

19. SSBLOG SECTION

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• Byte27 = 8B (DRR CHK2)	SSBLOG05-2000
• Byte27 = 8C (SVP Failure)	SSBLOG05-2230
• Byte27 = 8D (Power Failure)	SSBLOG05-2280
• Byte27 = 8E & Byte34 = X0 & Byte28 = 0X/1X (CHK1A/WCHK1)	SSBLOG05-2390
• Byte27 = 8E & Byte34 = X0 & Byte28 = 2X/3X (CHA CHK1B)	SSBLOG05-2620
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• Byte27 = 8E & Byte34 = X0 & Byte28 = 6X/7X (CHK1A/WCHK1(SRAM P/K))	SSBLOG05-3041
• Byte27 = 8E & Byte34 = X0 & Byte28 = 8X (CHA CHK1B (SRAM P/K))	SSBLOG05-3043
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• Byte27 = 8E & Byte34:bit4-7 = 1 (Selective Reset)	SSBLOG05-3120
• Byte27 = 8E & Byte34:bit4-7 = 3 (Wait SENSE Timeout)	SSBLOG05-3150
• Byte27 = 8E & Byte34:bit4-7 = 5 (CHK1B Reset)	SSBLOG05-3170
• Byte27 = 8E & Byte34:bit4-7 = 6 (DKC Internal Reset)	SSBLOG05-3190
• Byte27 = 8E & Byte34:bit4-7 = 7 (LCP Internal Reset)	SSBLOG05-3210
• Byte27 = 8E & Byte34:bit4-7 = 8 (Force Reset)	SSBLOG05-3230
• Byte27 = 8E & Byte34:bit4-7 = 9 (Logical Inconsistency Reset)	SSBLOG05-3250
• Byte27 = 8E & Byte34:bit4-7 = a (Power FailureReset)	SSBLOG05-3270
• Byte27 = 8F (Logical Inconsistency)	SSBLOG05-3290
• Byte27 = 9F (Trace data/Log data).....	SSBLOG05-3303
• Byte27 = EC (Environment Monitor Detected DKC Failure)	SSBLOG05-3310
• Byte27 = EE (Environment Monitor Detected DKU Failure)	SSBLOG05-3330
• Byte27 = F0 (Opearation terminated)	SSBLOG05-3350
• Byte27 = F1 (Micro-program Detected Cacher Failure)	SSBLOG05-3370
• Byte27 = F2 (Cache Failre)	SSBLOG05-3390
• Byte27 = F6 (CFW Access not Authorized)	SSBLOG05-3970
• Byte27 = FA (NVS Terminated)	SSBLOG05-3990
• Byte27 = FF (Cache/Shared Memory/M bus/F bus/J bus warning)	SSBLOG05-4010

• Byte0F:Bit1 = 1 & Byte36-37 = 08C1 (Machine Condition Exception)	SSBLOG05-4268
• Byte0F:Bit1 = 1 & Byte36-37 = 0212 (Command Sequence Exception:Incomplete Domain)	SSBLOG05-4270
• Byte0F:Bit1 = 1 & Byte36-37 = 4XXX (Data exception)	SSBLOG05-4290
• Byte36 = 6F (Subsystem Information)	SSBLOG05-4320
• Byte36:Bit0-3 = D & Byte27:bit0-2 = 7 (SPC Detected Failure)	SSBLOG05-4330
• Byte36:Bit0-3 =D & Byte27:bit0-2 = 0 (Drive Detected Failure)	SSBLOG05-4346
• Byte36:Bit0-3 = E & Byte2C:bit0-7 ≠ 5X/6X (Drive Detected Failure)	SSBLOG05-4350
• Byte36 = E0 & Byte2C = 5X/6X & Byte20:b3 =1 (LDEV blockade/Pin VOL detected/Write inhibited)	SSBLOG05-4410
• Byte36-37 = E210 & Byte2C = 5X/6X & Byte20:b1 = 1 (Intervention requested:LDEV not ready) .	SSBLOG05-4430
• Byte26:b4-7 = F & Byte3C = F1 (DKC SIM)	SSBLOG05-4450
• Byte26:b4-7 = F & Byte3C = F2 (CACHE SIM)	SSBLOG05-4480
• Byte26:b4-7 = F & Byte3C = FE (Device SIM)	SSBLOG05-4510
• Byte26:b4-7 = F & Byte3C = FF (Media SIM)	SSBLOG05-4530
• Reference code of Mp detected SIM	SSBLOG05-4550

19.1 Introduction

The internal SSB (SSB Log) information is presented as either 24-byte compatibility SSB format or ECKD 32-byte SSB format. The 24-byte SSB is used for DKC and the 32-byte SSB is used for DKU.

The internal SSB is divided into the following sections:

- Internal SSB common information
This information is used for SSB management, and same for all formats.
- External SSB information presented to host.
This is 32 bytes sense information presented to host as SSB.
- Format-dependent information
This is auxiliary information for error analysis.

See Fig.1-1 and Fig.1-2.

(Note) The byte offset in SSB logs is described by hexadecimal number.

This section is corresponding to SSB log on SVP.

If you want to know about SSB which was reported to host, you should see SSB section.

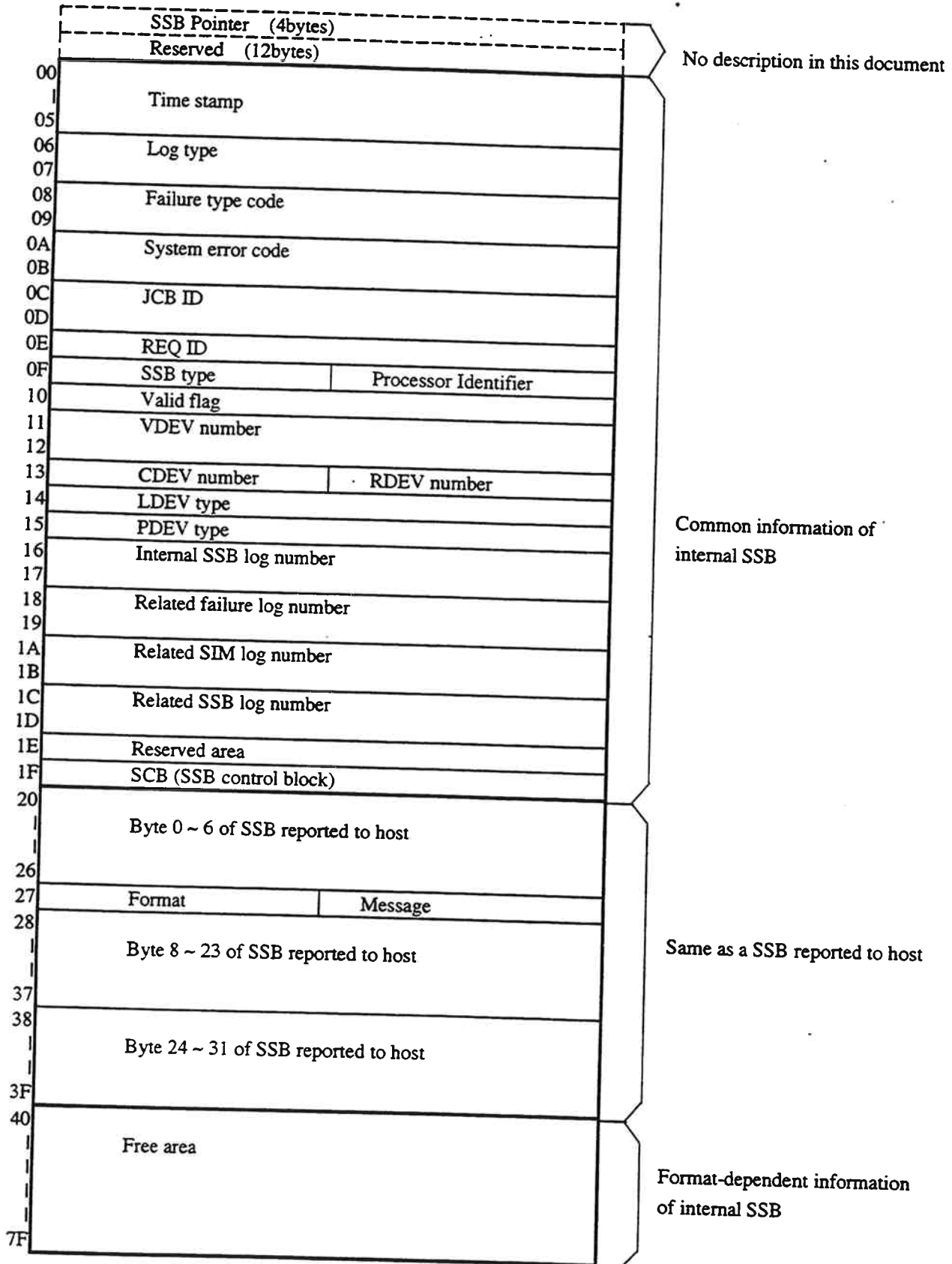


Fig.1-1 Outline of 24-byte Format Internal SSB

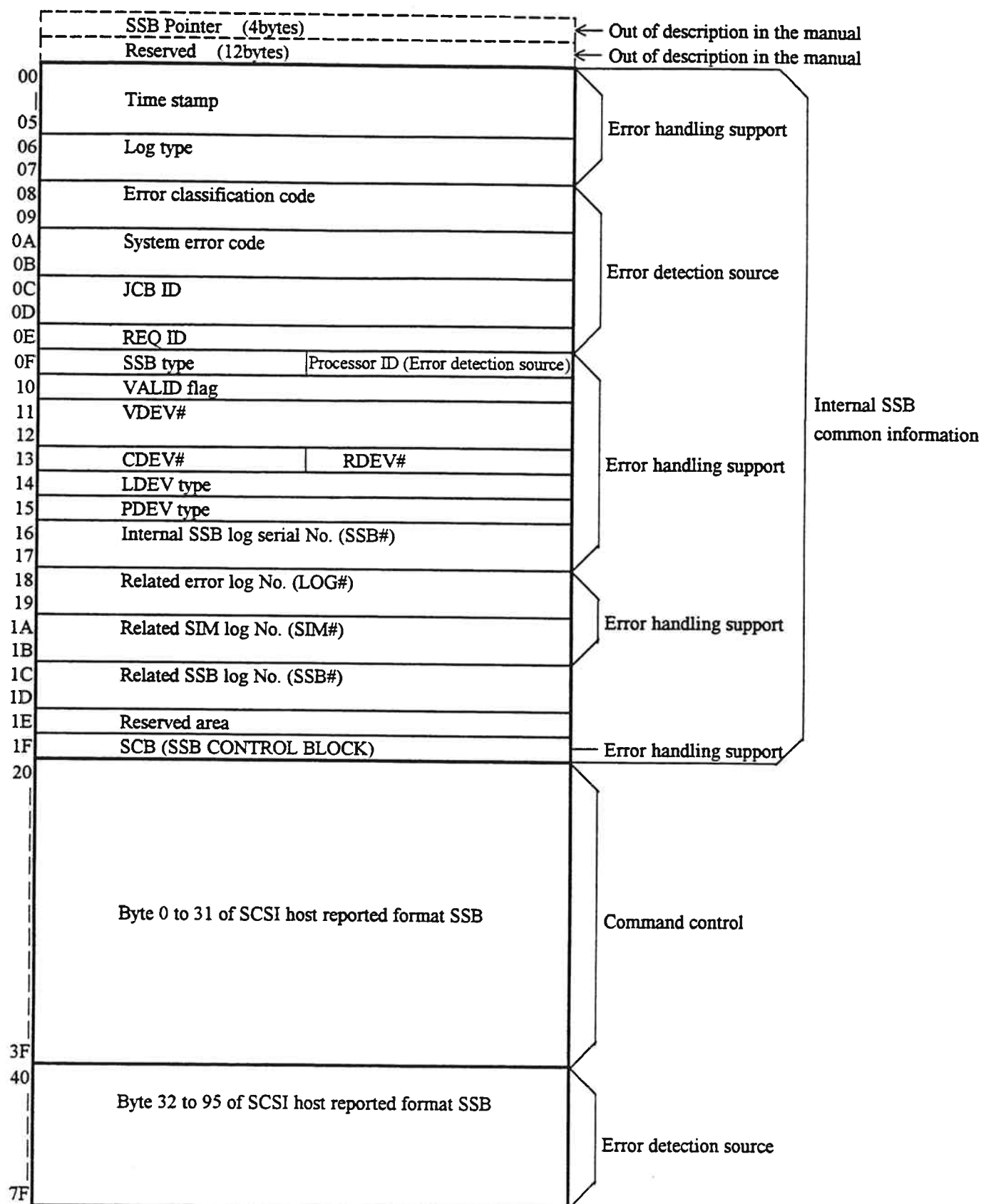


Fig.1-3 Overview of SCSI Host Report Format Internal SSB

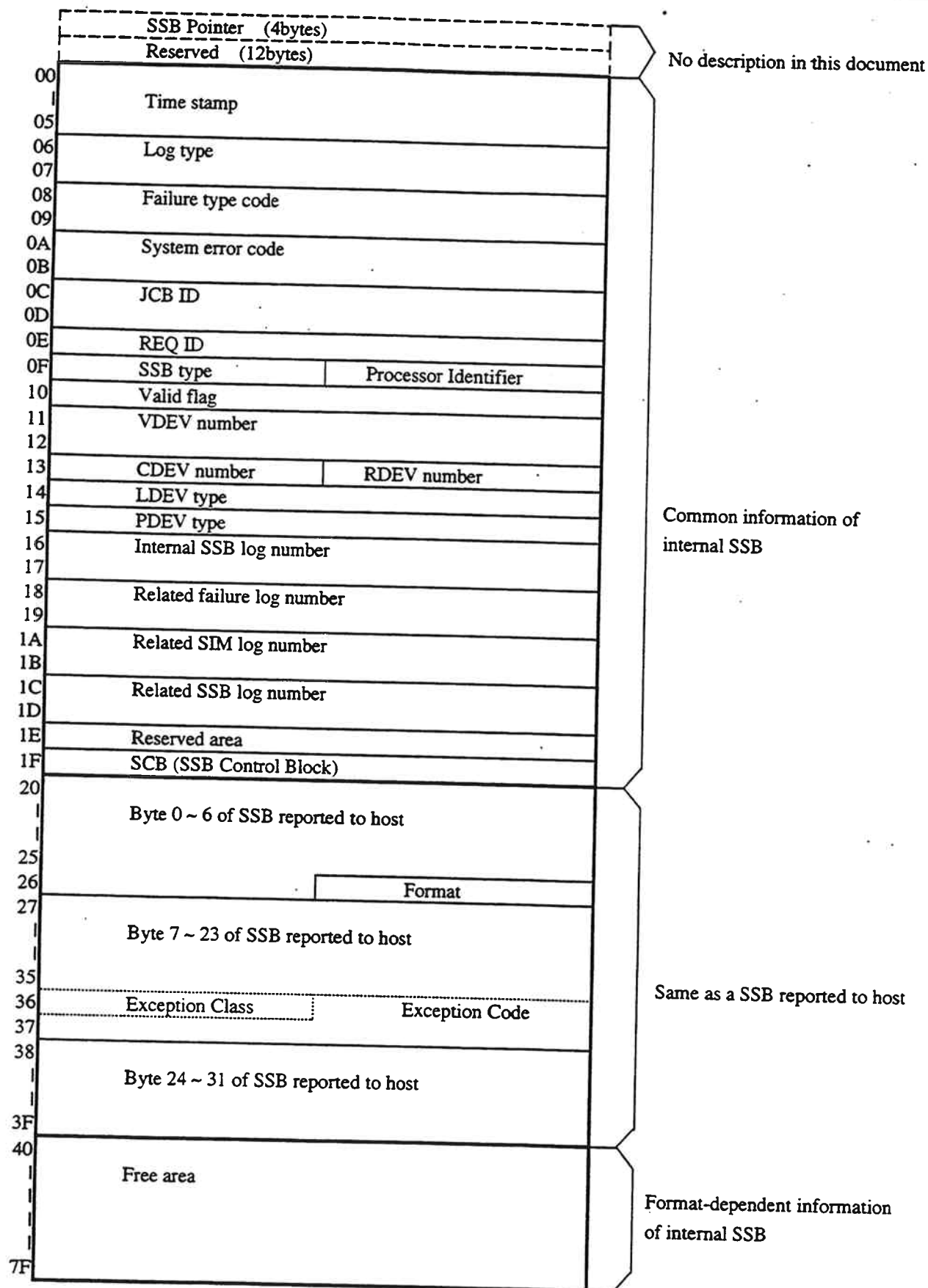
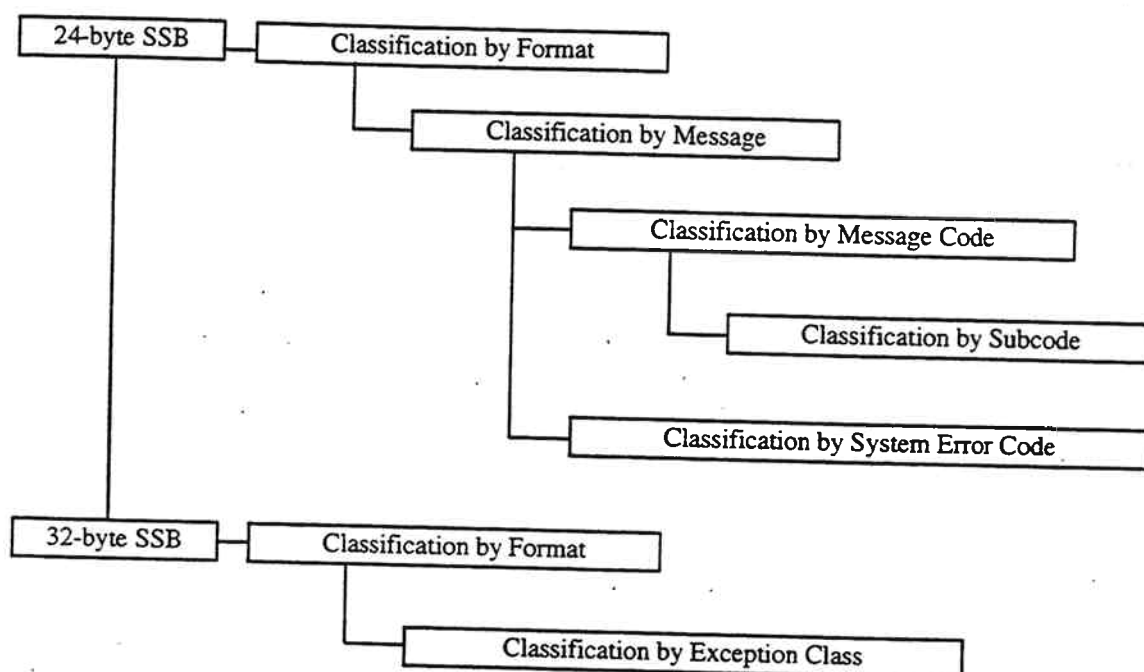
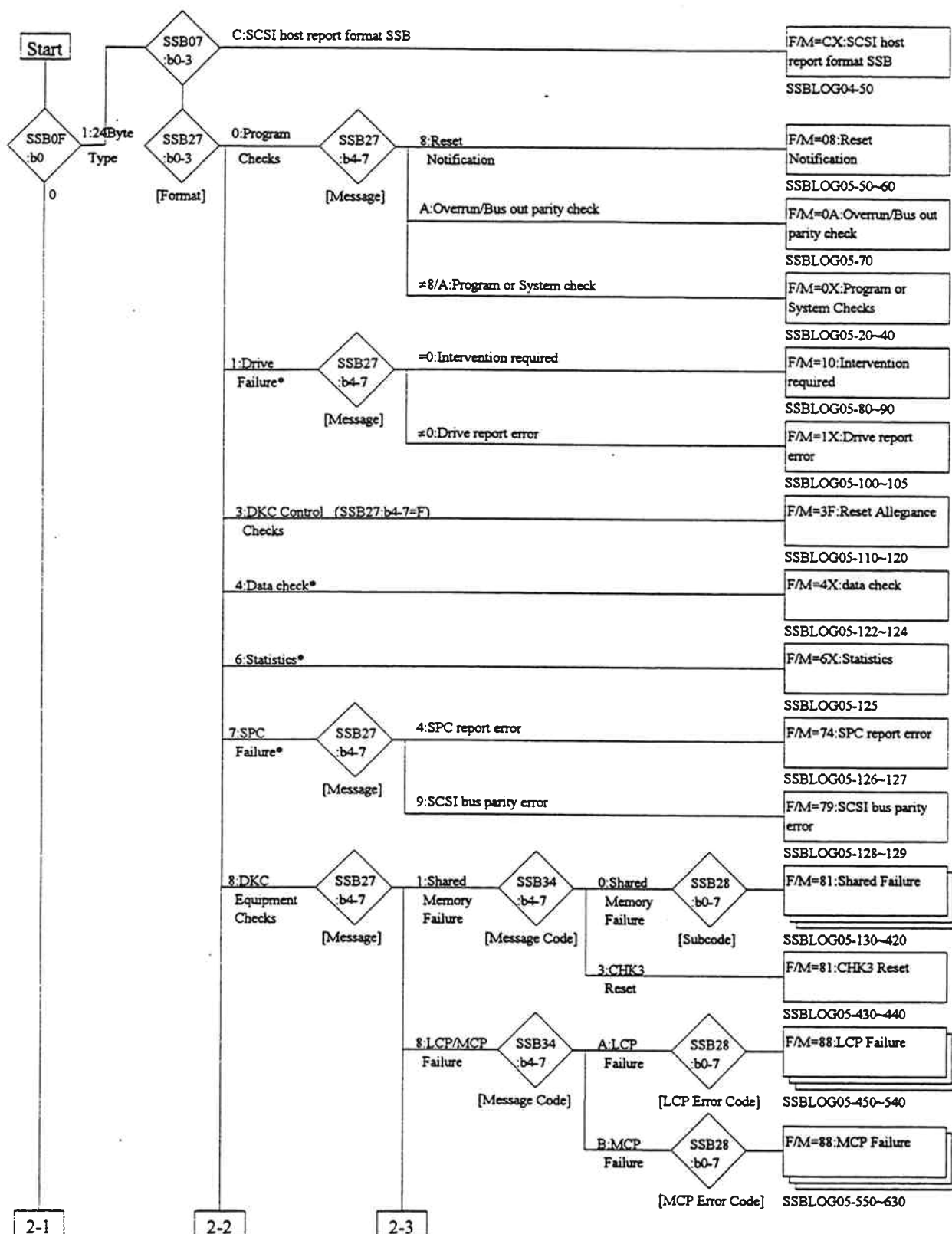


Fig.1-2 Outline of 32-byte Format Internal SSB

19.2 Classification of Internal SSB

The internal SSB is classified as the following figure, and Fig.2-1 for detail.





