1)	REAL			in/out and lateral motor position in mm.	
	.				""	
	Motor(2,9)	REAL			""	
LPMPOS					Detector positions in Mozart	LPSCond
	ID	SNUM				
	Pos(1,1)	REAL			Pot positions in/out and lateral	
	.				""	
	Pos(2,9)	REAL			""	
	Zpos(1)	REAL			z coordinate of each pot	
	.				""	
	Zpos(9)	REAL			""	
LPMREC					LP2RECON parameters and cuts for MC	LPSCond
	ID	SNUM				
	POffs(1,1)	REAL			Pair offset for each pair of planes	
	.				""	
	POffs(3,9)	REAL			""	
	QCode(1)	INTE			Maximum quality code in each pot	
	.				""	
	QCode(9)	INTE			""	
	Smear(1,1)	REAL			Pot position smearing	
	.				""	
	Smear(2,9)	REAL			""	
	Free(1)	REAL			Free parameters	
	.				""	
	Free(10)	REAL			""	
	IFree(1)	INTE			Free parameters	
	.				""	
	IFree(10)	INTE			""	
LPNLST					The HIT codes corresponding to noisy channels	LPSCond
	ID	SNUM				
	DIG	BITP			32 bits informations	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
LPOPTI					Description of the HERA optics and beam elements	LPSCond
	ID	SNUM				
	Sequ	INTE			Sequence number of the beam element	
	Length	REAL			Length (m)	
	Name	CHA4			Element name	
	Type	CHA4			Element type (BEND,QUAD,STAT,GATE)	
	Par	REAL			Real parameter (bending angle, focal length...)	
	IPar	REAL			Interger parameter (pot number,...)	
	Bpos(1)	REAL			Beam position at the entrance of the element (mm)	
	Bpos(2)	REAL			""	
	Brot(1)	REAL			Beam tilt at the entrance of the element (mrad)	
	Brot(2)	REAL			""	
	Epos(1)	REAL			Element axis position at the entrance (mm)	
	Epos(2)	REAL			""	
	Erot(1)	REAL			Element axis tilt (mrad)	
	Erot(2)	REAL			""	
	Geom(1)	REAL			Additional geometry parameters	
	.				""	
	Geom(8)	REAL			""	
LPPARA						LPGEOM
	ID	SNUM				
	par	REAL	0.0,0.100E+05		A parameter defining a volume	
	of	GEN			A parameter is of a volume or a position	
	of_	REL			""	
LPPOS						LPGEOM
	ID	SNUM				
	nr	INTE	1,9999		Serial number	
	mother	CHA4			Name of the mother volume	
	x	REAL	-0.100E+06,0....		X linear dimension	
	y	REAL	-0.100E+06,0....		Y linear dimension	
	z	REAL	-0.100E+06,0....		Z linear dimension	
	konly	CHA4	MANY,MANY ONLY,ONLY		If MANY,a point in this volume may be in another	
	Detector	REL		P	each sensible volume positioned is related to some digitization parameter	
	rotm	REL			each positioned volume is related to a rotation matrix	
	volu	REL			A position belongs to a volume	
LPRAWD					The HIT codes, LPS raw data	LPRawEvent
Static	ID	IMPL				
	DIG	BITP			32 bits informations	
LPRAWH					BOR Table The HIT codes corresponding to HIGH Stucked Strips	LPRawEvent
Static	ID	IMPL				
	DIG	BITP			32 bits informations	
LPRAWL					BOR Table The HIT codes corresponding to LOW-Stucked Strips	LPRawEvent
Static	ID	IMPL				
	DIG	BITP			32 bits informations	
LPRECP					LP2RECON parameters and cuts	LPSCond
	ID	SNUM				
	POffs(1,1)	REAL			Pair offset for each pair of planes	
	.				""	
	POffs(3,9)	REAL			""	
	QCode(1)	INTE			Maximum quality code in each pot	
	.				""	
	QCode(9)	INTE			""	
	Smear(1,1)	REAL			Pot position smearing	
	.				""	
	Smear(2,9)	REAL			""	
	Free(1)	REAL			Free parameters	
	.				""	
	Free(10)	REAL			""	
	IFree(1)	INTE			Free parameters	
	.				""	
	IFree(10)	INTE			""	
LPRJCT						LPGEOM
	ID	SNUM				
	config	INTE	0,9999		Selects configuration	
	of	GEN			Rejected volumes and positions	
	of_	REL			""	
LPSDET						LPGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	type	INTE	1,9999		detector type	
	nwhi	INTE	1,9999		Numb. words primary alloc. HITS	
	nwdi	INTE	1,9999		Numb. words DIGI when primary not suff.	
LPSDTA						LPGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nwhi	INTE	1,9999		Initial HITS allocation	
	nwdi	INTE	1,9999		Increment of DIGI allocation	
	sdet	REL			Some detectors give more than one type signals	
LPSDTD						LPGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	of	GEN			Sensible detectors and aliases digitizations	
	of_	REL			""	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
LPSDTH						LPGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	orig	REAL			to define the hit elem. positive	
	fact	REAL			IVAR= VAR + ORIG*FACT	
	of	GEN			each detec. element needs the parameter definition	
	of_	REL			""	
LPSDTU						LPGEOM
	ID	SNUM				
	upar	REAL			User parameter	
	of	GEN			User parameters for sensible detectors and aliases	
	of_	REL			""	
LPSDTV						LPGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	sdet	REL			Physical detectors for the master detector identifier	
LPSEOR Static						LPRawEvent
	ID	IMPL				
	GFLTN	BITP			Global FLT number	
	GSLTN	BITP			Global SLT number. -2 for EOR	
	RUNNUM	INTE			Run Number	
	ROCSTAT	BITP			Roc Status register	
	NERROR	INTE			Number of errors in table EORERR	
LPSREC					LPS reconstruction status	LP2hit
	ID	SNUM				
	Version	INTE			Reconstruction code version	
	Options	BITP			Reconstruction options in effect	
	Status	BITP			Reconstruction status	
	BestNoVtx	REL		P	The best track in the event, without vertex constraint	
	BestVtx	REL		P	The best track in the event, with vertex constraint	
LPSURV					Alignment constants. These are the parameters of the equations y = slope * x + const + Coefn * n (n = strip nr. 1,..,1024) describing the location of each strip when motors are at the reference positions.	LPSCond
	ID	SNUM				
	SETname	CH32			Constants set name	
	Slope(1,1)	REAL			Slopes of the strip equations	
	.				""	
	Slope(6,9)	REAL			""	
	Const(1,1)	REAL			Constants of the strip equations	
	.				""	
	Const(6,9)	REAL			""	
	Coefn(1,1)	REAL			Coefficients of the strip equations	
	.				""	
	Coefn(6,9)	REAL			""	
	Zplan(1,1)	REAL			Distance of each plane to the pot center	
	.				""	
	Zplan(6,9)	REAL			""	
	Zpot(1)	REAL			Position of the pot along the beam	
	.				""	
	Zpot(9)	REAL			""	
	Motor(1,1)	REAL			In/out and lat. motor reference positions	
	.				""	
	Motor(2,9)	REAL			""	
LPTEvt					Physics generator event header information. All the parameters relate to the Lepto deep inelastic scattering event generator. References : Zeus-Note-91-13	FMCZEvt
	ID	SNUM				
	NTracks	INTE			Number of stable particles (charged and neutral) in the event.	
	x	REAL			Bjorken x.	
	y	REAL			Bjorken y.	
	W2	REAL			Total hadronic energy squared (GeV**2).	
	Q2	REAL			Four momentum transfer squared (GeV/c)**2.	
	nu	REAL			Deep inelastic variable nu - GeV.	
	s	REAL			Centre of mass energy squared (GeV**2)	
	QCDFlag	INTE			QCD cascade flag (LST(8) from /LEPTOU/).	
	SF	INTE			Structure function parameterisation used: 0 - Scaling 1 - EHLQ1 2 - EHLQ2 3 - DO1 4 - DO2 To be extended!.	
	Target	INTE			HEPEVT code of the target nucleon.	
	Current	INTE			Current 1 - Electromagnetic, 2 - Charged current, 3 - Charged current, 4 - Neutral current, 5 - Neutral current, 6 - Electromagnetic and Neutral current.	
	SubProc	INTE			Hard scattering subprocess: 1 - q jet, 2 - qg - jets, 3 - qqbar - jets.	
	FlavStr	INTE			HEPEVT flavour code for struck quark.	
	HadExtra	INTE			0 if no extra hadron in the target remnant. 1 if there is an extra hadron in the target remnant.	
	HelLep	INTE			Incoming lepton hilicity (+-1)	
	CrosSect	REAL			Cross section for the hard scatter- ing process for this event.	
	Alphas	REAL			Alpha-strong at the scale of the hard scattering process for this event.	
	Lambda	REAL			Lambda-QCD at last structure func- ion call.	

V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
LPTRAK					LPS Tracks found in reconstruction PHASE 1	LP2hit
	ID	SNUM				
	p(1)	REAL			Reconstructed momentum	
	p(2)	REAL			""	
	p(3)	REAL			""	
	vtx(1)	REAL			Vertex position projected at z=Zvert	
	vtx(2)	REAL			""	
	Zvert	REAL			Assumed Z vertex position	
	Cov(1)	REAL			Covariance Matrix	
	.				""	
	Cov(15)	REAL			""	
	Nsta	INTE			Number of stations hit	
	Pattrn	BITP			Pattern of stations hit	
	LastPot	INTE			Last pot included in the fit	
	Nhit	INTE			Total number of hit planes	
	Ntot	INTE			Total number of planes which should have been hit	
	MissProb	REAL			Probability of these planes missing a hit	
	Chisq	REAL		P	Chisquare of result	
	Ndof	INTE			Number of d. o. f.	
	DPipe(1)	REAL			Distance of closest approach to any aperature up to station J	
	.				""	
	DPipe(6)	REAL			""	
	DPot(1)	REAL			Distance to the bottom of pot J	
	.				""	
	DPot(9)	REAL			""	
	Code	INTE		P	Track Code	
LPTRun					The contents of the common lines in this table record the conditions under which the LEPTO event generator was run. References : Zeus-Note-91-13	FMCZRUNS
	ID	SNUM				
	Comment(1)	CH16			Free format comment line describing the run conditions of LEPTO.	
	.				""	
	Comment(5)	CH16			""	
	LST(1)	INTE			Values of the Lepto LST array of generator parameters.	
	.				""	
	LST(20)	INTE			""	
	PARL(1)	REAL			Values of the Lepto PARL array of generator parameters.	
	.				""	
	PARL(20)	REAL			""	
	CUT(1)	REAL			Values of the Lepto CUT array controling Lepto event generation.	
	.				""	
	CUT(14)	REAL			""	
	MST(1)	INTE			JetSet MST array controlling fragmentation.	
	.				""	
	MST(40)	INTE			""	
	PAR(1)	REAL			JetSet PAR array controlling fragmentation.	
	.				""	
	PAR(80)	REAL			""	
LPTSMM					Many to Many relationship among LPTS and LPKFO	LPTR
	ID	SNUM				
	LPKFO	REL			A candidate track may belong to 0 or more global candidate	
	lpts	REL			A candidate track may belong to 0 or more global candidate	
LPVOLU						LPGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	shape	CHA4	BOX,BOX TRD1,TRD1 TRD2,TRD2 TRAP,TRAP TUBE,TUBE TUBS,TUBS CONE,CONE CONS,CONS SPHE,SPHE PARA,PARA PGON,PGON PCON,PCON GTRA,GTRA		Shape of the volume	
	div	REL		P	some volumes may be subdived	
	sdet	REL		P	some volumes may be also active detectors	
	tmed	REL			Volume tracking medium number	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
MBADC					A Star ADC conversion output	MbRawEvent
	ID	SNUM				
	PlaNum	INTE	111,114 121,124 211,214 221,224 311,314 321,324 331,334 341,344 411,414 421,424 511,514 521,524 611,614 621,624 641,644 661,664 721,724 811,814 821,824 841,844 861,864 911,914 921,924 931,934 941,944 951,954 961,964 971,974 981,984		The plane id. number; the format is: "abc" where a [1 --> 9] is the octant identifier in Zeus, b [1 --> 8] is the chamber identifier in the octant, c [1 --> 4] is the plane identifier in the chamber; a grows counterclockwise from x-axis and a=9 identifies the rear detector, b grows counterclockwise from x-axis and it is odd for the BMUI and even for the BMUO, c grows from inward to outword	
	CarPos	INTE	1,26		The card position in the plane; this number grows following the same direction of the hardware channel ordering inside the cards of the plane	
	ChaPos	INTE	0,31		The channel position in a card: hardware defined channel number	
	Value	INTE	0,255		The ADC value	
MBADSB					Planes of ADC boards which are no longer read-out by their DSP controller	MbRawEvent
	ID	SNUM				
	PlaNum	INTE	111,114 121,124 211,214 221,224 311,314 321,324 331,334 341,344 411,414 421,424 511,514 521,524 611,614 621,624 641,644 661,664 721,724 811,814 821,824 841,844 861,864 911,914 921,924 931,934 941,944 951,954 961,964 971,974 981,984		The plane id. number; the format is: "abc" where a [1 --> 9] is the octant identifier in Zeus, b [1 --> 8] is the chamber identifier in the octant, c [1 --> 4] is the plane identifier in the chamber; a grows counterclockwise from x-axis and a=9 identifies the rear detector, b grows counterclockwise from x-axis and it is odd for the BMUI and even for the BMUO, c grows from inward to outword	
	NofPl	INTE	0,4		Number of consecutive planes	
	LastEv	INTE			FLT # of the last event read-out by the controller	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
MBAMSK					An ADC board with one or more digital channel (quadruplets) suppressed	MbRawEvent
	ID	SNUM				
	PlaNum	INTE	111,114 121,124 211,214 221,224 311,314 321,324 331,334 341,344 411,414 421,424 511,514 521,524 611,614 621,624 641,644 661,664 721,724 811,814 821,824 841,844 861,864 911,914 921,924 931,934 941,944 951,954 961,964 971,974 981,984		The plane id. number; the format is: "abc" where a [1 --> 9] is the octant identifier in Zeus, b [1 --> 8] is the chamber identifier in the octant, c [1 --> 4] is the plane identifier in the chamber; a grows counterclockwise from x-axis and a=9 identifies the rear detector, b grows counterclockwise from x-axis and it is odd for the BMUI and even for the BMUO, c grows from inward to outword	
	CarPos	INTE	1,26		The card position in the plane; this number grows following the same direction of the hardware channel ordering inside the cards of the plane	
	Quadr	BITP			The STAR quadruplet bit pattern; bit 0 through bit 7 specify the corresponding quadruplet (1 through 8) following the order of the channel numbers	
MBAR					Constants for the Barrel and Rear Muon Detector Reconstruction	MBGEOM
	ID	SNUM				
	CElhwi	REAL			Half Width of LST cell	
	N1hwi	REAL			Half width of Noryl 1	
	N2hwi	REAL			Half width of Noryl 2	
	VEthwi	REAL			Half width of Vetronite (G10)	
	W1step	REAL	1.0,1.0		Distance between wires of same octet	
	W8step	REAL	0.1,0.1		Distance bewteen 8-wire modules	
	STrip	REAL	1.5,1.5		Strip width	
	LightV	REAL			Velocity of light in vacuum, cm/ns	
	DriftV	REAL			Drift Velocity,cm/TDC count	
	TransV	REAL			Velocity of signal in wires	
	HiThr	INTE			High Threshold for strip hit	
	LoThr	INTE			Low Threshold for strip hit	
	MinStripnumber	INTE			Minimum number of strips in a hit	
	EX	REAL			Error on coordinates computed by drift time	
	WireHalfroad	REAL			Half Road for Wire Tracks	
	MergeTol	REAL			Tolerance for merging neighbout tubes hits	
	ProbCut	REAL			Chi squared Probability cut for track acceptance	
	MinXnumber	INTE	2,4		Minimum number of planes/track	
	T1	INTE			First constant to decode time read-out	
	T2	INTE			Second constant to decode time read-out	
	T3	INTE			Third and last constant to decode time read-out	
	YerrC(1)	REAL			Coefficients to compute error on MBSY_SY	
	YerrC(2)	REAL			""	
	WMTol	REAL			Tolerance for matching tracks in wire projection at yoke Magnet middle plane	
	YMTol	REAL			Tolerance for matching tracks in strip projection at yoke Magnet middle plane	
	BunchXing	REAL			Time between bunch x_ing	
MBBUF					Generic storage for counters, timers, etc. only occasionally present for MB DAQ debugging	MbRawEvent
	ID	SNUM				
	word	INTE			generic word	
MBCH					A Barrel or Rear Muon Chamber, that is the mechanical structure of 4 limited streamer tube planes, their support and positioning gadgets; refer to ZEUS Note 88/074 for numbering scheme	MBGEOM
	ID	SNUM				
	NO	INTE	11,98		Serial identification number, refer to ZEUS Note 88/074 for Numeration scheme	
	HX(1)	REAL			Half-sides of muon chamber	
	HX(2)	REAL			""	
	HX(3)	REAL			""	
	FIducial(1,1)	REAL			Position of the fiducials on the chamber	
	.				""	
	FIducial(3,4)	REAL			""	
	MArker(1,1)	REAL			Position of the markers on the chamber	
	.				""	
	MArker(3,4)	REAL			""	
	dxFM(1,1)	REAL			Displacement of the fiducials w.r.t the markers	
	.				""	
	dxFM(3,4)	REAL			""	
MBDIV						MBGEOM
	ID	SNUM				
	mother	CHA4			Name of the mother volume	
	step	REAL	-0.100E+05,0....		Division step	
	axis	INTE	1,3		Axis division	
	ndiv	INTE	1,9999		Number of divisions	

V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
MBDPAR					Intermediate digitization parameters	MBTrigger
	ID	SNUM				
	PlaNum	INTE	111,114		The plane id. number; the format is: "abc" where a [1 --> 9] is the octant identifier in Zeus, b [1 --> 8] is the chamber identifier in the octant, c [1 --> 4] is the plane identifier in the chamber; a grows counterclockwise from x-axis and a=9 identifies the rear detector, b grows counterclockwise from x-axis and it is odd for the BMUI and even for the BMUO, c grows from inward to outword	
			121,124			
			211,214			
			221,224			
			311,314			
			321,324			
			331,334			
			341,344			
			411,414			
			421,424			
			511,514			
			521,524			
			611,614			
			621,624			
			641,644			
			661,664			
			721,724			
			811,814			
			821,824			
			841,844			
			861,864			
			911,914			
			921,924			
			931,934			
			941,944			
			951,954			
			961,964			
			971,974			
			981,984			
	WirNO	INTE	0,384		The number of a LST cell in a plane	
	XCI(1)	REAL	0.0,0.101E+04		The input coordinates in a cell	
	XCI(2)	REAL	0.0,0.101E+04		""	
	XCI(3)	REAL	0.0,0.101E+04		""	
	XCO(1)	REAL	0.0,0.101E+04		The output coordinates in a cell	
	XCO(2)	REAL	0.0,0.101E+04		""	
	XCO(3)	REAL	0.0,0.101E+04		""	
	Amp	REAL	0.0,0.100E+05		The amplitude of the main gaussian	
	Sig	REAL	0.0,100.0		The sigma of the main gaussion	
	DifAmp	REAL	0.0,0.100E+05		The amplitude of the broader gaussian	
	DifSig	REAL	0.0,100.0		The sigma of the broader gaussian	
	DTim	REAL	0.0,200.0		The drift time	
MBDSCN					A LST tube which has been disconnected from the HV system	MbRawEvent
	ID	SNUM				
	PlaNum	INTE	111,114		The plane id. number; the format is: "abc" where a [1 --> 9] is the octant identifier in Zeus, b [1 --> 8] is the chamber identifier in the octant, c [1 --> 4] is the plane identifier in the chamber; a grows counterclockwise from x-axis and a=9 identifies the rear detector, b grows counterclockwise from x-axis and it is odd for the BMUI and even for the BMUO, c grows from inward to outword	
			121,124			
			211,214			
			221,224			
			311,314			
			321,324			
			331,334			
			341,344			
			411,414			
			421,424			
			511,514			
			521,524			
			611,614			
			621,624			
			641,644			
			661,664			
			721,724			
			811,814			
			821,824			
			841,844			
			861,864			
			911,914			
			921,924			
			931,934			
			941,944			
			951,954			
			961,964			
			971,974			
			981,984			
	TubPos	INTE			Position of a LST tube inside a plane	
MBEVIF					Table used to store the event in the internal BM format; only occasionaly present for MB DAQ debugging	MbRawEvent
	ID	SNUM				
	TwoWord	BITP			Two consecutive 16-bit words	
MBGA					Obsolete, replaced by MBTDC (MbRawEvent), kept temporarily for backward compatibility	MBDIGI
	ID	SNUM				
	NO	INTE				
	TT	INTE	1,256	P		
	TL	INTE	1,10			
	SD	INTE	-1,1			
	MBPL	REL			A wire signal belongs to a plane	
MBGD					Generalized relationship between Geant tracks and the Digitizations they produce in the Muon Barrel detector	MBGERI
	ID	SNUM				
	DTYP	GEN			Up to 3 tracks may pile up in a digitization	
	DTYP_	REL			""	
	FMCKin	REL			A track may originate many digitizations	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
MBGH					Intersection of a track with the middle, i.e. wire, plane of a Limited Streamer Tube layer (Muon Barrel Geant Hit; see also the HITS chapter of the GEANT manual)	MBGERI
	ID	SNUM				
	ZX(1)	REAL			Coordinates in ZEUS frame	
	ZX(2)	REAL			""	
	ZX(3)	REAL			""	
	SX(1)	REAL			Coordinates in the relevant Sector frame	
	SX(2)	REAL			""	
	SX(3)	REAL			""	
	SLX	REAL			Dx/dz in the Sector frame	
	SLY	REAL			Dy/dz in the Sector frame	
	FT	REAL			Time of Flight	
	P	REAL			Momentum (Gev/c)	
	FMCKin	REL			A Hit originates from a Track	
	MBPL	REL			A Hit belongs to a Muon Barrel limited streamer tube PLane	
MBHEAD					An event header	MbRawEvent
	ID	SNUM				
	FLTid	BITP			The event FLT trigger identifier whose format is "a b c d ee ff gggggggg hhhhhhhh" where: a --> abort flag bcd --> B/RMU read out type ee --> ambiguity flag ff --> system readout type: 00 normal event, 01 off beam trigger, 10 test trigger, 11 initialization trigger, gggggggg --> LSB of the bunch crossing number hhhhhhhh --> LSB of the FLT number see subschema introductory comment for meaning of the ff,bcd bits	
	SLTNum	INTE			The SLT event number	
	ROutSt	BITP			The read out bit pattern	
MBHODO					The B/RMU trigger pattern, obtained from a hardware processor of the SGS and STAR trigger output	MbRawEvent
	ID	SNUM				
	HodNum	INTE	1,8 11,12 17,18 21,22 31,34 41,42 51,52 57,58 61,62 64,64 66,66 71,72 77,78 81,82 84,84 86,86 91,98		The hodoscope number; the format is: "ab" where a [0 --> 9] is: - for the barrel TDC view (x-y projection), = [1 --> 8], the octant identifier in Zeus, (as usual growing counterclockwise from x-axis) - for the barrel STAR view (z-r projection) = [1, 5] the clamshell identifiers: 1 for the positive x-axis clamshell 5 for the negative x-axis clamshell - for the rear TDC view = 9 - for the rear STAR view = 0 b [1 --> 8] is: - for the barrel TDC view, = [1 --> 6], the chamber identifier whithin an octant (odd numbers = BMUI; even numbers = BMUO) - for the barrel STAR view, = [7 --> 8], 7 for the BMUI and 8 for the BMUO - for the rear view = [1 --> 8], the chamber identifier within the rear detector, growing counterclockwise from the x-axis (odd numbers = RMUI; even numbers = RMUO)	
	CarPos	INTE	1,26		The card position in the plane; this number grows following the same direction of the hardware channel ordering inside the cards of the plane	
MBHVST					The status of the high voltage LST channels	MbRawEvent
	ID	SNUM				
	Cable	INTE	111,982		HV Cable identifier XXY where XX is the chamber number, Y is the cable identifier within the chamber	
	HV	INTE	0,5000		Actual value of the high voltage (volts)	
	I	INTE	0,1024		Actual value of the supplied current (microA)	
	Time(1)	INTE			Time stamp in VMS format	
	.				""	
	Time(4)	INTE			""	
	Status	CHA4	ON,ON OFF,OFF TRIP,TRIP INCR,INCR DECR,DECR		Status of the high voltage channel	
MBMSG					A readout status message	MbRawEvent
	ID	SNUM				
	Ident	INTE			Message ID (in VMS Message format)	
	Text(1)	CH64			optional Message Text	
	.				""	
	Text(5)	CH64			""	
	Param	INTE			optional integer parameter	
MBMTX					The setting of the FLT matrices	MbRawEvent
	ID	SNUM				
	MtxId	INTE	0,31		Matrix identifier	
	Cont(1)	BITP			Packed matrix content	
	.				""	
	Cont(72)	BITP			""	
MBPARA						MBGEOM
	ID	SNUM				
	par	REAL	0.0,0.100E+05		A parameter defining a volume	
	of	GEN			Shape parameters are used either by GSVOLU or by GSPOSP	
	of_	REL			""	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
MBPL					A Plane of Limited Streamer Tubes; refer to ZEUS Note 88/074 for numbering scheme	MBGEOM
	ID	SNUM				
	NO	INTE	111,984		Serial identification number, refer to ZEUS Note 88/074 for Numeration scheme	
	LA	INTE	1,8		Layer identification number, from inside out, 1 to 4 for inner barrel muon chamber, 5 to 8 for outer one	
	OXm	REAL			Offset of wires relative to the chamber	
	AXm	REAL	0.0,6.28		Angle of the wires w.r.t. the nominal one relative to the chamber	
	OYm	REAL			Offset of strips relative to the chamber	
	AYm	REAL	0.0,6.28		Angle of the strips w.r.t.the nominal one relative to the chamber	
	ZM	REAL			Z of a plane relative to the chamber	
	NStrip	INTE	32,672		number of strips of a plane	
	N8wmod	INTE	16,46		Number of limited streamer tubes, 8 wires each, of a plane	
	MBCH	REL			A chamber has four planes	
	MBSE	REL			The planes are positioned w.r.t. the sector	
	X3(1)	REAL	-0.100E+04,0....		A Coordinate in space	
	X3(2)	REAL	-0.100E+04,0....		""	
	X3(3)	REAL	-0.100E+04,0....		""	
	IRot	INTE			Identifier of a rotation matrix	
MBPOS						MBGEOM
	ID	SNUM				
	nr	INTE	1,9999		Serial number	
	mother	CHA4			Name of the mother volume	
	x	REAL	-0.100E+06,0....		X linear dimension	
	y	REAL	-0.100E+06,0....		Y linear dimension	
	z	REAL	-0.100E+06,0....		Z linear dimension	
	konly	CHA4	MANY,MANY ONLY,ONLY		If MANY,a point in this volume may be in another	
	Detector	REL		P	We comply with ZGEN	
	rotm	REL			each positioned volume is related to a rotation matrix	
	volu	REL			A position belongs to a volume	
MBPU					Obsolete, replaced by MBHODO (MbRawEvent), kept temprarily for backward compatibility)	MBDIGI
	ID	SNUM				
	NO	INTE				
	X3(1)	REAL				
	.					
	X3(4)	REAL				
MBQY					A hit strip quadruplet coordinates in sector SE frame	MBHITS
	ID	SNUM				
	QY	REAL			Coordinate read by the hit strips quadruplets, w.r.t. the sector frame of reference; strips run around the barrel and are vertical in the rear	
	QZ	REAL			Distance of the sense wire plane from the sector origin. Same as MBWX_WZ	
	EQY	REAL			Measurement error on QY	
	SE	INTE	1,9		Sector number, 1 to 8 around the barrel counterclockwise from the ZEUS z axis; 9 identifies the rear	
	LA	INTE	1,8		Layer identification number, from inside out, 1 to 4 for inner barrel muon chamber, 5 to 8 for outer one	
	MBPL	REL			A hit belongs to a plane	
MBRJCT						MBGEOM
	ID	SNUM				
	config	INTE	0,9999		Selects configuration	
	of	GEN			Rejected volumes and positions	
	of_	REL			""	
MBRM					The Muon Barrel table of Rotation Matrices	MBGEOM
	ID	SNUM				
	NO	INTE			Serial identification number	
	ROT(1,1)	REAL	-1.0,1.0		Rotation Matrix	
	.		-1.0,1.0		""	
	ROT(3,3)	REAL	-1.0,1.0		""	
MBRUNH					Set of parameters used to setup the run. ParNam TMV The Trigger Master Version. ParVal will be either "1" (prototype) or "2" (final)	MbRawEvent
	ID	SNUM				
	ParNam	CH16			Name of a parameter	
	ParVal	CH64			Value of the parameter	
MBSDET						MBGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	type	INTE	1,9999		detector type	
	nwhi	INTE	1,9999		Numb. words primary alloc. HITS	
	nwdi	INTE	1,9999		Numb. words DIGI when primary not suff.	
MBSDTA						MBGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nwhi	INTE	1,9999		Initial HITS allocation	
	nwdi	INTE	1,9999		Increment of DIGI allocation	
	sdet	REL			Some detectors give more than one type signals	
MBSDTD						MBGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	of	GEN			Sensitive detectors and aliases digitizations	
	of_	REL			""	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
MBSDTH						MBGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	orig	REAL			to define the hit elem. positive	
	fact	REAL			IVAR= VAR + ORIG*FACT	
	of	GEN			each detec. element needs the parameter definition	
	of_	REL			""	
MBSDTU						MBGEOM
	ID	SNUM				
	upar	REAL			User parameter	
	of	GEN			User parameters for sensitive detectors and aliases	
	of_	REL			""	
MBSDTV						MBGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	sdet	REL			Physical detectors for the master detector identifier	
MBSE					A Barrel or Rear Sector of the Muon Detector, refer to ZEUS Note 88/074 for geometrical definition	MBGEOM
	ID	SNUM				
	CfeB	REAL			Average magnetic field value times c, for estimate of momentum starting value	
	FeTh	REAL			Total thickness of yoke iron in the sector	
	MBZEUS	REL			The nine sectors are positioned relative to ZEUS	
	X3(1)	REAL	-0.100E+04,0....		A Coordinate in space	
	X3(2)	REAL	-0.100E+04,0....		""	
	X3(3)	REAL	-0.100E+04,0....		""	
	IRot	INTE			Identifier of a rotation matrix	
MBSG16					A "Sigma16" SGS output	MBTrigger
	ID	SNUM				
	PlaNum	INTE	111,114 121,124 211,214 221,224 311,314 321,324 331,334 341,344 411,414 421,424 511,514 521,524 611,614 621,624 641,644 661,664 721,724 811,814 821,824 841,844 861,864 911,914 921,924 931,934 941,944 951,954 961,964 971,974 981,984		The plane id. number; the format is: "abc" where a [1 --> 9] is the octant identifier in Zeus, b [1 --> 8] is the chamber identifier in the octant, c [1 --> 4] is the plane identifier in the chamber; a grows counterclockwise from x-axis and a=9 identifies the rear detector, b grows counterclockwise from x-axis and it is odd for the BMUI and even for the BMUO, c grows from inward to outword	
	S16Pos	INTE	1,52		The "Sigma16" position in the plane	
	Time	INTE	0,10000		The total time from the event generation	
	Value	INTE	0,10000		The amplitude of the signal	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
MBSGS					A SGS status word and digital output	MbRawEvent
	ID	SNUM				
	PlaNum	INTE	111,114 121,124 211,214 221,224 311,314 321,324 331,334 341,344 411,414 421,424 511,514 521,524 611,614 621,624 641,644 661,664 721,724 811,814 821,824 841,844 861,864 911,914 921,924 931,934 941,944 951,954 961,964 971,974 981,984		The plane id. number; the format is: "abc" where a [1 --> 9] is the octant identifier in Zeus, b [1 --> 8] is the chamber identifier in the octant, c [1 --> 4] is the plane identifier in the chamber; a grows counterclockwise from x-axis and a=9 identifies the rear detector, b grows counterclockwise from x-axis and it is odd for the BMUI and even for the BMUO, c grows from inward to outword	
	CarPos	INTE	1,26		The card position in the plane; this number grows following the same direction of the hardware channel ordering inside the cards of the plane	
	Wires	BITP			The SGS hit wire bit pattern: bit 0 thorugh 31 specify hit wires 1 to 32 following the SGS hardware channel ordering	
	Status	BITP			The SGS status bit pattern; bit 0 through 7 are used as follows: bit 0 --> conversion flag: if 1 TDC conversion took place, bit 1 --> digital coincidence flag: if 1 data within b-xing gate, bit 2 --> FLT0 flag: if 1 B/RMU triggered (redundant with bit jbit(MBHEAD_FLTid,21)), bit 3 --> FLT1 flag: if 1 GFLT; should always be 1!, bit 4 --> error on this event, bit 5 --> card temporarily disabled, bit 6 --> card permanently disabled - full list of these cards in environamental record, bit 7 --> parity flag	
MBSLTK					A candidate track found by the Bmuon SLT.Computed from MBHODO	MbRawEvent
	ID	SNUM				
	Inner(1)	REAL			The inner chamber hit coordinates: r, phi, z, Dr, Dphi, Dz. D stands for the allowed interval on either side of the corresponding variable	
	.				""	
	Inner(6)	REAL			""	
	Outer(1)	REAL			The outer chamber hit coordinates: r, phi, z, Dr, Dphi, Dz. D stands for the allowed interval on either side of the corresponding variable	
	.				""	
	Outer(6)	REAL			""	
MBSQ					A decoded strip quadruplet signal, available for any trigger	MBDIGI
	ID	SNUM				
	NO	INTE	1,168		The Strip Quadruplet number in its plane	
	MBPL	REL			A strip quadruplet belongs to a plane	
MBSQQY					Many-to-many relationship among strip quadruplets and the coordinates reconstructed from them	MBHITS
	ID	SNUM				
	MBQY	REL			A quadruplet belongs to a digital hit	
	MBSQ	REL			A Quadrplet coordinate is made of 1 or 2 Quadruplets	
MBST					A decoded Strip signal, only available for barrel muon triggers	MBDIGI
	ID	SNUM				
	NO	INTE	1,672		The Strip number in its plane	
	ADC	INTE	0,255		The Strip ADC value	
	MBPL	REL			A strip belongs to a plane	

V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
MBST16					A "Sigma16" STAR output	MBTrigger
	ID	SNUM				
	PlaNum	INTE	111,114		The plane id. number; the format is: "abc" where a [1 --> 9] is the octant identifier in Zeus, b [1 --> 8] is the chamber identifier in the octant, c [1 --> 4] is the plane identifier in the chamber; a grows counterclockwise from x-axis and a=9 identifies the rear detector, b grows counterclockwise from x-axis and it is odd for the BMUI and even for the BMUO, c grows from inward to outword	
			121,124			
			211,214			
			221,224			
			311,314			
			321,324			
			331,334			
			341,344			
			411,414			
			421,424			
			511,514			
			521,524			
			611,614			
			621,624			
			641,644			
			661,664			
			721,724			
			811,814			
			821,824			
			841,844			
			861,864			
			911,914			
			921,924			
			931,934			
			941,944			
			951,954			
			961,964			
			971,974			
			981,984			
	S16Pos	INTE	1,52		The "Sigma16" position in the plane	
	Time	INTE	0,10000		The total time from the event generation	
	Value	INTE	0,10000		The amplitude of the signal	
MBSTAR					A Star status word and digital output	MbRawEvent
	ID	SNUM				
	PlaNum	INTE	111,114		The plane id. number; the format is: "abc" where a [1 --> 9] is the octant identifier in Zeus, b [1 --> 8] is the chamber identifier in the octant, c [1 --> 4] is the plane identifier in the chamber; a grows counterclockwise from x-axis and a=9 identifies the rear detector, b grows counterclockwise from x-axis and it is odd for the BMUI and even for the BMUO, c grows from inward to outword	
			121,124			
			211,214			
			221,224			
			311,314			
			321,324			
			331,334			
			341,344			
			411,414			
			421,424			
			511,514			
			521,524			
			611,614			
			621,624			
			641,644			
			661,664			
			721,724			
			811,814			
			821,824			
			841,844			
			861,864			
			911,914			
			921,924			
			931,934			
			941,944			
			951,954			
			961,964			
			971,974			
			981,984			
	CarPos	INTE	1,26		The card position in the plane; this number grows following the same direction of the hardware channel ordering inside the cards of the plane	
	Quadr	BITP			The STAR quadruplet bit pattern bit 0 through bit 7 specify the corresponding hit quadruplet (1 through 8) following the order of the channel numbers	
	Status	BITP			The STAR status bit pattern, only the first 7 bits are used as follows: bit 0 --> conversion flag: if 1 ADC conversion took place, bit 1 --> digital coincidence flag: if 1 data within b-xing gate but 0 not reliable, bit 2 --> FLT0 flag: if 1 B/RMU triggered (redundant with bit jbit(MBHEAD_FLTid,21)), bit 3 --> FLT1 flag: if 1 GFLT; should always be 1!, bit 4 --> error on this event, bit 5 --> card temporarily disabled, bit 6 --> card permanently disabled - full list of these cards in environamental record	
MBSTD					Temporary copy of a cluster of strips	MBHITS
	ID	SNUM				
	NO	INTE	1,672		The Strip number in its plane	
	ADC	INTE	0,255		The Strip ADC value	
	MBST	REL			Some strips are copied to working area	
MBSTSY					Many-to-many relationship among hit strips and the coordinates reconstructed from them	MBHITS
	ID	SNUM				
	MBST	REL			A strip may belong to one or two hits	
	MBSY	REL			A hit is reconstructed from at least 2 strips	
MBSTT					Temporary copy of a cluster of strips	MBHITS
	ID	SNUM				
	NO	INTE	1,672		The Strip number in its plane	
	ADC	INTE	0,255		The Strip ADC value	
	MBST	REL			Some strips are copied further to working area	

V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
MBSY					A hit strip coordinates, ONLY AVAILABLE FOR BARREL MUON TRIGGER	MBHITS
	ID	SNUM				
	MY	REAL			Coordinate read by the hit strips, w.r.t. the chamber center; handy to correct lack of parallelism, probably no need to use	
	EY	REAL			Measurement error on both MY and SY	
	SY	REAL			Coordinate read by the hit strips, w.r.t. the sector frame of reference; strips run around the barrel and are vertical in the rear. The coordinate is reconstructed by use of the strip number and ADC	
	SZ	REAL			Distance of the streamer starting point from the origin which coincides with the Sector origin; if no drift correction is applied it is the same as MBWX_WZ	
	SE	INTE	1,9		Sector number, 1 to 8 around the barrel counterclockwise from the ZEUS z axis; 9 identifies the rear	
	LA	INTE	1,8		Layer identification number, from inside out, 1 to 4 for inner barrel muon chamber, 5 to 8 for outer one	
	MBPL	REL			A hit belongs to a plane	
MBSYYE					Many to many relationship among strip clusters coordinates and strip clusters projected tracks	MBTE
	ID	SNUM				
	MBSY	REL			A strip cluster belongs to at most 2 track elements	
	MBYE	REL			There are 2 to 4 strip clusters to one track element	
MBTDC					A cluster of bits registered by the SGS delay line	MbRawEvent
	ID	SNUM				
	PlaNum	INTE	111,114 121,124 211,214 221,224 311,314 321,324 331,334 341,344 411,414 421,424 511,514 521,524 611,614 621,624 641,644 661,664 721,724 811,814 821,824 841,844 861,864 911,914 921,924 931,934 941,944 951,954 961,964 971,974 981,984		The plane id. number; the format is: "abc" where a [1 --> 9] is the octant identifier in Zeus, b [1 --> 8] is the chamber identifier in the octant, c [1 --> 4] is the plane identifier in the chamber; a grows counterclockwise from x-axis and a=9 identifies the rear detector, b grows counterclockwise from x-axis and it is odd for the BMUI and even for the BMUO, c grows from inward to outword	
	CarPos	INTE	1,26		The card position in the plane; this number grows following the same direction of the hardware channel ordering inside the cards of the plane	
	Front	INTE	0,16384		A delay-line cluster leading edge time in 20 ps units	
	Length	INTE	0,16384		A delay-line cluster lenght in 20 ps units	
MBTDSB					Planes of TDC boards which are no longer read-out by their DSP controller	MbRawEvent
	ID	SNUM				
	PlaNum	INTE	111,114 121,124 211,214 221,224 311,314 321,324 331,334 341,344 411,414 421,424 511,514 521,524 611,614 621,624 641,644 661,664 721,724 811,814 821,824 841,844 861,864 911,914 921,924 931,934 941,944 951,954 961,964 971,974 981,984		The plane id. number; the format is: "abc" where a [1 --> 9] is the octant identifier in Zeus, b [1 --> 8] is the chamber identifier in the octant, c [1 --> 4] is the plane identifier in the chamber; a grows counterclockwise from x-axis and a=9 identifies the rear detector, b grows counterclockwise from x-axis and it is odd for the BMUI and even for the BMUO, c grows from inward to outword	
	NofPl	INTE	0,4		Number of consecutive planes	
	LastEv	INTE			FLT # of the last event read-out by the controller	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
MBTMSK					A TDC board with one or more digital channels (wires) suppressed	MbRawEvent
	ID	SNUM				
	PlaNum	INTE	111,114 121,124 211,214 221,224 311,314 321,324 331,334 341,344 411,414 421,424 511,514 521,524 611,614 621,624 641,644 661,664 721,724 811,814 821,824 841,844 861,864 911,914 921,924 931,934 941,944 951,954 961,964 971,974 981,984		The plane id. number; the format is: "abc" where a [1 --> 9] is the octant identifier in Zeus, b [1 --> 8] is the chamber identifier in the octant, c [1 --> 4] is the plane identifier in the chamber; a grows counterclockwise from x-axis and a=9 identifies the rear detector, b grows counterclockwise from x-axis and it is odd for the BMUI and even for the BMUO, c grows from inward to outword	
	CarPos	INTE	1,26		The card position in the plane; this number grows following the same direction of the hardware channel ordering inside the cards of the plane	
	Wires	BITP			The SGS wire bit pattern: bit 0 thorugh 31 specify wires 1 to 32 following the SGS hardware channel ordering	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
MBTRIP					A SY227 channel in over current condition ,leading to inefficiency of one or more LSTs	MbRawEvent
	ID	SNUM				
	Planes(1)	INTE	111,114 121,124 211,214 221,224 311,314 321,324 331,334 341,344 411,414 421,424 511,514 521,524 611,614 621,624 641,644 661,664 721,724 811,814 821,824 841,844 861,864 911,914 921,924 931,934 941,944 951,954 961,964 971,974 981,984			
	.		111,114			
	Planes(4)	INTE	111,114 121,124 211,214 221,224 311,314 321,324 331,334 341,344 411,414 421,424 511,514 521,524 611,614 621,624 641,644 661,664 721,724 811,814 821,824 841,844 861,864 911,914 921,924 931,934 941,944 951,954 961,964 971,974 981,984			
	TubPos(1)	INTE	1,46		Position of a LST tube in a plane	
	.		1,46		""	
	TubPos(4)	INTE	1,46		""	
	Curr	INTE			Total current (nA)	
	CurThr	INTE			Current threshold (nA)	
	NomVol	INTE			Nominal voltage (V)	
	EffVol	INTE			Effective voltage (V)	
MBTRTD					Read out of trigger timing TDC	MbRawEvent
	ID	SNUM				
	Source	CHA8			identifier of pulse source	
	Counter	INTE	0,255		trigger counter	
	Time	INTE	0,500000		A delay-line cluster time in 20 ps units	
	Pattern	BITP			The pattern of hit channels	
MBTS					A Muon Track Segment Candidate in either the inner or the outer Muon chamber	MBTR
	ID	SNUM				
	X3(1)	REAL			x,y,z coordinates of a segment point, in Sector reference frame	
	X3(2)	REAL			""	
	X3(3)	REAL			""	
	SL(1)	REAL			dx/dz and dy/dz	
	SL(2)	REAL			""	
	VAR(1)	REAL			covariance matrix on X3 and SL. The top half of the matrix is stored numbered as defined in ZEUS-RAL-88-12.	
	.				""	
	VAR(10)	REAL			""	
	CHI2(1)	REAL			chi-squared of the projected tracks that constitute the segment	
	CHI2(2)	REAL			""	
	MBWE	REL			A Track Element may belong to 0,1 or more Track Segment	
	DD(1)	REAL			drift distance with sign as selected from fit	
	.				""	
	DD(4)	REAL			""	
	MBYE	REL			A Track Element may belong to 0,1 or more Track Segment	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
MBTSSG					Many-to many relationship among MBTS and MBXYSG	MBTR
	ID	SNUM				
	MBTS	REL			A Track Segment may belong to 0,1 or more Global Segment	
	MBXYSG	REL			It takes a BMUI and a BMUO segment to make a Global Segment	
MBVOLU						MBGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	shape	CHA4	BOX,BOX TRD1,TRD1 TRD2,TRD2 TRAP,TRAP TUBE,TUBE TUBS,TUBS CONE,CONE CONS,CONS SPHE,SPHE PARA,PARA PGON,PGON PCON,PCON GTRA,GTRA		Shape of the volume	
	div	REL		P	some volumes may be subdived	
	sdet	REL		P	some volumes may be also active detectors	
	tmed	REL			A volume is filled by a tracking medium	
MBWE					A projected track reconstructed through wires; all track parameters are in the sector frame of reference	MBTE
	ID	SNUM				
	XG	REAL			coordinate parallel to the LST planes of the projected track center of gravity	
	ZG	REAL			coordinate normal to the LST planes of the projected track center of gravity	
	SL	REAL			projected track slope = dx/dz	
	VXg	REAL	0.0,*		variance on XG	
	VSl	REAL	0.0,*		variance on SL	
	CHI2	REAL	0.0,*		chi-squared of linear fit through wires	
	SE	INTE	1,9		identifier of the sector where the track was found (entity MBSE in Subschema MBGEOM)	
	CH	INTE	1,8		chamber number in the sector; odd: BMUI (RMUI) even BMUO (RMUO)	
	MBCH	REL			A track belongs to a chamber	
MBWR					A decoded Wire signal	MBDIGI
	ID	SNUM				
	NO	INTE	1,352		The Wire Number in its plane, available for any trigger	
	TT	INTE	0,255	P	Total Time from bunch crossing to readout,ns, only available for barrel muon triggers	
	MBPL	REL			A wire belongs to a plane	
MBWX					A wire coordinates in sector SE frame	MBHITS
	ID	SNUM				
	WX	REAL			Coordinate read by the hit wire, w.r.t. the sector frame of reference; wires are parallel to the beam axis in the barrel and to the ZEUS x axis in the rear	
	DD	REAL			Drift Distance to the wire	
	WZ	REAL			Distance of the wire plane from the origin which coincides with the ZEUS origin	
	SE	INTE	1,9		Sector number, 1 to 8 around the barrel counterclockwise from the ZEUS z axis; 9 identifies the rear	
	LA	INTE	1,8		Layer identification number, from inside out, 1 to 4 for inner barrel muon chamber, 5 to 8 for outer one	
	MBPL	REL			A wire coordinate belongs to a plane	
	MBWR	REL			A wire coordinates correspond to a wire digitization	
	MBWX	REL		P	Neighbouring wires may belong to the same hit	
MBWXWE					Many to many relationship among wire coordinates and wire projected tracks	MBTE
	ID	SNUM				
	MBWE	REL			There are 2 to 8 wires to one track element	
	MBWX	REL			A wire belongs to at most 2 track elements	
MBXYSG					A Muon Barrel Global track segment (information from BMUI and BMUO combined)	MBTR
	ID	SNUM				
	X(1)	REAL			x,y,z coordinates of a segment point, in the ZEUS reference frame	
	X(2)	REAL			""	
	X(3)	REAL			""	
	DirCos(1)	REAL			Direction cosines at MBXYSG_X, in the ZEUS reference frame	
	DirCos(2)	REAL			""	
	DirCos(3)	REAL			""	
	Invp	REAL		P	Inverse momentum	
	RefAxis	INTE	1,9		Sector in which the segment has been measured, it is also the ID of the rotation matrix stored in MBRM that transformsfrom the sector to the ZEUS reference frame	
	Cov(1)	REAL			Covariance matrix on X,Y,dX/dZ,dY/dZ,Invp IN THE SECTOR reference frame. The top half of the error matrix is stored numbered as defined in ZEUS-RAL-88-12.	
	.				""	
	Cov(15)	REAL			""	
	dEdx	REAL			Estimate of dE/dX	
	VardEdX	REAL			Variance of dE/dX estimate	
	Chi2	REAL		P	Chi squared from fitting jointly BMUI and BMUO segments	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
MBYE					A projected track reconstructed through strip clusters; all track parameters are in the sector frame of reference	MBTE
	ID	SNUM				
	XG	REAL			coordinate parallel to the LST planes of the projected track center of gravity	
	ZG	REAL			coordinate normal to the LST planes of the projected track center of gravity	
	SL	REAL			projected track slope = dx/dz	
	VXg	REAL	0.0,*		variance on XG	
	VSl	REAL	0.0,*		variance on SL	
	CHI2	REAL	0.0,*		chi-squared of linear fit through wires	
	SE	INTE	1,9		identifier of the sector where the track was found (entity MBSE in Subschema MBGEOM)	
	CH	INTE	1,8		chamber number in the sector; odd: BMUI (RMUI) even BMUO (RMUO)	
	MBCH	REL			A track belongs to a chamber	
MBZEUS					The ZEUS Coordinate System.Units are cm,KGauss,s.	MBGEOM
	ID	SNUM				
MFCPU					Contains the CPU informations	MFBORENV
Static	ID	IMPL				
	ENVNUM	INTE			number of environmentals	
	SLTDISC	INTE			SLT discard	
	SLTACCPT	INTE			SLT accept	
	SLTTIME	INTE			SLT time	
	SLTERR	BITP			bits 0:15 SLT error seq 16:31 SLT error FIFO full	
	EVBMAX	INTE			maximum time delay EVB	
	EVBAVG	INTE			average time delay EVB	
	EVBMIN	INTE			minimum time delay EVB	
	TRANSMAX	INTE			maximum time delay transfer	
	TRANSAVG	INTE			average time delay transfer	
	TRANSMIN	INTE			minimum time delay transfer	
	DELMAXOF	INTE			dmax > max	
	DELMAXUF	INTE			dmax < min	
	DATAOVFL	INTE			data overflow	
	DIGIT1	INTE				
	DIGIT2	INTE				
	DIGIT3	INTE				
	DIGIT4	INTE				
MFDCBCH					Contains the DC bad channel list	MFBORENV
Static	ID	IMPL				
	CHANNEL	INTE			DC bad channel number	
MFDCEF					This table contains the efficiency associated to the DC sense wires. The element to which Eff is associated is identified by: ID = 1024*(Plane-1)+128*(Octant-1)+Wire Wire = 4*(Cell-1)+iw , iw=1,4 - Cell=1,32	MFCAL
	ID	SNUM				
	Eff	REAL			Efficiency	
MFDCHV					Contains the informations of the FMUON DC HV channels	MFBORENV
Static	ID	IMPL				
	HVINFO	BITP			VXD HV information	
MFDCLV					Contains the informations of the FMUON DC LOW VOLTAGE	MFBORENV
Static	ID	IMPL				
	VM	CH16			Low Voltage value	
	IM	CH16			Current drawn by the channel)	
MFDCT0					This table contains the T0 to be subtracted from the TDC channel. The element to which T0 refers is given by: ID = 768*(Plane-1)+96*(Octant-1)+TDC (TDC=1,..,96).	MFCAL
	ID	SNUM				
	T0	INTE			T0	
MFDCVERSION					Contains the software version names	MFBORENV
Static	ID	IMPL				
	XILINX	CH32			TDC XilinX version name	
	ACQ	CH32			TDC Acq version	
	CIC	CH32			CIC software version	
	CPU	CH32			CPUs software version (TRAN, SLT???)	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
MFDIAG					Contains the TDCs and CICs diagnostics. The TDCi arrays contain: (1) number of FLTs; (2) bits 0:15 error FLT; (3) number of SLT; (4) bits 0:15 number of ENV Test Trigger; (5) number of SLT checksum errors; (6) number of stop clock; (7) bits 0:15 number of stop without changing PB (8) bits 0:15 number of overflows; (9) Reserved; (10) Checksum	MFBORENV
Static	ID	IMPL				
	CICFREEB	BITP			bits 0:15 CIC number of buffers used	
	CICINTCNH	BITP			bits 0:15 CIC interrups counter high	
	CICINTCNL	BITP			bits 0:15 CIC interrups counter low	
	CICVSBERR	BITP			bits 0:15 CIC number of VSB errors	
	CICMISSLT	BITP			bits 0:15 CIC number FLT/SLT mismatch	
	CICCOMPTRG	BITP			bits 0:15 CIC component test trigger	
	CICFASTCLR	BITP			bits 0:15 CIC number of fast clear	
	CICRES1	BITP			bits 0:15 CIC reserved 1	
	CICRES2	BITP			bits 0:15 CIC reserved 2	
	CICCHKSUM	BITP			bits 0:15 CIC checksum	
	TDC1(1)	BITP			diagnostics for TDC 1	
	.				""	
	TDC1(10)	BITP			""	
	TDC2(1)	BITP			diagnostics for TDC 2	
	.				""	
	TDC2(10)	BITP			""	
	TDC3(1)	BITP			diagnostics for TDC 3	
	.				""	
	TDC3(10)	BITP			""	
	TDC4(1)	BITP			diagnostics for TDC 4	
	.				""	
	TDC4(10)	BITP			""	
	TDC5(1)	BITP			diagnostics for TDC 5	
	.				""	
	TDC5(10)	BITP			""	
	TDC6(1)	BITP			diagnostics for TDC 6	
	.				""	
	TDC6(10)	BITP			""	
	TDC7(1)	BITP			diagnostics for TDC 7	
	.				""	
	TDC7(10)	BITP			""	
	TDC8(1)	BITP			diagnostics for TDC 8	
	.				""	
	TDC8(10)	BITP			""	
MFDIV						MFGEOM
	ID	SNUM				
	mother	CHA4			Name of the mother volume	
	step	REAL	-0.100E+05,0....		Division step	
	axis	INTE	1,3		Axis division	
	ndiv	INTE	1,9999		Number of divisions	
MFDRFT					Alternative table for TDR and resolution smearing. Currently not used	MFCAL
	ID	SNUM				
	DriVel(1)	REAL			Drift velocity	
	.				""	
	DriVel(10)	REAL			""	
	Sigma(1)	REAL			Resolution	
	.				""	
	Sigma(10)	REAL			""	
MFDRIF					This table contains the drift velocities in the DC Gas. Up to now an average value is given, and used for all the wires	MFCAL
	ID	SNUM				
	DriVel	REAL			Drift velocity	
MFFIT					This bank stores the fit parameters (filtered/smoothed)	MFREC
	ID	SNUM				
	Plane	INTE			Plane index	
	X(1)	REAL			Filtered/Smoothed state vector	
	.				""	
	X(6)	REAL			""	
	Cov(1)	REAL			Covariance matrix of X	
	.				""	
	Cov(15)	REAL			""	
	Res(1)	REAL			Residuals w.r.t. the measurement	
	.				""	
	Res(5)	REAL			""	
	CovR(1)	REAL			Covariance matrix of Res	
	.				""	
	CovR(15)	REAL			""	
	DChi2	REAL			Chisquare increment	
	Nm	INTE			Number of measurements	
	Ns	INTE			State vector dimension	
	H(1)	REAL			Conversion matrix state->measurement vector	
	.				""	
	H(25)	REAL			""	
	IdRot	INTE			Is MFROT_ID, i.e. points to the rotation Z->L	
MFFLTBCH					Contains the Trigger Decision FLT bad channel list	MFBORENV
Static	ID	IMPL				
	TRIGGER	CH16			Trigger type (LA,SA,VSA)	
	TYPE	CH16			PHI or RHO	
	OCTANT	INTE			Octant	
	CHX	INTE			Channel X	
	CHY	INTE			Channel Y	

