

SSB SECTION

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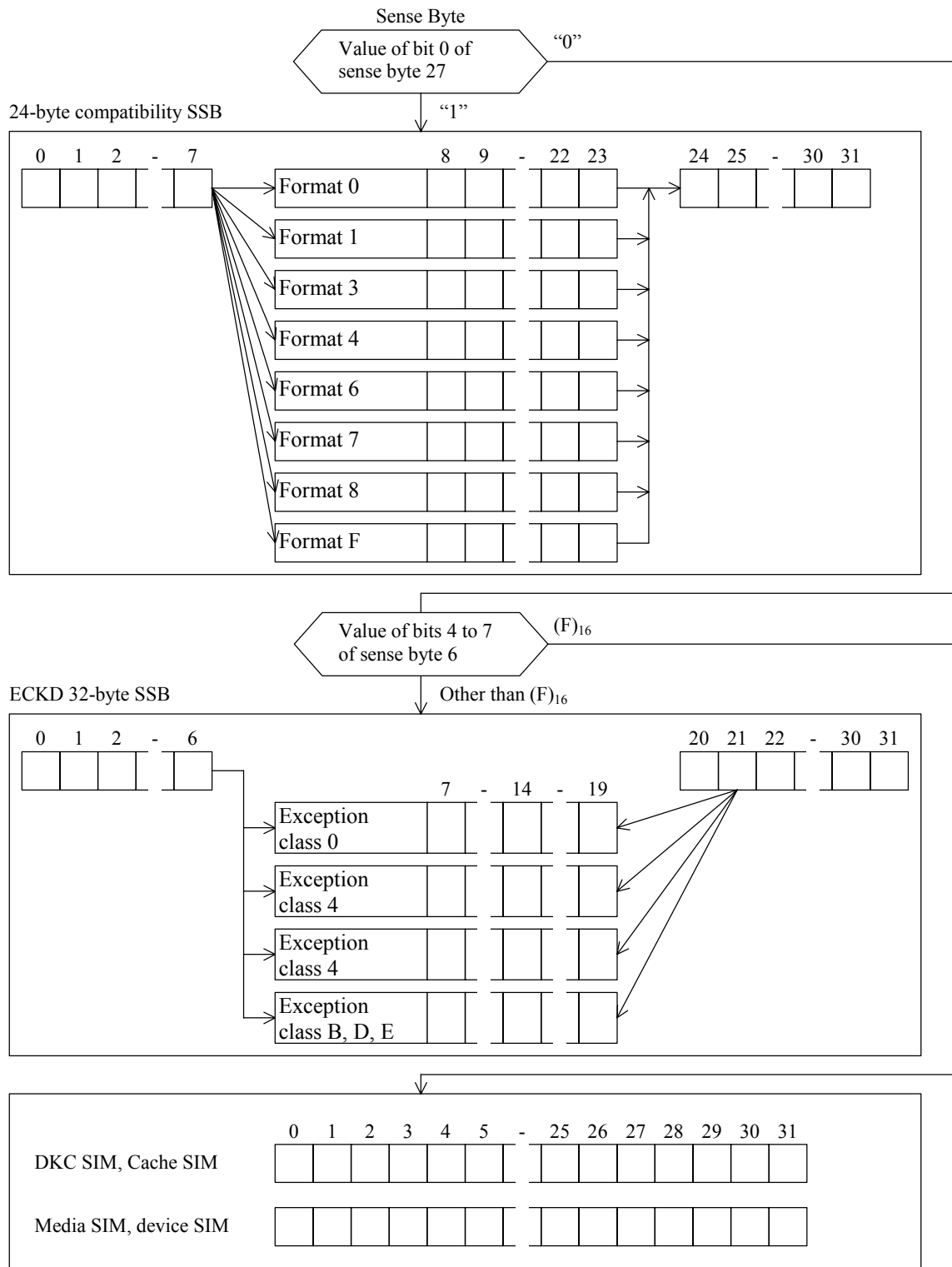
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1. Sense Byte Analysis