* : For DKU86I (IBM 3380 emulation mode) only.

Fig.2-1 Search method for SSB tables (1/5)

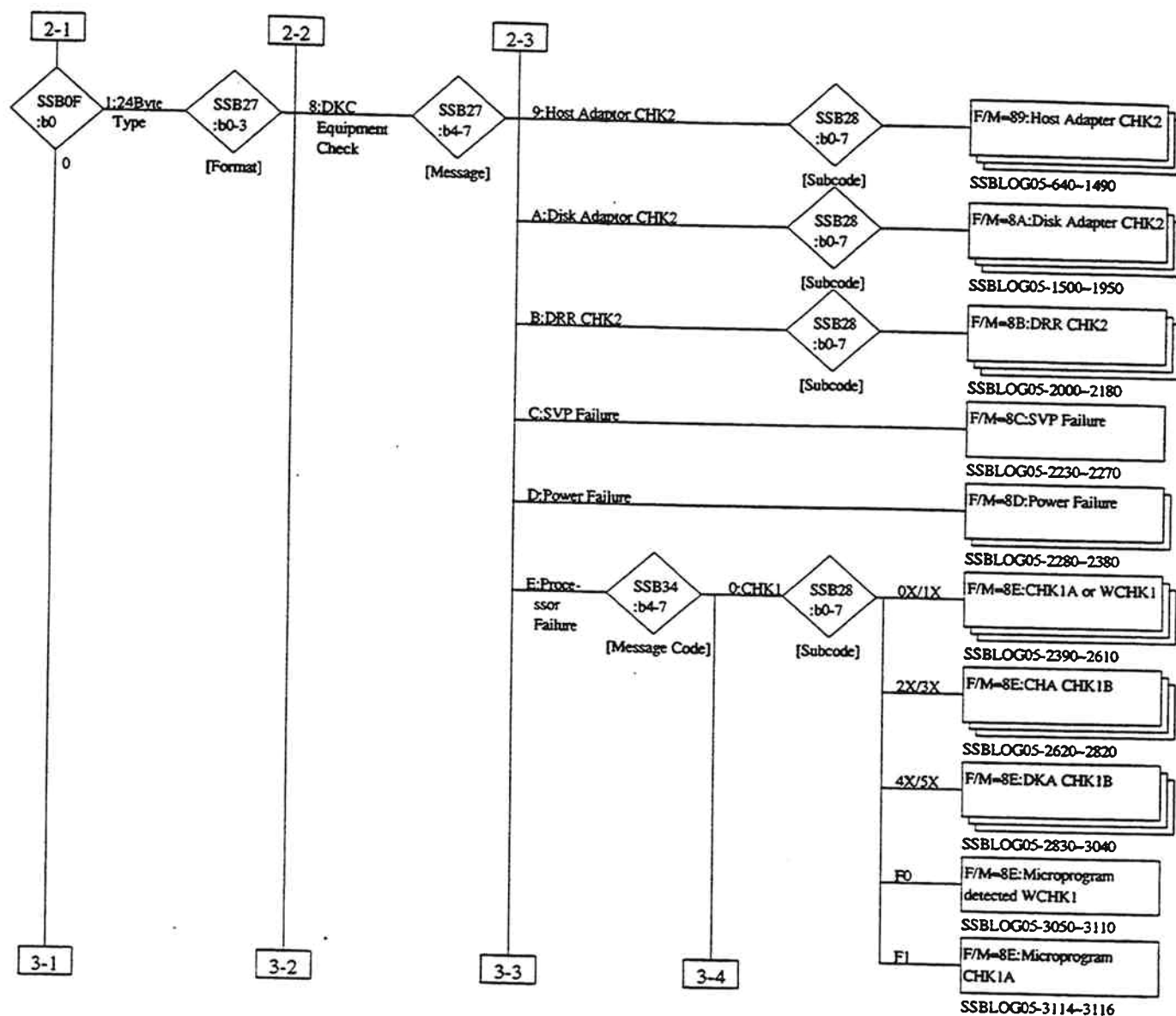


Fig.2-1 Search method for SSB tables (2/5)

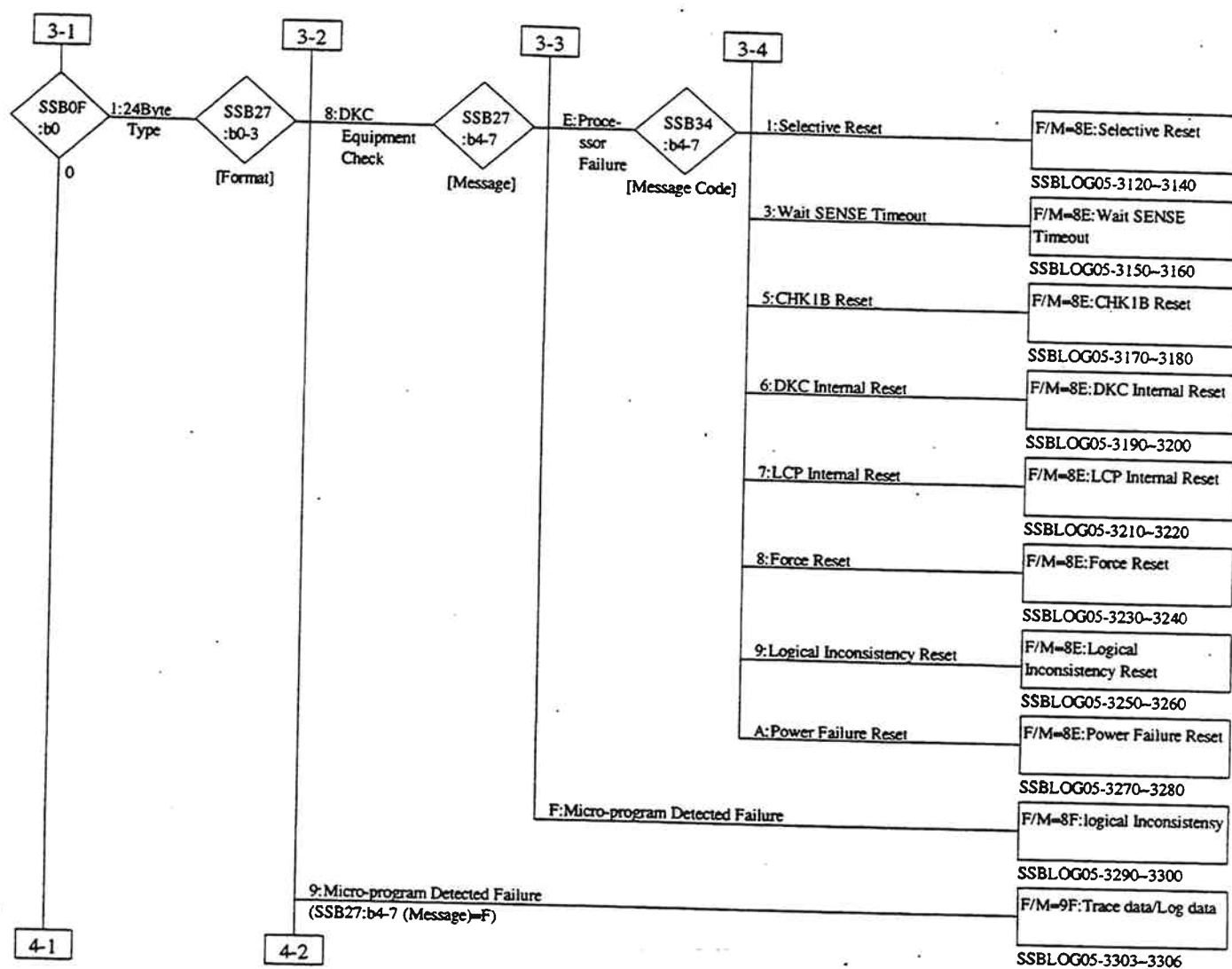


Fig.2-1 Search method for SSB tables (3/5)

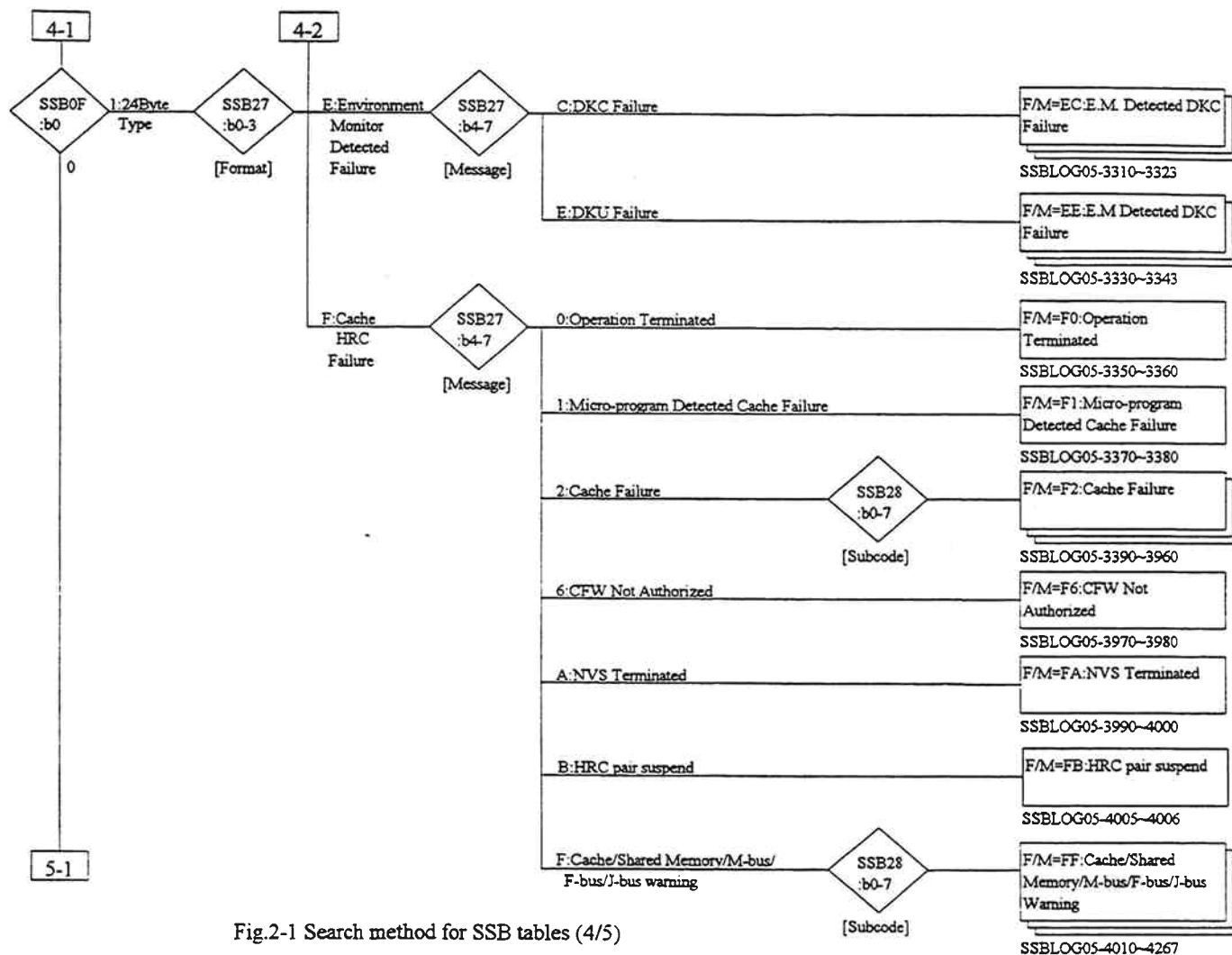


Fig.2-1 Search method for SSB tables (4/5)

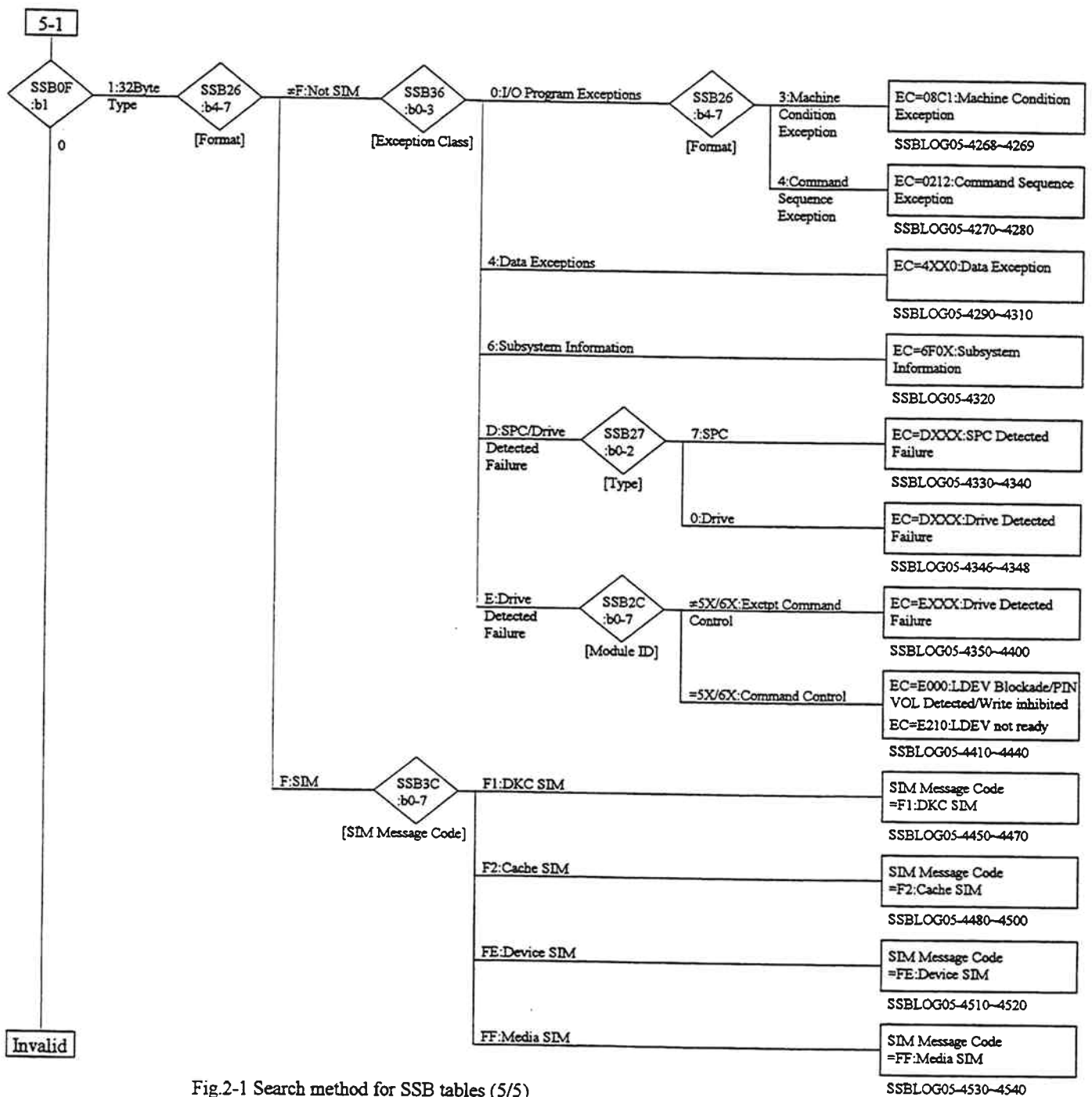


Fig.2-1 Search method for SSB tables (5/5)

19.3 Common information description

	0	1	2	3	4	5	6	7
00	Time Stamp							
01								
02								
03								
04								
05								
06	Log Type							
07								
08	Failure Type							
09								
0A	System Error Code							
0B								
0C	JCB ID							
0D								
0E	REQ ID							
0F	24CMPAT	ECKD32	Host RSP	SVP RSP	Processor ID			
10	VDEV#VLD	PDEV#VLD	SSB#VLD	LOG#VLD	SIM#VLD	RSSB#VLD	0	Force Log
11	VDEV number							
12								
13	CDEV number				RDEV number			
14	LDEV Type							
15	PDEV Type							
16	Internal SSB log number							
17								
18	Related failure log number							
19								
1A	Related SIM log number							
1B								
1C	Related SSB log number							
1D								
1E	Reserved							
1F	SCB (SSB Control Block)							
20	Host SSB Information							
21								
22								
23								
24								
3F	Internal SSB Format-Dependent Information							
40								
41								
42								
43								
7F								

Common Information (1/2)

Byte	Bit	Meaning
00 - 05		Time stamp The time error occurred
06 - 07		Log Type
	0 - 7	x'01':Internal SSB x'02':Internal SIM x'03':Error Log
	8 - 15	Internal SSB or Internal SIM 24Byte Type:Format ☐ EMessage 32Byte Type:Exception Class ☐ EFormat Error Log:Error log classification
08 - 09		Error classification code
0A - 0B		System error code
	0 - 7	Module ID See "Module ID" table.
	8 - 15	Routine ID
0C - 0D		JCB ID
0E		REQ ID
0F - 10		Valid flag
	0	24Byte type flag 0:Invalid 1:24Byte type SSB
	1	32Byte type flag 0:Invalid 1:32Byte type SSB
	2	Host report flag 0:Pending 1:Reported
	3	SVP report flag 0:Pending 1:Reported
	4 - 7	Processor number detected this error. x'0' ~ '7':CHA0 ~ 7 x'8' ~ 'F':DKA0 ~ 7
	8	VDEV# valid or invalid 0:Invalid 1:valid
	9	PDEV# valid or invalid 0:Invalid 1:valid
	10	SSB Number valid or invalid 0:Invalid 1:valid
	11	Related failure log number valid or invalid 0:Invalid 1:valid
	12	Related SIM log number valid or invalid 0:Invalid 1:valid
	13	Related SSB log number valid or invalid 0:Invalid 1:valid
	14	Display of Detection by Processors Connected TO SCSI Host 0:SSB detected by CHA or DKA processor 1:SSB detected by CHS processor
	15	Force Log 0:Normal log 1:Force log

Common Information (2/2)

Byte	Bit	Meaning
11 - 12		VDEV number
13		PDEV number
	0 - 3	CDEV number
	4 - 7	RDEV number
14		LDEV type
15		PDEV type
16 - 17		Internal SSB log number
18 - 19		Related Failure log number
1A - 1B		Related SIM log number
1C - 1D		Related SSB log number
1E		Reserved area
1F		SSB control block Use when assemble BASIC SSB of Host SSB. See "SSB Key Code" table.

Module ID (1/2)

Module ID	Module Name		Remarks
00	Initializer		
01	Power Off Process		
02	CUDG		
10	Job Management		
11	Synchronous Management		
12	Processor Communication		
13	Cache Control		
14	Resource Management		
15	Configuration Control		
16	Reset		
17	SVP Management		
18	Configuration Control(RAID)		
19	Configuration Control(Drive Recovery)		
30	Standard Function		
31	SVP Function		
32	Error Procedure Aid		
40	CHA Kernel	CHA Monitor	
41		CHA Initiator	
42		CHA Terminator	
43		CHA Common Function	
50	Command Control	Command Chain Initiate(Command Main)	
51		Command Chain Terminate(Command Main)	
52		Command Execution Status Analyze	
53		Command Execution Channel Interface Control	
54		Channel Server Common Process 1	
55		Channel Server Common Process 2	
56		Channel Server Common Process 3	
57		Channel Server Common Process 4	
58		Channel Server Transfer Process 1	
59		Channel Server Transfer Process 2	
5A		Read/Write Common Process	
5B		Subsystem Command Common Process	
5C		Channel Server Nonsynchronous Control 1	
5D		Channel Server Nonsynchronous Control 2	
5E		Channel Server Command Queuing Control	
5F		Channel Server Job FRR	
60		Read Command Process 1	
61		Read Command Process 2	
62		Read Command Process 3	
63		Read Command Process 4	
64		Read Command Process 5	
65		Read Command Process 6	
66		Write Command Process 1	
67		Write Command Process 2	
68		Write Command Process 3	
69		Write Command Process 4	
6A		Write Command Process 5	
6B		Write Command Process 6	
6D		Control Command Process 1	
6E		Control Command Process 2	
6F		Search Command Process	
70		Path Control Command Process	
71		Sense & Miscellaneous Command Process	
72		Diagnostic Command Process	
73		Subsystem Command Process 1	
74		Subsystem Command Process 2	
75		Subsystem Command Process 3	

Module ID (2/2)			
Module ID	Module Name		Remarks
78	Command Control	Channel Interface Link Level Frame Control	
79		Channel Interface Device Level Frame Control	
7A		Channel Interface Control Common	
7B		LDEV Format	
7C		Concurrent Copy Process	
7D		Concurrent Copy Process	
7E		Concurrent Copy Process	
7F		Channel Server WDCP/DUMP(M specified)	
80	DKA Kernel	DKA Monitor	
81		DKA Initiator	
82		DKA Terminator	
90	Staging Destaging	Staging	
91		LDEV Destaging	
92		PDEV Destaging	
93	Drive Recovery		
94	Offline Monitor		
95	Physical Device Maintenance		
98	RAID Synchronious Type		
99	RAID LDEV Destaging		
9A	RAID PDEV Destaging		
9B	RAID Drive Recovery		
9C	RAID external provided		
9D	RAID 0 Destaging		
9E	RAID 0 Error/Merge		
9F	RAID Slot Failure Status Operation		
A0	SCSI Control		
A1	DRR Control		
A2	SVP Command Execution Process		
A3	Test Initiator		
A4	SCSI Control		
A5	Offline Monitor		
A6	Physical Drive Maintenance		
A7	SCSI Control		
A8	DRR Control		
AE	SCSI Control		
C0	HRC/HODM CHL/SVP I/F		
C1	HRC/HODM Remote copy monitor		
C2	HRC/HODM Configuration control		
C3	HRC/HODM Common copy procedure		
C4	HRC Remote copy procedure		
C5	HODM Migration copy procedure		
C6	HRC/HODM channel server procedure		
C7	HRC/HODM Remote I/O manager		
C8	HRC/HODM Remote I/O 1		
C9	HRC/HODM Remote I/O 2		
CA	HRC/HODM path control		
CF	HRC/HODM Service SIM log		
D0	Multiplatform Comand Control	Command Main	
D1		Transfer Process/SSB Function	
D2		Read/Write Command	
D3		Read/Write Common Process	
D4	Multiplatform SCP Control	Control/Diagnostic Command	
D8		SCP Control 1	
D9		SCP Control 2	
DA		SCP Control 3	
DC	Multiplatform Kernel	Command Queuing Procedure	
DD		CHS Scan	
DE		CHS Initiator	
DF		CHS Terminator	

SSB Key Code (1/2)