V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
MFKLH					Header table for the tracks KF search and fit	MFREC
	ID	SNUM				
	Status	INTE			1/2/3/4 open-seg/open-cand/filtered/smoothed	
	Nlink	INTE			Number of matched segments	
	Nrej	INTE			Number of rejections	
	Chi2	REAL		P	Incremental Chi2	
	NDof	INTE			Degrees of freedom	
	Prob	REAL			Chisquare probability	
	IdK(1)	INTE			ID of linked segment/hits	
	.				""	
	IdK(10)	INTE			""	
	Plane(1)	INTE			Plane of linked segment/hits	
	.				""	
	Plane(10)	INTE			""	
	IdP(1)	INTE			Pointer to prediction	
	.				""	
	IdP(10)	INTE			""	
	IdF(1)	INTE			Pointer to fit	
	.				""	
	IdF(10)	INTE			""	
	mfct	REL			Link header table to candidate track	
	mfcts	REL			Link header table to spline-candidate track	
	mfrtl	REL		P	Link header table to reconstructed track	
MFLTBCH					Contains the LT and LW bad channel list	MFBORENV
Static	ID	IMPL				
	CHANNEL	INTE			LT/LW channel number	
MFLTCM					Contains the average values of hit multiplicity in the LT/LW planes. The index run over the plane and octant.	MFCAL
	ID	SNUM				
	Amu(1,1)	REAL			Average value of cluster multiplicity	
	.				""	
	Amu(6,8)	REAL			""	
MFLTCW					Contains the incremental sum of probabilities used to generate the LT/LW-Rho cluster width. The first index is over the strip width in units of strips - max=10. The second index runs over the plane with the sequence LT1/LW1/LW2/LT2/LT3/LT4. The values are averaged over the octants. The third index is=1 for Phi, =2 for Rho strips.	MFCAL
	ID	SNUM				
	SProb(1,1,1)	REAL			Incremental sum of probability	
	.				""	
	SProb(10,6,2)	REAL			""	
MFLTHV					Contains the informations of the FMUON LT and LW HV channels	MFBORENV
Static	ID	IMPL				
	HVINFO	BITP			VXD HV information	
MFLTPE					This table contains the efficiency associated to the LT phi Plane. The efficiency is of the OR of the planes. Each ID identifies a strip according to the scheme: ID=32*(plane-1)+128*(octant-1)+strip , strip=1,32	MFCAL
	ID	SNUM				
	Eff	REAL			Efficiency	
MFLTPWID					Contains the LT and LW pulse width	MFBORENV
Static	ID	IMPL				
	GROUND	CH16			Ground value	
	VCC	CH16			Width	
MFLTRE					This table contains the efficiency associated to the LT Rho planes. The efficiency is of the OR of the strip planes. Each ID identifies a strip according to the scheme: ID=96*(plane-1)+384*(octant-1)+strip , strip=1,96	MFCAL
	ID	SNUM				
	Eff(1)	REAL			Efficiency	
	.				""	
	Eff(5)	REAL			""	
MFLTT					This table contains the efficiency associated to the LT Plane Tubes. The efficiency is of the OR of the 2 semi-planes.	MFCAL
	ID	SNUM				
	Eff	REAL			Efficiency	
MFLTTHR					Contains the LT and LW thresholds	MFBORENV
Static	ID	IMPL				
	GROUND	CH16			Ground value - one value per octant	
	VCC	CH16			Threshold value sent from hut	
MFLTVERSION					Contains the filenames which define the trigger and readout setup	MFBORENV
Static	ID	IMPL				
	LA	CH32			Filename of LA setup configuration	
	SA	CH32			Filename of SA setup configuration	
	VSA	CH32			Filename of VSA setup configuration	
	PPLMR	CH32			Filename of PPLM readout software	
	PPLMT	CH32			Filename of PPLM SLT trigger software version	
	CIC	CH32			Filename of CIC software version	
MFLWVERSION					Software version	MFBORENV
Static	ID	IMPL				
	NAME1	CH32			File name 1	
	NAME2	CH32			Info 2	
MFNOTES					Contains Operator informations for current run	MFBORENV
Static	ID	IMPL				
	MESSAGE	CH32			Operator message	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
MFPARA						MFGEOM
	ID	SNUM				
	par	REAL	0.0,0.100E+05		A parameter defining a volume	
	of	GEN			A parameter is of a volume or a position	
	of_	REL			""	
MFPOS						MFGEOM
	ID	SNUM				
	nr	INTE	1,9999		Serial number	
	mother	CHA4			Name of the mother volume	
	x	REAL	-0.100E+06,0....		X linear dimension	
	y	REAL	-0.100E+06,0....		Y linear dimension	
	z	REAL	-0.100E+06,0....		Z linear dimension	
	konly	CHA4	MANY,MANY ONLY,ONLY		If MANY,a point in this volume may be in another	
	Detector	REL		P	each sensible volume positioned is related to some digitization parameter	
	rotm	REL			each positioned volume is related to a rotation matrix	
	volu	REL			A position belongs to a volume	
MFPPLUBCH					Contains the PPLU bad channel list	MFBORENV
Static	ID	IMPL				
	OCTANT	INTE			Octant	
	CHANNEL	INTE			Channel	
MFPRED					This bank stores the predictions	MFREC
	ID	SNUM				
	X(1)	REAL			Predicted state vector	
	.				""	
	X(6)	REAL			""	
	Cov(1)	REAL			Covariance matrix of X	
	.				""	
	Cov(15)	REAL			""	
	F(1)	REAL			Transport matrix of prediction	
	.				""	
	F(25)	REAL			""	
MFRAW					This table contains the FLT/SLT/DATA according to the following scheme, correspoding to the entries of the table: FLTN First Level Trigger Number SLTN Second Level Trigger Number WSLT Number of Words in SLT section of the bank. .... SLT Results (Y/N, Angle). There are WSLT data. WLT1 Number of Words in LST Octant 1 (Data+FLT). .... LST Octant 1 Data and FLT. WLT2 Number of Words in LST Octant 2 (Data+FLT). .... LST Octant 2 Data and FLT. .... WLT8 Number of Words in LST Octant 8 (Data+FLT). .... LST Octant 8 Data and FLT. WDC Number of Words in DC. .... DC Data.	MFRAW
Static	ID	IMPL				
	Dig	BITP			Packed Digit	
MFRAWD					This table contains in Dig two 16 bit words packed into a 32 bit word in case of Limited Streamer tubes (LT). Each 16 bit word carries the information about the Sector and Strip hit number. In case of Drift Chambers Dig is a 32 bit word which carries the Sector, Wire, TStart and TEnd (of the TDC).	X1
Static	ID	IMPL				
	Dig	INTE			Packed digits	
MFRAWH					This table is the event bank, i.e. the header of the data bank and contains the information needed to unpack the data bank. TrigType, FLTN, SLTN are the same as in table MFSLTH	X1
Static	ID	IMPL				
	TotWord	INTE			Total number of words	
	TrigType	INTE			Trigger type	
	FLTN	INTE			FLT decision number	
	SLTN	INTE			SLT decision number	
	NWLT	INTE			Number of LT words	
	NWDC	INTE			Number of DC words	
MFRJCT						MFGEOM
	ID	SNUM				
	config	INTE	0,9999		Selects configuration	
	of	GEN			Rejected volumes and positions	
	of_	REL			""	
MFSCAN					Contains the events to be visually scanned	MFREC
	ID	SNUM				
	Run	INTE			Run number	
	Event	INTE			Event number	
	Code	INTE		P	Scan code	
MFSDET						MFGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	type	INTE	1,9999		detector type	
	nwhi	INTE	1,9999		Numb. words primary alloc. HITS	
	nwdi	INTE	1,9999		Numb. words DIGI when primary not suff.	
MFSDTA						MFGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nwhi	INTE	1,9999		Initial HITS allocation	
	nwdi	INTE	1,9999		Increment of DIGI allocation	
	sdet	REL			Some detectors give more than one type signals	
MFSDTD						MFGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	of	GEN			Sensible detectors and aliases digitizations	
	of_	REL			""	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
MFSDTH						MFGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	orig	REAL			to define the hit elem. positive	
	fact	REAL			IVAR= VAR + ORIG*FACT	
	of	GEN			each detec. element needs the parameter definition	
	of_	REL			""	
MFSDTU						MFGEOM
	ID	SNUM				
	upar	REAL			User parameter	
	of	GEN			User parameters for sensible detectors and aliases	
	of_	REL			""	
MFSDTV						MFGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	sdet	REL			Physical detectors for the master detector identifier	
MFSET					This table contains the BoR,EoR enviromental informations.	MFRAW
Static	ID	IMPL				
	Dig	BITP			Packed Digit	
MFSLT					This is the SLT bank. It is filled by GSLT using the FMUON SLT data	MFRAW
Static	ID	IMPL				
	LW1	BITP			First longword	
	LW2	BITP			Second longword	
MFSLTD					LSLTR is a longword with the following meaning: 10 = track points to FCAL 10, 11 = track points to FCAL 11)	MFTRIG
Static	ID	IMPL				
	LSLTR	INTE			Local SLT Response	
MFSLTH					This is the SLT header bank. TrigType is dummy for the moment	MFTRIG
Static	ID	IMPL				
	FLTN	INTE			FLT decision number	
	SLTN	INTE			SLT decision number	
	LFLT	INTE			Local FLT (i.e. octant)	
	Status	INTE			Status word	
	TrigType	INTE			Trigger type	
	Word	INTE			Number of words in trigger data	
MFSMEA					This table contains the intrinsic resolution of the DC. Up to now an average value is given, and used for all the wires	MFCAL
	ID	SNUM				
	Sigma	REAL			Drift velocity	
MFSTAC					Preliminary version of a table of constants for the LW analogic system. The exact meaning of the parameters can change accordingly to the methods used. Still under work	MFCAL
	ID	SNUM				
	Par(1)	REAL			Set of parameters	
	.				""	
	Par(20)	REAL			""	
MFSTARACT					Contains the list of active/inactive STAR modules	MFBORENV
Static	ID	IMPL				
	STARNR	INTE			Active/Inactive 1/0	
MFSTARBCH					Contains the STAR bad channel list	MFBORENV
Static	ID	IMPL				
	CHANNEL	INTE			STAR channel number	
MFSTARCALIB					Contains the STAR calibration informations	MFBORENV
Static	ID	IMPL				
	DIGIT	BITP			Calibration information	
MFSTARTHR					Contains the STAR thresholds. One row per OCTANT.	MFBORENV
Static	ID	IMPL				
	THRESHOLD	INTE			Threshold values	
MFSTRM					Table ID defines a set of different H.V. settings	MFCAL
	ID	SNUM				
	n	INTE			Number of data in array	
	Data(1)	REAL			Data for the streamer simulation	
	.				""	
	Data(100)	REAL			""	
MFTDCACT					List of Active TDCs	MFBORENV
Static	ID	IMPL				
	TDCNR	INTE			(1=active, 0=inactive	
MFTDCBCH					Contains the TDC bad channel list	MFBORENV
Static	ID	IMPL				
	CHANNEL	INTE			TDC bad Channel number	
MFTDCTHR					Contains the TDC thresholds, one raw per TDC	MFBORENV
Static	ID	IMPL				
	THRESHOLD(1)	INTE			Thresholds for one TDC	
	.				""	
	THRESHOLD(12)	INTE			""	
MFTOROID					Contains the FMUON TOROIDS Hall probe readouts	MFBORENV
Static	ID	IMPL				
	PROBE	INTE			Hall probe value	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
MFTRIG						MFREC
	ID	SNUM				
	Trig(1,1)	INTE			Trigger information (see ZGANA common)	
	.				""	
	Trig(8,5)	INTE			""	
MFVOLU						MFGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	shape	CHA4	BOX,BOX TRD1,TRD1 TRD2,TRD2 TRAP,TRAP TUBE,TUBE TUBS,TUBS CONE,CONE CONS,CONS SPHE,SPHE PARA,PARA PGON,PGON PCON,PCON GTRA,GTRA		Shape of the volume	
	div	REL		P	some volumes may be subdived	
	sdet	REL		P	some volumes may be also active detectors	
	tmed	REL			Volume tracking medium number	
MFWLPE					This table contains the efficiency associated to the WL phi plane. The element to which Eff is associated is given by: ID=64*(plane-1)+128*(octant-1)+strip , strip=1,64	MFCAL
	ID	SNUM				
	Eff	REAL			Efficiency	
MFWLRE					This table contains the efficiency associated to the WL Rho plane. It is given in different radial zones (currently up to 5). The element to which Eff is associated is defined by: ID=192*(plane-1)+384*(octant-1)+strip , strip=1,192	MFCAL
	ID	SNUM				
	Eff(1)	REAL			Efficiency	
	.				""	
	Eff(5)	REAL			""	
MFWLT					This table contains the efficiency associated to the LW Plane Tubes. The efficiency is of the OR of the 2 semi-planes.	MFCAL
	ID	SNUM				
	Eff	REAL			Efficiency	
MVBADL					Contains list of bad/masked modules/chips/strips for the BOR stripcode= bits : 0-9 strip flags bits : 10-31 address of the strip in MVD (same as in MVRAWS) bit 2: complete module belonging to strip is masked, the bits 10-31 correspond to the first strip in the module; bit 1: complete chip corresponding to strip is masked, the bits 10-31 correspond to the first strip in the chip; bit 0: strip is masked; bit 3-7: reserved for the future	MVCalib
Static	ID	IMPL				
	stripcode	BITP			stripID+code for error	
MVBADP					Contains the Helix pipeline position of the dead columns: bits 0-7 - Helix pipeline position bits 8-16 - unassigned, bits 17-30 - Helix ID as in MVRAWS	MVCalib
Static	ID	IMPL				
	deadcol	BITP			pipeline position of dead column	
MVBADS					Defines the MVD bad strip data. In stripcode: bits 10-30 strip ID as in MVRAWS bits 0-9 code for possible errors: code=01 channel is dead =10 channel is noisy =11 channel is shorted =100 change in pedestal has occured =101 change in threshold has occured In values : in case of code=11 (short), value contains in bits 10-30 the strip ID of the shorted strip (in the case of a 3-strips short, MVBADS is filled twice for the middle strip). in case of code=100,101, bits 0-9 contains the pedestal/threshold value before the change, bits 10-19 the pedestal/threshold value after the change	MVCalib
Static	ID	IMPL				
	stripcode	BITP			stripID+code for error	
	values	BITP			values before/after	
	GFLTNR	INTE			GFLT number	
MVBUF					Present, when required, for each event	MVRawEvent
Static	ID	IMPL				
	word	INTE			generic storage for counters, timers etc.	
MVCDAQ					Configuration definition of the MVD DAQ and GTT DAQ systems	MVCalib
Static	ID	IMPL				
	RunNr	INTE			run number	
	TrigType	CH32			Trigger Type defined by Run Control	
	RunType	CH32			Run type defined by Run Control	
	Config	CH32			MVD+GTT configuration file	
	Calib	INTE			MVD Calibration Number	
	GTTMode	INTE			GTT Configuration Bit Pattern	
MVCLTH					Defines the threshold values for the clusters: bits 0-9 threshold value bits 17-30 Helix ID as in MVRAWS	MVCalib
Static	ID	IMPL				
	threshold	BITP			HelixID+threshold value	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
MVCNTR					Control data from the ADC: bits 0-11 data, one of these four according to the tag : - Helix pipeline position - common mode for each Helix - time between GFLT trigger and data arrival - time between previous trigger and data arrival, bits 12-15 tag which type of data, bit 16 unassigned, bit 17-30 Helix address as in MVRAWS	MVRawEvent
Static	ID	IMPL				
	ADCstatus	BITP			Status word from ADC to check errors	
MVCONF					Configuration definition of the MVD DAQ and GTT DAQ systems	MVRawEvent
Static	ID	IMPL				
	RunNr	INTE			run number	
	TrigType	CH32			Trigger Type defined by Run Control	
	RunType	CH32			Run type defined by Run Control	
	ConfigFile	CH32			MVD+GTT configuration file	
MVCVAL					Defines the MVD cooling values. The sensor ids are: * 0: output water temperature, * 1: input pressure (bar), * 2: output pressure (bar), * 3: wheel side humidity (%), * 4: conductor sheet effective humidity (%), * 5: air flow (m/s), * 6: inputs, * 7: barrel side humidity (%). The integer bit status determines whether the value is useable. If * bit 0 is clear (ie. 0) the value is useable, * bit 1 is set (ie. 1) a hardware error existed, * bit 2 is set the sensor was not available, * bit 3 is set the value is out-of-date, * bit 4 is set the sensor is masked.	MVSlcntrl
Static	ID	IMPL				
	sensorid	INTE	0,10		sensor ID	
	value	REAL			float value of sensor	
	status	BITP			status word	
MVDIGC					defines the unpacked MC MVD DIG data for the cluster	MVGEAN
	ID	SNUM				
	stripzero	INTE			number of strip 0	
	stripnplus	INTE			number of strip n+1	
	chargezero	REAL			charge (fC) of strip 0	
	chargeone	REAL			charge (fC) of strip 1	
	chargen	REAL			charge (fC) of strip n	
	chargenplus	REAL			charge (fC) of strip n+1	
	chargesum	REAL			charge (fC) sum	
	MVRAWC	REL		P	one or more cluster dig. correspond to one raw cluster	
MVDIGS					defines the unpacked MC MVD DIG data for the strip	MVGEAN
	ID	SNUM				
	strip	INTE			strip number	
	charge	REAL			charge (fC)	
	MVDIGC	REL		P	one or more strips correspond to one cluster, a cluster is composed of at least 1 strip	
	MVGHIT	REL		P	one Geant hit corresponds to many strips	
	MVRAWS	REL		P	one or more strip dig. correspond to one raw strip data	
MVDIV						MVGEOM
	ID	SNUM				
	mother	CHA4			Name of the mother volume	
	step	REAL	-0.100E+05,0....		Division step	
	axis	INTE	1,3		Axis division	
	ndiv	INTE	1,9999		Number of divisions	
MVFILE					card image of the MVD ASCII geometry files	MVGEOM
	ID	SNUM				
	keyword	CH16			keyword which tags the ASCII file	
	Line(1)	CH16			character string holding one line in each ASCII file	
	.				""	
	Line(5)	CH16			""	
MVGAL					correction to the survey geometry of the MVD ladder/wheel as result of the tracking alignment	MVGEOM
	ID	SNUM				
	dcs(1)	REAL			correction to the parameters describing the translation and rotation with respect to the MVD ref. system	
	.				""	
	dcs(6)	REAL			""	
	lwID	INTE			ladder/wheel ID	
	MVGSL	REL			link from the tracking alignment corrections to the survey corrections for the ladder/wheel	
MVGAM					correction to the survey geometry of the MVD as result of the tracking alignment	MVGEOM
	ID	SNUM				
	dcs(1)	REAL			correction to the parameters describing the translation and rotation with respect to the ZEUS reference system	
	.				""	
	dcs(6)	REAL			""	
	MVGSM	REL			link from the tracking alignment corrections to the survey corrections for the MVD	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
MVGAW					correction to the survey geometry of the MVD wafers as result of the tracking alignment	MVGEOM
	ID	SNUM				
	dcs(1)	REAL			correction to the parameters describing the translation and rotation with respect to the ladders	
	.				""	
	dcs(6)	REAL			""	
	dwsh(1)	REAL			correction to the shape parameters	
	.				""	
	dwsh(9)	REAL			""	
	waferID	BITP			wafer ID	
	MVGSW	REL			link from the tracking alignment corrections to the survey corrections for the wafer	
MVGDL					design geometry of the MVD ladder/wheel	MVGEOM
	ID	SNUM				
	cs(1)	REAL			parameters describing the translation and rotation with respect to the MVD ref. system	
	.				""	
	cs(6)	REAL			""	
	lwID	INTE			ladder/wheel ID	
	MVGDM	REL			link from the ladders to the MVD for the design geometry	
MVGDM					design geometry of the MVD	MVGEOM
	ID	SNUM				
	cs(1)	REAL			parameters describing the translation and rotation with respect to the ZEUS reference system	
	.				""	
	cs(6)	REAL			""	
MVGDW					design geometry of the MVD wafers	MVGEOM
	ID	SNUM				
	cs(1)	REAL			parameters describing the translation and rotation with respect to the ladders	
	.				""	
	cs(6)	REAL			""	
	waferID	BITP			wafer ID	
	d	REAL			thickness	
	pitch	REAL			pitch	
	ParStrip(1)	REAL			parameters to calculate the strip length and position	
	.				""	
	ParStrip(5)	REAL			""	
	MVGDL	REL			link from the wafers to the ladder for the design geometry	
MVGHIT					Defines the Geant hit parameters for MVD	MVGEAN
	ID	SNUM				
	nr	INTE			number	
	x	REAL			Coordinate in ZEUS ref. sys. (cm)	
	y	REAL			Coordinate in ZEUS ref. sys. (cm)	
	z	REAL			Coordinate in ZEUS ref. sys. (cm)	
	cx	REAL		P	direction cosine	
	cy	REAL		P	direction cosine	
	cz	REAL		P	direction cosine	
	eloss	REAL			energy loss (GeV)	
	p	REAL			momentum (GeV)	
	FMCKin	REL		P	one or more Geant hits correspond to one track	
MVGHIT2					Defines the Geant hit parameters for MVD, with coordinates and directions relative to the sensor	MVGEAN
	ID	SNUM				
	nr	INTE			number	
	x	REAL			Coordinate x relative to the sensor (cm)	
	y	REAL			Coordinate y relative to the sensor (cm)	
	z	REAL			Coordinate z relative to the sensor (cm)	
	cx	REAL		P	direction cosine rel. to the sensor	
	cy	REAL		P	direction cosine rel. to the sensor	
	cz	REAL		P	direction cosine rel. to the sensor	
MVGSHW					parameters that describe the wafer shape	MVGEOM
	ID	SNUM				
	wpl(1)	REAL			parameters for the wafer plane	
	.				""	
	wpl(6)	REAL			""	
	wsh(1)	REAL			parameters for the wafer shape	
	.				""	
	wsh(9)	REAL			""	
	cov(1,1)	REAL			covariance matrix	
	.				""	
	cov(9,9)	REAL			""	
	chisq	REAL			chisq of the fit	
	npt	REAL			number of the points in the fit	
	waferid	BITP			wafer id	
MVGSL					correction to the design geometry of the MVD ladder/wheel as result of the survey measurements	MVGEOM
	ID	SNUM				
	dcs(1)	REAL			correction to the parameters describing the translation and rotation with respect to the MVD ref. system	
	.				""	
	dcs(6)	REAL			""	
	lwID	INTE			ladder/wheel ID	
	MVGDL	REL			link from survey corrections to the design geometry for the ladder/wheel	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
MVGSM					correction to the design geometry of the MVD as result of the survey measurements	MVGEOM
	ID	SNUM				
	dcs(1)	REAL			correction to the parameters describing the translation and rotation with respect to the ZEUS reference system	
	.				""	
	dcs(6)	REAL			""	
	MVGDM	REL			link from survey corrections to the design geometry for the MVD	
MVGSUR					survey measurements results	MVGEOM
	ID	SNUM				
	xyz(1)	REAL			measured point	
	xyz(2)	REAL			""	
	xyz(3)	REAL			""	
	dxyz(1)	REAL			error on the measured point	
	dxyz(2)	REAL			""	
	dxyz(3)	REAL			""	
	object	INTE			flag describing which type of object (ladder/wheel,wafer,flange,wafer shape)	
	type	INTE			flag describing which type of reference point on the object is used to make the survey measurement	
	objectid	BITP			id of the object	
MVGSW					correction to the design geometry of the MVD wafers as result of the survey measurements	MVGEOM
	ID	SNUM				
	dcs(1)	REAL			correction to the parameters describing the translation and rotation with respect to the ladders	
	.				""	
	dcs(6)	REAL			""	
	waferID	BITP			wafer ID	
	MVGDW	REL			link from survey corrections to the design geometry for the wafer	
MVHLX					defines the Helix parameters for the BOR/ENV	MVRawEvent
Static	ID	IMPL				
	HelixId	BITP			Helix ID	
	ParamSet(1)	BITP			parameters set for Helix	
	.				""	
	ParamSet(5)	BITP			""	
	GFLtNr	INTE			GFLT number	
MVHVAL					Defines the MVD high voltage values. The half module identifier is the same used in MVRAWS. The bit status mask is: * if bit 0 set half module V tripped, * if bit 1 set half module V ramping, * if bit 2 set half module V stable, * if bit 3 set half module is ON, if clear OFF, * bits 4-14 are clear, * bit 15 is clear for HVAL and LVAL banks, for LVPB it is set when the supplied voltages are +2.1/-1.2V and clear for +5.0/-5.0.	MVSlcntrl
Static	ID	IMPL				
	hmodid	BITP			half module identifier	
	avoltage	INTE	0,32768		actual voltage in steps of 5mV	
	acurrent	INTE	0,32768		actual current in steps of 10 nA	
	tvoltage	INTE	0,32768		target voltage in steps of 5 mV	
	tripcurrent	INTE	0,32768		trip current in steps of 10 nA	
	hmstatus	BITP			half module bit mask	
	ntrips	INTE	0,32768		number of half module trips since start of run	
MVHVRM					Defines the radiation monitor high voltage The bit status mask is: * if bit 0 set half module V tripped, * if bit 1 set half module V ramping, * if bit 2 set half module V stable, * if bit 3 set half module is ON, if clear OFF, * bits 4-14 are clear, * bit 15 is clear for HVAL and LVAL banks, for LVPB it is set when the supplied voltages are +2.1/-1.2V and clear for +5.0/-5.0.	MVSlcntrl
Static	ID	IMPL				
	diodeid	BITP			identifier	
	avoltage	INTE	0,32768		actual voltage in steps of 5mV	
	acurrent	INTE	0,32768		actual current in steps of 10 nA	
	tvoltage	INTE	0,32768		target voltage in steps of 5 mV	
	tripcurrent	INTE	0,32768		trip current in steps of 10 nA	
	status	BITP			bit mask	
	ntrips	INTE	0,32768		number of trips since start of run	
MVLASA					defines the Laser Alignment system analysis data	MVRawEvent
	ID	SNUM				
	IdBeam	INTE	0,7		Beam identifier	
	IdPlane	INTE	0,4		Plane identifier	
	IdOde	INTE	0,1		Cathod/Anode identifier	
	dPosLin	REAL			Position of laser on sensor measured perpendicular to strips using linear algorithm	
	dPosGau	REAL			Position of laser on sensor measured perpendicular to strips using gaussian algorithm	
	iGood	INTE	0,1		Flag indicating whether a sensor is in a good condition	
MVLASP					defines the Laser Alignment system Pedestal data	MVRawEvent
Static	ID	IMPL				
	IdBeam	INTE	0,7		Beam identifier	
	IdPlane	INTE	0,4		Plane identifier	
	aStripI(1)	INTE			Anode strip ADC currents	
	.				""	
	aStripI(16)	INTE			""	
	cStripI(1)	INTE			Cathode strip ADC currents	
	.				""	
	cStripI(16)	INTE			""	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
MVLASR					defines the Laser Alignment system Raw data	MVRawEvent
Static	ID	IMPL				
	IdBeam	INTE	0,7		Beam identifier	
	IdPlane	INTE	0,4		Plane identifier	
	aStripI(1)	INTE			Anode strip ADC currents	
	.				""	
	aStripI(16)	INTE			""	
	cStripI(1)	INTE			Cathode strip ADC currents	
	.				""	
	cStripI(16)	INTE			""	
MVLATE					Latency counters associated with the various processing stages an events passes grom GFLT accept to sending to the EVB	MVRawEvent
Static	ID	IMPL				
	Stage	INTE			Identifier of processing stage (GfltAccept, GsltAccept, etc.	
	Period	REAL			Period of the latency clock (microsec.)	
	GFltNr	INTE			GFlt number	
	LatCnt1	REAL			Latency 1	
	LatCnt2	REAL			Latency 2	
	Datasize	INTE			Datasize in bytes	
	Port	INTE				
	Addr	INTE				
	LatCnt3	REAL			Latency 3	
MVLDAQ					MVD GTT DAQ Latencies as measured on the VME computers in steps of 16 us, index values to be defined later.	MVRawEvent
Static	ID	IMPL				
	Index	INTE			Index	
	Value	INTE			Value	
MVLVAL					Defines the MVD low voltage values. The module identifier is the same used in MVRAWS. The bit status mask is the same as in MLHVAL.	MVSlcntrl
Static	ID	IMPL				
	modid	BITP			module identifier	
	avoltp	INTE	0,32768		actual +2V voltage	
	acurrp	INTE	0,32768		actual +2V current	
	avoltm	INTE	0,32768		actual -2V voltage	
	acurrm	INTE	0,32768		actual -2V current	
	mstatus	BITP			module bit mask	
	ntrips	INTE	0,32768		number of module trips since start of run	
MVLVPB					Defines the MVD patch box low voltage values. The module identifier is the same used in MVRAWS. The bit status mask is the same as in MLHVAL.	MVSlcntrl
Static	ID	IMPL				
	modid	BITP			module identifier	
	avoltp	INTE	0,32768		actual +2V voltage	
	acurrp	INTE	0,32768		actual +2V current	
	avoltm	INTE	0,32768		actual -2V voltage	
	acurrm	INTE	0,32768		actual -2V current	
	mstatus	BITP			module bit mask	
	ntrips	INTE	0,32768		number of module trips since start of run	
MVPARA						MVGEOM
	ID	SNUM				
	par	REAL	0.0,0.100E+05		A parameter defining a volume	
	of	GEN			A parameter is of a volume or a position	
	of_	REL			""	
MVPDTH					Defines the pedestal/threshold values for each strip: bits 0-9 pedestal/threshold value bits 10-30 strip ID as in MVRAWS	MVCalib
Static	ID	IMPL				
	pedestal	BITP			stripID+pedestal value	
	threshold	BITP			stripID+threshold value	
MVPOS						MVGEOM
	ID	SNUM				
	nr	INTE	1,9999		Serial number	
	mother	CHA4			Name of the mother volume	
	x	REAL	-0.100E+06,0....		X linear dimension	
	y	REAL	-0.100E+06,0....		Y linear dimension	
	z	REAL	-0.100E+06,0....		Z linear dimension	
	konly	CHA4	MANY,MANY ONLY,ONLY		If MANY,a point in this volume may be in another	
	rotm	REL			each positioned volume is related to a rotation matrix	
	volu	REL			A position belongs to a volume	
MVRAWC					Defines the MVD RAW data for the cluster	MVRawEvent
Static	ID	IMPL				
	zero	BITP			stripID+ADC data of strip 0	
	adc1n	BITP			ADC of 1st and nth strip	
	adcsum	BITP			Sum of ADC channels in cluster	
	nplusone	BITP			stripID+ADC data of strip n+1	
MVRAWR					Defines the MVD raw data without pedestal subtraction, common mode subtraction and threshold: bits 0-9 ADC data, bits 10-18 strip number in 1 wafer. bit 19 empty, bit 20 detector number, bits 21-23 module number in ladder in Barrel, wheel number in FWheels, bits 24-27 ladder number in Barrel, sector number in FWheels, bits 28-29 layer number in Barrel. bit 30 Barrel (0) or FWheels (1)	MVRawEvent
Static	ID	IMPL				
	dig	BITP			stripID+ADC data	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
MVRAWS					Defines the MVD raw data for the pedestal subtracted strips (after common mode subtraction and over threshold): bits 0-9 ADC data, bits 10-18 strip number in 1 wafer, bit 19 empty, bit 20 detector number, bits 21-23 module number in ladder in Barrel, wheel number in FWheels, bits 24-27 ladder number in Barrel, sector number in FWheels, bits 28-29 layer number in Barrel, bit 30 Barrel (0) or FWheels (1)	MVRawEvent
Static	ID	IMPL				
	dig	BITP			stripID+ADC data	
MVRECC					defines the MVD offline cluster	MVRECO
	ID	SNUM				
	mean	REAL			cluster mean (strip units)	
	rms	REAL			cluster rms (error on mean)	
	width	REAL			cluster full width	
	signal	REAL			total signal	
	quality	INTE			quality/ambiguity flag	
	strip1	INTE			first strip number	
	stripn	INTE			last strip number	
	MVWAF	REL		P	zero or more MV clusters belong to a wafer	
MVRJCT						MVGEOM
	ID	SNUM				
	config	INTE	0,9999		Selects configuration	
	of	GEN			Rejected volumes and positions	
	of_	REL			""	
MVSCUM					Dump for any slow control related information which does not fit into one of the previous banks	MVSlcntrl
Static	ID	IMPL				
	buf	INTE			arbitrary content	
MVSDET						MVGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	type	INTE	1,9999		detector type	
	nwhi	INTE	1,9999		Numb. words primary alloc. HITS	
	nwdi	INTE	1,9999		Numb. words DIGI when primary not suff.	
MVSDTA						MVGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nwhi	INTE	1,9999		Initial HITS allocation	
	nwdi	INTE	1,9999		Increment of DIGI allocation	
	sdet	REL			Some detectors give more than one type signals	
MVSDTD						MVGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	of	GEN			Sensible detectors and aliases digitizations	
	of_	REL			""	
MVSDTH						MVGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	orig	REAL			to define the hit elem. positive	
	fact	REAL			IVAR= VAR + ORIG*FACT	
	of	GEN			each detec. element needs the parameter definition	
	of_	REL			""	
MVSDTU						MVGEOM
	ID	SNUM				
	upar	REAL			User parameter	
	of	GEN			User parameters for sensible detectors and aliases	
	of_	REL			""	
MVSDTV						MVGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	sdet	REL			Physical detectors for the master detector identifier	
MVSMST					Contains the strip and module status for the GAFs: stripcode= bits : 0-9 strip flags bits : 10-31 address of the strip in MVD (same as in MVRAWS) modulcode= bits : 0-15 half modules flags 16-19 Chip1 flags 20-23 Chip2 flags 24-27 Chip3 flags 28-31 Chip4 flags	MVCalib
	ID	SNUM				
	stripcode	BITP			stripID+status code for GAFs	
	modulcode	BITP			module status	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
MVTVAL					Defines the MVD temperature values. The sensor ids are: * 00-04 "C0L00M0","C0L00M1","C0L00M2","C0L00M3","C0L00M4", * 05-09 "C1L00M4","C2L00M4","C2L01M4","C1L01M4","C1L02M4", * 10-14 "C2L02M4","C2L03M4","W0S00","W1S00","W2S00", * 15-19 "W3S00","C0L01M4","C1L03M4","C2L04M0","C2L04M1", * 20-24 "C2L04M2","C2L04M3","C2L04M4","C2L05M4","C1L04M4", * 25-29 "C2L06M4","C2L07M4","????","????","????", * 30-34 "calib","calib","W0S03","W1S03","W2S03", * 35-39 "W3S03","W0S04","W1S04","W2S04","W3S04", * 40-44 "C1L05M4","C1L06M4","C2L08M4","C2L09M4","????", * 45-49 "????","????","C0L02M4","C1L07M4","C2L10M4", * 50-54 "C2L11M4","C0L03M0","C0L03M1","C0L03M2","C0L03M3", * 55-59 "C0L03M4","C1L08M4","C2L12M4","C2L13M4","C1L09M4", * 60-64 "C2L14M4","C2L15M4","calib","calib","W0S10", * 65-69 "W1S10","W2S10","W3S10","W0S13","W1S13", * 70-74 "W2S13","W3S13","beampipe 1","beampipe 2","beampipe 3" * 75-79 "beampipe 4","beampipe 5","beampipe 6","beampipe 7","beampipe 8", * 80-84 "beampipe 9","beampipe 10","beampipe 11","beampipe 12","bea	MVSlcntrl
Static	ID	IMPL				
	sensorid	INTE	0,100		temperature sensor ID	
	value	REAL			float value of sensor	
	status	BITP			status word	
MVVOLU						MVGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	shape	CHA4	BOX,BOX TRD1,TRD1 TRD2,TRD2 TRAP,TRAP TUBE,TUBE TUBS,TUBS CONE,CONE CONS,CONS SPHE,SPHE PARA,PARA PGON,PGON PCON,PCON GTRA,GTRA		Shape of the volume	
	div	REL		P	some volumes may be subdived	
	sdet	REL		P	some volumes may be also active detectors	
	tmed	REL			Volume tracking medium number	
MVWAF					Defines an entry for each silicon wafer, with the basic geometry in the ZEUS reference system; needed to project a PR helix onto the wafer	MVGEOM
	ID	SNUM				
	waferid	BITP			packed word for the wafer number	
	Pos(1)	REAL			X,Y,Z at center of 0th strip in cm	
	Pos(2)	REAL			""	
	Pos(3)	REAL			""	
	Mdir(1)	REAL			direction cosines of meas. axis	
	Mdir(2)	REAL			""	
	Mdir(3)	REAL			""	
	Dm	REAL			readout strip pitch in cm of meas. axis	
	Odir(1)	REAL			direction cosines in ZEUS of the outward perpendicular to the plane of the wafer	
	Odir(2)	REAL			""	
	Odir(3)	REAL			""	
	Ambig	REL			link to ganged wafer in this MVWAF table	
	MVGDW	REL			link from the wafer to the design geometry table of the wafer	
	MVGSHW	REL			link from the wafer to the shape table of the wafer	
NOICEL						NOICEL
	ID	SNUM				
	cellid	INTE			cell id	
	starun	INTE			run range start	
					run range in which the	
	endrun	INTE			run range end / cell is noisy	
	maxe	REAL			noise max energy	
	mean	REAL			noise mean	
	width	REAL			noise width	
	code	INTE			noise code ... 1 2 3 4	
O1BNCH						O1BANK
	ID	SNUM				
	Type	INTE			type of scaler	
	Subtrg(1)	INTE			sub-trigger mask used for taking bunch crossing distribution	
	.				""	
	Subtrg(4)	INTE			""	
	Bunch(1)	INTE			bunch crossing distribution	
	.				""	
	Bunch(128)	INTE			""	
O1COMP					Component status, Bit23-0 : Deadtime of each component Bit30-22: Error status of component Bit31 : 1: Active 0: Inactive This bank replaces the old O1CSTA, which wat not usable when we have more than 14 components.	O1BANK
Static	ID	IMPL				
	Csta(1)	INTE			Component status Deadtime infomation etc.	
	Csta(2)	INTE			""	

V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
O1CSTA					Componnet status, Bit23-0 : Deadtime of each component Bit30-22: Error status of component Bit31 : 1: Active 0: Inactive	O1BANK
Static	ID	IMPL				
	Csta(1)	INTE			Component status Deadtime infomation etc.	
	.				""	
	Csta(14)	INTE			""	
O1CVDT					Componant data scale parameters	O1BANK
Static	ID	IMPL				
	ConvDT	REAL			Container for conversion coefficient/table	
O1EOR					GFLT EOR scalar bank.	O1BANK
Static	ID	IMPL				
	FLTN	INTE	0,*		The final FLT number	
	FCEv	INTE	0,*		Total Fast Cleared events	
	Sdate	INTE			Run start date	
	Stime	INTE			Run start time	
	Ctime(1)	INTE			Total time if the run, in 96ns clock.	
	Ctime(2)	INTE			""	
	Dtime(1)	INTE			Integrated dead time in 96ns clock.	
	Dtime(2)	INTE			""	
	Reserv(1)	INTE			Reserved words.	
	.				""	
	Reserv(4)	INTE			""	
	Ttime(1)	INTE			total time in 96ns (was dscal(8))	
	Ttime(2)	INTE			""	
	Atime(1)	INTE			active time (was dscal(1))	
	Atime(2)	INTE			""	
	Dtotal(1)	INTE			deadtime total (was dscal(4))	
	Dtotal(2)	INTE			""	
	Dcomp(1)	INTE			deadtime from comp (was dscal(5))	
	Dcomp(2)	INTE			""	
	Dgflt(1)	INTE			deadtime from gflt (was dscal(6))	
	Dgflt(2)	INTE			""	
	Derror(1)	INTE			deadtime from error (was dscal(7))	
	Derror(2)	INTE			""	
	Icount(1)	INTE			input trigger count (was dscal(3))	
	Icount(2)	INTE			""	
	Ocount	INTE			output trigger count (was dscal(2))	
	Tptime	INTE			transputer time	
	Rsv(1)	INTE			scaler reserve	
	Rsv(2)	INTE			""	
	Isscal(1)	REAL			input sub-trigger count	
	.				""	
	Isscal(64)	REAL			""	
	Osscal(1)	REAL			output sub-trigger count	
	.				""	
	Osscal(64)	REAL			""	
O1EORR					GFLT EOR scalar bank.	X1
Static	ID	IMPL				
	FLTN	INTE	0,*		The final FLT number	
	FCEv	INTE	0,*		Total Fast Cleared events	
	Sdate	INTE			Run start date	
	Stime	INTE			Run start time	
	Ctime(1)	INTE			Total time if the run, in 96ns clock.	
	Ctime(2)	INTE			""	
	Dtime(1)	INTE			Integrated dead time in 96ns clock	
	Dtime(2)	INTE			""	
	Reserv(1)	INTE			Reserved words.	
	.				""	
	Reserv(4)	INTE			""	
	Dscal(1)	REAL			Scalars for deadtime information, Integrated for a run	
	.				""	
	Dscal(12)	REAL			""	
	Sscal(1,1)	REAL			Scalars for each subtrigger (integrated). Sscal(*,1) raw, Sscal (*,2) accepted.	
	.				""	
	Sscal(64,2)	REAL			""	
O1EVNT					GFLT event bank.	O1BANK
Static	ID	IMPL				
	FLTN	INTE	0,*		GFLT number	
	FLTFl	INTE			Fast-Clear, test, Bunch Crossing Number	
	Subtrg(1)	INTE			Subtrigger bit pattern which triggered the event	
	.				""	
	Subtrg(4)	INTE			""	
	Sdate	INTE			run start date	
	Stime	INTE			run start time	
	Ctime(1)	INTE			time stamp, in 96 ns clock	
	Ctime(2)	INTE			""	
	Dtime(1)	INTE			integrated dead time in 96 ns clock	
	Dtime(2)	INTE			""	
O1FCEV					GFLT subtrigger bit pattern which has triggered the event, after FCveto is applied.	O1BANK
Static	ID	IMPL				
	Subtrg(1)	INTE			List of fired trigger-types (64 bits) and 64 reserved bits.	
	.				""	
	Subtrg(4)	INTE			""	
O1INTD					intermediate data used in MLT modules (including component FLT data and VETO data)	O1BANK
	ID	SNUM				
	Name	CH32			Intermediate data name	
	Sscrpt	INTE			subscript for INTD array	
	Type	INTE			type of data	
	Rcpnt	INTE			Pointer for O1RCDT	
	LSBPos	INTE			Location of the lowest bit	
	Length	INTE			Bit length	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
O1LUMI					LUMI accumulated scaler information.	O1BANK
Static	ID	IMPL				
	Total(1,1)	INTE			LUMI scaler total	
	.				""	
	Total(2,8)	INTE			""	
	Active(1,1)	INTE			LUMI scaler while active	
	.				""	
	Active(2,8)	INTE			""	
	Pilot(1,1)	INTE			LUMI scaler for pilot bunch	
	.				""	
	Pilot(2,8)	INTE			""	
	Apilot(1,1)	INTE			LUMI scaler for pilot bunch and active	
	.				""	
	Apilot(2,8)	INTE			""	
O1MCDT					Storage for ZGANA component data.	O1BANK
Static	ID	IMPL				
	DataID	INTE			data id	
	Data	INTE			data storage	
O1MCHD					Pointer table for ZGANA component data in physics scale	O1BANK
Static	ID	IMPL				
	Header	INTE			Header	
	RBCN	INTE			relative BCN number to Accepted bunch : to be zero.	
	SPnt	INTE			start Pointer for O1MCDT	
	EPnt	INTE			end Pointer for O1MCDT	
	Aux1	INTE			Spare1 Version?	
	Aux2	INTE			Spare2	
	Aux3	INTE			Spare3	
	Aux4	INTE			Spare4	
O1OCDT					Storage for online component data.	O1BANK
Static	ID	IMPL				
	DataID	INTE			data id	
	Data	INTE			data storage	
O1OCHD					Pointer table for Online component data in physics scale	O1BANK
Static	ID	IMPL				
	Header	INTE			Header (unused)	
	RBCN	INTE			relative BCN number to Accepted bunch	
	SPnt	INTE			start Pointer for O1OCDT	
	EPnt	INTE			end Pointer for O1OCDT	
	Aux1	INTE			Spare1	
	Aux2	INTE			Spare2	
	Aux3	INTE			Spare3	
	Aux4	INTE			Spare4	
O1OFBT					GFLT subtrigger bit reconstructed offline; The definition of the subtriggers are on O1OFST	O1BANK
Static	ID	IMPL				
	Subtrg(1)	INTE			List of fired trigger-types (64 bits) and 64 reserved bits.	
	.				""	
	Subtrg(4)	INTE			""	
O1OFST					OFfline SubTrigger: subtriggers defined on the offline process, i.e. ZEPHYR	O1BANK
Static	ID	IMPL				
	StrgID	INTE			Subtrigger ID	
	Name	CH32			Subtrigger name	
	Slot	INTE			Trigger slot number	
	Prscle	INTE			Prescale factor	
	Thresh(1)	INTE			Threshold values	
	.				""	
	Thresh(20)	INTE			""	
O1RCDA					Raw component dan GFLT monitor data for the one bunch after the Accept timing. The data structure is the same as the O1RCDT	O1BANK
Static	ID	IMPL				
	Rcdat(1)	INTE			Raw Component and GFLT monitor data	
	.				""	
	Rcdat(42)	INTE			""	
O1RCDB					Raw component dan GFLT monitor data for the one bunch before the Accept timing. The data structure is the same as the O1RCDT	O1BANK
Static	ID	IMPL				
	Rcdat(1)	INTE			Raw Component and GFLT monitor data	
	.				""	
	Rcdat(42)	INTE			""	
O1RCDT					Raw component data and GFLT monitor data. Deta definition is in O1INTD	O1BANK
Static	ID	IMPL				
	Rcdat(1)	INTE			Raw Component and GFLT monitor data	
	.				""	
	Rcdat(42)	INTE			""	
O1RDSC					Component data scale tables	O1BANK
Static	ID	IMPL				
	DataID	INTE			pointer for O1RCEX	
	Name	CH32			component data name without _ at top	
	Unit	CHA8			Unit of the data (MeV etc.)	
	ScType	INTE			Type of conversion. see DtPtr(2)	
	DtPtr(1)	INTE			data pointer to O1CVDT	
	DtPtr(2)	INTE			""	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
O1SBTD					Database to keep all available subtriggers	O1BANK
	ID	SNUM				
	Name	CH32			subtrigger logic name	
	Logcid	INTE			sub trigger logic id	
	Nparam	INTE			number of parameters for subtrg.	
	Slot(1)	INTE			Bit mask which shows the trigger Slots where the sub trigger can be set	
	.				""	
	Slot(4)	INTE			""	
O1SCAL						O1BANK
	ID	SNUM				
	Ctime(1)	INTE			the record time of the scaler, in 96 ns clock	
	Ctime(2)	INTE			""	
	Dscal(1)	REAL			scalers for deadtime information etc. Should I specify each?	
	.				""	
	Dscal(12)	REAL			""	
	Sscal(1,1)	REAL			scalers for each subtriggers	
	.				""	
	Sscal(64,2)	REAL			""	
O1SCLR					GFLT accumulated scaler information.	O1BANK
Static	ID	IMPL				
	Ttime(1)	INTE			total time in 96ns (was dscal(8))	
	Ttime(2)	INTE			""	
	Atime(1)	INTE			active time (was dscal(1))	
	Atime(2)	INTE			""	
	Dtotal(1)	INTE			deadtime total (was dscal(4))	
	Dtotal(2)	INTE			""	
	Dcomp(1)	INTE			deadtime from comp (was dscal(5))	
	Dcomp(2)	INTE			""	
	Dgflt(1)	INTE			deadtime from gflt (was dscal(6))	
	Dgflt(2)	INTE			""	
	Derror(1)	INTE			deadtime from error (was dscal(7))	
	Derror(2)	INTE			""	
	Icount(1)	INTE			input trigger count (was dscal(3))	
	Icount(2)	INTE			""	
	Ocount	INTE			output trigger count (was dscal(2))	
	Tptime	INTE			transputer time	
	Rsv(1)	INTE			scaler reserve	
	Rsv(2)	INTE			""	
	Isscal(1)	REAL			input sub-trigger count	
	.				""	
	Isscal(64)	REAL			""	
	Osscal(1)	REAL			output sub-trigger count	
	.				""	
	Osscal(64)	REAL			""	
O1SETU					subtriggers	O1BANK
Static	ID	IMPL				
	StrgID	INTE			Subtrigger ID	
	Name	CH32			Subtrigger name	
	Slot	INTE			Trigger slot number	
	Prscle	INTE			Prescale factor	
	Thresh(1)	INTE			Threshold values	
	.				""	
	Thresh(20)	INTE			""	
O1SUBD					GFLT decision, reconstructed from O1SUBT/O1EVNT/O1RCDT in Offline	O1BANK
	ID	SNUM				
	Name	CH32			subtrigger logic name with threhold	
	Logcid	INTE			sub trigger logic id	
	Prscle	INTE			Prescale factor	
	Result	INTE			0: No 1: Yes (but the event is not triggered with this subtrigger.) 2: Yes (and the event is triggered with this subtrigger.) -1: illegal subtrigger	
	Status	INTE			0: if calculated in online 1: if calculated in offline using O1RCDT	
O1SUBT					GFLT subtrigger modes satisfied in the event 1-raw data for unambiguous event n-raw data for (n-1) bunch ambiguous event	O1BANK
Static	ID	IMPL				
	Subtrg(1)	INTE			List of fired trigger-types (64 bits) and 64 reserved bits.	
	.				""	
	Subtrg(4)	INTE			""	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
O23DMU					Results of muon matching in 3D. All coordinates are (x,y,z) points in centimeters.	X1
Static	ID	IMPL				
	XyzStartCombi	BITP			Pair of components used to start the matching procedure.	
	XyzGeometryFlag	BITP			Indicates which components should have a hit signal for this muon.	
	XyzSignalFlag	BITP			Indicates which components have a signal for this muon.	
	XyzMatchFlag	BITP			Indicates if the hit is close enough to the muon track.	
	BmuoPosition(1)	REAL			Coordinates of BMUO hit.	
	BmuoPosition(2)	REAL			""	
	BmuoPosition(3)	REAL			""	
	BmuiPosition(1)	REAL			Coordinates of BMUI hit	
	BmuiPosition(2)	REAL			""	
	BmuiPosition(3)	REAL			""	
	BacPositionT(1)	REAL			Coordinates of the BAC hit in the top half of the detector	
	BacPositionT(2)	REAL			""	
	BacPositionT(3)	REAL			""	
	BacPositionB(1)	REAL			Coordinates of the BAC hit in the bottom half of the detector	
	BacPositionB(2)	REAL			""	
	BacPositionB(3)	REAL			""	
	BemcPositionT(1)	REAL			Coordinates of the CAL muon cluster in the top half of the detector	
	BemcPositionT(2)	REAL			""	
	BemcPositionT(3)	REAL			""	
	BemcPositionB(1)	REAL			Coordinates of the CAL muon cluster in the bottom half of the detector	
	BemcPositionB(2)	REAL			""	
	BemcPositionB(3)	REAL			""	
	BhacPositionT(1)	REAL			Coordinates of the CAL muon cluster in the top half of the detector	
	BhacPositionT(2)	REAL			""	
	BhacPositionT(3)	REAL			""	
	BhacPositionB(1)	REAL			Coordinates of the CAL muon cluster in the bottom half of the detector	
	BhacPositionB(2)	REAL			""	
	BhacPositionB(3)	REAL			""	
O2CSCL					Component scaledown subtrigger: debug results.	O2BANK
Static	ID	IMPL				
	NumbCtdTracks	INTE			Number of CTD tracks	
	NumbCalEmcClu	INTE			Number of CAL electromagn clusters.	
	NumbCalHadClu	INTE			Number of CAL hadronic clusters.	
	NumbCalMuoClu	INTE			Number of CAL muon clusters.	
	CalEt	REAL			Transverse energy in CAL.	
	CalEtMiss	REAL			Missing transverse energy in CAL.	
	BacEt	REAL			Transverse energy in BAC.	
	BacEtMiss	REAL			Missing transverse energy in BAC.	
	NumbFmuTracks	INTE			Number of FMUON tracks.	
	NumbBmuClus	INTE			Number of BMUON clusters.	
	CtdZVertex	REAL			Event vertex from CTD.	
	Reserv(1)	REAL			Reserved.	
	.				""	
	Reserv(9)	REAL			""	
O2CTCA					CTD-CAL subtrigger outputs.	O2BANK
Static	ID	IMPL				
	VersionNo	INTE			Version number.	
	PtAnyTrack	REAL			Pt of track triggering AnyTrack signal	
	PtVtxTrack	REAL			Pt of track triggering event.	
	ZVtxTrack	REAL			Z of track triggering event.	
	EElecClus	REAL			Energy of EM cluster triggering event.	
	TheElecClus	REAL			Theta of EM cluster triggering event.	
	EHadrClus	REAL			Energy of HADcluster triggering event.	
	TheHadrClus	REAL			Theta of HADcluster triggering event.	
	Reserv(1)	REAL			Reserved.	
	.				""	
	Reserv(12)	REAL			""	
O2CTM2					Results of matching of CTD tracks with other deposits, only in top half. Non-matching components have coordinates zero. Phi is in rad.	X1
Static	ID	IMPL				
	CtdGeometryFlag	BITP			Indicates which components should have a hit signal for this muon.	
	CtdSignalFlag	BITP			Indicates which components have a signal for this muon candidate.	
	CtdMatchFlag	BITP			Indicates if the hit is close enough to the muon track.	
	CtdExitCoor	REAL			Phi coordinate of exit point of CTD track.	
	EmcHitCoor	REAL			Phi coordinate of CALEMC cluster matching the CTD track.	
	HacHitCoor	REAL			Phi coordinate of CALHAC cluster matching the CTD track.	
	BMuiHitCoor	REAL			Phi coordinate of BMUI deposit matching the CTD track.	
	BacHitCoor	REAL			Phi coordinate of BAC deposit matching the CTD track.	
	BMuoHitCoor	REAL			Phi coordinate of BMUO deposit matching the CTD track.	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
O2CTM3					Results of matching of CTD tracks with other deposits. Non-matching components have coordinates zero. Phi is in rad, z in cm.	O2BANK
Static	ID	IMPL				
	CtdGeometryFlag	BITP			Indicates which components should have a hit.	
	CtdSignalFlag	BITP			Indicates which components have a signal,	
	CtdMatchFlag	BITP			Indicates if the hit is close enough to the track.	
	CtdExitCoor(1)	REAL			Phi and z coordinate of exit point of CTD track.	
	CtdExitCoor(2)	REAL			""	
	EmcHitCoor(1)	REAL			Phi and z coordinate of CALEMC cluster matching the CTD track.	
	EmcHitCoor(2)	REAL			""	
	HacHitCoor(1)	REAL			Phi and z coordinate of CALHAC cluster matching the CTD track.	
	HacHitCoor(2)	REAL			""	
	BMuiHitCoor(1)	REAL			Phi and z coordinate of BMUI deposit matching the CTD track.	
	BMuiHitCoor(2)	REAL			""	
	BacHitCoor(1)	REAL			Phi and z coordinate of BAC deposit matching the CTD track.	
	BacHitCoor(2)	REAL			""	
	BMuoHitCoor(1)	REAL			Phi and z coordinate of BMUO deposit matching the CTD track.	
	BMuoHitCoor(2)	REAL			""	
O2DEC					GSLT DECision. Refer to ZN 90-45, latest version.	O2BANK
Static	ID	IMPL				
	TriggerType	BITP			Subtriggers which fired and gave a GSLT accept.	
	SubtrigFired	BITP			...before scaledown.	
	GfltNumber	INTE			GFLT number (all 32 bits).	
	GsltNumber	INTE			GSLT number.	
O2GBOR					GSLT General Begin of Run Bank.	O2BANK
Static	ID	IMPL				
	Algorithms	BITP			Algorithms being used and those that can make a decision.	
	Version	INTE			Version number of central code.	
	GsltSubDown(1)	INTE			Each GSLT subtrigger is scaled down (1/n) for the final decision.	
	.				""	
	GsltSubDown(10)	INTE			""	
	GfltScalDown(1)	INTE			Scaledown parameters for GFLTbits and GFLT_any.	
	.				""	
	GfltScalDown(65)	INTE			""	
	GsltVetoPara(1)	INTE			Parameters for Gslt VETOs.	
	.				""	
	GsltVetoPara(25)	INTE			""	
	CompScalDown(1)	INTE			Factors for Comp Scaledowns.	
	.				""	
	CompScalDown(16)	INTE			""	
	CompThreshld(1)	INTE			Factors for Comp Scaledowns.	
	.				""	
	CompThreshld(25)	INTE			""	
O2GEOR					GSLT End Of Run bank.	O2BANK
Static	ID	IMPL				
	NumberOfFLTs	INTE			Total number of FLTs processed	
	NumberOfSLTs	INTE			Number of events accepted.	
	SubtrigFire(1)	INTE			Number of events for which each subtrigger fired.	
	.				""	
	SubtrigFire(10)	INTE			""	
	SubtrigAcc(1)	INTE			Number of events which caused the GSLT to give an ACCEPT for each subtrigger (i.e. SubtrigFire * GsltSubDown.	
	.				""	
	SubtrigAcc(10)	INTE			""	
	GfltBitsIn(1)	INTE			Counts all incoming GFLT bits.	
	.				""	
	GfltBitsIn(64)	INTE			""	
	GfltBitsOut(1)	INTE			Counts GFLT bits for accepted events.	
	.				""	
	GfltBitsOut(64)	INTE			""	
	NumberOfErrors	INTE			Number of events with recognized errors.	
	Reserv(1)	INTE			For the future...	
	.				""	
	Reserv(4)	INTE			""	
O2MFSLT					This is the SLT bank. It is filled by GSLT using the FMUON SLT data	O2BANK
Static	ID	IMPL				
	LW1	BITP			First longword	
	LW2	BITP			Second longword	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
O2MUON					MUON subtrigger outputs.	O2BANK
Static	ID	IMPL				
	BmuOCoord(1)	REAL			BMuon Outer coordinate.	
	BmuOCoord(2)	REAL			""	
	BmuOCoord(3)	REAL			""	
	BmuICoord(1)	REAL			BMuon Inner coordinate.	
	BmuICoord(2)	REAL			""	
	BmuICoord(3)	REAL			""	
	BacMuCoord(1)	REAL			Bac muon cluster coordinate.	
	BacMuCoord(2)	REAL			""	
	BacMuCoord(3)	REAL			""	
	CalMuCoord(1)	REAL			Cal muon cluster coordinate.	
	CalMuCoord(2)	REAL			""	
	CalMuCoord(3)	REAL			""	
	CalMuTime	REAL			Cal muon cluster time.	
	CalMuEnergy	REAL			Cal muon cluster energy.	
	CtdTrCoord(1)	REAL			Ctd track exit point coordinate.	
	CtdTrCoord(2)	REAL			""	
	CtdTrCoord(3)	REAL			""	
	PtVtxTrack	REAL			Pt of track triggering event.	
	ZVtxTrack	REAL			Z of track triggering event.	
	FmuoCoord(1)	REAL			FMuon coordinate.	
	FmuoCoord(2)	REAL			""	
	FmuoCoord(3)	REAL			""	
	Reserv(1)	REAL			Reserved.	
	Reserv(2)	REAL			""	
	Reserv(3)	REAL			""	
O2PHOP					LUMI-... subtrigger outputs: coindidences of LUMI bits in GFLT-bits or equivalently EElec and NOT EPhoton, with detector activity, i.e. track or Cal cluster.	O2BANK
Static	ID	IMPL				
	GFLTbits(1)	BITP			GFLT bits for this event.	
	.				""	
	GFLTbits(4)	BITP			""	
	LumiEElectron	REAL			Electron energy in electron tagger.	
	LumiEPhoton	REAL			Photon energy in photon tagger.	
	CalEt	REAL			Transverse energy in CAL.	
	CalEtMiss	REAL			Missing transverse energy in CAL.	
	PtAnyTrack	REAL			Pt of track triggering AnyTrack signal	
	PtVtxTrack	REAL			Pt of track triggering event.	
	ZVtxTrack	REAL			Z of track triggering event.	
	EElecClus	REAL			Energy of EM cluster triggering event.	
	TheElecClus	REAL			Theta of EM cluster triggering event.	
	EHadrClus	REAL			Energy of HADcluster triggering event.	
	TheHadrClus	REAL			Theta of HADcluster triggering event.	
	Reserv(1)	REAL			Reserved.	
	.				""	
	Reserv(8)	REAL			""	
O2PROC					GSLT estimates for process rates. Not by day-1, soon(?) after.	O2BANK
Static	ID	IMPL				
	Process	CH16			Process name.	
	Count	INTE			Counter of events of this type.	
	Rate	REAL			Rate of events of this type.	
O2RAND					1 entry for every scale down. If a XxxxRanNumber is 0, the event will be accepted if the corresponding component trigger fired.	X1
Static	ID	IMPL				
	CompRanNumbr(1)	INTE			Value from the random number generator for input scaledown.	
	.				""	
	CompRanNumbr(10)	INTE			""	
	GfltRanNumbr(1)	INTE			Value from the random number generator for GFLT subtrigger bits scaledown.	
	.				""	
	GfltRanNumbr(32)	INTE			""	
	CompRanAccpt(1)	INTE	0,1		If 1, the random algorithm gave ACCEPT for this input.	
	.		0,1		""	
	CompRanAccpt(10)	INTE	0,1		""	
	GfltRanAccpt(1)	INTE	0,1		If 1, the random algorithm gave ACCEPT for this GFLT subtr.	
	.		0,1		""	
	GfltRanAccpt(32)	INTE	0,1		""	
O2SBOR					GSLT Subtrigger Begin of Run Bank.	O2BANK
Static	ID	IMPL				
	SubtrigNumber	INTE			Number of this subtrigger TP.	
	SubtParam(1)	INTE			Parameters for this subtrigger.	
	.				""	
	SubtParam(25)	INTE			""	
O2SDE0					Subtrigger DECision bitpatterns: bits are set for the various algorithms on the subtrigger TP. Subtrigger 0.	O2BANK
Static	ID	IMPL				
	SubTrigType(1)	BITP			64 bits subtrigger type.	
	.				""	
	SubTrigType(4)	BITP			""	
O2SDE1					Subtrigger 1 Decision bitpattern.	O2BANK
Static	ID	IMPL				
	SubTrigType(1)	BITP			64 bits subtrigger type.	
	.				""	
	SubTrigType(4)	BITP			""	
O2SDE2					Subtrigger 2 Decision bitpattern.	O2BANK
Static	ID	IMPL				
	SubTrigType(1)	BITP			64 bits subtrigger type.	
	.				""	
	SubTrigType(4)	BITP			""	

Page (1, 1)

Table		Column	Type	Range	P	Comment	Subschema
O2SDE3						Subtrigger 3 Decision bitpattern.	O2BANK
	Static	ID	IMPL				
		SubTrigType(1)	BITP			64 bits subtrigger type.	
		.				""	
		SubTrigType(4)	BITP			""	
O2SDE4						Subtrigger 4 Decision bitpattern.	O2BANK
	Static	ID	IMPL				
		SubTrigType(1)	BITP			64 bits subtrigger type.	
		.				""	
		SubTrigType(4)	BITP			""	
O2SDE5						Subtrigger 5 Decision bitpattern.	O2BANK
	Static	ID	IMPL				
		SubTrigType(1)	BITP			64 bits subtrigger type.	
		.				""	
		SubTrigType(4)	BITP			""	
O2SDE6						Subtrigger 6 Decision bitpattern.	O2BANK
	Static	ID	IMPL				
		SubTrigType(1)	BITP			64 bits subtrigger type.	
		.				""	
		SubTrigType(4)	BITP			""	
O2SDE7						Subtrigger 7 Decision bitpattern.	O2BANK
	Static	ID	IMPL				
		SubTrigType(1)	BITP			64 bits subtrigger type.	
		.				""	
		SubTrigType(4)	BITP			""	
O2SDE8						Subtrigger 8 Decision bitpattern.	O2BANK
	Static	ID	IMPL				
		SubTrigType(1)	BITP			64 bits subtrigger type.	
		.				""	
		SubTrigType(4)	BITP			""	
O2SDE9						Subtrigger 9 Decision bitpattern.	O2BANK
	Static	ID	IMPL				
		SubTrigType(1)	BITP			64 bits subtrigger type.	
		.				""	
		SubTrigType(4)	BITP			""	
O2SDEC						Subtrigger DECision bitpatterns, one line fo every subtrigger.	O2BANK
	Static	ID	IMPL				
		SubTrigNo	INTE			Subtrigger number (TP number).	
		SubTrigType(1)	BITP			64 bits subtrigger type.	
		.				""	
		SubTrigType(4)	BITP			""	
O2SEOR						GSLT Subtrigger End Of Run banks.	O2BANK
	Static	ID	IMPL				
		AlgoNo	INTE			Subtrigger number + (100*Number of algorithm on this TP).	
		AlgoFired	INTE			Algorithm proposed accept.	
		AlgoAccept	INTE			Algorithm gave subtrigger accept (AlgoFired * Downscale).	
O2SKIP						List of components that did not send any data to the GSLT for this event, that is: not even the minimum of 3 words that should be sent by every component for every FLT. This bank indicates an ERROR situation.	O2BANK
	Static	ID	IMPL				
		ComponentId	CHA4			Identifier of a component.	
		GfltNumber	INTE			Number of skipped event.	
O2SSET						GSLT Subtriggers SETup information bank.	O2BANK
	Static	ID	IMPL				
		AlgoNo	INTE			SubtriggerNo + (100*Number of algo on this TP.	
		AlgoIdNumber	INTE			Identifier of algorithm (includes version no).	
		AlgoName	CH32			Name and comments.	
		LineNo	INTE			Line number for this algo.	
		PreScale	INTE			Prescale factor.	
		Param(1)	INTE			10 setup parameters for this algo.	
		.				""	
		Param(4)	INTE			""	
O2SUMM						GSLT global environmental record bank.	O2BANK
	Static	ID	IMPL				
		NumberOfFLTs	INTE			Total number of FLTs processed	
		NumberOfSLTs	INTE			Number of events accepted.	
		SubtrigFire(1)	INTE			Number of events for which each subtrigger fired.	
		.				""	
		SubtrigFire(10)	INTE			""	
		SubtrigAcc(1)	INTE			Number of events which caused the GSLT to give an ACCEPT for each subtrigger (i.e. SubtrigFire * GsltSubDown.	
		.				""	
		SubtrigAcc(10)	INTE			""	
		GfltBitsIn(1)	INTE			Counts all incoming GFLT bits.	
		.				""	
		GfltBitsIn(64)	INTE			""	
		GfltBitsOut(1)	INTE			Counts GFLT bits for accepted events.	
		.				""	
		GfltBitsOut(64)	INTE			""	
		NumberOfErrors	INTE			Number of events with recognized errors.	
		Reserv(1)	INTE			For the future...	
		.				""	
		Reserv(4)	INTE			""	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
O2SUMS					GSLT subtrigger environmental record banks keeping statistics on all algorithms (=the various decision modes running on each subtrigger).	O2BANK
Static	ID	IMPL				
	AlgoNo	INTE			Subtrigger number + (100*Number of algorithm on this TP).	
	AlgoFired	INTE			Algorithm proposed accept.	
	AlgoAccept	INTE			Algorithm gave subtrigger accept (AlgoFired * Downscale).	
O2VETO					Veto subtrigger outputs.	O2BANK
Static	ID	IMPL				
	CalPlMin	REAL			Total PlMin in Cal(GeV).	
	FCalTime	REAL			FCAL timing signal(ns).	
	RCalTime	REAL			RCAL timing signal(ns).	
	NumVetoTracks	INTE			Number of veto-wall tracks.	
	Reserv(1)	REAL			Reserved.	
	.				""	
	Reserv(16)	REAL			""	
O2XPRT					Results of some subtrigger to be able to examine interediate results offline. Will only be used in debug phase of an algorithm.	O2BANK
Static	ID	IMPL				
	Identifier	INTE			Identifier of algo/subtrigger.	
	Comment	CH32			Comment line.	
	MyBits(1)	BITP			Decision bitpattern for this algo/subtrigger.	
	MyBits(2)	BITP			""	
	MyIntResult(1)	INTE			Integer result parameters.	
	.				""	
	MyIntResult(10)	INTE			""	
	MyReaResult(1)	REAL			Real result parameters.	
	.				""	
	MyReaResult(10)	REAL			""	
O2XYMU					Results of muon matching in the X/Y view. All coordinates are (x,y) points in centimeters.	X1
Static	ID	IMPL				
	XyStartCombi	BITP			Pair of components used to start the matching procedure.	
	XyGeometryFlag	BITP			Indicates which components should have a hit signal for this muon.	
	XySignalFlag	BITP			Indicates which components have a signal for this muon.	
	XyMatchFlag	BITP			Indicates if the hit is close enough to the muon track.	
	BmuoPosition(1)	REAL			Coordinates of BMUO hit.	
	BmuoPosition(2)	REAL			""	
	BmuiPosition(1)	REAL			Coordinates of BMUI hit.	
	BmuiPosition(2)	REAL			""	
	BacPositionT(1)	REAL			Coordinates of the BAC hit in the top half of the detector	
	BacPositionT(2)	REAL			""	
	BacPositionB(1)	REAL			Coordinates of the BAC hit in the bottom half of the detector	
	BacPositionB(2)	REAL			""	
	BemcPositionT(1)	REAL			Coordinates of the CAL muon cluster in the top half of the detector	
	BemcPositionT(2)	REAL			""	
	BemcPositionB(1)	REAL			Coordinates of the CAL muon cluster in the bottom half of the detector	
	BemcPositionB(2)	REAL			""	
	BhacPositionT(1)	REAL			Coordinates of the CAL muon cluster in the top half of the detector	
	BhacPositionT(2)	REAL			""	
	BhacPositionB(1)	REAL			Coordinates of the CAL muon cluster in the bottom half of the detector	
	BhacPositionB(2)	REAL			""	
O3BOR					TLT Begin of Run Bank	O3BANK
Static	ID	IMPL				
	ExperimentNo	INTE	0,*		Experiment number.	
	RunNumber	INTE	0,*		Run Number.	
	DateOfRun	INTE			Date of run (DD+100*MM+1000*YYYY).	
	RunStartTime	INTE			Start Time of run (SS+100*MM+10000*HH).	
	RunType	INTE			Run Type.	
	Cratetot	INTE			Total number of crates alive	
	ProcTot	INTE			Total number of processors alive	
	C5elec	REAL			C5 timing for electron	
	C5prot	REAL			C5 timing for proton	
O3EOR					TLT end of run bank.	O3BANK
Static	ID	IMPL				
	TotEvin	INTE			# of TLT events input.	
	TotEvoutIBM	INTE			# of TLT events sent to IBM.	
	TotEvoutVX	INTE			# of TLT events sent to VAX.	
	RunEndDate	INTE			Run end date (DD+100*MM+1000*YYYY).	
	RunEndTime	INTE			End time of run (SS+100*MM+10000*HH).	
	Cratetot	INTE			Total number of crates alive	
	ProcTot	INTE			Number of processors alive.	
O3ES					Data for calorimeter Bank (Old)	X1
Static	ID	IMPL				
	CluID	INTE	0,*		Cluster identification.	
	FCal	REAL	0.0,*		Total energy in Fcal.	
	RCal	REAL	0.0,*		Total energy in Rcal.	
	BCalT	REAL	0.0,*		Total energy in Bcal top.	
	FCalB	REAL	0.0,*		Total energy in Bcal bottom.	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
O3MB					Data for barrel muon Bank	X1
Static	ID	IMPL				
	CluID	INTE	0,*		Muon track identifier.	
	TrackId	INTE	0,*		Track id for MB.	
	TubeList(1)	INTE	0,*		List of tubes making track.	
	.		0,*		""	
	TubeList(6)	INTE	0,*		""	
	Theta	REAL	0.0,*		Theta of track candidate.	
	Phi	REAL	0.0,*		Phi of track candidate.	
O3SUM					TLT end of run summary	O3BANK
Static	ID	IMPL				
	TLTsum	CH64			TLT summary.	
O3TRIG					TLT Active Code setup information Bank	O3BANK
Static	ID	IMPL				
	TLTcards	CH64			TLT control cards.	
O4SBOR						O4SUMMARY
	ID	SNUM				
	Runnum	INTE	0,*		Run number	
	Expnum	INTE	0,*		Expertiment number	
	Runtyp	INTE	0,*		Run type	
	Runbegdat	INTE	0,*		Run start date	
	Runbegtim	INTE	0,*		Run start time	
	Evtlim	INTE	0,*		Event limit	
	Solamps	REAL	-0.500E+04,0....		Solenoid current	
	Comamps	REAL	-900.0,900.0		Compensator current	
	Beamtypnz	INTE	0,*		Beam type negative Z, according to PDB, e-: 23, e+: 24	
	Beamtyppz	INTE	1,*		Beam type positive Z, according to PDB, p+: 190, p-:191, d: 408	
	Momnz	REAL	0.0,*		Beam negative Z momentum	
	Mompz	REAL	0.0,*		Beam positive Z momentum	
	Ampnz	REAL	0.0,*		Beam negative Z CURRENT	
	Amppz	REAL	0.0,*		Beam positive Z CURRENT	
	Poltypnz	INTE	0,4		Beam negative Z Polarization type	
	Poltyppz	INTE	0,4		Beam positive Z Polarization type	
	Polnz	REAL	0.0,1.0		Beam negative Z Polarization	
	Polpz	REAL	0.0,1.0		Beam positive Z Polarization	
	GFLT(1)	BITP			GFLT Components	
	GFLT(2)	BITP			""	
	GSLT(1)	BITP			GSLT Components	
	GSLT(2)	BITP			""	
	EVB(1)	BITP			TLT Components	
	EVB(2)	BITP			""	
	RCsetupdef(1)	CH64			rc setup definition file	
	RCsetupdef(2)	CH64			""	
	RunBegCom(1)	CH64			Comment	
	.				""	
	RunBegCom(4)	CH64			""	
	RunCrew	CH64			Crew	
O4SEOR						O4SUMMARY
	ID	SNUM				
	Runnum	INTE	0,*		Run number	
	Expnum	INTE	0,*		Expertiment number	
	Runtyp	INTE	0,*		Run type	
	Runenddat	INTE	0,*		Run end date	
	Runendtim	INTE	0,*		Run end time	
	Evtacc	INTE	0,*		Events sent to IBM	
	IntLumi	REAL	0.0,*		Integrated Luminosity	
	RunEndStat	INTE			End run status flag	
	RunEndCom(1)	CH64			Comment	
	.				""	
	RunEndCom(4)	CH64			""	
O5CSTA					Componnet status	O5BANK
Static	ID	IMPL				
	Cname	CH16			Component name	
	Gsta	INTE			Global status	
	Nfatal	INTE			Count of fatal message	
	Nerror	INTE			Count of error message	
	Nwarn	INTE			Count of warning message	
	Nparam	INTE			Number of parameters	
	Param(1)	REAL			Parameters	
	.				""	
	Param(10)	REAL			""	
OC5BCN					C5 fit for individual bunches	OZRSUM
	ID	SNUM				
	btype	INTE			0 ep, 1:e. 2:p	
	BCN	INTE			Bunch crossing number	
	tp	REAL			C5 proton time	
	ampp	REAL			C5 proton Height	
	rmsp	REAL			C5 proton RMS Width	
	te	REAL			C5 electron time	
	ampe	REAL			C5 electron Height	
	satrate	REAL			Electron Satellite Height / Electron Main Peak Height	

V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
OC5HDR					C5 information for summed bunches	OZRSUM
	ID	SNUM				
	Ninter	INTE			Number of Interacting Bunches	
	Nprp	INTE			Number of Proton Pilot Bunches	
	Nelp	INTE			Number of Electron Pilot Bunches	
	tpall	REAL			C5 proton time for summed all bunches	
	apall	REAL			C5 proton Height for summed all bunches	
	rmsall	REAL			C5 proton RMS Width for summed all bunc	
	teall	REAL			C5 electron time for summed all bunches	
	aeall	REAL			C5 electron Height for summed all bunches	
	satall	REAL			Electron Satellite Height / Electron Main Peak Height for summed all bunches	
	tpint	REAL			C5 proton time for summed interacting bunches	
	apint	REAL			C5 proton Height for summed interacting bunches	
	rmsint	REAL			C5 proton RMS Width for summed interacting bunc	
	teint	REAL			C5 electron time for summed interacting bunches	
	aeint	REAL			C5 electron Height for summed interacting bunches	
	satint	REAL			Electron Satellite Height / Electron Main Peak Height for summed interacting bunches	
	tppil	REAL			C5 proton time for summed p-pilot bunches	
	appil	REAL			C5 proton Height for summed p-pilot bunches	
	rmspil	REAL			C5 proton RMS Width for summed p-pilot bunches	
	tepil	REAL			C5 electron time for summed e-pilot bunches	
	aepil	REAL			C5 electron Height for summed e-pilot bunches	
	satpil	REAL			Electron Satellite Height / Electron Main Peak Height for summed e-pilot bunches	
OZRBCN					Bunch information	OZRSUM
	ID	SNUM				
	ep	INTE			#of ep bunch	
	epilot	INTE			# of electron pilot	
	ppilot	INTE			# of proton pilot	
	gate	INTE			# of open bunches	
	bcn(0)	INTE			bit0:e,bit1:p, bit2:1-opengate,0-closed	
	.				""	
	bcn(219)	INTE			""	
OZRCFL					CAL FLT setup	OZRSUM
	ID	SNUM				
	name	CH32			CFLT configuration	
	Emax	REAL			Max. value of E	
	Etmax	REAL			Max. value of Et	
	Emsmax	REAL			Max. value of Emiss	
	Efbp	INTE			FCAL beampipe rings for E	
	Erbp	INTE			RCAL beampipe rings for E	
	Etfbp	INTE			FCAL beampipe rings for Et	
	Etrbp	INTE			RCAL beampipe rings for Et	
	Emsfbp	INTE			FCAL beampipe rings for Emiss	
	Emsrbp	INTE			RCAL beampipe rings for Emiss	
	Efez	INTE			Zero suppression ADC count for E FEMC	
	Efhz	INTE			Zero suppression ADC count for E FHAC	
	Erez	INTE			Zero suppression ADC count for E REMC	
	Erhz	INTE			Zero suppression ADC count for E RHAC	
	Ebez	INTE			Zero suppression ADC count for E BEMC	
	Ebhz	INTE			Zero suppression ADC count for E BHAC	
	Etfez	INTE			Zero suppression ADC count for Et FEMC	
	Etfhz	INTE			Zero suppression ADC count for Et FHAC	
	Etrez	INTE			Zero suppression ADC count for Et REMC	
	Etrhz	INTE			Zero suppression ADC count for Et RHAC	
	Etbez	INTE			Zero suppression ADC count for Et BEMC	
	Etbhz	INTE			Zero suppression ADC count for Et BHAC	
	Emsfez	INTE			Zero suppression ADC count for Emiss FEMC	
	Emsfhz	INTE			Zero suppression ADC count for Emiss FHAC	
	Emsrez	INTE			Zero suppression ADC count for Emiss REMC	
	Emsrhz	INTE			Zero suppression ADC count for Emiss RHAC	
	Emsbez	INTE			Zero suppression ADC count for Emiss BEMC	
	Emsbhz	INTE			Zero suppression ADC count for Emiss BHAC	
OZRCOM					Comments from shift crews	OZRSUM
	ID	SNUM				
	text	CH64			comments from shift crews	
OZRCOR					Corrections	OZRSUM
	ID	SNUM				
	text	CH64			Record for manual correction	
OZRFEX					Filter statistics table	OZRSUM
	ID	SNUM				
	SPP	INTE			Unique_SPP_Events	
	DIS	INTE			Unique_DIS_Events	
	BGF	INTE			Unique_BGF_Events	
	EXO	INTE			Unique_EXO_Events	
	MUO	INTE			Unique_MUO_Events	
	VTX	INTE			Unique_VTX_Events	
OZRFIL					Filter statistics table (>1 rows per a run)	OZRSUM
	ID	SNUM				
	name	CHA8			filter name (i.e. SPP01:,EXO11:....)	
	desc	CH32			description	
	active	INTE			1: active 0: inactive	
	pscal	INTE			prescale factor	
	fired	INTE			# of events which satisfy the algorithm	
	taken	INTE			Event saved	
	unique	INTE			Unique event	
OZRFLT					GFLT subtrigger rate (>1 rows per a run)	OZRSUM
	ID	SNUM				
	name	CH32			Subtrigger name with threhsolds	
	subtid	INTE			subtrigger id	
	slot	INTE			Slot number 0-63	
	pscal	INTE			prescale factor 0:disabled	
	taken	INTE			number of FLT events which satisfy the subtrigger	
	rate	REAL			subtrigger rate (for 220 bunches)	
	rterr	REAL			error in the subtrigger rate	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
OZRHDR					Gereral Information	OZRSUM
	ID	SNUM				
	runnum	INTE			run number	
	rtype	CH32			run type	
	ttype	CH32			trigger type	
	shift1	CH16			shift #1	
	shift2	CH16			shift #1	
	shift3	CH16			shift #1	
	shift4	CH16			shift #1	
	comp	INTE			component in the run (bit pattern)	
	setdat	INTE			date (at setup)	
	enddat	INTE			date (at end)	
	settim	INTE			setup time (start time in the first page	
	statim	INTE			start time (start time of GFLT)	
	stotim	INTE			stop time (End time of GFLT)	
	endtim	INTE			end time (end time in the first page)	
	tottim	REAL			total time (~ stotim - statim)	
	runtim	REAL			total time - pause time	
	acttim	REAL			the time when GFLT is active	
	totdtm	REAL			total dead time totdtm+acttim=tottim	
	rundtm	REAL			total dead time at active state rundtm+acttim=runtim	
	cmpdtm	REAL			total dead time due to component busy	
	gfldtm	REAL			total dead time due to GFLT busy	
	bbldtm	REAL			total dead time due to BBL3 block	
	inrate	REAL			flt input rate	
	outrat	REAL			flt output rate	
	evsize	INTE			event size	
	fltevt	INTE			number of flt normal trigger	
	flttst	INTE			number of flt test trigger	
	FLTn	INTE			Total FLT number in FLT runsum	
	FLTn2	INTE			Total FLT number in SLT runsum	
	SLTn	INTE			Total SLT number in SLT runsum	
	SLTn2	INTE			Total SLT number in TLT runsum	
	TLTn	INTE			Total TLT number in TLT runsum	
	TLTn2	INTE			Total TLT number in IBM display	
OZRHER					HERA informaation	OZRSUM
	ID	SNUM				
	Ep	REAL			proton energy	
	Ee	REAL			electron energy	
	Ipbgn	REAL			Ip at beginning	
	Ipend	REAL			Ip at end	
	Ipmax	REAL			max Ip	
	Iebgn	REAL				
	Ieend	REAL				
	Iemax	REAL				
	LUMbgn	REAL			LUMINOSITY at beginning	
	LUMend	REAL				
	LUMmax	REAL			LUMmax	
	LUMavr	REAL			luminosiry at end	
	IntL	REAL			integerated luminosity	
	IntLgt	REAL			gated integerated luminosity	
OZRSCM					Slow control information	OZRSUM
	ID	SNUM				
	slnoid	REAL			solenoid current	
	compmg	REAL			compensenter current	
	yoke	REAL			yoke current	
	toroid	REAL			toroid current	
	calpos	INTE			cal position :Close=1 Open=0	
	ctdhv	INTE			On=1 Off=0	
	vxdhv	INTE			On=1 Off=0	
	bachv	INTE			On=1 Off=0	
	lumihv	INTE			On=1 Off=0	
OZRSLT					GSLT subtrigger rate (>1 rows per a run)	OZRSUM
	ID	SNUM				
	desc	CH32			description of subtrigger	
	subtrg	INTE			subtrigger number	
	taken	INTE			# of events which satisfy the subtrigger	
	rate	REAL			subtrigger fire rate	
OZRSLV					GSLT veto trigger rate (>1 rows per a run)	OZRSUM
	ID	SNUM				
	desc	CH32			description of subtrigger	
	nprcsd	INTE			#event processed	
	nrject	INTE			#event rejected	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
OZRTLT					TLT summary 1row/run	OZRSUM
	ID	SNUM				
	statim	INTE			start time	
	stotim	INTE			stop time	
	ncrate	INTE			Crates online	
	cputim	INTE			cpu time (in ms)	
	rstate	INTE			Run Status	
	wtmsg	INTE			No_Of_Waiting_Msgs	
	ioerr	INTE			No_Of_IO_Errors	
	valid	INTE			Valid_Level_3_Event	
	invald	INTE			Invalid_Level_3_Event	
	accept	INTE			No_of_Events_Accepted	
	reject	INTE			No_of_Events_Rejected	
	tsttrg	INTE			No_Of_Test_Triggers	
	envrec	INTE			No_Of_Env_Records	
	TLTthr	INTE			No_of_TLT_Thru_Events	
	SLTthr	INTE			No_of_GSLT_Thru_Events	
	spark	INTE			No_of_Spark_Events	
	oldtim	INTE			BG_Events (Time,old)	
	vtx	INTE			No_of_VTX_Filter_Events	
	newtim	INTE			BG_Events (Time,Straub)	
	cosmic	INTE			No_of_Cosmic_Muons	
	halomu	INTE			No_of_Halo_Muons	
	n1smpl	INTE			Sampling_Filter_Events	
	SPP	INTE			No_of_SPP_Filter_Events	
	DIS	INTE			No_of_DIS_Filter_Events	
	BGF	INTE			No_of_BGF_Filter_Events	
	EXO	INTE			No_of_EXO_Filter_Events	
	MUO	INTE			No_of_MUO_Filter_Events	
	filter	INTE			No_of_Filter_Accepts	
	others	INTE			No_of_Other_Events	
	toIBM	INTE			No_of_Events_to_IBM	
	toVAX	INTE			No_of_Events_to_VAX	
	physics	INTE			Physics filters	
	n1VTX	INTE			VTX/Sampling	
	allfil	INTE			Or of all filter	
OZRTST					Test trigger information (>= row / run)	OZRSUM
	ID	SNUM				
	name	CH32			Test trigger name	
	Ttype	INTE			8bit test type	
	BCN	INTE			Bunch Crossing Number for the test trigger	
	taken	INTE			Number of taken trigger	
	schdle(1)	INTE			Time scheduline parameter for GFLT	
	.				""	
	schdle(5)	INTE			""	
OZRVTX					TLT new bank for VTX infor	OZRSUM
	ID	SNUM				
	C5e	REAL			C5 electron time	
	C5p	REAL			C5 proton time	
	vtxc	REAL			Vertex position for closest	
	sigmac	REAL			sigma	
	chi2c	REAL			chi2	
	nentc	INTE			number of entry	
	vtxm	REAL			Vertex position for highest multiplisity	
	sigmam	REAL			sigma	
	chi2m	REAL			chi2	
	nentm	INTE			number of entry	
PB6SAM					PB6SAM contains samples info per PM after DSP processing for those PMs which were not successfully processed in DSP energy determination. B-PRESAMPLER signals only.	PBBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		B-PRESAMPLER PM number	
	Sam1Sam0	INTE			16 bits sample 1, 16 bits sample 0	
	Sam3Sam2	INTE			16 bits sample 3, 16 bits sample 2	
	Sam5Sam4	INTE			16 bits sample 5, 16 bits sample 4	
PB8SAM					PB8SAM contains samples info per PM after DSP processing for those PMs which were not successfully processed in DSP energy determination. B-PRESAMPLER signals only.	PBBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		B-PRESAMPLER PM number	
	Sam1Sam0	INTE			16 bits sample 1, 16 bits sample 0	
	Sam3Sam2	INTE			16 bits sample 3, 16 bits sample 2	
	Sam5Sam4	INTE			16 bits sample 5, 16 bits sample 4	
	Sam7Sam6	INTE			16 bits sample 7, 16 bits sample 6	
PBBAD					Bad channel list for the B-PRESAMPLER	PBBANK
Static	ID	IMPL				
	Channelcontrol	BITP			bad channel error code	
	PMNr	INTE	0,*		B-PRESAMPLER PM number	
	Hardwarenumber	BITP			hardware number	
PBBECA					BOR Electronics Calibration Data, contains calibration data which changes rather frequently, Data is packed to reduce bank size.	PBBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number.	
	H2Q(1)	BITP			H->Q, bits 0-24: factor, bits 25-31: offset	
	.				""	
	H2Q(48)	BITP			""	
	TimeOff(1)	INTE			Time offset: bits 0-16: chan n, bits 17-31: chan n+1 (0 <= n <= 23)	
	.				""	
	TimeOff(48)	INTE			""	
PBCOEN					B-PRESAMPLER PM energy, low byte only; the order of PMs in this bank corresponds to the PM-number order given in the corresponding xxPMNO-bank	PBBANK
Static	ID	IMPL				
	PMEnLowBytes	BITP			Bits 0- 7: Energy cell n, Bits 8-15: Energy cell n+1, Bits 16-23: Energy cell n+2, Bits 24-31: Energy cell n+3	