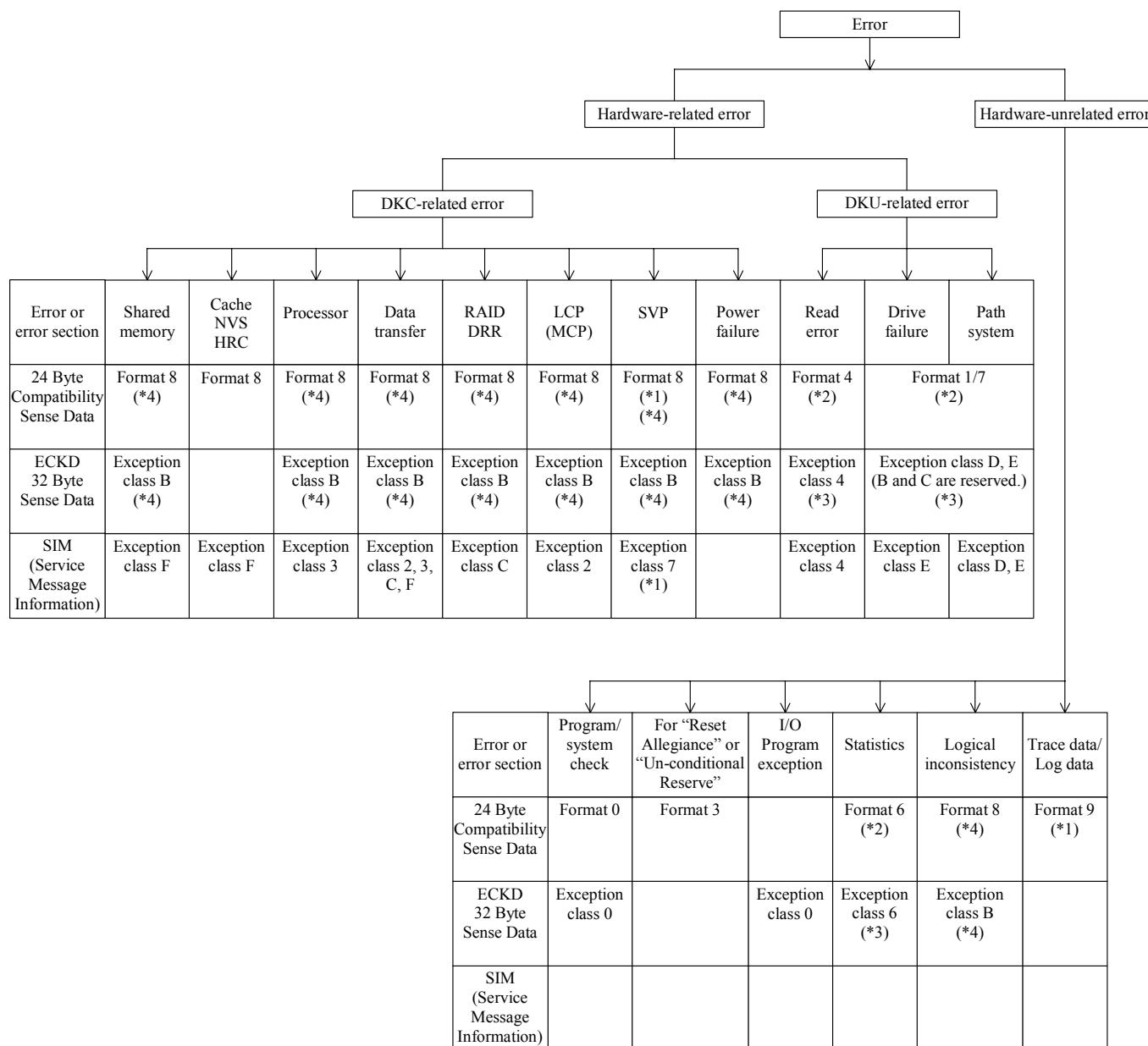


Note: This section is corresponding to host reported SSBs.

If you want to know about ssblog on SVP, you should see SSBLOG section.

2. Procedure for Searching Sense Bytes, SIM Error Table and SSB Table

The following table shows the formats for troubleshooting in this disk.



*1: This error is not reported to host. (For SSB log only)

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

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

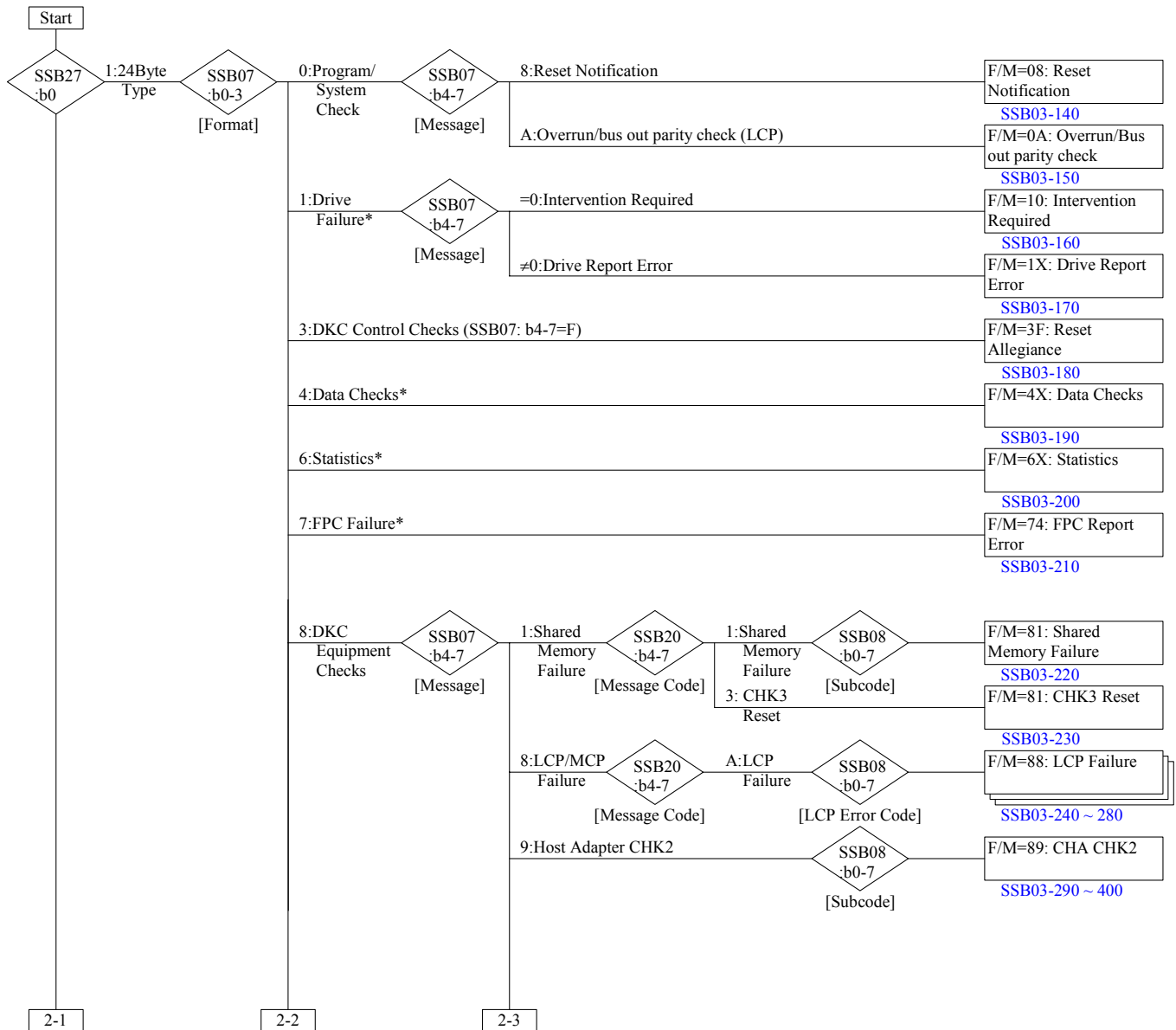
*4: These SSBs report to host with Exception-class B in 32 Byte SSB, when DKC-Type have configured 3990-6 (Enhance mode).