Code	Basic SSB	Meaning	Remarks
00	000000	Dummy SSB	
01	800000	Command reject (A program error or invalid link between BAD and ALT)	
02	400000	Intervention required (An addressed device is offline or not connect)	
03	200000	Bus out check (Channel bus out parity error)	
04	100000	Equipment check (Equipment check in subsystem)	
05	080000	Data check (Uncorrectable:retry failed or retry inhibited)	
06	040000	Overrun (command retry failed when service overrun occurred)	
07	004000	Invalid track format (Track capacity over or track format error)	
08	002000	End of cylinder (A multi track operation outside LOCATE domain)	
09	000800	No record found	
0A	000400	File protected (A seek or multi track operation violates the file mask or extent)	
0B	100200	Equipment check and write inhibited (A write command on the write inhibited path by a DIAG CTL command)	
0C	080040	Data check and correctable (The retry succeeded for data check in PCI fetch mode)	
0D	000020	First log mode error	Not used
0E	800400	Command rejected and file protected (A multi track operation outside primary track)	
0F	800200	Command reject and write inhibited	Not used
10	108000	Equipment check and permanent error) (A retry failed for the equipment check)	
11	088000	Data check and permanent error) (A retry failed for the data check)	
12	009010	SIM (DKC SIM or Cache SIM)	
13	000000	Reserved	
14	000104	Imprecise ending (This error is for a previously completed CCW)	
15	800104	Command reject and imprecise ending	
16	400104	Intervention required and imprecise ending	
17	200104	Bus out check and imprecise ending	
18	100104	Equipment check and imprecise ending	
19	080104	Data check and imprecise ending	
1A	040104	Overrun and imprecise ending	
1B	004104	Invalid track format and imprecise ending	
1C	002104	End of cylinder and imprecise ending	
1D	000904	No record found and imprecise ending	
1E	000504	File protected and imprecise ending	
1F	100304	Equipment check and write inhibited and imprecise ending	

SSB Key Code (2/2)

Code	Basic SSB	Meaning	Remarks
20	080144	Equipment check and correctable and imprecise ending	
21	000124	First log mode error and imprecise ending	Not used
22	800504	Command reject and file protected and imprecise ending	
23	800304	Command reject and write inhibited and imprecise ending	
24	108104	Equipment check and permanent error and imprecise ending	
25	088104	Data check and permanent error and imprecise ending	
26	009114	SIM and imprecise ending	Not used
27	000000	Reserved	
28	808000	Command reject and permanent error	
29	00C000	Permanent error and invalid track format	
2A	008800	Permanent error and request inhibit write	
2B	088200	Data check and permanent error and write protected	
2C	000000	Reserved	
2D	000000	Reserved	
2E	000000	Reserved	
2F	000000	Reserved	
30	000000	Reserved	
31	000000	Reserved	
32	010000	Incomplete domain (Received commands < LOCATE command parameter)	
33	804000	Command reject and invalid track format (A TLF unmatched in CKD conversion mode)	
34	000000	Reserved	
35	100010	Equipment check and environmental data present (Status change pending)	
36	800010	Command reject and environmental data present	
37	000000	Reserved	
38	000000	Reserved	
39	000000	Reserved	
3A	000000	Reserved	
3B	000000	Reserved	
3C	000000	Reserved	
3D	000000	Reserved	
3E	000000	Reserved	
3F	000000	Reserved	

19.4 Host SSB information and internal SSB format-depended information description

19.4.1 24-byte type SSB

	0	1	2	3	4	5	6	7	
00	Internal SSB common Information								
1F									
20	Command reject	Intervention REQ	Bus out check	Equipment check	Data check	Overflow	Unused	Incomplete domain	Basic SSB
21	Permanent error	Invalid track FMT	End of cylinder	Operator message	No Record found	File protect	Write inhibit	Imprecise ending	
22	Write INH reques	Correctable	1st log mode ERR	Environmental DAT	Unused	Imprecise ending	Not used	Not used	
23	Count								
24	Device address								
25	Cylinder address(low)								
26	Cylinder address(high)				Head address				
27	Format (See next page)				Message (See next page)				
28	Host SSB Format-depended Information								
37									
38	Log and message control								
39	Program action code								
3A	Dual frame	EDCC mode (1)	Duplex pair (0)	S-volume ERR (0)	Nonsync operation	Serial channel	Report output	Permanent path ERR	*
3B	24Byte SSB (1)	DEV ADR valid	TRK ADR valid	Not used	3380 TRK COMPT(0)	Not used	Storage path number		
3C	Not used								
3D	Cylinder address								
3E									
3F	Head address								
40	Internal SSB Format-depended Information								
7F									

*:Configuration information

**:Byte 20-27 and byte 38-3F are not certain until DKC reports SSB to Host. So if you want to know the detail, please refer to SSB section.

Format and Message

Format	Message	Meaning	(1/2)
0	0	No message	
	1	Invalid command	
	2	Invalid sequence	
	3	Data short	
	4	Invalid data	
	5	Violate file mask	
	6	Channel disconnect retry.	
	7	Invalid retry command	
	8	System reset	
	9	Not used	
	A	Bus of parity check/Overrun	
	B	Invalid link between bad track and alternate track.	
	C	Not used	
	D	Not used	
	E	Invalid command to secondary volume	
	F	Invalid status	
1	0	Intervention required	For DKU86I (IBM 3380 emulation mode) only
	1	Not used	
	2	Drive not ready	
	3	Not used	
	4	Drive report error	
	5~F	Not used	
3	0~E	Not used	For DKU86I (IBM 3380 emulation mode) only
	F	Reset allegiance	
4	0	Data check in HA field	
	1	Data check in C field	
	2	Data check in K field	
	3	Data check in D field	
	4	Not used	
	5	PA error	
	6~F	Not used	
6	0~7	Statistics	
	8~F	Not used	
7	0~3	Not used	
	4	SPC report error	
	5~8	Not used	
	9	SCSI bus parity error	
	A~F	Not used	
8	0	Not used	
	1	Shared memory failure	
	2~7	Not used	
	8	LCP failure or MCP failure	
	9	Host adaptor CHK2	
	A	Disk adaptor CHK2	
	B	DRR failure	
	C	SVP failure	
	D	Power failure	
	E	Processor failure	
	F	Micro-program detected error (Logical Inconsistency)	
9	0~E	Not used	
	F	Micro-program detected error (Trace data/Log data)	
E	0~B	Not used	
	C	Environmental monitor detected DKC failure	
	D	Not used	
	E	Environmental monitor detected DKU failure	
	F	Not used	

Format and Message

(2/2)

Format	Message	Meaning
F	0	Operation Terminated
	1	Microprogram detected cache failure
	2	Cache failure
	3	Not used
	4	Not used
	5	Not used
	6	CFW not authorized
	7~9	Not used
	A	NVS terminated
	B	HRC/HODM Pair suspend
	C~E	Not used
	F	Cache/Shared memory/M-bus/F-bus/J-bus warning

19.4.2 32-byte type SSB

	0	1	2	3	4	5	6	7	
00	Internal SSB common Information								
1F									
20	Command reject	Intervention REQ	Not used	Equipment check	Data check	Not used	Not used	Incomplete domain	Basic SSB
21	Permanent error	Invalid TRK FMT	End of cylinder	Operator message	Not used	File protect	Write inhibit	Imprecise ending	
22	EC=0/1/2/3/F:Environmental data present								
	EC=4/6/D/E :Strage control type (x'06':Cache DKC)								
23	Count / Command overrun threshold is exceede.								
24	Device address								
25	Device type (x'24':DKU871-3)								
26	SSB2/SSB5 valid	SSB4 valid	SSB29-31 valid	Not used	Format				
27	Host SSB Format-depended Information								
37									
38	Log and message control								
39	Program action code								
3A	Dual frame	EDCC mode (1)	Duplex pair (0)	S-Volume ERR (0)	Nonsync operation	Serial channed	Report output	Permanent path ERR	*
3B	32Byte SSB (0)	Not used	Not used	Not used	3380 TRK COMPT(0)	Not used	Storage path number		
3C	Message code								
3D	Cylinder address								
3E									
3F	Heas address								
40	Internal SSB Format-depended Information								
7F									

*:Configuration information

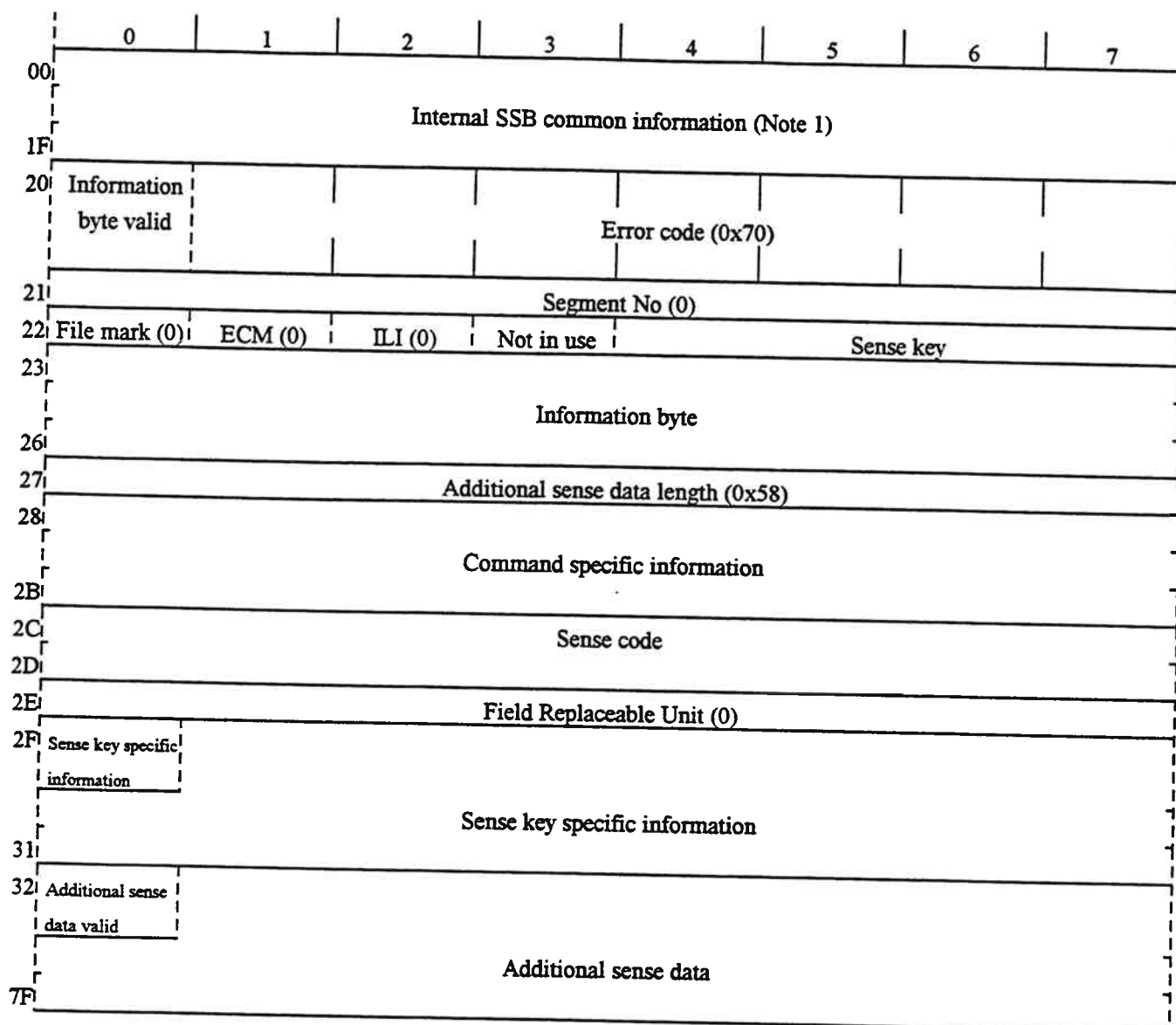
**:Byte 20-26 and byte 38-3F are not certain until DKC reports SSB to Host. So if you want to know the detail, please refer to SSB section.

Exception Class (Byte36:bit0-3) and Format (Byte26:bit4-7)

Exception Class	Format	Meaning
0	0~2	Not used
	3	Machine condition exception
	4	I/O Program exception (incomplete Domain)
	5~F	Not used
2	0~E	Not used
	F	DKC SIM
3	0~E	Not used
	F	DKC SIM
4	0	Not used
	1	Data exception (PCI,Permanent)*
	2~E	Not used
	F	Dedia SIM
5	0~E	Not used
	F	Device SIM/Media SIM
6	0	Not used
	1	Statistics*
	2~F	Not used
C	0~E	Not used
	F	DKC SIM
D	0	Drive detected failure*
	1	SPC detected failure*
	0~E	Not used
	F	DKC SIM
E	0	Drive detected failure/LDEV blockade/PIN VOL detected/LDEV not ready/Write inhibited*
	1~E	Not used
	F	Device SIM
F	0~E	Not used
	F	DKC SIM/Cache SIM

* : For DKU87I (IBM 3390 emulation mode) only.

19.4.3 SCSI host report format SSB



(Note 1) 0xCX (X=sense key) is set to byte 7 (log type low-order byte). SSB on SVP is indicated as F/M=CX.

Details of SCSI host report format SSB information

Byte	Bit	Description	Setting	Remarks
20	0	Information byte valid/invalid 0:Invalid 1:Valid	CHS command control	
	1 ~ 7	Error code (0x7): Indicates an I/O process error.		
21		Segment No. (0)		
22	0	File mark (0)		
	1	ECM (0)		
	2	ILI (0)		
	3	Not in use		
	4 ~ 7	Sense key: For more details, see "sense keys list".		
23 ~ 26		Information bytes: LBA related to sense key if information byte is valid.		
27		Additional sense data length (0x58): Indicates sense data length after byte 8 or latter.		
28 ~ 2B		Command specific information		
2C ~ 2D		Sense codes: For more details, see "sense codes list".		
2E		Field Replaceable Unit (0)		
2F ~ 31	0	Sense key specific information valid/invalid 0:Invalid 1:Valid		
	1 ~ 17	Sense key specific information		
32 ~ 7E	0	Additional sense data valid/invalid 0:Invalid 1:Valid	Error detection source	
	1 ~ END	Additional sense data		

Sense Keys List

Sense key	Description
0	NO SENSE
1	RECOVERED ERROR
2	NOT READY
3	MEDIUM ERROR
4	HARDWARE ERROR
5	ILLEGAL REQUEST
6	UNIT ATTENTION
7	DATA PROTECT
8	BLANK CHECK (Not in use)
9	VENDOR UNIQUE
A	COPY ABORTED (Not in use)
B	ABORTED COMMAND
C	EQUAL (Not in use)
D	VOLUME OVERFLOW
E	MISCOMPARE
F	(RESERVED)

Table 6.9 Sense Codes List

Sense key	Code	Error name	Description/meaning
0/5	00 00	NO ADDITIONAL SENSE INFORMATION	•Valid ADDITIONAL SENSE information is not found.
	00 06	I/O PROCESS TERMINATED	(doesn't occur)
4	01 00	NO INDEX/SECTOR SIGNAL	•INDEX signal cannot be detected. •SECTOR signal cannot be detected.
14	02 00	NO SEEK COMPLETE	•Drive SEEK operation cannot be performed normally.
4	03 00	PERIPHERAL DEVICE WRITE FAULT	•Drive WRITE FAULT was detected.
2	04 00	LOGICAL UNIT NOT READY, CAUSE NOT REPORTABLE	•Drive READY signal cannot be detected. •Drive ACCESSSES
2	04 01	LOGICAL UNIT IS IN PROCESS OF BECOMING READY	•Drive is not ready now but will be ready soon.
2	04 02	LOGICAL UNIT NOT READY, INITIALIZING COMMAND REQUIRED	•Drive is not ready now. Spin-up is not started.
2	04 03	LOGICAL UNIT NOT READY, MANUAL INTERVENTION REQUIRED	(doesn't occur)
2	04 04	LOGICAL UNIT NOT READY, FORMAT IN PROGRESS	•Logical unit is not ready now (during execution of format command.)
2	04 80	LOGICAL UNIT NOT READY, PARITY RECOVERY IN PROCESS	(doesn't occur)
2	04 81	LOGICAL UNIT NOT READY, DATA RECONSTRUCTION IN PROCESS	(doesn't occur) Logical unit is not ready now. Data is in reconstruction process.
2	04 82	LOGICAL UNIT NOT READY, SERIAL PORT COMMUNICATION IN PROCESS	(doesn't occur)
2	04 83	LOGICAL UNIT NOT READY	(doesn't occur)
2	04 84	POWER OFF IN PROCESS	•Planned shutdown is in process.
2	05 00	LOGICAL UNIT DOES NOT RESPOND TO SELECTION	•No response is sent from drive interface.
1/4	06 00	NO REFERENCE POSITION FOUND	•Positioning to TRACK ZERO is impossible.
4	07 00	MULTIPLE PERIPHERAL DEVICES SELECTED	•Multiple drives are selected simultaneously.
4	08 00	LOGICAL UNIT COMMUNICATION FAILURE	•A logical unit drive interface error occurred.
4	08 01	LOGICAL UNIT COMMUNICATION TIMEOUT	•A logical unit drive interface timeout error occurred.
1/4	08 02	LOGICAL UNIT COMMUNICATION PARITY ERROR	•A logical unit drive interface parity error occurred.
1/4	09 00	TRACK FOLLOWING ERROR	•Track positioning is out range.
-	0A 00	ERROR LOG OVERFLOW	(doesn't occur)
-	0B 00	(RESERVED)	(doesn't occur)
1	0C 01	WRITE ERROR RECOVERED WITH AUTO REALLOCATION	(doesn't occur)

Sense Codes List (Cont'd)

Sense key	Code	Error name	Description/meaning
3	0C 02	WRITE ERROR AUTO REALLOCATION FAILED	•Auto reallocation was attempted to a write error but failed.
-	0D ~ 0F	(RESERVED)	(doesn't occur)
3	10 00	ID CRC OR ECC ERROR	•A CRC error occurred in ID field.
3	11 00	UNRECOVERED READ ERROR	•An error occurred in DATA field. (retry not applied)
3	11 01	READ RETRIES EXHAUSTED	•Read error retries were attempted in DATA field but error recovery did not result. (error correction not applied)
3	11 02	ERROR TOO LONG TO CORRECT	•A read error in DATA field cannot be ECC-corrected.
3	11 03	MULTIPLE READ ERROR	(doesn't occur)
3	11 04	UNRECOVERED READ ERROR AUTO REALLOCATION FAILED	•Auto reallocation was attempted to a correctable error but failed.
3	11 0A	MISCORRECTED ERROR	(doesn't occur)
3	11 0B	UNRECOVERED READ ERROR RECOMMEND REASSIGNMENT	(doesn't occur)
3	11 0C	UNRECOVERED READ ERROR RECOMMEND REWRITE THE DATA	(doesn't occur)
3	12 00	ADDRESS MARK NOT FOUND FOR ID FIELD	•ADDRESS MARK in ID field cannot be detected.
1/3	13 00	ADDRESS MARK NOT FOUND FOR DATA FIELD	•ADDRESS MARK in DATA field cannot be detected.
1/3	14 00	RECORDED ENTITY NOT FOUND	(doesn't occur)
1/3	14 01	RECORD NOT FOUND	•Block with matching ID field cannot be detected.
3	15 00	RANDOM POSITIONING ERROR	(doesn't occur)
1/3	15 01	POSITIONING ERROR DETECTED BY READ OF MEDIUM	•Seek operation error occurred.
1/3	15 02	MECHANICAL POSITIONING ERROR	•Seek operation was terminated normally but the address was a target one.
1/3	16 00	DATA SYNCHRONIZATION MARK ERROR	(doesn't occur)
1	17 00	RECOVERED DATA WITH NO ERROR CORRECTION APPLIED	•Retry succeeded in error recovery.
1	17 01	RECOVERED DATA WITH RETRIES	•Retry succeeded in error recovery. (without head offset)
1	17 02	RECOVERED DATA WITH POSITIVE HEAD OFFSET	•Retry with head offset (positive direction) succeeded in error recovery.
1	17 03	RECOVERED DATA WITH NEGATIVE HEAD OFFSET	•Retry with head offset (negative direction) succeeded in error recovery
1	17 05	RECOVERED DATA USING PREVIOUS SECTOR ID	(doesn't occur)
1	17 06	RECOVERED DATA WITHOUT ECC. DATA AUTO REALLOCATED	(doesn't occur)

Sense Codes List (Cont'd)

Sense key	Code	Error name	Description/meaning
1	17 07	RECOVERED DATA WITHOUT ECC. (doesn't occur)	(doesn't occur)
1	18 00	RECOVERED DATA WITH ERROR CORRECTION APPLIED	•ECC succeeded in error recovery. (without retry)
1	18 01	RECOVERED DATA WITH ERROR CORRECTION AND RETRIES APPLIED	•Retrying and ECC succeeded in error recovery.
1	18 02	RECOVERED DATA-DATA AUTO- REALLOCATED	•Data was recovered by auto reallocation.
1	18 05	RECOVERED DATA-RECOMMEND REASSIGNMENT	(doesn't occur)
1/3	19 00	DEFECT LIST ERROR	(doesn't occur)
1/3	19 01	DEFECT LIST NOT AVAILABLE	(doesn't occur)
1/3	19 02	DEFECT LIST ERROR IN PRIMARY LIST	•An error occurred during access to PRIMARY (P) list.
1/3	19 03	DEFECT LIST ERROR IN GROWN LIST	•An error occurred during access to GROWN (G) list.
5	1A 00	PARAMETER LIST LENGTH ERROR	•Parameter list length is invalid.
4	1B 00	SYNCHRONOUS DATA TRANSFER ERROR	•A synchronous transfer error occurred during data transfer.
3	1C 00	DEFECT LIST NOT FOUND	(doesn't occur)
3	1C 01	PRIMARY DEFECT LIST NOT FOUND	•Positioning to PRIMARY (P) list failed.
3	1C 02	GROWN DEFECT LIST NOT FOUND	•Positioning to GROWN (G) list failed.
E	1D 00	MISCOMPARE DURING VERIFY OPERATION	•A data compare error occurred during WRITE/READ BUFFER verification.
1	1E 00	RECOVERED ID WITH ECC CORRECTION	(doesn't occur)
-	1F	(RESERVED)	(doesn't occur)
5	20 00	INVALID COMMAND OPERATION CODE	•OPERATION CODE is invalid.
5	21 00	LOGICAL BLOCK ADDRESS OUT OF RANGE	•An attempt was made to gain access over the logical block address reported by READ CAPACITY. (PMI bit=0)
5	22 00	ILLEGAL FUNCTION	•SCSI initiator issued write command to HMDE read only LDEV.
-	23 00	(RESERVED)	(doesn't occur)
5	24 00	INVALID FIELD IN CDB	•Invalid field is contained in CDB
5	25 00	LOGICAL UNIT NOT SUPPORTED	•LUM indicated by CDB or IDENTIFY message is not supported.
5	25 80	LOGICAL UNIT ALLOCATE ERROR	•Logical unit allocation failed.
5	25 81	RAID GROUP NOT DEFINE	•RG (RAID GROUP) is not defined.
5	26 00	INVALID FIELD IN PARAMETER LIST	•Invalid field is contained in parameter list.
5	26 01	PARAMETER NOT SUPPORTED	•Unsupported parameter was received.
5	26 02	PARAMETER VALUE INVALID	•Parameter value is invalid.
5	26 03	THRESHOLD PARAMETERS NOT SUPPORTED	(doesn't occur)
7	27 00	WRITE PROTECTED	•Write protected error occurred.