V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
PBDCCN					B-PRESAMPLER Digital Card Control Bank. Bits described from Most Significant Bits down to Least Significant Bits. More details available from ONLINE experts.	PBBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number.	
	DCFLTword	BITP			8 bits parity check (#80 is correct value, other are errors), 8 bits DC page number (0-15), 8 bits FLT bits, 8 bits FLT number	
	Smpls00to23	BITP			8 bits Pipeline cell number, 24 bits samples available (bit=1)	
	Smpls24to47	BITP			8 bits readout info, 24 bits samples available (bit=1)	
	Rcstr00to23	BITP			8 bits delay, 24 bits dead/bad channel (bit=1)	
	Rcstr24to47	BITP			8 bits empty, 24 bits dead/bad channel (bit=1)	
PBDMON					PBDMON contains monitor information produced at the DSP for B-PRESAMPLER	PBBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number.	
	Baseline(1)	INTE			baseline: 1 per PM	
	.				""	
	Baseline(48)	INTE			""	
	TimeAverage(1)	INTE			average time: 1 per PM	
	.				""	
	TimeAverage(48)	INTE			""	
	Counter(1)	INTE				
	Counter(2)	INTE				
	NoRcnErr(1)	INTE			reconstruction error counters, 16 bits per PM.	
	.				""	
	NoRcnErr(24)	INTE			""	
	Spare(1)	INTE			To be defined later	
	.				""	
	Spare(24)	INTE			""	
PBDUMS					B-PRESAMPLER Front End Card/ADC characteristics, means and r.m.s.	PBBANK
Static	ID	IMPL				
	TpDcAdcId	BITP			Bitpattern giving the ADC: Bits 0-7 ADC No. (1-4) Bits 9-15 DC No.(1-17) Bits 16-31 Crate identifier.	
	gndDU1M	REAL				
	gndDU1S	REAL				
	VtemporVidM	REAL				
	VtemporVidS	REAL				
	VpowerM	REAL				
	VpowerS	REAL				
	VprecM	REAL				
	VprecS	REAL				
	DU0M	REAL				
	DU0S	REAL				
	DU1M	REAL				
	DU1S	REAL				
	DU2M	REAL				
	DU2S	REAL				
	DU3M	REAL				
	DU3S	REAL				
	DU4M	REAL				
	DU4S	REAL				
	DU5M	REAL				
	DU5S	REAL				
	muxVrM	REAL				
	muxVrS	REAL				
	gndDU2M	REAL				
	gndDU2S	REAL				
PBPDMS					PBPDMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for LED testtriggers for B-PRESAMPLER.	PBBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		B-PRESAMPLER PM Nr	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
	NoRecoErr	INTE			number of reconstruction errors	
PBPLMS					PBPLMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for LASER testtriggers for B-PRESAMPLER.	PBBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		B-PRESAMPLER PM Nr	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
	NoRecoErr	INTE			number of reconstruction errors	
PBPMNO					B-PRESAMPLER PM numbers; the order of PM-numbers in this bank corresponds to the order of the entries of energy low-bytes in the corresponding xxCOEN-bank; NB: there may be entries with zero value	PBBANK
Static	ID	IMPL				
	PMNrs	BITP			Bits 0-15: Number of PM n, Bits 16-31: Number of PM n+1	
PBPPMS					PBPPMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for PED testtriggers for B-PRESAMPLER.	PBBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		B-PRESAMPLER PM Nr	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
	NoRecoErr	INTE			number of reconstruction errors	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
PBPQMS					PBPQMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for QINJ testtriggers for B-PRESAMPLER.	PBBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		B-PRESAMPLER PM Nr	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
	NoRecoErr	INTE			number of reconstruction errors	
PBTENE					PBTENE contains signals from B-PRESAMPLER after DSP processing in the 2TP system.	PBBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		B-PRESAMPLER PM number	
	ETWord	BITP			Least significant 24 bits contain energy recorded in this PM. Most significant 8 bits contain time.	
PBUM					B-PRESAMPLER Front End Card/ADC characteristics.	PBBANK
Static	ID	IMPL				
	TpDcAdcId	BITP			Bitpattern giving the ADC: Bits 0-7 ADC No. (1-4) Bits 9-15 DC No.(1-17) Bits 16-31 Crate identifier.	
	gndDU1	INTE				
	VtemporVid	INTE				
	Vpower	INTE				
	Vprec	INTE				
	DU0	INTE				
	DU1	INTE				
	DU2	INTE				
	DU3	INTE				
	DU4	INTE				
	DU5	INTE				
	muxVr	INTE				
	gndDU2	INTE				
PBXOR					B-PRESAMPLER data checksums, Details available from CAL ONLINE experts.	PBBANK
Static	ID	IMPL				
	TPId	INTE			Crate identifier.	
	PBDCCNRows	INTE			Number of rows in PBDCCN bank.	
	PBTENERows	INTE			Number of rows in PBTENE bank.	
	PBCOENRows	INTE			Number of rows in PBCOEN bank.	
	PB8SAMRows	INTE			Number of rows in PB8SAM bank.	
	PB6SAMRows	INTE			Number of rows in PB6SAM bank.	
	ChkWord	BITP			Checksum word.	
	Reserved	INTE			Reserved word.	
PHOEvt					Physics generator event header information. Event parameters for photoproduction event generators. References : Zeus-Note-91-13	FMCZEvt
	ID	SNUM				
	Generator	CHA8			Photoproduction event generator name	
	NTracks	INTE			Number of stable particles (charged and neutral) in the event.	
	x	REAL			Bjorken x of struck parton	
	t1	REAL			Q squared of exchanged photon	
	t2	REAL			Q squared of exchanged parton	
	s1	REAL			Final state lepton parton invariant mass	
	s2	REAL			Final state parton anti-parton invariant mass	
	Flavour	INTE			LUND KF code of struck parton	
	Current	INTE			Current (1=EM,2&3=CC,4&5=NC, 6=EM+NC)	
	HelLep	INTE			Lepton helicity (-1=left, 0=unpolarised,1=right)	
	SF	INTE			SF (0=scaling,1=EHLQ1,2=EHLQ2, 3=DO1,4=DO2)	
	CrosSect	REAL			Cross section for current process	
	Alphas	REAL			Alpha-strong for this event	
	Lambda	REAL			Lambda-QCD of last SF call	
PHORun					The contents of the common lines in this table record the conditions under which the photo production event generator was run. References : Zeus-Note-91-13	FMCZRUNS
	ID	SNUM				
	Comment(1)	CH16			Free format comment line describing the run conditions of HERWIG.	
	.				""	
	Comment(5)	CH16			""	
PMT					Location index of the PMT	CFLCALT
	ID	SNUM				
	Locatn	INTE				
	R	REAL				
	Phi	REAL				
	Z	REAL				
	TRGTWR	REL			Each CELL belongs to a trigger tower	
PMTF					Location index of the PMT	CFLCALT
	ID	SNUM				
	Locatn	INTE				
	CAL	CHA4				
	Module	INTE				
	Tower	INTE				
	Cell	INTE				
	Side	CHA4				
	ANLCRD	REL			Each PMT belongs to an analog card	
	PMT	REL			Each PMT l/r belongs to a CELL	
	TSUMCD	REL			Each PMT belongs to a Trigger Sum Card	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
PR1OBJ					Summary of Presampler Reconstruction	PR1OBJ
Static	ID	IMPL				
	TNT	INTE			Total number of Tiles.	
	FNT	INTE			Number of Tiles in forward.	
	BNT	INTE			Number of Tiles in barrel.	
	RNT	INTE			Number of Tiles in rear.	
	TCL	INTE			Total number of MIP Clusters.	
	FCL	INTE			Number of MIP Clusters - forward.	
	BCL	INTE			Number of MIP Clusters - barrel.	
	RCL	INTE			Number of MIP Clusters - rear.	
	TSM	REAL			Total Sum of MIP.	
	FSM	REAL			Sum of MIP in forward.	
	BSM	REAL			Sum of MIP in barrel.	
	RSM	REAL			Sum of MIP in rear.	
PR6SAM					PR6SAM contains samples info per PM after DSP processing for those PMs which were not successfully processed in DSP energy determination. PreSampler signals only.	PRBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		PreSampler PM number	
	HighSam1Sam0	INTE			16 bits sample 1, 16 bits sample 0, high gain.	
	HighSam3Sam2	INTE			16 bits sample 3, 16 bits sample 2, high gain.	
	HighSam5Sam4	INTE			16 bits sample 5, 16 bits sample 4, high gain.	
	LowSam1Sam0	INTE			16 bits sample 1, 16 bits sample 0, low gain.	
	LowSam3Sam2	INTE			16 bits sample 3, 16 bits sample 2, low gain.	
	LowSam5Sam4	INTE			16 bits sample 5, 16 bits sample 4, low gain.	
PR8SAM					PR8SAM contains samples info per PM after DSP processing for those PMs which were not successfully processed in DSP energy determination. PreSampler signals only.	PRBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		PreSampler PM number	
	HighSam1Sam0	INTE			16 bits sample 1, 16 bits sample 0, high gain.	
	HighSam3Sam2	INTE			16 bits sample 3, 16 bits sample 2, high gain.	
	HighSam5Sam4	INTE			16 bits sample 5, 16 bits sample 4, high gain.	
	HighSam7Sam6	INTE			16 bits sample 7, 16 bits sample 6, high gain.	
	LowSam1Sam0	INTE			16 bits sample 1, 16 bits sample 0, low gain.	
	LowSam3Sam2	INTE			16 bits sample 3, 16 bits sample 2, low gain.	
	LowSam5Sam4	INTE			16 bits sample 5, 16 bits sample 4, low gain.	
	LowSam7Sam6	INTE			16 bits sample 7, 16 bits sample 6, low gain.	
PRBAD					Bad channel list for the PRESAMPLER	PRBANK
Static	ID	IMPL				
	Channelcontrol	BITP			bad channel error code	
	PMNr	INTE	0,*		PRESAMPLER PM number	
	Hardwarenumber	BITP			hardware number	
PRBECA					BOR Electronics Calibration Data, contains calibration data which changes rather frequently, Data is packed to reduce bank size.	PRBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number.	
	H2Q(1)	BITP			H->Q, bits 0-24: factor, bits 25-31: offset	
	.				""	
	H2Q(48)	BITP			""	
	TimeOff(1)	INTE			Time offset: bits 0-16: chan n, bits 17-31: chan n+1 (0 <= n <= 23)	
	.				""	
	TimeOff(48)	INTE			""	
PRCOEN					PRESAMPLER PM energy, low byte only; the order of PMs in this bank corresponds to the PM-number order given in the corresponding xxPMNO-bank	PRBANK
Static	ID	IMPL				
	PMEnLowBytes	BITP			Bits 0- 7: Energy cell n, Bits 8-15: Energy cell n+1, Bits 16-23: Energy cell n+2, Bits 24-31: Energy cell n+3	
PRDCCN					PreSampler Digital Card Control Bank. Bits described from Most Significant Bits down to Least Significant Bits. More details available from ONLINE experts.	PRBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number.	
	DCFLTword	BITP			8 bits parity check (#80 is correct value, other are errors), 8 bits DC page number (0-15), 8 bits FLT bits, 8 bits FLT number	
	PCellnumber	BITP			8 bits Pipeline cell number, 24 bits bit=1:samples available	
	Readoutinfo	BITP			8 bits readout info, 24 bits bit=1:Dead or Bad channel	
	TPGinfo	BITP			8 bits Test Pulse Generator, 24 bits bit=1:low gain samples used	
PRDICO					Just to have the table there!	PRGEOM
	ID	SNUM				
	Word1	REAL			PlaceHolder for now! NMcC Aug93	
PRDIV						PRGEOM
	ID	SNUM				
	mother	CHA4			Name of the mother volume	
	step	REAL	-0.100E+05,0....		Division step	
	axis	INTE	1,3		Axis division	
	ndiv	INTE	1,9999		Number of divisions	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
PRDMON					PRDMON contains monitor information produced at the DSP for PreSampler	PRBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number.	
	Baseline(1)	INTE			baseline: 1 per PM	
	.				""	
	Baseline(24)	INTE			""	
	TimeAverage(1)	INTE			average time: 1 per PM	
	.				""	
	TimeAverage(24)	INTE			""	
	Counter(1)	INTE				
	Counter(2)	INTE				
	NoRcnErr(1)	INTE			reconstruction error counters, 16 bits per PM.	
	.				""	
	NoRcnErr(12)	INTE			""	
	Spare(1)	INTE			To be defined later	
	.				""	
	Spare(12)	INTE			""	
PRDUMS					PRESAMPLER Front End Card/ADC characteristics, means and r.m.s.	PRBANK
Static	ID	IMPL				
	TpDcAdcId	BITP			Bitpattern giving the ADC: Bits 0-7 ADC No. (1-4) Bits 9-15 DC No.(1-17) Bits 16-31 Crate identifier.	
	gndDU1M	REAL				
	gndDU1S	REAL				
	VtemporVidM	REAL				
	VtemporVidS	REAL				
	VpowerM	REAL				
	VpowerS	REAL				
	VprecM	REAL				
	VprecS	REAL				
	DU0M	REAL				
	DU0S	REAL				
	DU1M	REAL				
	DU1S	REAL				
	DU2M	REAL				
	DU2S	REAL				
	DU3M	REAL				
	DU3S	REAL				
	DU4M	REAL				
	DU4S	REAL				
	DU5M	REAL				
	DU5S	REAL				
	muxVrM	REAL				
	muxVrS	REAL				
	gndDU2M	REAL				
	gndDU2S	REAL				
PRECLU					Searching for MIP Clusters	PRECLU
Static	ID	IMPL				
	MIP	REAL			MIP per Cluster.	
	RAD	REAL			Estimated Cluster Radius in cm.	
	X	REAL			Centre of mass Position in ZEUS-system.	
	Y	REAL			Centre of mass Position in ZEUS-system.	
	Z	REAL			Centre of mass Position in ZEUS-system.	
	NT	INTE			Number of respected Tiles.	
PREHIT					Presampler Hit information on GEANT-level	PREHIT
Static	ID	IMPL				
	DET	CHA8			DETECTOR ID.	
	TID	INTE			Tile ID.	
	E	REAL			Energy deposition in GeV.	
	EHOMO	REAL			Energy deposition smeared with tile inhomogeneity in GeV .	
	T	REAL			TIME of Detector Entry in sec.	
	X	REAL			ZEUS coordinate in cm.	
	Y	REAL			ZEUS coordinate in cm.	
	Z	REAL			ZEUS coordinate in cm.	
	P	REAL			GEANT particle Code.	
	FMCKin	REL		P	Particles may cause one or more hits in the Presampler	
PROPOR						ZEMATE
	ID	SNUM				
	Fraction	REAL			>0 Fraction by weight, <0 Fraction by atom or gaseous volume	
	in	REL				
	of	REL				
PRPARA						PRGEOM
	ID	SNUM				
	par	REAL	0.0,0.100E+05		A parameter defining a volume	
	of	GEN			A parameter is of a volume or a position	
	of_	REL			""	
PRPDMS					PRPDMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for LED testtriggers for PRESAMPLER.	PRBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		PRESAMPLER PM Nr	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
	NoRecoErr	INTE			number of reconstruction errors	

V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
PRPLMS					PRPLMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for LASER testtriggers for PRESAMPLER.	PRBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		PRESAMPLER PM Nr	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
	NoRecoErr	INTE			number of reconstruction errors	
PRPMNO					PRESAMPLER PM numbers; the order of PM-numbers in this bank corresponds to the order of the entries of energy low-bytes in the corresponding xxCOEN-bank; NB: there may be entries with zero value	PRBANK
Static	ID	IMPL				
	PMNrs	BITP			Bits 0-15: Number of PM n, Bits 16-31: Number of PM n+1	
PRPOS						PRGEOM
	ID	SNUM				
	nr	INTE	1,9999		Serial number	
	mother	CHA4			Name of the mother volume	
	x	REAL	-0.100E+06,0....		X linear dimension	
	y	REAL	-0.100E+06,0....		Y linear dimension	
	z	REAL	-0.100E+06,0....		Z linear dimension	
	konly	CHA4	MANY,MANY ONLY,ONLY		If MANY,a point in this volume may be in another	
	Detector	REL		P	each sensible volume positioned is related to some digitization parameter	
	rotm	REL			each positioned volume is related to a rotation matrix	
	volu	REL			A position belong to a volume	
PRPPMS					PRPPMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for PED testtriggers for PRESAMPLER.	PRBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		PRESAMPLER PM Nr	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
	NoRecoErr	INTE			number of reconstruction errors	
PRPQMS					PRPQMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for QINJ testtriggers for PRESAMPLER.	PRBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		PRESAMPLER PM Nr	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
	NoRecoErr	INTE			number of reconstruction errors	
PRRES					PRESAMPLER-Reconstruction Result	PRRES
Static	ID	IMPL				
	EPSAM	REAL			Presampler energy (in MIP)	
	ECONDCOR	REAL			Energy correction (in GeV)	
	OVERLP	INTE			Overlap flag	
	CConSa	REL		P	Presampler result is linked to a condensate	
PRRJCT						PRGEOM
	ID	SNUM				
	config	INTE	0,9999		Selects configuration	
	of	GEN			Rejected volumes and positions	
	of_	REL			""	
PRS6SA					PRS6SA contains samples info per PM after DSP processing for those PMs which were not successfully processed in DSP energy determination. PRESAMPLER signals only.	PRBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		PRESAMPLER PM number	
	Sam1Sam0	INTE			16 bits sample 1, 16 bits sample 0	
	Sam3Sam2	INTE			16 bits sample 3, 16 bits sample 2	
	Sam5Sam4	INTE			16 bits sample 5, 16 bits sample 4	
PRS8SA					PRS8SA contains samples info per PM after DSP processing for those PMs which were not successfully processed in DSP energy determination. PRESAMPLER signals only.	PRBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		PRESAMPLER PM number	
	Sam1Sam0	INTE			16 bits sample 1, 16 bits sample 0	
	Sam3Sam2	INTE			16 bits sample 3, 16 bits sample 2	
	Sam5Sam4	INTE			16 bits sample 5, 16 bits sample 4	
	Sam7Sam6	INTE			16 bits sample 7, 16 bits sample 6	
PRSDCC					PRESAMPLER Digital Card Control Bank. Bits described from Most Significant Bits down to Least Significant Bits. More details available from ONLINE experts.	PRBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number.	
	DCFLTword	BITP			8 bits parity check (#80 is correct value, other are errors), 8 bits DC page number (0-15), 8 bits FLT bits, 8 bits FLT number	
	Smpls00to23	BITP			8 bits Pipeline cell number, 24 bits samples available (bit=1)	
	Smpls24to47	BITP			8 bits readout info, 24 bits samples available (bit=1)	
	Rcstr00to23	BITP			8 bits delay, 24 bits dead/bad channel (bit=1)	
	Rcstr24to47	BITP			8 bits empty, 24 bits dead/bad channel (bit=1)	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
PRSDET						PRGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	type	INTE	1,9999		detector type	
	nwhi	INTE	1,9999		Numb. words primary alloc. HITS	
	nwdi	INTE	1,9999		Numb. words DIGI when primary not suff.	
PRSDMO					PRSDMO contains monitor information produced at the DSP for PRESAMPLER	PRBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number.	
	Baseline(1)	INTE			baseline: 1 per PM	
	.				""	
	Baseline(48)	INTE			""	
	TimeAverage(1)	INTE			average time: 1 per PM	
	.				""	
	TimeAverage(48)	INTE			""	
	Counter(1)	INTE				
	Counter(2)	INTE				
	NoRcnErr(1)	INTE			reconstruction error counters, 16 bits per PM.	
	.				""	
	NoRcnErr(24)	INTE			""	
	Spare(1)	INTE			To be defined later	
	.				""	
	Spare(24)	INTE			""	
PRSDTA						PRGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nwhi	INTE	1,9999		Initial HITS allocation	
	nwdi	INTE	1,9999		Increment of DIGI allocation	
	sdet	REL				
PRSDTD						PRGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	of	GEN			Sensible detectors and aliases digitizations	
	of_	REL			""	
PRSDTH						PRGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	orig	REAL			to define the hit elem. positive	
	fact	REAL			IVAR= VAR + ORIG*FACT	
	of	GEN			Each detector element needs the parameter definition	
	of_	REL			""	
PRSDTU						PRGEOM
	ID	SNUM				
	upar	REAL			User parameter	
	of	GEN			User parameters for sensible detectors and aliases	
	of_	REL			""	
PRSDTV						PRGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	sdet	REL			Physical detectors for the master detector identifier	
PRSXOR					PRESAMPLER data checksums, Details available from CAL ONLINE experts.	PRBANK
Static	ID	IMPL				
	TPId	INTE			Crate identifier.	
	PRSDCCRows	INTE			Number of rows in PRSDCCN bank.	
	PRTENERows	INTE			Number of rows in PRTENE bank.	
	PRCOENRows	INTE			Number of rows in PRCOEN bank.	
	PRS8SARows	INTE			Number of rows in PRS8SA bank.	
	PRS6SARows	INTE			Number of rows in PRS6SA bank.	
	ChkWord	BITP			Checksum word.	
	Reserved	INTE			Reserved word.	
PRTENE					PRTENE contains signals from PRESAMPLER after DSP processing in the 2TP system.	PRBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		PRESAMPLER PM number	
	ETWord	BITP			Least significant 24 bits contain energy recorded in this PM. Most significant 8 bits contain time.	
PRTENS					PRTENS is a copy of PRTENE with pedestal suppression.	PRBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		PreSampler PM number	
	ETWord	BITP			Least significant 24 bits contain energy recorded in this PM. Most significant 8 bits contain time.	
PRTRUE					PRESAMPLER-RECONSTRUCTION: Tile signal per Event in MIP	PRTRUE
Static	ID	IMPL				
	TID	INTE			TID Tile ID.	
	AMP	REAL			AMP Tile signal in MIP.	
	T	REAL			T Time information for Tile in sec.	
	PRRES	REL		P	Presampler energies may result in a correction	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
PRUM					PRESAMPLER Front End Card/ADC characteristics.	PRBANK
Static	ID	IMPL				
	TpDcAdcId	BITP			Bitpattern giving the ADC: Bits 0-7 ADC No. (1-4) Bits 9-15 DC No.(1-17) Bits 16-31 Crate identifier.	
	gndDU1	INTE				
	VtemporVid	INTE				
	Vpower	INTE				
	Vprec	INTE				
	DU0	INTE				
	DU1	INTE				
	DU2	INTE				
	DU3	INTE				
	DU4	INTE				
	DU5	INTE				
	muxVr	INTE				
	gndDU2	INTE				
PRUN					PreSampler Front End Card/ADC characteristics.	PRBANK
Static	ID	IMPL				
	gndDU1	INTE				
	VtemporVid	INTE				
	Vpower	INTE				
	Vprec	INTE				
	DU0	INTE				
	DU1	INTE				
	DU2	INTE				
	DU3	INTE				
	DU4	INTE				
	DU5	INTE				
	muxVr	INTE				
	gndDU2	INTE				
PRVOLU						PRGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	shape	CHA4	BOX,BOX TRD1,TRD1 TRD2,TRD2 TRAP,TRAP TUBE,TUBE TUBS,TUBS CONE,CONE CONS,CONS SPHE,SPHE PARA,PARA PGON,PGON PCON,PCON GTRA,GTRA		Shape of the volume	
	div	REL		P	Some volumes may be subdived	
	sdet	REL		P	Some volumes maybe also active detectors	
	tmed	REL			Volume tracking medium number	
PT6SAM					PT6SAM contains samples info per PM after DSP processing for those PMs which were not successfully processed in DSP energy determination. The samples are the CORRECTED samples. PRT signals only.	PTBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		PRT PM number	
	Sam1Sam0	INTE			16 bits sample 1, 16 bits sample 0	
	Sam3Sam2	INTE			16 bits sample 3, 16 bits sample 2	
	Sam5Sam4	INTE			16 bits sample 5, 16 bits sample 4	
PT8SAM					PT8SAM contains samples info per PM after DSP processing for those PMs which were not successfully processed in DSP energy determination. The samples are the CORRECTED samples. PRT signals only.	PTBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		PRT PM number	
	Sam1Sam0	INTE			16 bits sample 1, 16 bits sample 0	
	Sam3Sam2	INTE			16 bits sample 3, 16 bits sample 2	
	Sam5Sam4	INTE			16 bits sample 5, 16 bits sample 4	
	Sam7Sam6	INTE			16 bits sample 7, 16 bits sample 6	
PTBAD					Bad channel list for the PRT	PTBANK
Static	ID	IMPL				
	Channelcontrol	BITP			bad channel error code	
	PMNr	INTE	0,*		PRT PM number	
	Hardwarenumber	BITP			hardware number	
PTBECA					BOR Electronics Calibration Data, contains calibration data which changes rather frequently, Data is packed to reduce bank size.	PTBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number.	
	H2Q(1)	BITP			H->Q, bits 0-24: factor, bits 25-31: offset	
	.				""	
	H2Q(24)	BITP			""	
	TimeOff(1)	INTE			Time offset: bits 0-16: used, bits 17-31: unused	
	.				""	
	TimeOff(24)	INTE			""	
PTCOEN					PRT PM energy, low byte only; the order of PMs in this bank corresponds to the PM-number order given in the corresponding xxPMNO-bank	PTBANK
Static	ID	IMPL				
	PMEnLowBytes	BITP			Bits 0- 7: Energy cell n, Bits 8-15: Energy cell n+1, Bits 16-23: Energy cell n+2, Bits 24-31: Energy cell n+3	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
PTDCCN					PRT Digital Card Control Bank. Bits described from Most Significant Bits down to Least Significant Bits. More details available from ONLINE experts.	PTBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number.	
	DCFLTword	BITP			8 bits parity check (#80 is correct value, other are errors), 8 bits DC page number (0-15), 8 bits FLT bits, 8 bits FLT number	
	PCellnumber	BITP			8 bits Pipeline cell number, 24 bits bit=1:samples available	
	Readoutinfo	BITP			8 bits readout info, 24 bits bit=1:Dead or Bad channel	
	TPGinfo	BITP			8 bits Test Pulse Generator, 24 bits bit=1:low gain samples used	
PTDMON					PTDMON contains monitor information produced at the DSP for PRT	PTBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number.	
	Baseline(1)	INTE			baseline: 1 per PM	
	.				""	
	Baseline(24)	INTE			""	
	TimeAverage(1)	INTE			average time: 1 per PM	
	.				""	
	TimeAverage(24)	INTE			""	
	Counter(1)	INTE				
	Counter(2)	INTE				
	NoRcnErr(1)	INTE			reconstruction error counters, 16 bits per PM.	
	.				""	
	NoRcnErr(12)	INTE			""	
	Spare(1)	INTE			To be defined later	
	.				""	
	Spare(12)	INTE			""	
PTDUMS					PRT Front End Card/ADC characteristics, means and r.m.s.	PTBANK
Static	ID	IMPL				
	TpDcAdcId	BITP			Bitpattern giving the ADC: Bits 0-7 ADC No. (1-4) Bits 9-15 DC No.(1-17) Bits 16-31 Crate identifier.	
	gndDU1M	REAL				
	gndDU1S	REAL				
	VtemporVidM	REAL				
	VtemporVidS	REAL				
	VpowerM	REAL				
	VpowerS	REAL				
	VprecM	REAL				
	VprecS	REAL				
	DU0M	REAL				
	DU0S	REAL				
	DU1M	REAL				
	DU1S	REAL				
	DU2M	REAL				
	DU2S	REAL				
	DU3M	REAL				
	DU3S	REAL				
	DU4M	REAL				
	DU4S	REAL				
	DU5M	REAL				
	DU5S	REAL				
	muxVrM	REAL				
	muxVrS	REAL				
	gndDU2M	REAL				
	gndDU2S	REAL				
PTGHIT					GEANT Hit informations of scintillator layers in PRT	PTGHIT
Static	ID	IMPL				
	DET	INTE			DET Detector-ID.	
	E	REAL			E Energy deposition in scintillator in GeV.	
	T	REAL			T Time of Detector Entry in seconds.	
	XLOC	REAL			XLOC X local coordinates in cm .	
	YLOC	REAL			YLOC Y local coordinates in cm .	
	X	REAL			X X ZEUS coordinates in cm .	
	Y	REAL			Y Y ZEUS coordinates in cm .	
	Z	REAL			Z Z ZEUS coordinates in cm .	
	px	REAL			px px/P.	
	py	REAL			py py/P.	
	pz	REAL			pz pz/P.	
	P	REAL			P momentum in GeV/c.	
	PART	REAL			PART GEANT-Particle-Code	
	USER	REAL			USER reserved for additionally information	
	FMCKin	REL		P	Geant hits comes from a track	
PTPDMS					PTPDMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for LED testtriggers for PRT.	PTBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		PRT PM Nr	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
PTPLMS					PTPLMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for LASER testtriggers for PRT.	PTBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		PRT PM Nr	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
PTPMNO					PRT PM numbers; the order of PM-numbers in this bank corresponds to the order of the entries of energy low-bytes in the corresponding xxCOEN-bank; NB: there may be entries with zero value	PTBANK
Static	ID	IMPL				
	PMNrs	BITP			Bits 0-15: Number of PM n, Bits 16-31: Number of PM n+1	
PTPPMS					PTPPMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for PED testtriggers for PRT.	PTBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		PRT PM Nr	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
PTPQMS					PTPQMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for QINJ testtriggers for PRT.	PTBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		PRT PM Nr	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
PTTENE					RTTENE contains signals from PRT after DSP processing in the 2TP system.	PTBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		PRT PM number	
	ETWord	BITP			Least significant 24 bits contain energy recorded in this PM. Most significant 8 bits contain time.	
PTUM					PRT Front End Card/ADC characteristics.	PTBANK
Static	ID	IMPL				
	TpDcAdcId	BITP			Bitpattern giving the ADC: Bits 0-7 ADC No. (1-4) Bits 9-15 DC No.(1-17) Bits 16-31 Crate identifier.	
	gndDU1	INTE				
	VtemporVid	INTE				
	Vpower	INTE				
	Vprec	INTE				
	DU0	INTE				
	DU1	INTE				
	DU2	INTE				
	DU3	INTE				
	DU4	INTE				
	DU5	INTE				
	muxVr	INTE				
	gndDU2	INTE				
PTXOR					PRT data checksums, Details available from CAL ONLINE experts.	PTBANK
Static	ID	IMPL				
	TPId	INTE			Crate identifier.	
	PTDCCNRows	INTE			Number of rows in PTDCCN bank.	
	PTTENERows	INTE			Number of rows in PTTENE bank.	
	PTCOENRows	INTE			Number of rows in PTCOEN bank.	
	PT8SAMRows	INTE			Number of rows in PT8SAM bank.	
	PT6SAMRows	INTE			Number of rows in PT6SAM bank.	
	ChkWord	BITP			Checksum word.	
	Reserved	INTE			Reserved word.	
PhysAlg					Generic algorithm output	PHSUB
	ID	SNUM				
	Algo	CHA8			Algorithm used to classify an event. Maybe an electron finder, muon identifier, spark finder, etc...	
	Vsn	CHA8			Version of a specific algorithm. Preferably the CMZ version, i.e. something like 3.04/06	
	Parms(1)	REAL			Parameters used by an algorithm, such as fit parameters. Also Chi2 or other quality measures.	
	.				""	
	Parms(10)	REAL			""	
PhysAlgC					Compressed version of PhysAlg	PHSUB
	ID	SNUM				
	Algo	CHA4				
	Vsn	CHA8				
	Parm	INTE				
PhysDet					Intermediate table to establish a many to many relationship between a detector data structure and a physics object	PHSUB
	ID	SNUM				
	Weight	REAL			Weight of a detector component in a physics object	
	DetComp	GEN			First leg of pointer to a detector component data structure, can be anything, calorimeter cell, HES diode, reconstructed track.	
	DetComp_	REL			""	
	PhysObj	REL			Second leg of above RSET.	

V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
PhysKin					Measured kinematics of an event. Algo identifies the logic that leads to the classification of the event as in Class. Method identifies which method was used to calculate the variables Q2, xBj, yBj, EPz, and HPz	PHSUB
	ID	SNUM				
	Method	CHA8			Method used together with an algorithm to determine the kinematics of an event. Can be DA, or JB, or something else	
	Class	CHA8			Classification of event according to some algorithm	
	Q2	REAL	0.0,*		Momentum transfer	
	xBj	REAL	0.0,1.0		Bjorken scaling variable x	
	yBj	REAL	0.0,1.0		Bjorken scaling variable y	
	EPz	REAL	0.0,*		E - Pz of event	
	HPz	REAL	0.0,*		Hadronic E-Pz of event, (electron taken out)	
	PhysObj	REL		P	A Physics object may define the event kinematics, a hypothesis about a scattered lepton.	
	Vertex	GEN			Different ways of finding the vertex.	
	Vertex_	REL			""	
PhysKinC					Compressed version of PhysKin	PHSUB
	ID	SNUM				
	Method	CHA4				
	Class	CHA4				
	info(1)	BITP				
	.					
	info(4)	BITP				
	PhysObjC	REL		P	Corresponding relationship for the compressed tables	
	VCTVTX	REL			Only one type of vertex in compression.	
PhysObj					A physical object, such as a particle or a jet	PHSUB
	ID	SNUM				
	Name	CHA8			Name of a physics object. Can be electron, pion, jet, muon, etc...	
	Quality	REAL			Quality of a physics object. Can be a probability or a CHI2 or something alike...	
	E	REAL			Energy	
	px	REAL			x component of four momentum	
	py	REAL			y component of four momentum	
	pz	REAL			z component of four momentum	
	M	REAL			Mass	
	x	REAL			x component of impact position	
	y	REAL			y component of impact position	
	z	REAL			z component of impact position	
	PhysAlg	REL		P	Every Physics Object is found by an algorithm, but an algorithm may not find anything	
PhysObjC					Compressed version of PhysObj	PHSUB
	ID	SNUM				
	Name	CHA4				
	Quality	REAL			Quality of a physics object. Can be a probability or a CHI2 or something alike...	
	E	REAL				
	x	REAL			x component of impact position	
	y	REAL			y component of impact position	
	z	REAL			z component of impact position	
	PhysAlgC	REL		P	Corresponding relationship for the compressed tables	

V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
PolarData					Polarimeterparameter for ZEUS (14.1.94)	POLAR01
	ID	SNUM				
	flag	INTE			status of Polarimeter	
	runnumber	INTE			Polarimeter-Runnumber	
	nevis	INTE			Nevisprogram-number	
	year	INTE			actual date	
	month	INTE				
	day	INTE				
	realtime	REAL			time in hours	
	polarization	REAL			Polarization in percent	
	polarerror	REAL			error of Polarization	
	aluminosity	REAL			Luminosity in percent	
	vacuum	REAL			.. in mbar(??)	
	alightlinear	REAL			in percent	
	calorposition	REAL			position of table in mm	
	focus	REAL			in mm	
	laserpower	REAL			in mW	
	mirrorm2v	REAL			Vert. Position of M2 in mm	
	mirrorm2h	REAL			Hori. Position of M2 in mm	
	mirrorm3v	REAL			Vert. Position of M3 in mm	
	mirrorm3h	REAL			Hori. Position of M3 in mm	
	hvup	REAL			voltage of Photomultiplier	
	hvdown	REAL				
	hvleft	REAL				
	hvright	REAL				
	rateonleft	REAL			eventrate in the	
	rateonright	REAL			calorimeter for the four	
	rateoffleft	REAL			different states of	
	rateoffright	REAL			operation	
	timeonleft	REAL			measurement time for the	
	timeonright	REAL			four states	
	timeoffleft	REAL				
	timeoffright	REAL				
	averaasymonl	REAL			mean energy asymmetry of	
	averasymonr	REAL			the four states	
	averasymofl	REAL				
	averasymofr	REAL				
	corretadiff1	REAL			background-corrected eta-	
	corretadiff2	REAL			differences (R-L) for 5	
	corretadiff3	REAL			energy bins	
	corretadiff4	REAL				
	corretadiff5	REAL				
	corretasum1	REAL			background-corrected eta	
	corretasum2	REAL			sums (R+L) for 5 energy	
	corretasum3	REAL			bins	
	corretasum4	REAL				
	corretasum5	REAL				
	erreta1	REAL			errors of eta-sums/	
	erreta2	REAL			differences for 5 energy	
	erreta3	REAL			bins	
	erreta4	REAL				
	erreta5	REAL				
	energcount1	REAL			number of events in the	
	energcount2	REAL			5 energy bins	
	energcount3	REAL				
	energcount4	REAL				
	energcount5	REAL				
	dummy01	REAL			for parameters in the future	
	dummy02	REAL			for parameters in the future	
	dummy03	REAL			for parameters in the future	
	dummy04	REAL			for parameters in the future	
	dummy05	REAL			for parameters in the future	
	dummy06	REAL			for parameters in the future	
	dummy07	REAL			for parameters in the future	
	dummy08	REAL			for parameters in the future	
	dummy09	REAL			for parameters in the future	
	dummy10	REAL			for parameters in the future	
	dummy11	REAL			for parameters in the future	
	dummy12	REAL			for parameters in the future	
	dummy13	REAL			for parameters in the future	
	dummy14	REAL			for parameters in the future	
	dummy15	REAL			for parameters in the future	
	dummy16	REAL			for parameters in the future	
	dummy17	REAL			for parameters in the future	
	dummy18	REAL			for parameters in the future	
	dummy19	REAL			for parameters in the future	
	dummy20	REAL			for parameters in the future	
RAVVTX					RAVVTX	RAVVTX
Static	ID	IMPL				
	Nrun	INTE	1,*		Run number	
	Pos(1)	REAL			X, Y, Z position from Gaussian fit.	
	Pos(2)	REAL			""	
	Pos(3)	REAL			""	
	Err(1)	REAL			SigmaXYZ position from Gaussian fit.	
	Err(2)	REAL			""	
	Err(3)	REAL			""	
	Nent	INTE	0,*		Number of entries this run.	
RECPR2					Contains the track parameters at the vertex point	VTXFIT
	ID	SNUM				
	Par(1)	REAL			final track parameters at the vertex	
	Par(2)	REAL			""	
	Par(3)	REAL			""	
	Cov(1)	REAL			Covariance matrix	
	.				""	
	Cov(6)	REAL			""	
	Chi2	REAL		P	Chi2 contribution to the vertex fit from this track	
	D0	REAL			Final D0 w.r.t. the reconstructed vertex	
	DaughterOf	REL		P	Some particles are generated by other particles	
	PRoducedAt	REL		P	Each track is produced at one vertex	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
RECVTX					Contains the vertex positions	VTXFIT
	ID	SNUM				
	V(1)	REAL			The x,y and z coordinates of the fitted vertex (cm)	
	V(2)	REAL			""	
	V(3)	REAL			""	
	Cov(1)	REAL			Covariance matrix of above	
	.				""	
	Cov(6)	REAL			""	
	Chi2	REAL		P	Total chi2	
	NDF	INTE			Number of Degrees of Freedom	
RT6SAM					RT6SAM contains samples info per PM after DSP processing for those PMs which were not successfully processed in DSP energy determination. The samples are the CORRECTED samples. PRT signals only.	RTBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		PRT PM number	
	Sam1Sam0	INTE			16 bits sample 1, 16 bits sample 0	
	Sam3Sam2	INTE			16 bits sample 3, 16 bits sample 2	
	Sam5Sam4	INTE			16 bits sample 5, 16 bits sample 4	
RT8SAM					RT8SAM contains samples info per PM after DSP processing for those PMs which were not successfully processed in DSP energy determination. The samples are the CORRECTED samples. PRT signals only.	RTBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		PRT PM number	
	Sam1Sam0	INTE			16 bits sample 1, 16 bits sample 0	
	Sam3Sam2	INTE			16 bits sample 3, 16 bits sample 2	
	Sam5Sam4	INTE			16 bits sample 5, 16 bits sample 4	
	Sam7Sam6	INTE			16 bits sample 7, 16 bits sample 6	
RTBAD					Bad channel list for the PRT	RTBANK
Static	ID	IMPL				
	Channelcontrol	BITP			bad channel error code	
	PMNr	INTE	0,*		PRT PM number	
	Hardwarenumber	BITP			hardware number	
RTBECA					BOR Electronics Calibration Data, contains calibration data which changes rather frequently, Data is packed to reduce bank size.	RTBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number.	
	H2Q(1)	BITP			H->Q, bits 0-24: factor, bits 25-31: offset	
	.				""	
	H2Q(24)	BITP			""	
	TimeOff(1)	INTE			Time offset: bits 0-16: used, bits 17-31: unused	
	.				""	
	TimeOff(24)	INTE			""	
RTDCCN					PRT Digital Card Control Bank. Bits described from Most Significant Bits down to Least Significant Bits. More details available from ONLINE experts.	RTBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number.	
	DCFLTword	BITP			8 bits parity check (#80 is correct value, other are errors), 8 bits DC page number (0-15), 8 bits FLT bits, 8 bits FLT number	
	PCellnumber	BITP			8 bits Pipeline cell number, 24 bits bit=1:samples available	
	Readoutinfo	BITP			8 bits readout info, 24 bits bit=1:Dead or Bad channel	
	TPGinfo	BITP			8 bits Test Pulse Generator, 24 bits bit=1:low gain samples used	
RTDMON					RTDMON contains monitor information produced at the DSP for PRT	RTBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number.	
	Baseline(1)	INTE			baseline: 1 per PM	
	.				""	
	Baseline(24)	INTE			""	
	TimeAverage(1)	INTE			average time: 1 per PM	
	.				""	
	TimeAverage(24)	INTE			""	
	Counter(1)	INTE				
	Counter(2)	INTE				
	NoRcnErr(1)	INTE			reconstruction error counters, 16 bits per PM.	
	.				""	
	NoRcnErr(12)	INTE			""	
	Spare(1)	INTE			To be defined later	
	.				""	
	Spare(12)	INTE			""	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
RTDUMS					PRT Front End Card/ADC characteristics, means and r.m.s.	RTBANK
Static	ID	IMPL				
	TpDcAdcId	BITP			Bitpattern giving the ADC: Bits 0-7 ADC No. (1-4) Bits 9-15 DC No.(1-17) Bits 16-31 Crate identifier.	
	gndDU1M	REAL				
	gndDU1S	REAL				
	VtemporVidM	REAL				
	VtemporVidS	REAL				
	VpowerM	REAL				
	VpowerS	REAL				
	VprecM	REAL				
	VprecS	REAL				
	DU0M	REAL				
	DU0S	REAL				
	DU1M	REAL				
	DU1S	REAL				
	DU2M	REAL				
	DU2S	REAL				
	DU3M	REAL				
	DU3S	REAL				
	DU4M	REAL				
	DU4S	REAL				
	DU5M	REAL				
	DU5S	REAL				
	muxVrM	REAL				
	muxVrS	REAL				
	gndDU2M	REAL				
	gndDU2S	REAL				
RTMMTM					A simple convertion of RECPR2 is done to store the momenta. The rows of the table RTMMTM are in one to one correspondance with the RECPR2 table. The relationship to RECVTX is established as for RECPR2.	ZVMMTM
	ID	SNUM				
	Mmtm(1)	REAL			In Zeus cartesian coordinates: PX, PY, PZ, P, E (assuming pion mass) all in GeV.	
	.				""	
	Mmtm(5)	REAL			""	
	Charge	REAL			Charge +/- 1	
	RECVTX	REL		P	A RTMMTM MUST come from a vertex. And a vertex must have at least one RTMMTM	
RTPDMS					RTPDMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for LED testtriggers for PRT.	RTBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		PRT PM Nr	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
RTPLMS					RTPLMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for LASER testtriggers for PRT.	RTBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		PRT PM Nr	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
RTPPMS					RTPPMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for PED testtriggers for PRT.	RTBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		PRT PM Nr	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
RTPQMS					RTPQMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for QINJ testtriggers for PRT.	RTBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		PRT PM Nr	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
RTTENE					RTTENE contains signals from PRT after DSP processing and zero suppression in 2TP system.	RTBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		PRT PM number	
	ETWord	BITP			Least significant 24 bits contain energy recorded in this PM. Most significant 8 bits contain time.	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
RTUM					PRT Front End Card/ADC characteristics.	RTBANK
Static	ID	IMPL				
	TpDcAdcId	BITP			Bitpattern giving the ADC: Bits 0-7 ADC No. (1-4) Bits 9-15 DC No.(1-17) Bits 16-31 Crate identifier.	
	gndDU1	INTE				
	VtemporVid	INTE				
	Vpower	INTE				
	Vprec	INTE				
	DU0	INTE				
	DU1	INTE				
	DU2	INTE				
	DU3	INTE				
	DU4	INTE				
	DU5	INTE				
	muxVr	INTE				
	gndDU2	INTE				
RTXOR					PRT data checksums, Details available from CAL ONLINE experts.	RTBANK
Static	ID	IMPL				
	TPId	INTE			Crate identifier.	
	RTDCCNRows	INTE			Number of rows in RTDCCN bank.	
	RTTENERows	INTE			Number of rows in RTTENE bank.	
	RTPECORows	INTE			Number of rows in RTPECO bank.	
	RT8SAMRows	INTE			Number of rows in RT8SAM bank.	
	RT6SAMRows	INTE			Number of rows in RT6SAM bank.	
	ChkWord	BITP			Checksum word.	
	Reserved	INTE			Reserved word.	
SCXXAIBE					Atmospheric pressure	XXINP
	ID	SNUM				
	CHId	CH16			Channel identifier	
	TimeFLT	INTE			FLT number (0 at BOR)	
	TimeOS	INTE			OSs julian time in UNIX format	
	Stat	BITP			channel status bit pattern	
	Pres	REAL			Atmospheric pressure	
SCXXAIER					Atmospheric pressure	XXINP
	ID	SNUM				
	CHId	CH16			Channel identifier	
	TimeFLT	INTE			FLT number (0 at BOR)	
	TimeOS	INTE			OSs julian time in UNIX format	
	Stat	BITP			channel status bit pattern	
	Pres	REAL			Atmospheric pressure	
SCXXFEBE					Results of Fe peak position measurement	XXINP
	ID	SNUM				
	CHId	CH16			Channel identifier	
	TimeFLT	INTE			FLT number (0 at BOR)	
	TimeOS	INTE			OSs julian time in UNIX format	
	Stat	BITP			channel status bit pattern	
	Peak	REAL			Fe peak position	
	Sigm	REAL			Sigma of the peak position	
	NSam	INTE			Number of samples per channel	
	Flow	REAL			Gas flow in the chamber (l/min)	
	HVolt	INTE			HV voltage in the chamber [V]	
	AirP	REAL			Atmospheric pressure	
SCXXFEER					Results of Fe peak position measurement	XXINP
	ID	SNUM				
	CHId	CH16			Channel identifier	
	TimeFLT	INTE			FLT number (0 at BOR)	
	TimeOS	INTE			OSs julian time in UNIX format	
	Stat	BITP			channel status bit pattern	
	Peak	REAL			Fe peak position	
	Sigm	REAL			Sigma of the peak position	
	NSam	INTE			Number of samples per channel	
	Flow	REAL			Gas flow in the chamber (l/min)	
	HVolt	INTE			HV voltage in the chamber [V]	
	AirP	REAL			Atmospheric pressure	
SCXXGABE					Gas flow in the BAC chambers	XXINP
	ID	SNUM				
	CHId	CH16			Channel identifier	
	TimeFLT	INTE			FLT number (0 at BOR)	
	TimeOS	INTE			OSs julian time in UNIX format	
	Stat	BITP			channel status bit pattern	
	Flow	REAL			Gas flow (l/min)	
	RMS	REAL			RMS of gas flow	
	Min	REAL			Minimal allowed gas flow	
SCXXGAER					Gas flow in the BAC chambers	XXINP
	ID	SNUM				
	CHId	CH16			Channel identifier	
	TimeFLT	INTE			FLT number (0 at BOR)	
	TimeOS	INTE			OSs julian time in UNIX format	
	Stat	BITP			channel status bit pattern	
	Flow	REAL			Gas flow (l/min)	
	RMS	REAL			RMS of gas flow	
	Min	REAL			Minimal allowed gas flow	
SCXXHVBE					Status of BAC HV supplies	XXINP
	ID	SNUM				
	CHId	CH16			HV channel identifier	
	TimeFLT	INTE			FLT number (0 at BOR)	
	TimeOS	INTE			OSs julian time in UNIX format	
	Stat	BITP			channel status bit pattern	
	HVolt	INTE			HV voltage [V]	
	HCurr	INTE			HV current [0.1 uA]	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
SCXXHVER					Status of BAC HV supplies	XXINP
	ID	SNUM				
	CHId	CH16			HV channel identifier	
	TimeFLT	INTE			FLT number (0 at BOR)	
	TimeOS	INTE			OSs julian time in UNIX format	
	Stat	BITP			channel status bit pattern	
	HVolt	INTE			HV voltage [V]	
	HCurr	INTE			HV current [0.1 uA]	
SCXXLVBE					Status of BAC LV supplies	XXINP
	ID	SNUM				
	CHId	CH16			LV channel identifier	
	TimeFLT	INTE			FLT number (0 at BOR)	
	TimeOS	INTE			OSs julian time in UNIX format	
	Stat	BITP			channel status bit pattern	
	LVolt	REAL			LV voltage [V]	
SCXXLVER					Status of BAC LV supplies	XXINP
	ID	SNUM				
	CHId	CH16			LV channel identifier	
	TimeFLT	INTE			FLT number (0 at BOR)	
	TimeOS	INTE			OSs julian time in UNIX format	
	Stat	BITP			channel status bit pattern	
	LVolt	REAL			LV voltage [V]	
SCXXMIBE					Parameters of BAC gas mixture measured in the gas room	XXINP
	ID	SNUM				
	CHId	CH16			Channel identifier	
	TimeFLT	INTE			FLT number (0 at BOR)	
	TimeOS	INTE			OSs julian time in UNIX format	
	Stat	BITP			channel status bit pattern	
	CO2Fr	REAL			Fraction of CO2 in BAC mixture	
	ARFl	REAL			Ar flow (l/min)	
	CO2Fl	REAL			CO2 flow (l/min)	
SCXXMIER					Parameters of BAC gas mixture measured in the gas room	XXINP
	ID	SNUM				
	CHId	CH16			Channel identifier	
	TimeFLT	INTE			FLT number (0 at BOR)	
	TimeOS	INTE			OSs julian time in UNIX format	
	Stat	BITP			channel status bit pattern	
	CO2Fr	REAL			Fraction of CO2 in BAC mixture	
	ARFl	REAL			Ar flow (l/min)	
	CO2Fl	REAL			CO2 flow (l/min)	
SCXXTEBE					Temperature in the Yoke	XXINP
	ID	SNUM				
	CHId	CH16			Channel identifier	
	TimeFLT	INTE			FLT number (0 at BOR)	
	TimeOS	INTE			OSs julian time in UNIX format	
	Stat	BITP			channel status bit pattern	
	Temp	REAL			Measured temperature [C]	
	RMS	REAL			RMS of temperature measurement	
SCXXTEER					Temperature in the Yoke	XXINP
	ID	SNUM				
	CHId	CH16			Channel identifier	
	TimeFLT	INTE			FLT number (0 at BOR)	
	TimeOS	INTE			OSs julian time in UNIX format	
	Stat	BITP			channel status bit pattern	
	Temp	REAL			Measured temperature [C]	
	RMS	REAL			RMS of temperature measurement	
SFFBOR					SRTD-FLT FLT/EVB Card configuration parameters Detailed information is known to the SRTD FLT experts.	SFBANK
Static	ID	IMPL				
	CardAddress	INTE			FLT/EVB card VME address	
	OffsAndControl1	INTE			Offset registers (2x8bits) and control word 1	
	Control2And3	INTE			Control words 2 and 3	
	Control4And5	INTE			Control words 4 and 5	
	Timing01(1)	INTE			Timing Lookup-tables sector 0 and 1	
	.				""	
	Timing01(32)	INTE			""	
	Timing23(1)	INTE			Timing Lookup-tables sector 2 and 3	
	.				""	
	Timing23(32)	INTE			""	
SFHITP					SFHITP contains some FLT/EVB data (FLT, BCN and coincidence times (shifted to byte boundaries for offline convenience)) and the TriggerCard hitpatterns.	SFBANK
Static	ID	IMPL				
	FLTAndBCN	INTE			bit 0-7 FLT number, bit 8-15 Bunch-X-number	
	LTIME	INTE			LTIME 0,1,2 and 3 (coincidence times): sector0 (bits 0- 7), sector1 (bits 8-15), sector2 (bits 16-23), sector3 (bits 24-31), only 6 significant bits	
	Sect0Typs0	BITP			sector 0, type-s_0, hitpattern chan 0-23	
	Sect0Typs1	BITP			sector 0, type-s_1, hitpattern chan 0-23	
	Sect0Typl	BITP			sector 0, type-l, hitpattern chan 0-23	
	Sect1Typs0	BITP			sector 1, type-s_0, hitpattern chan 0-23	
	Sect1Typs1	BITP			sector 1, type-s_1, hitpattern chan 0-23	
	Sect1Typl	BITP			sector 1, type-l, hitpattern chan 0-23	
	Sect2Typs0	BITP			sector 2, type-s_0, hitpattern chan 0-23	
	Sect2Typs1	BITP			sector 2, type-s_1, hitpattern chan 0-23	
	Sect2Typl	BITP			sector 2, type-l, hitpattern chan 0-23	
	Sect3Typs0	BITP			sector 3, type-s_0, hitpattern chan 0-23	
	Sect3Typs1	BITP			sector 3, type-s_1, hitpattern chan 0-23	
	Sect3Typl	BITP			sector 3, type-l, hitpattern chan 0-23	

Page (1, 1)

Table		Column	Type	Range	P	Comment	Subschema
SFPLMS						SFPQMS contains for each SRTD-FLT Triggercard sector the mean and r.m.s. of the coincidence time and for each channel in this sector the percentage of events with hits for LASER testtriggers.	SFBANK
	Static	ID	IMPL				
		SectorNr	INTE			SRTD-FLT sector number [0,3]	
		TMean	REAL			Mean of LTIME.	
		TRMS	REAL			R.M.S. of LTIME.	
		HitPerc(1)	BITP			percentage of events with hit on channel, 72 channels, 1 byte/channel	
		.				""	
		HitPerc(24)	BITP			""	
SFPPMS						SFPQMS contains for each SRTD-FLT Triggercard sector the mean and r.m.s. of the coincidence time and for each channel in this sector the percentage of events with hits for PED testtriggers.	SFBANK
	Static	ID	IMPL				
		SectorNr	INTE			SRTD-FLT sector number [0,3]	
		TMean	REAL			Mean of LTIME.	
		TRMS	REAL			R.M.S. of LTIME.	
		HitPerc(1)	BITP			percentage of events with hit on channel, 72 channels, 1 byte/channel	
		.				""	
		HitPerc(24)	BITP			""	
SFPQMS						SFPQMS contains for each SRTD-FLT Triggercard sector the mean and r.m.s. of the coincidence time and for each channel in this sector the percentage of events with hits for QINJ testtriggers.	SFBANK
	Static	ID	IMPL				
		SectorNr	INTE			SRTD-FLT sector number [0,3]	
		TMean	REAL			Mean of LTIME.	
		TRMS	REAL			R.M.S. of LTIME.	
		HitPerc(1)	BITP			percentage of events with hit on channel, 72 channels, 1 byte/channel	
		.				""	
		HitPerc(24)	BITP			""	
SFSCAL						SRTD FLT Scaler Data	SFBANK
	Static	ID	IMPL				
		Sector	INTE			Sector number [0,3]	
		ChannelNos	INTE			Scaler 2 channel (byte 2), Scaler 1 channel (byte 1), Scaler 0 channel (byte 0)	
		SinglesSclTs0(1)	INTE			Type-s_0 Singles Scalers	
		SinglesSclTs0(2)	INTE			""	
		SinglesSclTs0(3)	INTE			""	
		SinglesSclTs1(1)	INTE			Type-s_1 Singles Scalers	
		SinglesSclTs1(2)	INTE			""	
		SinglesSclTs1(3)	INTE			""	
		SinglesSclTl(1)	INTE			Type-l Singles Scalers	
		SinglesSclTl(2)	INTE			""	
		SinglesSclTl(3)	INTE			""	
		TotalCoinScaler	INTE			Total Coincidence Scaler	
		CoinScaler(1)	INTE			Coincidence Scalers	
		.				""	
		CoinScaler(4)	INTE			""	
SFTBOR						SRTD-FLT Trigger Card configuration parameters	SFBANK
	Static	ID	IMPL				
		SectorAndCard	INTE			Sector number [0,3] (bits15-31), Card number [0,2] (bits 0-15)	
		CardAddress	INTE			Card VME address	
		Threshold(1)	INTE			Thresholds 24 DACs, bit0-7 low + bit8-15 high of lower addr, bit15-23 low + bit24-31 high of higher addr	
		.				""	
		Threshold(12)	INTE			""	
		EnableChan	BITP			Chan enabled ?, 24 chan	
		Delay(1)	INTE			6bit delays, 1 per byte	
		Delay(2)	INTE			""	
		Delay(3)	INTE			""	
		StatusFifoCntr1	INTE			bit0-15 status, bit16-31 Fifo control word 1	
		FifoCntr2and3	INTE			bit00-15 Fifo control word 2, bit16-31 Fifo control word 3	
SR6SAM						SR6SAM contains samples info per PM after DSP processing for those PMs which were not successfully processed in DSP energy determination. The samples are the CORRECTED samples. SRTD signals only.	SRBANK
	Static	ID	IMPL				
		StripNr	INTE	0,*		SRTD strip number	
		HighSam1Sam0	INTE			16 bits sample 1, 16 bits sample 0, high gain.	
		HighSam3Sam2	INTE			16 bits sample 3, 16 bits sample 2, high gain.	
		HighSam5Sam4	INTE			16 bits sample 5, 16 bits sample 4, high gain.	
		LowSam1Sam0	INTE			16 bits sample 1, 16 bits sample 0, low gain.	
		LowSam3Sam2	INTE			16 bits sample 3, 16 bits sample 2, low gain.	
		LowSam5Sam4	INTE			16 bits sample 5, 16 bits sample 4, low gain.	
SR8SAM						SR8SAM contains samples info per PM after DSP processing for those PMs which were not successfully processed in DSP energy determination. The samples are the CORRECTED samples. SRTD signals only.	SRBANK
	Static	ID	IMPL				
		StripNr	INTE	0,*		SRTD strip number	
		HighSam1Sam0	INTE			16 bits sample 1, 16 bits sample 0, high gain.	
		HighSam3Sam2	INTE			16 bits sample 3, 16 bits sample 2, high gain.	
		HighSam5Sam4	INTE			16 bits sample 5, 16 bits sample 4, high gain.	
		HighSam7Sam6	INTE			16 bits sample 7, 16 bits sample 6, high gain.	
		LowSam1Sam0	INTE			16 bits sample 1, 16 bits sample 0, low gain.	
		LowSam3Sam2	INTE			16 bits sample 3, 16 bits sample 2, low gain.	
		LowSam5Sam4	INTE			16 bits sample 5, 16 bits sample 4, low gain.	
		LowSam7Sam6	INTE			16 bits sample 7, 16 bits sample 6, low gain.	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
SRBAD					Bad channel list for the SRTD	SRBANK
Static	ID	IMPL				
	Channelcontrol	BITP			bad channel error code	
	StripNr	INTE	0,*		SRTD Strip number	
	Hardwarenumber	BITP			hardware number	
SRBECA					BOR Electronics Calibration Data, contains calibration data which changes rather frequently.	SRBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number	
	HGainH2Q(1)	INTE			H->Q high gain, bits 0-23: factor, bits 24-31: offset	
	.				""	
	HGainH2Q(24)	INTE			""	
	LGainH2Q(1)	INTE			H->Q low gain, bits 0-23: factor, bits 24-31: offset	
	.				""	
	LGainH2Q(24)	INTE			""	
	TimeOff(1)	INTE			Time offset: bits 0-15: high gain, bits 16-31: low gain	
	.				""	
	TimeOff(24)	INTE			""	
SRBMIP					PC->MIP conversion factors for SRTD	SRBANK
Static	ID	IMPL				
	StripNr	INTE	0,*		SRTD Strip number	
	PCToMIP	REAL			Conversion factor PC->MIP	
SRCOEN					SRTD PM energy, low byte only; the order of PMs in this bank corresponds to the PM-number order given in the corresponding xxPMNO-bank	SRBANK
Static	ID	IMPL				
	PMEnLowBytes	BITP			Bits 0- 7: Energy cell n, Bits 8-15: Energy cell n+1, Bits 16-23: Energy cell n+2, Bits 24-31: Energy cell n+3	
SRDCCN					SRTD Digital Card Control Bank. Bits described from Most Significant Bits down to Least Significant Bits. More details available from ONLINE experts.	SRBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number.	
	DCFLTword	BITP			8 bits parity check (#80 is correct value, other are errors), 8 bits DC page number (0-15), 8 bits FLT bits, 8 bits FLT number	
	PCellnumber	BITP			8 bits Pipeline cell number, 24 bits bit=1:samples available	
	Readoutinfo	BITP			8 bits readout info, 24 bits bit=1:Dead or Bad channel	
	TPGinfo	BITP			8 bits Test Pulse Generator, 24 bits bit=1:low gain samples used	
SRDICO					Just to have the table there!	SRGEOM
	ID	SNUM				
	Word1	REAL			PlaceHolder for now! NMcC Aug93	
SRDIV						SRGEOM
	ID	SNUM				
	mother	CHA4			Name of the mother volume	
	step	REAL	-0.100E+05,0....		Division step	
	axis	INTE	1,3		Axis division	
	ndiv	INTE	1,9999		Number of divisions	
SRDMON					SRDMON contains monitor information produced at the DSP for SRTD	SRBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number.	
	Baseline(1)	INTE			baseline: 1 per PM	
	.				""	
	Baseline(24)	INTE			""	
	TimeAverage(1)	INTE			average time: 1 per PM	
	.				""	
	TimeAverage(24)	INTE			""	
	Counter(1)	INTE				
	Counter(2)	INTE				
	NoRcnErr(1)	INTE			reconstruction error counters, 16 bits per PM.	
	.				""	
	NoRcnErr(12)	INTE			""	
	Spare(1)	INTE			To be defined later	
	.				""	
	Spare(12)	INTE			""	

Page (1, 1)