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

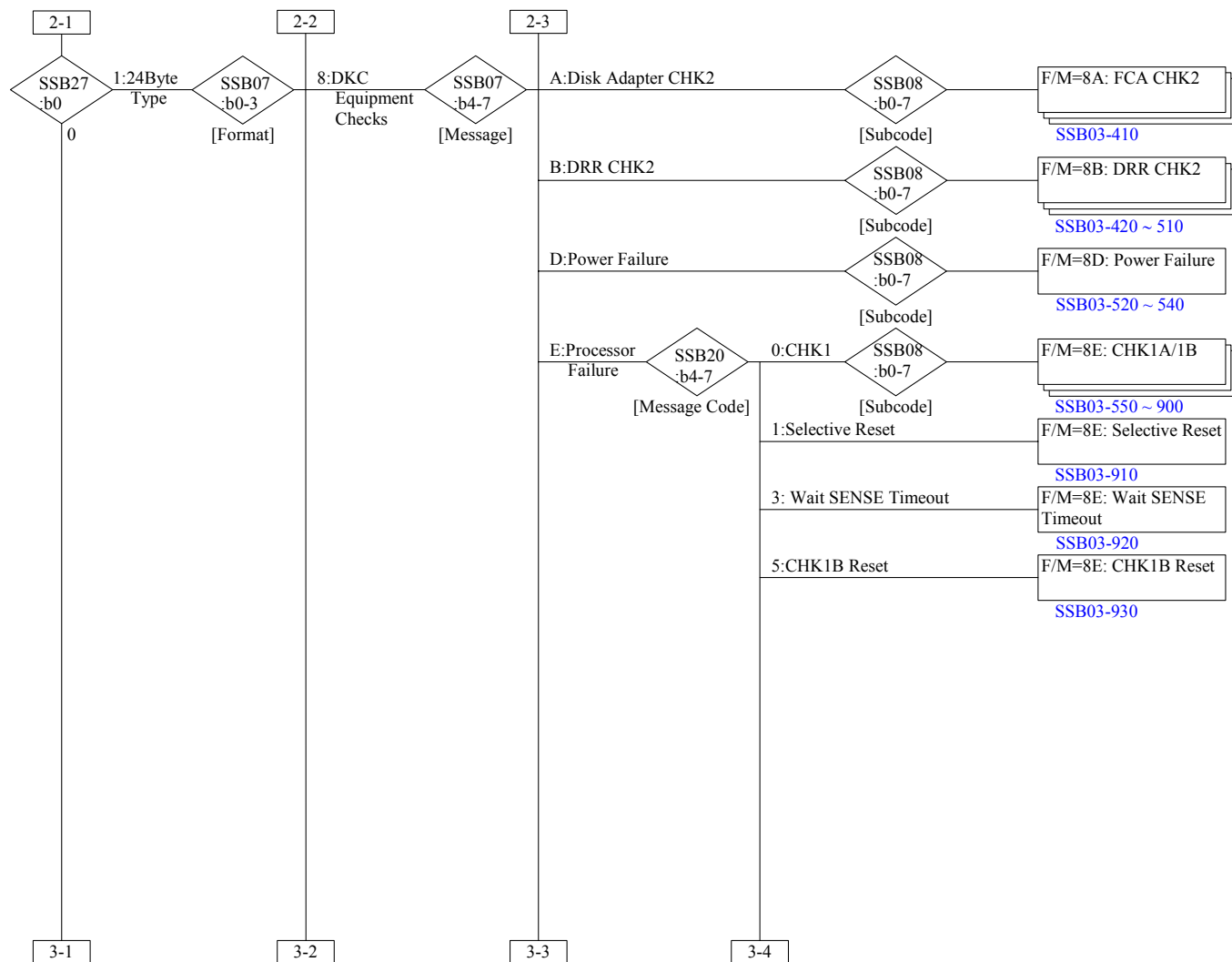
Search method for SSB tables (1/5)

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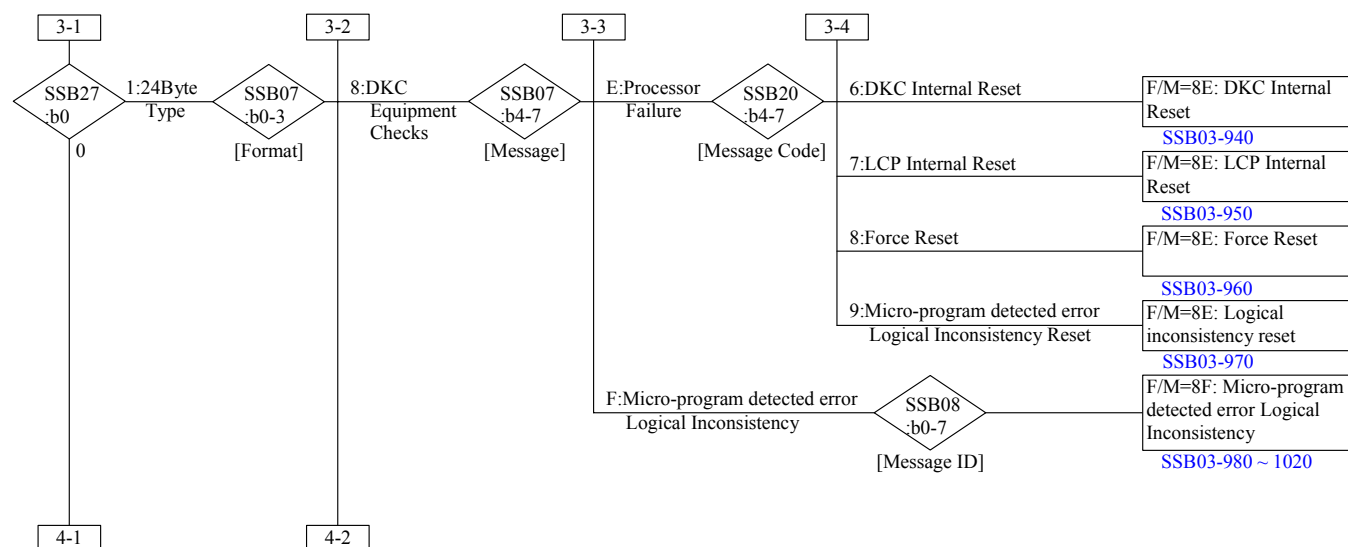
Search method for SSB tables (2/5)