Sense Codes List (Cont'd)

Sense key	Code	Error name	Description/meaning
-	28 00	NOT READY TO READY TRANSITION	(doesn't occur)
6	29 00	POWER ON RESET, RESET OR BUS DEVICE RESET OCCURRED	•POWER ON RESET occurred. •BUS DEVICE RESET occurred. •SCSI BUS RESET occurred.
6	2A 00	PARAMETERS CHANGED	•MODE SELECT parameter changed. - ex.) Parameter was changed by MODE SELECT command.
6	2A 01	MODE PARAMETERS CHANGED	(doesn't occur)
6	2A 02	LOG PARAMETERS CHANGED	(doesn't occur)
5	2B 00	COPY CANNOT EXECUTE SINCE HOST CANNOT DISCONNECT	(doesn't occur)
5	2C 00	COMMAND SEQUENCE ERROR	(doesn't occur)
-	2D ~ 2E	(RESERVED)	(doesn't occur)
6	2F 00	COMMANDS CLEARED BY ANOTHER INITIATOR	•Commands were cleared because of CLEAR QUEUE message from another initiator or occurrence of CA state with another initiator.
3	30 00	INCOMPATIBLE MEDIUM INSTALLED	(doesn't occur)
3	30 01	CANNOT READ MEDIUM. UNKNOWN FORMAT	(doesn't occur)
3	30 02	CANNOT READ MEDIUM. INCOMPATIBLE FORMAT	(doesn't occur)
3	30 03	CLEANING CARTRIDGE INSTALLED	(doesn't occur)
3	31 00	MEDIUM FORMAT CORRUPTED	•Medium is not formatted corrected. Medium must be reformatted by FORMAT UNIT command.
3	31 01	FORMAT COMMAND FAILED	•FORMAT command was terminated abnormally. Medium must be reformatted by FORMAT UNIT command.
3	31 80	DATA FORMAT CORRUPTED	•Array data format is not established.
3	31 81	FORMAT COMMAND NOT EXECUTE	•FORMAT command cannot be executed because of imperfect disk configuration. (data drive or parity drive detached)
1/4	32 00	NO DEFECT SPARE LOCATION AVAILABLE	•Reallocation is impossible because alternate area is not large enough.
1/3	32 01	DEFECT LIST UPDATE FAILURE	•GROWN (G) list update failed.
-	33 ~ 36	(RESERVED)	(doesn't occur)
1	37 00	FOUNDED PARAMETER	(doesn't occur)
-	38	(RESERVED)	(doesn't occur)
5	39 00	SAVING PARAMETERS NOT SUPPORTED	(doesn't occur)
-	3A 00	MEDIUM NOT PRESENT	(doesn't occur)
-	3B ~ 3C	(RESERVED)	(doesn't occur)
B	3D 00	INVALID BITS IN IDENTIFY MESSAGE	•An invalid bit was detected in IDENTIFY message.

Sense Codes List (Cont'd)

Sense key	Code	Error name	Description/meaning
2	3E 00	LOGICAL UNIT HAS NOT SELF-CONFIGURED YET	•Drive self-configuration is not established yet.
6	3F 00	TARGET OPERATING CONDITIONS HAVE CHANGED	(doesn't occur)
6	3F 01	MICROCODE HAS BEEN CHANGED	•Microprogram was downloaded.
6	3F 02	CHANGED OPERATING DEFINITION	(doesn't occur)
6	3F 03	INQUIRY DATA HAS CHANGED	(doesn't occur)
4	40 00	RAM FAILURE	(doesn't occur)
4	41 00	DATA PATH FAILURE	(doesn't occur)
4	42 00	POWER-ON OR SELF-TEST FAILURE	(doesn't occur)
B	43 00	MESSAGE ERROR	•The message is rejected and operation cannot be continued or a message phase error occurred.
4	44 00	INTERNAL TARGET FAILURE	•A HARDWARE/FIRMWARE error was detected in controller during command execution.
4	44 A0	NO REASSIGN SECTOR	•Sector to be reassigned cannot be detected.
B	45 00	SELECT OR RESELECT FAILURE	•SELECT/RESELECT TIMEOVER was detected. •An invalid SELECTION was detected.
-	46 00	UNSUCCESSFUL SOFT RESET	(doesn't occur)
B	47 00	SCSI PARITY ERROR	•SCSI bus parity error occurred.
B	48 00	INITIATOR DETECTED ERROR MESSAGE RECEIVED	•An INITIATOR DETECTED ERROR message was received from INITIATOR.
B	49 00	INVALID MESSAGE ERROR	•An invalid message was received.
B	4A 00	COMMAND PHASE ERROR	•A command phase error occurred.
B	4B 00	DATA PHASE ERROR	•A data phase error occurred.
4	4C 00	LOGICAL UNIT FAILED SELF-CONFIGURATION	•Microcode or parameter loading failed at the startup of controller.
4	4C 80	LOGICAL UNIT FAILED SELF-CONFIGURATIN, UNSUPPORTED DRIVE	(doesn't occur)
-	4D	(RESERVED)	(doesn't occur)
-	4E 00	OVERLAPPED COMMANDS ATTEMPTED	(doesn't occur)
-	4F ~ 52	(RESERVED)	(doesn't occur)
-	53 00	MEDIA LOAD OR EJECT FAILED	(doesn't occur)
-	53 02	MEDIUM REMOVAL PREVENTED	(doesn't occur)
-	54 ~ 59	(RESERVED)	(doesn't occur)
-	5A 00	OPERATOR REQUEST OR STATE CHANGE INPUT	(doesn't occur)
-	5A 01	OPERATOR MEDIUM REMOVAL REQUEST	(doesn't occur)
-	5A 02	OPERATOR SELECTED WRITE PROTECT	(doesn't occur)
-	5A 03	OPERATOR SELECTED WRITE PERMIT	(doesn't occur)
1	5B 00	LOG EXCEPTION	•A drive log exception was detected.
6	5B 01	THRESHOLD CONDITION MET	(doesn't occur)
1	5B 02	LOG COUNTER AT MAXIMUM	•Log counter in drive reached the maximum.
1	5B 03	LOG LIST CODES EXHAUSTED	•Log list codes in drive were exhausted.

Sense Codes List (Cont'd)

Sense key	Code	Error name	Description/meaning
4/6	5C 00	RPL STATUS CHANGE	(doesn't occur)
6	5C 01	SPINDLES SYNCHRONIZED	(doesn't occur)
1/6	5C 02	SPINDLES NOT SYNCHRONIZED	(doesn't occur)
-	5D ~ 7F	(RESERVED)	(doesn't occur)
5	80 00	MAIN-FLAME RESERVE	•Logical unit was reserved by Main-flame-Host.
9	80 00	MICRO PROGRAM DETECTED ERROR	•Microprogram detected an error.
1	80 01	RECOVERED DATA WITH RECOVERED PARITY DISK ERROR	(doesn't occur) •Microprogram detected an error.
1	80 02	DATA WRITE IN DRIVE REGRESSION	(doesn't occur)
9	81 00	MICRO PROGRAM DETECTED ERROR	•Microprogram detected an error.
1	81 01	RECOVERED DATA WITH PARITY DISK AND SUTO-REALLOCATED	(doesn't occur) •Using parity disk data succeeded in recovery. (medium repaired)
9	82 00	MICRO PROGRAM DETECTED ERROR	•Microprogram detected an error.
6	82 01	DRIVE RECOVER ERROR FOR UNCORRECTABLE DATA ERROR	•Disk recovery by drive recovery was terminated but uncorrectable data occurred.
6	82 02	DRIVE RECOVER COMPLETE (EXIST UNCORRECTABLE DATA ERROR)	•Disk recovery by drive recovery was terminated but configuration status was not set to recovery complete state because of uncorrectable data error.
6	82 03	DRIVE RECOVER ERROR FOR DISK MEDIA ERROR (FROM)	(doesn't occur)
6	82 04	DRIVE RECOVER ERROR FOR DISK MEDIA ERROR (TO)	(doesn't occur)
6	82 05	DRIVE RECOVER ERROR FOR DISK HARD ERROR (FROM)	(doesn't occur)
6	82 06	DRIVE RECOVER ERROR FOR DISK HARD ERROR (TO)	(doesn't occur)
6	82 08	DRIVE RECOVER FORCE STOP	(doesn't occur)
6	82 0A	DRIVE RECOVER COMPLETES WITH UNRECOVERED DATA	(doesn't occur)
6	82 0B	DRIVE RECOVER ERROR FOR DATA REGRESSION (FROM)	(doesn't occur)
6	82 0C	DRIVE RECOVER ERROR FOR DATA REGRESSION (TO)	(doesn't occur)
6	82 0D	DRIVE RECOVER ERROR FOR CACHE HARD ERROR	(doesn't occur)
6	82 0E	STRUCTURE INFORMATION CHANGE	(doesn't occur)
6	82 0F	DRIVE RECOVER ERROR FOR SPARE DISK USED	(doesn't occur)
6	82 10	DRIVE RECOVER FORCIBLY TERMINATE	•Drive recovery was forcibly terminated according to an operator's instruction.

Sense Codes List (Cont'd)

Sense key	Code	Error name	Description/meaning
6	82 11	DRIVE RECOVER FORCIBLY TERMINSTE (MEDIA ERR DETECT:FROM)	•Drive recovery was forcibly terminated because a medium error was detected from source disk during the recover.
6	82 12	DRIVE RECOVER FORCIBLY TERMINATE (MEDIA ERR DETECT:TO)	•Drive recovery was forcibly terminated because a medium error was detected from source disk during the recover.
6	82 13	DRIVE RECOVER FORCIBLY TARMINATE (HARD ERR DETECT:FROM)	•Drive recovery was forcibly terminated because a hardware error was detected from source disk during the recover.
6	82 14	DRIVE RECOVER FORCIBLY TERMINATE (HARD ERR DETEC:TO)	•Drive recovery was forcibly terminated because a hardware error was detected from source disk during the recover.
6	82 15	DRIVE RECOVER FORCIBLY TERMINATE (DISK BLOCKED:FROM)	•Drive recovery was forcibly terminated because source disk was blocked during the recover.
6	82 16	DRIVE RECOVER FORCIBLY TERMINATE (DISK BLOCKED:TO)	•Drive recovery was forcibly terminated because source disk was blocked during the recover.
6	82 17	DRIVE RECOVER FORCIBLY TERMINATE (CACHE HARD ERR DETECT)	•Drive recovery was forcibly terminated because a hardware error was detected in inter-cache control during the recovery.
6	82 18	DRIVE RECOVER FORCIBLY TERMINATE (CONFIGURATION CHANGE)	•Drive recovery was forcibly terminated because configuration information was changed in status.
6	82 19	DRIVE RECOVER FAIL (WRITE AFTER DATA REMAIN)	•System cannot be started because write after data remains on spare disk.
6	82 1A	TIME OUT DETECTED IN CONTROLLER	•Drive recovery was forcibly terminated because a timeout occurred during internal processing.
9	83 00	MICRO PROGRAM DETECTED ERROR	•Microprogram detected an error.
3	88 00	READ ATENPTED TO NOT INITIALIZED AREA IN REGRESSION MODE	(doesn't occur)
3	89 00	WRITE UNABLE IN PARITY INCONSISTENT AREA IN REGRESSION MODE	(doesn't occur)
4	8A 01	PARITY ERROR DETECTED DURING MEDIUM PARITY CERTIFICATION	•A parity error was detected during medium parity check.
4	8A 02	CHECK CODE ERROR DETECTED DURING MEDIUM LA CERTIFICATION	•A check code error was detected during medium LA check
1	8A 03	DIRTY DATA EXIST DURING MEDIUM PARITY CERTIFICATION	•Remaining intermediate or dirty pin data was detected during parity check.
1	8A 04	DIRTY DATA EXIST DURING MEDIUM LA CERTIFICATION	•Remaining intermediate or physical dirty pin data was detected during medium LA check.
4	8B 01	COMMAND ATTEMPTED TO BLOCKED LOGICAL UNIT	•An inoperable command was issued to blocked logical unit.
5	8C 01	PARITY CHECK REQUESTED DURING REGRESSION MODE	A prity check was requested during regression mode.

Sense Codes List (Cont'd)

Sense key	Code	Error name	Description/meaning
5	8D 01	DETACH IS REJECTED BECAUSE THE LOGICAL UNIT WILL BE BLOCKD	(doesn't occur)
3	8E 01	READ ATTEMPTED TO WRITE-UNCOMPLETED BLOCK	•A READ or VERIFY.attempt was made to WRITE-incomplete block.
1	8F 00	SYSTEM AREA WRITE ERROR	(doesn't occur)
4	8F 01	SYSTEM AREA WRITE ERROR OCCURED AT ONE OF SYSTEM DRIVE	(doesn't occur)
4	90 00	UNRECOVERED DATA ERROR WITH PARITY DISK DATA	•An error occurred during data recovery by parity disk data.
4	90 01	UNRECOVERED DATA ERROR WITH PARITY DISK DATA IN REGRESSION MODE	•An unrecoverable data error occurred during regression.
4	91 00	AUTO-REALLOCATION NOT COMPLETE FOR UNCORRECTABLE ERROR	•Data could not be rebuilt because an unrecoverable error was detected during auto reallocation.
4	91 01	AUTO-REALLOCATION NOT COMPLETE FOR UNCORRECTABLE ERROR	•Alternate block could be reallocated during auto reallocation.
9	92 00	UNRECOVERED ERROR IN REGRESSION MODE	(doesn't occur)
3	93 00	PARITY ADJUSTMENT ERROR ON CACHE MEMORY	•A parity mismatch occurred in cache memory.
1	98 00	DRIVE DETACHED AND LOST IN PARITY INCONSISTENT AREA	(doesn't occur)
4	99 00	DATA WRITE ERROR ON SYNCHRONIZE CACHE	•Data in synchronize cache memory cannot be written to drive.
4	A0 00	CACHE MEMORY HARDWARE ERROR	•A hardware error occurred in cache circuit.
4	A1 00	NO INDEX/SECTOR SIGNAL IN WRITE AFTER	(doesn't occur)
4	A2 00	NO SEEK COMPLETE IN WRITE AFTER	(doesn't occur)
4	A3 00	WRITE FAULT IN WRITE AFTER	(doesn't occur)
4	A4 00	DRIVE NOT READY IN WRITE AFTER	(doesn't occur)
4	A6 00	NO TRACK ZERO FOUND IN WRITE AFTER	(doesn't occur)
4	A8 00	LOGICAL UNIT COMMUNICATION ERROR IN WRITE AFTER	(doesn't occur)
4	A8 01	LOGICAL UNIT COMMUNICATION TIME OUT IN WRITE AFTER	(doesn't occur)
4	A8 02	LOGICAL UNIT COMMUNICATION PARITY ERROR IN WRITE AFTER	(doesn't occur)
4	A9 00	TRACK FOLLOWING ERROR IN WRITE AFTER	(doesn't occur)
4	AC 02	WRITE ERROR AUTO REALLOCATION FAILED IN WRITE AFTER	(doesn't occur)

Sense Codes List (Cont'd)

Sense key	Code	Error name	Description/meaning
4	AE 00	PIN DATA MORE THAN THRESHOLD	(doesn't occur)
4	AF 00	WRITE ERROR AUTO REALLOCATION FAILED BY NO DEFECT SPARE IN WRITE AFTER	(doesn't occur)
4	B0 00	INTERNAL TARGET ERROR IN WRITE AFTER	(doesn't occur)
4	B2 00	NO ADDRESS MARK FOUND IN ID FIELD AT WRITE AFTER	(doesn't occur)
4	B3 00	NO ADDRESS MARK FOUND IN DATA FIELD AT WRITE AFTER	(doesn't occur)
4	B4 00	NO RECORD FOUND IN WRITE AFTER	(doesn't occur)
4	B5 02	POSITIONING ERROR DETECTED BY READ OF MEDIUM IN WRITE AFTER	(doesn't occur)
1	BF 01	DISK DIRECT WRITE BY BATTERY ALARM	(doesn't occur)
1	BF 02	DISK DIRECT WRITE BY PIN DATA OVER	(doesn't occur)
1	BF 03	WRITE THROUGH FOR DMA ERROR	(doesn't occur)
1	BF 04	WRITE THROUGH FOR PIN DATA	(doesn't occur)
B	C0 00	TIME OUT DETECTED IN CONTROLLER	•A timeout occurred during internal processing.
B	C0 01	TIME OUT DETECTED IN HOST DATA TRANSFER	•A timeout occurred during data transfer to host.
B	C1 00	CACHE MEMORY UNASSIGNED FOR FORMAT	•Cache memory required for formatting cannot be reserved.
B	C2 00	SYSTEM DRIVE CHANGED	•System current drive was changed.
B	C3 00	GENERATED OF SIM NOTIFICATION	•SVP reported some SIM
5	DA 00	DRIVE RECOVERY REQUEST IS REJECTED, SINCE ANOTHER DRIVE RECOVERY IN PROCESS	•A new data recovery request cannot be accepted because another drive recovery is in process.
6	DB 00	ONLINE RECOVERY COMMAND ABORTED	(doesn't occur)
6	E0 00	BATTERY ALARM	•The battery is running out.
6	E2 00	FAN ALARM	•One of the fans stopped.
4	E4 00	NVS INTERNAL TABLE OVERFLOW, WRITE INCOMPLETE MANAGEMENT AREA	•A system area overflow occurred. (PIN data control area)
6	E5 00	POWER SUPPLY FAILURE	•One of power supply units failed.
6	E5 01	DC VOLTAGE DECREASED	•DC voltage dropped.
4	E8 00	SYSTEM FLOPPY DISK ERROR	(doesn't occur)
4	E9 00	BACK UP FLOPPY DISK ERROR	(doesn't occur)
1	EA 00	CONTROL INFORMATION WRITE ERROR ON A DISK	(doesn't occur)
4	EA 01	PROGRAM SIZE OUT OF RANGE	•Program size received in WRITE BUFFER is larger than system program area.

Sense Codes List (Cont'd)

Sense key	Code	Error name	Description/meaning
4	EA 02	CONTROL INFORMATION SIZE OUT OF RANGE	•Inherited information size received in WRITE BUFFER is larger than system inherited information size.
3	F0 00	R/W BUFFER ERROR	•Microcode or parameter loading failed at the startup of controller.
3	F1 00	ERROR IN CONTROLLER INITIALIZATION	
4	F2 00	ERROR IN CONTROLLER INITIALIZATION	
	F3 00	ERROR IN CONTROLLER INITIALIZATION	
4	F4 00	CACHE MEMORY FAILURE	•Cache module was blocked because of cache meory failure
4	FA 00	LOGICAL UNIT INTERNAL ERROR	(doesn't occur)
4	FB 00	LOGICAL UNIT INTERFACE UNMATCH	(doesn't occur)
4	FC 00	LOGICAL UNIT INTERFACE ERROR	(doesn't occur)

19.5 Format-depended information description

Byte27 = 0X (X ≠ 8/A: System/Program Check)

(1/3)

	0	1	2	3	4	5	6	7
00	Time stamp							
05								
06	Log type							
07								
08	Failure classification							
09								
0A	System error code							
0B								
0C	JCB ID							
0D								
0E	REQ ID							
0F	24CMPAT	ECKD32	HOST RSP	SVP RSP	Processor ID			
10	VDEV#VLD	PDEV#VLD	SSB#VLD	LOG#VLD	SIM#VLD	RSSB#VLD	0	Force log
11	VDEV number							
12								
13	CDEV number				RDEV number			
14	LDEV type							
15	PDEV type							
16	SSB log number							
17								
18	Related failure log number							
19								
1A	Related SIM log number							
1B								
1C	Related SSB log number							
1D								
1E	(Reserved)							
1F	SCB							
20	Basic SSB							
21								
22								
23	Count							
24	Device address							
25	Cylinder address (low)							
26	Cylinder address (high)				Head address			
27	Format (x'0')				Message (x'X':X ≠ 8/A)			
28	Command code (for F/M ≠ F)/Reason code (for F/M=F) (Note 1)							
29	Detail failure information 1 (Note 2)							
2A								
2B								
2C								
2D	SSID of mate subsystem (x'0000' for EDCC)							
2E								
2F	Maker code & Manufacture code (x'00')							
30	Module ID							
31	Routine ID							
32	Processor number							
33	Detail failure information 2 (Note 3)							
34	SSID of self subsystem							
35								
36	Symptom code (x'0F0X')							
37	X=Message code (x'2F00' for dummy SENSE)							
38	Log and message control (x'00')							
39	Program action code (x'00')							
3A	Configuration information							
3B								
3C	Not used (x'00')							
3D	Cylinder address							
3E								
3F	Head address							

Byte27 = 0X (X ≠ 8/A: System/Program Check)

(2/3)

	0	1	2	3	4	5	6	7
40	Not used							
55								
56	Module ID (detected the error)							
57	Routine ID (detected the error)							
58	Not used							
7F								

(Note 1)

F/M = 0F:Byte08 Reason code

Code	Reason
00	No message
01	Trying to make cache available and cache status is pending.
02	Not used
03	Trying to make cache force unavailable and cache status is not pending with destage complete.
04	Trying to activate CFW and CFW status is pending.
05	Trying to activate caching (device) and cache status is pending.
06	Trying to destage (track) and NVS is failed.
07	Trying to make NVS unavailable and NVS is initializing.
08	Trying to deactivate caching, DFW or DISCARD (device), and DFW status is failed.
09	Trying to force deactivate DFW (device) and status is not as follows. • EDFW status is pending or failed. • ENVIS is failed and the data exists in NVS, but not in cache.
0A	Trying to make NVS available and DFW status (device) is pending or failed.
0B	Trying to make NVS available and NVS status is pending.
0C	When NVS is failed, trying to stop caching or DFW (device) and the data exists in NVS, but not in cache.
0D	Command requires NVS and NVS is unavailable.
0E	Command requires cache and cache is unavailable.
0F	Not used
10 ~ 28	Not used
29	PFS command (Set Special Interrupt Condition) is issued on an interface on which path group is not established.
2A	Trying to make path group include parallel channel and serial channel.
2B	Message buffer is full.
2C ~ 34	Not used
35	A Set Guaranteed Path subcommand is issued on a fenced path.
36 ~ 3E	Not used
3F	A Make NVS Avail for Subsystem subcommand is issued, but NVS is disable. (‘Disable NVS Capability’ is set to disable in VPD.)
40	Not used
41	A normal command is issued to a device reserved by maintenance.
42 ~ 7F	Not used
80	A special command is issued on an interface that was disabled by the PFS command with Set Special Intercept Condition order.
81	An attention report on an interface that was disabled by the PFS command with Set Special Intercept Condition order.
82 ~ FF	Not used

Byte27 = 0X (X ≠ 8/A: System/Program Check)

(3/3)

(Note 2) (1) Issued command information when F/M=02

B\b	0	1	2	3	4	5	6	7
29	SCH ID	SCH KEY	Locate, LC EXT	SK, SK CYL	RD IPL	RECAL	SUSP MPR	RD C
2A	DIAG CTL	DIAG CTL (LOC DOM)	DEF EXT	SET FM	SET SUB MODE	SP C	WR CKD	WR R0
2B	SET INTF ID	DIAG CTL (PRE REM)	0	Other command	RD C chaining	All byte match	LC domain	Erase execute
2C	Pseud through	0	0	Allow WR KD	Allow WR D	Allow WR CKD	Allow WR R0	Allow WR HA

(2) Short byte flag when F/M=03

x'0040 0000'

(3) Mask information when F/M=05

Byte 29: Mask for write control

x'00': Allow all write operation

except WR HA, WR R0.

x'40': Inhibit all write operation.

x'80': Allow update write operation.

x'C0': Allow all write operation.