Table		Column	Type	Range	P	Comment	Subschema
SRDUMS						SRTD Front End Card/ADC characteristics, means and r.m.s.	SRBANK
	Static	ID	IMPL				
		TpDcAdcId	BITP			Bitpattern giving the ADC: Bits 0-7 ADC No. (1-4) Bits 9-15 DC No.(1-17) Bits 16-31 Crate identifier.	
		gndDU1M	REAL				
		gndDU1S	REAL				
		VtemporVidM	REAL				
		VtemporVidS	REAL				
		VpowerM	REAL				
		VpowerS	REAL				
		VprecM	REAL				
		VprecS	REAL				
		DU0M	REAL				
		DU0S	REAL				
		DU1M	REAL				
		DU1S	REAL				
		DU2M	REAL				
		DU2S	REAL				
		DU3M	REAL				
		DU3S	REAL				
		DU4M	REAL				
		DU4S	REAL				
		DU5M	REAL				
		DU5S	REAL				
		muxVrM	REAL				
		muxVrS	REAL				
		gndDU2M	REAL				
		gndDU2S	REAL				
SREBOR						SRTD FLT/EVB Card Parameters	SRBANK
	Static	ID	IMPL				
		CardAddress	INTE			FLT/EVB card VME address	
		DPAddressOffs	INTE			Dual Port address offset	
		DPBCNOffs	INTE			Bunch Crossing offset	
		TCDLatchDelay	INTE			Trigger Card Data Latch, HCLK delay	
		BCNCounterDelay	INTE			Crossing Number Counter, HCLK delay	
		TRAPDelay	INTE			Delay TRAP, ACCLT signal	
		FIFOWRITEDelay	INTE			Delay FIFO Write, ACCWT signal	
		FIFOWRITEWidth	INTE			Width of FIFO WRITE pulse	
		CCTMDelay	INTE			Component Control timing marker, HCLK delay	
		DPWRITEWidth	INTE			WRITE pulse width to dual port	
		DPWRITEDelay	INTE			Write pulse delay to dual port	
		HISTOWriteDelay	INTE			WRITE Histogram FIFO, HCLK dealy	
		Reserv(1)	INTE			Reserved words	
		.				""	
		Reserv(64)	INTE			""	
SRFHIT						SRFHIT contains the hit pattern from the SRTD FLT, one row per sector.	SRBANK
	Static	ID	IMPL				
		Sector	INTE			SRTD sector number	
		Chans0to31	BITP			SRTD FLT hit pattern channels 0-31, each bit corresponds to one channel	
		Chans32to63	BITP			SRTD FLT hit pattern channels 32-63, each bit corresponds to one channel	
		Chans64to67	BITP			SRTD FLT hit pattern channels 64-67, each bit corresponds to one channel	
SRFLT						SRFLT contains the SRTD FLT words. Detailed information about the bit assignement are known to the SRTD FLT experts.	SRBANK
	Static	ID	IMPL				
		FLTWord	BITP			SRTD FLT Word, Bitpattern	
SRFTIM						SRFTIM contains the coincidence time as reported by the SRTD FLT. The values have been shifted to byte boundaries for offline convenience.	SRBANK
	Static	ID	IMPL				
		FLTAndBCN	BITP			FLT number bits 0-7, BCN bits 8-15	
		Time	BITP			SRTD/FLT coincidence time, sector0 (bits 0-7), sector1 (bits 8-15), sector2 (bits 16-23), sector3 (24-31), only 6 significant bits.	
SRITBO						SRTD FLT Interim Trigger Card Parameters	SRBANK
	Static	ID	IMPL				
		Version	INTE			Version Number	
		Thresholds(1)	INTE			Thresholds and Masks	
		.				""	
		Thresholds(4)	INTE			""	
SRPARA							SRGEOM
		ID	SNUM				
		par	REAL	0.0,0.100E+05		A parameter defining a volume	
		of	GEN			A parameter is of a volume or a position	
		of_	REL			""	
SRPDMS						SRPDMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for LED testtriggers for SRTD.	SRBANK
	Static	ID	IMPL				
		StripNr	INTE	0,*		SRTD Strip Nr	
		EMean	REAL			Mean of all energy values.	
		ERMS	REAL			R.M.S. of energy values.	
		TMean	REAL			Mean of all time values.	
		TRMS	REAL			R.M.S. of time values.	
		NoRecoErr	INTE			number of reconstruction errors	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
SRPLMS					SRPLMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for LASER testtriggers for SRTD.	SRBANK
Static	ID	IMPL				
	StripNr	INTE	0,*		SRTD Strip Nr	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
	NoRecoErr	INTE			number of reconstruction errors	
SRPMNO					SRTD PM numbers; the order of PM-numbers in this bank corresponds to the order of the entries of energy low-bytes in the corresponding xxCOEN-bank; NB: there may be entries with zero value	SRBANK
Static	ID	IMPL				
	PMNrs	BITP			Bits 0-15: Number of PM n, Bits 16-31: Number of PM n+1	
SRPOS						SRGEOM
	ID	SNUM				
	nr	INTE	1,9999		Serial number	
	mother	CHA4			Name of the mother volume	
	x	REAL	-0.100E+06,0....		X linear dimension	
	y	REAL	-0.100E+06,0....		Y linear dimension	
	z	REAL	-0.100E+06,0....		Z linear dimension	
	konly	CHA4	MANY,MANY ONLY,ONLY		If MANY,a point in this volume may be in another	
	Detector	REL		P	each sensible volume positioned is related to some digitization parameter	
	rotm	REL			each positioned volume is related to a rotation matrix	
	volu	REL			A position belong to a volume	
SRPPMS					SRPPMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for PED testtriggers for SRTD.	SRBANK
Static	ID	IMPL				
	StripNr	INTE	0,*		SRTD Strip Nr	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
	NoRecoErr	INTE			number of reconstruction errors	
SRPQMS					SRPQMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for QINJ testtriggers for SRTD.	SRBANK
Static	ID	IMPL				
	StripNr	INTE	0,*		SRTD Strip Nr	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
	NoRecoErr	INTE			number of reconstruction errors	
SRRJCT						SRGEOM
	ID	SNUM				
	config	INTE	0,9999		Selects configuration	
	of	GEN			Rejected volumes and positions	
	of_	REL			""	
SRSCAL					SRTD FLT Scaler Data	SRBANK
Static	ID	IMPL				
	Sector	INTE	0,3		SRTD FLT Sector number	
	CoinCount(1)	INTE			Coincidence Counters	
	.				""	
	CoinCount(4)	INTE			""	
	ScalerCount(1)	INTE			Scaler Counters	
	.				""	
	ScalerCount(12)	INTE			""	
SRSDET						SRGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	type	INTE	1,9999		detector type	
	nwhi	INTE	1,9999		Numb. words primary alloc. HITS	
	nwdi	INTE	1,9999		Numb. words DIGI when primary not suff.	
SRSDTA						SRGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nwhi	INTE	1,9999		Initial HITS allocation	
	nwdi	INTE	1,9999		Increment of DIGI allocation	
	sdet	REL				
SRSDTD						SRGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	of	GEN			Sensible detectors and aliases digitizations	
	of_	REL			""	
SRSDTH						SRGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	orig	REAL			to define the hit elem. positive	
	fact	REAL			IVAR= VAR + ORIG*FACT	
	of	GEN			Each detector element needs the parameter definition	
	of_	REL			""	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
SRSDTU						SRGEOM
	ID	SNUM				
	upar	REAL			User parameter	
	of	GEN			User parameters for sensible detectors and aliases	
	of_	REL			""	
SRSDTV						SRGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	sdet	REL			Physical detectors for the master detector identifier	
SRTBOR					SRTD FLT Trigger Card Parameters	SRBANK
Static	ID	IMPL				
	Sector	INTE	0,3		SRTD FLT Sector number	
	CardAddress	INTE			Card VME address	
	Threshold(1)	BITP			Thresholds, bit 0-7 low, bit 8-15 high	
	.				""	
	Threshold(68)	BITP			""	
	EnableChan(1)	INTE			Channel enabled ?	
	.				""	
	EnableChan(68)	INTE			""	
	Delay(1)	INTE			5 bit delay for channels 24 thru 67	
	.				""	
	Delay(44)	INTE			""	
	STARTDelay	INTE			START (HCLK) delay	
	STARTWidth	INTE			START pulse width	
	TIMMRKWidth	INTE			TIMMRK pulse width	
	LATCHCLEARDelay	INTE			LATCH CLEAR Delay	
	CLEAR1Width	INTE			CLEAR1 pulse width	
	OVERFLOWDelay	INTE			OVERFLOW delay	
	STOPWidth	INTE			STOP pulse width	
	CLEAR2Width	INTE			CLEAR2 pulse width	
	AddrIncDelay	INTE			delay of HCLK for address register increment	
	TIMMRKDelay	INTE			TIMMRK delay	
	CALIBSTOPDelay	INTE			CALIB STOP delay	
	VMEDP	INTE			Load DP from VME?	
	CALIB	INTE			CALIB mode?	
	ScalerEnable	INTE			Scaler enabled?	
	ScalerSel(1)	INTE			Channel number connected	
	.				""	
	ScalerSel(12)	INTE			""	
	WRITECLEARWidth	INTE			Width of CLEAR for WRITE	
	WRITEWidth	INTE			Width of Dual Port WRITE	
	DPDelay	INTE			Dual Port Delay	
	DPAddressOffs	INTE			Dual Port address offset	
	Reserv(1)	INTE			Reserved words	
	.				""	
	Reserv(64)	INTE			""	
SRTENE					SRTENE contains signals from SRTD after DSP processing in the 2TP system.	SRBANK
Static	ID	IMPL				
	StripNr	INTE	0,*		SRTD strip number	
	ETWord	BITP			Least significant 24 bits contain energy recorded in this PM. Most significant 8 bits contain time.	
SRTHIT					GEANT Hit informations of scintillator layers SRTDV1 and SRTDV2	SRTHIT
Static	ID	IMPL				
	DET	INTE			DET Detector-ID.	
	E	REAL			E Energy deposition in scintillator in GeV.	
	T	REAL			T Time of Detector Entry in seconds.	
	XLOC	REAL			XLOC X local coordinates in cm .	
	YLOC	REAL			YLOC Y local coordinates in cm .	
	X	REAL			X X ZEUS coordinates in cm .	
	Y	REAL			Y Y ZEUS coordinates in cm .	
	Z	REAL			Z Z ZEUS coordinates in cm .	
	px	REAL			px px/P.	
	py	REAL			py py/P.	
	pz	REAL			pz pz/P.	
	P	REAL			P momentum in GeV/c.	
	PART	REAL			PART GEANT-Particle-Code	
	USER	REAL			USER reserved for additionally information	
	FMCKin	REL		P	Geant hits comes from a track	
SRUM					SRTD Front End Card/ADC characteristics.	SRBANK
Static	ID	IMPL				
	TpDcAdcId	BITP			Bitpattern giving the ADC: Bits 0-7 ADC No. (1-4) Bits 9-15 DC No.(1-17) Bits 16-31 Crate identifier.	
	gndDU1	INTE				
	VtemporVid	INTE				
	Vpower	INTE				
	Vprec	INTE				
	DU0	INTE				
	DU1	INTE				
	DU2	INTE				
	DU3	INTE				
	DU4	INTE				
	DU5	INTE				
	muxVr	INTE				
	gndDU2	INTE				

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
SRUN					==>OBSOLETE; SRTD Front End Card/ADC characteristics.	SRBANK
Static	ID	IMPL				
	gndDU1	INTE				
	VtemporVid	INTE				
	Vpower	INTE				
	Vprec	INTE				
	DU0	INTE				
	DU1	INTE				
	DU2	INTE				
	DU3	INTE				
	DU4	INTE				
	DU5	INTE				
	muxVr	INTE				
	gndDU2	INTE				
SRVOLU						SRGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	shape	CHA4	BOX,BOX TRD1,TRD1 TRD2,TRD2 TRAP,TRAP TUBE,TUBE TUBS,TUBS CONE,CONE CONS,CONS SPHE,SPHE PARA,PARA PGON,PGON PCON,PCON GTRA,GTRA		Shape of the volume	
	div	REL		P	Some volumes may be subdived	
	sdet	REL		P	Some volumes maybe also active detectors	
	tmed	REL			Volume tracking medium number	
SRXOR					SRTD data checksums, Details available from CAL ONLINE experts.	SRBANK
Static	ID	IMPL				
	TPId	INTE			Crate identifier.	
	SRDCCNRows	INTE			Number of rows in SRDCCN bank.	
	SRTENERows	INTE			Number of rows in SRTENE bank.	
	SRCOENRows	INTE			Number of rows in SRCOEN bank.	
	SR8SAMRows	INTE			Number of rows in SR8SAM bank.	
	SR6SAMRows	INTE			Number of rows in SR6SAM bank.	
	ChkWord	BITP			Checksum word.	
	Reserved	INTE			Reserved word.	
STASDQ					Bitpacked data from Front End electronics (ASDQ chips)	STGean
	ID	SNUM				
	StwNr	BITP			straw number in STT numbering scheme	
	tRise	BITP			time of first rise (nsec)	
	Eloss	BITP			Energy loss (GeV)	
	STDMUX	REL			each ASDQ signal will take part in one multiplexed signal, but a multiplex output signal will be made of one or more ASDQ signals	
STATSEC					Sector status Table for the STT	STStatus
	ID	SNUM				
	secid	BITP			packed word for sector number	
	statsec	INTE			status of straw (0 - 1)	
STATSTR					Straw status Table for the STT	STStatus
	ID	SNUM				
	strid	BITP			packed word for straw number	
	statstr	INTE			status of straw (0 - 3)	
STDIV						STGeom
	ID	SNUM				
	mother	CHA4			Name of the mother volume	
	step	REAL	-0.100E+05,0....		Division step	
	axis	INTE	1,3		Axis division	
	ndiv	INTE	1,9999		Number of divisions	
STDMUX					Bitpacked data from Multiplexers	STGean
	ID	SNUM				
	MUXout	BITP			word containing multiplexer data see documentation for definition	
	STTRAW	REL		P	each multiplexer signal will either produce one piece of raw data or not, but each piece of raw data can be produced only be produced by one multiplexer signal	
STEOR					End of run table for STT	STEvCntr
	ID	SNUM				
STGASEC					correction to the survey geometry of the STT sectorss as result of the tracking alignment	STGeom
	ID	SNUM				
	dcs(1)	REAL			correction to the parameters describing the translation and rotation with respect to the straws	
	.				""	
	dcs(6)	REAL			""	
	sectorID	BITP			sector ID	
	STGSSEC	REL			link from the tracking alignment corrections to the survey corrections for the sector	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
STGASTR					correction to the survey geometry of the STT straw as result of the tracking alignment	STGeom
	ID	SNUM				
	dcs(1)	REAL			correction to the parameters describing the translation and rotation with respect to the STT ref. system	
	.				""	
	dcs(6)	REAL			""	
	strawID	BITP			straw ID	
	STGSSTR	REL			link from the tracking alignment corrections to the survey corrections for the straw	
STGASTT					correction to the survey geometry of the STT as result of the tracking alignment	STGeom
	ID	SNUM				
	dcs(1)	REAL			correction to the parameters describing the translation and rotation with respec to the ZEUS reference system	
	.				""	
	dcs(6)	REAL			""	
	STGSSTT	REL			link from the tracking alignment corrections to the survey corrections for the STT	
STGCAL					global T0 for the STT	STCali
	ID	SNUM				
	T0	REAL			global T0	
STGDSEC					design geometry of the STT sector	STGeom
	ID	SNUM				
	sttid	BITP			stt ID	
	d	REAL			inner diameter	
	pitch	REAL			pitch	
	endplugi	REAL			endplug legth inside straw	
	endplugo	REAL			endplug length outside straw	
	fixationl	REAL			wire fixation length	
	fixationx	REAL			length wire fixation extends into gas volume	
	ParStrip(1,1)	REAL			straw length	
	.				""	
	ParStrip(89,3)	REAL			""	
	strwth	REAL			straw wall thickness	
STGDSTR					design geometry of the STT straw	STGeom
	ID	SNUM				
	strawID	BITP			strawID(which stt, sector, level, straw)	
	Pos(1)	REAL			wire position	
	Pos(2)	REAL			""	
	Pos(3)	REAL			""	
	alength	REAL			active length	
	STGDSEC	REL			link from the straws to the sector for the design geometry	
	STSEC	REL			link from the straws to the sector	
STGDSTT					design geometry of the STT	STGeom
	ID	SNUM				
	sttid	BITP			packed word for stt number	
	cs(1)	REAL			parameters describing the translation and rotation with respect to the ZEUS ref. sys.	
	.				""	
	cs(6)	REAL			""	
STGHIT					Geant hit data for event	STGean
	ID	SNUM				
	StwNr	BITP			straw number in STT numbering scheme	
	x	REAL			x coordinate in ZEUS coordinate system	
	y	REAL			y coordinate in ZEUS coordinate system	
	z	REAL			z coordinate in ZEUS coordinate system	
	cx	REAL		P	direction cosine - x direction	
	cy	REAL		P	direction cosine - y direction	
	cz	REAL		P	direction cosine - z direction	
	gamma	REAL			gamma factor of particle producing hit	
	p	REAL			particle momentum (GeV)	
	FMCKin	REL			Each hit comes from one track, a track may have 0 or more hits	
	STASDQ	REL		P	a geant hit will either produce an signal or not, but each ASDQ signal will be produced by one or more geant hits	
STGSSEC					correction to the design geometry of the STT sector as result of the survey measurements	STGeom
	ID	SNUM				
	dcs(1)	REAL			correction to the parameters describing the translation and rotation with respect to the sector	
	.				""	
	dcs(6)	REAL			""	
	sectorID	BITP			sector ID	
	STGDSEC	REL			link from survey corrections to the design geometry for the sector	
STGSSTR					correction to the design geometry of the STT sector as result of the survey measurements	STGeom
	ID	SNUM				
	dcs(1)	REAL			correction to the parameters describing the translation and rotation with respect to the straw	
	.				""	
	dcs(6)	REAL			""	
	strawID	BITP			straw ID	
	STGDSTR	REL			link from survey corrections to the design geometry for the straw	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
STGSSTT					correction to the design geometry of the STT as result of the survey measurements	STGeom
	ID	SNUM				
	dcs(1)	REAL			correction to the parameters describing the translation and rotation with respect to the ZEUS reference system	
	.				""	
	dcs(6)	REAL			""	
	STGDSTT	REL			link from survey corrections to the design geometry for the STT	
STPARA						STGeom
	ID	SNUM				
	par	REAL	0.0,0.100E+05		A parameter defining a volume	
	of	GEN			A parameter is of a volume or a position	
	of_	REL			""	
STPHELIX					Helix in the STT/FTD	STReco
	ID	SNUM				
	helix(1)	REAL			Helix information	
	.				""	
	helix(6)	REAL			""	
	cov(1)	REAL			Covariance matrix	
	.				""	
	cov(15)	REAL			""	
	STPRHL	REL			Each track relates to several helices	
STPOS						STGeom
	ID	SNUM				
	nr	INTE	1,9999		Serial number	
	mother	CHA4			Name of the mother volume	
	x	REAL	-0.100E+06,0....		X linear dimension	
	y	REAL	-0.100E+06,0....		Y linear dimension	
	z	REAL	-0.100E+06,0....		Z linear dimension	
	konly	CHA4	MANY,MANY ONLY,ONLY		If MANY,a point in this volume may be in another	
	rotm	REL			each positioned volume is related to a rotation matrix	
	volu	REL			A position belongs to a volume	
STPRHL					Output of PR - tracks in the STT/FTD	STReco
	ID	SNUM				
	helix1(1)	REAL			Helix info after CTD plate	
	.				""	
	helix1(6)	REAL			""	
	cov1(1)	REAL			Cov matrix after CTD plate	
	.				""	
	cov1(15)	REAL			""	
	helix2(1)	REAL			Helix info before FCAL	
	.				""	
	helix2(6)	REAL			""	
	cov2(1)	REAL			Cov matrix before FCAL	
	.				""	
	cov2(15)	REAL			""	
	chisq	REAL			Chi-squared	
	ndof	REAL			Degrees of freedom	
	nhitsSTT	INTE			No STT hits in candidate	
	nhitsFTD	INTE			No FTD hits in candidate	
	USESTT	INTE			Address of first STT hit in STPUSE	
	USEFTD	INTE			Address of first FTD hit in STPUSE	
	Nhelix	INTE			Number of helices in STPHELIX	
	USEHLX	INTE			Address of first helix in STPHELIX	
	STPUSE	REL			Each set of PR information relates to one set of hits	
STPUSE					Packed information about STT/FTD objects found by PR	STReco
	ID	SNUM				
	Ipak	INTE			Packed object info for ZTTRUSE	
	STTREC	REL		P	One reconstructed straw will be part of one track and one track will be made up of many different straws	
STRJCT						STGeom
	ID	SNUM				
	config	INTE	0,9999		Selects configuration	
	of	GEN			Rejected volumes and positions	
	of_	REL			""	
STSCAL					RO channel calibration data for the STT	STCali
	ID	SNUM				
	crtnum	INTE			Crate number	
	slotnum	INTE			Slot number	
	pinnum	INTE			Pin number	
	ped	REAL			Pedestal from hybrid for subtraction	
	iwin(0)	INTE			Straw time window	
	.				""	
	iwin(5)	INTE			""	
STSDET						STGeom
	ID	SNUM				
	name	CHA4			4 characters name	
	type	INTE	1,9999		detector type	
	nwhi	INTE	1,9999		Numb. words primary alloc. HITS	
	nwdi	INTE	1,9999		Numb. words DIGI when primary not suff.	
STSDTA						STGeom
	ID	SNUM				
	name	CHA4			4 characters name	
	nwhi	INTE	1,9999		Initial HITS allocation	
	nwdi	INTE	1,9999		Increment of DIGI allocation	
	sdet	REL			Some detectors give more than one type signals	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
STSDTD						STGeom
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	of	GEN			Sensible detectors and aliases digitizations	
	of_	REL			""	
STSDTH						STGeom
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	orig	REAL			to define the hit elem. positive	
	fact	REAL			IVAR= VAR + ORIG*FACT	
	of	GEN			each detec. element needs the parameter definition	
	of_	REL			""	
STSDTU						STGeom
	ID	SNUM				
	upar	REAL			User parameter	
	of	GEN			User parameters for sensible detectors and aliases	
	of_	REL			""	
STSDTV						STGeom
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	sdet	REL			Physical detectors for the master detector identifier	
STSEC					Define an entry for each sector	STGeom
	ID	SNUM				
	sectorid	BITP			packed word for sector number	
	cs(1)	REAL			parameters describing the angle and Z direction	
	cs(2)	REAL			""	
	SecName	CHA4			technical name of sector	
	Pos(1)	REAL			X,Y,Z at center of 0th point of sector coor. sys. in cm	
	Pos(2)	REAL			""	
	Pos(3)	REAL			""	
	Mdir(1)	REAL			direction cosines of meas. axis	
	Mdir(2)	REAL			""	
	Mdir(3)	REAL			""	
	Odir(1)	REAL			direction cosines in ZEUS of the outward perpendicular to the plane of tr...	
	Odir(2)	REAL			""	
	Odir(3)	REAL			""	
	Ambig	REL			link to ganged sector in this STSEC table	
	STGDSEC	REL			link from the sector to the design geometry table of the sector	
STSEVT					STT event header table.	STEvCntr
Static	ID	IMPL				
	CrossingNo	INTE			BCO no	
	TriggerNo	INTE			first level trigger number	
	TriggerType	INTE			Trigger type as received from GFLT	
STSOR					The date and time are stored to provide a label for selecting the correct calibration tables etc. for the run	STEvCntr
Static	ID	IMPL				
	DateTime(1)	INTE			Date and time of start of run stored in the Zeus date time convention	
	DateTime(2)	INTE			""	
STSORC					Text comment for start of run for use by STT experts	STEvCntr
Static	ID	IMPL				
	Comment(1)	CH16			Text comment for STT experts	
	.				""	
	Comment(5)	CH16			""	
STSYNC					Used by EVB to validate synchronisation with FCLR.	STRawEvt
Static	ID	IMPL				
	gflt	INTE			GFLT number	
	gslt	INTE			GSLT number	
	bcn	INTE			Bunch crossing number	
	rot	INTE			Readout type	
STT0CAL					T0 information per straw in the STT	STCali
	ID	SNUM				
	strawID	BITP			strawID(which stt, sector, level,straw	
	tzero	REAL			straw t0	
STTENV					Environmental records for the STT	STEnvironment
	ID	SNUM				
	date	INTE			date as yyyymmdd	
	time	INTE			time as hhmmss	
	bfield	REAL			Bfield from CTD endplate sensors	
	atmp	REAL			atmospheric pressure	
	thres(1)	REAL			threshold on each blue cable	
	.				""	
	thres(115)	REAL			""	
	gas	INTE			gas system status	
	HV	INTE			HV system status	
	volt(1)	REAL			voltage in each crate	
	.				""	
	volt(100)	REAL			""	
	curr(1)	REAL			current drawn by each crate	
	.				""	
	curr(100)	REAL			""	

V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
STTMAP					Mapping Table for the STT	STMapping
	ID	SNUM				
	secnum	INTE			sector number (1 - 48)	
	levnum	INTE			level number (1 - 3)	
	strnum	INTE			straw number (1 - 64/88)	
	crtnum	INTE			Crate number (1 - 8)	
	slotnum	INTE			Slot number (3 - 14/20)	
	pinnum	INTE			Pin number (0 - 15)	
	window	INTE			Window of straw (0 - 5)	
STTRAW					DSP output or bitpacked raw data from the STT	STRawEvt
	ID	SNUM				
	RawDat	BITP			word for storage of DSP data - see documentation for exact definition	
STTREC					Decoded RAW STT information	STReco
	ID	SNUM				
	StwNr	INTE			bitpacked straw number	
	quality	INTE			straw quality flag	
	Tdrift	INTE			packed drift time	
	Rdrift	INTE			packed drift distance	
	STTRAW	REL			Each RO channel relates to several straws	
STTTST					Digitisings from the STT. The definition of the bits used follows	STRawEvt
Static	ID	IMPL				
	bpdat	BITP			Word containing bitpacked STT Data. Exact definition follows.	
STVOLU						STGeom
	ID	SNUM				
	name	CHA4			4 characters name	
	shape	CHA4	BOX,BOX TRD1,TRD1 TRD2,TRD2 TRAP,TRAP TUBE,TUBE TUBS,TUBS CONE,CONE CONS,CONS SPHE,SPHE PARA,PARA PGON,PGON PCON,PCON GTRA,GTRA		Shape of the volume	
	div	REL		P	some volumes may be subdived	
	sdet	REL		P	some volumes may be also active detectors	
	tmed	REL			Volume tracking medium number	
SiNeut					Si intersections of primary neutrals. for display only	HES
	ID	SNUM				
	Xp	REAL	-190.0,190.0		x-coordinate	
	Yp	REAL	-190.0,190.0		y-coordinate	
	Pl	INTE	0,3		plane number	
	Ipart	INTE	1,100		particle code	
	NPAD	INTE	1,13110		Pad Number in Plane	
	P	REAL	0.0,820.0		momentum	
	SiOKIN	REL			Intersection of Primary Neutrals with Silicon Pads plane	
SiOKIN					Input tracks from KINE: first the charged, then neutrals	HES
	ID	SNUM				
	IDKINE	INTE	1,1000		index in KINE	
	Px	REAL	0.0,900.0		momentum in x-direction	
	Py	REAL	0.0,900.0		momentum in y-direction	
	Pz	REAL	0.0,900.0		momentum in z-direction	
	E	REAL	0.0,0.100E+04		energy of track	
	Ipart	INTE	1,100		particle code	
	Vx	REAL	-0.100E+04,0....		vertex (x-coordinate)	
	Vy	REAL	-0.100E+04,0....		vertex (y-coordinate)	
	Vz	REAL	-0.100E+04,0....		vertex (z-coordinate)	
	Iv	INTE	1,100		index of vertex	
	SiTrak	REL		P	Tracks contains charged only	
SiScEM					Si intersections of secondary Electro-Magnetic tracks. for display only	HES
	ID	SNUM				
	Xp	REAL	-190.0,190.0		x-coordinate	
	Yp	REAL	-190.0,190.0		y-coordinate	
	Pl	INTE	0,3		plane number	
	Ipart	INTE	1,100		particle code	
	NPAD	INTE	1,13110		Pad Number in Plane	
	P	REAL	0.0,820.0		momentum	
	SiOKIN	REL			Intersection of secondary Electro-Magnetic tracks with Silicon Pads plane	
SiTrak					Reconstructed Tracks from Central Detector	HES
	ID	SNUM				
	P	REAL	0.0,0.100E+04		Track momentum	
	Q	INTE	-1,1		Track charge sign	
	Theta	REAL	0.0,3.14		Theta angle	
	Phi	REAL	-3.14,3.14		Phi angle	
	DP	REAL	0.0,0.100E+04		Track momentum error	
	DTheta	REAL	0.0,1.0		Theta angle error	
	Dphi	REAL	0.0,1.0		Phi angle error	
	InCAL	INTE	0,1		Track in/out calorimeter	
	SiVert	REL		P	Tracks joining in a vertex	
SiVert					Calculated Vertex Point from Tracks	HES
	ID	SNUM				
	X	REAL	-10.0,10.0		X Coordinate	
	Y	REAL	-10.0,10.0		Y Coordinate	
	Z	REAL	-10.0,10.0		Z Coordinate	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
Siadja					Adjacent Pads to Numpad	HES
	ID	SNUM				
	Nlu	INTE	1,13110		Upper Left Adjacent Pad	
	Plu	REAL	0.0,800.0		Signal in Upper Left Adjacent Pad	
	Nu	INTE	1,13110		Upper Adjacent Pad	
	Pu	REAL	0.0,800.0		Signal in Upper Adjacent Pad	
	Nru	INTE	1,13110		Upper Right Adjacent Pad	
	Pru	REAL	0.0,800.0		Signal in Upper Right Adjacent Pad	
	Nl	INTE	1,13110		Left Adjacent Pad	
	Pl	REAL	0.0,800.0		Signal in Left Adjacent Pad	
	Nr	INTE	1,13110		Right Adjacent Pad	
	Pr	REAL	0.0,800.0		Signal in Right Adjacent Pad	
	Nld	INTE	1,13110		Under Left Adjacent Pad	
	Pld	REAL	0.0,800.0		Signal in Under Left Adjacent Pad	
	Nd	INTE	1,13110		Under Adjacent Pad	
	Pd	REAL	0.0,800.0		Signal in Under Adjacent Pad	
	Nrd	INTE	1,13110		Under Right Adjacent Pad	
	Prd	REAL	0.0,800.0		Signal in Under Right Adjacent Pad	
	Sipad	REL			FRADJA transformation for adjacent Pads	
Siclu1					HES clusters	HESMDST
	ID	SNUM				
	Cnumpad	INTE	1,44301		pad number of centroid	
	Npad	INTE	1,9		number of pads with energy	
	ClusQW	INTE			cluster quality word	
	Cx	REAL	-195.0,195.0		x-coord. of cluster	
	Cy	REAL	-195.0,195.0		y-coord. of cluster	
	Cz	REAL	-250.0,250.0		z-coord. of cluster	
	E1	REAL	0.0,0.200E+04		energy seen in central pad	
	E9	REAL	0.0,0.500E+04		energy seen in central pad + 8 adj. pads	
	EM	REAL	0.0,0.500E+04		energy in emc (gammas only)	
	HAC	REAL	0.0,0.500E+04		energy in hac (gammas only)	
	Pem	INTE			probab. of track is electrm	
	Dtrack	REAL			dist. to closest track	
	Glentr	REAL			extrap. track matching HES cluster	
Siclus					Cluster of Silicon Pads	HES
	ID	SNUM				
	Cpla	INTE	0,3		Centroid (Plane)	
	Cnumpad	INTE	1,13110		Centroid (Numpad)	
	Cpad	INTE	1,230		Centroid (Padnum)	
	Cski	INTE	0,2		Centroid (Skinum)	
	Cfile	INTE	-9,9		Centroid (Tower)	
	Cx	REAL	-190.0,190.0		Centroid (X Coordinate)	
	Cy	REAL	-190.0,190.0		Centroid (Y Coordinate)	
	Cz	REAL	-250.0,250.0		Centroid (Z Coordinate)	
	E1	REAL	0.0,0.200E+04		Energy seen in Cluster central pad	
	E9	REAL	0.0,0.200E+04		Energy seen in Cluster central pad & 8 pad surrounding	
	Npad	INTE	1,9		Number Pads used for Cluster	
	JMOVE	INTE	-2,1		cluster allowed/not to move	
Sigama					Reconstructed Gamma working table	HES
	ID	SNUM				
	XCG	REAL	-300.0,300.0		C.G. Gamma Xcoor	
	YCG	REAL	-300.0,300.0		C.G. Gamma Ycoor	
	ZCG	REAL	-300.0,300.0		C.G. Gamma Zcoor	
	Egam	REAL	0.0,0.500E+04		Gamma Energy	
	EM	REAL	0.0,0.500E+04		Gamma Energy in EM	
	HAC	REAL	0.0,0.500E+04		Gamma Energy in HAC	
	Padnum	INTE	1,230		Pad Number on Ski	
	u	REAL	-1.0,1.0		Direction cosine of G	
	v	REAL	-1.0,1.0		Direction cosine of G	
	w	REAL	-1.0,1.0		Direction cosine of G	
	ClFirs	INTE	1,200		Cluster # in first pl	
	ClSeco	INTE	1,200		Cluster # in sec. pl	
	PHT	REAL	0.0,0.100E+04		Total pulse hight	
	NCT	INTE	0,3		NB of charg.trk with G	
	CTF1	INTE	0,200		First CH.trk with G	
	CTF2	INTE	0,200		Secon.CH.trk with G	
	CTF3	INTE	0,200		Thrd. CH.trk with G	
Sinter					Intersection of Reconstructed Track with a given Silicon Pad Plane	HES
	ID	SNUM				
	Xp	REAL	-190.0,190.0		Track intersection with Si plane (X Coordinate)	
	Yp	REAL	-190.0,190.0		Track intersection with Si plane (Y Coordinate)	
	Pla	INTE	0,4		Si plane Number of track intersection	
	Sinpad	INTE	1,13110		Track intersection with Si plane (Pad number)	
	Pp	REAL	0.0,0.100E+04		Track momentum at Plane	
	Dxp	REAL	0.0,100.0		Error on Xp at plane	
	Dyp	REAL	0.0,100.0		Error on Yp at plane	
	Dpp	REAL	0.0,0.100E+04		Track momentum error	
	DsMIN	REAL	0.0,190.0		min. distance to charged	
	SiTrak	REL			Intersection of Charged Tracks with Silicon Pads plane	
	Sipad	REL			Transformation X Y of a Track intersection with Si plane to Pad number NUMPAD	
Sipad					Calorimeter Silicon Pads, work-space table	HES
	ID	SNUM				
	Plane	INTE	0,3		Sili plane number	
	Numpad	INTE	1,13110		Pad Number in Plane	
	Padnum	INTE	1,230		Pad Number on Ski	
	Skinum	INTE	0,2		Ski number in Tower	
	File	INTE	-9,9		File ,Column or Tower	
	Ph	REAL	0.0,0.100E+04		Signal in Pad	
	X	REAL	-190.0,190.0		X coordinate	
	Y	REAL	-190.0,190.0		Y coordinate	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
Sipad0					Calorimeter Silicon Pads, original table	HES
	ID	SNUM				
	Plane	INTE	0,3		Sili plane number	
	Numpad	INTE	1,13110		Pad Number in Plane	
	Padnum	INTE	1,230		Pad Number on Ski	
	Skinum	INTE	0,2		Ski number in Tower	
	File	INTE	-9,9		File ,Column or Tower	
	Ph	REAL	0.0,0.100E+04		Signal in Pad	
	X	REAL	-190.0,190.0		X coordinate	
	Y	REAL	-190.0,190.0		Y coordinate	
Sipad1					HES pad information after offline calibration	HESMDST
	ID	SNUM				
	CellN	INTE	0,44301		Pad number	
	Ed	REAL	0.0,*		Energy dep. (in mip)	
	Toff	REAL			Time offset (ns)	
	DataQW	INTE			Data quality word	
Sipad1C					HES pad information after offline calibration	HESMDST
	ID	SNUM				
	CellN	INTE	0,44301		Pad number	
	EdToff	BITP			Packed energy and time	
	DataQW	INTE			Data quality word	
Sipdcl					Correspondance Pads-Clusters for charged tracks in Si	HES
	ID	SNUM				
	Siclus	REL			because same pads can form more cluster	
	Sipad	REL		P	Silicon pads forming cluster	
Sitrcl					HES output: Correspondence tracks-clusters & probability for EM/Hadron track.	HES
	ID	SNUM				
	Dis	REAL	0.0,100.0		Distance Sinter-Cluster	
	EMPr1p	REAL	0.0,1.0		Probability of track being Electro-Magnetic, calculated from 1 plane	
	EMPr2p4	REAL	0.0,1.0		Probability of track being Electro-Magnetic, calculated from 2 planes	
	EMPr2p10	REAL	0.0,1.0		Probability of track being Electro-Magnetic, calculated from 2 planes	
	EMPr2p20	REAL	0.0,1.0		Probability of track being Electro-Magnetic, calculated from 2 planes	
	SiTrak	REL		P	Tracks maching Silicon Pads cluster	
	Siclus	REL		P	Tracks maching Silicon Pads cluster	
Sr1Obj					Global quantities for SRTD	SRPhs1
	ID	SNUM				
	Energy	REAL			Total energy deposited by all hits	
	Time	REAL			Some time average for all hits	
	NrHits	INTE			Number of hits in SRTD	
	X	REAL			Highest energy hit X	
	Y	REAL			Highest energy hit Y	
SrCal2					Reprocessed offline calibration constants	SRPhs1
	ID	SNUM				
	StripNumber	INTE			Stripnumber in SRTD numbering scheme	
	Calconst(1)	REAL			Calibration constants	
	.				""	
	Calconst(5)	REAL			""	
SrCali					Offline calibration constants	SRPhs1
	ID	SNUM				
	StripNumber	INTE			Stripnumber in SRTD numbering scheme	
	Calconst(1)	REAL			Calibration constants	
	.				""	
	Calconst(5)	REAL			""	
SreHit					Reconstructed position and energy of electrons	SRPhs1
	ID	SNUM				
	Energy	REAL			Energy of strips contributing sectorhit	
	Time	REAL			Time in nano seconds for sector hit	
	X	REAL			Reconstructed X for sector hit	
	Y	REAL			Reconstructed Y for sector hit	
	Sector	INTE			Sector of reconstructed hit	
	Xerr	REAL			RMS of reconstructed X	
	Yerr	REAL			RMS of reconstructed Y	
	Quality	INTE			Encoded reconstruction flags	
SrtTru					Unpacking of the SRTENE banks into a user friendly format	SRPhs1
	ID	SNUM				
	StripNumber	INTE			Stripnumber in SRTD numbering scheme	
	Energy	REAL			Energy in strip in MeV	
	Time	REAL			Time in nano seconds	
	Hit	LOGI			Does this strip constitute a sector hit	
	SreHit	REL		P	Relation that links strip hits with sector hits	
T8DUMP					buffer dump = 10 KB (readout takes 4 ms)	T8DATA
	ID	SNUM				
	ADC1	INTE				
	ADC2	INTE				
	ADC3	INTE				
	ADC4	INTE				
	LUMI	BITP				
T8LIGH					online light test, 8 KB (readout takes 180 ms)	T8DATA
	ID	SNUM				
	ADC1	INTE				
	ADC2	INTE				
	ADC3	INTE				
	ADC4	INTE				
T8MAIN					main trigger - read on GFLT accept ~ 1kHz	T8DATA
	ID	SNUM				
	ADC1	INTE				
	ADC2	INTE				
	ADC3	INTE				
	ADC4	INTE				

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
T8RO					Data structure for fast clear ????	T8DATA
	ID	SNUM				
	FLT	INTE				
	SLT	INTE				
	BCN	INTE				
	ROT	INTE				
	INFO(1)	INTE				
	.					
	INFO(6)	INTE				
T8SELE					selected events,10KB(collection time depends on threshold)	T8DATA
	ID	SNUM				
	ADC1	INTE				
	ADC2	INTE				
	ADC3	INTE				
	ADC4	INTE				
	LUMI	BITP				
T8TRUE					GEANT Hit informations in 8mTagger	T8BANK
Static	ID	IMPL				
	E(1)	REAL			E Energy deposition of each PMT (GeV).	
	.				""	
	E(16)	REAL			""	
	X	REAL			X X ZEUS coordinates in cm .	
	Y	REAL			Y Y ZEUS coordinates in cm .	
	P	REAL			P momentum in GeV/c. when first hitting the 8mTagger	
	USER	REAL			USER reserved for additionally information	
	FMCKin	REL		P	Geant hits comes from a track	
TCAXLY					Hits in non-stereo layers have a 2D coord associated with them.	TCPTS
	ID	SNUM				
	X	REAL	-82.4,82.4		X of hit in ZEUS (cm)	
	Y	REAL	-82.4,82.4		Y of hit in ZEUS (cm)	
	Z	REAL	-103.0,103.0		Z of hit in ZEUS (cm) - from z-by-timing (RNull is valid).	
	R	REAL	-82.4,82.4		Radius of hit in ZEUS (cm)	
	Phi	REAL			Azimuthal angle of hit in ZEUS (rad)	
	SDrift	REAL			Signed drift distance (cm)	
	VarSD	REAL			Error squared on signed drift distance (cm)	
	VarZ	REAL			Error squared on z measurement by z-by-timing (cm)	
	TCCELL	REL			For convenience each hit in CTD coords is related to TCCELL.	
	TCHIT	REL			Due to the left-right ambiguity each chamber hit gives rise to two points in CTD XY space.	
	Sense	CHA4	+,+ -,- 0,0		Sense of sign for v coord in CTD LNO. Recorded as + or -.	
	TCLAYR	REL			For convenience each hit in CTD coords is related to TCLAYR.	
	TCWIRE	REL			For convenience each hit in CTD coords is related to TCWIRE.	
TCBCP					Raw z/r bitmaps from the Cell Processor boards. The number of words per data item and the meaning of the bits in each word varies with Cell Processor type (ie superlayer number). References : ??	TCFLTRaw
Static	ID	IMPL				
	CPData	BITP			Word containing either a cell header (see subschema introduction of TCRawDat) or Cell Processor data (see TCFLTRaw subschema)	
TCBFDM					Raw bitmaps from the Final Decision Module board. There is 1 FDM. References : ??	TCFLTRaw
Static	ID	IMPL				
	FDMData	BITP			Word containing either a cell header (see subschema introduction of TCRawDat) or Final Decision Module data (see TCFLTRaw subschema)	
TCBFP					Pipeline data from the CTD FADC system, for FADC train analysis offline. Each data word contains four successive FADC bin entries, following on from the previous data word. References : Zeus-Note-92-90	TCRawDat
Static	ID	IMPL				
	FADCData	BITP			Word containing either a cell header, a wire header (see subschema introduction) or unfiltered FADC pipeline data. If word is data it is made up of four data items: FADC bin entry (8 bits) - Bits 0 - 7 | FADC bin entry (8 bits) - Bits 8 - 15 | FADC bin entry (8 bits) - Bits 16 - 23 | FADC bin entry (8 bits) - Bits 24 - 31	
TCBFPF					Filtered pipeline data from the CTD FADC system, for FADC trains not analysed successfully by the DSP. Each data word contains two successive filtered FADC bin entries as a modulo 15-bit value, following on from the previous data word. -ve entries are flagged by the 16th bit being set to 1 and the the whole 16 bits being the twos complement of the -ve entry. References : Zeus-Note-92-90	TCRawDat
Static	ID	IMPL				
	FADCData	BITP			Word containing either a cell header, a wire header (see subschema introduction) or filtered pipeline data. If word is data it is made up of four data items: FADC bin entry (16 bits) - Bits 0 - 15 | FADC bin entry (16 bits) - Bits 16 - 31	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
TCBGHT					Bit-packed Geant hit data for event	TCGEAN
	ID	SNUM				
	X	REAL			x coordinate (cm) of hit in CTD cartesian coordinates	
	Y	REAL			y coordinate (cm) of hit in CTD cartesian coordinates	
	Z	REAL			z coordinate (cm) of hit in CTD cartesian coordinates	
	MCData(1)	BITP			Packed MC data. See the definition in subschema aggregate.	
	.				""	
	MCData(4)	BITP			""	
TCBHCM					Raw SuperRegion sums from the Hit Count Module boards. Each HCM covers 1/8th of the chamber in phi. The SuperRegion Sum is an OR of the tracks in a SuperRegion over 3 96ns crossings. The Crossing Sum is the number of any tracks in SuperRegion X for this Time Bin. 2 words per data item: Word 1: Time Bin Word 2: Bits 00-02: SuperRegion A Sum 03-05: SuperRegion B Sum Phi pipeline 06-08: SuperRegion C Sum / (any tracks) 09-11: SuperRegion X Sum / 12-15: Crossing Sum 16-18: SuperRegion A Sum 19-21: SuperRegion B Sum Theta Pipeline 22-24: SuperRegion C Sum / (vertex tracks) 25-27: SuperRegion X Sum / 28-31: Spare References : ??	TCFLTRaw
Static	ID	IMPL				
	HCMData	BITP			Word containing either a cell header (see subschema introduction of TCRawDat) or Hit Count Module data (see TCFLTRaw subschema)	
TCBHRL					CTD hit relationships. From the unpacking of this table it should be able to quickly reconstruct the TCHIT table from the raw data and include the track relationship.	TCDATA
Static	ID	IMPL				
	HitRels	BITP			Word containing bit-packed hit relationships to TCRP, TCZ and TCTRAK. TCTRAK rel (8 bits) - Bits 0 - 7 | TCRP rel (13 bits) - Bits 8 - 20 | TCZ rel (10 bits) - Bits 21 - 30 | Sense (1 bit) - Bits 31 - 31	
TCBIT					TCBIT records which hits or segments were used to make up a partic- ular candidate track. References : Zeus-Note-90-??	TCRECO
	ID	SNUM				
	Point	GEN			An object placed on a track is either a point or a segment but not both. The points may be stereo or non-stereo.	
	Point_	REL			""	
	TCCAND	REL			A track is made of many objects. Objects can be segments or hits.	
	TCHIT	REL			Each bit originiates as a hit. The relationship TCBIT -> TCHIT is established for efficiency in going from TCBIT to TCHIT.	
TCBMNF					Private FADC event monitoring data	TCFADCMon
	ID	SNUM				
	MonData	BITP			Word containing CJSM monitoring data bit-packed to his own special recipe	
TCBMNT					CTD FLT event monitoring data	TCZFLTMN
	ID	SNUM				
	MonData	BITP			Bit-Backed FLT data to be O/P on environmental trigger for monitoring	
TCBMNZ					CTD Z event monitoring data	TCZFLTMN
	ID	SNUM				
	MonData	BITP			Bit-Backed Z data to be O/P on environmental trigger for monitoring	
TCBNHT					Bit-packed noise hit data for event	TCGEAN
	ID	SNUM				
	X	REAL			x coordinate (cm) of hit in CTD cartesian coordinates	
	Y	REAL			y coordinate (cm) of hit in CTD cartesian coordinates	
	Z	REAL			z coordinate (cm) of hit in CTD cartesian coordinates	
	MCData(1)	BITP			Packed MC data. See the definition in subschema aggregate.	
	.				""	
	MCData(4)	BITP			""	
TCBOTM					Raw bitmaps from the Overlapping Track Module boards. There are 8 OTM. References : ??	TCFLTRaw
Static	ID	IMPL				
	OTMData	BITP			Word containing either a cell header (see subschema introduction of TCRawDat) or Overlapping Track Module data (see TCFLTRaw subschema)	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
TCBPS					Pulse size data from the CTD FADC system. The pulse size has a range of 0-4095 in FADC dynamic range related units. If the pulse should saturate FADC range at any point this is flagged by setting the saturated flag to 1, and the number of bins that are saturated in the pulse are recorded. The Wire No. is with respect to the cell and and is encoded to run from 0-7!! References : Zeus-Note-92-90	TCRawDat
Static	ID	IMPL				
	PSData	BITP			Word containing either a cell header (see subschema introduction) or FADC pulse size data. If word is data it is made up of two data items: Pulse Size (8 bits) - Bits 0 - 7 | No. sat. bins (4 bits) - Bits 8 - 11 | Wire No. (3 bits) - Bits 12 - 14 | Saturated flag (1 bit) - Bits 15 - 15 | Pulse Size (8 bits) - Bits 16 - 23 | No. sat. bins (4 bits) - Bits 24 - 27 | Wire No. (3 bits) - Bits 28 - 30 | Saturated flag (1 bit) - Bits 31 - 31	
TCBPUS					FADC pulse size data from the Beam-Pickup timing system.	TCBPUDat
Static	ID	IMPL				
	PikSize	BITP			Word containing bit-packed pulse size information from pickup system. Pulse Size (8 bits) - Bits 0 - 7 | No. sat. bins (4 bits) - Bits 8 - 11 | Channel No. (3 bits) - Bits 12 - 14 | Saturated flag (1 bit) - Bits 15 - 15 | Pulse Size (8 bits) - Bits 16 - 23 | No. sat. bins (4 bits) - Bits 24 - 27 | Channel No. (3 bits) - Bits 28 - 30 | Saturated flag (1 bit) - Bits 31 - 31	
TCBPUT					FADC timing data from the Beam-Pickup timing system.	TCBPUDat
Static	ID	IMPL				
	PikTime	BITP			Word containing bit-packed timing information from pickup system. Time (10 bits) - Bits 0 - 9 | Overflow (2 bits) - Bits 10 - 11 | Chan No. (3 bits) - Bits 12 - 14 | Hit Flag (1 bit) - Bits 15 - 15 | Time (10 bits) - Bits 16 - 25 | Overflow (2 bits) - Bits 26 - 27 | Chan No. (3 bits) - Bits 28 - 30 | Hit Flag (1 bit) - Bits 31 - 31	
TCBPUZ					Z timing data from the Beam-Pickup timing system.	TCBPUDat
Static	ID	IMPL				
	PikZTime	BITP			Word containing bit-packed timing information from pickup system. Channel No. (3 bits) - Bits 0 - 2 | Time Bin (5 bits) - Bits 3 - 7 | Z Digi (7 bits) - Bits 8 - 14 | Hit flag (1 bit) - Bits 15 - 15 | Channel No. (3 bits) - Bits 16 - 18 | Time Bin (5 bits) - Bits 19 - 23 | Z Digi (7 bits) - Bits 24 - 30 | Hit flag (1 bit) - Bits 31 - 31	
TCBRP					Drift data from the CTD FADC system. The Drift time is in units of 2.4ns as output by the DSPs giving it a modulo 9-bit range of 0-1226.4ns. -ve drift times are flagged by the 10th bit being set to 1 and the whole 10 bits being the twos complement of the -ve drift time. If a T0 for the wire is not known then the 2 overflow bits will be used and the 10th bit will NOT be used a twos complement bit. The Wire No. is with respect to the cell and is encoded to run from 0-7!! References : Zeus-Note-92-90	TCRawDat
Static	ID	IMPL				
	RPhiData	BITP			Word containing either a cell header (see subschema introduction) or FADC drift data. If word is data it is made up of two data items: Drift Time (10 bits) - Bits 0 - 9 | Overflow (2 bits) - Bits 10 - 11 | Wire No. (3 bits) - Bits 12 - 14 | Hit Flag (1 bit) - Bits 15 - 15 | Drift Time (10 bits) - Bits 16 - 25 | Overflow (2 bits) - Bits 26 - 27 | Wire No. (3 bits) - Bits 28 - 30 | Hit Flag (1 bit) - Bits 31 - 31	
TCBRPM					R-phi data monitoring data from the CTD FADC system.	TCRawDat
Static	ID	IMPL				
	RPDataMon	BITP			Word containing either a cell header (see subschema introduction) or FADC data monitoring data. If word is data it is made up of two data items: AS YET NOT DEFINED!	
TCBSP					Raw z/r bitmaps from the Sector Processor boards. 2 words per data item. References : ??	TCFLTRaw
Static	ID	IMPL				
	SPData	BITP			Word containing either a cell header (see subschema introduction of TCRawDat) or Sector Processor data (see TCFLTRaw subschema)	
TCBTCF					Event by event trigger information from each FADC LTC	TCFADCMon
	ID	SNUM				
	GFLTData	BITP			Word containing GFLT data made up in the following way: GFLT No. (8 bits) - Bits 0 - 7 | Bunch No. (8 bit) - Bits 8 - 15 | Interrupt Reg (16 bits) - Bits 16 - 31	
	Control	BITP			Word containing control data made up in the following way: Control (32 bits) - Bits 0 - 31	
	EventNum	BITP			Word containing the local event number made up in the following way: Event No. (32 bits) - Bits 0 - 31	
	LocalData	BITP			Word containing local LTC data made up in the following way: Hardware Inf. (20 bits) - Bits 0 - 19 | Sector No. (5 bit) - Bits 20 - 24 | SecBuf No. (2 bit) - Bits 25 - 26 | Serial No. (5 bit) - Bits 27 - 31	

Page (1, 1)

Table		Column	Type	Range	P	Comment	Subschema
TCBTCZ						Event by event trigger information from each Z/Trig LTC	TCLTCOnline
		ID	SNUM				
		GFLTData	BITP			Word containing GFLT data made up in the following way: GFLT No. (8 bits) - Bits 0 - 7 | Bunch No. (8 bits) - Bits 8 - 15 | Interrupt Reg (16 bits) - Bits 16 - 31	
		Control	BITP			Word containing control data made up in the following way: Readout type (7 bits) - Bits 0 - 6 | Empty bunch (1 bits) - Bits 7 - 7 | Trigger Addr (10 bits) - Bits 8 - 17 | End Copy Addr (10 bits) - Bits 18 - 27 | ((Spare)) (4 bits) - Bits 28 - 31	
		LocalData	BITP			Word containing local LTC data made up in the following way: Event No. (20 bits) - Bits 0 - 19 | Sector No. (5 bits) - Bits 20 - 24 | DPM Buffer No. (4 bits) - Bits 25 - 28 | ((Spare)) (3 bits) - Bits 29 - 31	
TCBZ						Digitisings from the CTD z-by-timing system. The Time Bin range is 0-1488ns as one Time Bin is 48ns. The Z Digi gives the z co-ordinate of the hits in units of chamber length/128 from the rear of the CTD. The hit flag is set to 1 if a good hit. The Wire No. is with respect to the cell and is encoded to run from 0-7!! References : Zeus-Note-92-90	TCRawDat
	Static	ID	IMPL				
		ZData	BITP			Word containing either a cell header (see subschema introduction) or z-by-timing data. If word is data it is made up of two data items: Wire No. (3 bits) - Bits 0 - 2 | Time Bin (5 bits) - Bits 3 - 7 | Z Digi (7 bits) - Bits 8 - 14 | Hit flag (1 bit) - Bits 15 - 15 | Wire No. (3 bits) - Bits 16 - 18 | Time Bin (5 bits) - Bits 19 - 23 | Z Digi (7 bits) - Bits 24 - 30 | Hit flag (1 bit) - Bits 31 - 31	
TCBZC						Calibration data from the CTD z-by-timing system. The pulse flag is 0 if rear of the CTD is being pulse and 1 if front. The DAC and DDC values range from 0-255. The Wire No. is with respect to the cell and is encoded to run from 0-7!! References : Zeus-Note-92-90	TCRawDat
	Static	ID	IMPL				
		ZCData	BITP			Word containing either a cell header (see subschema introduction) or z-by-timing calibration data. If word is data it is made up of the following: Wire No. (3 bits) - Bits 0 - 2 | Pulse flag (1 bit) - Bits 3 - 3 | ((Spare)) (4 bits) - Bits 4 - 7 | DAC value (8 bits) - Bits 8 - 15 | DDC value (8 bits) - Bits 16 - 23 | ((Spare)) (8 bits) - Bits 24 - 31	
TCBZL						Digitisings from the CTD z-by-timing system (long version). The Time Bin range for this version is 0-98304ns as one Time Bin is 48ns. The Offset flag is set to 0 if the Time Bin is relative to the trigger and to 1 if the Time Bin is the absolute pipeline address. The Z Digi gives the z co-ordinate of the hits in units of chamber length/128 from the rear of the CTD. The hit flag is set to 1 if a good hit. The Wire No. is with respect to the cell and and is encoded to run from 0-7!! References : Zeus-Note-92-90	TCRawDat
	Static	ID	IMPL				
		ZLData	BITP			Word containing either a cell header (see subschema introduction) or z-by-timing data. If word is data it is made up of the following: Wire No. (3 bits) - Bits 0 - 2 | Time Bin (11 bits) - Bits 3 - 13 | Offset flag (1 bit) - Bits 14 - 14 | ((Spare)) (1 bit) - Bits 15 - 15 | Z Digi (7 bits) - Bits 16 - 22 | Hit flag (1 bit) - Bits 23 - 23 | ((Spare)) (8 bits) - Bits 24 - 31	
TCCALW						Calibration wire no. table. The IDs of this table are identical to those of the TCWIRE table, and are synonymous with the global wire number. The T0s are attributes as they are expected to be different for each wire. For wires without z-by-timing the T0Z is meaningless and is not actually used.	TCOLDHAT
		ID	SNUM				
		T0RP	REAL			T0 for the r-phi system for this wire in units of 2.4ns.	
		T0Z	REAL			T0 for the z-by-timing system for this wire in units of 48ns.	
		TCCREL	REL		P	Every wire has a set of calibration constants and data, unless it has been killed off for some reason such as noisy electronics. A calibration set can be common to many wires	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
TCCAND					TCCAND stores the candidate tracks - output from the seed extender. The coordinates are Zeus cylindrical polar. References : Zeus-Note-90-??	TCRECO
	ID	SNUM				
	RStart	REAL			Radius of candidate start ref. point.	
	PhiStart	REAL			Phi angle of candidate start reference point.	
	PsiStart	REAL			Direction in x. y plane at candidate start reference point.	
	ZStart	REAL			Z coord at candidate start reference point.	
	ThetaStart	REAL			Polar angle at candidate start reference point.	
	InvpStart	REAL			Charge * 1/mmtm for this candidate start.	
	NDofF	INTE			Number of degrees of freedom	
	Chi2	REAL		P	Chi2	
	ProbChi2	REAL			Probability of Chi2	
	CovStart(1)	REAL			Covariance matrix on 5 vector of measureds. Numbered as in Zeus-RAL-88-14.	
	.				""	
	CovStart(15)	REAL			""	
	TCCELL	REL			A candidate start reference surface belongs to in a particular cell not all cells have candidates.	
TCCDEL					Delays measured for the CTD calibration cables from both ends of the chamber to the rucksack; there are two delays (Long and Short) which must be added to give the total delay in nanoseconds (ns)	TCCNDS
	ID	SNUM				
	Rack	CHA8			Rack identifier eg A1,7 for the rack that 42-m cable runs to in rucksack	
	CTDEnd	CHA4	F,F R,R		Front (F) or rear (R) end of CTD, that short cable is connected to.	
	Slot	CHA4			Slot in crate that the 42-m cable connects to in the rucksack. This consists of a slot number (from 1 to 25) followed by the letter U or L to indicated whether the cable goes to the upper or lower row of connectors in a crate	
	Long	REAL			Long calibration cable delay in ns. This is for the 42m cables that run from the services ring to the rucksack	
	Short	REAL			Short calibration cable delay in ns. This is for the cables that run from the CTD preamps to the service ring	
TCCELL					Parameters of CTD drift cells. Geometrical parameters are in CTD coordinates. References : Zeus-Note-91-67	TCGEOM
Static	ID	IMPL				
	Number	INTE	1,96		The cell number within a super layer eg. 1 to 40 in super layer 2	
	Phi	REAL	0.0,6.4		The azimuthal angle (radians) of the central ground wire in the CTD coord. system	
	BetaD	REAL	0.0,6.4		Nominal angle (radians) between the sense wire plane and the drift trajectory.	
	TCLAYR	REL			A super layer is made up of many cells and every cell is in a Superlayer	
TCCFGZ					Z channel configuration parameters	TCCosmic
	ID	SNUM				
	Slot	INTE	1,20		Z Card Slot Number	
	Chan	INTE	1,4		Single Card Channel numbers	
	Active	LOGI			Channel OK/DEAD	
	CalActive	LOGI			Autocal functionality OK/DEAD	
	DACMean	INTE	0,255		Nominal mean DAC value for this channel	
	DDCMean	INTE	0,255		Nominal mean DDC value for this channel	
	DACSigma	REAL	0.0,20.0		Nominal sigma DAC for this channel	
	DDCSigma	REAL	0.0,20.0		Nominal sigma DDC for this channel	
	VThresh	REAL	0.0,100.0		Threshold discrimination voltage	
TCCGHT					Bit packed MC data. The bit unit is as stated. A full specification of the data stored in this table is to be found in the TCGHIT table.	TCGEAN
	ID	SNUM				
	MCData(1)	BITP			Packed MC data. See the definition below.	
	MCData(2)	BITP			""	
	MCData(3)	BITP			""	
TCCOFF					Calibration offsets table. The IDs of this table are identical to those of the TCWIRE table, and are synonymous with the global wire number. The pedestal, gain and T0s are attributes as they are expected to be different for each wire. For wires without z-by-timing the T0Z is meaningless and is not actually used. The offsets in this table are the calibrations as used online which the TCCWIR calibrations are relative to. They are implicit within the data received offline and so have to be taken into account when calibration changes are made.	TCCali
	ID	SNUM				
	T0RP	INTE			T0 for the r-phi system for this wire in units of 2.4ns.	
	T0Z	INTE			T0 for the z-by-timing system for this wire in units of 48ns.	
	Pedestal	INTE			FADC Pedestal value for wire.	
	Gain1000	INTE			1000 * FADC gain value for wire	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
TCCREL					Relationship table to access the various calibration tables through TCWIRE in the most flexible and efficient way possible.	TCOLDHAT
	ID	SNUM				
	TCDRFV	REL			A wire must have a set of calibrations accessed through TCCREL. A particular set of drift velocities may be common to different calibration sets. TCCREL is the "address" for that set of calibrations.	
	TCHEFF	REL			A wire must have a set of calibrations accessed through TCCREL. A particular set of efficiencies etc, may be common to different calibration sets. TCCREL is the "address" for that set of calibrations.	
	TCLRZA	REL			A wire must have a set of calibrations accessed through TCCREL. A particular set of Lorentz angle coefficients may be common to different calibration sets. TCCREL is the "address" for that set of calibrations.	
	TCLRZD	REL			A wire must have a set of calibrations accessed through TCCREL. A particular set of z drift coeeficients may be common to different calibration sets. TCCREL is the "address" for that set of calibrations.	
	TCPEDS	REL			A wire must have a set of calibrations accessed through TCCREL. A particular set of pedestals may be common to different calibration sets. TCCREL is the "address" for that set of calibrations.	
	TCRESE	REL			A wire must have a set of calibrations accessed through TCCREL. A particular set of dE/dx resolutions may be common to different calibration sets. TCCREL is the "address" for that set of calibrations.	
	TCRESR	REL			A wire must have a set of calibrations accessed through TCCREL. A particular set of r-phi resolutions may be common to different calibration sets. TCCREL is the "address" for that set of calibrations.	
	TCRESZ	REL			A wire must have a set of calibrations accessed through TCCREL. A particular set of z-by-timing resolutions may be common to different calibration sets. TCCREL is the "address" for that set of calibrations.	
	TCSEPS	REL			A wire must have a set of calibrations accessed through TCCREL. A particular set of two hit separation efficiencies may be common to different calibration sets. TCCREL is the "address" for that set of calibrations.	
	TCTTOZ	REL			A wire must have a set of calibrations accessed through TCCREL. A particular parameterisation of the Z calibration S shape may be common to different calibration sets. TCCREL is the "address" for that set of calibrations.	
	TCZTOT	REL			A wire must have a set of calibrations accessed through TCCREL. A particular parameterisation of the Z calibration S shape may be common to different calibration sets. TCCREL is the "address" for that set of calibrations.	
TCCRTF					FADC card mapping between the FADC crate slots and the cells in the CTD that the card in the slot is reading. Each card has 16 channels, covering two cells.	TCFADCOnline
	ID	SNUM				
	Crate	INTE	0,16		FADC crate no. One crate reads one sector or 1/16th of the CTD	
	Slot	INTE	0,20		Slot in the crate that FADC board resides in.	
	SerialNo	INTE	1,1024		Serial no. of FADC board in slot.	
	SLayer1	INTE	1,9		Superlayer that first 8 channels of board, are in.	
	Cell1	INTE	1,96		Cell of superlayer that first 8 channels of board, are in.	
	SLayer2	INTE	1,9		Superlayer that last 8 channels of board, are in.	
	Cell2	INTE	1,96		Cell of superlayer that last 8 channels of board, are in.	
	PedDAC	INTE	0,1023		Value that controls the master pedestal for all chans on this card.	
	HitThresh	INTE	0,255		A comparator threshold value, that if signal rises above sets a hit flag for the channel to inform DSP to process the channel for hits.	
TCCRTZ					Z card mapping between the Z crate slots and the cells in the CTD that the card in the slot is reading. Each card has 4 channels, all in the same cell.	TCZOnline
	ID	SNUM				
	Crate	INTE	1,16		Z crate no. One crate reads one sector or 1/16th of the CTD	
	Slot	INTE	1,21		Slot in the crate that Z board resides in.	
	SerialNo	INTE			Serial no. of Z board in slot.	
	SLayer	INTE	1,5		Superlayer that the 4 channels of board, are in.	
	Cell	INTE	1,64		Cell of superlayer that the 4 channels of board, are in.	
	Wire(1)	INTE	1,8		The four wires in the cell that the 4 channels of board, are attached to.	
	.		1,8		""	
	Wire(4)	INTE	1,8		""	
	CondZbyT(1)	INTE			Condition of the four Wires - on(0) or off(1), plus other possibilities, for the Z-by-Timing aspect. (For use in conditions gaf)	
	.				""	
	CondZbyT(4)	INTE			""	
	CondDrft(1)	INTE			Condition of the four Wires - on(0) or off(1), plus other possibilities, for the drift bin aspect. (For use in conditions gaf)	
	.				""	
	CondDrft(4)	INTE			""	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
TCCSEG					Candidate segment found by the CTD segment finder. References : Zeus-Note-9?-??	TCSGSD
	ID	SNUM				
	R	REAL			Radius (cm - CTD cylindrical polar coords.) of segment position.	
	Phi	REAL			Phi (rads) azimuthal angle of segment in CTD cylindrical polars	
	Psi	REAL			Azimuthal direction of tangent to segment (CTD cylindrical polars) at the point specified by R, Phi	
	Z	REAL			Z (cm) of segment position.	
	Theta	REAL			Polar direction of tangent to segment (CTD cylindrical polars) at the point specified by R, Phi	
	Rho	REAL			Curvature (1/cm) ie. the reciprocal of the radius of the track circle.	
	NDofF	INTE			Number of degrees of freedom.	
	Chi2	REAL		P	Chi2 value for segment fit.	
	PChi2	REAL			Uppertail Chi2 probability fo segment fit.	
	DelAng	REAL			Diference between Phi and Psi.	
	Cov(1)	REAL			Components of error matrix (numbered according to the ZEUS convention).	
	.				""	
	Cov(15)	REAL			""	
	NHits	INTE			Number of entries in IdAXLY which contain the addresses of hits in TCAXLY.	
	IdAXLY(1)	INTE			Value of the Id collumn of the hits belonging to this segment. This array establishes the many to one relationship between points and segments. If IdAXLY(i) is zero, and i < NHits then the point has been deleted.	
	.				""	
	IdAXLY(20)	INTE			""	
	TCCELL	REL			A segment must be described with reference to a cell, but a cell need not define a segment.	
TCCSEL					Selection table to access the various calibration tables through TCWIRE in the most flexible and efficient way possible.	TCCali
	ID	SNUM				
	TCDTOT	REL			A wire must have a set of calibrations accessed through TCCSEL. A particular set of distance to time coefficients may be common to different calibration sets. TCCSEL is the "address" for that set of calibrations.	
	TCEFFS	REL			A wire must have a set of calibrations accessed through TCCSEL. A particular set of efficiencies etc, may be common to different calibration sets. TCCSEL is the "address" for that set of calibrations.	
	TCERES	REL			A wire must have a set of calibrations accessed through TCCSEL. A particular set of pulse size resolution and conversion coefficients may be common to different calibration sets. TCCSEL is the "address" for that set of calibrations.	
	TCIPDR	REL			A wire must have a set of calibrations accessed through TCCSEL. A particular effective radius may be common to different calibration sets. TCCSEL is the "address" for that set of calibrations.	
	TCLZAN	REL			A wire must have a set of calibrations accessed through TCCSEL. A particular set of Lorentz angle coefficients may be common to different calibration sets. TCCSEL is the "address" for that set of calibrations.	
	TCLZZD	REL			A wire must have a set of calibrations accessed through TCCSEL. A particular set of z drift coefficients may be common to different calibration sets. TCCSEL is the "address" for that set of calibrations.	
	TCRRES	REL			A wire must have a set of calibrations accessed through TCCSEL. A particular set of r-phi resolution coefficients may be common to different calibration sets. TCCSEL is the "address" for that set of calibrations.	
	TCSEPS	REL			A wire must have a set of calibrations accessed through TCCSEL. A particular set of two hit separation efficiencies may be common to different calibration sets. TCCSEL is the "address" for that set of calibrations.	
	TCTTOD	REL			A wire must have a set of calibrations accessed through TCCSEL. A particular set of time to distance coefficients may be common to different calibration sets. TCCSEL is the "address" for that set of calibrations.	
	TCTTOZ	REL			A wire must have a set of calibrations accessed through TCCSEL. A particular parameterisation of the Z calibration S shape may be common to different calibration sets. TCCSEL is the "address" for that set of calibrations.	
	TCZRES	REL			A wire must have a set of calibrations accessed through TCCSEL. A particular set of z resolution coefficients may be common to different calibration sets. TCCSEL is the "address" for that set of calibrations.	
	TCZTOT	REL			A wire must have a set of calibrations accessed through TCCSEL. A particular parameterisation of the Z calibration S shape may be common to different calibration sets. TCCSEL is the "address" for that set of calibrations.	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
TCCWIR					Calibration wire no. table. The IDs of this table are identical to those of the TCWIRE table, and are synonymous with the global wire number. The pedestal, gain and T0s are attributes as they are expected to be different for each wire. For wires without z-by-timing the T0Z is meaningless and is not actually used.	TCCali
	ID	SNUM				
	T0RP	REAL			T0 for the r-phi system for this wire in units of 2.4ns.	
	T0Z	REAL			T0 for the z-by-timing system for this wire in units of 48ns.	
	Pedestal	REAL			FADC Pedestal value for wire.	
	Gain	REAL			FADC gain value for wire	
	TCCSEL	REL		P	Every wire has a set of calibration constants and data, unless it has been killed off for some reason such as noisy electronics. A calibration set can be common to many wires	
TCDFPM					Parameters defining the digital filtering used.	TCFADCOnline
	ID	SNUM				
	Freq	REAL			Inputted characteristic frequency of filter in MHz.	
	Qfit	REAL			Inputted ratio of frequency to bandwidth.	
	Pnorm	REAL			Inputted pulse height normalization factor.	
	CutOff	CHA8	BESSEL,BESSEL CRITDAMP,CRIT... BUTTWRTH,BUTT... CHEBSHEV,CHEB...		Cutoff characteristics used in digital filtering.	
	FiltType	CHA8	LOWPASS,LOWPASS HIGHPASS,HIGH... BANDPASS,BAND... BANDSTOP,BAND... ALLPASS,ALLPASS		Type of digital filter used.	
TCDHIT					Stored Hit information extracted from all FADC trains	TCDSPA
	ID	SNUM				
	DriftTime	REAL			Drift time in DSP units of 2.4ns	
	PulseSize	REAL			Pulse Size measurement in units of FADC counts	
	SatFlag	INTE			Saturation flag, Zero if FADC pulse is not saturated otherwise set to the number of FADC bins in the pulse that were saturated.	
	GWire	INTE			Global wire no.	
	InfoFlg	INTE			Hit information flag: 0 = Hit from filtered train | 1 = Hit from unfiltered train | +10 = Hit found online	
TCDIV						TCGEOM
	ID	SNUM				
	mother	CHA4			Name of the mother volume	
	step	REAL	-0.100E+05,0....		Division step	
	axis	INTE	1,3		Axis division	
	ndiv	INTE	1,9999		Number of divisions	
TCDRFV					The CTD drift velocity paramerization.	TCOLDHAT
	ID	SNUM				
	DriftVel(1)	REAL			Drift velocity parameterization coefficients. DriftVel(1) is the nominal velocity (um/ns)	
	DriftVel(2)	REAL			""	
	DriftVel(3)	REAL			""	
TCDSPL					FADC DSP processing load per FADC card.	TCFADCOnline
	ID	SNUM				
	Crate	INTE	0,16		FADC crate no. One crate reads one sector or 1/16th of the CTD	
	Slot	INTE	0,20		Slot in the crate that FADC board resides in.	
	ScanTime	INTE			Average time in the DSP used for scanning.	
	FiltTime	INTE			Average time in the DSP used for digital filtering.	
	HitFndTime	INTE			Average time in the DSP used for hit finding.	
	TotalTime	INTE			Average time in the DSP used for total event processing.	
TCDSPO					FADC monitoring control parameters. There is one per FADC card.	TCFADCOnline
	ID	SNUM				
	Crate	INTE	0,16		FADC crate no. One crate reads one sector or 1/16th of the CTD	
	Slot	INTE	0,20		Slot in the crate that FADC board resides in.	
	MonitParam	INTE			DSP monitoring control parameter.	
	TimeOut	INTE			Timeout parameter for DSP algorithm.	
	WaitStates	INTE	0,65535		No. of memory wait states	
TCDTOT					The CTD distance to time parameterization as a function of planar drift distance. Used in simulation.	TCCali
	ID	SNUM				
	DtoTHiFi(1)	REAL			Distance to time parameterization coefficients, for hits on high phi side of wire	
	.				""	
	DtoTHiFi(10)	REAL			""	
	DtoTLoFi(1)	REAL			Distance to time parameterization coefficients, for hits on low phi side of wire	
	.				""	
	DtoTLoFi(10)	REAL			""	
TCEEVT Static					CTD event trailer table.	TCEVCNTR
	ID	IMPL				
	CompSelect(1)	INTE			Event selection flags, 4 groups of 16 bit - one group for each of the components: FLT, Z, SLT, FADC. A 1 in a position indicates that the component has flagged the event as interesting. Mainly used to select events for online monitoring	
	CompSelect(2)	INTE			""	
	Status	INTE			event status (to be defined)	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
TCEFFS					Hit Efficiencies for the r-phi and z-by-timing systems of the CTD.	TCCali
	ID	SNUM				
	RPhiEff(1)	REAL	-1.0,1.0		Hit finding efficiency of the r-phi electronics as a function of ????. For dead wires RPhiEff(1) and TCFCRE are flagged as -1.	
	.		-1.0,1.0		""	
	RPhiEff(10)	REAL	-1.0,1.0		""	
	ZEff(1)	REAL	-1.0,1.0		Hit finding efficiency of the z-by-timing electronics, as a function of ????. For dead wires ZEff(1) and TCFCZE are flagged as -1.	
	.		-1.0,1.0		""	
	ZEff(10)	REAL	-1.0,1.0		""	
TCENV					CTD environmental data	TCEnvironment
Static	ID	IMPL				
	HVStatus	INTE			Global status of available HV =1 => all HV is on =0 => some or all HV is off	
	HVBad(1)	BITP			HV information. 1 bit per layer per quad, packed into 4 groups of 16 bits. Format: 00000bbbbbbbbbbb00000aaaaaaaaaaa, 00000ddddddddddd00000ccccccccccc where aaaaaaaaaaa corresponds to the 11 layers of quad 1 (least significant bit is first layer). A 1 in a position indicates a trip or HV low or UPS bad etc.	
	HVBad(2)	BITP			""	
	HVOn(1)	BITP			HV Octants On information. 1 word per quad. Format: 00000000xyxyxyxyxyxyxyxyxyxyxyxy where xyxyxyxyxyxyxyxyxyxyxy corresponds to the 11 layers of a quad (2 least significant bits are first layer). A 1 in a position indicates that HV is ON in that octant.	
	.				""	
	HVOn(4)	BITP			""	
	HVLevel	REAL			state of CTD HV as a percentage	
	GasState	INTE			state of CTD gas system, a 0 indicates normal state.	
	Pressure	REAL			atmospheric pressure in mb	
	Magfield	REAL			mag field at centre of ZEUS in kG	
	FTmp	REAL			CTD front endplate temp in deg C	
	RTmp	REAL			CTD rear endplate temp in deg C	
TCEOR					End of run table for CTD event table. References : Zeus-Note-91-??	TCEVCNTR
	ID	SNUM				
TCERES					Resolution and conversion parameterization for the pulse sizes from the CTD FADC system.	TCCali
	ID	SNUM				
	PSizeRes(1)	REAL			Coefficients of parameterization of pulse size as a function of ???	
	.				""	
	PSizeRes(10)	REAL			""	
	PSizeDigi(1)	REAL			Coefficients of parameterization of the conversion of energy loss in eV to pulse size in FADC counts as a function of ???	
	.				""	
	PSizeDigi(10)	REAL			""	
TCEVCN					CTD conditions at the time that the data was taken. These four attributes should be sufficient to be able to decide what parameters might be needed for the reconstruction	TCDATA
	ID	SNUM				
	GasComp	BITP			Word containing gas composition in a bit packed format. Twice the percentage of Argon (8 bits) - Bits 0 - 7 | Twice the percentage of CO2 (8 bits) - Bits 8 - 15 | Twice the percentage of Ethane (8 bits) - Bits 16 - 23 | Ethanol temperature (twos comp) (8 bits) - Bits 24 - 31	
	AtmPress	REAL			Atmospheric pressure (mBar)	
	MagField	REAL			Magnetic field at x=y=z=0 (kGa)	
	HVLevel	REAL			Level that HV has been set to	
TCFBOR					Output for offline at the beginning of each run.	RFLCTD
Static	ID	IMPL				
	TCFBOR	INTE			CTD-FLT begin-of-run data.	
TCFCON					Constants, Cuts and Algorithm types employed in CTD-FLT -- to be used in CAL/CND_GLOBAL.RZ Gafs	RFLCTD
Static	ID	IMPL				
	FltDat	INTE			CTD-FLT constants, cuts etc ...	
TCFCPF					Table of the Cell Pairs in which track information is found by ZGANA and the time cycle they were found. References : ??	TCFLTHits
	ID	SNUM				
	Itbin	INTE	1,*		Time bin window flag is in, in HERA clock cycles	
	TCFLCP	REL			Many flags in one cell pair	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
TCFCUT					Cuts used in the cell pair processing for classification of track segments. The cuts are generally different for each superlayer. References : ??	TCFLTLayout
Static	ID	IMPL				
	TBsttr	INTE	1,10		Start time bin for true hits in HERA clock cycles	
	TBentr	INTE	10,20		End time bin for true hits in HERA clock cycles	
	Maxgap(1)	INTE	1,8		Maximum gap between hits in hit sequence for each superlayer in HERA clock cycles	
	.		1,8		""	
	Maxgap(5)	INTE	1,8		""	
	Minseq(1)	INTE	1,16		Minimum hit sequence length for each superlayer in HERA clock cycles	
	.		1,16		""	
	Minseq(5)	INTE	1,16		""	
	Zpcut(1)	REAL	0.0,150.0		+ve Z vertex cut for acceptance of a r-z track segment for each superlayer	
	.		0.0,150.0		""	
	Zpcut(5)	REAL	0.0,150.0		""	
	Zncut(1)	REAL	-150.0,0.0		-ve Z vertex cut for acceptance of a r-z track segment for each superlayer	
	.		-150.0,0.0		""	
	Zncut(5)	REAL	-150.0,0.0		""	
	Zmid(1)	REAL	0.0,4.0		Postion of the central z/r bin of segment in each superlayer	
	.		0.0,4.0		""	
	Zmid(5)	REAL	0.0,4.0		""	
	Zrbin(1)	REAL	0.0,4.0		Spread of hits from central z/r bin allowable for a segment to be found in each superlayer	
	.		0.0,4.0		""	
	Zrbin(5)	REAL	0.0,4.0		""	
	Peror(1)	REAL	0.0,100.0		% of tracks in superlayer required for vertex	
	.		0.0,100.0		""	
	Peror(5)	REAL	0.0,100.0		""	
TCFDOF					Cable delay offsets for the delay to the FADC boards in ns. The offset is relative to the reference wire delay. The reference wire therefore has an offset of zero. NULL variables indicate that no offset is available for that wire. TCFDOF_ID is the global wire number.	TCCNDS
	ID	SNUM				
	OffSet	REAL			Offset in ns, of the delay seen by the FADC board in ns. relative to that of RefWire.	
	RefWire	INTE			Global wire number of the reference wire.	
	TCPAOF	REL		P	A offset as seen by the FADC board is associated with a cable delay offset.	
TCFDPM					Parameters used in algorithms to determine pulses, their timings and size.	TCFADCOnline
	ID	SNUM				
	CFDFrac	REAL	0.0,1.0		Fraction used in CFD algorithm.	
	SigDifMin	REAL			Minimum value that signal has to rise by, then fall again, for a pulse to be registered.	
	RisEdgeMin	INTE			Minimum no. of FADC bins in rising edge for a pulse to be registered.	
	FalEdgeMax	INTE			Maximum no. of FADC bins in falling edge for a pulse to be registered.	
	BinBefCrst	INTE			Maximum no. of FADC bins before crest used to determine pulse size.	
	BinAftCrst	INTE			Maximum no. of FADC bins including and after crest used to determine pulse size.	
	AlgVersion	INTE			DSP hit finding algorithm version number.	
TCFEOR					Output for offline at the end of each run.	RFLCTD
Static	ID	IMPL				
	TCFEOR	INTE			CTD-FLT end-of-run data.	
TCFGEN					Various parameters used by the CTD FLT simulation. References : ??	TCFLTLayout
Static	ID	IMPL				
	Nbinz	INTE	1,256		Number of z-by-timing bins	
	Binsz	REAL	0.0,*		Z-by-timing bin size in cm	
	Zresol	REAL	0.0,*		Z-by-timing resolution in cm	
	Clock	REAL	1.0,96.0		Clock period in ns	
	Nbinzr(1)	INTE	1,64		No of z/r bins in each superlayer	
	.		1,64		""	
	Nbinzr(5)	INTE	1,64		""	
	Nbinsc	INTE	1,64		No of z/r bins in each sector	
TCFHOK					Hit-segment cross reference table References : ??	TCFLTHits
	ID	SNUM				
	TCFSEG	REL			Many-many relationship between hits and segments - all segments have hits but some hits may not lie on segments	
	TCFZHT	REL			ok hits are those assigned to segments	
TCFILT					Parameters required and used by digital filtering.	TCDSPA
	ID	SNUM				
	Freq	REAL			Inputted characteristic frequency of filter in MHz.	
	Qfit	REAL			Inputted ratio of frequency to bandwidth.	
	Pnorm	REAL			Inputted pulse height normalization factor.	
	A1	REAL			Normalization factor applied to C0, C1, D0, D1 and D2.	
	C0	REAL			1st order parameter of pole.	
	C1	REAL			2nd order parameter of pole.	
	C2	REAL			3rd order parameter of pole.	
	D0	REAL			1st order parameter of zero.	
	D1	REAL			2nd order parameter of zero.	
	D2	REAL			3rd order parameter of zero.	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
TCFLAY					CTD FLT specific wire parameters. References : ??	TCFLTGeometry
Static	ID	IMPL				
	Radly	REAL	1.0,100.0		Radius in cm that sense wire lays at for a given wire layer	
	Zlnly	REAL	1.0,200.0		Wire half length in cm	
	Ph1ly	REAL	0.0,1.0		Phi position in radians for the wire in unit cell	
	Zroly	LOGI			.True. if wire is instrumented with ZbyTiming electronics	
	Inlly	INTE	1,8		Sense Wire number in cell	
	TCLAYR	REL			There are many wire layers in a given SuperLayer.	
TCFLCP					Describes the division of cells into cell pair in each superlayer, and the index number of the cell pair in the given superlayer. References : ??	TCFLTLayout
Static	ID	IMPL				
	Cell(1)	INTE	1,576		Cell numbers of associated cells of each Cell Pair	
	Cell(2)	INTE	1,576		""	
	Slyr	INTE	1,9		Superlayer in which Cell Pair in found.	
	Iplcp	INTE	1,64		Local Cell Pair index number for each superlayer.	
TCFLSC					Table of the Cell Pairs which go to make one Sector. References : ??	TCFLTLayout
Static	ID	IMPL				
	Cpr1	INTE	1,144		ID of TCFLCP of a Cell Pair in a given Sector in superlayer 1	
	Cpr3(1)	INTE	1,144		ID of TCFLCP of a Cell Pair in a given Sector in superlayer 3	
	.		1,144		""	
	Cpr3(4)	INTE	1,144		""	
	Cpr5(1)	INTE	1,144		ID of TCFLCP of a Cell Pair in a given Sector in superlayer 5	
	.		1,144		""	
	Cpr5(6)	INTE	1,144		""	
TCFOUT					The output of the Tracking FLT ZGANA simulation. References : ??	TCFLTHits
	ID	SNUM				
	Accrej	INTE	0,*		Event classification: 0 Event rejected 1 No decision 2 Loose accept 3 Tight accept	
	Mult	INTE	0,*		The total number of sectors in which tracks are found	
	Zrmap(1)	INTE	0,255		8-bit z/r map for 8 phi wedges for matching with the calorimeter	
	.		0,255		""	
	Zrmap(8)	INTE	0,255		""	
TCFPOS					General CTD information to navigate between ZEUS and CTD coords. References : ??	TCFLTGeometry
	ID	SNUM				
	Xctd	REAL	-0.100E+05,*		offset of x coordinate in CTD cartesian coordinates in relationship to Zeus cartesian coordinates	
	Yctd	REAL	-0.100E+05,*		offset of y coordinate in CTD cartesian coordinates in relationship to Zeus cartesian coordinates	
	Zctd	REAL	-0.100E+05,*		offset of z coordinate in CTD cartesian coordinates in relationship to Zeus cartesian coordinates	
TCFSCF					Table containing the track candidates found by the Sector Processor in ZGANA. The tracks are classified by the superlayer to which they can be traced and the plane they are found. Their trajectory in r-z is recorded for matching tracks to the FTD and RTD. References : ??	TCFLTHits
	ID	SNUM				
	Itbin	INTE	1,*		Time bin window flag is in, in HERA clock cycles	
	Track1	LOGI			Track in sl1 in r-phi	
	Track3	LOGI			Track in sl3 in r-phi	
	Track5	LOGI			Track in sl5 in r-phi	
	Track1V	LOGI			Track in sl1 in r-z	
	Track3V	LOGI			Track in sl3 in r-z	
	Track5V	LOGI			Track in sl5 in r-z	
	Rbin	LOGI			Track in rear direction	
	Bbin(1)	LOGI			Track in barrel	
	.				""	
	Bbin(5)	LOGI			""	
	Fbin(1)	LOGI			Track in forward bins	
	.				""	
	Fbin(10)	LOGI			""	
	TCFLSC	REL			Many flags in one sector	
TCFSEG					The ZGANA simulated segment results for each Cell Pair are contained in this table, with even and odd numbered wires being treaded separately. The time bin, position, and pattern code of the found segment is given. References : ??	TCFLTHits
	ID	SNUM				
	Ibnfs	INTE	1,*		z/r window found track segment is in	
	Itbfs	INTE	1,*		Time bin window seg is in, in HERA clock cycles	
	Iclfs	INTE	1,*		Type of pattern in window: bits 0-1, extent of hit coverage on odd numbered wires in superlayer bits 2-3, extent of hit coverage on even numbered wires in superlayer bit 4, set if segment is found pointing to the vertex on odd numbered wires bit 5, set if segment is found pointing to the vertex on even numbered wires bit 6, set if segment is found z/r region on odd numbered wires bit 6, set if segment is found z/r region on even numbered wires	
	TCFLCP	REL			Many segs in one cell pair	