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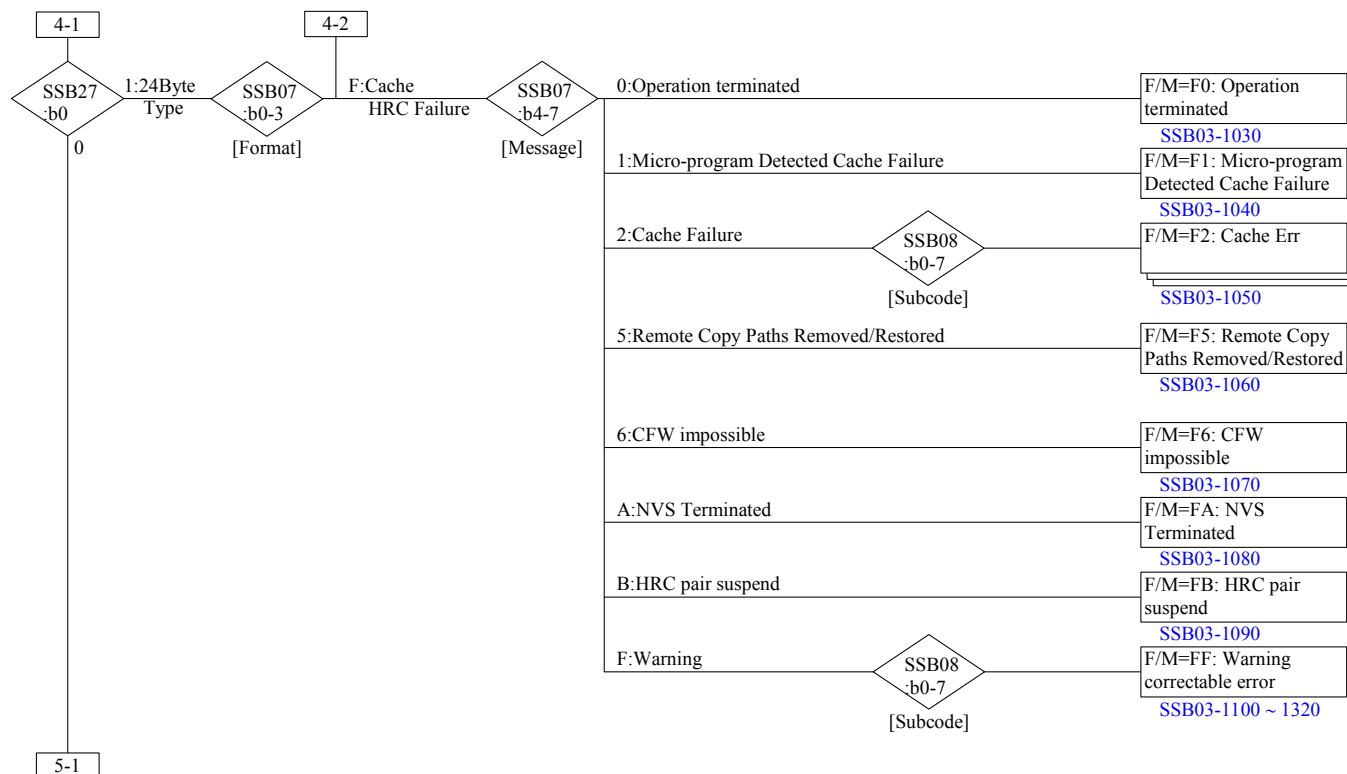
Search method for SSB tables (3/5)

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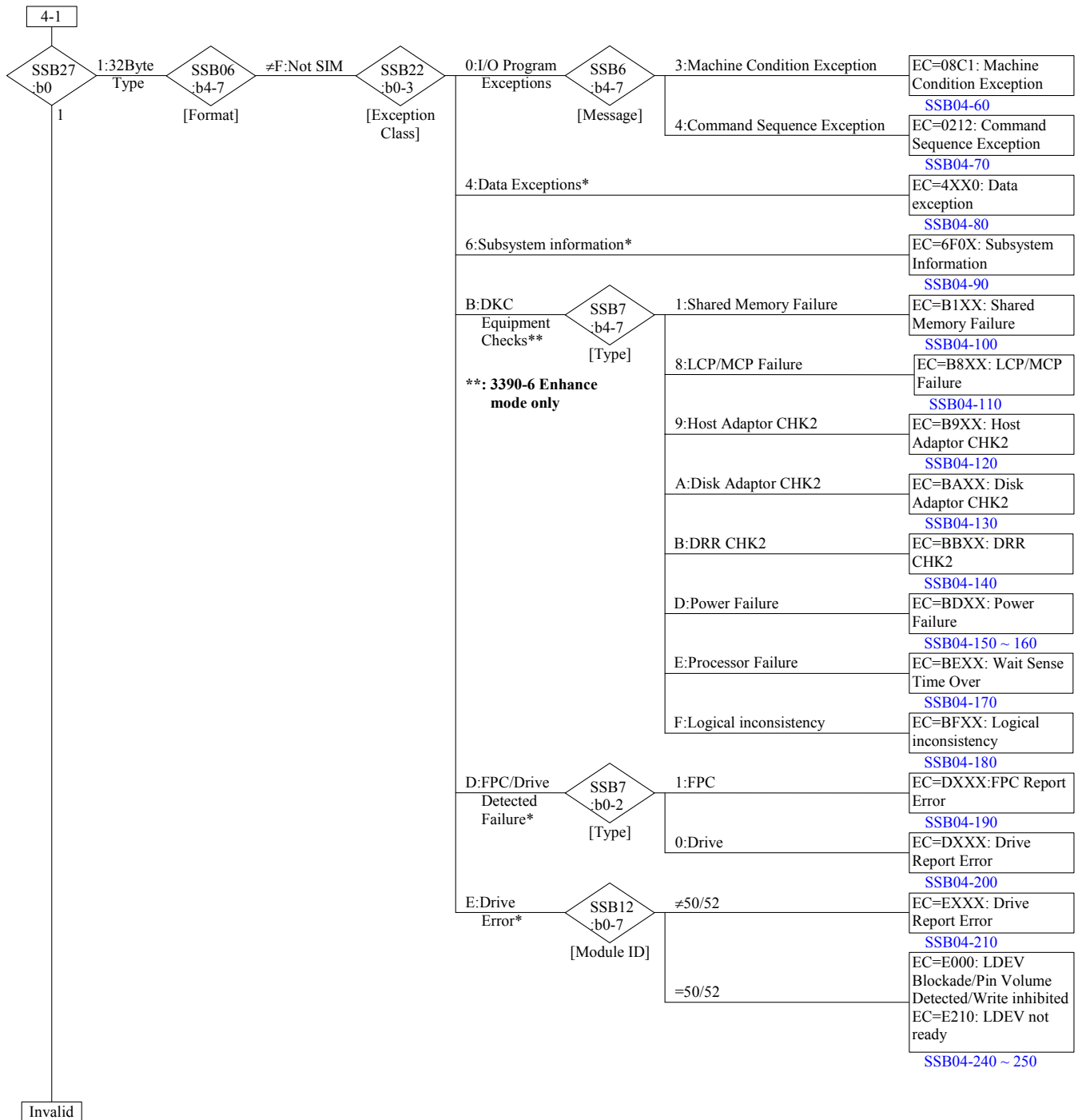
Search method for SSB tables (4/5)