Byte 2A: Mask for seek control

x'00': Allow all seek commands and RECAL.

x'08': Allow SK CYL and SK HD only.

x'10': Allow SK HD only.

x'18': Inhibit all seek command and multi operation.

Byte 2B: Mask for access

x'00': Allow normal access.

x'02': Allow device support.

x'04': Allow diagnostic access.

x'06': Allow device support inhibit

data check correction and

retry.

Byte 2C: Not used

(4) Record address when other F/M

Byte 29 and 2A : Cylinder address

Byte 2B : Head address

Byte 2C : Record number

(Note 3) Bit 4-7 of byte 32: Type of byte 33

x'08': Byte 33 is cylinder address (high).

x'09': Byte 33 is cylinder address (low).

x'0A': Byte 33 is head address (high).

x'0B': Byte 33 is head address (low).

x'0C': Byte 33 is record number.

Byte 33: One byte of CCHHR.

Byte27 = 08 (Reset Notification)

(1/2)

	0	1	2	3	4	5	6	7
00	Time stamp							
05								
06	Log type							
07								
08	Failure classification							
09								
0A	System error code							
0B								
0C	JCB ID							
0D								
0E	REQ ID							
0F	24CMPAT	ECKD32	HOST RSP	SVP RSP	Processor ID			
10	VDEV#VLD	PDEV#VLD	SSB#VLD	LOG#VLD	SIM#VLD	RSSB#VLD	0	Force log
11	VDEV number							
12								
13	CDEV number				RDEV number			
14	LDEV type							
15	PDEV type							
16	SSB log number							
17								
18	Related failure log number							
19								
1A	Related SIM log number							
1B								
1C	Related SSB log number							
1D								
1E	(Reserved)							
1F	SCB							
20	Basic SSB							
21								
22								
23	Count							
24	Device address							
25	Cylinder address (low)							
26	Cylinder address (high)				Head address			
27	Format (x'0')				Message (x'8')			
28	Not used (x'00')							
29	Not used (x'00')							
2A	Not used (x'00')							
2B	Hardware level (Note 1)							
2C								
2D	SSID of mate subsystem (x'0000' for EDCC)							
2E								
2F	Maker code & Manufacture code (x'00')							
30	Module ID							
31	Routine ID							
32	Processor number				Not used (x'0')			
33	Not used (x'00')							
34	SSID of self subsystem							
35								
36	Symptom code (x'2FFF')							
37								
38	Log & message control (x'00')							
39	Program action code (x'16')							
3A	Configuration information							
3B								
3C	Not used (x'00')							
3D	Cylinder address							
3E								
3F	Head address							

Byte27 = 08 (Reset Notification)

(2/2)

	0	1	2	3	4	5	6	7
40	Not used							
7F								

(Note 1) Hardware Level

Bit0 : Serial Channel or Parallel Channel	
Bit0=0(Parallel channel)	Bit0=1(Serial Channel)
Bit 1 : Not used	Bit 1 : Not used
Bit 2~3 : Strage Path Number	Bit 2~3 : Strage Path Number
Bit 4~5 : Channels Per Cluster	Bit 4~7 : Channels Per Cluster
	0000 : Parallel=4, Serial=0
	0001 : Parallel=8, Serial=0
	0010 : Parallel=4, Serial=2
	0100 : Parallel=4, Serial=4
	0110 : Parallel=0, Serial=2
	1000 : Parallel=0, Serial=4
	1010 : Parallel=0, Serial=8
	1100 : Parallel=0, Serial=6
Bit 6 : NVS	Bit 8 : Dual Frame
0 : without NVS	0 : Dual Frame
1 : with NVS	1 : Modular Power
Bit 7 : Unused	Bit 9~11 : Cache size
Bit 8~10 : Cache size	000 : none Cache
000 : none Cache	001 : 256MB
001 : 256MB	010 : 512MB
010 : 512MB	011 : 768MB
011 : 768MB	100 : 1024MB
100 : 1024MB	101 : 1280MB
101 : 1280MB	110 : 1536MB
110 : 1536MB	111 : over 1536MB
111 : over 1536MB	Bit 12~13 : Cluster hardware level
Bit 11~13 : Cluster hardware level	Bit 14~15 : Cache/NVS hardware level
Bit 14~15 : Cache/NVS hardware level	

Byte27 = 0A (Bus out parity check/Overrun on LCP interface (Byte3A:b4 = 1))

(1/1)

	0	1	2	3	4	5	6	7
00	Time stamp							
05								
06	Log type							
07								
08	Failure classification							
09								
0A	System error code							
0B								
0C	JCB ID							
0D								
0E	REQ ID							
0F	24CMPAT	ECKD32	HOST RSP	SVP RSP	Processor ID			
10	VDEV#VLD	PDEV#VLD	SSB#VLD	LOG#VLD	SIM#VLD	RSSB#VLD	0	Force log
11	VDEV number							
12								
13	CDEV number				RDEV number			
14	LDEV type							
15	PDEV type							
16	SSB log number							
17								
18	Related failure log number							
19								
1A	Related SIM log number							
1B								
1C	Related SSB log number							
1D								
1E	(Reserved)							
1F	SCB							
20	Basic SSB							
21								
22								
23	Count							
24	Device address							
25	Cylinder address (low)							
26	Cylinder address (high)				Head address			
27	Format (x'0')				Message (x'A')			
28	Command code							
29	Cylinder address							
2A								
2B	Head address							
2C	Record number							
2D	SSID of mate subsystem (x'0000' for EDCC)							
2E								
2F	Maker code & Manufacture code (x'00')							
30	Module ID							
31	Routine ID							
32	Processor number				BBF OVR	PND OVR	STOP	OVER
33	Not used							
34	SSID of self subsystem							
35								
36	Symptom code (x'0F0A')							
37								
38	Log and message control (x'00')							
39	Program action code (x'00')							
3A	Configuration information							
3B								
3C	Not used (x'00')							
3D	Cylinder address							
3E								
3F	Head address							
40	Not used							
• b								
7F								

Byte27 = 10 (Intervention required) (1/2)

	0	1	2	3	4	5	6	7
00	Time stamp							
05								
06	Log type							
07								
08	Failure classification							
09								
0A	System error code							
0B								
0C	JCB ID							
0D								
0E	REQ ID							
0F	24CMPAT	ECKD32	HOST RSP	SVP RSP	Processor ID			
10	VDEV#VLD	PDEV#VLD	SSB#VLD	LOG#VLD	SIM#VLD	RSSB#VLD	0	Force log
11	VDEV number							
12								
13	CDEV number				RDEV number			
14	LDEV type							
15	PDEV type							
16	SSB log number							
17								
18	Related failure log number							
19								
1A	Related SIM log number							
1B								
1C	Related SSB log number							
1D								
1E	(Reserved)							
1F	SCB							
20	Basic SSB							
21								
22								
23	Count							
24	Device address							
25	Cylinder address (low)							
26	Cylinder address (high)				Head address			
27	Format (x'1')				Message (x'0')			
28	Ready	Enable	SSB PEND	Not used ('00000')				
29	Not used (x'00')							
2A	M.M. RSV	PIN VOL	Not used ('000000')					
2B	Host type	DKC type	Not used ('00')		DKU type			
2C	Module ID (x'50')							
2D	Routine ID (x'1C')							
2E	Command code							
2F	Not used (x'00')							
30	Not used (x'00')							
31	Not used (x'00')							
32	Processor ID				Not used (x'0')			
33	Not used							
34	SSID of self subsystem							
35								
36	Symptom code (x'9F10')							
37								
38	Log and message control (x'00')							
39	Program action code (x'00')							
3A	Configuration information							
3B								
3C	Message code							
3D	Cylinder address							
3E								
3F	Head address							

Byte27 = 10 (Intervention required) (2/2)

	0	1	2	3	4	5	6	7
40	Not used							
7F								

Byte27 = 1X (Drive report error) (1/2)

	0	1	2	3	4	5	6	7
00	Time stamp							
05								
06	Log type							
07								
08	Failure classification							
09								
0A	System error code							
0B								
0C	JCB ID							
0D								
0E	REQ ID							
0F	24CMPAT	ECKD32	HOST RSP	SVP RSP	Processor ID			
10	VDEV#VLD	PDEV#VLD	SSB#VLD	LOG#VLD	SIM#VLD	RSSB#VLD	0	Force log
11	VDEV number							
12								
13	CDEV number				RDEV number			
14	LDEV type							
15	PDEV type							
16	SSB log number							
17								
18	Related failure log number							
19								
1A	Related SIM log number							
1B								
1C	Related SSB log number							
1D								
1E	(Reserved)							
1F	SCB							
20	Basic SSB							
21								
22								
23	Count							
24	Device address							
25	Cylinder address (low)							
26	Cylinder address (high)				Head address			
27	Format (x'1')				Message (x'2/4')			
28	Additional sense code (Note 2)							
29	Additional sense code qualifier (Note 2)							
2A	SCSI Command (Note 3)							
2B	Threshold type (Note 4)							
2C	Module ID							
2D	Routine ID							
2E	Not used (x'0')				DKA#			
2F	CDEV#				RDEV#			
30	Type code ('000')		0	Sense key (Note 1)				
31	Not used (x'00')							
32	Not used (x'00')							
33	Not used (x'00')							
34	SSID of self subsystem							
35								
36	Symptom code (x'9F1X' X:Message)							
37								
38	Log and message control (x'00')							
39	Program action code (x'00')							
3A	Configuration information							
3B								
3C	Message code							
3D	Cylinder address							
3E								
3F	Head address							

Byte27 = 1X (Drive report error) (2/2)

	0	1	2	3	4	5	6	7
40	Status byte							
41	Message							
42	CDB							
4B								
4C	SPC status register							
4D	SPC nexus status register							
4E	SPC data block register							
4F								
50	SPC data byte register							
51								
52								
53	SPC SCSI control signal status register							
54								
73	SCSI extended sense data							
74								
7F	Not used							

(Note 1) Sense key

- x'0' : No sense
- x'1' : Recoverd error
- x'2' : Not ready
- x'3' : Medium error
- x'4' : Hardware error
- x'5' : Illigal request
- x'6' : Unit attention
- x'7' : Data protect
- x'8' : Blank check (Not used)
- x'9' : Vender unique (Not used)
- x'A' : Copy aborted (Not used)
- x'B' : Aborted command
- x'C' : Equal (Not used)
- x'D' : Volume overflow (Not used)
- x'E' : Miscompare
- x'F' : (Reserved)

(Note 2) See EC = E SSB log.

(Note 3) SCSI command

- x'00' : Test unit ready
- x'03' : Request sense
- x'04' : Format unit
- x'07' : Reassign blocks
- x'12' : Inquiry
- x'15' : Mode serect
- x'1A' : Mode sense
- x'1B' : Start/stop unit
- x'1C' : Recieve diagnostic result
- x'1D' : Send diagnostic
- x'28' : Read (extend)
- x'2A' : Write (extend)
- x'2E' : Write and verify
- x'3B' : Write buffer

(Note 4) See EC = E SSB log.

Byte27=3F (Reset Allegiance)

(1/2)

	0	1	2	3	4	5	6	7
00	Time stamp							
05								
06	Log type							
07								
08	Failure classification							
09								
0A	System error code							
0B								
0C	JCB ID							
0D								
0E	REQ ID							
0F	24CMPAT	ECKD32	HOST RSP	SVP RSP	Processor ID			
10	VDEV#VLD	PDEV#VLD	SSB#VLD	LOG#VLD	SIM#VLD	RSSB#VLD	0	Force log
11	VDEV number							
12								
13	CDEV number				RDEV number			
14	LDEV type							
15	PDEV type							
16	SSB log number							
17								
18	Related failure log number							
19								
1A	Related SIM log number							
1B								
1C	Related SSB log number							
1D								
1E	(Reserved)							
1F	SCB							
20	Basic SSB							
21								
22								
23	Count							
24	Device address							
25	Cylinder address (low)							
26	Cylinder address (high)				Head address			
27	Format (x'3')				Message (x'F')			
28	Not used							
29	Logical path number							
2A	DCN status (Note 1)							
2B								
2C	Command code							
2D	SSID of mate subsystem (x'0000' for EDCC)							
2E								
2F	Maker code & Manufacture code (x'00')							
30	Module ID							
31	Routine ID							
32	Processor number							
33	Not used (x'00')							
34	SSID of self subsystem							
35								
36	Symptom code (x'3F3F')							
37								
38	Log and message control (x'00')							
39	Program action code (x'00')							
3A	Configuration information							
3B								
3C	Not used (x'00')							
3D	Cylinder address							
3E								
3F	Head address							

Byte27 = 3F (Reset Allegiance)

(2/2)

	0	1	2	3	4	5	6	7
40	Not used							
7F								

(Note 1)

	0	1	2	3	4	5	6	7
2A	Device busy	ECI	Command chaining	Path reserve	Stack status	Wait SENSE	Long busy	Processor connect
2B	Single path mode	Guarant path mode	MCB chaining	0	Block switch	0	0	0

Byte27 = 4X (Data check) (1/3)

	0	1	2	3	4	5	6	7
00	Time stamp							
05								
06	Log type							
07								
08	Failure classification							
09								
0A	System error code							
0B								
0C	JCB ID							
0D								
0E	REQ ID							
0F	24CMPAT	ECKD32	HOST RSP	SVP RSP	Processor ID			
10	VDEV#VLD	PDEV#VLD	SSB#VLD	LOG#VLD	SIM#VLD	RSSB#VLD	0	Force log
11	VDEV number							
12								
13	CDEV number				RDEV number			
14	LDEV type							
15	PDEV type							
16	SSB log number							
17								
18	Related failure log number							
19								
1A	Related SIM log number							
1B								
1C	Related SSB log number							
1D								
1E	(Reserved)							
1F	SCB							
20	Basic SSB							
21								
22								
23	Count							
24	Device address							
25	Cylinder address (low)							
26	Cylinder address (high)				Head address			
27	Format (x'4')				Message (x'X')			
28	Cylinder address (Note 1)							
29								
2A	Head address (Note 1)							
2B								
2C	Record number (Note 1)							
2D	Sector number (Note 1)							
2E	Controller ID							
2F	Not used (x'00')							
30	Not used (x'00')							
31	Not used (x'00')							
32	Processor number				Not used (x'0')			
33	Not used							
34	Command code							
35	SSID (low) of self subsystem							
36	Symptom code (x'4XYY') (X:Note 2) (YY:Note 3)							
37								
38	Log and message control (x'08')							
39	Program action code (x'91')							
3A	Configuration information							
3B								
3C	Not usde (x'01')							
3D	Cylinder address							
3E								
3F	Head address							

Byte27 = 4X (Data check) (2/3)

	0	1	2	3	4	5	6	7
40	Causal Key code							
41	Causal Format/Message							
42	Causal Module ID							
43	Causal Routine ID							
44	VDEV number, slot number							
45								
46								
47								
48	Slot status							
49								
4A								
4B								
4C	staging bit map/Dirty bit map							
4D								
4E								
4F								
50	Current subblock number							
51	EXIT flag (Note 4)							
52	Slot failure information (Note 5)							
53	Obtained information flag (Note 6)							
54	Head subblock number for HIT/MISS decision + Remain subblock count							
55	(when byte36 is x'40/41/42/43')/PACC in CBUF (when byte36 is x'45')							
56	Not used (when byte36 is x'40/41/42/43')/							
57	PAHF in CBUF (when byte36 is x'45')							
58	Not used (when byte36 is x'40/41/42/43')/							
59	Current CC in JCB (when byte36 is x'45')							
5A	Not used (when byte36 is x'40/41/42/43')/							
5B	Current HH in JCB (when byte36 is x'45')							
5C								
7F	Reserved							

(Note 1) Not determined for occurrence in HA or RO

(Note 2) Contents of message

- x'0' : Data check in HA field
- x'1' : Data check in C field
- x'2' : Data check in K field
- x'3' : Data check in D field
- x'4' : Missing SYNC byte in HA field
- x'5' : Missing SYNC byte in C field (PA error)
- x'6' : Missing SYNC byte in K field
- x'7' : Missing SYNC byte in D field
- x'8' : Not used
- x'9' : Missing AM during retry
- x'A' to x'F' : Not used

(Note 3) Contents of correctionflag

- Bits 0 and 1 : ECC correction bit
 - 10 : Correctable (Recoverd)
 - 11 : Uncorrectable
- Bit 2 : offset activ
- Bits 3 to 7 : Not used

Byte27 = 4X (Data check) (3/3)

(Note 4) EXIT flag

x'08' : CHL I/F CHK2 timeover
 x'0D' : EOF
 x'0E' : DSB=0E requested
 x'0F' : Logical error
 x'1E' : Make sense only
 x'1F' : Logical error (make sense only)
 x'30' : Selective reset requested
 x'40' : 'Staging' requested
 x'41' : 'Waiting free segment' requested
 x'42' : 'Timeover of waiting for staging' requested
 x'43' : 'Staging for PA unmatched' requested
 x'45' : 'Destaging' requested
 x'46' : 'High priority destaging' requested
 x'47' : 'Pseud-through process' requested
 x'4B' : 'DSB=4E retry' requested (data transfer)
 x'4E' : 'DSB=4E retry' requested (DSB = 4E retry)
 x'4F' : STG requested (Read or STG in progress)

(Note 5) Slot failure

x'80' : Sector write error
 x'40' : Sector read error
 x'20' : ECC/LRC error
 x'10' : Incomplete data
 x'08' : No decision

(Note 6) Obtained information flag

bit0-1 : Block type
 00 : Data block
 01 : HA/RO block
 10 : Bit map block
 bit2-3 : Side
 00 : Cache write side
 01 : NVS write side
 10 : Cache read side
 bit4 : Segment
 0 : No segment
 1 : Segment exist
 bit5-7 : Reserved

Byte27 = 6X (Statistics) (1/1)

	0	1	2	3	4	5	6	7
00	Time stamp							
05								
06	Log type							
07								
08	Failure classification							
09								
0A	System error code							
0B								
0C	JCB ID							
0D								
0E	REQ ID							
0F	24CMPAT	ECKD32	HOST RSP	SVP RSP	Processor ID			
10	VDEV#VLD	PDEV#VLD	SSB#VLD	LOG#VLD	SIM#VLD	RSSB#VLD	0	Force log
11	VDEV number							
12								
13	CDEV number				RDEV number			
14	LDEV type							
15	PDEV type							
16	SSB log number							
17								
18	Related failure log number							
19								
1A	Related SIM log number							
1B								
1C	Related SSB log number							
1D								
1E	(Reserved)							
1F	SCB							
20	Basic SSB							
21								
22								
23	Controller ID							
24	Device address							
25	Command overrun threshold exceeded							
26	Data overrun threshold exceeded							
27	Format (x'6')				Message (x'X')			
28	Read/search byte count							
29								
2A								
2B								
2C	Seek count							
2D								
2E	Not used (x'00')							
2F	Manufacture code ('000000')						Factory code ('00')	
30	Not used (x'00')							
31	DKC serial number							
32								
33								
34	SSID of self SSID							
35								
36	Sympton code (x'6FXY' X:0: Statistics/RRBL command, 2: Channel data overrun							
37	Y:CHL# (parallel CHL)/LCP# (serial CHL))							
38	Log and message control (x'00')							
39	Program action code (x'00')							
3A	Configuration information							
3B								
3C	Not used (x'00000000')							
3D								
3E								
3F								
40	Not used							
7F								

Byte27 = 74 (SPC report error) (1/2)

	0	1	2	3	4	5	6	7
00	Time stamp							
05								
06	Log type							
07								
08	Failure classification							
09								
0A	System error code							
0B								
0C	JCB ID							
0D								
0E	REQ ID							
0F	24CMPAT	ECKD32	HOST RSP	SVP RSP	Processor ID			
10	VDEV#VLD	PDEV#VLD	SSB#VLD	LOG#VLD	SIM#VLD	RSSB#VLD	0	Force log
11	VDEV number							
12								
13	CDEV number				RDEV number			
14	LDEV type							
15	PDEV type							
16	SSB log number							
17								
18	Related failure log number							
19								
1A	Related SIM log number							
1B								
1C	Related SSB log number							
1D								
1E	(Reserved)							
1F	SCB							
20	Basic SSB							
21								
22								
23	Count							
24	Device address							
25	Cylinder address (low)							
26	Cylinder address (high)				Head address			
27	Format (x'7')				Message (x'4')			
28	SPC interruption status register (See EC = D SSB log)							
29	SPC comand step register (See EC = D SSB log)							
2A	SCSI command code (See EC = D SSB log)							
2B	Threshold type (See EC = D SSB log)							
2C	Module ID							
2D	Routine ID							
2E	Not used (x'0')				DKA number			
2F	CDEV number				RDEV number			
30	Type code ('111')		0		Not used (x'0')			
31	Not used (x'00')							
32	Not used (x'00')							
33	Not used (x'00')							
34	SSID of self subsystem							
35								
36	Symptom code (x'DF74')							
37								
38	Log and message control (x'00')							
39	Program action code (x'00')							
3A	Configuration information							
3B								
3C	Message code							
3D	Cylinder address							
3E								
3F	Head address							

Byte27 = 74 (SPC report error) (2/2)