V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
TCFTEM					Temporary hit table used to navigate between ZGANA commons and TCFZHT References : ??	TCFLTHits
	ID	SNUM				
	Locly	INTE	1,8		Sense wire number in cell of hit	
	Slyr	INTE	1,9		Superlayer number for hit	
	Zht	REAL	0.0,*		Z-by-timing number of hit	
	Gwir	INTE	1,4608		CTD wire number of hit	
	Loccel	INTE	1,96		FLT Cell number of hit cell	
	Glocel	INTE	1,576		Global cell number of hit cell	
	Trk	INTE	1,200		GEANT track hit is from	
	Gloly	INTE	1,72		Layer of hit wire	
	Radus	REAL	1.0,*		Radius of hit wire in cm	
	Phih	REAL	-0.100E+04,*		Phi value of hit wire in radians	
	Zln	REAL	100.0,*		Wire half lenghth in cm	
	Dtime	REAL	0.0,*		Drift time of hit in ns	
	TCFZHT	REL			Allows posibility that no associated z-hit ..	
TCFTOH					Hit information extracted from FADC train	TCDSPA
	ID	SNUM				
	TimeFADC(1)	REAL			Time found in units of the FADC bins	
	.				""	
	TimeFADC(10)	REAL			""	
	TFlag(1)	INTE			Quality of timing information Flag	
	.				""	
	TFlag(10)	INTE			""	
	PulSiz(1)	REAL			Pulse Size measurement	
	.				""	
	PulSiz(10)	REAL			""	
	PFlag(1)	INTE			Quality of pulse size information Flag	
	.				""	
	PFlag(10)	INTE			""	
	Hits	INTE			No of hits found on pulse train	
	TCDHIT	REL			Every hit found offline is stored.	
	TCPULS	REL			Every pulse is assigned a time and pulse size.	
TCFTRG					FADC sector triggers	TCFADCOnline
	ID	SNUM				
	Sector	INTE	0,16		FADC sector.	
	Trigger	CHA8	NORMAL,NORMAL OFF-BEAM,OFF-... TEST,TEST ENVIRNMT,ENVI... INITIAL,INITIAL ENDRUN,ENDRUN OTHER,OTHER SPURIOUS,SPUR...		Trigger type.	
	Received	INTE			No. of triggers received.	
TCFTRN					FADC train for single wire after it has been processed and filtered, or as unpacked from the TCBFPF table. Usually a pulse train will be smaller than the 64 bins allocated. However if the whole pipeline is output the pulse train will span 32 rows of the table.	TCDSPA
	ID	SNUM				
	Signal(1)	REAL	-256.0,256.0		Signal value in FADC bin.	
	.		-256.0,256.0		""	
	Signal(64)	REAL	-256.0,256.0		""	
	TCBFPF	REL		P	A filtered FADC train has many FADC bins. It may have been filtered offline so not come from TCBFPF.	
	TCRTRN	REL		P	Every raw unfiltered FADC signal is processed and filtered. Some FADC signals were filtered online.	
TCFVER					Versions of important FADC readout areas	TCFADCOnline
	ID	SNUM				
	Readout	INTE			Readout code version	
	FADCOCC	INTE			FADC OCCAM code version	
	FADCDSP	INTE			FADC DSP code version	
	MTCDSP	INTE			MTC DSP code version	
	Config	INTE			Config gaf version	
	SpareA	CHA8			Spare	
	SpareB	CHA8			Spare	
	SpareC	CHA8			Spare	
	SpareD	CHA8			Spare	
	SpareE	CHA8			Spare	
	Spare1	INTE			Spare	
	Spare2	INTE			Spare	
	Spare3	INTE			Spare	
	Spare4	INTE			Spare	
	Spare5	INTE			Spare	
TCFWIR					Online FADC information that varies from wire to wire.	TCFADCOnline
	ID	SNUM				
	SLayer	INTE	1,9		Superlayer that wire is in.	
	Cell	INTE	1,96		Cell of superlayer that wire is in.	
	Wire	INTE	1,8		Wire of cell that wire is labelled by.	
	Pedestal	INTE	1,255		FADC Pedestal found for the wire.	
	T0	INTE			Online T0 for the wire.	
	Gain1000	INTE			1000*the gain for the wire. (1000 => gain of 1.0)	
	Condition	INTE			Wire on(0) or off(1), plus other possibilities...	
TCFZHT					Table on the position and drift time of each hit for the use of ZGANA References : ??	TCFLTHits
	ID	SNUM				
	Ibnzh	INTE	0,63		Z-by-timing index no for hit	
	Idtzh	INTE	1,20		Drift time bin of hit in HERA clock cycles	
	TCWIRE	REL			Many z-hits to given wire, but have wire with no z-hit	
TCGASA					Numbers of alarms from the CTD gas system.	TCCNDS
	ID	SNUM				
	Alarms	INTE			No. of gas system alarms	
	Emergencies	INTE			No. of emergency gas system alarms	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
TCGASC					Gas room conditions.	TCCNDS
	ID	SNUM				
	AtmosPress	REAL			Atmospheric Pressure in mBar	
	Temperature	REAL			Temperature in gas room (C)	
	Humidity	REAL			Gas room humidity (%)	
TCGASF					Flow rates from the CTD gas system.	TCCNDS
	ID	SNUM				
	ArgonFlow	REAL			Argon flow rate in litres/min	
	CO2Flow	REAL			CO2 flow rate in litres/min	
	EthaneFlow	REAL			Ethane flow rate in litres/min	
	EthanolFlow	REAL			Ethanol flow rate in cc/min	
TCGASM					Gas performance monitoring.	TCCNDS
	ID	SNUM				
	DriftIn	REAL			Drift time of gas flowing into CTD in microsecs.	
	DriftOut	REAL			Drift time of gas flowing out of CTD in microsecs.	
	PulseHgtIn	REAL			Pulse height of gas flowing into CTD in V.	
	PulseHgtOut	REAL			Pulse height of gas flowing out of CTD in V.	
TCGASP					Pressure readings from the CTD gas system.	TCCNDS
	ID	SNUM				
	PN2In	REAL			Pressure (mBar) of gas to CTD at rig relative to N2 safety volume	
	PN2Out	REAL			Pressure (mBar) of gas from CTD at rig relative to N2 safety volume	
	PN2Cham	REAL			Pressure (mBar) at CTD relative to N2 safety volume	
	PAux	REAL			Pressure (mBar) of auxilliary supply relative to air in gas room	
	PBara	REAL			Pressure (mBar) as seen by Baratron which is the pressure of gas from CTD at rig relative to atmospheric pressure	
TCGASS					System status of the CTD gas system. The CTD gas system is described in Zeus-Note-??-??	TCCNDS
	ID	SNUM				
	SysName	CH32			Gas system name	
	SysStatus	CH32			Gas system status	
	SysState	CH64			Current gas system state.	
	Date	INTE			This integer defines the date of datataking as yyyymmdd	
	Time	INTE			This integer defines the time of datataking as hhmmss	
TCGASV					Voltages on the gas rig chambers used to take monitoring drift and pulse height data.	TCCNDS
	ID	SNUM				
	FieldIn	REAL			Field voltage for input chamber in kV	
	SenseIn	REAL			Sense voltage for input chamber in kV	
	PropIn	REAL			Probe tube voltage for input chamber in kV	
	FieldOut	REAL			Field voltage for output chamber in kV	
	SenseOut	REAL			Sense voltage for output chamber in kV	
	PropOut	REAL			Probe tube voltage for output chamber in kV	
TCGHIT					Geant hit data for event. No smearing has been applied to any of the quantities in this table. Note that the x,y,z coordinates are given in CTD cartesian coordinates. Wire goes from 1 to 8! References: Zeus-Note-91-67, Zeus-Note-89-23.	TCGEAN
	ID	SNUM				
	X	REAL			x coordinate (cm) of hit in CTD cartesian coordinates	
	Y	REAL			y coordinate (cm) of hit in CTD cartesian coordinates	
	Z	REAL			z coordinate (cm) of hit in CTD cartesian coordinates	
	Eloss	REAL			Mean energy loss (eV)	
	ToF	REAL			Time of flight w.r.t ep crossing ref. time (ns).	
	Layer	INTE			SuperLayer hit is in,	
	Cell	INTE			Cell in SuperLayer hit is in	
	Wire	INTE			Sense wire in cell hit is in	
	DriftDist	REAL			Drift distance (cm).	
	Sense	REAL			Sense of drift. Positive drift is in the same sense as the POSITIVE local non-orthogonal (LNO) Y axis (for the definition of the LNO coord. system see Zeus-Note-89-90.)	
	CellOut	LOGI			TRUE if the result of the planar drift approximation of the drift distance lies outside the drift cell. This hit would be digitised but is of no use to the SLT.	
	DriftAng	REAL			Angle of drift in radians w.r.t. the CTD x-axis at the point of the hit.	
	FMCKin	REL		P	A Geant hit comes from a track unless it is noise, a track may not have any CTD hits (e.g. neutral particle) or many CTD hits.	
	TCRP	REL		P	A Geant hit may produce a digitized r-phi drift hit, a digitized r-phi drift hit may have come from a Geant hit.	
	TCWIRE	REL			Every Geant hit must be on a wire, a wire may have zero, one or many hits.	
	TCZ	REL		P	A Geant hit may produce a digitized z-by-timing hit, a digitized z-by-timing hit may have come from a Geant hit.	
TCGHTB					Bit-packed Geant hit data for event	TCOLDHAT
	ID	SNUM				
	X	REAL			x coordinate (cm) of hit in CTD cartesian coordinates	
	Y	REAL			y coordinate (cm) of hit in CTD cartesian coordinates	
	Z	REAL			z coordinate (cm) of hit in CTD cartesian coordinates	
	MCData(1)	BITP			Packed MC data. See the definition below.	
	.				""	
	MCData(4)	BITP			""	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
TCGMTM					Geant track momentum as it creates a hit in the CTD. The table is in one to one correspondance with the TCGHIT table. Noise hits of course have no momentum associated with them and so have no entries in this table. References: Zeus-Note-91-??	TCGEAN
	ID	SNUM				
	PX	REAL			x component of momentum of MC track as it creates a hit.	
	PY	REAL			y component of momentum of MC track as it creates a hit.	
	PZ	REAL			z component of momentum of MC track as it creates a hit.	
TCGSTP					Geant step data for event. As Geant steps particles through the CTD, information on the particles position, direction, momentum and time of flight are recorded. There is one table entry per step. The particle is identified by the relationship to FMCKin	TCGEAN
	ID	SNUM				
	X	REAL			x coordinate (cm) of particle at step in CTD cartesian coordinates	
	Y	REAL			y coordinate (cm) of particle at step in CTD cartesian coordinates	
	Z	REAL			z coordinate (cm) of particle at step in CTD cartesian coordinates	
	DirCosX	REAL			Direction cosine of particle in x (px/p) in CTD cartesian coordinates	
	DirCosY	REAL			Direction cosine of particle in y (py/p) in CTD cartesian coordinates	
	DirCosZ	REAL			Direction cosine of particle in z (pz/p) in CTD cartesian coordinates	
	P	REAL			Momentum of particle at step in GeV/c	
	ToF	REAL			Time of flight to step w.r.t ep crossing ref. time (ns).	
	FMCKin	REL			Every Geant step is associated with a Kine track, a Kine track need not pass through the CTD, but can have many steps through the CTD if it does.	
	TCTRAK	REL		P	Many Geant steps make up a CTD track if processed by the fast tracking, not every step need result in the formation of a CTD track.	
TCHEFF					Hit Efficiencies for the r-phi and z-by-timing systems of the CTD.	TCOLDHAT
	ID	SNUM				
	RPhiEff	REAL	-1.0,1.0		Hit finding efficiency of the r-phi electronics, for dead wires this is flagged as -1.	
	ZEff	REAL	-1.0,1.0		Hit finding efficiency of the z-by-timing electronics, for dead wires this is flagged as -1.	
TCHIT					CTD hit data corrected for T0 and z-by-timing time difference to z calibration. References : Zeus-Note-91-67	TCDATA
	ID	SNUM				
	DriftTime	REAL	-10.0,600.0		Drift time (ns). T0 has been subtracted.	
	PulseSize	REAL	0.0,255.0		Pulse Size in units of FADC counts. RNull if only Z-by-timing information available for this hit.	
	Z	REAL	-100.0,100.0		Z (cm) from reconstruction if the hit is assigned to a track. If the hit has Z from the Z-by-timing system then this measurement is used, whether the hit lies on a track or not. RNull if no Z information for this hit.	
	HitFlgs	INTE			Word containing various flags for the hit. Flags are as follows: r-phi hit came from TCDHIT = 1 | r-phi hit came from z bin = 2 | z came from TCBZL = 100 | ZDigi found to be 0 = 200 | ZDigi found to be 127 = 400 | pulse saturated = 10000 | pulse a degraded second pulse = 20000 |	
	NSatBins	INTE			No of bins found to be saturated for a saturated pulse. This is zero for non-saturated pulses and INull if only Z-by-timing information available for this hit.	
	TCTRAK	REL		P	A track is made of many hits, but a hit need not lie on a track.	
	Sense	INTE			Sense of the left right ambiguity. If Sense=-1 then the hit is on the LOW Phi side of the wire, if Sense=+1 then it is on the HIGH Phi side.	
	TCWIRE	REL			Every hit must be on a wire, and a wire may have zero, one, or many hits	
TCHREL					CTD hit source relationships. The IDs of this table are identical to those of the TCHIT table. The attributes point to the various table sources for TCHIT entries. References : Zeus-Note-??-??	TCDATA
	ID	SNUM				
	RPID	INTE			ID of TCRP or TCDHIT of r-phi hit if the source of the hit is TCBRP/TCRP or TCDHIT (see TCHIT) (INull is valid).	
	ZID	INTE			ID of TCZ if a source of the hit is TCBZ/TCZ or TCBZL/TCZ (see TCHIT) (INull is valid).	

V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
TCHV					High voltage settings.	TCCNDS
	ID	SNUM				
	Quadrant	INTE	1,4		High voltage quadrant. Quadrant 1 runs from CTD (and Zeus) phi = 0 to 90, quadrant 2 runs from phi = 90 to phi = 180 etc.	
	Layer	INTE	1,11		Superlayer no. 1 to 9 and also Inner Electrostatic Screen = 10 Outer Electrostatic Screen = 11	
	FieldV(1)	INTE			The field wire voltage is set at the top of the resistor chain and half way along. FieldV(1) contains the HV setting in volts at the top of the chain, while FieldV(2) contains the HV setting in volts at the half way point.	
	FieldV(2)	INTE			""	
	SenseV	INTE			Sense wire voltage in volts	
	FieldI(1)	INTE			FieldI(1) is current in microAmps at the top of the resistor chain, FieldI(2) is current in microAmps at the half way point.	
	FieldI(2)	INTE			""	
	SenseI	INTE			Chamber current measured in this quadrant in microAmps	
	RelayState	INTE			A quadrant in one super layer is served by one HV supply. A quadrant is switched on in two halves via a pair of relays. RelayState takes the following values: = 0 => both relays OPEN = 1 => low phi relay CLOSED high phi relay OPEN = 2 => high phi relay CLOSED low phi relay OPEN = 3 => both relays CLOSED.	
	Event	INTE			This integer defines what triggered the issuing of the HV conditions data: =1 => Begin of run =2 => End of run =3 => Trip - table appears in environmental record =4 => Reset after trip - table appears in environmental record =5 => Other	
	Status	INTE			This integer defines the status of a quadrant/layer: =0 => Not at proper working voltage (off or tripped) =1 => At proper working voltage (on or recovered from a trip	
	Date	INTE			This integer defines the date as yyyymmdd	
	Time	INTE			This integer defines the time as hhmmss	
	RunNo	INTE			Run number during which these settings were read	
	GFLTAccept	INTE			Global First Level Trigger accept number	
	Info(1)	INTE			Two spare words	
	Info(2)	INTE			""	
TCHVB					High voltage settings at beginning of run. The high voltage system is defined in Zeus-Note-??-??	X1
	ID	SNUM				
	RunNo	INTE			Run number during which these settings were read.	
	Quadrant	INTE	1,4		High voltage quadrant. Quadrant 1 runs from CTD (and Zeus) phi = 0 to 90, quadrant 2 runs from phi = 90 to phi = 180 etc.	
	Layer	INTE	1,11		Superlayer no. 1 to 9 and also Inner Electrostatic Screen = 10 Outer Electrostatic Screen = 11	
	FieldV(1)	INTE			The field wire voltage is set at the top of the resistor chain and half way along. FieldV(1) contains the HV setting in volts at the top of the chain, while FieldV(2) contains HV setting in volts at the half way point.	
	FieldV(2)	INTE			""	
	SenseV	INTE			Sense wire voltage in volts	
	FieldI(1)	INTE			FieldI(1) is current in microAmps at the top of the resistor chain, FieldI(2) is current in microAmps at the half way point.	
	FieldI(2)	INTE			""	
	SenseI	INTE			Chamber current measured in this quadrant in microAmps	
	RelayState	INTE			A quadrant in one super layer is served by one HV supply. quadrant is switched on in two halves via a pair of relays. RelayState takes the following values: = 0 => both relays OPEN = 1 => low phi relay CLOSED high phi relay OPEN = 2 => high phi relay CLOSED low phi relay OPEN = 3 => both relays CLOSED.	
	Event	INTE			This integer defines what triggered the issuing of the HV conditions data: =1 => Begin of run =2 => End of run =3 => Trip - table appears in environmental record =4 => Reset after trip - table appears in environmental record =5 => Other	
	Status	INTE			This integer defines the status of the HV system: =0 => Normal =1 => Bad (i.e 1 trip) =2 => Very bad (>= 2 trips, >= 1 ups off, bad gas) =3 => O.K., but HERA beam bad =4 => Undefined. =5 => Off - not trying to run	
	Info(1)	INTE			Spare words	
	Info(2)	INTE			""	
	Date	INTE			This integer defines the date as yyyymmdd	
	Time	INTE			This integer defines the time as hhmnss	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
TCHVE					High voltage settings at end of run. The high voltage system is defined in Zeus-Note-??-??	X1
	ID	SNUM				
	RunNo	INTE			Run number during which these settings were read.	
	Quadrant	INTE	1,4		High voltage quadrant. Quadrant 1 runs from CTD (and Zeus) phi = 0 to 90, quadrant 2 runs from phi = 90 to phi = 180 etc.	
	Layer	INTE	1,11		Superlayer no. 1 to 9 and also Inner Electrostatic Screen = 10 Outer Electrostatic Screen = 11	
	FieldV(1)	INTE			The field wire voltage is set at the top of the resistor chain and half way along. FieldV(1) contains the HV setting in volts at the top of the chain, while FieldV(2) contains HV setting in volts at the half way point.	
	FieldV(2)	INTE			""	
	SenseV	INTE			Sense wire voltage in volts	
	FieldI(1)	INTE			FieldI(1) is current in microAmps at the top of the resistor chain, FieldI(2) is current in microAmps at the half way point.	
	FieldI(2)	INTE			""	
	SenseI	INTE			Chamber current measured in this quadrant in microAmps	
	RelayState	INTE			A quadrant in one super layer is served by one HV supply. quadrant is switched on in two halves via a pair of relays. RelayState takes the following values: = 0 => both relays OPEN = 1 => low phi relay CLOSED high phi relay OPEN = 2 => high phi relay CLOSED low phi relay OPEN = 3 => both relays CLOSED.	
	Event	INTE			This integer defines what triggered the issuing of the HV conditions data: =1 => Begin of run =2 => End of run =3 => Trip - table appears in environmental record =4 => Reset after trip - table appears in environmental record =5 => Other	
	Status	INTE			This integer defines the status of the HV system: =0 => Normal =1 => Bad (i.e 1 trip) =2 => Very bad (>= 2 trips, >= 1 ups off, bad gas) =3 => O.K., but HERA beam bad =4 => Undefined. =5 => Off - not trying to run	
	Info(1)	INTE			Spare words	
	Info(2)	INTE			""	
	Date	INTE			This integer defines the date as yyyymmdd	
	Time	INTE			This integer defines the time as hhmnss	
TCHVS					Brief picture of CTD HV	TCCNDS
	ID	SNUM				
	Description	CH64			Header from OS9 voltage.dat file	
	Hardware	CH64			Last change in CTD HV hardware	
TCIPDR					Table holding the parameters of the improved planar drift approx. See Zeus Note 93-??.	TCCali
	ID	SNUM				
	R0(1)	REAL			R0(1) is the effective radius of the region around the wire where the drift ceases to be parallel to the planar drift axis and turns radially inwards towards the sense wire (cm)	
	.				""	
	R0(10)	REAL			""	
TCLAYR					Geometrical description of the super layers in the CTD. References : Zeus-Note-89-23	TCGEOM
Static	ID	IMPL				
	Number	INTE	1,9		Super layer number from 1 to 9	
	RC	REAL	16.0,82.0		Radius (cm) from chamber axis to the central ground wire at z=0 in CTD coordinates. The central ground wire lies between sense wires 4 and 5 (see Zeus-Note-89-23.	
	PhiCOffset	REAL	0.0,6.4		Azimuthal angle (radians) of central ground wire at z=0 in CTD coordinates of FIRST cell in this super layer.	
	AlphaC	REAL	-0.15,0.15		Stereo angle (radians) of central ground wire.	
	Beta	REAL	2.74,2.76		Angle (radians) made by the sense wire plane to the line joining the central ground wire (at z=0 in CTD coordinates) to the chamber axis.	
	Delta	INTE	-2,2		Number of cells through which the unit cell rotates in going from z=0 (CTD coordinates) to the +ve z end plate. For axial super layers Delta=0, while for stereo layers Delta=+/-2 (see Zeus-Note-89-23)	
	Ncells	INTE	32,96		Number of Cells in a super layer.	
TCLRZA					The CTD Lorentz angle parameterization.	TCOLDHAT
	ID	SNUM				
	tEtaCo(1)	REAL			Coefficients to calculate tan(eta) as a function of E and B, where eta is the Lorentz angle	
	.				""	
	tEtaCo(4)	REAL			""	
TCLRZD					The CTD fractional z drift due to Lorentz angle in z.	TCOLDHAT
	ID	SNUM				
	FracZd(1)	REAL			Coefficients to calculate fractional drift in z per Tesla of nominal field as a function of z	
	.				""	
	FracZd(5)	REAL			""	
TCLTCB					Event by event LTC trigger information	TCCosmic
	ID	SNUM				
	TrigAddr	INTE	0,1023		Trigger Address	
	EndCopyAddr	INTE	0,1023		End Copy Address	
	FastClock	INTE	0,1023		Fast Clock	
	DPMBit	INTE	1,10		DPM Buffer Bit Read out	
	DPMStartAddr	INTE	0,2047		DPM Data Start Address	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
TCLTCW					Z/Trig LTC window parameters.	TCLTCOnline
	ID	SNUM				
	CrateType	CHA4	Z,Z RBox,RBox		Crate type.	
	WindSize	INTE			Window size for maximum ambiguity.	
	JumpBack	INTE			Starting offset for window.	
TCLZAN					The CTD Lorentz angle parameterization.	TCCali
	ID	SNUM				
	tEtaCo(1)	REAL			Coefficients to calculate tan(eta) as a function of E and B, where eta is the Lorentz angle	
	.				""	
	tEtaCo(10)	REAL			""	
TCLZZD					The CTD fractional z drift due to Lorentz angle in z.	TCCali
	ID	SNUM				
	FracZd(1)	REAL			Coefficients to calculate fractional drift in z per Tesla of nominal field as a function of z	
	.				""	
	FracZd(10)	REAL			""	
TCMAGF					Magnetic field measurements relevant to the CTD. See Zeus-Note-93-??	TCCNDS
	ID	SNUM				
	HallFld(1)	REAL			x,y,z and total magnetic field in kGa as measured by the Hall probe under the CTD at z=0	
	.				""	
	HallFld(4)	REAL			""	
	NMRFld(1)	REAL			Magnetic field as read by the NMR probe under the CTD in KGa, (1) is the value read by the NMR, (2) is scaled to the value expected at the centre of ZEUS. If the Gaussmeter has not locked onto the signal then these should be set to RNull	
	NMRFld(2)	REAL			""	
	SolCurrent	REAL			Solenoid current in Amps	
TCMHIT					Hit monitoring information associated with the hits stored in TCDHIT. The information is related to the hit by the entries having identical table ID. This table is for the monitoring of the hits found offline.	TCDSPA
	ID	SNUM				
	TroughSig	INTE			FADC signal that was the trough of the pulse.	
	TroughBin	INTE			FADC bin that trough of pulse occurred in.	
	CrestSig	INTE			FADC signal that was the crest of the pulse.	
	CrestBin	INTE			FADC bin that crest of pulse occurred in.	
TCMTCW					FADC MTC window parameters.	TCFADCOnline
	ID	SNUM				
	Trigger	CHA8	NORMAL,NORMAL OFF-BEAM,OFF-... TEST,TEST OTHER,OTHER		Trigger type.	
	WindSize	INTE			Window size for minimum ambiguity.	
	WindOff	INTE			Starting offset for window.	
TCNHTB					Bit-packed noise hit data for event	TCOLDHAT
	ID	SNUM				
	X	REAL			x coordinate (cm) of hit in CTD cartesian coordinates	
	Y	REAL			y coordinate (cm) of hit in CTD cartesian coordinates	
	Z	REAL			z coordinate (cm) of hit in CTD cartesian coordinates	
	MCData(1)	BITP			Packed MC data. See the definition below.	
	.				""	
	MCData(4)	BITP			""	
TCPADL					Cable delays for calibration and signal cables to the postamps in ns. The delay is given is that of a reference sense wire for each cell. TCPADL_ID is the global cell number. NULL variables indicate that information is not available	TCCNDS
	ID	SNUM				
	Delay	REAL			Delay in ns, of the calibration and signal cables from the calibration driver to the preamps and out through the postamps in the rucksack. The delay stored is that of the reference wire in a cell.	
	RefWire	INTE			Global wire number of the reference wire.	
	TCCDEL	REL			The combined signal and calibration cable delay to the postamps must have an association with a calibration cable. Each calibration cable fans out to serve the eight sense wires in a cell.	
TCPAOF					Cable delay offsets for the delay to the postamps in ns. The offset is relative to the reference wire delay stored in TCPADL. The reference wire therefore has an offset of zero. An offset of RNULL indicates that no offset is available for that wire. TCPAOF_ID is the global wire number.	TCCNDS
	ID	SNUM				
	OffSet	REAL			Offset in ns, of the delay in the calibration and signal cables relative to the reference wire delay stored in TCPADL.	
	TCPADL	REL			A offset to the combined signal and calibration cable delay must have an association with the overall delay measured for the reference wire in a cell.	
TCPARA						TCGEOM
	ID	SNUM				
	par	REAL	0.0,0.100E+05		A parameter defining a volume	
	of	GEN			The volume shape parameters are stored in TCPARA. They are passed to Geant by a call to GSVOLU, in which case TCPARA points to TCVOLU, or by a call to GSPOSP, in which case TCPARA points to TCPOS.	
	of_	REL			""	

V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
TCPEDS					The Pedestal values for the CTD FADC signals.	TCOLDHAT
	ID	SNUM				
	Pedestal	REAL			Pedestal value for FADC signal.	
TCPOS						TCGEOM
	ID	SNUM				
	nr	INTE	1,9999		Serial number	
	mother	CHA4			Name of the mother volume	
	x	REAL	-0.100E+06,0....		X linear dimension	
	y	REAL	-0.100E+06,0....		Y linear dimension	
	z	REAL	-0.100E+06,0....		Z linear dimension	
	konly	CHA4	MANY,MANY ONLY,ONLY		If MANY,a point in this volume may be in another	
	Detector	REL		P	Every Superlayer is positioned. "BY Detector" forces the relationship column to be TCPOS_Detector. This is ESSENTIAL for the working of the ZGEN generic routines.	
	rotm	REL			Every positioned volume has an associated rotation matrix. Note that the rotation matrix with ID = 0 is the unit matrix. This conforms with Geants interpretation of IROT=0 in GSPOS, GSPOSP.	
	volu	REL			A position belongs to a volume. "BY volu" is essential for the ZGEN generic routines to work.	
TCPTB					FADC pipeline data for pulse trains not analysed successfully by the DSP. The wire number (ie. the relationship to TCWIRE) is contained in the first 13 bits. StartReg gives the pipeline address of the first bin in the slice of FADC pipeline which follows. Slice(1-16) contains 16 consecutive bins of FADC pipeline. References : Zeus-Note-90-67	TCOLDHAT
Static	ID	IMPL				
	FADCData(1)	BITP			Packed FADC pipeline data. The 5 words should be thought of as a single string of bits numbered 0 to 159. _TCWIRE (13 bits) - Bits 0 - 12 SPARE -----> (3 bits) - Bits 13 - 15 StartReg (11 bits) - Bits 16 - 26 SPARE -----> (5 bits) - Bits 27 - 31 Slice(1) (8 bits) - Bits 32 - 39 (Bits 0-7 of FADCData(2)) -------- // ------- Slice(16) (8 bits) - Bits 152-159	
	.				""	
	FADCData(5)	BITP			""	
TCPULS					FADC FADCbins for troughs and crests of pulses found on FADC train	TCDSPA
	ID	SNUM				
	Crest(1)	INTE			FADC bins in which pulse crests occurred	
	.				""	
	Crest(10)	INTE			""	
	Trough(1)	INTE			FADC bins in which pulse troughs occurred	
	.				""	
	Trough(10)	INTE			""	
	Pulses	INTE			No of pulses found on pulse train	
TCRDHT					Each line in this table contains a pair of hits to be used as the end points of a trial road in segment finding. The hits in question are specified by the relationship collumns. The attribute Dist gives the distance between the hits in units of wire number. References : Zeus-Note-9?-??	TCSGSD
	ID	SNUM				
	Dist	INTE			Distance (in units of wire number) between the two hits labelled bby the relationships, used as end points for trial roads.	
	Primary	INTE			Label - eg. TCAXLY_Id of hit forming the first of a pair of road markers.	
	Secondary	INTE			Label - eg. TCAXLY_Id of hit forming the second of a pair of road markers.	
TCRESE					Energy loss resolutions and conversion factors for the CTD.	TCOLDHAT
	ID	SNUM				
	PSizeRes	REAL			Standard deviation of Gaussian distribution used to tune pulse size (eV)	
	PSizeDigi	REAL			Conversion factor between energy loss and pulse size	
TCRESR					Resolution parameterization for the r-phi system of the CTD.	TCOLDHAT
	ID	SNUM				
	RPhiRes(1)	REAL			R-phi resolution coefficients of parameterization. RPhiRes(1) is the nominal standard deviation of Gaussian distribution used to tune r-phi drift distance (um)	
	RPhiRes(2)	REAL			""	
	RPhiRes(3)	REAL			""	
TCRESZ					Resolution parameterizations for the z-by-timing system of the CTD.	TCOLDHAT
	ID	SNUM				
	ZRes(1)	REAL			Z resolution coefficients of parameterization. ZRes(1) is the nominal standard deviation of Gaussian distribution used to tune z-by-timing (cm)	
	ZRes(2)	REAL			""	
	ZRes(3)	REAL			""	
	Z2HitRes	REAL			2 hit resolution for the z-by-timing system (ns)	
TCRJCT						TCGEOM
	ID	SNUM				
	config	INTE	0,9999		Selects configuration	
	of	GEN			Every entry in TCRJCT points to an entry in TCVOLU or TCPOS which is to be REJECTED.	
	of_	REL			""	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
TCRP					Unpacked storage of r-phi hits. Used in simulations to navigate the relationships between the geant hits and the resultant CTD phase 1 hits. Regarded in reconstruction as the "virtual equivalent" of the bit-packed TCBRP and TCBPS tables for Adamo relationships	TCDATA
	ID	SNUM				
	DriftTime	INTE			Digitized drift time in units of 2.4ns.	
	PulseSize	INTE			Digitized pulse size in units of FADC counts.	
	SatFlg	INTE			Saturation flag, Zero if FADC pulse is not saturated otherwise set to the number of FADC bins in the pulse that were saturated.	
	HitFlgs	INTE			Hit Flags.	
	TCWIRE	REL			Every r-phi hit must be on a wire, a wire may have zero, one or many r-phi hits.	
TCRPB					Results of the DSP pulse analysis. The DriftTime is in 2ns bins. The wire number (ie. the relationship to TCWIRE) is contained in the first 13 bits. A full specification of the meaning of the data in this table is to be found in the TCRP table below. References : Zeus-Note-90-67	TCOLDHAT
Static	ID	IMPL				
	DSPData	BITP			Packed results of the DSP pulse analysis. The word is made up of the following bits: _TCWIRE (13 bits) - Bits 0 - 12 DriftTime (9 bits) - Bits 13 - 21 Flag (2 bits) - Bits 22 - 23 PulseSize (8 bits) - Bits 24 - 31	
TCRRES					Resolution parameterization for the r-phi system of the CTD.	TCCali
	ID	SNUM				
	RPResHiFi(1)	REAL			Coefficients of parameterization of R-phi resolution as a function of drift distance ????, for hits on high phi side of wire	
	.				""	
	RPResHiFi(10)	REAL			""	
	RPResLoFi(1)	REAL			Coefficients of parameterization of R-phi resolution as a function of drift distance ????, for hits on low phi side of wire	
	.				""	
	RPResLoFi(10)	REAL			""	
TCRTRN					Raw FADC train for single wire as unpacked from TCBFP table. Usually a pulse train will be smaller than the 64 bins allocated. However if the whole pipeline is output the pulse train will span 32 rows of the table.	TCDSPA
	ID	SNUM				
	Signal(1)	REAL	0.0,256.0		Signal value in FADC bin.	
	.		0.0,256.0		""	
	Signal(64)	REAL	0.0,256.0		""	
	TCBFP	REL			An unfiltered FADC train has many FADC bins.	
TCSBOR					Output for offline at the beginning of each run. References : Zeus-Note-91-85	RSLCTD
Static	ID	IMPL				
	TCSBOR	INTE			CTD-SLT begin-of-run data.	
TCSDET						TCGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	type	INTE	1,9999		detector type	
	nwhi	INTE	1,9999		Numb. words primary alloc. HITS	
	nwdi	INTE	1,9999		Numb. words DIGI when primary not suff.	
TCSDTA						TCGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nwhi	INTE	1,9999		Initial HITS allocation	
	nwdi	INTE	1,9999		Increment of DIGI allocation	
	sdet	REL			Some detectors give more than one type of signal	
TCSDTD						TCGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	of	GEN			Digitizations belong either to a sensitive detector or to an "alias" (TCSDTA).	
	of_	REL			""	
TCSDTH						TCGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	orig	REAL			to define the hit elem. positive	
	fact	REAL			IVAR= VAR + ORIG*FACT	
	of	GEN			Hits belong either to a sensitive detector or to an "alias" (TCSDTA).	
	of_	REL			""	
TCSDTU						TCGEOM
	ID	SNUM				
	upar	REAL			User parameter	
	of	GEN			User Parameters belong either to a sensitive detector or to an "alias" (TCSDTA).	
	of_	REL			""	
TCSDTV						TCGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	sdet	REL			Physical detectors which identify the sensitive detector. The entries in TCSDTV are usually entries in TCVOLU. (But this is not strictly necessary, hence this separate table.) See also example in Geant manual HITS 110.	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
TCSEOR					Output for offline at the end of each run. References : Zeus-Note-91-85	RSLCTD
Static	ID	IMPL				
	TCSEOR	INTE			CTD-SLT end-of-run data.	
TCSEPS					Two hit separation efficiencies for r-phi system.	TCCali
	ID	SNUM				
	Entries	INTE	1,10		Number of entries stored in the Separation and Efficiency arrays	
	Separation(1)	REAL			Drift distance separation of hits on the wire (cm)	
	.				""	
	Separation(10)	REAL			""	
	Efficiency(1)	REAL			Efficiency for resolving the two hits for this separation	
	.				""	
	Efficiency(10)	REAL			""	
TCSEVT					CTD event header table.	TCEVCNTR
Static	ID	IMPL				
	SltNo	INTE			second level trigger number for this event.	
	CtdTriggerType	INTE			internally generated trigger type	
	CrossingNo	INTE			BCO no	
	TriggerNo	INTE			first level trigger number	
	TriggerType	INTE			Trigger type as received from GFLT	
	CompRoType	INTE			Component readout type as received from GFLT	
	EventLength	INTE			Total event length (to be defined)	
	Status	INTE			event status (to be defined)	
TCSGEV					The number of tracks sent to GSLT is identical with the number of entries in TCSGTK. The number of tracks found includes duplicate tracks, that are found twice in the system. The event vertex position in transverse r-phi plane (r) is assumed to be zero in the initial trigger. The track definition flag represents the algorithm conditions. References : ZEUS-Note-95-083 ZEUS-Note-90-045 ZEUS-Note-91-072	GSLCTD
Static	ID	IMPL				
	TGSTKF	INTE	0,*		Number tracks sent to GSLT.	
	TGSTKM	INTE	0,*		Number of unmatched segments.	
	TGSTKR	INTE	0,*		Number of tracks found.	
	TGSVXP(1)	REAL			Event vertex position (z,r) (cm). In ZEUS coordinates.	
	TGSVXP(2)	REAL			""	
	TGSVXE	REAL			Event z-vertex error (cm).	
	TGSVXM	INTE	0,*		Number of tracks from vertex.	
	TGSTKD	INTE			Track definition flag.	
TCSGTK					Transverse momentum is truncated to 157 GeV/c. The exit point and direction are calculated at the centre of outermost vector hit on the track. The track vertex position in transverse r-phi plane (r) is assumed to be zero in the initial trigger. References : ZEUS-Note-95-083 ZEUS-Note-90-078 and ZEUS-Note-91-072	GSLCTD
Static	ID	IMPL				
	TGSPTR	REAL	0.0,157.0		Transverse momentum (GeV/c)	
	TGSCHR	REAL	-1.0,1.0		Charge of particle (+1 or -1).	
	TGSEX(1)	REAL	*,*		Exit point (x,y,z) (cm). In ZEUS coordinates	
	TGSEX(2)	REAL	*,*		""	
	TGSEX(3)	REAL	*,*		""	
	TGSED(1)	REAL			Exit direction (phi, cot(theta)). In ZEUS coordinates.	
	TGSED(2)	REAL			""	
	TGSVXT(1)	REAL			Track vertex position (z,r) (cm). In ZEUS coordinates.	
	TGSVXT(2)	REAL			""	
	TGSQFL	REAL			Number of segments on track.	
TCSOR					The date and time stored in TCSOR is used to label and extract the calibration and run condition information needed by the CTD at start of run. References : Zeus-Note-91-??	TCEVCNTR
Static	ID	IMPL				
	DateTime(1)	INTE			Date and time of start of run stored in the Zeus date time convention	
	DateTime(2)	INTE			""	
TCSORC					In addition to the usual status and condition data passed with the start of run record, the CTD operator may require to pass a message in the form of a free format text record to the offline analysis. This is how he does it! References : Zeus-Note-91-??	TCEVCNTR
Static	ID	IMPL				
	Comment(1)	CH16			Free format comment record containing information recorded by the operator at start of run.	
	.				""	
	Comment(5)	CH16			""	
TCSPSH					Output for offline monitoring. References : Zeus-Note-91-85	PSLCTD
Static	ID	IMPL				
	TCSPSH	INTE			CTD-SLT segment finding parameters.	
TCSPSP					Output for offline monitoring. References : Zeus-Note-91-85	PSLCTD
Static	ID	IMPL				
	TCSPSP	INTE			CTD-SLT segment parameters.	
TCSPTK					Output for offline monitoring. References : Zeus-Note-91-85	PSLCTD
Static	ID	IMPL				
	TCSPTK	INTE			CTD-SLT track finding parameters.	
TCSPVH					Output for offline monitoring. References : Zeus-Note-91-85	PSLCTD
Static	ID	IMPL				
	TCSPVH	INTE			CTD-SLT vector hit parameters.	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
TCSTIX					Private CTD statistics data	TCEnvironment
	ID	SNUM				
	StatData	BITP			Word containing event statistics data bit-packed to special recipe	
TCSTLY					Hits in Stereo layers have 3D coords associated with them but only when placed on a track.	TCPTS
	ID	SNUM				
	X	REAL	-82.4,82.4		X of hit in CTD (cm)	
	Y	REAL	-82.4,82.4		Y of hit in CTD (cm)	
	Z	REAL	-103.0,103.0		Z by stereo in CTD (cm)	
	SDrift	REAL			Drift distance	
	VarSD	REAL			Error squared on SDrift	
	VarZ	REAL			Error squared on z	
	TCCELL	REL			For convenience each hit in CTD coords is related to TCCELL.	
	TCHIT	REL			Since the XYZ value depend on the track the hit is placed on many values for a single hit are possible.	
	Sense	CHA4	+,+ -,- 0,0		Sense of sign for v coord in CTD LNO. Recorded as + or -.	
	TCLAYR	REL			For convenience each hit in CTD coords is related to TCLAYR.	
	TCWIRE	REL			For convenience each hit in CTD coords is related to TCWIRE.	
TCSTSH					Occasional output for offline monitoring. References : Zeus-Note-91-85	ISLCTD
Static	ID	IMPL				
	TCSTSH	INTE			CTD-SLT segment hit data.	
TCSTSP					Occasional output for offline monitoring. References : Zeus-Note-91-85	ISLCTD
Static	ID	IMPL				
	TCSTSP	REAL			CTD-SLT segment parameter data.	
TCSTTK					Occasional output for offline monitoring. References : Zeus-Note-91-85	ISLCTD
Static	ID	IMPL				
	TCSTTK	REAL			CTD-SLT track parameter data.	
TCSTVH					Occasional output for offline monitoring. References : Zeus-Note-91-85	ISLCTD
Static	ID	IMPL				
	TCSTVH	REAL			CTD-SLT vector hit parameter data.	
TCTODC					Calibration corrections table.	TCToADist
	ID	SNUM				
	Name	CHA8			The identifying name of the correction. Corresponds to the name of the data card.	
	CtrlFlg	INTE			Control flag. Determines version of correction to be used.	
	CodeFlg(1)	INTE			Code Flag. Determines where in code correction is to be applied.	
					""	
	CodeFlg(2)	INTE			""	
	CodeFlg(3)	INTE				
	Coeff(1)	REAL			Correction parameter coefficients. Not all 10 need to be used.	
	.				""	
	Coeff(10)	REAL			""	
TCTRAK					CTD track. The track parameters are expressed in CTD cylindrical polar coordinates. Track angle dependent corrections have been applied to the hits to make this track. References : Zeus-Note-91-67	TCDATA
	ID	SNUM				
	PosStart(1)	REAL			Track parameters in CTD cylindrical polar coordinates of track at the reference surface of the first measured point on the track. The variables are defined in the TCTRAK alias block below.	
	.				""	
	PosStart(6)	REAL			""	
	CovStart(1)	REAL			Covariance matrix of (Phi,Psi,Z,Theta,q/P) numbered as defined in ZEUS-RAL-88-12 format	
	.				""	
	CovStart(15)	REAL			""	
	PosEnd(1)	REAL			Track parameters in CTD cylindrical polar coordinates of track at the reference surface of the last measured point on the track. The variables are defined in the TCTRAK alias block below.	
	.				""	
	PosEnd(6)	REAL			""	
	CovEnd(1)	REAL			Covariance matrix of (Phi,Psi,Z,Theta,q/P) numbered as defined in ZEUS-RAL-88-12 format	
	.				""	
	CovEnd(15)	REAL			""	
	dEdx	REAL			<dE/dX> value for track. The units are FADC counts.	
	VardEdx	REAL			Error SQUARED on <dE/dX>.	
	dEdxHits	BITP			Word containing bit-packed hit info necessary for dE/dx analysis. No. of hits on track (8 bits) - Bits 0 - 7 | No. of saturated hits on track (8 bits) - Bits 8 - 15 | No. of hits used in <dE/dx> calculation (8 bits) - Bits 16 - 23 | No. of saturated hits used in <dE/dx> calculation (8 bits) - Bits 24 - 31	
	NDofF	INTE			Number of degrees of freedom in the track fit.	
	Chi2	REAL		P	Track fit Chi2	
	Prob	REAL			Track fit probability - or Chi2 confidence level.	
	TCVTX	REL		P	Every vertex must be found from at least one track. Not every track need be used to make a vertex.	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
TCTRNP					FADC train parameters and information for the current FADC train.	TCDSPA
	ID	SNUM				
	StartBin	INTE	0,2047		FADC bin that FADC train starts at.	
	StartFlg	INTE	0,1		=0 if StartBin is relative to trigger. =1 if StartBin is absolute pipeline address.	
	GWire	INTE	0,4608		Global CTD wire no. that FADC train is on.	
	FndHits	INTE	0,31		No of hits found online on this FADC train.	
	Length	INTE	0,2047		Length of FADC train.	
	FiltFlg	INTE	0,1		=0 if pulse train from online was unfiltered (from TCBFP). =1 if pulse train from online was filtered (from TCBFPF).	
TCTTOD					The CTD time to distance parameterization as a function of drift time. Used in reconstruction.	TCCali
	ID	SNUM				
	TtoDHiFi(1)	REAL			Time to distance parameterization coefficients, for hits on high phi side of wire	
	.				""	
	TtoDHiFi(10)	REAL			""	
	TtoDLoFi(1)	REAL			Time to distance parameterization coefficients, for hits on low phi side of wire	
	.				""	
	TtoDLoFi(10)	REAL			""	
TCTTOZ					Parameterisation of the z-by-timing calibration S shape. The TtoZ coefficients are used in the reconstruction	TCCali
	ID	SNUM				
	Toff	REAL			T offset in parameterization	
	TtoZ1	REAL			Coefficient of linear term for going from time difference to z position	
	TtoZ3	REAL			Coefficient of cubic term for going from time difference to z position	
	TtoZ5	REAL			Coefficient of quintic term for going from time difference to z position	
TCUNCL					Geometrical description of the unit drift cells in the CTD. The unit cell for a particular super layer is defined to be cell number 1 in that super layer. The cell numbering system is defined in Zeus-Note-89-23. References : Zeus-Note-89-23	TCGEOM
Static	ID	IMPL				
	IWIRE	INTE	1,15		Wire number as defined in section 3 of Zeus-Note-89-23.	
	Itype	INTE	1,8		Type of wire as defined in section 3 of Zeus-Note-89-23. Note that sense wires are Itype=1.	
	XC	REAL	-80.0,80.0		CTD X coordinate (cm) of wire at CTD z=0	
	YC	REAL	-80.0,80.0		CTD Y coordinate (cm) of wire at CTD z=0	
	AlphaW	REAL	-0.15,0.15		Wire stereo angle (radians).	
	ZbyTiming	LOGI			ZbyTiming=.TRUE. if wire is instrumented with ZbyTiming electronics.	
	TCLAYR	REL			Wires in TCUNCL point back to their corresponding super layer in TCLAYR.	
	TCWRTP	REL			Wires in TCUNCL point to the definition of the wire properties stored in TCWRTP.	
TCVOLU						TCGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	shape	CHA4	BOX,BOX TRD1,TRD1 TRD2,TRD2 TRAP,TRAP TUBE,TUBE TUBS,TUBS CONE,CONE CONS,CONS SPHE,SPHE PARA,PARA PGON,PGON PCON,PCON GTRA,GTRA		Shape of the volume	
	div	REL		P	Some volumes may be subdived	
	sdet	REL		P	Some volumes may be "sensitive" detectors	
	tmed	REL			Every Volume is a tracking medium.	
TCVTX					CTD vertex. The vertex parameters are expressed in ZEUS cartesian coordinates. References : Zeus-Note-92-??	TCDATA
	ID	SNUM				
	Pos(1)	REAL			Vertex parameters in Zeus cartesian coordinates. Pos(1) = x (Zeus)/cm, Pos(2) = y (Zeus)/cm and Pos(3) = z (Zeus)/cm.	
	Pos(2)	REAL			""	
	Pos(3)	REAL			""	
	Cov(1)	REAL			Covariance matrix of Pos(3) numbered as defined in ZEUS-RAL-88-12 format	
	.				""	
	Cov(6)	REAL			""	
	Chi2	REAL		P	Vertex firt Chi2.	