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*: For DKU87I (IBM 3390 emulation mode)

Search method for SSB tables (5/5)

3. 24-BYTE COMPATIBILITY SSB

3.1 Basic Sense Bytes

Bit Byte	24-Byte Compatibility Sense Data							
	0	1	2	3	4	5	6	7
0	Command reject	Intervention required	Busout parity check	Device check	Date check	Overrun	Not used	Incomplete domain
1	Permanent error	Invalid track format	End of cylinder	Operator message	No record found	File protection	Write inhibit	Imprecise ending
2	Request inhibit write	Correctable	First log mode error	Environmental data present	Not used	Imprecise ending	Not used	
3	Controller ID, number of retries, number of records							
4	Device address							
5	Low cylinder address, overflow flag of command overruns							
6	Head address and high cylinder address, overflow flag of data overruns							
7	Format				Message			
8 to 23	Bytes 8 to 23: Depends on the format and message.							
24	Logging and message control							
25	Duplex pair error	Program action code						
26	Dual frame	EDCC mode	Duplex pair	Sub-volume error	Nonsynchronous operation	Serial channel	Not used	Permanent path error
27	24-byte SSB	Device address valid	Track address valid	Not used	DKU86I track compatible mode	Not used	Path number	
28	Not used							
29	Cylinder address							
30								
31	Head address							

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Byte	Bit	Name	Description
0	0	Command reject	- Invalid command was received. - The sequence of commands is invalid. - The number of bytes sent by a CONTROL command is insufficient or the value is invalid. - A WRITE command that violates the file mask and search conditions was received. - A WRITE command was received when the R/W switch was set to READ. (In this case, bit 6 of byte 1 (write inhibit) also becomes "1".) - The WRITE SPECIAL HA command does not permit a short byte. - An attempt to write an Rn record to a defective track was made. - No link is established for a defective or alternate track. - The command issued in the LOCATE domain does not match the operation specified by the LOCATE command. - The operation specified by the LOCATE command has violated the file mask. - An attempt was made to access an alternate track beyond the user cylinder during multi-track operation in the LOCATE domain. (File protected (bit 5 of byte 1) is set at the same time.) - The status of the cache/device does not meet the requirement of the SET SUB MD/PERF SUB FUNC command.
	1	Intervention required	- The addressed device is not READY. - The DKU is in the CE mode. - The addressed device is not physically connected.
	2	Busout check	The data or command transferred from the channel has a parity error.
	3	Device check	A malfunction was detected in the subsystem. Details are indicated in Bytes 7 to 31.
	4	Data check	- A correctable read error was detected in the data read from the device. (Bit 1 of byte 2 ("correctable") is set at the same time. The information for correction is indicated in sense bytes 15 to 23.) - An uncorrectable read error was detected in the data read from the device. - The end by the PCI fetch mode is indicated. Bit 1 of byte 2 ("correctable") is set at the same time and restart displacement is guaranteed. Error displacement and error pattern are 0.
	5	Overrun	- A response to a data request or reconnection request could not be received within the predetermined time on the parallel channel. This error is reported with F/M=0A. - No response was made or an invalid frame was received when the serial channel was in a data transfer sequence; so, retry was impossible. - Command retry (overrun) was requested from the channel, but retry was impossible. This error is reported with F/M=0A. - Termination of overrun was requested from the channel. This error is reported with F/M=0A. Note: This bit is set on if ten overruns have occurred through command retry including the format write command. (Permanent error (bit 0 of byte 1) is not set.) If a data overrun has occurred with a WRITE command, data transfer is aborted immediately and (00H) is written till the end of that record.
	6	Not used	Always 0
	7	Incomplete domain	This bit is set if a short domain has been detected during a write in asynchronous transfer. Environmental data present (bit 3 of byte 2) is also set to '1'.
1	0	Permanent error	Command retry failed.

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Byte	Bit	Name	Description
1	1	Invalid track format	1. An index was encountered during a data write. (A data write beyond the track capacity was made.) 2. An index marker was detected in the key or data field when the READ or SEARCH command (except SCH ID) was handling a record. 3. An updating write was attempted for a record with a different size from the record size specified in TLF of the LOCATE command or the block length of the DEF EXT command. 4. The length of the data field of R0 was not 8 bytes during WRITE TRK operation.
	2	End of cylinder	An attempt was made to perform track switching from the last track of the logical cylinder by a READ or SEARCH command with multi-track specification. (End of cylinder is not reported in the LOCATE domain.)
	3	Message to operator	This bit is set to display an error to the operator.
	4	No record found	1. Two index markers were detected in the same command chain without intervention of a WRITE or SENSE command or a read operation that handles the HA or data field. 2. The target record searched for by a LOCATE command could not be detected. Imprecise ending (bit 7 of byte 1) is also set at the same time.
	5	File protected	1. A SEEK command has violated the file mask or extent range. 2. A READ or SEARCH command with multi-track specification has violated the file mask or extent range. 3. An attempt was made to access an alternate track beyond the user cylinder during multi-track operation in the LOCATE domain. (Command reject (bit 0 of byte 0) is also set at the same time.) 4. Multi-track operation was tried directly to an alternate track in the asynchronous mode. 5. The track set is out of the extent specified for WRITE ANY/READ ANY. 6. The LOCATE RECORD/LOCATE RECORD EXTENDED domain is out of extent.
	6	Write inhibit	1. A WRITE command was received when the R/W switch was set to READ. (Bit 0 of byte 0 (command rejection) also becomes "1".) 2. Indicates that the write prohibition status has been established by the DIAG CTL command. (Bit 3 of byte 0 (device check) is also set at the same time.)
	7	Imprecise ending	Indicates that the error indicated in the sense byte is due to a command before the command that reported the unit check. (abnormal end in the LOCATE domain) Bit 5 of byte 2 is also set at the same time.
2	0	Request inhibit write	Requests issuance of a DIAG CTL command that instructs prohibition of a write through the path to avoid an error from which the path cannot recover. (At the same time, the faulty section is set in byte 25 "program action code".)
	1	Correctable	Indicates that bit 4 of sense byte 0 (data check) can be corrected. Restart displacement, error displacement, and error pattern are indicated in bytes 15 to 23.
	2	First log mode error	The number of occurrences of seek/data errors exceeded the threshold. (Bit 3 of byte 2 (environmental data present) is also set at the same time.)
	3	Environmental data present	Indicates that this SSB is not due to the current CCW chain but it is the statistics to be reported from the DKC to the host. The statistics include log information and reset notification.
	4	Not used	Always 0
	5	Imprecise ending	Same as bit 7 of byte 1
	6	Not used	Always 0
	7	Not used	Always 0