	0	1	2	3	4	5	6	7
40	Status by							
41	Message							
42	CDB							
43								
44								
45								
46								
47								
48								
49								
4A								
4B								
4C	SPC status register							
4D	SPC nexus status register							
4E	SPC data block register							
4F								
50	SPC data byte register							
51								
52								
53	SPC SCSI control signal status register							
54	SCA SFC							
55								
56	SCA SFS0							
57								
58	SCA XFS1							
59								
5A	SCA INT							
5B								
5C	SCA SCHK1							
5D								
5E	SCA SCHK20							
5F								
60	SCA SCHK21							
61								
62	SCA SCHK22							
63								
64	SCA SCHK23							
65								
66	SCA SCHK24							
67								
68	SCA SCHK25							
69								
6A	SCA SCACHK2							
6B								
6C	SCA BSACHK2							
6D								
6E	SCA XFS2							
6F								
70	SCA XFS3							
71								
72	Not used							
73								
74								
75								
76								
77								
78								
79								
7A								
7B								
7C								
7D								
7E								
7F								

Byte27 = 79 (SCSI bus parity error) (1/2)

	0	1	2	3	4	5	6	7
00	Time stamp							
05								
06	Log type							
07								
08	Failure classification							
09								
0A	System error code							
0B								
0C	JCB ID							
0D								
0E	REQ ID							
0F	24CMPAT	ECKD32	HOST RSP	SVP RSP	Processor ID			
10	VDEV#VLD	PDEV#VLD	SSB#VLD	LOG#VLD	SIM#VLD	RSSB#VLD	0	Force log
11	VDEV number							
12								
13	CDEV number				RDEV number			
14	LDEV type							
15	PDEV type							
16	SSB log number							
17								
18	Related failure log number							
19								
1A	Related SIM log number							
1B								
1C	Related SSB log number							
1D								
1E	(Reserved)							
1F	SCB							
20	Basic SSB							
21								
22								
23	Count							
24	Device address							
25	Cylinder address (low)							
26	Cylinder address (high)				Head address			
27	Format (x'7')				Message (x'9')			
28	Additional sense code (Note 2)							
29	Additional sense code qualifier (Note 2)							
2A	SCSI Command (Note 3)							
2B	Threshold type (Note 4)							
2C	Module ID							
2D	Routine ID							
2E	Not used (x'0')				DKA#			
2F	CDEV#				RDEV#			
30	Type code ('000')		0	Sense key (Note 1)				
31	Not used (x'00')							
32	Not used (x'00')							
33	Not used (x'00')							
34	SSID of self subsystem							
35								
36	Symptom code (x'DF79')							
37								
38	Log and message control (x'00')							
39	Program action code (x'00')							
3A	Configuration information							
3B								
3C	Message code							
3D	Cylinder address							
3E								
3F	Head address							

Byte27 = 79 (SCSI bus parity error) (2/2)

	0	1	2	3	4	5	6	7
40	Status byte							
41	Message							
42	CDB							
4B								
4C	SPC status register							
4D	SPC nexus status register							
4E	SPC data block register							
4F								
50	SPC data byte register							
51								
52								
53	SPC SCSI control signal status register							
54								
73	SCSI extended sense data							
74	Not used							
7F								

(Note 1) Sense key

- x'0' : No sense
- x'1' : Recoverd error
- x'2' : Not ready
- x'3' : Medium error
- x'4' : Hardware error
- x'5' : Illigal request
- x'6' : Unit attention
- x'7' : Data protect
- x'8' : Blank check (Not used)
- x'9' : Vender unique (Not used)
- x'A' : Copy aborted (Not used)
- x'B' : Aborted command
- x'C' : Equal (Not used)
- x'D' : Volume overflow (Not used)
- x'E' : Miscompare
- x'F' : (Reserved)

(Note 2) See EC = E SSB log.

(Note 3) SCSI command

- x'00' : Test unit ready
- x'03' : Request sense
- x'04' : Format unit
- x'07' : Reassign blocks
- x'12' : Inquiry
- x'15' : Mode serelect
- x'1A' : Mode sense
- x'1B' : Start/stop unit
- x'1C' : Recieve diagnostic result
- x'1D' : Send diagnostic
- x'28' : Read (extend)
- x'2A' : Write (extend)
- x'2E' : Write and verify
- x'3B' : Write buffer

(Note 4) See EC = E SSB log.

Byte27 = 81 & Byte34:b4-7 = 0 (Shared Memory Failure)

(1/2)

	0	1	2	3	4	5	6	7
00	Time stamp							
05								
06	Log type							
07								
08	Failure classification							
09								
0A	System error code							
0B								
0C	JCB ID							
0D								
0E	REQ ID							
0F	24CMPAT	ECKD32	HOST RSP	SVP RSP	Processor ID			
10	VDEV#VLD	PDEV#VLD	SSB#VLD	LOG#VLD	SIM#VLD	RSSB#VLD	0	Force log
11	VDEV number							
12								
13	CDEV number				RDEV number			
14	LDEV type							
15	PDEV type							
16	SSB log number							
17								
18	Related failure log number							
19								
1A	Related SIM log number							
1B								
1C	Related SSB log number							
1D								
1E	(Reserved)							
1F	SCB							
20	Basic SSB							
21								
22								
23	Count							
24	Device address							
25	Cylinder address (low)							
26	Cylinder address (high)				Head address			
27	Format (x'8')				Message (x'1')			
28	Subcode			(See following pages)				
29	Hardware information			(See following pages)				
2A								
2B								
2C								
2D								
2E								
2F								
30								
31								
32	Not used (x'00')							
33	Not used (x'00')							
34	Processor number				Message code (x'0')			
35	SSID of self subsystem							
36	Symptom code (x'FF81' : LDEV type = DKU87I/x'EF81' : LDEV type = DKU86I)*							
37								
38	Log and message control (x'00')							
39	Program action code (x'00')							
3A	Configuration information							
3B								
3C	Not used (x'00')							
3D	Cylinder address							
3E								
3F	Head address							

* : This information is not fixed until DKC reports SSB to HOST.

Byte27=81 & Byte34:b4-7=0 (Shared Memory Failure)

(2/2)

	0	1	2	3	4	5	6	7
40 7F	Hardware information (See following pages)							

Byte27=81 (Shared Memory Failure) Byte28-31 Detail

(1) Arbiter error/Bus open error

	0	1	2	3	4	5	6	7
28	Subcode: x'10':M bus arbiter error x'20':M bus open error x'21':F bus open error x'22':M bus open error & F bus open error							
29	MIC:CHK3STS							
	Not used	Not used	Not used	Not used	Not used	Not used	Arbiter CHK3 in MIC	CHK3 in SMP
2A	MIC:ABT ERR							
	Sequencer status							
2B	MIC:ABT ERR							
	Sequencer status			Not used	Not used	Transfer start timeout	LIVE INS delay timer parity error	Transfer start timer parity error
2C	MIC:REQ MP							
	Input request from bus (0:negated, 1:request asserted)							
2D	MIC:REQ MP							
	Input request from bus (0:negated, 1:request asserted)							
2E	SMP:MSTERR							
	Requester error (M bus)	Shared memory reduction setting error	Bus mode setting error	Address byte 0 parity error	Address byte 1 parity error	Address byte 2 parity error	1st read data bus code error	2nd read data bus code error
2F	SMP:MSTERR							
	Read data compare error	1st ERR phase bus code error	2nd ERR phase bus code error	Error phase warning	Error phase any err	F bus check error	M bus check error	Master timeout error
30	SMP:MSTERR							
	Master timer parity error	F bus arbitration error	Address byte 3 parity error	Data parity error in SMP	Last data check error	F bus open detected	M bus open detected	Not used
31	SMP:BMD							
	F bus valid	M bus valid	Pseudo- access mode	Shared memory DIAG access	Request output enable	Shared memory copy mode	Shared memory side A reduction	Shared memory side B reduction

Byte27=81 (Shared Memory Failure) Byte28-31 Detail

(2) Bus master error in single access to shared memory

	0	1	2	3	4	5	6	7
28	Subcode: x'30':M bus master error in side A x'31':F bus master error in side A x'32':M bus master error in side B x'33':F bus master error in side B x'40':M bus master error in SMC side A x'41':F bus master error in SMC side A x'42':M bus master error in SMC side B x'43':F bus master error in SMC side B x'50':M bus master error in MP communication x'51':F bus master error in MP communication							
29	SMP:MSTERR							
	Requester error (M bus)	Shared memory reduction setting error	Bus mode setting error	Address byte 0 parity error	Address byte 1 parity error	Address byte 2 parity error	1st read data bus code error	2nd read data bus code error
2A	SMP:MSTERR							
	Read data compare error	1st ERR phase bus code error	2nd ERR phase bus code error	Error phase warning	Error phase any error	F bus check error	M bus check error	Master timeout error
2B	SMP:MSTERR							
	Master timer parity error	F bus arbitration error	Address byte 3 parity error	Data parity error in SMP	Last data check error	F bus open detected	M bus open detected	Not used
2C	SMP:BMD							
	F bus valid	M bus valid	Pseudo-access mode	Shared memory DIAG access	Request output enable	Shared memory copy mode	Shared memory side A reduction	Shared memory side B reduction
2D	SMP:E1D							
	Error phase data from M bus/F bus							
2E	SMP:E1D							
	Error phase data from M bus/F bus							
2F	SMP:E1D							
	Error phase data from M bus/F bus							
30	SMP:TXC							
	TX DATA 00-07 valid	TX DATA 10-17 valid	TX DATA 20-27 valid	TX DATA 30-37 valid	Bus transfer count			
31	SMP:TXC							
	(RSV)	bus mode ('101' in MP bus space)			Transfer mode 0:Simplex area write 1:Simplex area read 4:Duplex area write 5:Duplex area read 8:Broadcast			

Byte27=81 (Shared Memory Failure) Byte28-31 Detail

(3) F bus/M bus master error on side A in double access to shared memory

	0	1	2	3	4	5	6	7
28	Subcode: x'34':M bus master error on side A in double access to shared memory x'35':F bus master error on side A in double access to shared memory							
29	SMP:MSTERR							
	Requester error (M bus)	Shared memory reduction setting error	Bus mode setting error	Address byte 0 parity error	Address byte 1 parity error	Address byte 2 parity error	1st read data bus code error	2nd read data bus code error
2A	SMP:MSTERR							
	Read data compare error	1st ERR phase bus code error	2nd ERR phase bus code error	Error phase warning	Error phase any error	F bus check error	M bus check error	Master timeout error
2B	SMP:MSTERR							
	Master timer parity error	F bus arbitration error	Address byte 3 parity error	Data parity error in SMP	Last data check error	F bus open detected	M bus open detected	Not used
2C	SMP:BMD							
	F bus valid	M bus valid	Pseudo-access mode	Shared memory DIAG access	Request output enable	Shared memory copy mode	Shared memory side A reduction	Shared memory side B reduction
2D	SMP:E2D							
	Error phase data from M bus/F bus (Double read slave)							
2E	SMP:E2D							
	Error phase data from M bus/F bus (Double read slave)							
2F	SMP:E2D							
	Error phase data from M bus/F bus (Double read slave)							
30	SMP:TXC							
	TX DATA 00-07 valid	TX DATA 10-17 valid	TX DATA 20-27 valid	TX DATA 30-37 valid	Bus transfer count			
31	SMP:TXC							
	(RSV)	bus mode ('101' in access to MP bus space)			Transfer mode 0:Simplex area write 1:Simplex area read 4:Duplex area write 5:Duplex area read 8:Broadcast			

Byte27=81 (Shared Memory Failure) Byte28-31 Detail

(4) F bus/M bus master error on side B in double access to shared memory

	0	1	2	3	4	5	6	7
28	Subcode: x'36':M bus master error on side B in double access to shared memory x'37':F bus master error on side B in double access to shared memory							
29	SMP:MSTERR							
	Requester error (M bus)	Shared memory reduction setting error	Bus mode setting error	Address byte 0 parity error	Address byte 1 parity error	Address byte 2 parity error	1st read data bus code error	2nd read data bus code error
2A	SMP:MSTERR							
	Read data compare error	1st ERR phase bus code error	2nd ERR phase bus code error	Error phase warning	Error phase any error	F bus check error	M bus check error	Master timeout error
2B	SMP:MSTERR							
	Master timer parity error	F bus arbitration error	Address byte 3 parity error	Data parity error in SMP	Last data check error	F bus open detected	M bus open detected	Not used
2C	SMP:BMD							
	F bus valid	M bus valid	Pseudo-access mode	Shared memory DIAG access	Request output enable	Shared memory copy mode	Shared memory side A reduction	Shared memory side B reduction
2D	SMP:E1D							
	Error phase data from M bus/F bus (Double read slave2, single read slave 1/2)							
2E	SMP:E1D							
	Error phase data from M bus/F bus (Double read slave2, single read slave 1/2)							
2F	SMP:E1D							
	Error phase data from M bus/F bus (Double read slave2, single read slave 1/2)							
30	SMP:TXC							
	TX DATA 00-07 valid	TX DATA 10-17 valid	TX DATA 20-27 valid	TX DATA 30-37 valid	Bus transfer count			
31	SMP:TXC							
	(RSV)	bus mode ('101' in access to MP bus space)			Transfer mode 0:Simplex area write 1:Simplex area read 4:Duplex area write 5:Duplex area read 8:Broadcast			

Byte27=81 (Shared Memory Failure) Byte28-31 Detail

(5) F bus/M bus master error on side A and B in double access to shared memory

	0	1	2	3	4	5	6	7
28	Subcode: x'38':M bus master error on side A and B in double access to shared memory x'39':F bus master error on side A and B in double access to shared memory							
29	SMP:MSTERR							
	Requester error (M bus)	Shared memory reduction setting error	Bus mode setting error	Address byte 0 parity error	Address byte 1 parity error	Address byte 2 parity error	1st read data bus code error	2nd read data bus code error
2A	SMP:MSTERR							
	Read data compare error	1st ERR phase bus code error	2nd ERR phase bus code error	Error phase warning	Error phase any error	F bus check error	M bus check error	Master timeout error
2B	SMP:MSTERR							
	Master timer error	F bus arbitration error	Address byte 3 parity error	Data parity error in SMP	Last data check error	F bus open detected	M bus open detected	Not used
2C	SMP:BMD							
	F bus valid	M bus valid	Pseudo-access mode	Shared memory DIAG access	Request output enable	Shared memory copy mode	Shared memory side A reduction	Shared memory side B reduction
2D	SMP:E2D							
	Error phase data from M bus/F bus (Double read slave)							
2E	SMP:E2D							
	Error phase data from M bus/F bus (Double read slave)							
2F	SMP:E1D							
	Error phase data from M bus/F bus (Double read slave2, single read slave 1/2)							
30	SMP:E1D							
	Error phase data from M bus/F bus (Double read slave2, single read slave 1/2)							
31	SMP:TXC							
(RSV)	bus mode ('101' in MP access to bus space)				Transfer mode 0:Simplex area write 1:Simplex area read 4:Duplex area write 5:Duplex area read 8:Broadcast			

Byte27=81 (Shared Memory Failure) Byte28-31 Detail

(6) Slave error

	0	1	2	3	4	5	6	7
28	Subcode: x'70':Slave error in MP communication/broadcast scan reception							
29	SMP:SLVERR							
	Address bus code error	Command bus code error	Data bus code error	Bus parity error (write)	Transfer count error (command)	Bus mode error (command)	Transfer mode error (command)	Not used
2A	SMP:SLVERR							
	Not used	Not used	Not used	Slave timeout error	Slave timer parity error	Not used	Sequencer condition error	Not used
2B	SMP:CMD							
	CMD data after M bus/F bus selection							
2C	SMP:CMD							
	CMD data after M bus/F bus selection							
2D	SMP:CMD							
	CMD data after M bus/F bus selection							
2E	SMP:ADR							
	ADR data after M bus/F bus selection							
2F	SMP:ADR							
	ADR data after M bus/F bus selection							
30	SMP:ADR							
	ADR data after M bus/F bus selection							
31	SMP:DAT							
	DAT data after M bus/F bus selection							

Byte27=81 (Shared Memory Failure) Byte28-31 Detail

(7) M bus arbiter error and M/F bus master error in single access to shared memory or MP communication

	0	1	2	3	4	5	6	7
28	Subcode: x'80':M bus ABT ERR & M bus master error on side A x'81':M bus ABT ERR & F bus master error on side A x'82':M bus ABT ERR & M bus master error on side B x'83':M bus ABT ERR & F bus master error on side B x'90':M bus ABT ERR & M bus master error on SMC(A) x'91':M bus ABT ERR & F bus master error on SMC(A) x'92':M bus ABT ERR & M bus master error on SMC(B) x'93':M bus ABT ERR & F bus master error on SMC(B) x'A0':M bus ABT ERR & M bus MST ERR in MP communication x'A1':M bus ABT ERR & F bus MST ERR in MP communication							
29	SMP:MSTERR							
	Requester error (M bus)	Shared memory reduction setting error	Bus mode setting error	Address byte 0 parity error	Address byte 1 parity error	Address byte 2 parity error	1st read data bus code error	2nd read data bus code error
2A	SMP:MSTERR							
	Read data compare error	1st ERR phase bus code error	2nd ERR phase bus code error	Error phase warning	Error phase any err	F bus check error	M bus check error	Master timeout error
2B	SMP:MSTERR							
	Master timer parity error	F bus arbitration error	Address byte 3 parity error	Data parity error in SMP	Last data check error	F bus open detected	M bus open detected	Not used
2C	SMP:BMD							
	F bus valid	M bus valid	Pseudo-access mode	Shared memory DIAG access	Request output enable	Shared memory copy mode	Shared memory side A reduction	Shared memory side B reduction
2D	SMP:E1D Error phase data from M bus/F bus (Double read slave 2, single read slave 1/2)							
2E	SMP:E1D Error phase data from M bus/F bus (Double read slave 2, single read slave 1/2)							
2F	SMP:E1D Error phase data from M bus/F bus (Double read slave 2, single read slave 1/2)							
30	MIC:ABTERR							
	Sequencer status							
31	MIC:ABTERR							
	Sequencer status			Not used	Not used	Transfer start timeout	LIVEINS delay timer parity error	Transfer start timer parity error

Byte27=81 (Shared Memory Failure) Byte28-31 Detail

(8) M bus arbiter error and M/F bus master error on side A in double access to shared memory

	0	1	2	3	4	5	6	7
28	Subcode: x'84':M bus arbiter error and M bus master error on side A in double access to shared memory x'85':M bus arbiter error and F bus master error on side A in double access to shared memory							
29	SMP:MSTERR							
	Requester error (M bus)	Shared memory reduction setting error	Bus mode setting error	Address byte 0 parity error	Address byte 1 parity error	Address byte 2 parity error	1st read data bus code error	2nd read data bus code error
2A	SMP:MSTERR							
	Read data compare error	1st ERR phase bus code error	2nd ERR phase bus code error	Error phase warning	Error phase any error	F bus check error	M bus check error	Master timeout error
2B	SMP:MSTERR							
	Master timer parity error	F bus arbitration error	Address byte 3 parity error	Data parity error in SMP	Last data check error	F bus open detected	M bus open detected	Not used
2C	SMP:BMD							
	F bus valid	M bus valid	Pseudo-access mode	Shared memory DIAG access	Request output enable	Shared memory copy mode	Shared memory side A reduction	Shared memory side B reduction
2D	SMP:E2D							
	Error phase data from M bus/F bus (Double read slave 1)							
2E	SMP:E2D							
	Error phase data from M bus/F bus (Double read slave 1)							
2F	SMP:E2D							
	Error phase data from M bus/F bus (Double read slave 1)							
30	MIC:ABTERR							
	Sequencer status							
31	MIC:ABTERR							
	Sequencer status			Not used	Not used	Transfer start timeout	LIVEINS delay timer parity error	Transfer start timer parity error

Byte27=81 (Shared Memory Failure) Byte28-31 Detail

(9) M bus arbiter error and M/F bus master error on side B in double access to shared memory

	0	1	2	3	4	5	6	7
28	Subcode: x'86':M bus arbiter error and M bus master error on side B in double access to shared memory x'87':M bus arbiter error and F bus master error on side B in double access to shared memory							
29	SMP:MSTERR							
	Requester error (M bus)	Shared memory reduction setting error	Bus mode setting error	Address byte 0 parity error	Address byte 1 parity error	Address byte 2 parity error	1st read data bus code error	2nd read data bus code error
2A	SMP:MSTERR							
	Read data compare error	1st ERR phase bus code error	2nd ERR phase bus code error	Error phase warning	Error phase any error	F bus check error	M bus check error	Master timeout error
2B	SMP:MSTERR							
	Master timer parity error	F bus arbitration error	Address byte 3 parity error	Data parity error in SMP	Last data check error	F bus open detected	M bus open detected	Not used
2C	SMP:BMD							
	F bus valid	M bus valid	Pseudo-access mode	Shared memory DIAG access	Request output enable	Shared memory copy mode	Shared memory side A reduction	Shared memory side B reduction
2D	SMP:E1D							
	Error phase data from M bus/F bus (Double read slave 2, single read slave 1/2)							
2E	SMP:E1D							
	Error phase data from M bus/F bus (Double read slave 2, single read slave 1/2)							
2F	SMP:E1D							
	Error phase data from M bus/F bus (Double read slave 2, single read slave 1/2)							
30	MIC:ABTERR							
	Sequencer status							
31	MIC:ABTERR							
	Sequencer status			Not used	Not used	Transfer start timeout	LIVEINS delay timer parity error	Transfer start timer parity error

Byte27=81 (Shared Memory Failure) Byte28-31 Detail

(10) M bus arbiter error and M/F bus master error on sides A & B in double access to shared memory

	0	1	2	3	4	5	6	7
28	Subcode: x'88': M bus arbiter error and M bus master error on sides A and B in double access to shared memory x'89': M bus arbiter error and F bus master error on sides A and B in double access to shared memory							
29	SMP:MSTERR							
	Requester error (M bus)	Shared memory reduction setting error	Bus mode setting error	Address byte 0 parity error	Address byte 1 parity error	Address byte 2 parity error	1st read data bus code error	2nd read data bus code error
2A	SMP:MSTERR							
	Read data compare error	1st ERR phase bus code error	2nd ERR phase bus code error	Error phase warning	Error phase any error	F bus check error	M bus check error	Master timeout error
2B	SMP:MSTERR							
	Master timer parity error	F bus arbitration error	Address byte 3 parity error	Data parity error in SMP	Last data check error	F bus open detected	M bus open detected	Not used
2C	SMP:BMD							
	F bus valid	M bus valid	Pseudo-access mode	Shared memory DIAG access	Request output enable	Shared memory copy mode	Shared memory side A reduction	Shared memory side B reduction
2D	SMP:E2D							
	Error phase data from M bus/F bus (Double read slave 1)							
2E	SMP:E2D							
	Error phase data from M bus/F bus (Double read slave 1)							
2F	SMP:E1D							
	Error phase data from M bus/F bus (Double read slave 2, single read slave 1/2)							
30	SMP:E1D							
	Error phase data from M bus/F bus (Double read slave 2, single read slave 1/2)							
31	MIC:ABTERR							
	Sequencer status			Not used	Not used	Transfer start timeout	LIVEINS delay timer parity error	Transfer start timer parity error