V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
TCWIRE					Parameters of CTD sense wires. Geometrical parameters are in CTD coordinates. References : Zeus-Note-91-67	TCGEOM
Static	ID	IMPL				
	Number	INTE	1,8		Sense Wire number in cell	
	X	REAL	-100.0,100.0		Nominal X coordinate (cm) of sense wire, at z=0 in CTD coordinates.	
	Y	REAL	-100.0,100.0		Nominal Y coordinate (cm) of sense wire, at z=0 in CTD coordinates.	
	Alpha	REAL	-0.15,0.15		Stereo angle (radians) of wire See section 4 of Zeus-Note-89-23.	
	XPosCorr	REAL			X (cm) component of correction to the nominal wire position.	
	YPosCorr	REAL			Y (cm) component of correction to the nominal wire position.	
	ZbyTiming	LOGI			TRUE if this wire is instrumented with z-by-timing electronics.	
	TCCELL	REL			A cell contains many sense wires and every sense wire is in a cell.	
TCWRTP					Description of the wires used in the CTD. References : Zeus-Note-89-23	TCGEOM
Static	ID	IMPL				
	Name	CH16	Sense,Sense Ground,Ground Guard,Guard Thinshaping,T... Thickshaping,... Field,Field Endfield,Endf... Outermostfiel...		Function of wire in CTD drift cell. Full specification of CTD wires may be found in Zeus-Note-89-23.	
	Itype	INTE	1,8		Type of wire as defined in section 3 of Zeus-Note-89-23. Note that sense wires are Itype=1.	
	Radius	REAL	0.0,0.1		Wire Radius (cm) i.e. half its diameter, NOT its radius wrt chamber centre!	
	ZEMATE	REL			Each Wire type is made of some material.	
TCZ					Unpacked storage of z-by-timing hits. Used in simulations to navigate the relationships between the geant hits and the resultant CTD phase 1 hits. Regarded in reconstruction as the "virtual equivalent" of the bit-packed TCBZ table for Adamo relationships	TCDATA
	ID	SNUM				
	TimeBin	INTE			Digitized time bin in units of 48ns.	
	ZDigi	INTE			Digitized z-co-ordinate in units of chamber length/128 from the rear of the CTD.	
	HitFlg	INTE			Hit Flag, Set to 1 if hit is good	
	TCWIRE	REL			Every z-by-timing hit must be on a wire, a wire may have zero, one or many z-by-timing hits.	
TCZB					Digitisings from the CTD z by timing system. The TimeBin is 48ns wide. The wire number (ie. the relationship to TCWIRE) is contained in the first 13 bits. A full specification of the meaning of the data in this table is to be found in the TCZ table below. References : Zeus-Note-90-67	TCOLDHAT
Static	ID	IMPL				
	ZData	BITP			Packed digitisings from the CTD z by timing system. The word is made up of the following bits: _TCWIRE (13 bits) - Bits 0 - 12 SPARE -----> (3 bits) - Bits 13 - 15 ZDig (7 bits) - Bits 16 - 22 ZFlag (1 bit) - Bits 23 - 23 TimeBin (8 bits) - Bits 24 - 31	
TCZCB					Bit packed Z-by-timing event data	TCCosmic
Static	ID	IMPL				
	ZCalData	BITP			Packed CTD Z calibration upper and lower reference values per calibration shot. The word is made up of the following bits: _TCWIRE (13 bits) - Bits 0 - 12 End pulsed (1 bits) - Bits 13 - 13 SPARE -----> (2 bits) - Bits 14 - 15 DAC value (0-255) (8 bits) - Bits 16 - 23 DDC value (0-255) (8 bits) - Bits 24 - 31	
TCZRES					Resolution parameterizations for the z-by-timing system of the CTD.	TCCali
	ID	SNUM				
	ZRes(1)	REAL			Coefficients of parameterization of z resolution as a function of z	
	.				""	
	ZRes(10)	REAL			""	
	ZDrfTRes(1)	REAL			Coefficients of parameterization of z drift time smearing required to get correct fraction of hits in the wrong time bin as a function of ???	
	.				""	
	ZDrfTRes(10)	REAL			""	
	Z2HitRes	REAL			2 hit resolution for the z-by-timing system (ns)	
TCZTOT					Parameterisation of the z-by-timing calibration S shape. The ZtoT coefficients are used in the Monte Carlo.	TCCali
	ID	SNUM				
	ZtoT0	REAL			Offset for going from z position to time difference	
	ZtoT1	REAL			Coefficient of linear term for going from z position to time difference	
	ZtoT3	REAL			Coefficient of cubic term for going from z position to time difference	
	ZtoT5	REAL			Coefficient of quintic term for going from z position to time difference	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
TD6SAM					TD6SAM contains samples info per PM after DSP processing for those PMs which were not successfully processed in DSP energy determination. The samples are the CORRECTED samples. TD signals only.	TDBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		TD PM number	
	HighSam1Sam0	INTE			16 bits sample 1, 16 bits sample 0, high gain.	
	HighSam3Sam2	INTE			16 bits sample 3, 16 bits sample 2, high gain.	
	HighSam5Sam4	INTE			16 bits sample 5, 16 bits sample 4, high gain.	
	LowSam1Sam0	INTE			16 bits sample 1, 16 bits sample 0, low gain.	
	LowSam3Sam2	INTE			16 bits sample 3, 16 bits sample 2, low gain.	
	LowSam5Sam4	INTE			16 bits sample 5, 16 bits sample 4, low gain.	
TD8SAM					TD8SAM contains samples info per PM after DSP processing for those PMs which were not successfully processed in DSP energy determination. The samples are the CORRECTED samples. TD signals only.	TDBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		TD PM number	
	HighSam1Sam0	INTE			16 bits sample 1, 16 bits sample 0, high gain.	
	HighSam3Sam2	INTE			16 bits sample 3, 16 bits sample 2, high gain.	
	HighSam5Sam4	INTE			16 bits sample 5, 16 bits sample 4, high gain.	
	HighSam7Sam6	INTE			16 bits sample 7, 16 bits sample 6, high gain.	
	LowSam1Sam0	INTE			16 bits sample 1, 16 bits sample 0, low gain.	
	LowSam3Sam2	INTE			16 bits sample 3, 16 bits sample 2, low gain.	
	LowSam5Sam4	INTE			16 bits sample 5, 16 bits sample 4, low gain.	
	LowSam7Sam6	INTE			16 bits sample 7, 16 bits sample 6, low gain.	
TDBAD					Bad channel list for the TD	TDBANK
Static	ID	IMPL				
	Channelcontrol	BITP			bad channel error code	
	PMNr	INTE	0,*		TD PM number	
	Hardwarenumber	BITP			hardware number	
TDBECA					BOR Electronics Calibration Data, contains calibration data which changes rather frequently.	TDBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number	
	HGainH2Q(1)	INTE			H->Q high gain, bits 0-23: factor, bits 24-31: offset	
	.				""	
	HGainH2Q(24)	INTE			""	
	LGainH2Q(1)	INTE			H->Q low gain, bits 0-23: factor, bits 24-31: offset	
	.				""	
	LGainH2Q(24)	INTE			""	
	TimeOff(1)	INTE			Time offset: bits 0-15: high gain, bits 16-31: low gain	
	.				""	
	TimeOff(24)	INTE			""	
TDCOEN					TD PM energy, low byte only; the order of PMs in this bank corresponds to the PM-number order given in the corresponding xxPMNO-bank	TDBANK
Static	ID	IMPL				
	PMEnLowBytes	BITP			Bits 0- 7: Energy cell n, Bits 8-15: Energy cell n+1, Bits 16-23: Energy cell n+2, Bits 24-31: Energy cell n+3	
TDDCCN					TD Digital Card Control Bank. Bits described from Most Significant Bits down to Least Significant Bits. More details available from ONLINE experts.	TDBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number.	
	DCFLTword	BITP			8 bits parity check (#80 is correct value, other are errors), 8 bits DC page number (0-15), 8 bits FLT bits, 8 bits FLT number	
	PCellnumber	BITP			8 bits Pipeline cell number, 24 bits bit=1:samples available	
	Readoutinfo	BITP			8 bits readout info, 24 bits bit=1:Dead or Bad channel	
	TPGinfo	BITP			8 bits Test Pulse Generator, 24 bits bit=1:low gain samples used	
TDDMON					TDDMON contains monitor information produced at the DSP for TD	TDBANK
Static	ID	IMPL				
	TPDigCardID	BITP			16 bits TP id, 16 bits Digital Card Number.	
	Baseline(1)	INTE			baseline: 1 per PM	
	.				""	
	Baseline(24)	INTE			""	
	TimeAverage(1)	INTE			average time: 1 per PM	
	.				""	
	TimeAverage(24)	INTE			""	
	Counter(1)	INTE				
	Counter(2)	INTE				
	NoRcnErr(1)	INTE			reconstruction error counters, 16 bits per PM.	
	.				""	
	NoRcnErr(12)	INTE			""	
	Spare(1)	INTE			To be defined later	
	.				""	
	Spare(12)	INTE			""	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
TDDUMS					TD Front End Card/ADC characteristics, means and r.m.s.	TDBANK
Static	ID	IMPL				
	TpDcAdcId	BITP			Bitpattern giving the ADC: Bits 0-7 ADC No. (1-4) Bits 9-15 DC No.(1-17) Bits 16-31 Crate identifier.	
	gndDU1M	REAL				
	gndDU1S	REAL				
	VtemporVidM	REAL				
	VtemporVidS	REAL				
	VpowerM	REAL				
	VpowerS	REAL				
	VprecM	REAL				
	VprecS	REAL				
	DU0M	REAL				
	DU0S	REAL				
	DU1M	REAL				
	DU1S	REAL				
	DU2M	REAL				
	DU2S	REAL				
	DU3M	REAL				
	DU3S	REAL				
	DU4M	REAL				
	DU4S	REAL				
	DU5M	REAL				
	DU5S	REAL				
	muxVrM	REAL				
	muxVrS	REAL				
	gndDU2M	REAL				
	gndDU2S	REAL				
TDPDMS					TDPDMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for LED testtriggers for TD.	TDBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		TD PM Nr	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
	NoRecoErr	INTE			number of reconstruction errors	
TDPLMS					TDPLMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for LASER testtriggers for TD.	TDBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		TD PM Nr	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
	NoRecoErr	INTE			number of reconstruction errors	
TDPMNO					TD PM numbers; the order of PM-numbers in this bank corresponds to the order of the entries of energy low-bytes in the corresponding xxCOEN-bank; NB: there may be entries with zero value	TDBANK
Static	ID	IMPL				
	PMNrs	BITP			Bits 0-15: Number of PM n, Bits 16-31: Number of PM n+1	
TDPPMS					TDPPMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for PED testtriggers for TD.	TDBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		TD PM Nr	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
	NoRecoErr	INTE			number of reconstruction errors	
TDPQMS					TDPQMS contains for each photomultiplier the mean and r.m.s. of the energy and time reconstructed by the DSP for QINJ testtriggers for TD.	TDBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		TD PM Nr	
	EMean	REAL			Mean of all energy values.	
	ERMS	REAL			R.M.S. of energy values.	
	TMean	REAL			Mean of all time values.	
	TRMS	REAL			R.M.S. of time values.	
	NoRecoErr	INTE			number of reconstruction errors	
TDTENE					TDTENE contains signals from TD after DSP processing in the 2TP system.	TDBANK
Static	ID	IMPL				
	PMNr	INTE	0,*		TD PM number	
	ETWord	BITP			Least significant 24 bits contain energy recorded in this PM. Most significant 8 bits contain time.	
TDUM					TD Front End Card/ADC characteristics.	TDBANK
Static	ID	IMPL				
	TpDcAdcId	BITP			Bitpattern giving the ADC: Bits 0-7 ADC No. (1-4) Bits 9-15 DC No.(1-17) Bits 16-31 Crate identifier.	
	gndDU1	INTE				
	VtemporVid	INTE				
	Vpower	INTE				
	Vprec	INTE				
	DU0	INTE				
	DU1	INTE				
	DU2	INTE				
	DU3	INTE				
	DU4	INTE				
	DU5	INTE				
	muxVr	INTE				
	gndDU2	INTE				

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
TDXOR					TD data checksums, Details available from CAL ONLINE experts.	TDBANK
Static	ID	IMPL				
	TPId	INTE			Crate identifier.	
	TDDCCNRows	INTE			Number of rows in TDDCCN bank.	
	TDTENERows	INTE			Number of rows in TDTENE bank.	
	TDCOENRows	INTE			Number of rows in TDCOEN bank.	
	TD8SAMRows	INTE			Number of rows in TD8SAM bank.	
	TD6SAMRows	INTE			Number of rows in TD6SAM bank.	
	ChkWord	BITP			Checksum word.	
	Reserved	INTE			Reserved word.	
TEC					Trigger encoder card info	CFLCALT
	ID	SNUM				
	TECNum	INTE				
	ETOTEM	REAL				
	ETOTHA	REAL				
	EtEMC	REAL				
	EtHAC	REAL				
	ExEMC	REAL				
	ExHAC	REAL				
	EyEMC	REAL				
	EyHAC	REAL				
TECONA					TEC TOP CONNECTOR	CFLCALT
	ID	SNUM				
	Region	BITP				
	Card	INTE				
	Bpl	CHA4				
	I(1)	CHA8				
	.					
	I(8)	CHA8				
	TEC	REL			Each connector A (TOP) belongs to a TEC	
TECONB					TEC BOTTOM CONNECTOR	CFLCALT
	ID	SNUM				
	Region	BITP				
	Card	INTE				
	Bpl	CHA4				
	I(1)	CHA8				
	.					
	I(8)	CHA8				
	TEC	REL			Each connecter B (bottom) belongs to a TEC	
TFB					Digitisings from the FTDs and RTD. The exact definition of the bits used is coming soom	TFRawDat
Static	ID	IMPL				
	ZData	BITP			Word containing filtered FTD/RTD information Wire No. (x bits) - Bits x - x | Time (x bits) - Bits x - x | Pulsesize (x bits) - Bits x - x | Hit flag (x bit) - Bits x - x	
TFBFP					Pipeline data from the FTD FADC system, for FADC train analysis offline. Exact definition coming soon.	TFRawDat
Static	ID	IMPL				
	FADCData	BITP			Exact definition coming soom	
TFBPLA					Entity identifies uniquely the half-connector at the backplane of the FDET Postamp Modules	TFCONNEC
	ID	SNUM				
	RackID	INTE	1,14		Rack Identifier	
	SlotNr	INTE	1,6		Slot Number in Rack	
	Position	CHA8	UPPER,UPPER LOWER,LOWER		Crate-Position	
	PlugNr	INTE	1,4		Plug-Number 1...4 from top ==> bottom	
	PinGroup	CHA4	A,A B,B		Pins 1..6 belong to Pingroup A, Pins 7..12 belong to Pingroup B	
	Cable	REL			each Half-Connector at the backplane of the Postamp Modules refers to one cell, but there are spare cables	
TFCABL					Entity contains all useful information about the cabling and the connectors of the cells on the detector side of the FDET	TFCONNEC
	ID	SNUM				
	Cellname	CH16			Cell_Id in Hardware notation (Gutjahr/Kramarczyk Schema)	
	PolyCon	CHA4			Name of Polygon-Connector	
	ServCon	CHA4			Name of Servicering-Connector	
	HVGroup	CHA4			Name of HV-Group Connector	
	CableLabel	CH16			Physical Cable Label coming from Cell	
	RdoutSide	CHA8	Left,Left Right,Right		Side from which Signal wires are read out as seen from centre of ZEUS	
	Cell	REL		P	each cable connects to one specific Cell, since Cells in different Projections are alike and appear only once in TFVOLU, the maximal cardinality is three. Minimal Cardinality on each side is 0 , as there are insensitive volumes in TFVOLU and there are spare cables in TFCABL, which are not connected at all.	
	Layer	REL		P	the cell to which the cable belongs ,is in a specific layer. Maximal Cardinality on the right side is 100 which is the maximum number of Cells in one layer (case of FTD3). Minimal Cardinality on each side is 0 , as there may be layers in TFPOS not connected at all, and there are spare cables in TFCABL.	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
TFCHAN					Entity identifies uniquely the Readout parameters of a single Sense wire in a Cell	TFCONNEC
	ID	SNUM				
	ConnStat	CHA8	ENABLE,ENABLE DEAD,DEAD DISABLED,DISA...		Connection Status DISABLED ==> not connected to FADC Readout-Electronics. DEAD ==> Channel diabled by Wiremap Registers of FADC Card ENABLE ==> connected to FADC	
	ChannelID	INTE	100000000,809...		Channel-Identifier as generated by FADC Card and ROC Digits 1,2 ==> FADC Channel (0..31) Digit# 4 ==> SlotPos in Crate (1..9) Digits 6,7 ==> Crate# (1..22) Digit# 9 ==> Pin Number (1..8)	
	WireNr	INTE	1,6		Wire Number in Cell 1...6 with z increasing	
	Backplane	REL		P	A Maximum of 6 Channels refer to a specific Half-Connector at the backplane	
	Postamp	REL		P	A Maximum of 8 Channels refer to a specific Postamp-Connector at the front of the Postamp-Modules	
TFCLBG					Entity contains global efficiencies, global tzeros, and drift velocities for every layer. There is only one entry in this table	TFCALIB
	ID	SNUM				
	layereff(1)	REAL			global layer efficiency	
	.				""	
	layereff(12)	REAL			""	
	layert0(1)	REAL			global layer tzero	
	.				""	
	layert0(12)	REAL			""	
	vdrift(1)	REAL			drift velocity in layer	
	.				""	
	vdrift(12)	REAL			""	
TFCLBW					Entity contains wire-by-wire efficiencies,tzeros and puls-height correction factors	TFCALIB
	ID	SNUM				
	effic	REAL			single wire efficiency w.r.t. global layer efficiency	
	tzero	REAL			wire-by-wire tzero	
	phcorrec	REAL			wire-by-wire puls-height correction	
	channel	REL			each wire corresponds to exactly one channel. Minimal Cardinality on right side is 0 , as there may be channels which are dead or not connected at all.	
TFCLDC					Entity contains dead regions. Each dead region is defined by its layer, its first cell and its last cell. More than 50 dead regions at a time are not expected to happen.	TFCALIB
	ID	SNUM				
	layer	INTE			Layer with dead region	
	begincell	INTE			first cell of dead region	
	endcell	INTE			last cell of dead region	
TFCORD					COORDINATES derived from digits	TFRECO
	ID	SNUM				
	type	INTE	1,12		type of coordinate u = 1 , v = 2 , w = 3	
	gsi	REAL	-180.0,180.0		generalized coordinate according to type	
	dgsi	REAL	-2.4,2.4		error of coordinate	
	gsinom	REAL	-180.0,180.0		NOMINAL generalized coordinate/ simulation only	
	z	REAL	-150.0,220.0		z in global ref.system	
	side	INTE	-1,1		below/above of wireplane in cell	
	angle	REAL			angle in rad wrt wire plane	
	xlocal	REAL			distance from end of wire where signal is read out	
	LTE	REL		P	each LTE is made of at least 2 coordinates	
	digit	REL			A coordinate belongs exactly to one digit	
TFDICO					Digitizations constants for 3 copies of a sensitive Volume	TFGEAN
	ID	SNUM				
	readout(1)	INTE	1,2		read-out sign: xlocal=neg/pos	
	readout(2)	INTE	1,2		""	
	readout(3)	INTE	1,2		""	
	toffset(1)	REAL	0.0,650.0		time offset	
	toffset(2)	REAL	0.0,650.0		""	
	toffset(3)	REAL	0.0,650.0		""	
TFDIGI					Digitizations in a Volume	TFGEAN
	ID	SNUM				
	wirenr	INTE	1,6		wire number	
	time	INTE	0,650		Drift time	
	puls	INTE	0,15		pulse height	
	cell	REL			each digit belongs to a sensitive volume	
	copy	REL			the volume to which the digit belongs to is in a given projection	
TFDIV						TFGEOM
	ID	SNUM				
	mother	CHA4			Name of the mother volume	
	step	REAL	-0.100E+05,0....		Division step	
	axis	INTE	1,3		Axis division	
	ndiv	INTE	1,9999		Number of divisions	
TFDRAW					Siegen digitisings from the FTDs and RTD. The definition of the bits used may change.	TFRawDat
Static	ID	IMPL				
	bpdat	BITP			Word containing normal filtered FTD/RTD information from Siegen Cards Crate Header : Crate Nr. (5 bits) Wire Header : Wire No. (5 Bits) - Bits 0 - 4 Board Code (4 Bits) - Bits 6 - 9 Data : Filter result (8 Bits) - Bits 0 - 7 Time bin (7 Bits) - Bits 8 - 14	
TFDTST					Digitisings from the FTDs and RTD. The definition of the bits used follows	TFRawDat
Static	ID	IMPL				
	bpdat	BITP			Word containing dumped FTD/RTD information	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
TFEOR					End of run table for FTD event table.	TFEVCNTR
	ID	SNUM				
TFFADC					Description of an FADC Card defining its operation. From this entity , the configuration file used for downloading the board is derived.	TFCONNEC
	ID	SNUM				
	HWSernum	INTE	0,999		Hardware Serial Number	
	Wmap1	INTE	0,65535		First Wiremap Register	
	Wmap2	INTE	0,65535		Sec. Wiremap Register	
	THR	INTE	0,4095		Threshold Register and optional Board Code Bit 2...6 Threshold Bit 8..11 Board Code written in header word	
	BLR	INTE	0,1023		Baseline Register	
	LTR	INTE	0,65535		LTC SimulationRegister for the meaning of bits see SIEGEN Document	
	Correg(1)	INTE	-255,255		Registers holding Filter Coefficients	
	.		-255,255		""	
	Correg(8)	INTE	-255,255		""	
	CrateNr	INTE	1,22		Crate Number using DS Schema	
	SlotNr	INTE	1,23		HW-Number of Card-Position in Crate	
	Status	CHA8	ENABLE,ENABLE DISABLED,DISA...		Card Status DISABLED ==> Card not activated by ROC. ENABLED ==> Card in Readout System.	
TFFCON					Entity identifies a specific Plug on an FADC Card	TFCONNEC
	ID	SNUM				
	PlugNr	INTE	1,4		Plugs on FADC Board numbered from top to bottom	
	FADC	REL			There are exactly 4 Plugs on the front-end of every FADC - Board	
TFHITS					Hit in a sensitive detector volume	TFGEAN
	ID	SNUM				
	xg	REAL	-130.0,130.0		x in global ref.system	
	yg	REAL	-130.0,130.0		y in global ref.system	
	zg	REAL	-150.0,220.0		z in global ref.system	
	pxp	REAL	-1.0,1.0		px/p in global ref.system	
	pyp	REAL	-1.0,1.0		py/p in global ref.system	
	pzp	REAL	-1.0,1.0		pz/p in global ref.system	
	p	REAL	0.0,0.100E+05		momentum in gev/c	
	tof	INTE	0,430		time of flight in nsecs	
	wirenr	INTE	1,6		wire number in cell	
	angle	REAL			angle in rad w.r.t wire-plane	
	dist	REAL			distance from wire in cm	
	xcur	REAL			distance from end of wire	
	time	INTE	0,430		unsmeared drift time	
	cvol	CHA4			name of sensitive volume	
	copy	INTE	1,3		copy number of sensitive volume	
	FMCKin	REL			each hit is related to a track	
	digit	REL		P	A digit belongs to one or many hits or it is Background, hits may cause no digits due to inefficiences	
TFLATE					Track element in a layer	TFRECO
	ID	SNUM				
	type	INTE	1,12		type of projection	
	gsi	REAL	-180.0,180.0		generalized coordinate	
	gsip	REAL			slope wrt z	
	z	REAL	-150.0,220.0		z in global ref. system	
	covgg	REAL			cov (gsi , gsi)	
	covgp	REAL			cov (gsi , gsip)	
	covpp	REAL			cov (gsip , gsip)	
	chisq	REAL			normalized chi**2 of fit	
	nrcord	INTE	2,8		number of coordinates	
	of	GEN		P	each local track element belongs either to a track or to a segment	
	of_	REL		P	""	
TFMSEG					3D - Track elements in a device	TFRECO
	ID	SNUM				
	XS	REAL	-130.0,130.0		X of segment in global ref.sys.	
	YS	REAL	-130.0,130.0		Y of segment in global ref.sys.	
	ZS	REAL	-150.0,220.0		Z of segment in global ref.sys.	
	XSP	REAL			slope dx/dz in global ref.system	
	YSP	REAL			slope dy/dz in global ref.system	
	COV(1)	REAL			covariance matrix elements of XS , XSP , YS and YSP cov(1) = cov (XS , XS) cov(5) = cov (XSP, XSP) cov(8) = cov (YS , YS) cov(10)= cov (YSP, YSP)	
	.				""	
	COV(10)	REAL			""	
	RESID	REAL			weighted sum of residuals	
	LTEPAT	INTE	3,6		Pattern of constituent LTEs	
	NRCORD	INTE	4,24		number of coordinates used	
	TFTRAC	REL		P	A segment may belong to a track	
TFPAMP					Entity identifies uniquely the connectors at the front-end of the FDET Postamp Modules	TFCONNEC
	ID	SNUM				
	RackID	INTE	1,14		Rack Identifier	
	SlotNr	INTE	1,6		Slot Number in Rack	
	Position	CHA8	UPPER,UPPER LOWER,LOWER		Crate-Position	
	PlugNr	INTE	1,6		Plug-Number Numbering Schema Plug 1 is top-rightside Plug 2 is top-leftside Plug 3 is second from top - leftside ------- Plug 4 is down-rightside Plug 5 is Third from top-leftside Plug 6 is bottom - leftside	
	Plug	REL		P	Every Plug from the front-end Postamp-Modules connects to exactly one Plug of the FADC Modules, however there may be modules not connected	
TFPARA						TFGEOM
	ID	SNUM				
	par	REAL	0.0,0.100E+05		A parameter defining a volume	
	of	GEN			A parameter is of a volume or a position	
	of_	REL			""	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
TFPOS						TFGEOM
	ID	SNUM				
	nr	INTE	1,9999		Serial number	
	mother	CHA4			Name of the mother volume	
	x	REAL	-0.100E+06,0....		X linear dimension	
	y	REAL	-0.100E+06,0....		Y linear dimension	
	z	REAL	-0.100E+06,0....		Z linear dimension	
	konly	CHA4	MANY,MANY ONLY,ONLY		If MANY,a point in this volume may be in another	
	Detector	REL		P	Sensitive Detectors need additional input held in TFDICO.	
	rotm	REL			each positioned volume is related to a rotation matrix	
	volu	REL			A position belongs to a volume	
TFPTB					To be defined soon	TFRawDat
Static	ID	IMPL				
	FADCData(1)	BITP			Packed FADC pipeline data. The 5 words should be thought of as a single string of bits numbered 0 to 159. Meaning of bits is to be defined soon.	
	.				""	
	FADCData(5)	BITP			""	
TFPWIN					Description of Parameters controlling the access of the pipeline memory. From this entity , the configuration file used for downloading the board is derived.	TFCONNEC
	ID	SNUM				
	WinSize	INTE	64,94		Data Length in Pipeline memory	
	WinOffset	INTE	0,1024		Offset in Pipeline memory	
TFRJCT						TFGEOM
	ID	SNUM				
	config	INTE	0,9999		Selects configuration	
	of	GEN			Rejected volumes and positions	
	of_	REL			""	
TFSDET						TFGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	type	INTE	1,9999		detector type	
	nwhi	INTE	1,9999		Numb. words primary alloc. HITS	
	nwdi	INTE	1,9999		Numb. words DIGI when primary not suff.	
TFSDTA						TFGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nwhi	INTE	1,9999		Initial HITS allocation	
	nwdi	INTE	1,9999		Increment of DIGI allocation	
	sdet	REL			Some detectors give more than one type signals	
TFSDTD						TFGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	of	GEN			Digitization storage-characteristic for a given detector set	
	of_	REL			""	
TFSDTH						TFGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	orig	REAL			to define the hit elem. positive	
	fact	REAL			IVAR= VAR + ORIG*FACT	
	of	GEN			Hit storage characteristics for a given detector set	
	of_	REL			""	
TFSDTU						TFGEOM
	ID	SNUM				
	upar	REAL			User parameter	
	of	GEN			User parameters for sensible detectors and aliases	
	of_	REL			""	
TFSDTV						TFGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	sdet	REL			Physical detectors for the master detector identifier	
TFSEVT					FTD event header table.	TFEVCNTR
Static	ID	IMPL				
	DateTime(1)	INTE			Event date and time in Zeus format for this event.	
	DateTime(2)	INTE			""	
	CrossingNo	INTE			Crossing number - exact specification to be provided by Ian	
	TriggerNo	INTE			Trigger number - exact specification to be provided by Ian	
	TriggerType	INTE			Trigger type - exact specification to be provided by Ian	
TFSOR					The date and time stored in TFSOR is used to label and extract the calibration and run condition information needed by the FTD at start of run.	TFEVCNTR
Static	ID	IMPL				
	DateTime(1)	INTE			Date and time of start of run stored in the Zeus date time convention	
	DateTime(2)	INTE			""	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
TFSORC					In addition to the usual status and condition data passed with the start of run record, the FTD operator may require to pass a message in the form of a free format text record to the offline analysis. This is how he does it!	TFEVCNTR
Static	ID	IMPL				
	Comment(1)	CH16			Free format comment record containing information recorded by the operator at start of run.	
	.				""	
	Comment(5)	CH16			""	
TFSYNC					Used by EVB to validate synchronisation with FCLR.	TFRawDat
Static	ID	IMPL				
	gflt	INTE			GFLT number	
	gslt	INTE			GSLT number	
	bcn	INTE			Bunch crossing number	
	rot	INTE			Readout type	
TFTR					TRD raw data related to a FTD track or track segment, these entities are a selection of rawdata Table TRRDAT	TFIDEN
	ID	SNUM				
	CRATE	INTE	1,9		Crate identifies TRD and anode or cathod	
	WIRE	INTE	1,304		Wire identifies x or y position in ZEUS-system	
	BPDAT(1)	BITP			bitpacked data from TRD 1 -> 4. BPDAT(1) contains, total charge, and pedestal; the remaining 5 fields hold the pulse heights and timebins of max. 10 clusters	
	.				""	
	BPDAT(6)	BITP			""	
TFTRAC					Tracks in FTD or RTD	TFRECO
	ID	SNUM				
	xfir	REAL	-130.0,130.0		X of first measured point	
	yfir	REAL	-130.0,130.0		Y of first measured point	
	zfir	REAL	-150.0,220.0		Z of first measured point	
	xpfir	REAL			slope dx/dz at first measured point	
	ypfir	REAL			slope dy/dz at first measured point	
	covfir(1)	REAL			covariance matrix of x,xp,y,yp at first measured point	
	.				""	
	covfir(10)	REAL			""	
	xlas	REAL	-130.0,130.0		X of last measured point	
	ylas	REAL	-130.0,130.0		Y of last measured point	
	zlas	REAL	-150.0,220.0		Z of last measured point	
	xplas	REAL			slope dx/dz at last measured point	
	yplas	REAL			slope dy/dz at last measured point	
	covlas(1)	REAL			covariance matrix of x,xp,y,yp at last measured point	
	.				""	
	covlas(10)	REAL			""	
	chisq	REAL			normalized chi**2 of fit	
	mode	INTE	0,20		flag indicating type of track fit	
	pest	REAL			momentum estimator	
	delp	REAL			error on momentum-est.	
TFTRDM					Dummy table for many-to-many relationship TFMSEG/TFTRAC <<-|---->> TFTR	TFIDEN
	ID	SNUM				
	TFTR	REL			Right part of TFMSEG/TFTRAC - TFTR relationship: Each TFTR entity belongs either to a track segment or to a track, one TFTR entity may have many tracks	
	of	GEN			Left part of TFMSEG/TFTRAC - TFTR relationship: Each TFTR entity belongs either to a track segment or to a track, one track may have many TFTR entities	
	of_	REL			""	
TFVOLU						TFGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	shape	CHA4	BOX,BOX TRD1,TRD1 TRD2,TRD2 TRAP,TRAP TUBE,TUBE TUBS,TUBS CONE,CONE CONS,CONS SPHE,SPHE PARA,PARA PGON,PGON PCON,PCON GTRA,GTRA		Shape of the volume	
	div	REL		P	some volumes may be subdived	
	sdet	REL		P	some volumes may belong to a detector-set	
	tmed	REL			A volume belongs to a certain tracking medium	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
TGCAND					Contains the global candidate tracks from pattern recognition	GLTRAK
	ID	SNUM				
	DetInSeq(1)	INTE			Last det. in current pseudotrack	
	.				""	
	DetInSeq(6)	INTE			""	
	NDet	INTE			# of det. in current pseudotrack	
	DetKFO(1)	INTE			Pointer to ZRXKFO for various det.	
	.				""	
	DetKFO(6)	INTE			""	
	DetKSO(1)	INTE			Pointer to ZRXKSO for various det.	
	.				""	
	DetKSO(6)	INTE			""	
	ParaAxis	REAL			Coord value on Parametrization Axis	
	StartPAxis	REAL			First Coord value on Param. Axis	
	Nmeas	INTE			Nb. of measurements	
	Chi2	REAL		P	ChiSquare filtering	
	Prob	REAL			Probability of Chi2 filt.	
	Chi2Smooth	REAL			ChiSquare smoothing	
	Status	INTE			Status flag,0/1/2 trk OPEN/CLO/SMO	
	Ambig	REL		P	Many GLobal CANDidates could go to the same GLobal TRAK	
	FTD1	REL		P	Many global candidates can contain the same FTD1 segments	
	FTD2	REL		P	Many global candidates can contain the same FTD2 segments	
	FTD3	REL		P	Many global candidates can contain the same FTD3 segments	
	MBXYSG	REL		P	Many global candidates can contain the same BMUON segments	
	RTD	REL		P	Many global candidates can contain the same FTD3 segments	
	TCTRAK	REL		P	Many global candidates can contain the same CTD segments	
	TGTCVT	REL		P	Many global candidates can contain same CTD/VXD segment	
	mfrtz	REL		P	Many global candidates can contain the same FMUON segments	
	vtct	REL		P	Many global candidates can contain the same VXD segments	
TGFWCN					Contains the relations from pattern recognition for CTD-FTD; used internally in TGREC only	GLTRAK
	ID	SNUM				
	DetKFO(1)	INTE			Pointer to ZRXKFO for various det.	
	.				""	
	DetKFO(9)	INTE			""	
	DetInSeq(1)	INTE			Last det. in current pseudotrack	
	.				""	
	DetInSeq(6)	INTE			""	
	ParaAxis	REAL			Coord value on Parametrization axis	
	Chi2	REAL		P	ChiSquare value	
	Used	INTE			1/0 if the info has/has-not been already used	
	NMeas	INTE			number of meas. for this segment	
	NDet	INTE			# of det. in current pseudotrack	
	FTD1	REL		P	Many global candidates can contain the same FTD1 segments	
	FTD2	REL		P	Many global candidates can contain the same FTD2 segments	
	FTD3	REL		P	Many global candidates can contain the same FTD3 segments	
	TCTRAK	REL		P	Many global candidates can contain the same CTD segments	
	TGTCVT	REL		P	Many global candidates can contain the same CTD+VXD segments	
TGPHYS					Contains basic tracking info for phys. analysis Momentum is measured at vertex if associated with one - otherwise at point of closest approach to x=y=0.0	GLTRAK
	ID	SNUM				
	Px	REAL			x-component of momentum	
	Py	REAL			y-component of momentum	
	Pz	REAL			z-component of momentum	
	Charge	REAL			Charge	
	Chi2	REAL		P	ChiSquare	
	NdoF	INTE			No. of degrees of freedom	
	VChi2	REAL			Chi2 contribution to the vertex fit from this track	
	Nhits(1)	INTE			No of hits/component (bit-packed) 1-2 CTD SL/SL and z hits bits 1-4 - word 1 # of FADC SL1 bits 5-8 - word 1 # of FADC SL2 bits 9-12 - word 1 # of FADC SL3 bits 13-16 - word 1 # of FADC SL4 bits 17-20 - word 1 # of FADC SL5 bits 21-25 - word 1 # of FADC SL6 bits 25-29 - word 1 # of FADC SL7 bits 1-4 - word 2 # of FADC SL8 bits 5-8 - word 2 # of FADC SL9 bits 9--> - word 2 # of z-hits 3 FTD/RTD not implemeted 4 VTX # of hits 5 F/R/BMUO B/RMUO bits 1-16 bits 1-8 - # of wires bits 9-16 - # of strip clusters FMUO bits 17-32 bits 17-23 - # of LT/LW hits bits 24-28 - # of DC hits bits 29-32 - # of DC segments	
	.				""	
	Nhits(5)	INTE			""	
	RECVTX	REL		P	TGPHYS track maybe associated with a vertex	
	TGTRAK	REL			Every entry in TGPHYS has an entry in TGTRAK	
	VCTRHL	REL			Every entry in TGPHYS has an entry in VCTRHL	
	VCTVTX	REL		P	TGPHYS track maybe associated with a vertex	
TGSCOV					Covariance parameters for this TGSEGS entry. Only filled if TGSEGS_TGSCOV is not equal to INULL	GLTRAK
	ID	SNUM				
	Cov(1)	REAL			Covariance elements for parameters for this segment	
	.				""	
	Cov(15)	REAL			""	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
TGSEGS					Contains information on additional segments that are associated with the relevant TGTRAK. Note that the six Pos parameters can be used either to describe a track or any other associated detector (e.g. HES,SRTD etc. Additional information on the covariance parameters is available if the relationship TGSEGS_TGSCOV is not equal to INULL	GLTRAK
	ID	SNUM				
	Info	INTE			Packed word containing TGTRAK_ID + 100*DetID + 10000*CoordSys in which the Pos parameters are given	
	Pos(1)	REAL			Segment parameters for this point	
	.				""	
	Pos(6)	REAL			""	
	TGSCOV	REL			relation between a TGSEGS row and its covariance matrix	
TGTCVT					Contains CTD+VXD (or CTD only) track parameters for use internally within TGRECon. Created in VCRECON or VTRECON (or in TGRECon); possibly added to in TGRECon. Information given in ZEUS frame.	GLTRAK
	ID	SNUM				
	PosStart(1)	REAL			Track parameters of Start point	
	.				""	
	PosStart(6)	REAL			""	
	CovStart(1)	REAL			Covariance matrix of Start point	
	.				""	
	CovStart(15)	REAL			""	
	PosEnd(1)	REAL			Track parameters of End point	
	.				""	
	PosEnd(6)	REAL			""	
	CovEnd(1)	REAL			Covariance matrix of End point	
	.				""	
	CovEnd(15)	REAL			""	
	CoordSys	REAL			Cord. systems used for Start/End parameters (packed: Start_system+ 100*End_system) using definitions given in Zeus Note 90-128	
	NDF	INTE			Number of degrees of freedom	
	Ndet	INTE			Number of detectors in this TGTCVT; eg 1=>CTD,2=>CTD+VXD,3=>CTD+VXD+RTD	
	DetIDs	INTE			IDs of these Ndet detectors using TG convention (1=VXD,2=CTD,3-5=FTD1-3, 6=RTD etc.); packed information	
	RecMode	INTE			Reconstruction program used to obtain this TGTCVT with convention: 1,2 ==> TGRECON -> TGTCVT (TC/VC) 10 ==> VCTRAK (VCRECON); 100==> TCTRAK+vtct (TCRECON/VTRECON)	
	Chi2	REAL		P	Track fit Chi2	
	Prob	REAL			Track fit probability	
	UserFlag(1)	INTE			Special flags for internal use inside TGRECON	
	.				""	
	UserFlag(4)	INTE			""	
	TCTRAK	REL			relation between a TGTCVT track and TCTRAK CTD track	
	VCTRHL	REL			relation between a TGTCVT track and VCTRHL CTD track	
	vtct	REL			relation between a TGTCVT track and VXD segments	
TGTMCF					establishes a many to many link between FMCKin and TGTRAK	GLTRAK
	ID	SNUM				
	NumHits	INTE			# hits of reconstr. track in common with given Geant track	
	TotHits	INTE			sum of hits of all rec. tracks which have hits in common with given Geant track	
	SL(1)	INTE			hit topology of Geant track packed CTD SL(1-9) VXD=SL(10)	
	.				""	
	SL(10)	INTE			""	
	FMCKin	REL			2nd leg of many-to-many relationship between TGTRAK and FMCKin	
	TGTRAK	REL			1st leg of many-to-many relationship between TGTRAK and FMCKin (not all stable true tracks may have corresponding reconstructed tracks, but some may have several reconstr. tracks)	
TGTMCT					establishes a many to many link between FMCKin and TGTRAK	GLTRAK
	ID	SNUM				
	NumHits	INTE			# hits of reconstr. track in common with given Geant track	
	TotHits	INTE			Total # of hits on the reconstructed track	
	HitTopo	INTE			hit topology of Geant track packed in a bit pattern of one word; bits 1-4 : # hits in VXD bits 5-7 : # hits in SL 1 ... bits 29-31 : # hits in SL 9	
	FMCKin	REL			2nd leg of many-to-many relationship between TGTRAK and FMCKin	
	TGTRAK	REL			1st leg of many-to-many relationship between TGTRAK and FMCKin (not all stable true tracks may have corresponding reconstructed tracks, but some may have several reconstr. tracks)	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
TGTRAK					Contains the Global Track parameters in ZEUS frame in cylindrical-polar coordinates. Order of parameters in ParStart and ParEnd is : Phi, Psi, z, Theta and Q*Inverse p	GLTRAK
	ID	SNUM				
	ParStart(1)	REAL			Global track parameters at track Start in cylindrical polar coords. Note that Start will normally be in the CTD or VXD. Order of parameters is: ParStart(1) = Phi (Radians) ParStart(2) = Psi (Radians) ParStart(3) = Z (cm) ParStart(4) = Theta (Radians) ParStart(5) = Q/p (GeV/c)**-1	
	.				""	
	ParStart(5)	REAL			""	
	CovStart(1)	REAL			Covariance matrix for ParStart; only half of matrix is stored as a vector of 15 real numbers such that the diagonal elements are (1),(3),(6),(10) and (15). Details in ZEUS-RAL-88-12	
	.				""	
	CovStart(15)	REAL			""	
	ParaAxisStart	REAL			Radius (cm) of Start point; name implies Start coordinate on axis where parameters are defined in a general sense for frames other than the cyl-polars chosen here	
	ParEnd(1)	REAL			Global track parameters at track End in cyl. polar coordinates defined as for ParStart. Note that End will normally be in the CTD except when an outer tracking detector is included in the Global Track; in this case it will be in that outer detector (e.g. FTD, BMUO etc.)	
	.				""	
	ParEnd(5)	REAL			""	
	CovEnd(1)	REAL			Covariance matrix for ParEnd; same convention as for CovStart	
	.				""	
	CovEnd(15)	REAL			""	
	ParaAxisEnd	REAL			Radius (cm) of End point; name implies End coordinate on axis where parameters are defined in a general sense for frames other than the cyl-polars chosen here	
	CoordSys	INTE			Cord. systems used for Start/End parameters (packed: Start_system+ 100*End_system) using definitions given in Zeus Note 90-128	
	NDet	INTE			The number of tracking detectors included in this Global Track; e.g. a CTD+VXD+BMUO track has NDet=3	
	DetIDs	INTE			IDs of these NDet detectors using TG convention (1=VXD,2=CTD,3-5=FTD1-3, 6=RTD etc.); packed information 4 bits/detector starting at LSB	
	DetTabs(1)	INTE			Pointers to Ph I tabs. Packed LSB -> Word Byte Table Detector DetID ==== ==== ===== ======== ===== 1 1 vtct VXD 1 1 2 CTD tab CTD 2 1 3 TFMSEG FTD-1 3 1 4 TFMSEG FTD-2 4 2 1 TFMSEG FTD-3 5 2 2 TFMSEG RTD 6 2 3 MBXYSG B,RMUO 7,9 2 4 mfrtz FMUO 8 CTD tab defined by RecMode.Words 3,4 reserved for further dets. (SRTD..)	
	.				""	
	DetTabs(4)	INTE			""	
	SegRef	INTE			Packed pointers to TGSEGS tables which give information on associated track segments other that Start and End e.g. FTD filtered point on a track which has End coordinates in FMUO. Packing conventions: Iseg1+100*Iseg_L; If only one ass. seg. then Iseg1=Iseg_L.	
	Chi2	REAL		P	ChiSquare of the fit taken from VCTRHL or TCTRAK/TGTCVT. Depends on the RecMode value	
	Nmeas	INTE			Number of Degrees of Freedom taken VCTRHL or TCTRAK/TGTCVT. Depends on the RecMode value	
	Prob	REAL			Probability of ChiSquare, i.e. from Chi2/Nmeas	
	Chi2Sum	REAL			The ChiSquare for producing the Kalman fit of linked detector segments, e.g. for linking CTD+BMUO in a Global Track and similar	
	TCdEdX	REAL			<dE/dX> from CTD for track; units are FADC counts.	
	TCdEdXQ	REAL			<dE/dX> Quality - to be defined !	
	TChtInfo	BITP			Bit packed CTD hit Information (see TCTRAK DDL for details of dEdXHits	
	RecMode	INTE			Reconstruction program used to obtain this TGTRAK with convention: 10 ==> VCTRAK (VCRECON); 100==> TCTRAK+vtct (TCRECON/VTRECON)	
	NMeasSum	INTE			Sum of the number of measurements of the various tracking detectors which contribute to Global Track Kalman fit	
	SurvAmb	INTE			Surviving Ambiguity Flag which is non-zero if a Global Track made up of several detector segments gave other (less probable) sequence of detector segments	
	TGCAND	REL		P	A GLobal TRAK corresponds to a global candidate track or it may be directly given e.g. from a TGTCVT	
	TGTCVT	REL		P	A GLobal TRAK can contain VXD+CTD or CTD-only segments	
	XMatEt	REL		P	This is a many-to-one relation between Global Tracks and Global Clusters. Some tracks are linked to some clusters. Many tracks could be linked to single cluster e.g. narrow, dense jet. Track is linked to only one cluster, namely to that with which it shares most energy. Some tracks are not linked to any cluster, e.g. they never reached CAL or BAC. Some clusters may have no tracks pointing to them, e.g. cluster caused by neutrals.	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
TLTBPT					BPT TLT decision and best track	O3BANK
Static	ID	IMPL				
	Veto	INTE			Result of veto	
	Find	INTE			Result of track finding	
	TrkX	REAL			X coordinate, best track, if Find>0	
	TrkY	REAL			Y coordinate, best track, if Find>0	
	TrkTx	REAL			dX/dZ, best track, if Find>0	
	TrkTy	REAL			dY/dZ, best track, if Find>0	
	Chi2	REAL		P	Total chi-squared, best track, if Find>0	
	Ebpc	REAL			Energy of associated BPC electron	
TLTCAL					Output from TLT calorimeter reconstruction	O3BANK
Static	ID	IMPL				
	NFpmt	INTE			Number of PMTs in FCAL time	
	NBpmt	INTE			Number of PMTs in BCAL time	
	NRpmt	INTE			Number of PMTs in RCAL time	
	NGpmt	INTE			Number of PMTs in FCAL time	
	NUpmt	INTE			Number of PMTs in FCAL time	
	NDpmt	INTE			Number of PMTs in FCAL time	
	NFBPmt	INTE			Number of FCAL PMTs above thresh	
	NRBPmt	INTE			Number of RCAL PMTs above thresh	
	TFcal	REAL			FCAL time	
	TBcal	REAL			BCAL time	
	TRcal	REAL			RCAL time	
	TGcal	REAL			Global CAL time	
	TUcal	REAL			Upper CAL time	
	TDcal	REAL			Lower CAL time	
	C5ptim	REAL			C5 PROTON TIME CORRECTION (ns)	
	C5etim	REAL			C5 ELECTRON TIME CORRECTION (ns)	
	Ftesum	REAL			Total energy used for FCAL time	
	Btesum	REAL			Total energy used for BCAL time	
	Rtesum	REAL			Total energy used for RCAL time	
	Gtesum	REAL			Total energy used for GCAL time	
	Utesum	REAL			Total energy used for UCAL time	
	Dtesum	REAL			Total energy used for DCAL time	
	Fterr	REAL			Error for FCAL time	
	Bterr	REAL			Error for BCAL time	
	Rterr	REAL			Error for RCAL time	
	Gterr	REAL			Error for GCAL time	
	Uterr	REAL			Error for UCAL time	
	Dterr	REAL			Error for DCAL time	
	FBPTim	REAL			Sum time of FCAL PMTs above thresh	
	RBPTim	REAL			Sum time of RCAL PMTs above thresh	
	TimFBP	REAL			Avg time of FCAL PMTs	
	TimRBP	REAL			Avg time of RCAL PMTs	
	Etot	REAL			Total energy in CAL (GeV)	
	EXsca	REAL			Total scalar X comp (GeV)	
	EYsca	REAL			Total scalar Y comp (GeV)	
	EXvec	REAL			Total vector X comp (GeV)	
	EYvec	REAL			Total vector Y comp (GeV)	
	Etnin	REAL			Et scalar minus FCAL 1 ring (GeV)	
	FcalEMC	REAL			Total FCAL EMC energy (GeV)	
	BcalEMC	REAL			Total BCAL EMC energy (GeV)	
	RcalEMC	REAL			Total RCAL EMC energy (GeV)	
	FcalHAC	REAL			Total FCAL HAC energy (GeV)	
	BcalHAC	REAL			Total BCAL HAC energy (GeV)	
	RcalHAC	REAL			Total RCAL HAC energy (GeV)	
	EFCALIN	REAL			Total FCAL inner 2 minus corners	
TLTCLU					Data for calorimeter Bank. Output of TLT CALANA module	O3BANK
Static	ID	IMPL				
	Num	INTE	0,*		Cluster identification.	
	Type	INTE	0,*		Cluster type (e = 1).	
	EEmc	REAL	0.0,*		Emc energy of cluster.	
	EHac	REAL	0.0,*		Had energy of cluster.	
	Theta	REAL	0.0,*		Theta of cluster centroid.	
	Phi	REAL	0.0,*		Phi of cluster centroid.	
TLTDBG					TLT debug information	O3BANK
Static	ID	IMPL				
	Dbugr(1)	REAL			TLT real debug information	
	Dbugr(2)	REAL			""	
	Dbugr(3)	REAL			""	
	Dbugi(1)	INTE			TLT int debug information	
	Dbugi(2)	INTE			""	
	Dbugi(3)	INTE			""	
TLTELE					TLT electron information	O3BANK
Static	ID	IMPL				
	ENECAND	REAL			energy of e candidate	
	PHICAND	REAL			azimuth angle of e candidate	
	THECAND	REAL			dip angle of e candidate	
	PXCAND	REAL			x-momentum vector of e candidate	
	PYCAND	REAL			y-momentum vector of e candidate	
	PZCAND	REAL			z-momentum vector of e candidate	
	UCAND	REAL			timing of e candidate	
	EPROB	REAL			electron prob of e candidate	
	PROG	CH16			electron finder used	
TLTEMC					TLT ElectroMagnetic Candidates. Replaces TLTELE.	O3BANK
Static	ID	IMPL				
	ENECAND	REAL			energy of e candidate	
	PHICAND	REAL			azimuth angle of e candidate	
	THECAND	REAL			dip angle of e candidate	
	XPOS	REAL			x-position vector of e candidate	
	YPOS	REAL			y-position vector of e candidate	
	ZPOS	REAL			z-posiiton vector of e candidate	
	UCAND	REAL			timing of e candidate	
	EPROB	REAL			electron prob of e candidate	
	D0	REAL			distance of closest approach for tracks at CAL	
	TLTVCHL	INTE			TLTVCHL row # of closest approach track	
	NCELLS	INTE			# of cells belonging to electron	
	EFLAG	INTE			reconstruction flag	
	PARAM1	INTE			integer spare	
	PARAM2	REAL			real spare	
	PROG	CH16			electron finder used	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
TLTEVT					TLT EVENT information	O3BANK
Static	ID	IMPL				
	XJB	REAL			X calculated from JB	
	Q2JB	REAL			Q**2 from JB	
	Xe	REAL			X from electron candidate	
	Q2e	REAL			Q**2 from electron candidate	
	Nelec	INTE			Number of electron candidates	
	Et	REAL			Et of the event	
	Etmiss	REAL			Missing Et	
	Ezsca	REAL			Total scalar longitudinal energy	
	Eminpz	REAL			E minus Pz	
	EFcal	REAL			Total FCAL energy	
	EBcal	REAL			Total BCAL energy	
	ERcal	REAL			Total RCAL energy	
	Nodeid	INTE	0,*		Node number of analyser	
	Njet	INTE	0,*		Number of clusters found	
	Ntrk	INTE	0,*		Number of tracks from VCTRAK	
	Evtype	INTE	*,*		Event type	
	Subtrg(1)	INTE			TLT subtrigger information.	
	.				""	
	Subtrg(15)	INTE			""	
	Subtr2(1)	INTE			TLT subtrigger information.	
	.				""	
	Subtr2(15)	INTE			""	
TLTFIL					Prescale factors for TLT physics filters	O3BANK
Static	ID	IMPL				
	FILID	INTE	0,*		Filter id.	
	PRESC	REAL	0.0,*		Prescale value for filter n	
TLTJET					Output of EUCTLT jet finder	O3BANK
Static	ID	IMPL				
	ET	REAL			ET of jet	
	ETA	REAL			Eta of jet	
	Phi	REAL			Phi of jet	
TLTKTJET					Output of KTTLT jet finders	O3BANK
Static	ID	IMPL				
	ET	REAL			ET of jet	
	ETA	REAL			Eta of jet	
	Phi	REAL			Phi of jet	
	PROG	CH16			Jetfinder	
TLTLPS					LPS coordinate information	O3BANK
Static	ID	IMPL				
	Pot	INTE	1,9		Pot number	
	Code	INTE		P	Quality flag	
	Xloc	REAL			X position of hit (local Ref.)	
	Yloc	REAL			Y position of hit (local Ref.)	
TLTMAT					Data for clusters matched. Output of TLT CLUMAT module	O3BANK
Static	ID	IMPL				
	Enrcls	REAL			Energy of matched EMC cluster	
	Thtcls	REAL			Theta of matched EMC cluster	
	Phicls	REAL			Phi of matched EMC cluster	
	Enrtrk	REAL			Momemtum of matched track	
	Thitrk	REAL			Theta of matched track	
	Phitrk	REAL			Phi of matched track	
TLTMF					FMUON information	O3BANK
Static	ID	IMPL				
	type	INTE			flag trigger type 1/2/3 -> tf/spline/match	
	par(1)	REAL			output of the trigger, depending on type	
	.				""	
	par(10)	REAL			""	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
TLTVAR					TLT physics filter informations.	O3BANK
Static	ID	IMPL				
	SPPINT(1)	INTE			Integer value for SPP Filter	
	.				""	
	SPPINT(5)	INTE			""	
	SPPREL(1)	REAL			Real value for SPP	
	.				""	
	SPPREL(10)	REAL			""	
	DISINT(1)	INTE			Integer value for DIS Filter	
	.				""	
	DISINT(5)	INTE			""	
	DISREL(1)	REAL			Real value for DIS	
	.				""	
	DISREL(10)	REAL			""	
	HPPINT(1)	INTE			Integer value for HPP Filter	
	.				""	
	HPPINT(5)	INTE			""	
	HPPREL(1)	REAL			Real value for HPP	
	.				""	
	HPPREL(10)	REAL			""	
	EXOINT(1)	INTE			Integer value for EXO Filter	
	.				""	
	EXOINT(5)	INTE			""	
	EXOREL(1)	REAL			Real value for EXO	
	.				""	
	EXOREL(10)	REAL			""	
	MUOINT(1)	INTE			Integer value for MUO Filter	
	.				""	
	MUOINT(5)	INTE			""	
	MUOREL(1)	REAL			Real value for MUO	
	.				""	
	MUOREL(10)	REAL			""	
	HFLINT(1)	INTE			Integer value for HFL Filter	
	.				""	
	HFLINT(5)	INTE			""	
	HFLREL(1)	REAL			Real value for HFL	
	.				""	
	HFLREL(10)	REAL			""	
	DUMINT(1)	INTE			Integer value for DUMMY Filter	
	.				""	
	DUMINT(5)	INTE			""	
	DUMREL(1)	REAL			Real value for DUMMY	
	.				""	
	DUMREL(10)	REAL			""	
TLTVCAT					TLTVCATCAL Information	O3BANK
Static	ID	IMPL				
	KODSWM	INTE	0,*		KJI, the swim status code I= reason swim was ended 1(FCAL, passed Z=217.51), 2(RCAL, passed Z=-142.5), 3(BCAL, passed R=124.0), 0(track started to return) J= inner axial SL with hits, K= outer axial SL with hits, where SL=0(VXD),..9(CTDSL9)	
	X	REAL			x position at end of swim	
	Y	REAL			y position at end of swim	
	Z	REAL			z position at end of swim	
	PX	REAL			Px at end of swim	
	PY	REAL			Py at end of swim	
	PZ	REAL			Pz at end of swim	
	Q	REAL			Charge of track	
	COV(1)	REAL			Covariance matrix.	
	.				""	
	COV(15)	REAL			""	
TLTVCHL					VCTRAK information	TLTVCT
Static	ID	IMPL				
	trkn	INTE	0,*		Track number.	
	nax	INTE	0,*		Number of Axial hits.	
	nzbt	INTE	0,*		Number of Z by timing hits,	
	nste	INTE	0,*		Number of stereo hits.	
	ndf	INTE	0,*		Number of d.o.f.	
	azim	REAL			Azimuth.	
	qovr	REAL			Q/R.	
	qxdh	REAL			Q*DH.	
	zh	REAL			ZH.	
	tdip	REAL			tan(DIP).	
	phii	REAL			Phi innermost.	
	phio	REAL			Phi outermost.	
	pgevc	REAL			Momentum of track.	
	chi2	REAL			Chi2 of track.	
	covm(1)	REAL			Covariance matrices.	
	.				""	
	covm(15)	REAL			""	
	scatdaz	REAL			XY-kink between VXDandCTD.	
	scatcov	REAL			covariance of scatdaz.	
	scatds	REAL			path length to XY_kink.	
	dedx	REAL			average FADC pulse size.	
TLTVCPK					VCTRAK packed information per track bank 10/row	TLTVCT
Static	ID	IMPL				
	hitpak(1)	INTE	0,*		Packed information on hits.	
	.		0,*		""	
	hitpak(10)	INTE	0,*		""	
TLTVCPR					TLTVCTPAR Information	O3BANK
Static	ID	IMPL				
	Par(1)	REAL			final track parameters at the vertex	
	Par(2)	REAL			""	
	Par(3)	REAL			""	
	Cov(1)	REAL			Covariance matrix	
	.				""	
	Cov(6)	REAL			""	
	Chi2	REAL		P	Chi2 contribution to the vertex fit from this track	
	D0	REAL			Final D0 w.r.t. the reconstructed vertex	
	PRoducedAt	INTE			JVCO	
	VCTRHL	INTE			track is index in VCTRAK	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
TLTVCTKS					TLTVCTKS = Compressed table for TLT VC TracKS (TLTVCHL+TLTVCAT) reconstruction	TLTVCT
Static	ID	IMPL				
	I(1)	INTE			TLTVCTKS integer part	
	.				""	
	I(9)	INTE			""	
	R(1)	REAL			TLTVCTKS real part	
	.				""	
	R(12)	REAL			""	
TLTVTX					Data for Vertex found. Output of TLT VCOVERT module	O3BANK
Static	ID	IMPL				
	NTrkv	INTE	0,*		Number of tracks used to find vtx.	
	PVX	REAL	0.0,*		X coordinate of vertex (prefit).	
	PVY	REAL	0.0,*		Y coordinate of vertex (prefit).	
	PVZ	REAL	0.0,*		Z coordinate of vertex (prefit).	
	PChi2	REAL	0.0,*		Chi2 of vertex (prefit).	
	FVX	REAL	0.0,*		X coordinate of vertex (full fit).	
	FVY	REAL	0.0,*		Y coordinate of vertex (full fit).	
	FVZ	REAL	0.0,*		Z coordinate of vertex (full fit).	
	FChi2	REAL	0.0,*		Chi2 of vertex (full fit).	
TNDICO					Just to have the table there!	TNGEOM
	ID	SNUM				
	Word1	REAL			PlaceHolder for now! NMcC 30Aug92	
TNDIV						TNGEOM
	ID	SNUM				
	mother	CHA4			Name of the mother volume	
	step	REAL	-0.100E+05,0....		Division step	
	axis	INTE	1,3		Axis division	
	ndiv	INTE	1,9999		Number of divisions	
TNPARA						TNGEOM
	ID	SNUM				
	par	REAL	0.0,0.100E+05		A parameter defining a volume	
	of	GEN			A parameter is of a volume or a position	
	of_	REL			""	
TNPOS						TNGEOM
	ID	SNUM				
	nr	INTE	1,9999		Serial number	
	mother	CHA4			Name of the mother volume	
	x	REAL	-0.100E+06,0....		X linear dimension	
	y	REAL	-0.100E+06,0....		Y linear dimension	
	z	REAL	-0.100E+06,0....		Z linear dimension	
	konly	CHA4	MANY,MANY ONLY,ONLY		If MANY,a point in this volume may be in another	
	Detector	REL		P	each sensible volume positioned is related to some digitization parameter	
	rotm	REL			each positioned volume is related to a rotation matrix	
	volu	REL			A position belongs to a volume	
TNRJCT						TNGEOM
	ID	SNUM				
	config	INTE	0,9999		Selects configuration	
	of	GEN			Rejected volumes and positions	
	of_	REL			""	
TNSDET						TNGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	type	INTE	1,9999		detector type	
	nwhi	INTE	1,9999		Numb. words primary alloc. HITS	
	nwdi	INTE	1,9999		Numb. words DIGI when primary not suff.	
TNSDTA						TNGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nwhi	INTE	1,9999		Initial HITS allocation	
	nwdi	INTE	1,9999		Increment of DIGI allocation	
	sdet	REL			Some detectors give more than one type signals	
TNSDTD						TNGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	of	GEN			Sensible detectors and aliases digitizations	
	of_	REL			""	
TNSDTH						TNGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	orig	REAL			to define the hit elem. positive	
	fact	REAL			IVAR= VAR + ORIG*FACT	
	of	GEN			each detec. element needs the parameter definition	
	of_	REL			""	
TNSDTU						TNGEOM
	ID	SNUM				
	upar	REAL			User parameter	
	of	GEN			User parameters for sensible detectors and aliases	
	of_	REL			""	
TNSDTV						TNGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	sdet	REL			Physical detectors for the master detector identifier	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
TNVOLU						TNGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	shape	CHA4	BOX,BOX TRD1,TRD1 TRD2,TRD2 TRAP,TRAP TUBE,TUBE TUBS,TUBS CONE,CONE CONS,CONS SPHE,SPHE PARA,PARA PGON,PGON PCON,PCON GTRA,GTRA		Shape of the volume	
	div	REL		P	some volumes may be subdived	
	sdet	REL		P	some volumes may be also active detectors	
	tmed	REL			Volume tracking medium number	
TRB					Digitisings from the TRD. The exact definition of the bits used is coming soom	TRRawDat
Static	ID	IMPL				
	ZData	BITP			Word containing filtered TRD information	
TRBFP					Pipeline data from the TRD FADC system, for FADC train analysis offline. Exact definition coming soon.	TRRawDat
Static	ID	IMPL				
	FADCData	BITP			Exact definition coming soom	
TRCLBG					Global means (averaged over all TRD wires) of Total Charge Time above Threshold Number of Clusters Pulse Height Time Bin for every TRD module (1-4 anodes, 5-8 cathodes). Dividing a value by this mean, one gets the value-"ratio". There is only one entry in this table.	TRCALIB
	ID	SNUM				
	TC	REAL			global mean Total Charge	
	TaT	REAL			global mean Time above Threshold	
	NCl	REAL			global mean Number of Clusters	
	PH	REAL			global mean Pulse Height	
	TB	REAL			global mean Time Bin	
TRCLBWNCL					Single wire ratio mean of Number of Clusters	TRCALIB
	ID	SNUM				
	TRD(1)	REAL				
	.					
	TRD(8)	REAL				
TRCLBWPH					Single wire ratio mean of Pulse Height	TRCALIB
	ID	SNUM				
	TRD(1)	REAL				
	.					
	TRD(8)	REAL				
TRCLBWTAT					Single wire ratio mean of Time above Threshold	TRCALIB
	ID	SNUM				
	TRD(1)	REAL				
	.					
	TRD(8)	REAL				
TRCLBWTB					Single wire ratio mean of Time Bin	TRCALIB
	ID	SNUM				
	TRD(1)	REAL				
	.					
	TRD(8)	REAL				
TRCLBWTC					Single wire ratio mean of Total Charge for every TRD module (1-4 anodes, 5-8 cathodes). Dividing a value by this mean one gets the "normalised" value.	TRCALIB
	ID	SNUM				
	TRD(1)	REAL				
	.					
	TRD(8)	REAL				
TRCLUSTER					Cluster from TR or dE/dx	TRMC
	ID	SNUM				
	xgcl	REAL			xposition	
	ygcl	REAL			yposition	
	zgcl	REAL			zposition	
	orig	INTE	1,2		origin, 1 = TR, 2 = dE/dx	
	energy	REAL			energy deposit	
	FMCKin	REL			track in FMCKin that produced this cluster	
TRDIV						TRGEOM
	ID	SNUM				
	mother	CHA4			Name of the mother volume	
	step	REAL	-0.100E+05,0....		Division step	
	axis	INTE	1,3		Axis division	
	ndiv	INTE	1,9999		Number of divisions	
TRDRAW					Digitisings from the TRD. The definition of the bits used follows.	TRRawDat
Static	ID	IMPL				
	bpdat	BITP			Word containing bitpacked TRD Data. Exact definition follows.	
TRDRW2					Digitisings from the TRD. The definition of the bits used follows.	TRRawDat
Static	ID	IMPL				
	bpdat	BITP			Word containing bitpacked TRD Data. Exact definition follows.	
TRDTCT					Place holder for Pos to Detector table relationship.	TRGEOM
	ID	SNUM				

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
TRDTST					Digitisings from the TRD. The definition of the bits used follows	TRRawDat
Static	ID	IMPL				
	bpdat	BITP			Word containing bitpacked TRD Data. Exact definition follows.	
TREOR					End of run table for TRD event table.	TREVCNTR
	ID	SNUM				
TRGTWR					Location of the trigger towers	CFLCALT
	ID	SNUM				
	Locatn	INTE				
	Trgnum	INTE				
	HACSum	REAL				
	EMCSum	REAL				
	Theta	REAL				
	Phi	REAL				
	TEC	REL			Triggers tower are digitized and summed on the TEC	
TRPARA						TRGEOM
	ID	SNUM				
	par	REAL	0.0,0.100E+05		A parameter defining a volume	
	of	GEN			A parameter is of a volume or a position	
	of_	REL			""	
TRPOS						TRGEOM
	ID	SNUM				
	nr	INTE	1,9999		Serial number	
	mother	CHA4			Name of the mother volume	
	x	REAL	-0.100E+06,0....		X linear dimension	
	y	REAL	-0.100E+06,0....		Y linear dimension	
	z	REAL	-0.100E+06,0....		Z linear dimension	
	konly	CHA4	MANY,MANY ONLY,ONLY		If MANY,a point in this volume may be in another	
	Detector	REL		P	general Bologna scheme relationship: ESSENTIAL! NMcC	
	rotm	REL			each positioned volume is related to a rotation matrix	
	volu	REL			A position belongs to a volume	
TRPTB					To be defined soon	TRRawDat
Static	ID	IMPL				
	FADCData(1)	BITP			Packed FADC pipeline data. The 5 words should be thought of as a single string of bits numbered 0 to 159. Meaning of bits is to be defined soon.	
	.				""	
	FADCData(5)	BITP			""	
TRPULSES					FADC pulsetrain for specific TRD module and wire	TRMC
	ID	SNUM				
	ph(1)	INTE	0,255		FADC pulsetrain	
	.		0,255		""	
	ph(80)	INTE	0,255		""	
	trd	INTE	1,8		TRD module no.	
	wire	INTE	0,304		wire no.	
TRRJCT						TRGEOM
	ID	SNUM				
	config	INTE	0,9999		Selects configuration	
	of	GEN			Rejected volumes and positions	
	of_	REL			""	
TRSDET						TRGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	type	INTE	1,9999		detector type	
	nwhi	INTE	1,9999		Numb. words primary alloc. HITS	
	nwdi	INTE	1,9999		Numb. words DIGI when primary not suff.	
TRSDTA						TRGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nwhi	INTE	1,9999		Initial HITS allocation	
	nwdi	INTE	1,9999		Increment of DIGI allocation	
	sdet	REL			Some detectors give more than one type signals	
TRSDTD						TRGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	of	GEN			Digitization storage-characteristic for a given detector set	
	of_	REL			""	
TRSDTH						TRGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	orig	REAL			to define the hit elem. positive	
	fact	REAL			IVAR= VAR + ORIG*FACT	
	of	GEN			Hit storage characteristics for a given detector set	
	of_	REL			""	
TRSDTU						TRGEOM
	ID	SNUM				
	upar	REAL			User parameter	
	of	GEN			User parameters for sensible detectors and aliases	
	of_	REL			""	
TRSDTV						TRGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	sdet	REL			Physical detectors for the master detector identifier	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
TRSEVT					TRD event header table.	TREVCNTR
Static	ID	IMPL				
	DateTime(1)	INTE			Event date and time in Zeus format for this event.	
	DateTime(2)	INTE			""	
	CrossingNo	INTE			Crossing number - exact specification to be provided by Ian	
	TriggerNo	INTE			Trigger number - exact specification to be provided by Ian	
	TriggerType	INTE			Trigger type - exact specification to be provided by Ian	
TRSOR					The date and time stored in TRSOR is used to label and extract the calibration and run condition information needed by the TRD at start of run.	TREVCNTR
Static	ID	IMPL				
	DateTime(1)	INTE			Date and time of start of run stored in the Zeus date time convention	
	DateTime(2)	INTE			""	
TRSORC					In addition to the usual status and condition data passed with the start of run record, the TRD operator may require to pass a message in the form of a free format text record to the offline analysis. This is how he does it!	TREVCNTR
Static	ID	IMPL				
	Comment(1)	CH16			Free format comment record containing information recorded by the operator at start of run.	
	.				""	
	Comment(5)	CH16			""	
TRSTATUS					Bit encoded status word with information, if this wire can be used. Bits mean: mb_use_tr 0 Useful data mb_bad_tr 1 Bad wire - do not use information mb_dead_tr 2 Dead mb_weak_tr 3 Weak mb_hot_tr 4 Hot The aliases mb_... are set in trcstatus.inc in trrecon.	TRCALIB
	ID	SNUM				
	TRD(1)	INTE				
	.					
	TRD(8)	INTE				
TRSYNC					Used by EVB to validate synchronisation with FCLR.	TRRawDat
Static	ID	IMPL				
	gflt	INTE			GFLT number	
	gslt	INTE			GSLT number	
	bcn	INTE			Bunch crossing number	
	rot	INTE			Readout type	
TRVOLU						TRGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	shape	CHA4	BOX,BOX TRD1,TRD1 TRD2,TRD2 TRAP,TRAP TUBE,TUBE TUBS,TUBS CONE,CONE CONS,CONS SPHE,SPHE PARA,PARA PGON,PGON PCON,PCON GTRA,GTRA		Shape of the volume	
	div	REL		P	some volumes may be subdived	
	sdet	REL		P	some volumes may belong to a detector-set	
	tmed	REL			A volume belongs to a certain tracking medium	
TSCLST					Trigger Sum Card Info	CFLCALT
	ID	SNUM				
	CAL	CHA4				
	Module	INTE				
	TSCnum	INTE				
	Type	CHA4				
	Dway	CHA4				
	I(1)	CHA8				
	.					
	I(8)	CHA8				
TSUMCD					Trigger Sum Card Info	CFLCALT
	ID	SNUM				
	CAL	CHA4				
	Module	INTE				
	TSCnum	INTE				
	Type	CHA4				
	Dway	CHA4				
	I(1)	CHA8				
	.					
	I(8)	CHA8				
	Cable	REL			Each TrigSumCard belongs to a Cable	
USGEvt					Physics generator event header information. All the parameters relate to the user inelastic scattering event generator. References : Zeus-Note-91-13	FMCZEvt
	ID	SNUM				
	IPA(1)	INTE			Integer array for user generator event parameters.	
	.				""	
	IPA(10)	INTE			""	
	RPA(1)	REAL			Real array for user generator event parameters.	
	.				""	
	RPA(10)	REAL			""	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
USGRun					The contents of the common lines in this table record the conditions under which the user event generator was run. References : Zeus-Note-91-13	FMCZRUNS
	ID	SNUM				
	Comment(1)	CH16			Free format comment line describing the user generator run conditions.	
	.				""	
	Comment(5)	CH16			""	
	IPA(1)	INTE			Integer array for the user generator parameters.	
	.				""	
	IPA(10)	INTE			""	
	RPA(1)	REAL			Real array for the user generator parameters.	
	.				""	
	RPA(10)	REAL			""	
USRTB1					User Table 1. The Name/Ip attributes can be used by the user to do his/her own relationships	USERTBLS
	ID	SNUM				
	RvL(1)	REAL			Long array of 20 Reals	
	.				""	
	RvL(20)	REAL			""	
	IvS(1)	INTE			Short array of 5 Integers	
	.				""	
	IvS(5)	INTE			""	
	BvS(1)	BITP			Short array of 5 bit-packed	
	.				""	
	BvS(5)	BITP			""	
	Lvar(1)	LOGI			array of 2 logicals	
	Lvar(2)	LOGI			""	
	Name1	CHA8			character*8 variable	
	Ip1	INTE			Integer (pointer)	
	Name2	CHA8			character*8 variable	
	Ip2	INTE			Integer (pointer)	
USRTB2					User Table 2. The Name/Ip attributes can be used by the user to do his/her own relationships	USERTBLS
	ID	SNUM				
	RvS(1)	REAL			Short array of 5 Reals	
	.				""	
	RvS(5)	REAL			""	
	IvL(1)	INTE			Long array of 20 Integers	
	.				""	
	IvL(20)	INTE			""	
	BvS(1)	BITP			Short array of 5 bit-packed	
	.				""	
	BvS(5)	BITP			""	
	Lvar(1)	LOGI			array of 2 logicals	
	Lvar(2)	LOGI			""	
	Name1	CHA8			character*8 variable	
	Ip1	INTE			Integer (pointer)	
	Name2	CHA8			character*8 variable	
	Ip2	INTE			Integer (pointer)	
USRTB3					User Table 3. The Name/Ip attributes can be used by the user to do his/her own relationships	USERTBLS
	ID	SNUM				
	RvS(1)	REAL			Short array of 5 Reals	
	.				""	
	RvS(5)	REAL			""	
	IvS(1)	INTE			Short array of 5 Integers	
	.				""	
	IvS(5)	INTE			""	
	BvL(1)	BITP			Long array of 20 bit-packed	
	.				""	
	BvL(20)	BITP			""	
	Lvar(1)	LOGI			array of 2 logicals	
	Lvar(2)	LOGI			""	
	Name1	CHA8			character*8 variable	
	Ip1	INTE			Integer (pointer)	
	Name2	CHA8			character*8 variable	
	Ip2	INTE			Integer (pointer)	
VCATCAL					VCTRHL tracks AT the CALorimeter	VCTBNK
Static	ID	IMPL				
	KODSWM	INTE	0,*		KJI, the swim status code I= reason swim was ended 1(FCAL, passed Z=217.51), 2(RCAL, passed Z=-142.5), 3(BCAL, passed R=124.0), 0(track started to return) J= inner axial SL with hits, K= outermost CTD SL with hits, where SL=0(VXD),..9(CTDSL9)	
	X	REAL			x position at end of swim	
	Y	REAL			y position at end of swim	
	Z	REAL			z position at end of swim	
	PX	REAL			Px at end of swim	
	PY	REAL			Py at end of swim	
	PZ	REAL			Pz at end of swim	
	Q	REAL			Charge of track	
	COV(1)	REAL			Covariance matrix.	
	.				""	
	COV(15)	REAL			""	
VCCTDM					CTD planar drift measurement	MVRECO
	ID	SNUM				
	wirid	BITP			packed word for wire ID - datatype/superlayer/cell/wire - 2 bits datatype =1 (TCBRP), =2 (TCBZ coarse rp), =3 (TCBZ z) - 4 bits superlayer 1-9 - 8 bits cell - 3 bits sense wire	
	mean	REAL			drift distance (or Z) in cm assumed by PR	
	rms	REAL			error in cm assumed by PR	
	rawid	BITP			byte location in raw data table from datatype	