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Byte	Bit	Name	Description
3	0 ~ 7	Controller ID, number of retries, number of records	1. Controller ID (Format 1, 6, 7, 8, or F, without imprecise ending) 2. Number of retries (Format 4 or 5, without imprecise ending, and environmental data present = 1) 3. Number of remaining records or tracks in the LOCATE domain (when indeterminate end or file protection is 1) 4. Zero (For other than 1 to 3 above)
4	0	SP number 2 ¹	
	1	SP number 2 ⁰	
	2	Controller number	
	3 ~ 7	DKU physical number	
5	0 ~ 7	Lower digits of cylinder address	Indicates the lower digits of the cylinder address of the seek address received from the last channel (2 ⁷ to 2 ⁰).
		Overflow flag of command overruns	Set to x'01' when the command overrun threshold is exceeded. (For format 6 only)

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Byte	Bit	Name	Description
6	0 ~ 3	Upper digits of cylinder address	Indicates the upper digits of sense byte 5. Indicates the upper digits of the cylinder address of the last seek address received from the channel.
	4 ~ 7	Head address	Indicates the head address of the last seek address received from the channel. This address is updated in multi-track operation.
	0 ~ 7	Overflow flag of data overruns	Set to x'01' when the data overrun threshold is exceeded. (For format 6 only)
7	0 ~ 3	Format	The following indicate the meanings of sense bytes 8 to 23. 0000 Format 0 Program check or system check 0001 Format 1 Drive failure *1 0010 Format 2 DKC function check (Not used) 0011 Format 3 DKC control check 0100 Format 4 Data check without information for correction *1 0101 Format 5 Data check with information for correction (Not used) 0110 Format 6 Statistics *1 0111 Format 7 SPC Failure *1 1000 Format 8 Microprogram detected error or DKC/DKU failure 1001 Format 9 Microprogram detected error 1110 Format E Service information message (SIM) (Not used) 1111 Format F Cache system error
	4 ~ 7	Message	Indicates the determined characteristics of the error status for the above formats. Hexadecimal digits of 0 to F indicated in bits 4 to 7 correspond to 0 to F for messages.
24	0 ~ 2	Logging message control	Reserved
	3		Logging mode
	4 ~ 5		Logging action (only '01' used) 00: Not logged 01: Unconditionally logged 10: Only the first record logged at retry 11: Only the first record logged upon occurrence of a permanent error
	6 ~ 7		Operator message control (only '01' used) 00: No operator message 01: Message unconditionally output 10: Message output only for the first record at retry 11: Message output only for the first record upon occurrence of a permanent error.

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

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Byte	Bit	Name	Description
25	0	Program action code	Duplex pair volume error (Not used) Indicates the error on a duplex pair (neither pending nor suspended). This bit is set to 1 for device check or intervention request. F/M=1/7/8
	1 ~ 7		Instructs the method of error recovery. (00)₁₆: No action (10)₁₆: SIM (Not used) (16)₁₆: Reset notification (17)₁₆ or (57)₁₆: Device check with FMT=7/8 during write operation. Prohibits write to the controller if a permanent error has occurred on that path. (18)₁₆ or (58)₁₆: Device check during write operation. Prohibits write to the channel path if a permanent error has occurred on that path. (19)₁₆ or (59)₁₆: Device check during write operation. Prohibits write to the storage path if a permanent error has occurred on that path. (70)₁₆: The command was rejected because the condition specified in the specific blocking condition setting order of the PERF SUB FUNC command was met. (71)₁₆: Attention was reported from the interface placed in the specific blocking status by the PERF SUB FUNC command. (1D)₁₆: The subsystem or device is in the State Change Pending status (statistics send (bit 3 of byte 2) = 1, F/M = F0).
26	0	Configuration information	Dual-frame configuration 0: Single-frame configuration 1: Dual-frame configuration
	1		EDCC mode 0: DCC 1: EDCC
	2		Duplex pair indication (Not used) 0: Simplex 1: Duplex pair
	3		Sub-volume error indication (Not used) 0: Not a sub-volume error 1: Sub-volume error
	4		Nonsynchronous operation 0: Synchronous operation 1: Nonsynchronous operation
	5		Serial channel 0: Parallel channel 1: Serial channel
	6		Not used
	7		Permanent path error 0: Permanent error for all paths 1: Permanent error for this path

3.2 Formats and messages

(1/2)

Format	Message	Description	
0		Operator message (bit 3 of byte 1) = 0	Operator message (bit 3 of byte 1) = 1
	0	No message	Not used
	1	Invalid command	Log mode end (Not used)
	2	Invalid sequence	Not used
	3	Data count is fewer than the specified number.	Device was fenced. (Not used)
	4	Data value differs from the specified number.	Not used
	5	The file mask allows neither RD SP HA nor WR SP HA.	
	6	The channel isolated the retry.	
	7	The channel sent an incorrect retry command.	
	8	System reset was received (reset notification).	
	9	Not used	
	A	Overflow/bus out parity check (LCP)	
	B	Improper instruction for a defective track or alternate track	
	C	Not used	
	D	ECM software error (Not used)	
	E	Invalid command for sub-volume (Not used)	
	F	Invalid status (reason code in byte 8)	
1	0	Intervention required	For DKU86I only
	1	Not used	
	2	Drive not ready	
	3	Not used	
	4	Drive report error	
	5-F	Not used	
3	0-E	Not used	
	F	Reset allegiance	
4	0	Data check in HA field	For DKU86I only
	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	