Byte27=81 (Shared Memory Failure) Byte28-31 Detail

(11) M bus arbiter error and slave error in MP communication

	0	1	2	3	4	5	6	7
28	Subcode: x'C0':M bus arbiter error and slave error in MP communication/broadcast scan reception							
29	SMP:SLVERR							
	Address bus code error	Command bus code error	Data bus code error	Bus parity error (write)	Transfer count error	Bus mode error	Transfer mode error	Not used
2A	SMP:SLVERR							
	Not used	Not used	Not used	Slave timeout error	Slave timer parity error	Not used	Sequencer condition error	Not used
2B	SMP:CMD							
	CMD data after M bus/F bus selection							
2C	SMP:CMD							
	CMD data after M bus/F bus selection							
2D	SMP:CMD							
	CMD data after M bus/F bus selection							
2E	SMP:ADR							
	ADR data after M bus/F bus selection							
2F	SMP:ADR							
	ADR data after M bus/F bus selection							
30	SMP:ADR							
	ADR data after M bus/F bus selection							
31	MIC:ABTERR							
	Sequencer status			Not used	Not used	Transfer start timeout	LIVEINS delay timer parity error	Transfer start timer parity error

Byte27=81 (Shared Memory Failure) Byte28-31 Detail

(12) M/F bus master and slave error in signal access to shared memory/SMC or MP communication

	0	1	2	3	4	5	6	7
28	Subcode: x'D0':M bus ERR in single access to S-memory side A x'D1':F bus ERR in single access to S-memory side A x'D2':M bus ERR in single access to S-memory side B x'D3':F bus ERR in single access to S-memory side B x'E0':M bus ERR in single access to SMC side A x'E1':F bus ERR in single access to SMC side A x'E2':M bus ERR in single access to SMC side B x'E3':F bus ERR in single access to SMC side B x'E4':M bus ERR in MP communication x'E5':F bus ERR in MP communication							
29	SMP:MSTERR							
	Requester error (M bus)	Shared memory reduction setting error	Bus mode setting error	Address byte 0 parity error	Address byte 1 parity error	Address byte 2 parity error	1st read data bus code error	2nd read data bus code error
2A	SMP:MSTERR							
	Read data compare error	1st ERR phase bus code error	2nd ERR phase bus code error	Error phase warning	Error phase any error	F bus check error	M bus check error	Master timeout error
2B	SMP:MSTERR							
	Master timer parity error	F bus arbitration error	Address byte 3 parity error	Data parity error in SMP	Last data check error	F bus open detected	M bus open detected	Not used
2C	SMP:BMD							
	F bus valid	M bus valid	Pseudo-access mode	Shared memory DIAG access	Request output enable	Shared memory copy mode	Shared Memory side A reduction	Shared memory side B reduction
2D	SMP:E1D							
	Error phase data from M bus/F bus (Double read slave 2, single read slave 1/2)							
2E	SMP:E1D							
	Error phase data from M bus/F bus (Double read slave 2, single read slave 1/2)							
2F	SMP:E1D							
	Error phase data from M bus/F bus (Double read slave 2, single read slave 1/2)							
30	SMP:SLVERR							
	Address bus code error	command bus code error	Data bus code error	Bus parity error (write)	Transfer count error	Bus mode error	Transfer mode error	Not used
31	SMP:SLVERR							
	Not used	Not used	Not used	Slave timeout error	Slave timer parity error	Not used	Sequencer condition error	Not used

Byte27=81 (Shared Memory Failure) Byte28-31 Detail

(13) M/F bus master and slave error on side A in double access to shared memory

	0	1	2	3	4	5	6	7
28	Subcode: x'D4':M bus master error and slave error on side A in double access to shared memory x'D5':F bus master error and slave error on side A in double access to shared memory							
29	SMP:MSTERR							
	Requester error (M bus)	Shared memory reduction setting error	Bus mode setting error	Address byte 0 parity error	Address byte 1 parity error	Address byte 2 parity error	1st read data bus code error	2nd read data bus code error
2A	SMP:MSTERR							
	Read data compare error	1st ERR phase bus code error	2nd ERR phase bus code error	Error phase warning	Error phase any error	F bus check error	M bus check error	Master timeout error
2B	SMP:MSTERR							
	Master timer parity error	F bus arbitration error	Address byte 3 parity error	Data parity error in SMP	Last data check error	F bus open detected	M bus open detected	Not used
2C	SMP:BMD							
	F bus valid	M bus valid	Pseudo-access mode	Shared memory DIAG access	Request output enable	Shared memory copy mode	Shared memory side A reduction	Shared memory side B reduction
2D	SMP:E2D							
	Error phase data from M bus/F bus (Double read slave 1)							
2E	SMP:E2D							
	Error phase data from M bus/F bus (Double read slave 1)							
2F	SMP:E2D							
	Error phase data from M bus/F bus (Double read slave 1)							
30	SMP:SLVERR							
	Address bus code error	command bus code error	Data bus code error	Bus parity error (write)	Transfer count error	Bus mode error	Transfer mode error	Not used
31	SMP:SLVERR							
	Not used	Not used	Not used	Slave timeout error	Slave timer parity error	Not used	Sequencer condition error	Not used

Byte27=81 (Shared Memory Failure) Byte28-31 Detail

(14) M/F bus master and slave error on side B in double access to shared memory

	0	1	2	3	4	5	6	7
28	Subcode: x'D6':M bus master error and slave error on side B in double access to shared memory x'D7':F bus master error and slave error on side B in double access to shared memory							
29	SMP:MSTERR							
	Requester error (M bus)	Shared memory reduction setting error	Bus mode setting error	Address byte 0 parity error	Address byte 1 parity error	Address byte 2 parity error	1st read data bus code error	2nd read data bus code error
2A	SMP:MSTERR							
	Read data compare error	1st ERR phase bus code error	2nd ERR phase bus code error	Error phase warning	Error phase any error	F bus check error	M bus check error	Master timeout error
2B	SMP:MSTERR							
	Master timer parity error	F bus arbitration error	Address byte 3 parity error	Data parity error in SMP	Last data check error	F bus open detected	M bus open detected	Not used
2C	SMP:BMD							
	F bus valid	M bus valid	Pseudo-access mode	Shared memory DIAG access	Request output enable	Shared memory copy mode	Shared Memory side A reduction	Shared memory side B reduction
2D	SMP:E1D							
	Error phase data from M bus/F bus (Double read slave 2, single read slave 1/2)							
2E	SMP:E1D							
	Error phase data from M bus/F bus (Double read slave 2, single read slave 1/2)							
2F	SMP:E1D							
	Error phase data from M bus/F bus (Double read slave 2, single read slave 1/2)							
30	SMP:SLVERR							
	Address bus code error	command bus code error	Data bus code error	Bus parity error (write)	Transfer count error	Bus mode error	Transfer mode error	Not used
31	SMP:SLVERR							
	Not used	Not used	Not used	Slave timeout error	Slave timer parity error	Not used	Sequencer condition error	Not used

Byte27=81 (Shared Memory Failure) Byte28-31 Detail

(15) M/F bus master and slave error on side A and B in double access to shared memory

	0	1	2	3	4	5	6	7
28	Subcode: x'D8':M bus master error and slave error on side A and B in double access to shared memory x'D9':F bus master error and slave error on side A and B in double access to shared memory							
29	SMP:MSTERR							
	Requester error (M bus)	Shared memory reduction setting error	Bus mode setting error	Address byte 0 parity error	Address byte 1 parity error	Address byte 2 parity error	1st read data bus code error	2nd read data bus code error
2A	SMP:MSTERR							
	Read data compare error	1st error phase bus code error	2nd error phase bus code error	Error phase warning	Error phase any error	F bus check error	M bus check error	Master timeout error
2B	SMP:MSTERR							
	Master timer parity error	F bus Arbitration error	Address byte 3 parity error	Data parity error in SMP	Last data check error	F bus open detected	M bus open detected	Not used
2C	SMP:BMD							
	F bus valid	M bus valid	Pseudo-access mode	Shared memory DIAG access	Request output enable	Shared memory copy mode	Shared memory side A reduction	Shared memory side B reduction
2D	SMP:E2D							
	Error phase data from M bus/F bus (Double read slave 1)							
2E	SMP:E2D							
	Error phase data from M bus/F bus (Double read slave 1)							
2F	SMP:E1D							
	Error phase data from M bus/F bus (Double read slave 2, single read slave 1/2)							
30	SMP:SLVERR							
	Address bus code error	command bus code error	Data bus code error	Bus parity error (write)	Transfer count error	Bus mode error	Transfer mode error	Not used
31	SMP:SLVERR							
	Not used	Not used	Not used	Slave timeout error	Slave timer parity error	Not used	Sequencer condition error	Not used

Byte27=81 (Shared Memory Failure) Byte28-31 Detail

(16) (Master & slave & arbiter error) / Other errors

	0	1	2	3	4	5	6	7
28	Subcode: x'F0':M bus master error, slave error and arbiter error x'F1':F bus master error, slave error and arbiter error x'FF':Other errors							
29	SMP:MSTERR							
	Requester error (M bus)	Shared memory reduction setting error	Bus mode setting error	Address byte 0 parity error	Address byte 1 parity error	Address byte 2 parity error	1st read data bus code error	2nd read data bus code error
2A	SMP:MSTERR							
	Read data compare error	1st error phase bus code error	2nd error phase bus code error	Error phase warning	Error phase any error	F bus check error	M bus check error	Master timeout error
2B	SMP:MSTERR							
	Master timer parity error	F bus arbitration error	Address byte 3 parity error	Data parity error in SMP	Last data check error	F bus open detected	M bus open detected	Not used
2C	SMP:BMD							
	F bus valid	M bus valid	Pseudo-access mode	Shared memory DIAG access	Request output enable	Shared memory copy mode	Shared memory side A reduction	Shared memory side B reduction
2D	SMP:E2D							
	Error phase data from M bus/F bus (Double read slave 1)							
2E	SMP:E1D							
	Error phase data from M bus/F bus (Double read slave 2, single read slave 1/2)							
2F	MIC:ABT ERR							
	Sequencer status			Not used	Not used	Transfer start timeout	LIVEINS delay timer parity error	Transfer start timer parity error
30	SMP:SLVERR							
	Address bus code error	command bus code error	Data bus code error	Bus parity error (write)	Transfer count error	Bus mode error	Transfer mode error	Not used
31	SMP:SLVERR							
	Not used	Not used	Not used	Slave timeout error	Slave timer parity error	Not used	Sequencer condition error	Not used

Byte27=81 (Shared Memory Failure) Byte40-7F Detail: Master Error (Byte40:b5=1)*

(1/4)

	0	1	2	3	4	5	6	7
40	SMP:SMPERR							
	Not used	Not used	Not used	Not used	Not used	Master CHK3 error	Slave CHK3 error	CHK1 error
41	MIC:RCVINT							
	SYSRST interrupt monitor	SELINT interrupt monitor	CHK1A interrupt monitor	CHK1B interrupt monitor	SMPINT interrupt monitor	LAN/SIO interrupt monitor	CHA/DRR interrupt monitor	ADP/SCA0 interrupt monitor
42	MIC:RCVINT							
	Not used	CHK3 interrupt monitor	Not used	SCA1 INT interrupt monitor	SCA2 INT interrupt monitor	SCA3 INT interrupt monitor	SCA4 INT interrupt monitor	SCA5 INT interrupt monitor
43	MIC:ARBERR							
	Sequencer status							
44	MIC:ARBERR							
	Sequencer status			Not used	Not used	Transfer start timeout	LIVEINS D-timer parity ER	Transfer T-timer parity ER
45	MIC:REQMP							
	Psued request from MP (0:Negate 1:Request assert)							
46	MIC:REQMP							
	Psued request from MP (0:Negate 1:Request assert)							
47	SMP:MSTERR							
	Requester error	S-memory reduction error	Bus mode error	Address byte 0 parity ER	Address byte 1 parity ER	Address byte 2 parity ER	1st read data bus code ERR	2nd read data bus code ERR
48	SMP:MSTERR							
	Read data compare error	1st ERR phase bus code ERR	2nd ERR phase bus code ERR	Error phase warning	Error phase any error	F bus check error	M bus check error	Master timeout error
49	SMP:MSTERR							
	Master timer parity ER	F bus ARBIT error	Address byte 3 parity ER	Data parity ER in SMP	Last data check error	F bus open detected	M bus open detected	Not used
4A	SMP:REQ ERR							
	Package ID parity ER	Grant code parity ER	Bus protocol error	Transfer end timeout	GSYNC count over	GSYNC counter parity ER	T.O check timer parity ER	MP ID parity ER
4B	SMP:DPA							
	Shared memory symplex area head address							
4C	SMP:DPA							
	Shared memory symplex area head address							
4D	SMP:BMD							
	F bus valid	M bus valid	Psued access mode	S-memory DIAG access	Request output enable	S-memory copy mode	S-memory side A reduction	S-memory side B reduction
4E	SMP:ENTC							
	Not used	Not used	Not used	Not used	Not used	Error mask	ENT reset	Hard reset mode
4F	SMP:CUDG							
	Not used	Not used	Not used	Not used	Not used	CUDG F bus ACK	CUDG M bus ACK	CUDG mode request

Byte27=81 (Shared Memory Failure) Byte40-7F Detail:Master Error (Byte40:b5=1)*

(2/4)

	0	1	2	3	4	5	6	7
50	SMP:ACK							
	Not used	Not used	Not used	Not used	Arbiter enable	GSYNC valid	M bus acknowledge	F bus acknowledge
51	SMP:TX SEQ							
	Not used	Not used	Not used	Not used	Not used	Not used	Not used	SEQ00
52	SMP:TX SEQ							
	Master sequencer state							
53	SMP:TX SEQ							
	Master sequencer state							
54	SMP:TXA							
	Bus address (high order 4 bytes) for F bus / M bus							
55	SMP:TXA							
	Bus address (high order 4 bytes) for F bus / M bus							
56	SMP:TXA							
	Bus address (high order 4 bytes) for F bus / M bus							
57	SMP:TXA							
	Bus address (high order 4 bytes) for F bus / M bus							
58	SMP:TXC							
	Bus address (low order 1 byte) for F bus / M bus							
59	SMP:TXC							
	(RSV)	(RSV)	(RSV)	(RSV)	DIAG access monitor	(RSV)	(RSV)	(RSV)
5A	SMP:TXC							
	TX DATA 00-07 valid	TX DATA 10-17 valid	TX DATA 20-27 valid	TX DATA 30-37 valid	Bus transfer count (0001)			
5B	SMP:TXC							
	(RSV)	Bus mode MP bus space :101			Transfer mode Single write :0 Single read :1	Double write :4 Double read :5 Broadcast :8		
5C	SMP:TXD							
	F bus / M bus access data							
5D	SMP:TXC							
	F bus / M bus access data							
5E	SMP: TXC							
	F bus / M bus access data							
5F	SMP: TXC							
	F bus / M bus access data							

Byte27=81 (Shared Memory Failure) Byte40-7F Detail: Master Error (Byte40:b5=1)

(3/4)

	0	1	2	3	4	5	6	7
60	SMP:R1D Read data from F bus / M bus (Double read using slave 2 or single read using appointed slave)							
61	SMP:R1D Read data from F bus / M bus (Double read using slave 2 or single read using appointed slave)							
62	SMP:R1D Read data from F bus / M bus (Double read using slave 2 or single read using appointed slave)							
63	SMP:R1D Read data from F bus / M bus (Double read using slave 2 or single read using appointed slave)							
64	SMP:R2D Read data from F bus / M bus (Double read using slave 1)							
65	SMP:R2D Read data from F bus / M bus (Double read using slave 1)							
66	SMP:R2D Read data from F bus / M bus (Double read using slave 1)							
67	SMP:R2D Read data from F bus / M bus (Double read using slave 1)							
68	SMP:E1D Error phase data from F bus / M bus (Double read using slave 2 or single read using appointed slave)							
69	SMP:E1D Error phase data from F bus / M bus (Double read using slave 2 or single read using appointed slave)							
6A	SMP:E1D Error phase data from F bus / M bus (Double read using slave 2 or single read using appointed slave)							
6B	SMP:E1D Error phase data from F bus / M bus (Double read using slave 2 or single read using appointed slave)							
6C	SMP:E2D Error phase data from F bus / M bus (Double read using slave 1)							
6D	SMP:E2D Error phase data from F bus / M bus (Double read using slave 1)							
6E	SMP:E2D Error phase data from F bus / M bus (Double read using slave 1)							
6F	SMP:E2D Error phase data from F bus / M bus (Double read using slave 1)							

Byte27=81 (Shared Memory Failure) Byte40-7F Detail:Master Error (Byte40:b5=1)

(4/4)

	0	1	2	3	4	5	6	7
70	SMC:MBUSERR							
				Board error	All lock busy	Memory not reay	Back up busy	Double lock error
71	SMC:MBUSERR							
	Correctable error	Uncorrectable error	Read data check	Write data check	Double access unmatched	Transfer count error	Bus mode error	Transfer mode error
72	SMC:MBUSERR							
	Bus open unmatched	Last cycle error	No DSYNC	No CSYNC	ESYNC wait error	Data check	Command check	Address check
73	SMC:FBUSERR							
				Board error	All lock busy	Memory not reay	Back up busy	Double lock error
74	SMC:FBUSERR							
	Correctable error	Uncorrectable error	Read data check	Write data check	Double access unmatched	Transfer count error	Bus mode error	Transfer mode error
75	SMC:FBUSERR							
	Bus open unmatched	Last cycle error	No DSYNC	No CSYNC	ESYNC wait error	Data check	Command check	Address check
76	SMC:BORD ERR							
	RAS output error	CAS output error	WE output error	OE(DIR) output error		Address output error	Data output error	ECC output error
77	SMC:BORD ERR							
	Clock error	Refresh error	Timer error	M bus counter error	M bus timer error	Main srquencer error	M bus srquencer error	F bus srquencer error
78	SMC:MBUSERR							
				Board error	All lock busy	Memory not reay	Back up busy	Double lock error
79	SMC:MBUSERR							
	Correctable error	Uncorrectable error	Read data check	Write data check	Double access unmatched	Transfer count error	Bus mode error	Transfer mode error
7A	SMC:MBUSERR							
	Bus open unmatched	Last cycle error	No DSYNC	no CSYNC	ESYNC wait error	Data check	Command check	Address check
7B	SMC:FBUSERR							
				Board error	All lock busy	Memory not reay	Backup busy	Double lock error
7C	SMC:FBUSERR							
	Correctable error	Uncorrectable error	Read data check	Write data check	Double access unmatched	Transfer count error	Bus mode error	Transfer mode error
7D	SMC:FBUSERR							
	Bus open unmatched	Last cycle error	No DSYNC	No CSYNC	ESYNC wait error	Data check	Command check	Address check
7E	SMC:BORD ERR							
	RAS output error	CAS output error	WE output error	OE(DIR) output error		Address output error	Data output error	ECC output error
7F	SMC:BORD ERR							
	Clock error	Refresh error	Timer error	M bus counter error	M bus timer error	Main srquencer error	M bus srquencer error	F bus srquencer error

Byte27=81 (Shared Memory Failure) Byte40-7F Detail:Slave Error (Byte40:b6=1)

(1/4)

	0	1	2	3	4	5	6	7
40	SMP:SMPERR							
	Not used	Not used	Not used	Not used	Not used	Master CHK3 error	Slave CHK3 error	CHK1 error
41	MIC:RCVINT							
	SYSRST interrupt monitor	SELINT interrupt monitor	CHK1A interrupt monitor	CHK1B interrupt monitor	SMPINT interrupt monitor	LAN/SIO interrupt monitor	CHA/DRR interrupt monitor	ADP/SCA0 interrupt monitor
42	MIC:RCVINT							
	Not used	CHK3 interrupt monitor	Not used	SCA1 INT interrupt monitor	SCA2 INT interrupt monitor	SCA3 INT interrupt monitor	SCA4 INT interrupt monitor	SCA5 INT interrupt monitor
43	MIC:RCVINT							
	TIMER0 interrupt monitor	TIMER1 interrupt monitor	TIMER2 interrupt monitor	TIMER3 interrupt monitor	TIMER4 interrupt monitor	TIMER5 interrupt monitor	TIMER6 interrupt monitor	SYNC STOP interrupt monitor
44	MIC:ARBERR							
	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used
45	MIC:ARBERR							
	SQST00	SQST01	SQST02	SQST03	SQST04	SQST05	SQST06	SQST07
46	MIC:ARBERR							
	SQST08	SQST09	SQST10	Not used	Not used	Transfer start timeout	LIVEINS D- timer parity ER	Transfre T- timer parity ER
47	SMP:SLVERR							
	Address bus code error	Command bus code error	Data bus code error	Bus parity ER (write)	Transfer count error	Bus mode error	Transfer mode error	Not used
48	SMP:SLVERR							
	Not used	Not used	Not used	Slave timeout error	Slave timer parity ER	Not used	Sequencer condition error	Not used
49	SMP:SLVERR							
	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used
4A	SMP:SLVERR							
	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used
4B	SMP:SERR							
	Slave 2 answer	Slave 1 answer	warning	Slave detected error	Not used	Not used	Not used	Not used
4C	SMP:SERR							
	Not used	Not used	Slave precd any ERR	Not used	Not used	Not used	Not used	Not used
4D	SMP:SERR							
	Not used	Not used	Not used	Not used	Not used	Not used	SCAN read parity ER	Not used
4E	SMP:CUDG							
	Not used	Not used	Not used	Not used	Not used	CUDG F bus ACK	CUDG M bus ACK	CUDG mode request
4F	SMP:SYNCENB							
	(RSV)	(RSV)	MASync enable	FASync enable	MCSync enable	FCSync enable	MDSync enable	FDSync enable

Byte27=81 (Shared Memory Failure) Byte40-7F Detail:Slave Error (Byte40:b6=1)

(2/4)