V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
VCEVTCTD					Contains the vertex, if any, using VCTKSCTD tracks, and the sizes of the used input raw data tables	VCTBNK
Static	ID	IMPL				
	Ntracks	INTE			Number of VCTKSCTD tracks used	
	V(1)	REAL			REGular fitted vertex (X,Y,Z)	
	V(2)	REAL			""	
	V(3)	REAL			""	
	Cov(1)	REAL			Covariance matrix	
	.				""	
	Cov(6)	REAL			""	
	Chi2	REAL		P	Total chi2	
	NZBYT	INTE			Coutab(TCBZ)	
	NFADC	INTE			Coutab(TCBRP)	
	NVXD	INTE			Coutab(vtraw)	
	NTFMSEG	INTE			Coutab(TFMSEG)	
	NSRTin	INTE			Coutab(SreHit)	
VCEVTREG					Contains the vertex, if any, using VCTKSREG tracks, and the sizes of the used input raw data tables	VCTBNK
Static	ID	IMPL				
	Ntracks	INTE			Number of VCTKSREG tracks used	
	V(1)	REAL			REGular fitted vertex (X,Y,Z)	
	V(2)	REAL			""	
	V(3)	REAL			""	
	Cov(1)	REAL			Covariance matrix	
	.				""	
	Cov(6)	REAL			""	
	Chi2	REAL		P	Total chi2	
	NZBYT	INTE			Coutab(TCBZ)	
	NFADC	INTE			Coutab(TCBRP)	
	NVXD	INTE			Coutab(vtraw)	
	NTFMSEG	INTE			Coutab(TFMSEG)	
	NSRTin	INTE			Coutab(SreHit)	
VCGCCZ					VCTRAK calibration	VCCALI
Static	ID	IMPL				
	date1	INTE	0,*		yyyymmdd validity start date	
	time1	INTE	0,*		hhmmss validity start time	
	date2	INTE	0,*		yyyymmdd validity end date	
	time2	INTE	0,*		hhmmss validity end time	
	card(1)	REAL			#1=DBCTD (Lorentz angle shift). #2=CMBYNS (drift speed in cm/ns). #3=scales resolution of rphi via zbyt. #4=T0 (in ns) of rphi via zbyt. #5=Z resolution (in cm) of zbyt. #6=rphi resolution (in cm) of FADC. #7to10= t->z params ala TC package.	
	.				""	
	card(10)	REAL			""	
VCGCVX					VCTRAK calibration	VCCALI
Static	ID	IMPL				
	date1	INTE	0,*		yyyymmdd validity start date	
	time1	INTE	0,*		hhmmss validity start time	
	date2	INTE	0,*		yyyymmdd validity end date	
	time2	INTE	0,*		hhmmss validity end time	
	card(1)	REAL			#1=fudge inflating VXD resolution. #2,3=ORIVXD(2) (X,Y of VXD in cm wrt CTD). #4=az0 of VXD (in radians wrt CTD). #5,6=dX/dZ,dY/dZ of VXD (wrt CTD). #6=rphi resolution (in cm) of FADC. #7=T0 of VXD (in 4ns units). #8=Pulse widthcut ala VT package.	
	.				""	
	card(8)	REAL			""	
VCGCXY					VCTRAK calibration	VCCALI
Static	ID	IMPL				
	Nrun	INTE	1,*		Run number	
	Xfit	REAL			X position from Gaussian fit (cm).	
	Yfit	REAL			Y position from Gaussian fit (cm).	
	Xsig	REAL			SigmaX from Gaussian fit (cm).	
	Ysig	REAL			SigmaY from Gaussian fit (cm).	
	Nevt	INTE	0,*		Total number of entries this run.	
VCLCF					VCTRHL trajectory at each used outer detector	VCTBNK
Static	ID	IMPL				
	X	REAL			x (at outer detector,param 1)	
	Y	REAL			y (" 2)	
	DXDZ	REAL			dx/dz (" 3)	
	DYDZ	REAL			dy/dz (" 4)	
	QbyP	REAL			charge/momentum(" 5)	
	Z	REAL			z (position of above fit)	
	COV(1)	REAL			fit covariance matrix	
	.				""	
	COV(15)	REAL			""	
	EPSX	REAL			outer dx/dz kink	
	EPSY	REAL			outer dy/dz kink	
	EPSRMS	REAL			rms of EPSX or EPSY kink	
	ZEPS	REAL			z of outer kink	
	SreHit	REL		P	Some VCLCF may have a relationship to SreHit	
	TFMSEG	REL		P	Some VCLCF may have a relationship to TFMSEG	
	VCLCF	REL		P	Some VCLCF may have a relationship to another VCLCF	
	VCTRHL	REL		P	Relation between trajectory at outer detector and VCTRHL	
VCMVCLU					defines the VCMVD cluster	VCTMVD
Static	ID	IMPL				
	mean	REAL			cluster mean (strip units)	
	rms	REAL			cluster rms (error on mean)	
	signal	INTE			total ADC count	
	strip1	INTE			first strip number	
	stripn	INTE			last strip number	
	waferid	BITP			Packed word for the wafer number, same convention as MVWAF	
	xyz(1)	REAL			coordinates in ZEUS (cm)	
	xyz(2)	REAL			""	
	xyz(3)	REAL			""	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
VCMVHLX					MVD TLT fitted track and clusters used	VCTMVD
Static	ID	IMPL				
	hel(1)	REAL			helix parameters wrt reference (x,y)=(0,0)	
	.				""	
	hel(5)	REAL			""	
	Mom	REAL			Momentum	
	Cov(1)	REAL			covariance matrix	
	.				""	
	Cov(15)	REAL			""	
	Chsq	REAL			Chisqr	
	NBrBzWuWv	INTE			NBr*1000000+NBz*10000+NWu*100+NWv	
	cluadd(1)	BITP			VCMVCLU IDs:ID1(0-15),ID2(16-31)	
	.				""	
	cluadd(6)	BITP			""	
VCMVHLXP					Contains the track parameters at the PRIMARY vertex point	VCTMVD
Static	ID	IMPL				
	Par(1)	REAL			track parameters at PRIMARY vertex	
	Par(2)	REAL			""	
	Par(3)	REAL			""	
	Cov(1)	REAL			Covariance matrix	
	.				""	
	Cov(6)	REAL			""	
	Chi2	REAL		P	Chi2 contribution to the vertex fit from this track	
	Unused	INTE			Unused	
	D0	REAL			Final D0 w.r.t. the PRIMARY vertex	
VCMVHLXS					Contains the track parameters at THE SECONDARY verteces	VCTMVD
Static	ID	IMPL				
	Par(1)	REAL			track params at SECONDARY vertex	
	Par(2)	REAL			""	
	Par(3)	REAL			""	
	Cov(1)	REAL			Covariance matrix	
	.				""	
	Cov(6)	REAL			""	
	Chi2	REAL		P	Chi2 contribution to the vertex fit from this track	
	VTXS	INTE			VCMVVTXS ID of the vertex the track belongs to	
	D0	REAL			Final D0 w.r.t. the SECONDARY vertex	
VCMVVTXP					Contains the PRIMARY vertex position after VCMVD	VCTMVD
Static	ID	IMPL				
	V(1)	REAL			Coordinates of the PRIMARY vertex	
	V(2)	REAL			""	
	V(3)	REAL			""	
	Cov(1)	REAL			Covariance matrix	
	.				""	
	Cov(6)	REAL			""	
	Chi2	REAL		P	Total chi2	
	NDF	INTE			Number of Degrees of Freedom	
	Unused	REAL			Unused	
VCMVVTXS					Contains the SECONDARY vertex positions after VCMVD	VCTMVD
Static	ID	IMPL				
	V(1)	REAL			Coordinates of EACH SECONDARY vertex	
	V(2)	REAL			""	
	V(3)	REAL			""	
	Cov(1)	REAL			Covariance matrix	
	.				""	
	Cov(6)	REAL			""	
	Chi2	REAL		P	Total chi2	
	NDF	INTE			Number of Degrees of Freedom	
	Unused	REAL			Unused	
VCPAKCTD					VCPAKCTD = Compressed table for VCTRPK from CTD-only mode	VCTBNK
Static	ID	IMPL				
	i(1)	INTE	0,*		Packed information on hits.	
	.		0,*		""	
	i(10)	INTE	0,*		""	
VCPAKREG					VCPAKREG = Compressed table for VCTRPK from REGular mode	VCTBNK
Static	ID	IMPL				
	i(1)	INTE	0,*		Packed information on hits.	
	.		0,*		""	
	i(10)	INTE	0,*		""	
VCPARCAL					VCTPAR tracks AT the CALorimeter	VTXFIT
Static	ID	IMPL				
	KODSWM	INTE	0,*		KJI, the swim status code I= reason swim was ended 1(FCAL, passed Z=217.51), 2(RCAL, passed Z=-142.5), 3(BCAL, passed R=124.0), 0(track started to return) J= inner axial SL with hits, K= outermost CTD SL with hits, where SL=0(VXD),..9(CTDSL9)	
	X	REAL			x position at end of swim	
	Y	REAL			y position at end of swim	
	Z	REAL			z position at end of swim	
	PX	REAL			Px at end of swim	
	PY	REAL			Py at end of swim	
	PZ	REAL			Pz at end of swim	
	Q	REAL			Charge of track	
	COV(1)	REAL			Covariance matrix.	
	.				""	
	COV(15)	REAL			""	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
VCPARCTD					VCPARCTD = Compressed table for VC vertex Tracks (VCTPAR+VCPARCAL) from CTD-only reconstruction	VCTBNK
Static	ID	IMPL				
	I(1)	INTE			VCPARCTD integer part	
	.				""	
	I(9)	INTE			""	
	R(1)	REAL			VCPARCTD real part	
	.				""	
	R(11)	REAL			""	
VCPARREG					VCPARREG = Compressed table for VC vetrtex Tracks (VCTPAR+VCPARCAL) from REGular reconstruction	VCTBNK
Static	ID	IMPL				
	I(1)	INTE			VCPARREG integer part	
	.				""	
	I(9)	INTE			""	
	R(1)	REAL			VCPARREG real part	
	.				""	
	R(11)	REAL			""	
VCPARSEC					Contains the track parameters at THE SECONDARY vertexES	VTXFIT
	ID	SNUM				
	Par(1)	REAL			track params at SECONDARY vertex	
	Par(2)	REAL			""	
	Par(3)	REAL			""	
	Cov(1)	REAL			Covariance matrix	
	.				""	
	Cov(6)	REAL			""	
	Chi2	REAL		P	Chi2 contribution to the vertex fit from this track	
	D0	REAL			Final D0 w.r.t. the SECONDARY vertex	
	DaughterOf	REL		P	Some particles are generated by other particles	
	PRoducedAt	REL		P	Each SECONDARY track is produced at one SECONDARY vertex	
	VCTRHL	REL		P	Relation between SECONDARY VERTEX TRACKS and VCTRHL	
	ZTPRHL	REL		P	Relation between SECONDARY VERTEX TRACKS and ZTPRHL, added for MVD 14.06.02	
VCTKPG					Contains the track parameters in perigee representation using VCTRACK results, the combined CTD+VXD tracks	VTXFIT
	ID	SNUM				
	Par(1)	REAL			Perigee track parametrisation: Para(1) --> impact parameter in xy projection (in cm), with sign; Para(2) --> z coordinate (cm); Para(3) --> theta angle (rad); Para(4) --> phi angle (rad); Para(5) --> 1/Rtr (Rtr is the radius of track curvature (cm) with sign	
	.				""	
	Par(5)	REAL			""	
	Cov(1)	REAL			Covariance matrix	
	.				""	
	Cov(15)	REAL			""	
	Wgt(1)	REAL			Weight matrix	
	.				""	
	Wgt(15)	REAL			""	
	XV0	REAL			initial X-coord of the vertex	
	YV0	REAL			initial Y-coord of the vertex	
	VCTPAR	REL		P	to each track corresponds the parameters at the vertex	
	VCTRHL	REL			to each track of the event corresponds some perigee parametrisation	
	VFTEMP	REL			RELATION BETWEEN INTERNAL VTXFIT VARIABLES AND GLTKPG	
VCTKSCTD					VCTKSCTD = Compressed table for VC TracKS (VCTRHL+VCATCAL) from CTD-only reconstruction	VCTBNK
Static	ID	IMPL				
	I(1)	INTE			VCTKSCTD integer part	
	.				""	
	I(13)	INTE			""	
	R(1)	REAL			VCTKSCTD real part	
	.				""	
	R(17)	REAL			""	
VCTKSREG					VCTKSREG = Compressed table for VC TracKS (VCTRHL+VCATCAL) from REGular reconstruction	VCTBNK
Static	ID	IMPL				
	I(1)	INTE			VCTKSREG integer part	
	.				""	
	I(15)	INTE			""	
	R(1)	REAL			VCTKSREG real part	
	.				""	
	R(17)	REAL			""	
VCTMCCTD					establishes a many to many link between FMCKin and VCTRHL	VCTBNK
	ID	SNUM				
	NumHits	INTE			# hits of reconstr. track in common with given Geant track	
	TotHits	INTE			sum of hits of all rec. tracks which have hits in common with given Geant track	
	HitTopo	INTE			hit topology of Geant track packed in a bit pattern of one word; bits 1-4 : # hits in VXD bits 5-7 : # hits in SL 1 ... bits 29-31 : # hits in SL 9	
	FMCKin	REL			2nd leg of many-to-many relationship between VCTRHL and FMCKin	
	VCTRHL	REL			1st leg of many-to-many relationship between VCTRHL and FMCKin (not all stable true tracks may have corresponding reconstructed tracks, but some may have several reconstr. tracks)	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
VCTMCREG					establishes a many to many link between FMCKin and VCTRHL	VCTBNK
	ID	SNUM				
	NumHits	INTE			# hits of reconstr. track in common with given Geant track	
	TotHits	INTE			sum of hits of all rec. tracks which have hits in common with given Geant track	
	HitTopo	INTE			hit topology of Geant track packed in a bit pattern of one word; bits 1-4 : # hits in VXD bits 5-7 : # hits in SL 1 ... bits 29-31 : # hits in SL 9	
	FMCKin	REL			2nd leg of many-to-many relationship between VCTRHL and FMCKin	
	VCTRHL	REL			1st leg of many-to-many relationship between VCTRHL and FMCKin (not all stable true tracks may have corresponding reconstructed tracks, but some may have several reconstr. tracks)	
VCTMCT					establishes a many to many link between FMCKin and VCTRHL	VCTBNK
	ID	SNUM				
	NumHits	INTE			# hits of reconstr. track in common with given Geant track	
	TotHits	INTE			sum of hits of all rec. tracks which have hits in common with given Geant track	
	HitTopo	INTE			hit topology of Geant track packed in a bit pattern of one word; bits 1-4 : # hits in VXD bits 5-7 : # hits in SL 1 ... bits 29-31 : # hits in SL 9	
	FMCKin	REL			2nd leg of many-to-many relationship between VCTRHL and FMCKin	
	VCTRHL	REL			1st leg of many-to-many relationship between VCTRHL and FMCKin (not all stable true tracks may have corresponding reconstructed tracks, but some may have several reconstr. tracks)	
VCTPAR					Contains the track parameters at the PRIMARY vertex point	VTXFIT
	ID	SNUM				
	Par(1)	REAL			track parameters at PRIMARY vertex	
	Par(2)	REAL			""	
	Par(3)	REAL			""	
	Cov(1)	REAL			Covariance matrix	
	.				""	
	Cov(6)	REAL			""	
	Chi2	REAL		P	Chi2 contribution to the vertex fit from this track	
	D0	REAL			Final D0 w.r.t. the PRIMARY vertex	
	DaughterOf	REL		P	Some particles are generated by other particles	
	PRoducedAt	REL		P	Each track is produced at one vertex	
	VCTRHL	REL		P	Relation between final track parameters at the vertex and VCTRHL	
	ZTPRHL	REL		P	Relation between PRIMARY VERTEX TRACKS and ZTPRHL, added for MVD 14.06.02	
VCTRHL Static					VCTRAK information	VCTBNK
	ID	IMPL				
	trkn	INTE	0,*		Track number.	
	nax	INTE	0,*		Number of Axial hits.	
	nzbt	INTE	0,*		Number of Z by timing hits,	
	nste	INTE	0,*		Number of stereo hits.	
	ndf	INTE	0,*		Number of d.o.f.	
	azim	REAL			Azimuth.	
	qovr	REAL			Q/R.	
	qxdh	REAL			Q*DH.	
	zh	REAL			ZH.	
	tdip	REAL			tan(DIP).	
	phii	REAL			Phi innermost.	
	phio	REAL			Phi outermost.	
	pgevc	REAL			Momentum of track.	
	chi2	REAL			Chi2 of track.	
	covm(1)	REAL			Covariance matrices.	
	.				""	
	covm(15)	REAL			""	
	scatdaz	REAL			XY-kink between VXDandCTD.	
	scatcov	REAL			covariance of scatdaz.	
	scatds	REAL			path length to XY_kink.	
	dedx	REAL			average FADC pulse size.	
	frsdet	INTE	0,*		set if an outer detector was used =jjjjJiiiiI I=5(SRTD, iiii=SREHIT index J=1(FTD1, jjjj=TFMSEG index 2(FTD2, " 3(FTD3, " 4(RTD, "	
VCTRPK Static					VCTRAK packed information per track bank 10/row	VCTBNK
	ID	IMPL				
	hitpak(1)	INTE	0,*		Packed information on hits.	
	.		0,*		""	
	hitpak(10)	INTE	0,*		""	
VCTVTX					Contains the PRIMARY vertex position	VTXFIT
	ID	SNUM				
	V(1)	REAL			Coordinates of the PRIMARY vertex	
	V(2)	REAL			""	
	V(3)	REAL			""	
	Cov(1)	REAL			Covariance matrix	
	.				""	
	Cov(6)	REAL			""	
	Chi2	REAL		P	Total chi2	
	NDF	INTE			Number of Degrees of Freedom	

V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
VCVTXSEC					Contains the SECONDARY vertex positions	VTXFIT
	ID	SNUM				
	V(1)	REAL			Coordinates of EACH SECONDARY vertex	
	V(2)	REAL			""	
	V(3)	REAL			""	
	Cov(1)	REAL			Covariance matrix	
	.				""	
	Cov(6)	REAL			""	
	Chi2	REAL		P	Total chi2	
	NDF	INTE			Number of Degrees of Freedom	
VEAUX Static					Supplemental information	VEINP
	ID	IMPL				
	SLT	INTE			SLT trigger number	
	SLTType	BITP			SLT trigger type	
	FLT	INTE			FLT trigger number	
	FLTType	BITP			FLT trigger type	
	AUbits	BITP			Some auxiliary flags	
	AUint(1)	INTE			Some auxiliary data	
	.				""	
	AUint(10)	INTE			""	
VECON Static					Description of trigger configuration	VEINP
	ID	IMPL				
	Counter	INTE			Counter number	
	X	REAL			X position of the counter	
	Y	REAL			Y position of the counter	
	POS	INTE			1 for vertical, 0 for horizontal counter	
	I	INTE			0 if contributes to VW_IN, 1 if to VW_OUT	
	C(1)	INTE			the list of cousin counters	
	.				""	
	C(6)	INTE			""	
VECou						VERECO
	ID	SNUM				
	Cou	INTE	0,95		Counter identifier number	
	HVpos	INTE	0,1		Position: 0 for horizontal and 1 for vertical	
	Pos(1)	REAL			X and Y position of center in HERA Ref. Frame	
	Pos(2)	REAL			""	
	VETofs	REL			Every counter belongs to one of TOF planes	
VEDATA Static					Preprocessed data	VEINP
	ID	IMPL				
	Hits(1)	REAL			X and Y coordinates of hits in HERA Ref. Frame calculated by the SLT algorithm	
	Hits(2)	REAL			""	
VEDIV						VEGEOM
	ID	SNUM				
	mother	CHA4			Name of the mother volume	
	step	REAL	-0.100E+05,0....		Division step	
	axis	INTE	1,3		Axis division	
	ndiv	INTE	1,9999		Number of divisions	
VEEND Static					Summay of veto activity for the run	VEINP
	ID	IMPL				
	BCN	INTE			Bunch Crossing Numbers	
	Tot	REAL			Total number of GFLT triggers for that BCN	
	Veto	REAL			number of vetoed events for that BCN	
VEENV Static					Environmental information	VEINP
	ID	IMPL				
	data(1)	INTE				
	.					
	data(200)	INTE				
VEGHit						VEMC
	ID	SNUM				
	Tof	INTE			Which TOF plane got hit (1 or 2)	
	Pos(1)	REAL			Position of the hit in HERA Ref. Frame	
	Pos(2)	REAL			""	
	TShift	REAL			Time shift in ns	
	ITrTyp	INTE			Tracking type in a GEANT convention	
	InwVol	INTE			As in Geant	
	Counter	INTE			Number of the counter that got hit	
	FMCKin	REL			Each hit in the TOF plane was generated by one track	
VEHV Static					High Voltages supplying PMs	VEINP
	ID	IMPL				
	PMid	INTE			PM identifier	
	CHid	INTE			corresponding readout channel	
	ADC	INTE			Voltage in ADC counts	
	Volt	REAL			Voltage in V	
VEHits					Aproximate hit positions	VEOUT
	ID	SNUM				
	Pos(1)	REAL			X,Y and Z coordinates of hits in HERA Ref. Frame	
	Pos(2)	REAL			""	
	Pos(3)	REAL			""	
VEPARA						VEGEOM
	ID	SNUM				
	par	REAL	0.0,0.100E+05		A parameter defining a volume	
	of	GEN			A parameter is of a volume or a position	
	of_	REL			""	
VEPOS						VEGEOM
	ID	SNUM				
	nr	INTE	1,9999		Serial number	
	mother	CHA4			Name of the mother volume	
	x	REAL	-0.100E+06,0....		X linear dimension	
	y	REAL	-0.100E+06,0....		Y linear dimension	
	z	REAL	-0.100E+06,0....		Z linear dimension	
	konly	CHA4	MANY,MANY ONLY,ONLY		If MANY,a point in this volume may be in another	
	volu	REL			A position belong to a volume	

V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
VERAW					Raw data	VEINP
Static	ID	IMPL				
	Data(1)	BITP			Counter response	
	Data(2)	BITP			""	
	Data(3)	BITP			""	
VERJCT						VEGEOM
	ID	SNUM				
	config	INTE	0,9999		Selects configuration	
	of	GEN			Rejected volumes and positions	
	of_	REL			""	
VESDET						VEGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	type	INTE	1,9999		detector type	
	nwhi	INTE	1,9999		Numb. words primary alloc. HITS	
	nwdi	INTE	1,9999		Numb. words DIGI when primary not suff.	
VESDTA						VEGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nwhi	INTE	1,9999		Initial HITS allocation	
	nwdi	INTE	1,9999		Increment of DIGI allocation	
	sdet	REL				
VESDTD						VEGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	of	GEN			Sensible detectors and aliases digitizations	
	of_	REL			""	
VESDTH						VEGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	orig	REAL			to define the hit elem. positive	
	fact	REAL			IVAR= VAR + ORIG*FACT	
	of	GEN			Each detector element needs the parameter definition	
	of_	REL			""	
VESDTU						VEGEOM
	ID	SNUM				
	upar	REAL			User parameter	
	of	GEN			User parameters for sensible detectors and aliases	
	of_	REL			""	
VESDTV						VEGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	sdet	REL			Physical detectors for the master detector identifier	
VETDC					The histograms of time of hit at the veto wall	VEINP
Static	ID	IMPL				
	HistId	INTE			internal histogram identifier	
	Low	REAL			Position of lower boundary in ns	
	Bin	REAL			Bin width in ns	
	Hist(1)	REAL			height of each bin	
	.				""	
	Hist(1024)	REAL			""	
VETH					Values of the discriminator thresholds	VEINP
Static	ID	IMPL				
	PMid	INTE			PM identifier	
	CHid	INTE			corresponding readout channel	
	Volt	INTE			Voltage in mV	
VETHIT					Results of the simulation of HITS in the Veto Wall. References : Zeus-Note-91-13	VETOHITS
	ID	SNUM				
	xglobal	REAL			X (cm) of hit in Zeus cartesian coordinates.	
	yglobal	REAL			Y (cm) of hit in Zeus cartesian coordinates.	
	zglobal	REAL			Z (cm) of hit in Zeus cartesian coordinates.	
	momentum	REAL			momentum (GeV) of the particle producing the hit at (x, y, z)	
	px	REAL			momentum x-component (wrt Zeus x, y, z axes) of the track at x,y,z	
	py	REAL			momentum y-component (wrt Zeus x, y, z axes) of the track at x,y,z	
	pz	REAL			momentum z-component (wrt Zeus x, y, z axes) of the track at x,y,z	
	vtof	INTE	1,2		Flag - takes the value 1 if the track is ENTERING the veto wall and 2 if track is EXITING.	
	tof	REAL			Time of flight (ns) wrt. beam crossing	
	FMCKin	REL			Each hit in the Veta Wall is caused by a track. Not all tracks leave hits in the veto wall.	
VETofs						VERECO
	ID	SNUM				
	Z	REAL			Z position of TOF plane in HERA Ref. Frame	

V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
VEVOLU						VEGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	shape	CHA4	BOX,BOX TRD1,TRD1 TRD2,TRD2 TRAP,TRAP TUBE,TUBE TUBS,TUBS CONE,CONE CONS,CONS SPHE,SPHE PARA,PARA PGON,PGON PCON,PCON GTRA,GTRA		Shape of the volume	
	div	REL		P	Some volumes may be subdived	
	sdet	REL		P	Some volumes maybe also active detectors	
	tmed	REL			Volume tracking medium number	
VEWall						VERECO
	ID	SNUM				
	Z	REAL			Z position of VETO WALL in HERA Ref. Frame	
VFTEMP					WORKING TABLE FOR PERIGEE VERTEX FIT	VTXFIT
	ID	SNUM				
	WB(1)	REAL			internal variables	
	.				""	
	WB(9)	REAL			""	
	WC(1)	REAL			internal variables	
	.				""	
	WC(6)	REAL			""	
	WCI(1)	REAL			internal variables	
	.				""	
	WCI(6)	REAL			""	
	WBCI(1)	REAL			internal variables	
	.				""	
	WBCI(9)	REAL			""	
	TT(1)	REAL		P	internal variables	
	TT(2)	REAL		P	""	
	TT(3)	REAL		P	""	
	PHIV	REAL			internal variables	
	EPS	REAL			internal variables	
	ZP	REAL			internal variables	
	DEPS	REAL			internal variables	
	DZP	REAL			internal variables	
VTCPU					Contains the CPU informations	VTBORENV
Static	ID	IMPL				
	ENVNUM	INTE			number of environmentals	
	SLTDISC	INTE			SLT discard	
	SLTACCPT	INTE			SLT accept	
	SLTTIME	INTE			SLT time	
	SLTERR	INTE			bits 0:15 SLT error seq 16:31 SLT error FIFO full	
	EVBMAX	INTE			maximum time delay EVB	
	EVBAVG	INTE			average time delay EVB	
	EVBMIN	INTE			minimum time delay EVB	
	TRANSMAX	INTE			maximum time delay transfer	
	TRANSAVG	INTE			average time delay transfer	
	TRANSMIN	INTE			minimum time delay transfer	
	DELMAXOF	INTE			dmax > max	
	DELMAXUF	INTE			dmax < min	
	DATAOVFL	INTE			data overflow	
	DIGIT1	INTE				
	DIGIT2	INTE				
	DIGIT3	INTE				
	DIGIT4	INTE				

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
VTDIAG					Contains the TDCs and CICs diagnostics. The TDCs arrays contain: (1) number of FLTs; (2) bits 0:15 error FLT; (3) number of SLT; (4) bits 0:15 number of ENV Test Trigger; (5) number of SLT checksum errors; (6) number of stop clock; (7) bits 0:15 number of stop without changing PB (8) bits 0:15 number of overflows; (9) Reserved; (10) Checksum	VTBORENV
Static	ID	IMPL				
	CICFREEB	BITP			bits 0:15 CIC number of buffers used	
	CICINTCNH	BITP			bits 0:15 CIC interrups counter high	
	CICINTCNL	BITP			bits 0:15 CIC interrups counter low	
	CICVSBERR	BITP			bits 0:15 CIC number of VSB errors	
	CICMISSLT	BITP			bits 0:15 CIC number FLT/SLT mismatch	
	CICCOMPTRG	BITP			bits 0:15 CIC component test trigger	
	CICFASTCLR	BITP			bits 0:15 CIC number of fast clear	
	CICRES1	BITP			bits 0:15 CIC reserved 1	
	CICRES2	BITP			bits 0:15 CIC reserved 2	
	CICCHKSUM	BITP			bits 0:15 CIC checksum	
	TDC1(1)	BITP			diagnostics for TDC 1	
	.				""	
	TDC1(10)	BITP			""	
	TDC2(1)	BITP			diagnostics for TDC 2	
	.				""	
	TDC2(10)	BITP			""	
	TDC3(1)	BITP			diagnostics for TDC 3	
	.				""	
	TDC3(10)	BITP			""	
	TDC4(1)	BITP			diagnostics for TDC 4	
	.				""	
	TDC4(10)	BITP			""	
	TDC5(1)	BITP			diagnostics for TDC 5	
	.				""	
	TDC5(10)	BITP			""	
	TDC6(1)	BITP			diagnostics for TDC 6	
	.				""	
	TDC6(10)	BITP			""	
	TDC7(1)	BITP			diagnostics for TDC 7	
	.				""	
	TDC7(10)	BITP			""	
	TDC8(1)	BITP			diagnostics for TDC 8	
	.				""	
	TDC8(10)	BITP			""	
VTDIV						vtgeom
	ID	SNUM				
	mother	CHA4			Name of the mother volume	
	step	REAL	-0.100E+05,0....		Division step	
	axis	INTE	1,3		Axis division	
	ndiv	INTE	1,9999		Number of divisions	
VTHV					Contains the informations of the 60 VXD HV channels	VTBORENV
Static	ID	IMPL				
	HVINFO	BITP			VXD HV information	
VTHV93					ONLY FOR 1993 DATA. Each raw contains the HV status of the 20 HV sectors together with validity dates.	vthit
	ID	SNUM				
	HV(1)	REAL			HV of the 20 sectors (in Volts)	
	.				""	
	HV(20)	REAL			""	
	DAY(1)	INTE			DAY(1/2) = start/end validity	
	DAY(2)	INTE			""	
	Time(1)	INTE			TIME(1/2) = start/end validity	
	Time(2)	INTE			""	
VTPARA						vtgeom
	ID	SNUM				
	par	REAL	0.0,0.100E+05		A parameter defining a volume	
	of	GEN			A parameter is of a volume or a position	
	of_	REL			""	
VTPOS						vtgeom
	ID	SNUM				
	nr	INTE	1,9999		Serial number	
	mother	CHA4			Name of the mother volume	
	x	REAL	-0.100E+06,0....		X linear dimension	
	y	REAL	-0.100E+06,0....		Y linear dimension	
	z	REAL	-0.100E+06,0....		Z linear dimension	
	konly	CHA4	MANY,MANY ONLY,ONLY		If MANY,a point in this volume may be in another	
	Detector	REL		P	each sensible volume positioned is related to some digitization parameter	
	rotm	REL			each positioned volume is related to a rotation matrix	
	volu	REL			A position belongs to a volume	
VTRJCT						vtgeom
	ID	SNUM				
	config	INTE	0,9999		Selects configuration	
	of	GEN			Rejected volumes and positions	
	of_	REL			""	
VTSDET						vtgeom
	ID	SNUM				
	name	CHA4			4 characters name	
	type	INTE	1,9999		detector type	
	nwhi	INTE	1,9999		Numb. words primary alloc. HITS	
	nwdi	INTE	1,9999		Numb. words DIGI when primary not suff.	
VTSDTA						vtgeom
	ID	SNUM				
	name	CHA4			4 characters name	
	nwhi	INTE	1,9999		Initial HITS allocation	
	nwdi	INTE	1,9999		Increment of DIGI allocation	
	sdet	REL			Some detectors give more than one type signals	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
VTSDTD						vtgeom
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	of	GEN			Sensible detectors and aliases digitizations	
	of_	REL			""	
VTSDTH						vtgeom
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	orig	REAL			to define the hit elem. positive	
	fact	REAL			IVAR= VAR + ORIG*FACT	
	of	GEN			each detec. element needs the parameter definition	
	of_	REL			""	
VTSDTU						vtgeom
	ID	SNUM				
	upar	REAL			User parameter	
	of	GEN			User parameters for sensible detectors and aliases	
	of_	REL			""	
VTSDTV						vtgeom
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	sdet	REL			Physical detectors for the master detector identifier	
VTTDC					List of active TDCs	VTBORENV
Static	ID	IMPL				
	TDCNR	INTE			list of active TDCs (1=active, 0=inactive	
VTTDCBCH					TDC bad channel list	VTBORENV
Static	ID	IMPL				
	CHANNEL	INTE			TDC bad Channel number (from 1 to 1440)	
VTTHRESH					Contains the TDC thresholds, one raw per TDC	VTBORENV
Static	ID	IMPL				
	THRESHOLD	INTE			Thresholds for one TDC	
VTVERSION					Contains the software version names	VTBORENV
Static	ID	IMPL				
	XILINX	CH32			TDC XilinX version name	
	ACQ	CH32			TDC Acq version	
	CIC	CH32			CIC software version	
	CPUSLT	CH32			CPUs software version	
	CPUTRAN	CH32			CPUs software version	
VTVOLU						vtgeom
	ID	SNUM				
	name	CHA4			4 characters name	
	shape	CHA4	BOX,BOX TRD1,TRD1 TRD2,TRD2 TRAP,TRAP TUBE,TUBE TUBS,TUBS CONE,CONE CONS,CONS SPHE,SPHE PARA,PARA PGON,PGON PCON,PCON GTRA,GTRA		Shape of the volume	
	div	REL		P	some volumes may be subdived	
	sdet	REL		P	some volumes may be also active detectors	
	tmed	REL			Volume tracking medium number	
VTVXDBCH					VXD bad channel list	VTBORENV
Static	ID	IMPL				
	CHANNEL	INTE			VXD Bad Channel number (from 1 to 1440)	
VxGVtx					Simple table to store Geant Vtx numbers. Table is NOT for Output! References : Zeus-Note-91-13	FMCZEvt
	ID	SNUM				
	GVertex	INTE			Geant Vtx number	
X2BACC					Clusters found in the BAC. NB: Rho= (SQRT(x^2+y^2))	O2BANK
Static	ID	IMPL				
	XClusterEnergy	REAL			Bac cluster Energy (GeV)	
	XClusterRho	REAL			Rho of cluster (cm)	
	XClusterZ	REAL			Z of cluster (cm)	
	XClusterPhi	REAL	0.0,6.3		Phi angle of cluster (rad)	
X2BAMU					Muons found in the BAC.	O2BANK
Static	ID	IMPL				
	XMuonRho	REAL			Rho of muon (cm)	
	XMuonZ	REAL			Z of muon (cm)	
	XMuonPhi	REAL	0.0,6.3		Phi angle of muon (rad)	
	XMuonClass	INTE			Classification (perp, ..)	
X2ENEC					BAC energy deposits and vector sums. Energies in GeV.	O2BANK
Static	ID	IMPL				
	BacETotal	REAL	0.0,*		Total energy in BAC	
	BacETrans	REAL	0.0,*		Total transverse energy in BAC	
	BacPx	REAL			Momentum along x-axis in BAC	
	BacPy	REAL			Momentum along y-axis in BAC	
	BacPz	REAL			Momentum along z-axis in BAC	
	BacPlmin	REAL			Momentum along z-axis in rear half of BAC (summe Pz over z<0)	
	BacERbac	REAL			Total energy in Rear Half of BAC	

V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
X2EWTW					Energy deposit in the wires in Rear Endcap of BAC.	X1
Static	ID	IMPL				
	DepositType	INTE	1,2		North,x>0(2) or south,x<0(1) endcap wire deposit.	
	WireYcoord	REAL			Y (cm) coordinate of strip.	
	EnergyDeposit	REAL	0.0,*		Energy deposit.	
X2SWTW					Energy deposit in the strips and wires in Barrel BAC. The DepositType gives a Phi or Theta range as follows 0...3 for strips, phi = 0..90, 90-150, 210-270, 270-360 4,5 for wires, theta = 45..90, 90-135, (z>0 ,z<0 resp.)	X1
Static	ID	IMPL				
	DepositType	INTE	0,5		Strip or wire and phi/theta range.	
	Cylcoord	REAL			Phi (wire)(rad) or z (strip)(cm) coordinate of the deposition.	
	EnergyDeposit	REAL	0.0,*		Energy deposit.	
XBAC						XBRECO
	ID	SNUM				
	NumBAC	INTE	1,3		BAC part identifier	
XBACC					Clusters found in the BAC.	X1
Static	ID	IMPL				
	XClusterEnergy	REAL	0.0,*		Bac Cluster Energy (GeV)	
	XClusterTheta	REAL	0.0,3.2		Theta angle of cluster (rad)	
	XClusterPhi	REAL	0.0,6.3		Phi angle of cluster (rad)	
XBCLEN					{Comment}	XBGEOM
	ID	SNUM				
	Num	INTE	0,100		Chamber Set identifier	
	CLen(1)	REAL	0.0,0.100E+04		Chambers Lenghts	
	.		0.0,0.100E+04		""	
	CLen(4)	REAL	0.0,0.100E+04		""	
XBDIV					There are no divisions in BAC geometry definition now, added for possible future applications	XBGEOM
	ID	SNUM				
	mother	CHA4			Name of the mother volume	
	step	REAL	-0.100E+05,0....		Division step	
	axis	INTE	1,3		Axis division	
	ndiv	INTE	1,9999		Number of divisions	
XBMAPS					This table contains Wire Bit Patterns and Chamber Set Identifiers	XBGEOM
	ID	SNUM				
	Num	INTE	0,1600		X-Layer Index	
	MapLen	INTE	0,100		Chamber Set Identifier	
	MapWir	INTE	0,8888		Coded Wire Bit Pattern	
XBNLEN					{...}	XBGEOM
	ID	SNUM				
	NLen	REAL	0.0,100.0			
XBPARA						XBGEOM
	ID	SNUM				
	par	REAL	0.0,0.100E+05		A parameter defining a volume	
	of	GEN			A parameter is of a volume or a position	
	of_	REL			""	
XBPOS						XBGEOM
	ID	SNUM				
	nr	INTE	1,9999		Serial number	
	mother	CHA4			Name of the mother volume	
	x	REAL	-0.100E+06,0....		X linear dimension	
	y	REAL	-0.100E+06,0....		Y linear dimension	
	z	REAL	-0.100E+06,0....		Z linear dimension	
	konly	CHA4	MANY,MANY ONLY,ONLY		If MANY,a point in this volume may be in another	
	Detector	REL		P	{...}	
	rotm	REL			each positioned volume is related to a rotation matrix	
	volu	REL			A position belongs to a volume	
XBRJCT						XBGEOM
	ID	SNUM				
	config	INTE	0,9999		Selects configuration	
	of	GEN			Rejected volumes and positions	
	of_	REL			""	
XBSDET						XBGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	type	INTE	1,9999		detector type	
	nwhi	INTE	1,9999		Numb. words primary alloc. HITS	
	nwdi	INTE	1,9999		Numb. words DIGI when primary not suff.	
XBSDTA					There are no user detector aliases in BAC geometry definition now, added for possible future applications	XBGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nwhi	INTE	1,9999		Initial HITS allocation	
	nwdi	INTE	1,9999		Increment of DIGI allocation	
	sdet	REL			Some detectors give more than one type signals	
XBSDTD						XBGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	of	GEN			Sensible detectors and aliases digitizations	
	of_	REL			""	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
XBSDTH						XBGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	orig	REAL			to define the hit elem. positive	
	fact	REAL			IVAR= VAR + ORIG*FACT	
	of	GEN			each detec. element needs the parameter definition	
	of_	REL			""	
XBSDTU					There are no user detector parameters in BAC geometry definition now, added for possible future applications	XBGEOM
	ID	SNUM				
	upar	REAL			User parameter	
	of	GEN			User parameters for sensible detectors and aliases	
	of_	REL			""	
XBSDTV						XBGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	sdet	REL			Physical detectors for the master detector identifier	
XBVOLU						XBGEOM
	ID	SNUM				
	name	CHA4			4 characters name	
	shape	CHA4	BOX,BOX TRD1,TRD1 TRD2,TRD2 TRAP,TRAP TUBE,TUBE TUBS,TUBS CONE,CONE CONS,CONS SPHE,SPHE PARA,PARA PGON,PGON PCON,PCON GTRA,GTRA		Shape of the volume	
	div	REL		P	some volumes may be subdived	
	sdet	REL		P	some volumes may be also active detectors	
	tmed	REL			Volume tracking medium number	
XCluHP						XXOUT1
	ID	SNUM				
	Num	BITP			The Wire Layer Identifier	
	HP	BITP			Bit pattern of wire hits assigned to cluster or MIP	
	XJetEt	REL		P	Wire hits specified by XCluHP belong to energy cluster stored in XJetEt	
	XMIPEt	REL		P	Wire hits specified by XCluHP belong to MIP track candidate stored in XMIPEt	
XDEBUG						XXOUT0
	ID	SNUM				
	Num1	BITP			First identifier (GGIndex)	
	Num2	BITP			Second identifier (GGIndex)	
	StatI(1)	INTE			Status 1	
	.				""	
	StatI(10)	INTE			""	
	StatR(1)	REAL			Status 2	
	.				""	
	StatR(10)	REAL			""	
XDim						XBRECO
	ID	SNUM				
	NumDim	INTE			Chamber Set Number	
	X	REAL	11.8,53.6		Chamber Set width (cm)	
	Y	REAL	1.1,1.1		Chamber Set height (cm)	
	Z(1)	REAL	0.0,0.100E+04		Lenghts of Chambers belonging to the Set (cm)	
	.		0.0,0.100E+04		""	
	Z(4)	REAL	0.0,0.100E+04		""	
XENEC Static					BAC energy deposit.	X1
	ID	IMPL				
	BacETotal	REAL	0.0,*		Total energy in BAC	
XEntit						XXOUT1
	ID	SNUM				
	NLeak	INTE			# of clusters clasified as hadronic leakages from UCAL	
	NMIP	INTE			# of clusters clasified as MIPs	
	NonLeak	INTE			# of clusters clasified as due to some other hadronic activity	
	NUnclas	INTE			# of unclasified clusters	
	NPadCl	INTE			# of Pad Clusters	
	EPadCl	REAL			Energy of all Pad Clusters	
	NWirCl	INTE			# of Wire only Clusters	
	EWirCl	REAL			Energy of all Wire Clusters	
	NStCl	INTE			# of Strip only Clusters	
	EStCl	REAL			Energy of all Strip Clusters	
	NHitCl	INTE			# of hit only Clusters	
	RecVer	CHA8			Version of the reconstruction code	
XHASS						XBRECO
	ID	SNUM				
	BufId	INTE			Buffer identification	
	Node	CHA4			Node name	
	Ctrl	INTE			Controler	
	Buf	INTE			Buffer	
	Chamber(1)	BITP			List of chambers	
	.				""	
	Chamber(15)	BITP			""	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
XHEff						XBRECO
	ID	SNUM				
	Num	BITP			The Readout channel Identifier	
	Eff(1)	REAL			Xlayers chambers efficiencies	
	.				""	
	Eff(4)	REAL			""	
	Err(1)	REAL			Xlayers chambers efficiency errors	
	.				""	
	Err(4)	REAL			""	
	Descr	INTE			The Description of entry	
XJetEt						XXOUT1
	ID	SNUM				
	XYZCOG(1)	REAL			X,Y,Z of Cluster Centre Of Gravity in ZEUS coordinate system	
	XYZCOG(2)	REAL			""	
	XYZCOG(3)	REAL			""	
	XYZCov(1,1)	REAL			Not used - kept for compability	
	.				""	
	XYZCov(3,3)	REAL			""	
	JAxCos(1)	REAL			Not used - kept for compability	
	JAxCos(2)	REAL			""	
	JAxCos(3)	REAL			""	
	YZCov(1,1)	REAL			Not used - kept for compability	
	.				""	
	YZCov(2,2)	REAL			""	
	XEnDep	REAL			Energy Deposit in BAC	
	DEnDep	REAL			Error on Energy Deposit	
	NHitXY	INTE			Number of hits in that cluster	
	NLayerXY	INTE			Number of layers hit	
	NgapXY	INTE			Not used - kept for compability	
	Chi2XY	REAL			Not used - kept for compability	
	HExpPL	REAL			Not used - kept for compability	
	PathCorr	REAL			Not used - kept for compability	
	ClClass	INTE			Decimally coded Cluster class = 10000 (if cluster contains pads) + 1000 (if it contains wires) + 100 (if it contains strips) + 10 (if it contains hits) + X (the same coded as in v.30706)	
	ClShape	INTE			Decimally coded cluster shape = 1000 (if MIP was found) + 100 (if leakage from UCAL was found) + 10 (for other hadronic activity) + X (the same coded as in v.30706)	
	XYZSize(1)	REAL			Size of the cluster in X,Y,Z	
	XYZSize(2)	REAL			""	
	XYZSize(3)	REAL			""	
	NHadHits	INTE			Number of hits identified as due to some hadronic activity	
	Depth	REAL			Average depth of the hadronic hit cluster	
	BACDepth	REAL			Average depth of BAC in this place counting only active layers	
	Aux	REAL			Auxiliary control word	
	XEntit	REL			Each Jet will be linked to XEntit bank, There may be no jets in a event.	
	XMCSEt	REL			Each Jet will be linked to XMCSEt bank, There may be no jets for a given entry to XMCSEt; e.g. for condensates totally absorbed in UCAL.	
	XMatEt	REL			Each Jet will be linked to XMatEt bank, There may be no jets for a given entry to XMatEt; e.g. muon or shower totally absorbed in UCAL.	
XMCSEt						GCOUT
	ID	SNUM				
	EUCAL	REAL			UCAL CConSa condensate energy; =0. if this entry corresponds to the BAC cluster which could not be matched to any UCAL condensate.	
	EBAC	REAL			Sum of (uncorrected) energies of the BAC clusters matched with given UCAL condensate; =0. if this entry corresponds to the UCAL condensate for which no matching BAC cluster has been found.	
	ESum	REAL			Sum of the UCAL condensate energy and the BAC cluster energy corrected for energy losses due to the dead material between UCAL and BAC	
	CConSa	REL		P	Every UCAL condensate has a corresponding entry in XMCSEt table. If among the BAC entieties none has been found to match with this UCAL condensate there will be no links from XJetEt (or XMIPEt) to the corrsponding XMCSEt entry and Esum=EUCAL; EBAC=0. Those BAC clusters which are not matched with any of the UCAL condensates also give entry to XMCSEt. In this case there will be no link to CConSa and EUCAL=0.; Esum will contain corrected BAC energy as if it originated from the end of UCAL.	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
XMIPEt						XXOUT1
	ID	SNUM				
	XYZFPo(1)	REAL			X,Y,Z of the 1st point in BAC (usually at innermost BAC layer)	
	XYZFPo(2)	REAL			""	
	XYZFPo(3)	REAL			""	
	XYZCov(1,1)	REAL			Covariances of the 1st point seen in ZEUS coordinate system	
	.				""	
	XYZCov(3,3)	REAL			""	
	XYZCos(1)	REAL			Direction cosines of MIP at the 1st point in BAC	
	XYZCos(2)	REAL			""	
	XYZCos(3)	REAL			""	
	YZCov(1,1)	REAL			Covariances of Yp and Zp of the MIP direction at 1st seen point	
	.				""	
	YZCov(2,2)	REAL			""	
	XEnDep	REAL			Energy Deposit assigned to track	
	DEnDep	REAL			Error on Energy Deposit	
	NHitXY	INTE			Number of hits assigned to the track	
	NLayerXY	INTE			Number of layers hit	
	NgapXY	INTE			Number of gaps in depth	
	PgapXY	REAL			Probability for these gaps	
	Chi2XY	REAL			pseudo-chi2 of straight line fit	
	XYZPEr(1)	REAL			Error on the track position	
	XYZPEr(2)	REAL			""	
	XYZPEr(3)	REAL			""	
	XYZCErr(1)	REAL			Error on the direction cosines	
	XYZCErr(2)	REAL			""	
	XYZCErr(3)	REAL			""	
	Aux	REAL			Auxiliary control word	
	XEntit	REL			Each MIP will be linked to XEntit bank, There may be no mips in a event.	
	XJetEt	REL			Each MIP candidate belongs to one of the energy clusters	
	XMCSEt	REL			Each MIP will be linked to XMCSEt bank, There may be no MIPs for a given entry to XMCSEt; e.g. for condensates totally absorbed in UCAL.	
	XMatEt	REL			Each MIP will be linked to XMatEt bank, There may be no MIPs for a given entry to XMatEt; e.g. non-muon or shower totally absorbed in UCAL.	
XMatEt						GCOUT
	ID	SNUM				
	EUCAL	REAL			UCAL Cidclu cluster energy; =0. if this entry corresponds to the BAC cluster which could not be matched to any UCAL cluster.	
	EBAC	REAL			Sum of (uncorrected) energies of the BAC clusters matched with given UCAL cluster; =0. if this entry corresponds to the UCAL cluster for which no matching BAC cluster has been found.	
	ESum	REAL			Sum of the UCAL cluster energy and the BAC cluster energy corrected for energy losses due to the dead material between UCAL and BAC	
	Cidclu	REL		P	Every UCAL cluster has a corresponding entry in XMatEt table. If among the BAC entieties none has been found to match with this UCAL cluster there will be no links from XJetEt (or XMIPEt) to the corrsponding XMatEt entry and Esum=EUCAL; EBAC=0. Those BAC clusters which are not matched with any of the UCAL clusters also give entry to XMatET. In this case there will be no link to Cidclu and EUCAL=0.; Esum will contain corrected BAC energy as if it originated from the end of UCAL.	
XNOD						XBRECO
	ID	SNUM				
	Nodname	CHA4			Node name	
	NodeNum	INTE			Node Number	
XPSPQ						XXOUT0
	ID	SNUM				
	Num	BITP			The Sensitive Pad Identifier	
	PH(1)	REAL			The Sensitive Pad Reconstructed Pulse Height	
	PH(2)	REAL			""	
	Quality	INTE			The Sensitive Pad Quality flag	
XPTPH						XXOUT0
	ID	SNUM				
	Num	BITP			The Pad Tower Identifier	
	E	REAL			Energy deposited in a given Pad Tower (GeV)	
	PH	REAL			The Pad Tower Reconstructed Pulse Height	
	Quality	INTE			The Pad Tower Quality flag	
	XYZin(1)	REAL			Cartesian coor. (X, Y, Z in the HERA ref. frame (cm)) of the Inermost Tower Reference Point. For graphics purposes.	
	XYZin(2)	REAL			""	
	XYZin(3)	REAL			""	
	XYZout(1)	REAL			Cartesian coor. (X, Y, Z in the HERA ref. frame (cm)) of the Outermost Tower Reference Point. For graphics purposes.	
	XYZout(2)	REAL			""	
	XYZout(3)	REAL			""	
	XJetEt	REL		P	Not every Pad Tower produces a Jet (some Pad Towers give MIPses). Many Pad Towers may lead to a single Jet (this is very likely), and some Jets may be produced even if there is no PAD deposit (e.g. from crossing of Wire and Strip Tower).	
	XMIPEt	REL		P	Not every Pad Tower produces a MIP (some Pad Towers give Jets). Many Pad Towers may lead to a single MIP (this is unlikely, but possible), and some MIPses may be produced even if there is no PAd deposit (e.g. from crossing of Wire and Strip Tower).	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
XPTow						XBRECO
	ID	SNUM				
	NumPT	BITP			The Pad Tower Identifier	
	NXLay	INTE	0,10		Number of X-Layers composing given PadTower	
	XLayID(1)	BITP			Array of X-Layers Identfiers composing given PadTower	
	.				""	
	XLayID(10)	BITP			""	
	XBAC	REL			Every Pad Tower belongs to a certain part of BAC	
	XSTow	REL			Every Pad Tower belongs to a certain Strip Tower	
XPos						XBRECO
	ID	SNUM				
	NumPos	INTE			X-Layer Displacement Vector Number	
	HPos(1)	REAL			X-Layer Displacement Vector in the HERA Ref. Frame (cm)	
	HPos(2)	REAL			""	
	HPos(3)	REAL			""	
XRot						XBRECO
	ID	SNUM				
	NumRot	INTE			X-Layer Rotation Matrix Number	
	HRot(1,1)	REAL	-1.0,1.0		X-Layer Rot. Matrix in the HERA Ref. Frame	
	.		-1.0,1.0		""	
	HRot(3,3)	REAL	-1.0,1.0		""	
XSTPH						XXOUT0
	ID	SNUM				
	Num	BITP			The Strip Tower Identifier	
	E	REAL			Energy deposited in a given Strip Tower (GeV)	
	PH	REAL			The Strip Tower Reconstructed Pulse Height	
	Quality	INTE			The Strip Tower Quality flag	
	RPTin(1)	REAL			Spherical coordinates (R (cm), Phi, Theta in the HERA ref. frame) of the Inermost Tower Reference Point. For graphics purposes.	
	RPTin(2)	REAL			""	
	RPTin(3)	REAL			""	
	RPTout(1)	REAL			Spherical coordinates (R (cm), Phi, Theta in the HERA ref. frame) of the Outermost Tower Reference Point. For graphics purposes.	
	RPTout(2)	REAL			""	
	RPTout(3)	REAL			""	
XSTow						XBRECO
	ID	SNUM				
	NumST	BITP			The Strip Tower Identifier	
	XBAC	REL			Every Strip Tower belongs to a certain part of BAC	
XSWTW					Energy deposit in the strips and wires. The DepositType gives a Phi or Theta range as follows 0...3 for strips, phi = 0..90, 90-150, 210-270, 270-360 4,5 for wires, theta = 45..90, 90-135,(z>0 ,z<0 resp.)	X1
Static	ID	IMPL				
	DepositType	INTE	0,5		Strip or wire and phi/theta range.	
	Cylcoord	REAL			Phi (wire)(rad) or z (strip)(cm) coordinate of the deposition.	
	EnergyDeposit	REAL	0.0,*		Energy deposit.	
XTClb						XBRECO
	ID	SNUM				
	Typ	INTE			The Readout channel typ	
	Num	BITP			The Readout channel Identifier	
	Scale	REAL			Calibration Scale	
	Descr	INTE			The Description of entry	
XTCond						XBRECO
	ID	SNUM				
	Num	BITP			The Readout channel Identifier	
	LegoId	INTE			Decimally Coded Lego plot identifier = 100 00 00 * IPW + 100 00 * UnitId + 100 * Cy + Cx where IPW = 1 (for Pad) = 2 (for Wire1 and Wire6)	
	Status	CHA8			Channel hardware status f.eg. dead - channel does not respond noisy - the responce is more or less random partial - the responce is correlated to physics but downgraded by the fault	
	Damage	BITP			Detailed descriptor of the hardware damage, Its meaning depends on Status - if Status=partial it describes by setting corresponding bits to 1 which subparts of that channel are faulty, - if Status=dead or noisy it describes the cause of the fault and consequences for other readouts. For details see file filtab.car on [gajewski.xxupdate.conditions.creategaf]	
XTEff						XBRECO
	ID	SNUM				
	Num	BITP			The Readout channel Identifier	
	Eff	REAL			The analog channel efficiency	
	Err	REAL			The analog channel efficiency error	
	Descr	INTE			The Description of entry	
XTrkEt						XXOUT1
	ID	SNUM				
	PTrak	REAL			MIP momentum signed by charge (usually defined only for MIPs crossing the bottom part of BAC, where we have sensitive pad readout)	
	DPTrak	REAL			Error on MIP momentum	
	XMIPEt	REL			For some MIPs there will be one XTrkEt bank. This will happen in BAC bottom, where we have Sensitive Pad readout and we can hopefully reconstruct MIPs momentum.	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
XWTPH						XXOUT0
	ID	SNUM				
	Num	BITP			The Wire Tower Identifier	
	E	REAL			Energy deposited in a given Wire Tower (GeV)	
	PH(1)	REAL			PH(1) The Normal Wire Tower Reconstructed Pulse Height PH(2) The Amplified Wire Tower Reconstructed Pulse Height	
	PH(2)	REAL			""	
	Quality(1)	INTE			Quality(1) The Normal Wire Tower Quality flag Quality(2) The Amplified Wire Tower Quality flag	
	Quality(2)	INTE			""	
	XYZin(1)	REAL			Cartesian coor. (X, Y, Z in the HERA ref. frame) of the Inermost Tower Reference Point. For graphics purposes.	
	XYZin(2)	REAL			""	
	XYZin(3)	REAL			""	
	XYZout(1)	REAL			Cartesian coor. (X, Y, Z in the HERA ref. frame) of the Outermost Tower Reference Point. For graphics purposes.	
	XYZout(2)	REAL			""	
	XYZout(3)	REAL			""	
	XJetEt	REL		P	Not every Wire Tower produces a Jet (some Wire Towers give MIPses). Many Wire Towers may lead to a single MIP (this is very likely), and some Jets may be produced even if there is no Wire deposit (e.g. from Pad cluster, which does not cross with any of the Wire Towers).	
	XMIPEt	REL		P	Not every Wire Tower produces a MIP (some Wire Towers give Jets). Many Wire Towers may lead to a single MIP (this is unlikely, but possible), and some MIPses may be produced even if there is no Wire deposit (e.g. from Pad cluster, which does not cross with any of the Wire Towers).	
XWTow						XBRECO
	ID	SNUM				
	NumWT	BITP			The Wire Tower Identifier	
	NXLay	INTE	0,10		Number of X-Layers composing given Wire Tower	
	XLayID(1)	BITP			Array of X-Layers Identifiers composing given Wire Tower	
	.				""	
	XLayID(10)	BITP			""	
	XBAC	REL			Every Wire Tower belongs to a certain part of BAC	
XXAIRP					Atmospheric pressure	XXINP
	ID	SNUM				
	CHId	CHA8			Channel identifier	
	TimeFLT	INTE			FLT number (0 at BOR)	
	TimeOS	INTE			OSs julian time in UNIX format	
	Pres	REAL			Atmospheric pressure	
	Stat	BITP			channel status bit pattern	
XXBBUF					JMP 97	XXINP
Static	ID	IMPL				
	BufId	INTE			Buffer identification	
	FirstEvt	INTE			Event number (GSLT) of first noticed occurence	
	Skip	INTE	0,3		Status/misalignment measure	
	Chamber(1)	BITP			Identification of affected chambers	
	.				""	
	Chamber(15)	BITP			""	
XXDbug					Trigger Test Debug Information	XXINP
Static	ID	IMPL				
	Info(1)	INTE				
	.					
	Info(60)	INTE				
XXFADC						XXANAL
	ID	SNUM				
	Num	BITP			The readout channel idntifier	
	NFADC	INTE			Number of unpacked FADC crossings	
	FADC(1)	INTE			Table of unpacked FADC crossings	
	.				""	
	FADC(48)	INTE			""	
XXFEPE					Results of Fe peak position measurement	XXINP
	ID	SNUM				
	CHId	CHA8			Channel identifier	
	TimeFLT	INTE			FLT number (0 at BOR)	
	TimeOS	INTE			OSs julian time in UNIX format	
	Peak	REAL			Fe peak position	
	Sigm	REAL			Sigma of the peak position	
	NSam	INTE			Number of samples per channel	
	Flow	REAL			Gas flow in the chamber (l/min)	
	HVolt	INTE			HV voltage in the chamber [V]	
	AirP	REAL			Atmospheric pressure	
	Stat	BITP			channel status bit pattern	
XXGASF					Gas flow in the BAC chambers	XXINP
	ID	SNUM				
	CHId	CHA8			Channel identifier	
	TimeFLT	INTE			FLT number (0 at BOR)	
	TimeOS	INTE			OSs julian time in UNIX format	
	Flow	REAL			Gas flow (l/min)	
	RMS	REAL			RMS of gas flow	
	Min	REAL			Minimal allowed gas flow	
	Stat	BITP			channel status bit pattern	

V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
XXGHit					Table with GEANT hits registered in the sensitive volumes of the BAC	XXMC
	ID	SNUM				
	DeStep	REAL			Energy loss in a current step (GeV)	
	EKin	REAL			Kinetic energy of a particle (GeV)	
	X	REAL			X coordinate in a local volume frame (cm)	
	Y	REAL			Y coordinate in a local volume frame (cm)	
	Z	REAL			Z coordinate in a local volume frame (cm)	
	XHera	REAL			X coordinate in HERA frame (cm)	
	YHera	REAL			Y coordinate in HERA frame (cm)	
	ZHera	REAL			Z coordinate in HERA frame (cm)	
	ITrTyp	INTE			Tracking type in a GEANT convention	
	InwVol	INTE			As in GEANT	
	NUMBV(1)	INTE			GEANT identifiers of hit volumes	
	NUMBV(2)	INTE			""	
	FMCKin	REL			Each hit was generated by a track	
	XXPSDG	REL		P	Each sensitive pad digitisation is generated by at least one hit	
	XXPTDG	REL		P	Each pad digitisation is generated by at least one hit	
	XXSTDG	REL		P	Each strip digitisation is generated by at least one hit	
	XXWRDG	REL		P	Each wire digitisation is generated by at least one hit	
	XXXLDG	REL		P	Each hit pattern is generated by at least one hit	
XXHRST Static	ID	IMPL			Hit readout Status word list	XXINP
	Status	BITP			Hit readout Status word	
XXHVST					Status of BAC HV supplies	XXINP
	ID	SNUM				
	CHId	CHA8			HV channel identifier	
	TimeFLT	INTE			FLT number (0 at BOR)	
	TimeOS	INTE			OSs julian time in UNIX format	
	HVolt	INTE			HV voltage [V]	
	HCurr	INTE			HV current [0.1 uA]	
	Stat	BITP			channel status bit pattern	
XXLHP						XXOUT0
	ID	SNUM				
	Num	BITP			The Wire Layer Identifier	
	HP	BITP			The Wire Layer Reconstructed Hit Pattern	
XXLVST					Status of BAC LV supplies	XXINP
	ID	SNUM				
	CHId	CHA8			LV channel identifier	
	TimeFLT	INTE			FLT number (0 at BOR)	
	TimeOS	INTE			OSs julian time in UNIX format	
	LVolt	REAL			LV voltage [V]	
	Stat	BITP			channel status bit pattern	
XXLay						XBRECO
	ID	SNUM				
	NumXL	BITP			The X-Layer Identifier	
	MapWir	INTE	0,8888		Decimally Coded Wire Bit Pattern	
	XBAC	REL			Every X-Layer belongs to a certain part of BAC.	
	XDim	REL			Every X-Layer is related to the Chamber Set bank	
	XPos	REL			Every X-Layer has its own Position bank	
	XRot	REL			Every X-Layer is related to the Rot. Matrix bank	
XXMIXT					Parameters of BAC gas mixture (measured in the gas room	XXINP
	ID	SNUM				
	CHId	CHA8			Channel identifier	
	TimeFLT	INTE			FLT number (0 at BOR)	
	TimeOS	INTE			OSs julian time in UNIX format	
	CO2Fr	REAL			Fraction of CO2 in BAC mixture	
	ARFl	REAL			Ar flow (l/min)	
	CO2Fl	REAL			CO2 flow (l/min)	
	Stat	BITP			channel status bit pattern	
XXNODE Static	ID	IMPL			Transputer node info	XXINP
	PPMAdr	INTE	0,65536		PPM address	
	PipPnr	INTE			Pipeline pointer/status word	
	StrTim	INTE			Time of readout start	
	Spare(1)	INTE			Reserved	
	Spare(2)	INTE			""	
XXPSDG					Table with digitisations for sensitive pads readout	XXMC
	ID	SNUM				
	DE	REAL			Energy loss in GeV	
	Z	REAL			Effective Z coordinate along a chamber	
	PsPh(1)	REAL			Pulseheights in sensitive pads	
	PsPh(2)	REAL			""	
	TShift	REAL			Time shift in ns	
	Num	BITP			Rawdata readout identifier (GGIndex)	
XXPSRD Static	ID	IMPL			Sensitive Pad Crossings	XXINP
	Num	BITP			Tower/Layer Identifier	
	Cross	BITP			Packed four subsequent FADC Crossings Values, 8 bits each. Little-Endian convention assumed i.e. the earliest Crossing is packed at the lowest machine address	
XXPTDG					Table with digitisations for pad readout	XXMC
	ID	SNUM				
	DE	REAL			Energy loss in GeV	
	Ph	REAL			Pulseheight in ADC counts	
	TShift	REAL			Time shift in ns	
	Num	BITP			Rawdata readout identifier (GGIndex)	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
XXPTRD					Pad Tower Crossings	XXINP
Static	ID	IMPL				
	Num	BITP			Tower/Layer Identifier	
	Cross	BITP			Packed four subsequent FADC Crossings Values, 8 bits each. Little-Endian convention assumed i.e. the earliest Crossing is packed at the lowest machine address	
XXSTAT					Readout status bank	XXINP
Static	ID	IMPL				
	SwVrsn	INTE			Software version	
	CmpTim	INTE			Event completion time	
	SLTTyp	BITP			SLT decision copy - type	
	FLTNum	INTE			SLT decision copy - FLT number	
	SLTNum	INTE			SLT decision copy - SLT number	
	BunNum	INTE	0,219		FLT data copy - bunch crossing number	
	GFLTNu	INTE	0,255		FLT data copy - GFLT number (low byte)	
	GFLTyp	BITP			FLT data copy - GFLT type	
	FLTFlg	BITP			FLT data copy - flags	
	InitId	INTE			Id of init file	
	SetupId	INTE			Id of TP setup file	
	Spare(1)	INTE			Reserved	
	.				""	
	Spare(9)	INTE			""	
XXSTDG					Table with digitisations for strip readout	XXMC
	ID	SNUM				
	DE	REAL			Energy loss in GeV	
	Ph	REAL			Pulseheight in ADC counts	
	TShift	REAL			Time shift in ns	
	Num	BITP			Rawdata readout identifier (GGIndex)	
XXSTRD					Strip Tower Crossings	XXINP
Static	ID	IMPL				
	Num	BITP			Tower/Layer Identifier	
	Cross	BITP			Packed four subsequent FADC Crossings Values, 8 bits each. Little-Endian convention assumed i.e. the earliest Crossing is packed at the lowest machine address	
XXTEMP					Temperature in the Yoke	XXINP
	ID	SNUM				
	CHId	CHA8			Channel identifier	
	TimeFLT	INTE			FLT number (0 at BOR)	
	TimeOS	INTE			OSs julian time in UNIX format	
	Temp	REAL			Measured temperature [C]	
	RMS	REAL			RMS of temperature measurement	
	Stat	BITP			channel status bit pattern	
XXTPST					Begin-of-run bank	XXINP
Static	ID	IMPL				
	Setup	INTE			TP setup packet copies	
XXTRIG					Trigger info bank	XXINP
Static	ID	IMPL				
	TBD(1)	INTE			Trigger info	
	.				""	
	TBD(100)	INTE			""	
XXW1RD					Normal Wire Tower Crossings	XXINP
Static	ID	IMPL				
	Num	BITP			Tower/Layer Identifier	
	Cross	BITP			Packed four subsequent FADC Crossings Values, 8 bits each. Little-Endian convention assumed i.e. the earliest Crossing is packed at the lowest machine address	
XXW6RD					Amplified Wire Tower Crossings	XXINP
Static	ID	IMPL				
	Num	BITP			Tower/Layer Identifier	
	Cross	BITP			Packed four subsequent FADC Crossings Values, 8 bits each. Little-Endian convention assumed i.e. the earliest Crossing is packed at the lowest machine address	
XXWRDG					Table with digitisations for normal and amplified wire readout	XXMC
	ID	SNUM				
	DE	REAL			Energy loss in GeV	
	Ph(1)	REAL			Pulseheights in ADC counts	
	Ph(2)	REAL			""	
	TShift	REAL			Time shift in ns	
	Num	BITP			Rawdata readout identifier (GGIndex)	
XXXLDG					Table with digitisations for hit readout	XXMC
	ID	SNUM				
	Patt	BITP			Hit pattern	
	TShift	REAL			Time shift in ns	
	Num	BITP			Rawdata readout identifier (GGIndex)	
XXXLRD					Hit Pattern Crossings	XXINP
Static	ID	IMPL				
	Num	BITP			Tower/Layer Identifier	
	Cross	BITP			Packed four subsequent FADC Crossings Values, 8 bits each. Little-Endian convention assumed i.e. the earliest Crossing is packed at the lowest machine address	
ZCLDFL					Table is used to collect dfls written per event, these dfls are cleared in ZRCLEA then...	ZRIO
	ID	SNUM				
	DflNAM	CH32			Data Flow Name	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
ZDARCH					list of files which contain ZEUS constants	ZDIO
	ID	SNUM				
	FName(1)	CHA8			file name in ZEUS (machine independent) convention	
	FName(2)	CHA8			""	
	FName(3)	CHA8			""	
	Medium	CHA4	ARCH,ARCH DISK,DISK		status of file, archive or disk	
ZDCAT					catalogue of constants sets, contains a complete list of all sets	ZDIO
	ID	SNUM				
	GAFTyp	CHA4	CAL,CAL GEO,GEO CND,CND CAT,CAT		type of GAF used in direct I/O	
	DflNam	CH32			name of data flow	
	DflinC	INTE			data flow number, identification of data flow, unique in whole catalogue	
	Segmnt	INTE	0,*		segment number of data flow, =0 (no segmentation) in present version	
	RelDt(1)	INTE			release date of data flow	
	RelDt(2)	INTE			""	
	ZDARCH	REL			each version of a data flow in the master catalogue is found on one file, which in turn may contain a number of different versions of data flows	
ZDCPVI					List of period names that correspond to a set of virtual dates. The idea is to allow the user to set a period by name and get a standard geometry, calib. set up for their job	ZDIO
	ID	SNUM				
	Pname	CH16			name of period	
	Pdate(1)	INTE			time stamp for that period	
	Pdate(2)	INTE			""	
ZDFHMM					History in MeMory version of ZDFile	HISTHDRS
	ID	SNUM				
	FName(1)	CHA8			file name in ZEUS (machine independent) convention	
	FName(2)	CHA8			""	
	FName(3)	CHA8			""	
ZDFILE					list of files which contain ZEUS constants	ZDIO
	ID	SNUM				
	FName(1)	CHA8			file name in ZEUS (machine independent) convention	
	FName(2)	CHA8			""	
	FName(3)	CHA8			""	
ZDFOut					output version of ZDFile	HISTHDRS
	ID	SNUM				
	FName(1)	CHA8			file name in ZEUS (machine independent) convention	
	FName(2)	CHA8			""	
	FName(3)	CHA8			""	
ZDLHMM					History in MeMory version of ZDLoad	HISTHDRS
	ID	SNUM				
	DflNam	CH32			data flow name	
	GAFTyp	CHA4	CAL,CAL GEO,GEO CND,CND CAT,CAT JOBH,JOBH		type of ADAMO file	
	DflinC	INTE	0,*		data flow number, identification of data flow, unique identification in complete catalogue, this is THE VERSION NUMBER	
	Segmnt	INTE	0,*		segment number of data flow, =0 (no segmentation) in present version	
	ZDFHMM	REL			each version of a data flow is found on one file, which in turn may contain a number of different versions of data flows	
ZDLOAD					list of data flows in default catalogue, loaded by production job, the default catalogue contains a subset of the complete catalogue, for each point in time, a choice has already been made concerning the version of the data flow to be used	ZDIO
	ID	SNUM				
	DflNam	CH32			data flow name	
	GAFTyp	CHA4	CAL,CAL GEO,GEO CND,CND CAT,CAT JOBH,JOBH		type of ADAMO file	
	DflinC	INTE	0,*		data flow number, identification of data flow, unique identification in complete catalogue, this is THE VERSION NUMBER	
	Segmnt	INTE	0,*		segment number of data flow, =0 (no segmentation) in present version	
	ZDFILE	REL			each version of a data flow is found on one file, which in turn may contain a number of different versions of data flows	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
ZDLOut					output version of ZDLoad	HISTHDRS
	ID	SNUM				
	DflNam	CH32			data flow name	
	GAFTyp	CHA4	CAL,CAL GEO,GEO CND,CND CAT,CAT JOBH,JOBH		type of ADAMO file	
	DflinC	INTE	0,*		data flow number, identification of data flow, unique identification in complete catalogue, this is THE VERSION NUMBER	
	Segmnt	INTE	0,*		segment number of data flow, =0 (no segmentation) in present version	
	ZDFOut	REL			each version of a data flow is found on one file, which in turn may contain a number of different versions of data flows	
ZDPHMM					History in MeMory version of ZDPUse	HISTHDRS
	ID	SNUM				
	DflNam	CH32			data flow name	
	BoU(1)	INTE			begin of use, ZEUS date	
	BoU(2)	INTE			""	
	EoU(1)	INTE			end of use, ZEUS date	
	EoU(2)	INTE			""	
	ZDLHMM	REL			each version of a data flow is used for specific periods of time, in most cases this will be a one-to-one relationship	
ZDPOut					output version of ZDPUse	HISTHDRS
	ID	SNUM				
	DflNam	CH32			data flow name	
	BoU(1)	INTE			begin of use, ZEUS date	
	BoU(2)	INTE			""	
	EoU(1)	INTE			end of use, ZEUS date	
	EoU(2)	INTE			""	
	ZDLOut	REL			each version of a data flow is used for specific periods of time, in most cases this will be a one-to-one relationship	
ZDPUSE					list of periods of use per version of data flow in default catalogue, loaded by production job, the default catalogue contains a subset of the complete catalogue, for each point in time, a choice has already been made concerning the version of the data flow to be used	ZDIO
	ID	SNUM				
	DflNam	CH32			data flow name	
	BoU(1)	INTE			begin of use, ZEUS date	
	BoU(2)	INTE			""	
	EoU(1)	INTE			end of use, ZEUS date	
	EoU(2)	INTE			""	
	ZDLOAD	REL			each version of a data flow is used for specific periods of time, in most cases this will be a one-to-one relationship	
ZDPVAL					list of periods of validity per version of data flow in archive catalogue, to be loaded to default catalogue, the default catalogue contains a subset of the complete catalogue, for each point in time, a choice has to be made concerning the version of the data flow to be used	ZDIO
	ID	SNUM				
	DflNam	CH32			data flow name	
	BoV(1)	INTE			begin of validity, ZEUS date	
	BoV(2)	INTE			""	
	EoV(1)	INTE			end of validity, ZEUS date	
	EoV(2)	INTE			""	
	ZDCAT	REL			each version of a data flow is valid for specific periods of time, in most cases this will be a one-to-one relationship, BUT: a specific version may be valid at different times	
ZDPVIR					List of period names that correspond to a set of virtual dates. The idea is to allow the user to set a period by name and get a standard geometry, calib. set up for their job	ZDIO
	ID	SNUM				
	Pname	CH16			name of period	
	Pdate(1)	INTE			time stamp for that period	
	Pdate(2)	INTE			""	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
ZDSKEY					Table is used as the Adamo KEY table for both sequential (EVT) GAFs and direct access (CAL, GEO, CND etc.) GAFs. Full details of the use of the ZDSKEY table may be found in the references which are listed below.	ZRIO
	ID	SNUM				
	GAFTyp	CHA4	EVT,EVT CAL,CAL GEO,GEO CND,CND CAT,CAT PART,PART CEVT,CEVT GARB,GARB HDR,HDR JOBH,JOBH LUMI,LUMI		Type of GAF. A GAF may either contain event data (EVT), calibration event data (CEVT), calibration data (CAL), geometry data (GEO) etc. Full details may be found in Zeus-Notes 91-29 and 91-38.	
	Nr1	INTE			First number in DataFlowKey: RUN number for event (EVT,CEVT,HDR) files, DataFlowNumber for direct access GAFs (CAL, GEO, CND, CAT) .	
	Nr2	INTE	0,*	P	Second number in DataFlowKey: event number for (EVT, CEVT), 0 for direct access GAFs at present.	
	TStam11	INTE			First time or trigger stamp in DataFlowKey: GFLT trigger word 1 and 2 for (EVT, CEVT), begin of validity for direct access GAFs.	
	TStam12	INTE			2nd word of first timestamp	
	TStam21	INTE			Second time stamp in DataFlowKey: end of validity for direct access GAFs.	
	TStam22	INTE			2nd word of second timestamp	
	DflNAM	CH32			Data Flow Name	
ZDSNAP					Table is used as the Adamo KEY table for direct access (CAL, GEO, CND etc.) GAFs.	ZRIO
	ID	SNUM				
	GAFTyp	CHA4	EVT,EVT CAL,CAL GEO,GEO CND,CND CAT,CAT PART,PART CEVT,CEVT GARB,GARB HDR,HDR JOBH,JOBH LUMI,LUMI		Type of GAF. A GAF may either contain event data (EVT), calibration event data (CEVT), calibration data (CAL), geometry data (GEO) etc.	
	Nr1	INTE			First number in DataFlowKey: RUN number for event (EVT,CEVT,HDR) files, DataFlowNumber for direct access GAFs (CAL, GEO, CND, CAT) .	
	Nr2	INTE	0,*	P	Second number in DataFlowKey: event number for (EVT, CEVT), 0 for direct access GAFs at present.	
	TStam11	INTE			DataFlowKey: begin of validity for direct access GAFs.	
	TStam12	INTE			2nd word of first timestamp	
	TStam21	INTE			Second time stamp in DataFlowKey: end of validity for direct access GAFs.	
	TStam22	INTE			2nd word of second timestamp	
	DflNAM	CH32			Data Flow Name	
ZDUNIT					list of GAF reference numbers given to the open files of the ZEUS constants base, smallest time of last access dertermines file to be closed	ZDIO
	ID	SNUM				
	GAFref	INTE	1,99		GAF reference number given by OPEGAF at opening time	
	LasAcc	REAL	0.0,*		CPU time of last access to file	
	ZDFILE	REL			if a file is opened it is attached to a specific GAF reference number (sort of unit number)	
ZEMATE						ZEMATE
	ID	SNUM				
	Name	CH32			The material name.	
	A	REAL	0.0,300.0		Atomic weight	
	Z	REAL	0.0,200.0		Atomic number	
	Density	REAL	0.0,30.0		Density grm cm**-3	
	X0	REAL	0.0,*		Rad. length cm	
	Lambda	REAL	0.0,*		Nucl. abs. length cm.	
ZERLOG					ADAMO error message table, to keep track of how often an error has occurred, how often a message should be printed.	ZERLOG
	ID	SNUM				
	Error	INTE			ADAMO error code xyyzz, as per ADAMO manual Chapter 31.	
	PrintLimit	INTE	0,*		Number of error messages to be printed for this error.	
	NAllowed	INTE	0,*		Number of occurrences of this error allowed.	
	Noccurrences	INTE	0,*		Number of occurrences of this error.	
ZETDFL					Table is used to store contents of Zeusio-ETDFLO data card, these dfls are written in zouevt in addition to those defined via the Zeusio-ODFL data card	ZRIO
	ID	SNUM				
	GAFTYP	CHA4			Name of ZDSKEY_GAFTYP	
	DFLNO	INTE			Number of extra DFLS for GAFTYP	
	DflNAM(1)	CH32			extra Data Flow Names to be written for this GAFTYP	
	.				""	
	DflNAM(10)	CH32			""	

|
V

Page (1, 1)