(2/2)

Format	Message	Description	
7	0-3	Not used	For DKU86I only
	4	SPC report error	
	5-8	Not used	
	9	SCSI bus parity error	
	A-F	Not used	
8	0	Reserved	
	1	Shared memory failure	
	2	Not used	
	3-7	Reserved	
	8	LCP failure	
	9	Host adapter CHK-2	
	A	Disk adapter CHK-2	
	B	DRR failure	
	C	Reserved (for SSB log)	
	D	Power failure	
	E	Processor failure	
	F	Microprogram detected error (Logical inconsistency)	
9	0-E	Reserved	
	F	Microprogram detected error (Trace data/Log data) (For SSB log)	
F	0	Operation terminated	
	1	Microprogram detected cache failure	
	2	Cache failure	
	3	Reserved	
	4	Not used	
	5	Remote Copy Paths Removed/Restored	
	6	CFW impossible	
	7	Invalid track format (Does not occur with RAID200.)	
	8-9	Reserved	
	A	NVS terminated	
	B	HRC Pair suspend	
	C-E	Reserved	
	F	Cache/Shared memory/M-bus/F-bus/J-bus warning	

3.3 Details of Sense Bytes

Format 0, Message ≠ 8/A (Program or system check)

	0	1	2	3	4	5	6	7
7	Format (x'0')				Message (x'X' : x ≠ 8, A)			
8	Reason code when F/M = 0F Command code when F/M ≠ 0F							
9	Error detail information (Note 1)							
10								
11								
12								
13	SSID of mate subsystem (x'0000' for EDCC)							
14								
15	Manufacturer code (x'000000')						Factory code (x'00')	
16	Module ID							
17	Routine ID							
18	Processor No. CHA (0-7) DKA (8-F)				Error detail information (Note 2)			
19								
20	SSID for Self Subsystem							
21								
22	Symptom Code (x'0F0X' : X = message code) (Note 3)							
23								

(Note 1)

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

B\b	0	1	2	3	4	5	6	7
9	SCH ID	SCH KEY	Locate, LC EXT	SK, SK CYL	RD IPL	RECAL	SUSP MPR	RD C
10	DIAG CTL	DIAG CTL (LOC DOM)	DEF EXT	SET FM	SET SUB MODE	SP C	WR CKD	WR R0
11	SET INTF ID	DIAG CTL (PRE REM)	0	Other command	RD C chaining	All byte match	LC domain	Erase execute
12	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 9 : Mask for write control

x'00' : Allows all write operation except WR
HA, WR R0.

x'40' : Inhibits all write operation.

x'80' : Allows update write operation.

x'C0' : Allows all write operation.

Byte 10 : Mask for seek control

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

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

x'10' : Allows SK HD only.

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

Byte 11 : Mask for access

x'00' : Allows normal access.

x'02' : Allows device support.

x'04' : Allows diagnostic access.

x'06' : Allows device support inhibit data
check correction and retry.

Byte 12 : Not used

(4) Record address when other F/M

Byte 9 and 10 : Cylinder address

Byte 11 : Head address

Byte 12 : Record number

(Note 2) Bit 4-7 of byte 18 : Type of byte 19

x'08' : Byte 19 is cylinder address (high).

x'09' : Byte 19 is cylinder address (low).

x'0A' : Byte 19 is head address (high).

x'0B' : Byte 19 is head address (low).

x'0C' : Byte 19 is record number.

Byte 19 : One byte of CCHHR.

(Note 3) x'2F00' for dummy SENSE

Reason code list for Format 0, Message F (1/3)

Code	Reason
00	No messages
01	An attempt was made to make a cache usable but the cache was in the pending status.
02	Not used
03	An attempt was made to forcibly make a cache unusable but the cache was not holding destage completion.
04	An attempt was made to activate a CFW but the CFW was in the ending status.
05	An attempt was made to perform caching for a device but a cache was in the pending status.
06	An attempt was made to destage a track but an NVS was in the failed status.
07	An attempt was made to make an NVS unusable but the NVS was being initialized.
08	An attempt was made to halt or discarded caching/DFW for a device but the DFW of the device was in the failed status.
09	An attempt was made to forcibly halt a DFW of a device but the device was not in the following status. • The DFW was in the pending status. • The DFW was in the failed status. • An NVS was failed. The data was in the NVS but not in the cache.
0A	An attempt was made to make an NVS usable but a DFW of a device was in the pending or failed status.
0B	An attempt was made to make an NVS usable but the NVS was in the pending status.
0C	An attempt was made to halt caching/DFW of a device when an NVS was failed but the data of the device was in the NVS but not in the cache.
0D	An NVS was requested by a command but the NVS was unusable.
0E	A cache was requested by a command but the cache was unusable.
0F-10	Not used
11	Pair state not valid for this operation. Resync not valid for SIMPLEX pair. Pair state already PENDING or DUPLEX. Unable to resync for pair suspended by secondary device.
12	Pair already defined.
13	Operation not valid when target device is ONLINE.
14-18	Not used
19	Pair already in suspended state.
1A	Not used
1B	Operation not valid for SIMPLEX device.
1C	Suspend not valid for secondary device in PENDING state.
1D	Pair already suspended.
1E-24	Not used

Reason code list for Format 0, Message F (2/3)

Code	Reason
25	(TPF,RC) A SSM command (subcommand: Make Cache Unavailable to Subsystem) was received while a cache storage initialization procedure was underway.
26	Primary and Secondary volumes of different format, emulation type, or RAID level.
27	Not used
28	(TPF,RC) A PSF command (Order: Prepare for Read Subsystem Data, Suborder: X'05') was received when cache was not available or pending.
29	The PSF command of specific blocking status setting order was issued from an interface having no path group.
2A	An attempt was made to make a path group having parallel and serial channels intermixed.
2B	A message buffer is full.
2C-2F	Not used
30	(TPF,RC) The cache partition indicated by PSF command (Order: Prepare for Read Subsystem Data) was not initialized.
31-32	Not used
33	Target is not secondary device and/or C/T ID mismatch.
34	Not used
35	SET GUARANTEED PATH sub-command was issued to a path in a fence.
36-39	Not used
3A	(TPF,RC) Read or Search or Write commands were received while 3380 Track Compatibility Mode.
3B-3E	Not used
3F	An attempt was made to execute the MAKE NVS AVAIL FOR SUB sub-command but the NVS was disabled because the 'enable/disable NVS capability' has been set to 'disable' in a VPD.
40	Not used
41	An ordinary command was issued to a device being reserved for media maintenance.
42-51	Not used
52	No path link can support the requested operation.
53	C/T ID not enabled on RAID array. Identical CT/ID exists on RCU.
54	Primary/secondary device type mismatch.
58	Target is not primary device in the indicated Consistency Group. Operation not valid when primary volume is ONLINE. Pair state not valid for this operation
59-7F	Not used