	0	1	2	3	4	5	6	7
50	SMP:RX SEQ							
	Not used	Not used	Not used	Not used	Not used	Not used	Not used	SEQ00
51	SMP:RX SEQ							
	Master sequencer state							
52	SMP:RX SEQ							
	Master sequencer state							
53	SMP:ADR							
	M bus / F bus address data after selected							
54	SMP:ADR							
	M bus / F bus address data after selected							
55	SMP:ADR							
	M bus / F bus address data after selected							
56	SMP:ADR							
	M bus / F bus address data after selected							
57	SMP:CMD							
	M bus / F bus command data after selected							
58	SMP:CMD							
	M bus / F bus command data after selected							
59	SMP:CMD							
	M bus / F bus command data after selected							
5A	SMP:CMD							
	M bus / F bus command data after selected							
5B	SMP:DAT							
	M bus / F bus data after selected							
5C	SMP:DAT							
	M bus / F bus data after selected							
5D	SMP:DAT							
	M bus / F bus data after selected							
5E	SMP:DAT							
	M bus / F bus data after selected							
5F	SMP:ADRECC							
	Not used	Not used	Not used	Not used	ECC data for address data			

Byte27=81 (Shared Memory Failure) Byte40-7F Detail:Slave Error (Byte40:b6=1)

(3/4)

	0	1	2	3	4	5	6	7
60	SMP:CMDECC							
	Not used	Not used	Not used	Not used	ECC data for command data			
61	SMP:DATECC							
	Not used	Not used	Not used	Not used	ECC data for data			
62	SMP: MADR							
	M bus address data							
63	SMP: MADR							
	M bus address data							
64	SMP: MADR							
	M bus address data							
65	SMP: MADR							
	M bus address data							
66	SMP:MCMD							
	M bus command data							
67	SMP:MCMD							
	M bus command data							
68	SMP:MCMD							
	M bus command data							
69	SMP:MCMD							
	M bus command data							
6A	SMP:MDAT							
	M bus data							
6B	SMP:MDAT							
	M bus data							
6C	SMP:MDAT							
	M bus data							
6D	SMP:MDAT							
	M bus data							
6E	SMP:MADRECC							
	Not used	Not used	Not used	Not used	ECC data for M bus address data			
6F	SMP:MCMDECC							
	Not used	Not used	Not used	Not used	ECC data for M bus address data			

Byte27=81 (Shared Memory Failure) Byte40-7F Detail:Slave Error (Byte40:b6=1)

(4/4)

	0	1	2	3	4	5	6	7
70	SMC:MDATECC							
	Not used	Not used	Not used	Not used	ECC data for M bus data			
71	SMC:FADR							
	F bus address data							
72	SMC:FADR							
	F bus address data							
73	SMC:FADR							
	F bus address data							
74	SMC:FADR							
	F bus address data							
75	SMC:FCMD							
	F bus command data							
76	SMC:FCMD							
	F bus command data							
77	SMC:FCMD							
	F bus command data							
78	SMC:FCMD							
	F bus command data							
79	SMC:FDAT							
	F bus data							
7A	SMC:FDAT							
	F bus data							
7B	SMC:FDAT							
	F bus data							
7C	SMC:FDAT							
	F bus data							
7D	SMC:FADRECC							
	Not used	Not used	Not used	Not used	ECC data for F bus address data			
7E	SMC:FCMDECC							
	Not used	Not used	Not used	Not used	ECC data for F bus command data			
7F	SMC:FDATECC							
	Not used	Not used	Not used	Not used	ECC data for F bus data			

Byte27=81 (Shared Memory Failure) Byte40-7F Detail:MST&SLV ERR (Byte40:b5.6=11)

(1/4)

	0	1	2	3	4	5	6	7
40	SMP:SMPERR							
	Not used	Not used	Not used	Not used	Not used	Master CHK3 error	Slave CHK3 error	CHK1 error
41	MIC:RCVINT							
	SYSRST interrupt monitor	SELINT interrupt monitor	CHK1A interrupt monitor	CHK1B interrupt monitor	SMPINT interrupt monitor	LAN/SIO interrupt monitor	CHA/DRR interrupt monitor	ADP/SCA0 interrupt monitor
42	SMP:MSTERR							
	Requester error	S-memory reduction error	Bus mode error	Address byte 0 parity ER	Address byte 1 parity ER	Address byte 2 parity ER	1st read data bus code ERR	2nd read data bus code ERR
43	SMP:MSTERR							
	Read data compare error	1st ERR phase bus code ERR	2nd ERR phase bus code ERR	Error phase warning	Error phase any error	F bus check error	M bus check error	Master timeout error
44	SMP:MSTERR							
	Master timer parity ER	F bus ARBIT error	Address byte 3 parity ER	Data parity ER in SMP	Last data check error	F bus open detected	M bus open detected	Not used
45	SMP:REQ ERR							
	Package ID parity ER	Grant code parity ER	Bus protocol error	Transfer end timeout	GSYNC count over	GSYNC counter parity ER	T.O check timer parity ER	MP ID parity ER
46	SMP:TX SEQ							
	Not used	Not used	Not used	Not used	Not used	Not used	Not used	SEQ00
47	SMP:TX SEQ							
	Master sequencer state							
48	SMP:TX SEQ							
	Master sequencer state							
49	SMP:TXA							
	Bus address (high order 4 bytes) for F bus / M bus							
4A	SMP:TXA							
	Bus address (high order 4 bytes) for F bus / M bus							
4B	SMP:TXA							
	Bus address (high order 4 bytes) for F bus / M bus							
4C	SMP:TXA							
	Bus address (high order 4 bytes) for F bus / M bus							
4D	SMP:TXC							
	Bus address (low order 4 byte) for F bus / M bus							
4E	SMP:TXC							
	(RSV)	(RSV)	(RSV)	(RSV)	DIAG access monitor	(RSV)	(RSV)	(RSV)
4F	SMP:TXC							
	TX DATA 00-07 valid	TX DATA 10-17 valid	TX DATA 20-27 valid	TX DATA 30-37 valid	Bus transfer count (0001)			

Byte27=81 (Shared Memory Failure) Byte40-7F Detail:MST&SLV ERR (Byte40:b5-6=11)

(2/4)

	0	1	2	3	4	5	6	7
50	SMP:TXC							
(RSV)	Bus mode MP bus space :101				transfer mode Single write :0 Single read :1		Double write :4 Double read :5 Broadcast :8	
51	SMP:R1D Read data from F bus / M bus (Double read using slave 2 or single read using appointed slave)							
52	SMP:R1D Read data from F bus / M bus (Double read using slave 2 or single read using appointed slave)							
53	SMP:R1D Read data from F bus / M bus (Double read using slave 2 or single read using appointed slave)							
54	SMP:R1D Read data from F bus / M bus (Double read using slave 2 or single read using appointed slave)							
55	SMP:R2D Read data from F bus / M bus (Double read using slave 1)							
56	SMP:R2D Read data from F bus / M bus (Double read using slave 1)							
57	SMP:R2D Read data from F bus / M bus (Double read using slave 1)							
58	SMP:R2D Read data from F bus / M bus (Double read using slave 1)							
59	SMP:E1D Error phase data from F bus / M bus (Double read using slave 2 or single read using appointed slave)							
5A	SMP:E1D Error phase data from F bus / M bus (Double read using slave 2 or single read using appointed slave)							
5B	SMP:E1D Error phase data from F bus / M bus (Double read using slave 2 or single read using appointed slave)							
5C	SMP:E1D Error phase data from F bus / M bus (Double read using slave 2 or single read using appointed slave)							
5D	SMP:E2D Error phase data from F bus / M bus (Double read using slave 1)							
5E	SMP:E2D Error phase data from F bus / M bus (Double read using slave 1)							
5F	SMP:E2D Error phase data from F bus / M bus (Double read using slave 1)							

Byte27=81 (Shared Memory Failure) Byte40-7F Detail:MST&SLV ERR (Byte40:b5.6=11)

(3/4)

	0	1	2	3	4	5	6	7
60	SMP:E2D							
	Error phase data from F bus / M bus (Double read using slave 1)							
61	SMP:SLVERR							
	Address bus code error	Command bus code error	Data bus code error	Bus parity ER (write)	Transfer count error	Bus mode error	Transfer mode error	Not used
62	SMP:SLVERR							
	Not used	Not used	Not used	Slave timeout error	Slave timer parity ER	Not used	Sequencer condition error	Not used
63	SMP:SLVERR							
	Not used	Not used	Not used	Not used	Not used	Not used	Not used	Not used
64	SMP:RX SEQ							
	Not used	Not used	Not used	Not used	Not used	Not used	Not used	SEQ00
65	SMP:RX SEQ							
	Master sequencer state							
66	SMP:RX SEQ							
	Master sequencer state							
67	SMP:ADR							
	M bus / F bus address data after selected							
68	SMP:ADR							
	M bus / F bus address data after selected							
69	SMP:ADR							
	M bus / F bus address data after selected							
6A	SMP:ADR							
	M bus / F bus address data after selected							
6B	SMP:CMD							
	M bus / F bus command data after selected							
6C	SMP:CMD							
	M bus / F bus command data after selected							
6D	SMP:CMD							
	M bus / F bus command data after selected							
6E	SMP:CMD							
	M bus / F bus command data after selected							
6F	SMP:BMD							
	F bus valid	M bus valid	Pseud access mode	S-memory DIAG access	Request output enable	S-memory copy mode	S-memory side A reduction	S-memory side B reduction

Byte27=81 (Shared Memory Failure) Byte40-7F Detail:MST&SLV ERR (Byte40:b5-6=11)

(4/4)

	0	1	2	3	4	5	6	7
70	SMC:MBUSERR							
				Board error	All lock busy	Memory not reay	Back up busy	Double lock error
71	SMC:MBUSERR							
	Correctable error	Uncorrectable error	Read data check	Write data check	Double access unmatch	Transfer count error	Bus mode error	Transfer mode error
72	SMC:MBUSERR							
	Bus open unmatch	Last cycle error	No DSYNC	No CSYNC	ESYNC wait error	Data check	Command check	Address check
73	SMC:FBUSERR							
				Board error	All lock busy	Memory not reay	Back up busy	Double lock error
74	SMC:FBUSERR							
	Correctable error	Uncorrectable error	Read data check	Write data check	Double access unmatch	Transfer count error	Bus mode error	Transfer mode error
75	SMC:FBUSERR							
	Bus open unmatch	Last cycle error	No DSYNC	No CSYNC	ESYNC wait error	Data check	Command check	Address check
76	SMC:BORD ERR							
	RAS output error	CAS output error	WE output error	OE(DIR) output error		Address output error	Data output error	ECC output error
77	SMC:BORD ERR							
	Clock error	Refresh error	Timer error	M bus counter error	M bus timer error	Main sequencer error	M bus sequencer error	F bus sequencer error
78	SMC:MBUSERR							
				Board error	All lock busy	Memory not reay	Back up busy	Double lock error
79	SMC:MBUSERR							
	Correctable error	Uncorrectable error	Read data check	Write data check	Double access unmatch	Transfer count error	Bus mode error	Transfer mode error
7A	SMC:MBUSERR							
	Bus open unmatch	Last cycle error	No DSYNC	No CSYNC	ESYNC wait error	Data check	Command check	Address check
7B	SMC:FBUSERR							
				Board error	All lock busy	Memory not reay	Back up busy	Double lock error
7C	SMC:FBUSERR							
	Correctable error	Uncorrectable error	Read data check	Write data check	Double access unmatch	Transfer count error	Bus mode error	Transfer mode error
7D	SMC:FBUSERR							
	Bus open unmatch	Last cycle error	No DSYNC	No CSYNC	ESYNC wait error	Data check	Command check	Address check
7E	SMC:BORD ERR							
	RAS output error	CAS output error	WE output error	OE(DIR) output error		Address output error	Data output error	ECC output error
7F	SMC:BORD ERR							
	Clock error	Refresh error	Timer error	M bus counter error	M bus timer error	Main sequencer error	M bus sequencer error	F bus sequencer error

Byte27 = 81 & Byte34:bit4-7 = 3 (CHK3 Reset)

(1/2)

	0	1	2	3	4	5	6	7
00	Time stamp							
05								
06	Log type							
07								
08	Failure classification							
09								
0A	System error code (x'160f')							
0B								
0C	JCB ID							
0D								
0E	REQ ID							
0F	24CMPAT	ECKD32	HOST RSP	SVP RSP	Processor ID			
10	VDEV#VLD	PDEV#VLD	SSB#VLD	LOG#VLD	SIM#VLD	RSSB#VLD	0	Force log
11	VDEV number							
12								
13	CDEV number				RDEV number			
14	LDEV type							
15	PDEV type							
16	SSB log number							
17								
18	Related failure log number							
19								
1A	Related SIM log number							
1B								
1C	Related SSB log number							
1D								
1E	(Reserved)							
1F	SCB							
20	Basic SSB							
21								
22								
23	Count							
24	Device address							
25	Cylinder address (low)							
26	Cylinder address (high)				Head address			
27	Format (x'8')				Message (x'1')			
28	Related SSB log number							
29								
2A	Not used (x'00')							
2B	Not used (x'00')							
2C	Old PSW (Interrupted address)							
2D								
2E								
2F								
30	SSB log number							
31								
32	Related detaile log number for RESET							
33								
34	Processor number				Message code (x'3')			
35	SSID (low) of self subsystem							
36	Symptom Code (x'FF81' : LDEV type = DKU87I/x'EF81' : LDEV type = DKU86I)*							
37								
38	Log and message control (x'00')							
39	Program action code (x'00')							
3A	Configuration information							
3B								
3C	Not used (x'00')							
3D	Cylinder address							
3E								
3F	Head address							

* : This information is not fixed until DKC reports SSB to HOST.

Byte27=81 & Byte34:bit4-7=3 (CHK3 Reset)

(2/2)

	0	1	2	3	4	5	6	7
40	Not used (x'00')							
41	Not used (x'00')							
42	Initialize interface information							
43								
44	Request type code for RESET							
45								
46	First request type code for RESET							
47	SSB type code made by RESET							
48	SVP task restart type							
49	CHK1A type code (Self processor)							
4A	Multi request type bit for RESET							
4B								
4C	Interrupted address							
4D								
4E								
4F								
50	Interrupted instruction code							
51								
52								
53								
54	Current logical device number							
55	Current logical path number							
56	LCP error code							
57								
58	Reason code for initiation							
59								
5A	Command interface							
5B	DSB							
5C	wchk1mpbitmap							
5D	Request ID							
5E	JCB ID							
5F								
60	sys status							
61	Reserved (x'00')							
62	Reserved (x'00')							
63	Reserved (x'00')							
64	jcb id							
65								
66	req id							
67	job type code							
68	job status							
69	Running processor number							
6A	Reason code for initiation							
6B	Detail code for initiation							
6C	Command code							
6D	Cannel sequence							
6E	Reserved (x'00')							
6F	Reserved (x'00')							
70	DCN (wldcn11)							
71								
72								
73								
74	DCN (wldcn11)							
75								
76								
77								
78	Reserved (x'00')							
7F								

Byte27=88 & Byte34:b4-7=A & Byte28=01 (LCP Failure:CHK-2/ADP I/F Error)

(1/2)

	0	1	2	3	4	5	6	7
00	Time stamp							
05								
06	Log type							
07								
08	Failure classification							
09								
0A	System error code							
0B								
0C	JCB ID							
0D								
0E	REQ ID							
0F	24CMPAT	ECKD32	HOST RSP	SVP RSP	Processor ID			
10	VDEV#VLD	PDEV#VLD	SSB#VLD	LOG#VLD	SIM#VLD	RSSB#VLD	0	Force log
11	VDEV number							
12								
13	CDEV number				RDEV number			
14	LDEV type							
15	PDEV type							
16	SSB log number							
17								
18	Related failure log number							
19								
1A	Related SIM log number							
1B								
1C	Related SSB log number							
1D								
1E	(Reserved)							
1F	SCB							
20	Basic SSB							
21								
22								
23	Count							
24	Device address							
25	Cylinder address (low)							
26	Cylinder address (high)				Head address			
27	Format (x'8')				Message (x'8')			
28	LCP error message"(x'01':LCP CHK-2/ADP interface error)							
29	LCP error code							
2A								
2B	XR4B(H)							
	BBF OVERRUN	PND OVERRUN	0	0	0	0	0	0
2C	XR4B(L)							
	LRCA ERR	LRCB ERR	BBFP PER	BBIP PER	BBOP PER	PND CK2	CNT PER	REQ CNT OVERRUN
2D	XR3E(H)							
	RBFA APER	RBFB APER	RBFC APER	RBF WRDER	MBFA APER	MBFB APER	MBFC APER	MBF WRDER
2E	XR3E(L)							
	FRM RCTPE	CMP DPER	XFR CHRPER	XFR SEQPER	M-CNT PER	H-CNT PER	0	0
2F	XR55(H)							
	BUSPE PA	LRCER PA	REQ ER A	ADTDT ER A	0	0	0	0
30	XR55(L)							
	BUSPE PB	LRCER PB	REQ ER B	ADTDT ER B	0	0	0	0
31								
	Control flag	0	0	STOP (XR49:bit15)	CK2 DTX (XR4A:bit0)	CK2 LIN (XR4A:bit1)	IFERA (XR51:bit12)	IFERB (XR51:bit13)

Byte27 = 88 & Byte34:b4-7 = A & Byte28 = 01 (LCP Failure:CHK-2/ADP I/F Error)

(2/2)

	0	1	2	3	4	5	6	7
32	Module ID							
33	Routine ID							
34	Processor number				Message code (x'A')			
35	SSID (Low) of self subsystem							
36	Symptom code (x'FF88' : LDEV type = DKU87I/x'EF88' : LDEV type = DKU86I)							
37								
38	Log and message control (x'00')							
39	Program action code (x'00')							
3A	Configuration information							
3B								
3C	Not used							
3D	Cylinder address							
3E								
3F	Head address							
40	LCP error message (x'01')							
41	Key code (x'04')							
42	LCP error code							
43								
44	x'00'							
45	Command code							
46	x'00'							
47	x'00'							
48	XR4B							
49								
4A	XR3E							
4B								
4C	XR55							
4D								
4E	Control flag							
4F	x'00'							
50	Not used							
7F								

Byte27 = 88 & Byte34:b4-7 = A & Byte28 = 02 (LCP Failure:Link Receive Error) *

(2/2)

	0	1	2	3	4	5	6	7
32	Module ID							
33	Routine ID							
34	Processor number				Message code (x'A')			
35	SSID (Low) of self subsystem							
36	Symptom code (x'FF88' : LDEV type = DKU87I/x'EF88' : LDEV type = DKU86I)							
37								
38	Log and message control (x'00')							
39	Program action code (x'00')							
3A	Configuration information							
3B								
3C	Not used (x'00')							
3D	Cylinder address							
3E								
3F	Head address							
40	LCP error message (x'02')							
41	Key code (x'04')							
42	LCP error code							
43								
44	x'00'							
45	Command code							
46	x'00'							
47	x'00'							
48	XR36							
49								
4A	XR37							
4B								
4C	XR33							
4D								
4E	Control flag							
4F	x'00'							
50	Not used							
7F								

Byte27 = 88 & Byte34:b4-7 = A & Byte28 = 01 (LCP Failure:CHK-2/ADP I/F Error)

(2/2)

	0	1	2	3	4	5	6	7
32	Module ID							
33	Routine ID							
34	Processor number				Message code (x'A')			
35	SSID (Low) of self subsystem							
36	Symptom code (x'FF88' : LDEV type = DKU87I/x'EF88' : LDEV type = DKU86I)							
37								
38	Log and message control (x'00')							
39	Program action code (x'00')							
3A	Configuration information							
3B								
3C	Not used							
3D	Cylinder address							
3E								
3F	Head address							
40	LCP error message (x'01')							
41	Key code (x'04')							
42	LCP error code							
43								
44	x'00'							
45	Command code							
46	x'00'							
47	x'00'							
48	XR4B							
49								
4A	XR3E							
4B								
4C	XR55							
4D								
4E	Control flag							
4F	x'00'							
50	Not used							
7F								

Byte27=88 & Byte34:b4-7=A & Byte28=02 (LCP Failure:Link Receive Error)

(1/2)

	0	1	2	3	4	5	6	7
00	Time stamp							
05								
06	Log type							
07								
08	Failure classification							
09								
0A	System error code							
0B								
0C	JCB ID							
0D								
0E	REQ ID							
0F	24CMPAT	ECKD32	HOST RSP	SVP RSP	Processor ID			
10	VDEV#VLD	PDEV#VLD	SSB#VLD	LOG#VLD	SIM#VLD	RSSB#VLD	0	Force log
11	VDEV number							
12								
13	CDEV number				RDEV number			
14	LDEV type							
15	PDEV type							
16	SSB log number							
17								
18	Related failure log number							
19								
1A	Related SIM log number							
1B								
1C	Related SSB log number							
1D								
1E	(Reserved)							
1F	SCB							
20	Basic SSB							
21								
22								
23	Count							
24	Device address							
25	Cylinder address (low)							
26	Cylinder address (high)				Head address			
27	Format (x'8')				Message (x'8')			
28	LCP error message"(x'02':Link receive error)							
29	LCP error code							
2A								
2B	XR36(H)							
	L-SIG ERR0	L-SIG ERR1	CONN ERR0	CONN ERR1	CONN ERR2	0	0	0
2C	XR37(H)							
	CONN ERR3	L-SIG ERR	CODE VIOLA	SEQ ERR	CRC ERR	ABORT ERR	PROT ERR0	PROT ERR1
2D	XR37(L)							
	PROT ERR2	PROT ERR3	PROT ERR4	PROT ERR5	PROT ERR6	PROT ERR7	PROT ERR8	PROT ERR9
2E	XR33(H)							
	C-SOF ERR	P-SOF ERR	D-EOF ERR	P-EOF ERR	L-SIG ERR	CODE VIOLA	SEQ ERR	CRC ERR
2F	XR33(L)							
	0	0	0	R-CNT 0	R-CNT 1	R-CNT 2	R-CNT 3	R-CNT 4
30								
	0	0	STOP (XR49:bit15)	ABORT (XR32:bit11)	ER RCV1 (XR4A:bit3)	ER RCV2 (XR4A:bit4)	ER RCV3 (XR4A:bit5)	OTHER (XR51:bit6)
31	XR2A(L)							
	Field Information							

Byte27 = 88 & Byte34:b4-7 = A & Byte28 = 02 (LCP Failure:Link Receive Error) *

(2/2)

	0	1	2	3	4	5	6	7
32	Module ID							
33	Routine ID							
34	Processor number				Message code (x'A')			
35	SSID (Low) of self subsystem							
36	Symptom code (x'FF88' : LDEV type = DKU87I/x'EF88' : LDEV type = DKU86I)							
37								
38	Log and message control (x'00')							
39	Program action code (x'00')							
3A	Configuration information							
3B								
3C	Not used (x'00')							
3D	Cylinder address							
3E								
3F	Head address							
40	LCP error message (x'02')							
41	Key code (x'04')							
42	LCP error code							
43								
44	x'00'							
45	Command code							
46	x'00'							
47	x'00'							
48	XR36							
49								
4A	XR37							
4B								
4C	XR33							
4D								
4E	Control flag							
4F	x'00'							
50	Not used							
7F								