Table		Column	Type	Range	P	Comment	Subschema
ZFCADC						ADC configuration. Each entity is an output channel into the VME crate.	ZFGeom
		ID	SNUM				
		Board	INTE			No. of the ADC board in VME crate	
		Channel	INTE		P	Channel no on ADC board	
		Pedestal	REAL		P	Pedestal reading attributed to channel	
		ChanID	INTE			ID of channel as used by slow control system	
		ZFPPan	REL			Every ADC channel has a cable coming from the patch panel	
ZFCalG						Parameters required for calibration of the strain gauges	ZFCali
	Static	ID	IMPL				
		Type	CHA8	Steel,Steel Aluminum,Alum...		Strain gauge Type	
		XSection	REAL			Cross section that force being measured is acting on in m2	
		YoungM	REAL			Youngs modulus for strain gauge type in N/m2	
		GaugeC	REAL			Gauge conversion factor	
		Region	CHA8	SOLENOID,SOLE... FDET,FDET FRUS-IN,FRUS-IN FRUS-OUT,FRUS... FRUS-COL,FRUS... FCAL,FCAL BCAL,BCAL RCAL,RCAL YOKE,YOKE CRYO-TOW,CRYO... BEAMPIPE,BEAM...		Region in Zeus where calibration is relevent	
ZFCalH						Parameters required for calibration of the Hall probe and temperature sensors. Each entity is a Hall probe module.	ZFCali
	Static	ID	IMPL				
		ProbeNo	INTE			Hall probe module reference number	
		CoeffH(1,1)	REAL			3x3 matrix of calibration coefficients for Hall probe sensors	
		.				""	
		CoeffH(3,3)	REAL			""	
		CoeffT(1)	REAL			Calibration coefficients for temperature sensor	
		CoeffT(2)	REAL			""	
ZFDatG						Strain Gauge raw data. Each entity is a strain gauge.	ZFAnal
	Static	ID	IMPL				
		GaugeNo	INTE			Strain gauge reference number	
		Reading	REAL		P	Reading for strain gauge with the pedestal subtracted	
		Sigma	REAL		P	Statistical errors on readings	
ZFDatH						Hall probes raw data. Each entity is a Hall probe module.	ZFAnal
	Static	ID	IMPL				
		ProbeNo	INTE			Hall probe module reference number	
		Reading(1)	REAL		P	Reading for each module chip with the pedestal subtracted	
		.				""	
		Reading(4)	REAL		P	""	
		Sigma(1)	REAL		P	Statistical errors on readings	
		.				""	
		Sigma(4)	REAL		P	""	
ZFForc						Strain Gauge processed data. Each entity is a strain gauge.	ZFAnal
		ID	SNUM				
		GaugeNo	INTE			Strain gauge reference number	
		Force(1)	REAL			Force components and total force in kN	
		.				""	
		Force(4)	REAL			""	
		Sigma(1)	REAL		P	Statistical errors on force components and total force	
		.				""	
		Sigma(4)	REAL		P	""	
		ZFDatG	REL			Every strain gauge has its raw data analysed	
ZFGaug						Strain gauge information. Each entity is a single strain gauge.	ZFGeom
	Static	ID	IMPL				
		GaugeNo	INTE			Strain gauge reference number	
		AmpNo	CHA8			Strain gauge amplifier number and channel on amp	
		Pigtail	CHA8			Pigtail that gauge is attached to	
		Coord(1)	REAL			Position of gauge in Zeus global co-ordinates in cm	
		Coord(2)	REAL			""	
		Coord(3)	REAL			""	
		Orient(1)	REAL		P	Orientation of gauge within Zeus w.r.t. x,y,z	
		Orient(2)	REAL		P	""	
		Orient(3)	REAL		P	""	
		Region	CHA8	SOLENOID,SOLE... FDET,FDET FRUS-IN,FRUS-IN FRUS-OUT,FRUS... FRUS-COL,FRUS... FCAL,FCAL BCAL,BCAL RCAL,RCAL YOKE,YOKE CRYO-TOW,CRYO... BEAMPIPE,BEAM...		Region in Zeus where gauge is situated	
		PosFact	REAL			Correction factor applied to calculated force. This factor is position dependent for FRUS-COL gauges, 1 for other gauges	
		Label	CH64			Label explaining where the gauge is	
		ZFCalG	REL			Each strain gauge channel has a set of calibrations. A set of calibrations can be applicable to more than one strain gauge.	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
ZFGaus					Raw NMR Gaussmeter readings	ZFOnline
	ID	SNUM				
	Field(1)	REAL		P	10 consecutive readings of the Gaussmeter (in Tesla)	
	.				""	
	Field(10)	REAL		P	""	
ZFHall					Hall probe information. Each entity is a single chip, there being 3 Hall effect chips and a temperature chip on each Hall probe module.	ZFGeom
Static	ID	IMPL				
	ProbeNo	INTE			Hall probe module reference number	
	ChipType	CHA4	A,A B,B C,C T,T ,		Particular chip on module	
	Pigtail	CHA8			Pigtail that probe is attached to	
	Coord(1)	REAL			Position of chip in Zeus global co-ordinates in cm	
	Coord(2)	REAL			""	
	Coord(3)	REAL			""	
	Orient(1)	REAL		P	Orientation of chip within Zeus w.r.t. x,y,z	
	Orient(2)	REAL		P	""	
	Orient(3)	REAL		P	""	
	Region	CHA8	SOLENOID,SOLE... FDET,FDET FRUS-IN,FRUS-IN FRUS-OUT,FRUS... FRUS-COL,FRUS... FCAL,FCAL BCAL,BCAL RCAL,RCAL YOKE,YOKE CRYO-TOW,CRYO... BEAMPIPE,BEAM...		Region in Zeus where probe is situated	
	LabelMod	CH64			Label explaining where the module is	
	LabelChip	CH64			Label explaining where the module is and what the chip is measuring	
	ZFCalH	REL			A Hall probe channel has a set of calibrations. A set of calibrations is applicable to all Hall probe sensors or the temperature sensor on a module.	
ZFMagF					Hall probes processed data. Each entity is a Hall probe module.	ZFAnal
	ID	SNUM				
	ProbeNo	INTE			Hall probe module reference number	
	Field(1)	REAL		P	Magnetic field components and total field in kGa	
	.				""	
	Field(4)	REAL		P	""	
	Sigma(1)	REAL		P	Statistical errors on field components and temperature	
	.				""	
	Sigma(4)	REAL		P	""	
	Temp	REAL			Temperature at position of module in C	
	TSigma	REAL			Statistical error on reading of temperature	
	ZFDatH	REL			Every Hall probe has its raw data analysed	
ZFMapG					Strain gauge table mapping. Each entity corresponds to a strain gauge module.	ZFCali
	ID	SNUM				
	GaugeNo	INTE			Strain gauge reference number	
	Channel	INTE		P	H/w ChanID that gauge is read out from	
	Info	INTE		P	ZFGaug_ID for table with information on gauge	
	Pedestal	REAL		P	Pedestal reading for gauge channel	
	Cali	INTE			ZFCalG_ID for table with gauges calibration data	
	Region	CHA8	SOLENOID,SOLE... FDET,FDET FRUS-IN,FRUS-IN FRUS-OUT,FRUS... FRUS-COL,FRUS... FCAL,FCAL BCAL,BCAL RCAL,RCAL YOKE,YOKE CRYO-TOW,CRYO... BEAMPIPE,BEAM...		Region in Zeus where gauge is situated	
ZFMapH					Hall probe table mapping. Each entity corresponds to a Hall probe module.	ZFCali
	ID	SNUM				
	ProbeNo	INTE			Hall probe module reference number	
	Channel(1)	INTE		P	H/w ChanIDs that chips on module are read out from	
	.				""	
	Channel(4)	INTE		P	""	
	Info(1)	INTE		P	ZFHall_IDs for tables with information on the chips	
	.				""	
	Info(4)	INTE		P	""	
	Pedestal(1)	REAL		P	Pedestal readings for chips channels	
	.				""	
	Pedestal(4)	REAL		P	""	
	Cali	INTE			ZFCalH_ID for table with probes calibration data	
	Region	CHA8	SOLENOID,SOLE... FDET,FDET FRUS-IN,FRUS-IN FRUS-OUT,FRUS... FRUS-COL,FRUS... FCAL,FCAL BCAL,BCAL RCAL,RCAL YOKE,YOKE CRYO-TOW,CRYO... BEAMPIPE,BEAM...		Region in Zeus where probe is situated	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
ZFNMR					NMR MagField data	ZFAnal
	ID	SNUM				
	Reading	REAL		P	Reading obtained from NMR Gaussmeter in kGa. RNull means that the Gaussmeter was not able to give a sensible reading.	
	Centre	REAL			Value of the field in kGa at x=y=z=0, obtained by using a scaling factor on the reading. RNull means that the Gaussmeter was not able to give a sensible reading.	
	AutoTrk	INTE	0,1		0=Auto tracking of signal off, 1=Auto tracking of signal on	
ZFPPan					Patch panel cable interface. Each entity corresponds to a single chip or gauge.	ZFGeom
	ID	SNUM				
	OutputNo	INTE			No. of the output from the patch panel	
	OutPinLo	INTE			Low pin number on output	
	OutPinHi	INTE			High pin number on output	
	ADCCableNo	INTE			No. of cable going to ADCs	
	FiMoCableNo	INTE		P	No. of the FiMo cable going from Zeus to the patch panel. Unless stated, is also the input number at the back of the patch panel.	
	FiMoPinLo	INTE		P	Low pin number on FiMo cable from Zeus	
	FiMoPinHi	INTE		P	High pin number on FiMo cable from Zeus	
	AttachedTo	CH64			The probe no./chip type or gauge no./amp no. that the channel is attached to	
	Device	GEN		P	Every Hall probe and strain gauge has a cable to the patch panel. Not every cable to the patch panel is attached to an active device.	
	Device_	REL		P	""	
ZFRawD					Field monitoring raw data. Each entity is an output channel from the VME crate.	ZFAnal
	ID	SNUM				
	ChanID	INTE			Slow control h/w channel ID	
	Reading	REAL			Reading obtained from slow control system	
	Sigma	REAL			Statistical error on reading	
	DataType	GEN		P	Every read raw data channel contains either raw data from one of the chips on a Hall probe module or from a strain gauge or it is empty	
	DataType_	REL		P	""	
ZFStat					Status of Zeus Magnets at the time of the readings	ZFOnline
	ID	SNUM				
	Date	INTE			Date of reading -YYYYMMDD	
	Time	INTE			Time of reading -HHMM	
	Solenoid	REAL			Solenoid current in Amps (-1. if not available)	
	Compensator	REAL			Compensator current in Amps (-1. if not available)	
	Yoke	REAL			Yoke current in Amps (-1. if not available)	
	Toroids	REAL			Toroids current in Amps (-1. if not available)	
ZFVolt					Magnetic Field Monitoring raw data from Slow Control system. Each entity is an ADC board in the VME crate.	ZFOnline
	ID	SNUM				
	Board	INTE			No. of ADC board in VME crate	
	NChans	INTE			No of channels on ADC board (48)	
	Value(1)	REAL			Value from each channel	
	.				""	
	Value(48)	REAL			""	
	Sigma(1)	REAL		P	Statistical error on value from each channel	
	.				""	
	Sigma(48)	REAL		P	""	
ZINDFL					Table is used to store dataflow names which are to be read from the input stream. References : Zeus-Note-91-??	ZRIO
	ID	SNUM				
	DflSel(1)	CH16		P	Dataflow names to be selected for input	
	.				""	
	DflSel(10)	CH16		P	""	
	Ndfl	INTE	0,*		Number of dataflows stored	
	NRREC	INTE	0,*	P	Number of records read	
	NSRREC	INTE	0,*	P	Number of records successfully read	
	ZRINPT	REL			Each i/p file might have many sets of dataflow selections	
ZINOPT					Table is used to store the option string for i/p files in Adamo (TIP) convention. References : Zeus-Note-91-??	ZRIO
	ID	SNUM				
	option(1)	CH64			i/p file option	
	option(2)	CH64			""	
ZINRCD					Table is used to store GAFTYPEs (record types) which are to be read from the input stream. References : Zeus-Note-91-??	ZRIO
	ID	SNUM				
	RcdSel(1)	CH16		P	GAFTYPEs to be selected for input	
	.				""	
	RcdSel(10)	CH16		P	""	
	Nrcd	INTE	0,*		Number of GAFTYPEs stored	
	NRREC	INTE	0,*	P	Number of records read	
	NSRREC	INTE	0,*	P	Number of records successfully read	
	ZRINPT	REL			Each i/p file might have many sets of GAFTYP selections	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
ZOUDFL					Table is used to store dataflow names which are to be written to the Output streams. References : Zeus-Note-91-??	ZRIO
	ID	SNUM				
	DflSel(1)	CH16		P	Dataflow names to be selected for Output	
	.				""	
	DflSel(10)	CH16		P	""	
	Ndfl	INTE	0,*		Number of dataflows stored	
	NWREC	INTE	0,*	P	Number of records written	
	NSWREC	INTE	0,*	P	Number of records successfully written	
	ZROUTP	REL			Each o/p file might have many sets of dataflow selections	
ZOUOPT					Table is used to store the option string for o/p files in Adamo (TIP) convention. References : Zeus-Note-91-??	ZRIO
	ID	SNUM				
	option(1)	CH64			o/p file option	
	option(2)	CH64			""	
ZOURCD					Table is used to store GAFTYPEs (record types) which are to be written to the Output streams. References : Zeus-Note-91-??	ZRIO
	ID	SNUM				
	RcdSel(1)	CH16		P	GAFTYPEs to be selected for output	
	.				""	
	RcdSel(10)	CH16		P	""	
	Nrcd	INTE	0,*		Number of GAFTYPEs stored	
	NWREC	INTE	0,*	P	Number of records written	
	NSWREC	INTE	0,*	P	Number of records successfully written	
	ZROUTP	REL			Each o/p file might have many sets of GAFTYP selections	
ZRBITP					Storage of values and bit allocation of variables to be packed into a single integer word by the subroutine ZRBPAK. It is important to note that entries in this table must be in the order in which they are to be packed into the word starting with the variable occupying the least significant bit.	ZRBITPAK
	ID	SNUM				
	Value	INTE			Value of variable to be placed in packed word	
	BitAlloc	INTE			No. of bits allocated for this variable in the packed word.	
ZRECMP					list of components	ZREVBMETA
	ID	SNUM				
	name	CHA4			2 letter abbreviation of component, initials of all table names	
	inevb	CHA4			name of component in EVB convention	
	intid	INTE	1,17		internal number of component	
	not	INTE	0,200		number of tables	
	tindex(1)	INTE	0,*		table ID in ZRETAB	
	.		0,*		""	
	tindex(200)	INTE	0,*		""	
	alink(1)	INTE	0,*		link number in dataflow	
	.		0,*		""	
	alink(200)	INTE	0,*		""	
ZRECTD					used in many-to-many relationship between components and dataflows	ZREVBMETA
	ID	SNUM				
	ZRECMP	REL			component leg of many-to-many relationship between components and dataflows	
	ZREDFL	REL			dataflow leg of many-to-many relationship between components and dataflows	
ZREDFL					list of dataflows/read out configurations	ZREVBMETA
	ID	SNUM				
	dflnam	CH32			dataflow name	
	trgmsk	BITP			trigger mask which masks out the triggers in the GSLT trigger word which require this dataflow	
ZRETAB					meta tables for ZEUS data aquisition, all tables which may be passed through the EVB are listed, if a table MUST be in the data stream its manflg is set to 1	ZREVBMETA
	ID	SNUM				
	mtid	INTE	0,*		ID in meta tables	
	tabnam	CHA8			name of table in EVB output	
	manflg	INTE	0,1		flag which is set to 1 if table is mandatory in EVB output, if set to 0 table may be added to EVB output	
	iochar(1)	INTE			io characteristics in ZEBRA bank header	
	.				""	
	iochar(17)	INTE			""	
	width	INTE			width of table in units of 32-bit words	
ZREVT					EVENT is THE event header, this table should be present in the HEAD and the BODY data flow	ZREVTRUN
	ID	SNUM				
	RunNr	INTE	0,*		run number as in RUN	
	EvtNr(1)	INTE	0,*		event number in each trigger level	
	EvtNr(2)	INTE	0,*		""	
	EvtNr(3)	INTE	0,*		""	
	Time(1)	INTE	0,*		time of data taking, in ZEUS convention, if this is ambiguous in DAQ, I suggest time of first level trigger	
	Time(2)	INTE	0,*		""	
	TrgMsk(1)	BITP		P	trigger mask, one word per trigger level to start with	
	TrgMsk(2)	BITP		P	""	
	TrgMsk(3)	BITP		P	""	
	SelMsk(1)	BITP		P	selection mask, one word per each of three selection steps to start with	
	SelMsk(2)	BITP		P	""	
	SelMsk(3)	BITP		P	""	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
ZREXIN						EXTRAP
	ID	SNUM				
	Pos(1)	REAL			Coordinates of vector to be extrapolated. The coordinate system is defined below.	
	.				""	
	Pos(6)	REAL			""	
	SignPU	REAL			For cartesian coordinate systems, the sign (+/- 1.) of the u-component of the particle momentum, where the coordinates are measured at fixed u.	
	GPartCode	INTE			The extapolation algorithm needs to know the particles mass to calculate energy loss, multiple scattering etc. Easiest way to tell it is to use the Geant particle code.	
	Cov(1)	REAL			Covariance matrix on the five parameters given.	
	.				""	
	Cov(15)	REAL			""	
	Inf(1)	REAL			Information matrix on the five parameters given.	
	.				""	
	Inf(15)	REAL			""	
	CoordIp	INTE			Input coordinate system label. Following Zeus-RAL-88-12 possible coordinate systems are CoordIp = 1 => Cylindrical polars = 2 => Cartesian coordinates x axis is ref. axis. = 3 => Cartesian coordinates y axis is ref. axis. = 4 => Cartesian coordinates z axis is ref. axis.	
	CoordTarg	INTE			Results to be presented in the coordinate system CoordTarg. As above, following Zeus-RAL-88-12 possible systems are CoordTarg = 1 => Cylindrical polars = 2 => Cartesian coordinates x axis is ref. axis. = 3 => Cartesian coordinates y axis is ref. axis. = 4 => Cartesian coordinates z axis is ref. axis.	
	XtrapType	INTE			Extrapolation type takes the following values: XtrapType = 1 => Path length = 2 => Plane = 3 => Volume	
	XtrapPres	INTE			Extrapolation precision - ie. how to integrate transport equations: XtrapPres = 1 => Helix model = 2 => Runge Kutta	
	Forward	LOGI			.TRUE. = Forward tracking => tracks energy decreases as it goes.	
	MakeTransp	LOGI			.TRUE. = Present Transport matrices in ZRXOUT	
	MakeInf	LOGI			.TRUE. = Present Information matrices in ZRXOUT	
	InfMeasFlg(1)	INTE			InfMeasFlg(I) = 0 if Pos(I+1) well measured. Otherwise = 1 and terms in Pos(I+1) are not inverted	
	.				""	
	InfMeasFlg(5)	INTE			""	
	NMeas	INTE			Number of extrapolation targets in call to extrapolation package (max 10).	
	PathLen(1)	REAL			List of path lengths to extrapolate to (in cm).	
	.				""	
	PathLen(10)	REAL			""	
	DirPlStrt(1,1)	REAL			Direction cosines of plane at which extrapolation starts. Format is as follows: DirPlStrt(1,1)->DirPlStrt(3,1) Unit vector along v axis DirPlStrt(1,2)->DirPlStrt(3,2) Unit vector along w axis For cartesian starting vector v,w should match starting system	
	.				""	
	DirPlStrt(3,2)	REAL			""	
	DirPlEnd(1,1,1)	REAL			Direction cosines of planes to which extrapolation is required. Format is as follows: DirPlEnd(1,1,I)->DirPlEnd(3,1,I) Unit vector along v axis DirPlEnd(1,2,I)->DirPlEnd(3,2,I) Unit vector along w axis DirPlEnd(1,3,I)->DirPlEnd(3,3,I) coordinates of a point in the plane.	
	.				""	
	DirPlEnd(3,3,10)	REAL			""	
	VoluName(1)	CHA4			Extrapolate to named volumes, Xtraptype = 3.	
	.				""	
	VoluName(10)	CHA4			""	
	EntOrExt(1)	INTE			Record on entry or exit of volume. EntOrExt = 1 => Entry EntOrExt = 2 => Exit	
	.				""	
	EntOrExt(10)	INTE			""	
	VoluId(1)	INTE			VoluId(I)=n, record parameters at nth volume with VoluName(I), at all such volumes if VoluId(I) = 0.	
	.				""	
	VoluId(10)	INTE			""	
	RadS	REAL			Starting radius, XtrapType = 4	
ZRGARB					dummy table to be entered into GARBAGE datflow	ZEIO
	ID	SNUM				
ZRINPT					In table ZRINPT the attributes NRBODY and NSRBOD act as counters for a l l dataflows with ZDSKEY_GAFyp=EVT except for the HEAD dataflow. References : Zeus-Note-90-??	ZRIO
Static	ID	IMPL				
	Name(1)	CH64			Name of input GAF	
	Name(2)	CH64			""	
	IOF	INTE			Adamo Integer GAF reference	
	EOF	LOGI			Logical flag for End of file	
	NRREC	INTE	0,*	P	Number of records read	
	NSRREC	INTE	0,*	P	Number of records successfully read	
	NRHEAD	INTE	0,*	P	Number of HEAD dfls read	
	NSRHEA	INTE	0,*	P	Number of HEAD dfls successfully read	
	NRBODY	INTE	0,*	P	Number of BODY dfls read	
	NSRBOD	INTE	0,*	P	Number of BODY dfls successfully read	
	NREVT	INTE	0,*	P	Number of events read	
	NSREVT	INTE	0,*	P	Number of events successfully read	
	ZINOPT	REL		P	Each i/p file has one option except the summary	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
ZROUTP					In table ZROUTP the attributes NWBODY and NSWBOD act as counters for a l l dataflows with ZDSKEY_GAFyp=EVT except for the HEAD dataflow. References : Zeus-Note-90-??	ZRIO
Static	ID	IMPL				
	Name(1)	CH64			Name of output files	
	Name(2)	CH64			""	
	IOF	INTE			Adamo Integer GAF reference	
	EOF	LOGI			Logical flag for End of file	
	NWREC	INTE	0,*	P	Number of records written read	
	NSWREC	INTE	0,*	P	Number of records successfully written	
	NWHEAD	INTE	0,*	P	Number of HEAD dfls written	
	NSWHEA	INTE	0,*	P	Number of HEAD dfls successfully written	
	NWBODY	INTE	0,*	P	Number of BODY dfls written	
	NSWBOD	INTE	0,*	P	Number of BODY dfls successfully written	
	NWEVT	INTE	0,*	P	Number of events written	
	NSWEVT	INTE	0,*	P	Number of events successfully written	
	NSKIP	INTE	0,*		Number of events skipped	
	ZOUOPT	REL		P	Each o/p file has one option except the summary	
ZRRUN					table is generated at beginning and end of run, in the beginning of a run, EoR and NEvtA are obviously undefined	ZREVTRUN
	ID	SNUM				
	TExp	INTE			type of experiment, distinguishes between, e.g., ZEUS and its test runs	
	RunNr	INTE	0,*		run number	
	TRun	INTE			type of run, should appear in DAQ database, where run conditions of this type are described	
	BoR(1)	INTE	0,*		begin of run, ZEUS time	
	BoR(2)	INTE	0,*		""	
	EoR(1)	INTE	0,*	P	end of run, ZEUS time	
	EoR(2)	INTE	0,*	P	""	
	OpMess(1)	CH16			operator message	
	.				""	
	OpMess(5)	CH16			""	
	NEvtR	INTE	0,*		number of events requested	
	NEvtA	INTE	0,*	P	number of events accumulated	
ZRXKFI						ANKATE
	ID	SNUM				
	IDF	INTE			Identifier of the point to be filtered.	
	NbMeas(1)	INTE			Code to define the measured coordinates: NbMeas(i) = 0 --> void NbMeas(i) = 1 --> i-measure available.	
	.				""	
	NbMeas(5)	INTE			""	
	NbPred(1)	INTE			Code to define the predicted coordinates: NbPred(i) = 0 --> void NbPred(i) = 1 --> i-predict. available.	
	.				""	
	NbPred(5)	INTE			""	
	XM(1)	REAL			Measured coordinates.	
	.				""	
	XM(5)	REAL			""	
	XP(1)	REAL			Predicted coordinates.	
	.				""	
	XP(5)	REAL			""	
	COVM(1)	REAL			Covariance matrix of the measurements, filled up to the (SUM(i)-NbMeas(i))**2 sub-matrix.	
	.				""	
	COVM(15)	REAL			""	
	COVP(1)	REAL			Covariance matrix of the predictions, filled up to the (SUM(i)-NbPred(i))**2 sub-matrix.	
	.				""	
	COVP(15)	REAL			""	
	IDP	INTE			Identifier of the point from which the prediction has been made. Special value: IDP=IDF, equivalent to no transportation.	
	TRANSP(1)	REAL			Transport matrix for the prediction.	
	.				""	
	TRANSP(25)	REAL			""	
ZRXKFO						ANKATE
	ID	SNUM				
	IDF	INTE			Identifier of the filtered point.	
	NbFilt(1)	INTE			Code to define the measured coordinates: NbFilt(i) = 0 --> void NbFilt(i) = 1 --> i-predict. available.	
	.				""	
	NbFilt(5)	INTE			""	
	XF(1)	REAL			Filtered coordinates.	
	.				""	
	XF(5)	REAL			""	
	COVF(1)	REAL			Covariance matrix of the filtered point, filled up to the (SUM(i)-NbPred(i))**2 sub-matrix.	
	.				""	
	COVF(15)	REAL			""	
	ChiQIncr	REAL			Chi-square increment.	
	XR(1)	REAL			Filtered residuals.	
	.				""	
	XR(5)	REAL			""	
	COVR(1)	REAL			Covariance matrix of filtered residuals.	
	.				""	
	COVR(15)	REAL			""	
	ZRXKSO	REL			The last filtered-smoothed point identifies a set of ZRXKFO points	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
ZRXKSO						ANKATE
	ID	SNUM				
	IDF	INTE			Identifier of the filtered-smoothed point.	
	XS(1)	REAL			Smoothed coordinates.	
	.				""	
	XS(5)	REAL			""	
	COVS(1)	REAL			Covariance matrix of the smoothed point, filled up to the (SUM(i)-NbPred(i))**2 sub-matrix.	
	.				""	
	COVS(15)	REAL			""	
	ChiQSmooth	REAL			Chi-square of smoothing.	
	XR(1)	REAL			Smoothed residuals.	
	.				""	
	XR(5)	REAL			""	
	COVR(1)	REAL			Covariance matrix of smoothed residuals.	
	.				""	
	COVR(15)	REAL			""	
ZRXOUT						EXTRAP
	ID	SNUM				
	Pos(1,1)	REAL			Coordinates of vectors resulting from the extrapolation performed. Pos(I,I_result) where I labels the 6 coordinates, I_result labels the result number.	
	.				""	
	Pos(6,10)	REAL			""	
	SignPU(1)	REAL			For cartesian coordinate systems, the sign (+/- 1.) of the u-component of the particle momentum, where the coordinates are measured at fixed u.	
	.				""	
	SignPU(10)	REAL			""	
	NResult	INTE			Number of results recorded.	
	PredFlag(1)	INTE			ResFlag(I)=1 if Ith prediction reached (else = 0)	
	.				""	
	PredFlag(10)	INTE			""	
	CoordOp	INTE			Output coordinate system label. Following Zeus-RAL-88-12 possible systems are CoordOp = 1 => Cylindrical polars = 2 => Cartesian coordinates x axis is ref. axis. = 3 => Cartesian coordinates y axis is ref. axis. = 4 => Cartesian coordinates z axis is ref. axis.	
	Cov(1,1)	REAL			Covariance matrix on the five parameters given.	
	.				""	
	Cov(15,10)	REAL			""	
	Inf(1,1)	REAL			Information matrix on the five parameters given.	
	.				""	
	Inf(15,10)	REAL			""	
	Transport(1,1)	REAL			Transport matrix for current step	
	.				""	
	Transport(25,10)	REAL			""	
ZTPRHL					defines the PR trajectory Helix	MVRECO
	ID	SNUM				
	hel(1)	REAL			PR helix parameters a la VCTRHL	
	.				""	
	hel(5)	REAL			""	
	XYref(1)	REAL			helix reference in CTD or MVD	
	XYref(2)	REAL			""	
	Cov(1)	REAL			Rough covariance matrix	
	.				""	
	Cov(15)	REAL			""	
	Mom	REAL			Rough Momentum estimate	
	Chsq	REAL			Rough Chisqr	
	Code	INTE		P	Code of the form NNJJII, where NN=number of degrees of freedom, JJ=outer SL, II-inner SL	
	StCrCsCz	INTE			aabbccdd; number used of a=STT,b=CTDrp,c=CTDstereo,d=CTDz	
	BrBzWuWv	INTE			aabbccdd; number used of a=BMVDrp,BMVDz,WMVDu,WMVDv	
	Sca1az	REAL			MVD/CTD kink in XY plane	
	Scat1dip	REAL			MVD/CTD kink dip angle	
	Scat1s	REAL			MVD/CTD kink path lenght	
	Scat2az	REAL			CTDexit kink angle in XY plane	
	Scat2dip	REAL			CTDexit kink dip angle	
	Scat2s	REAL			CTDexit kink path length	
	phiInner	REAL			Phi innermost	
	phiOuter	REAL			Phi outermost	
	mvddedx	REAL			average of cluster sums (corrected)	
	VCTRHL	REL		P	Relation between ZTPRHL and VCTRHL	
ZTPRUSE					CTD or MVD objects used by ZTPRHL; establishes many-to-many relationship between used objects and ZTPRHL	MVRECO
	ID	SNUM				
	ipak	INTE	0,255		info for used objects: i.e. ctd/MVD; CTD left/right choice	
	MVRECC	REL		P	zero or one MV clusters are used in the PR helix; first leg of many-to-many relationship between MV clusters and ZT tracks	
	VCCTDM	REL		P	zero or one CTD hits are used in the PR helix; first leg of many-to-many relationship between CTD hits and ZT tracks	
	ZTPRHL	REL		P	a PR trajectory helix is linked to the used hits in MVD or CTD; second leg of many-to-many relationship between MVD/CTD objects and PR trajectory helix	

V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
ZTTRCAL					defines the ZTTRHL track at cal entry	ZTRECO
	ID	SNUM				
	KODSWM	INTE	0,*		the swim status code = reason swim was ended: 1(FCAL, passed Z=217.51), 2(RCAL, passed Z=-142.5), 3(BCAL, passed R=124.0), 0(track started to return)	
	x	REAL			x position at end of swim	
	y	REAL			y position at end of swim	
	z	REAL			z position at end of swim	
	px	REAL			Px at end of swim	
	py	REAL			Py at end of swim	
	pz	REAL			Pz at end of swim	
	Q	REAL			Track charge	
	cov(1)	REAL			cov mat	
	.				""	
	cov(15)	REAL			""	
	ZTTRHL	REL			correspondence between track at CAL and ZT track	
ZTTRHL					MVD fitted track	ZTRECO
	ID	SNUM				
	hel(1)	REAL			helix parameters wrt reference (x,y)=(0,0)	
	.				""	
	hel(5)	REAL			""	
	Cov(1)	REAL			covariance matrix	
	.				""	
	Cov(15)	REAL			""	
	Mom	REAL			Momentum	
	Chsq	REAL			Chisqr	
	Code	INTE		P	Code of the form NNJJII, where NN=number of degrees of freedom, JJ=outer SL, II=inner SL	
	StCrCsCz	INTE			aabbccdd; number used of a=STT,b=CTDrp,c=CTDstereo,d=CTDz	
	BrBzWuWv	INTE			aabbccdd; number used of a=BMVDrp,BMVDz,FMVDu,FMVDv	
	phiInner	REAL			Phi innermost	
	phiOuter	REAL			Phi outermost	
	mvddedx	REAL			average of cluster sums (corrected)	
	VCTRHL	REL		P	Relation between ZTTRHL and VCTRHL	
	ZTPRHL	REL		P	Relation between ZTTRHL and ZTPRHL	
ZTTRMS					defines a kink of a ZTTRHL track	ZTRECO
	ID	SNUM				
	scataz	REAL			kink in phi	
	scatdip	REAL			kink in dip	
	scats3d	REAL			3D path length at the kink	
	cov(1)	REAL			covariance matrix of scataz,scatdip	
	cov(2)	REAL			""	
	cov(3)	REAL			""	
	ZTTRHL	REL		P	every track may have zero or more kinks	
ZTTRPRM					Contains the track parameters at the PRIMARY vertex point	ZTVERT
	ID	SNUM				
	Par(1)	REAL			track parameters at PRIMARY vertex	
	Par(2)	REAL			""	
	Par(3)	REAL			""	
	Cov(1)	REAL			Covariance matrix	
	.				""	
	Cov(6)	REAL			""	
	Chi2	REAL		P	Chi2 contribution to the vertex fit from this track	
	D0	REAL			Final D0 w.r.t. the PRIMARY vertex	
	DaughterOf	REL		P	Some particles are generated by other particles	
	PRoducedAt	REL		P	Each track is produced at one vertex	
	ZTTRHL	REL		P	Relation between final track parameters at the vertex and ZTTRHL	
ZTTRSEC					Contains the track parameters at THE SECONDARY verteces	ZTVERT
	ID	SNUM				
	Par(1)	REAL			track params at SECONDARY vertex	
	Par(2)	REAL			""	
	Par(3)	REAL			""	
	Cov(1)	REAL			Covariance matrix	
	.				""	
	Cov(6)	REAL			""	
	Chi2	REAL		P	Chi2 contribution to the vertex fit from this track	
	D0	REAL			Final D0 w.r.t. the SECONDARY vertex	
	DaughterOf	REL		P	Some particles are generated by other particles	
	PRoducedAt	REL		P	Each SECONDARY track is produced at one SECONDARY vertex	
	ZTTRHL	REL		P	Relation between SECONDARY VERTEX TRACKS and ZTTRHL	
ZTTRUSE					CTD or MVD objects used by ZTTRHL	ZTRECO
	ID	SNUM				
	ipak	INTE	0,255		info for used objects: i.e. ctd/MVD, CTD left/right choice	
	MVRECC	REL		P	zero or one MV clusters are used in the fitted track: first leg of many-to-many relationship between MV clusters and ZT tracks	
	VCCTDM	REL		P	zero or one CTD hits are used in the fitted track: first leg of many-to-many relationship between CTD hits and ZT tracks	
	ZTTRHL	REL		P	link from track to used hits: second leg of many-to-many relationship between MVD/CTD hits or STT/FTD hits and ZT tracks	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
ZTTRVCAL					either a primary or a secondary refitted track at cal entry	ZTVERT
	ID	SNUM				
	KODSWM	INTE	0,*		the swim status code = reason swim was ended: 1(FCAL, passed Z=217.51), 2(RCAL, passed Z=-142.5), 3(BCAL, passed R=124.0), 0(track started to return)	
	x	REAL			x position at end of swim	
	y	REAL			y position at end of swim	
	z	REAL			z position at end of swim	
	px	REAL			Px at end of swim	
	py	REAL			Py at end of swim	
	pz	REAL			Pz at end of swim	
	Q	REAL			Track charge	
	cov(1)	REAL			cov mat	
	.				""	
	cov(15)	REAL			""	
ZTVTXPRM					Contains the PRIMARY vertex position	ZTVERT
	ID	SNUM				
	V(1)	REAL			Coordinates of the PRIMARY vertex	
	V(2)	REAL			""	
	V(3)	REAL			""	
	Cov(1)	REAL			Covariance matrix	
	.				""	
	Cov(6)	REAL			""	
	Chi2	REAL		P	Total chi2	
	NDF	INTE			Number of Degrees of Freedom	
ZTVTXSEC					Contains the SECONDARY vertex positions	ZTVERT
	ID	SNUM				
	V(1)	REAL			Coordinates of EACH SECONDARY vertex	
	V(2)	REAL			""	
	V(3)	REAL			""	
	Cov(1)	REAL			Covariance matrix	
	.				""	
	Cov(6)	REAL			""	
	Chi2	REAL		P	Total chi2	
	NDF	INTE			Number of Degrees of Freedom	
ZWDIV						zggeom
	ID	SNUM				
	mother	CHA4			Name of the mother volume	
	step	REAL	-0.100E+05,0....		Division step	
	axis	INTE	1,3		Axis division	
	ndiv	INTE	1,9999		Number of divisions	
ZWDTCT					Place holder for detector relationship.	zggeom
	ID	SNUM				
ZWPARA						zggeom
	ID	SNUM				
	par	REAL	0.0,0.100E+05		A parameter defining a volume	
	of	GEN			A parameter is of a volume or a position	
	of_	REL			""	
ZWPOS						zggeom
	ID	SNUM				
	nr	INTE	1,9999		Serial number	
	mother	CHA4			Name of the mother volume	
	x	REAL	-0.100E+06,0....		X linear dimension	
	y	REAL	-0.100E+06,0....		Y linear dimension	
	z	REAL	-0.100E+06,0....		Z linear dimension	
	konly	CHA4	MANY,MANY ONLY,ONLY		If MANY,a point in this volume may be in another	
	Detector	REL		P	Every Superlayer is positioned.	
	rotm	REL			each positioned volume is related to a rotation matrix	
	volu	REL			A position belongs to a volume	
ZWRJCT						zggeom
	ID	SNUM				
	config	INTE	0,9999		Selects configuration	
	of	GEN			Rejected volumes and positions	
	of_	REL			""	
ZWSDET						zggeom
	ID	SNUM				
	name	CHA4			4 characters name	
	type	INTE	1,9999		detector type	
	nwhi	INTE	1,9999		Numb. words primary alloc. HITS	
	nwdi	INTE	1,9999		Numb. words DIGI when primary not suff.	
ZWSDTA						zggeom
	ID	SNUM				
	name	CHA4			4 characters name	
	nwhi	INTE	1,9999		Initial HITS allocation	
	nwdi	INTE	1,9999		Increment of DIGI allocation	
	sdet	REL			Some detectors give more than one type signals	
ZWSDTD						zggeom
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	of	GEN			Sensible detectors and aliases digitizations	
	of_	REL			""	
ZWSDTH						zggeom
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	orig	REAL			to define the hit elem. positive	
	fact	REAL			IVAR= VAR + ORIG*FACT	
	of	GEN			each detec. element needs the parameter definition	
	of_	REL			""	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
ZWSDTU						zggeom
	ID	SNUM				
	upar	REAL			User parameter	
	of	GEN			User parameters for sensible detectors and aliases	
	of_	REL			""	
ZWSDTV						zggeom
	ID	SNUM				
	name	CHA4			4 characters name	
	nbit	INTE	1,9999		Number of bits	
	sdet	REL			Physical detectors for the master detector identifier	
ZWVOLU						zggeom
	ID	SNUM				
	name	CHA4			4 characters name	
	shape	CHA4	BOX,BOX TRD1,TRD1 TRD2,TRD2 TRAP,TRAP TUBE,TUBE TUBS,TUBS CONE,CONE CONS,CONS SPHE,SPHE PARA,PARA PGON,PGON PCON,PCON GTRA,GTRA		Shape of the volume	
	div	REL		P	some volumes may be subdived	
	sdet	REL		P	some volumes may be also active detectors	
	tmed	REL			Volume tracking medium number	
kwgrp					keywords belonging together are related to one prefix, in later use only keywords with the same prefix are presented to FFREAD at the same time	KWPARM
	ID	SNUM				
	prefix	CHA8			prefix of control parameters, grouping keywords which belong together	
kwparm					kwparm holds all control parameters read in from an external file, from there they will be passed to individual routines and interpretation of parmv will take place in the routines themselves, preferrably FFREAD will be used to unpack them	KWPARM
	ID	SNUM				
	keywrd	CHA8			keyword to be used by FFREAD	
	blockn	INTE	1,*		block number to count occurrency of prefix,keywrd combination in input	
	contn	INTE	1,*		continuation number within block	
	parmv(1)	CH16			character string which holds values of control parameters	
	.				""	
	parmv(5)	CH16			""	
	kwgrp	REL		P	entries into kwparm are sorted in groups by their relation to kwgrp, identification of a prefix with a processor name will allow an integration of program control and program monitoring	
lmdig					Digits definitions for Lumi	LMHIT
	ID	SNUM				
	name	CHA4			name of detector containing digits	
	nradl	INTE			number of halves radiation length in given filter configuration	
	veto	INTE			veto for Cerenkov counter	
	nfing	INTE	0,16		finger number in pos. g.detector	
	tenel	INTE			total left/down attenuated energy deposit	
	tener	INTE			total right/up attenuated energy deposit	
	totdp	INTE			total energy scintillator deposit	
	efing	INTE			total attenuated energy in finger	
lmhit					hits definitions for Lumi	LMHIT
	ID	SNUM				
	name	CHA4			name of detector containing hits	
	ipart	INTE			particle type giving veto in Cerenkov	
	x	REAL			x- coordinate in master ref. system	
	y	REAL			y- coordinate in master ref. system	
	z	REAL			z- coordinate in master ref. system	
	p	REAL			p- particle momentum giving hit in Cerenkov counter	
	enel	REAL			left/down energy deposit in scintillator attenuated by a factor	
	ener	REAL			right/up energy deposit in scintillator attenuated by a factor	
	edep	REAL			energy deposit in scintillator layers	
	lmdig	REL		P	One or more hits correspond to one digit	
lpdig					Defines a cluster of strips firing	LPHIT
	ID	SNUM				
	nr	INTE	1,1000		Detector nr as in pos	
	dig	INTE	0,*		first strip number	
	digl	INTE	0,*		last strip number	
lphit					Defines the hit parameters for LPS	LPHIT
	ID	SNUM				
	nr	INTE	1,1000		detector nr as in pos	
	x	REAL			Coordinate in master ref. sys.	
	y	REAL			Coordinate in master ref. sys.	
	z	REAL			Coordinate in master ref. sys.	
	p	REAL			momentum	
	FMCKin	REL		P	one or more hits correspond to one track	
	lpdig	REL		P	one or more hits correspond to one digit	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
lppjp					Defines LPS tracks projection	LPHIT
	ID	SNUM				
	iview	INTE			projection type +45 and -45 degrees	
	chi	REAL			chisquare/nof of fitted proj. track	
	yo	REAL			origin in local rf of fit. proj track	
	zo	REAL			origin in local rf of fit. proj track	
	sl	REAL			slope of fitted proj track	
lppjpp					track element relator	LPHIT
	ID	SNUM				
	lppjp	REL			A coordinate belongs to at most 2 track elements	
	lprhit	REL			There are 2 to 8 -coordinates to one track element	
lprhit					Defines LPS reconstructed coordinates	LPHIT
	ID	SNUM				
	nr	INTE	1,1000		Detector nr as in pos	
	hit	REAL			strip number coordinate	
	TYPL	CHA4			PLANE IDENTIFICATION	
	ZPLA	REAL			Z coordinate of plane in abs system	
	lpdig	REL			each reconstructed hit comes from a digitized quantity	
lpts					Defines LPS tracks found in Reconstruction Phase 1	LPTR
	ID	SNUM				
	itsdou	INTE			Flag for double/triple coinc evts	
	xs4	REAL			fitted X of track at S4	
	ys4	REAL			extrap Y of track at S4	
	zs4	REAL			Z of track at S4	
	xs5	REAL			fitted X of track at S5	
	ys5	REAL			calcul Y of track at S5	
	zs5	REAL			Z of track at S5	
	xs6	REAL			fitted X of track at S6	
	ys6	REAL			calcul Y of track at S6	
	zs6	REAL			Z of track at S6	
	slxz	REAL			fitted dX/dZ slope	
	slyzs4	REAL			extrap dY/dZ slope at S4	
	slyzs5	REAL			calcul dY/dZ slope at S5	
	xg	REAL			X intercept of linear fit	
	zg	REAL			Z intercept of linear fit	
	vxg	REAL			Variance on xg	
	vsl	REAL			Variance on LPTS-slxz	
	chilin	REAL			Chi square for linear fit	
	itslin	INTE			linear track candidates	
	px	REAL			x component of momentum	
	py	REAL			y component of momentum	
	pz	REAL			z component of momentum	
	p	REAL			absolute momentum	
	itsmom	INTE			track candidates with extrapol momentum	
	xvtx	REAL			extrapol X to vertex	
	yvtx	REAL			extrapol Y to vertex	
	zvtx	REAL			extrapol Z to vertex	
	slxzvtx	REAL			extrapol dX/dZ to vertex	
	slyzvtx	REAL			extrapol dY/dZ to vertex	
	itsvtx	INTE			track candidates extrapol to vertex	
mfcnst					Defines detector constants	MFGEOM
	ID	SNUM				
	RminLT	REAL			Minimum LT radius	
	StriPlim	INTE			Last single-read LTrho strip	
	NTDCIN	INTE			Number of input TDC channels (wireor)	
	NTDCOUT	INTE			Number of output TDC channels (wireor)	
	TDCOUT(1)	INTE			WireOr logic (output)	
	.				""	
	TDCOUT(128)	INTE			""	
	TDCIN(1)	INTE			WireOR logic (input)	
	.				""	
	TDCIN(32)	INTE			""	
	NsTDC	INTE			Bin width of TDC	
	NWireDC	INTE			Number of wires of DC cell	
	WireNo(1,1)	INTE			Wire numbering switch	
	.				""	
	WireNo(4,8)	INTE			""	
	SigDel(1)	REAL			Electronic cards location in DC octants	
	.				""	
	SigDel(8)	REAL			""	
	SignalSpeed	REAL			Speed of signal in DC cables	
	NCell(1)	INTE			Number of DC cells in plane 1-4	
	.				""	
	NCell(4)	INTE			""	
	Stagg(1)	REAL			Staggering of DC cell wires	
	.				""	
	Stagg(4)	REAL			""	
	InOrOut(1)	INTE			1/2 flags if DC in or out	
	.				""	
	InOrOut(4)	INTE			""	
	PathMin	REAL			Minimum Path in DC gas to digitize	
	ZBACA(1)	REAL			Z-limits of FwYoke	
	ZBACA(2)	REAL			""	
	FBACA	REAL			B-field rescaling for FwYoke	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
mfct					Contains the candidate tracks from pattern recognition	MFREC
	ID	SNUM				
	clus	INTE			Projections matched	
	oct	INTE			Octant	
	nr	INTE			Number of linked rho	
	plr(1)	INTE			Flags the linked planes	
	.				""	
	plr(6)	INTE			""	
	rpar(1)	REAL			Parameters of Rho model	
	.				""	
	rpar(4)	REAL			""	
	np	INTE			Number of linked phi	
	plp(1)	INTE			Flags the linked planes	
	.				""	
	plp(6)	INTE			""	
	ppar(1)	REAL			Parameters of Phi model	
	.				""	
	ppar(4)	REAL			""	
mfcts					Contains the candidate tracks from spline-pattern recognition	MFREC
	ID	SNUM				
	status	INTE			Candidate status	
	oct	INTE			Octant	
	zone	INTE			Flags the angular zone	
	par(1)	REAL			Track parameters - parabola(1-3) straight(4-5)	
	.				""	
	par(5)	REAL			""	
	p	REAL			q*p (Gev/c) - momentum estimate	
	chi2r	REAL			Chisquare	
	nr	INTE			Number of rho hits used	
	patr	INTE			Packed pattern of rho-planes used	
	avphi	REAL			Average phi	
	epav	REAL			Sigma(phi)	
	dphi	REAL			Max phi residual	
	np	INTE			Number of phi hits used	
	patp	INTE			Packed pattern of phi-planes used	
mfdcse					Contains the DCs reconstructed parameters and errors of the segments	MFREC
	ID	SNUM				
	A	REAL			A parameter in (x = A*z+B) DC-segm	
	B	REAL			B parameter in (x = A*z+B) DC-segm	
	EA	REAL			Error on Parameter A	
	EB	REAL			Error on Parameter B	
	EAB	REAL			Cov(A,B)	
	Z0	REAL			Referece ParaAxis	
	Nhit	INTE			Number of matched hits	
	Chi2	REAL		P	Min(chi**2)/DOF of the linear fit.	
	Plane	INTE			plane number along z	
	Oct	INTE			Octant	
	Cell(1)	INTE			Cells to which the segment belong	
	Cell(2)	INTE			""	
mfdico					Defines the constants for the digitization	MFGEOM
	ID	SNUM				
	npli	INTE			number of planes for intersection	
	hwpli	REAL			half spacing between the planes	
	fsel	REAL			first sens. elem. w.r.t. module center	
	spsel	REAL			spacing between sensible elements	
mfdig					Defines FMUON digitized quantities	MFREC
	ID	SNUM				
	nr	INTE			"Packed" digit information	
	dig	INTE			DC => TDC time, If WALL PsRho ==> PsRho*1000	
mfdm					dummy table for n:m relationship mfrh-mfct	MFREC
	ID	SNUM				
	mfct	REL			second part of mfrh-mfct relation	
	mfrh	REL			first part of mfrh-mfct relation: each candidate will have many associated reconstructed hits and the same rec. hit can be associated to different candidates	
mfdm1					dummy table for n:m relationship mfrh-mfdcse	MFREC
	ID	SNUM				
	mfdcse	REL			First part of mfdcse-mfrh relationship: each candidate will have many associated DC segments, and the DC segment can be associated to different candidates	
	mfrh	REL			First part of mfdcse-mfrh relationship	
mfdm2					dummy table for n:m relationship mfrh <<-|--->> mfgrid	MFREC
	ID	SNUM				
	mfgrid	REL				
	mfrh	REL				
mfdm3					dummy table for n:m relationship mfrh-mfcts	MFREC
	ID	SNUM				
	mfcts	REL			second part of mfrh-mfcts relation	
	mfrh	REL			first part of mfrh-mfcts relation: each candidate will have many associated reconstructed hits and the same rec. hit can be associated to different candidates	
mfdr					Table used for n:m mfdig <<-->> mfdig. A group of digits is logically linked to a digit that has a relationship with a generated hit	MFREC
	ID	SNUM				
	from	REL			A digit can have more digits of the same kind associated with it	
	to	REL			A digit in mfdr must have a digit in mfdig	

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
mfdtoh					Dummy table from n:m mfdig <<-|---->> mfrh	MFREC
	ID	SNUM				
	mfdig	REL		P	Many hits can come from the same digit (i.e. L/R ambiguity)	
	mfrh	REL			Many digits can go to the same rec. hit (i.e. cluster-average)	
mfgrid					histogram table	MFREC
	ID	SNUM				
	i	INTE			Row identifier in histogram	
	j	INTE			Column identifier in histogram	
	n	INTE			Cell entries	
	oct	INTE			Octant	
mfhit					Defines the hit parameters for FMUON	MFREC
	ID	SNUM				
	name	CHA4			4 characters name	
	nr	INTE	1,9999		Serial number	
	part	INTE			Geant Code of particle	
	x	REAL			x (Zeus) coordinate of spatial hit	
	y	REAL			y (Zeus) coordinate of spatial hit	
	z	REAL			z (Zeus) coordinate of spatial hit	
	cx	REAL		P	Director Cosine along x	
	cy	REAL		P	Director Cosine along y	
	cz	REAL		P	Director Cosine along x	
	tof	REAL			Time of Flight	
	p	REAL			Particle Momentum (GeV/c).	
	FMCKin	REL		P	one or more hits correspond to one track	
	mfdig	REL		P	one or more hits correspond to one digit	
mfkinp					Steering input to the Kalman Filtering Processor	MFREC
	ID	SNUM				
	Status	INTE			0/1 - if=1 segment is pattern-recognized	
	Plane	INTE			Plane number	
	Nm	INTE			Actual dimension of the meas-state vector	
	X(1)	REAL			Measurement state vector and ParaAxis value	
	.				""	
	X(6)	REAL			""	
	Cov(1)	REAL			Covariance of the measurements	
	.				""	
	Cov(15)	REAL			""	
	mfct	REL			relation between Kalman input mesaruments and cand. track	
	mfcts	REL			relation between Kalman input mesaruments and spline-cand. track	
	mfdcse	REL			a set of rec. DC segments is the input to the Kalman Filtering	
mfrh					Defines the reconstructed spatial information	MFREC
	ID	SNUM				
	itype	INTE			detector information type: 1 LT phi 2 LT rho 3 LW phi 4 LW rho 5 TOF 6 DC	
	plane	INTE			plane number along z 1 2 3 4 5 6 1 2 3 4 LT1 W1 W2 LT2 LT3 LT4 DC1 DC2 DC3 DC4	
	oct	INTE			octant	
	nb1	INTE			cell number. Only filled for DCs.	
	nb2	INTE			DC wire number. Only for DCs.	
	val1	REAL			spatial information value	
	val2	REAL			spatial information value	
	z	REAL			spatial information value	
	spsel	REAL			spatial uncertainty (cluster size)	
mfrot					table of local (z:=Z_Zeus) rotation matrices	MFGEOM
	ID	SNUM				
	xm(1,1)	REAL			Local FMUON rotation matrices	
	.				""	
	xm(3,3)	REAL			""	
mfrtl					Contains the fitted parameters in the LOCAL ref. frame	MFREC
	ID	SNUM				
	Status	INTE			Track Status (1/2=FIL/SMO)	
	Chi2F	REAL			Total Chisquare of filter	
	NDofF	INTE			Degrees of freedom of filter	
	ProbF	REAL			Chisquare probability of filter	
	Chi2S	REAL			Chi2 of smoothed estimate	
	NDofS	INTE			Dof of smoothed estimate	
	ProbS	REAL			Chi2 Prob. of smoothed estimate	
	X(1)	REAL			Fitted state vector at reference plane	
	.				""	
	X(6)	REAL			""	
	Cov(1)	REAL			Covariance matrix of the fitted parameters	
	.				""	
	Cov(15)	REAL			""	
	Octant	INTE			Octant number	
	IdRot	INTE			Pointer to ZEUS->LOCAL rotation matrix	
	mfrtz	REL			relationship between rec. track zeus<->local	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
mfrtz					Contains the fitted parameters in the ZEUS ref. frame	MFREC
	ID	SNUM				
	Status	INTE			Track Status (1/2=FIL/SMO)	
	Chi2F	REAL			Total Chisquare of filter	
	NDofF	INTE			Degrees of freedom of filter	
	ProbF	REAL			Chi2 Prob. of total filter	
	Chi2S	REAL			Chi2 of smoothed estimate	
	NDofS	INTE			Dof of smoothed estimate	
	ProbS	REAL			Chi2 Prob. of smoothed estimate	
	X(1)	REAL			Fitted state vector at reference plane	
	.				""	
	X(6)	REAL			""	
	Cov(1)	REAL			Covariance matrix of the fitted parameters	
	.				""	
	Cov(15)	REAL			""	
	Octant	INTE			Octant number	
	IdRot	INTE			Pointer to ZEUS->LOCAL rotation matrix	
	ChiF2	REAL			Chi2 of re-tracking	
	NDof2	INTE			Degrees of freedom of re-tracked track	
	ChiSum	REAL			Sum of local smoothing chisquares	
	NDfSum	INTE			Sum of nb. of degrees of freedom of smoothing	
	HitDC	INTE			Packed DC hits informations	
	HitLT	INTE			Packed LT/LW hits informations	
mfsect					sector table for local frames location	MFGEOM
	ID	SNUM				
	sector	INTE			Sector identifier: Quadrant*10+Octant	
	mfrot	REL		P	a sector can be linked to a local rotation matrix	
	pos	REL			relationship between FMUON sector and pos table	
moacc					moacc holds accumulated weights of conditions, one row per condition	Momo
	ID	SNUM				
	cnd	CH32			name of condition to be monitored,; should be choosen as self-explanatory as possible	
	accwgt	REAL			sum of weights accumulated during execution	
	sever	INTE	-1,3		-1 = harmless, 0 = warning, 1 = abandon processor 2 = abandon event 3 = abandon run	
	module	REL			accounts are kept per module and condition	
mocond					mocond holds conditions set during the latest call to a module, one row per setting	Momo
	ID	SNUM				
	cnd	CH32			name of condition to be monitored,; should be choosen as self-explanatory as possible	
	weight	REAL			weight with which condition is set	
	sever	INTE	-1,3		-1 = harmless, 0 = warning, 1 = abandon processor, 2 = abandon event, 3 = abandon run	
	mostck	REL		P	condition keeps only those conditions which were set during the latest execution of a module, condition will be cleared with the reading-in of a new event	
module					module records all modules which have been called during execution, calling module and depth at call are stored in order to foresee modules being called from different environments	Momo
	ID	SNUM				
	modid	CHA8			name of program module; recommended to be equal to the FORTAN subroutine name	
	caldby	CHA8		P	name of module calling the present module	
	cdepth	INTE	0,*		depth at which present module is called	
mostck					mostck does the book keeping of the calling sequence event by event, it monitors activity of modules	Momo
	ID	SNUM				
	modid	CHA8			name of program module; recommended to be equal to the FORTAN subroutine name	
	caldby	CHA8		P	name of module calling the present module	
	cdepth	INTE	0,*		depth at which present module is called	
	actflg	LOGI			actflg is true for active modules	
	sttime	REAL			time at latest activation of module	
	module	REL			the callstack keeps track of the behaviour of the program on an event-by-event basis, each module which is called in the processing of an event is linked to the module table which does the bookkeeping for the processing of a complete run	
rotm					Defines the rotation matricies	ZRROTM
	ID	SNUM				
	theta1	REAL	0.0,360.0		rotation matrix element	
	phi1	REAL	0.0,360.0		rotation matrix element	
	theta2	REAL	0.0,360.0		rotation matrix element	
	phi2	REAL	0.0,360.0		rotation matrix element	
	theta3	REAL	0.0,360.0		rotation matrix element	
	phi3	REAL	0.0,360.0		rotation matrix element	
tmed					Tracking medium	ZEMATE
	ID	SNUM				
	name	CH32			tracking medium name	
	svol	INTE			Not 0 if a sensitive volume	
	field	INTE			Magnetic field	
	fieldm	REAL			Max field value	
	tmaxfd	REAL			Max angle due to field perm. in one step	
	dmaxms	REAL			Max displ. for mult. scatt. in one step	
	deemax	REAL			Max fractional energy loss in one step	
	epsil	REAL			Tracking precision (in cm)	
	stmin	REAL			Min step due to energy loss or mult. scatt.	
	ZEMATE	REL				

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
tpar						ZEMATE
	ID	SNUM				
	ChPar	CH32	CUTGAM,CUTGAM CUTELE,CUTELE CUTNEU,CUTNEU CUTHAD,CUTHAD CUTMUO,CUTMUO BCUTE,BCUTE BCUTM,BCUTM DCUTE,DCUTE DCUTM,DCUTM PPCUTM,PPCUTM IPAIR,IPAIR ICOMP,ICOMP IPHOT,IPHOT IPFIS,IPFIS IDRAY,IDRAY IANNI,IANNI IBREM,IBREM IHADR,IHADR IMUNU,IMUNU IDCAY,IDCAY ILOSS,ILOSS IMULS,IMULS GHEISHA,GHEISHA BIRK1,BIRK1 BIRK2,BIRK2 BIRK3,BIRK3		Geant name for the tracking parameter which is to be changed for a particular tracking medium.	
	ParVal	REAL			New value to be assigned for a particular tracking medium.	
	tmed	REL				
vtct					vxd candidate track parameters and matrix elements. Note that in the case the CTD track is followed inside the VXD, i.e. vtct_ndf > 12, the table contains the full parameter list	vthit
	ID	SNUM				
	phi	REAL				
	psi	REAL				
	z	REAL				
	theta	REAL				
	pinv	REAL			charge*inverse momentum	
	chi2	REAL			Chi2 of the fit	
	ndf	INTE			# of degrees of freedom of the fit	
	r	REAL			radius (cm) of reference point	
	em(1)	REAL			error matrix (lower triangle)	
	.				""	
	em(15)	REAL			""	
vtdico					Contains the corrections to the sense wires positions	vthit
	ID	SNUM				
	xsw	REAL			sense wire x coordinate correction	
	ysw	REAL			sense wire y coordinate correction	
vtdig					Contains VERTEX DETECTOR digitized quantities and wire number	vthit
	ID	SNUM				
	wirenr	INTE			wire ordinal number (1-1440)	
	tdig	INTE			digitized time (in TDC 4 ns bins)	
	twidth	INTE			signal width (in TDC 4 ns bins)	
	vtraw	REL			each digitisation corresponds to a packed data in vtraw	
vtdm					dummy table for n:m relation vtrh-vtct	vthit
	ID	SNUM				
	vtct	REL			second part of vtrh-vtct relation	
	vtrh	REL			first part of vtrh-vtct relation: each candidate will have many associated reconstructed hits and the same rec. hit can be associated to different candidates	
vtdtot					Contains the distance to time transformation. The data are stored as follows: as a function of wire radial number (from 1 to 12), of the distance from the sense wire (75 points from 0. to 3.7 mm, with a 0.050 mm grid step), and of the track angle w.r.t. the sense plane for this cell (11 points, from -50 to +50 degrees). Each raw contains the 11 phi-dependent points; vtdtot_id gives (iwire-1)*75 + dist, where iwire is the wire ordinal number and dist is track distance in 0.050 mm units.	vthit
	ID	SNUM				
	t(1)	REAL		P	distance-to-time grid	
	.				""	
	t(22)	REAL		P	""	
vthit					Defines the hit quantities for VXD	vthit
	ID	SNUM				
	x	REAL			x-coordinate of the hit	
	y	REAL			y-coordinate of the hit	
	z	REAL			z-coordinate of the hit	
	cx	REAL		P	x director cosine of the hit	
	cy	REAL		P	y director cosine of the hit	
	cz	REAL		P	z director cosine of the hit	
	p	REAL			momentum value at the hit point	
	wirenr	INTE	1,1440		wire number (1-1440)	
	angle	REAL			angle(in degrees) between track and wire	
	realdist	REAL			distance (cm) between track and wire	
	dist	REAL			distance (cm) after resolution smearing	
	tdig	INTE			digitised time (in TDC 4 ns bins)	
	twidth	INTE			signal width (in TDC 4 ns bins)	
	FMCKin	REL		P	one or more hits correspond to one track	
	vtdig	REL		P	one or more hits correspond to one digitised time	

|
V

Page (1, 1)

Table	Column	Type	Range	P	Comment	Subschema
vtraw					VXD raw data table. For each event it contains: ID=1 First Level Trigger Number, ID=2 Second Level Trigger Number, ID=3 Words in SLT result bank, ID=4 WVXD : # of VXD hits found. Each of the WVXD raws contain the informations of a VXD hit packed as follows: bit 1-> 5: not used so far, bit 6->16: vtdig_wirenr, i.e. (ncell-1)*12 + nwire, bit 17->24: vtdig_tdig, i.e. signal starting TDC channel, bit 25->32: vtdig_twidth, i.e. signal width in TDC channels. An on-line synchronisation word (ID=4+WVXD+1)closes the event.	vthit
	ID	SNUM				
	dig	INTE			on-line information in packed form	
vtreso					Each raw contains a grid of the VXD measured resolutions as a function of the distance from radial sense wire number vtreso_id. The grid is done by 12 points per wire, from 0. to 3.6 mm. The values stored are relative to the centers of the 0.3 mm bins	vthit
	ID	SNUM				
	r(1)	REAL			measured resolution	
	.				""	
	r(12)	REAL			""	
vtrh					Contains the VXD quantities after having transformed from the digitised time to the digitised distances according to the TDR depending on the angle between the track and the sense wire plane for this cell	vthit
	ID	SNUM				
	cell	INTE	1,120		cell number	
	wire	INTE	1,12		wire number	
	tdig	INTE			TDC channel of the hit (in 4 ns units)	
	dist	REAL			digitised distance perpendicular to the sense wire (in cm)	
	error	REAL			error on digitized distance (in cm)	
	wirphi	REAL			track angle (in degrees) w.r.t. the sense wire plane for this hit	
	x	REAL			X coordinate of the hit (in cm) in the ZEUS reference frame	
	y	REAL			Y coordinate of the hit (in cm) in the ZEUS reference frame	
	vtraw	REL			two recontructed hits correspond to one digitised time	
vtsmea					Each raw contains a grid of the R. M. S. to use to smear the MonteCarlo points as a function of the distance from radial sense wire number vtsmea_id. The grid is done by 12 points per wire, from 0. to 3.6 mm. The values stored are relative to the centers of the 0.3 mm bins	vthit
	ID	SNUM				
	r(1)	REAL			R. M. S. to smear the montecarlo points	
	.				""	
	r(12)	REAL			""	
vtt0					Each raw contains the t0s for the 12 wires of cell # vtt0_id. Wires are numbered from the innermost to the outermost one. The value stored is the TDC channel number.	vthit
	ID	SNUM				
	t(1)	INTE		P	TDC t0 starting time	
	.				""	
	t(12)	INTE		P	""	
vtttod					Contains the digitised time to distance transformation. The data are stored as follows: as a function of wire radial number (from 1 to 12), of the TDC channel (200 points from 0. to 199, in 4 ns units), and of the track angle w.r.t. the sense plane for this cell (11 points, from -50 to +50 degrees). Each raw contains the 11 phi-dependent points; vtttod_id gives (iwire-1)*200 + TDCch, where iwire is the wire ordinal number and TDCch is the TDC channel.	vthit
	ID	SNUM				
	d(1)	REAL			time-to-distance grid	
	.				""	
	d(22)	REAL			""	