Reason code list for Format 0, Message F (3/3)

Code	Reason
80	A specific command was issued on an interface which has been in the specific command blocking status by the SET SPECIAL INTERCEPT CONDITION order of the PSF command.
81	An attention was reported to an interface which has been in the specific command blocking status by the SET SPECIAL INTERCEPT CONDITION order of the PSF command.
82	Not used
83	Pair not established as Consistency Group member.
84-8F	Not used
90	(TPF,RC) 1. A Locate Record Extended command was received on a 3990 that have ESCON channel capability. 2. A PSF command (one of these orders: Establish Duplex Pair, Terminate Duplex Pair, Suspend Duplex Pair, or Direct I/O to One Device of the Duplex Pair) was received. 3. A PSF command (Order: Prepare for Read Subsystem Data, Suborder: X'04') was received. 4. A PSF command (one of these orders: Prepare for Read Subsystem Data, Set Lock State, Purge Lock, Unlock, Connect, or Disconnect) was received in the case of MPLF feature was not installed.
91	(TPF,MPLF)Specified MPLP had not been initialized and the cache was not in an available status.
92	(TPF,RC) A SSS command was rejected because additional pinned data still existed.
93	(TPF,MPLF) A cache storage control command was received when Disconnect order was in progress for any MPLP.
94	(TPF,RC) Destage Modified Tracks order was received while a scan of the cache for modified data is underway, which was initiated from the receipt of a prior Destage Modified Tracks order.
95	(TPF,MPLF) The attention message buffer was full when the order which has the potential of generating attention interrupt was received.
96-E7	Not used
E8	Pair already defined.
E9-FF	Not used

Format 0, Message 8 (reset notification)

	0	1	2	3	4	5	6	7
7	Format (x'0')				Message (x'8')			
8	x'00'							
9								
10								
11								
12	Hardware level (Note)							
13	SSID of mate subsystem (x'0000' for EDCC)							
14								
15	Manufacturer code (x'000000')						Factory code (x'00')	
16	Module ID							
17	Routine ID							
18	Processor No.				Not used			
19	Not used							
20	SSID for Self Subsystem							
21	Symptom Code (x'2FFF')							
22								
23								

(Note) Hardware level

Bit 0 : Hardware level

When the bit 0 = 0,

- Bit 1: Not used
 Bit 2-3: Reported storage path
 Bit 4-5: Number of channels per cluster
 00 : 4
 01 : 8
 10 : Not used
 11 : Not used
 Bit 6: NVS
 0 : Not exist
 1 : Exist
 Bit 7: Not used
 Bit 8-10: Cache size
 000 : Non cache
 001 : 256MB
 010 : 512MB
 011 : 768MB
 100 : 1024MB
 101 : 1280MB
 110 : 1536MB
 111 : Over 1536MB
 Bit 11-13: Cluster hardware level
 Bit 14-15: Cache/NVS hardware level

When the bit 0 = 1,

- Bit 1: Not used
 Bit 2-3: Failed storage path
 Bit 4-7: Number of channels per cluster
 0000 : Parallel channel = 4, serial channel = 0
 0001 : Parallel channel = 8, serial channel = 0
 0010 : Parallel channel = 4, serial channel = 2
 0100 : Parallel channel = 4, serial channel = 4
 0110 : Parallel channel = 0, serial channel = 2
 1000 : Parallel channel = 0, serial channel = 4
 1010 : Parallel channel = 0, serial channel = 8
 1100 : Parallel channel = 0, serial channel = 6
 Bit 8: Dual frame
 0 : Dual frame
 1 : Modular power
 Bit 9-11: Cache size
 000 : Non cache
 001 : 256MB
 010 : 512MB
 011 : 768MB
 100 : 1024MB
 101 : 1280MB
 110 : 1536MB
 111 : Over 1536MB
 Bit 12-13: Cluster hardware level
 Bit 14-15: Cache/NVS hardware level

Format 0, Message A (LCP & overrun, bus out parity check)

	0	1	2	3	4	5	6	7
7	Format (x'0')				Message (x'A')			
8	Command code							
9	Cylinder address							
10								
11	Head address							
12	Record No.							
13	SSID of mate subsystem (x'0000' for EDCC)							
14								
15	Manufacturer code ('000000')						Factory code ('00')	
16	Module ID							
17	Routine ID							
18	PCB number				BBF OVER (XR4B)	PND OVER (XR4B)	STOP (XR49)	OVER (XR4A)
19	Not used							
20	SSID for Self Subsystem							
21								
22	Symptom Code (x'0F0A')							
23								

Format 1, Message 0 (Intervention required)

	0	1	2	3	4	5	6	7
7	Format (x'1')				Message (x'0')			
8	Ready	Enable	SSB PEND	Not used ('00000')				
9	Not used							
10	M.M.RSV	PIN VOL	Not used ('000000')					
11	Host type	DKC type	Not used ('00')			DKU type		
12	Module ID							
13	Routine ID							
14	Command code							
15	Not used (x'00')							
16								
17								
18	PCB number				Not used (x'0')			
19	Not used (x'00')							
20	SSID of Self Subsystem							
21								
22	Symptom Code (x'9F10')							
23								

Format 1, Message X (Drive report error)

	0	1	2	3	4	5	6	7
7	Format (x'1')				Message (x'2/4')			
8	Additional sense code + Additional sense code qualifier (See EC = E SSB for detail)							
9								
10	SCSI Command code (See EC = E SSB for detail)							
11	Threshold type (See EC = E SSB for detail)							
12	Module ID							
13	Routine ID							
14	Not used (x'0')				DKA number			
15	CDEV number				RDEV number			
16	Type code ('000')			0	Sense key (See EC = E SSB for detail)			
17	Not used (x'00')							
18								
19								
20	SSID of Self Subsystem							
21								
22	Symptom code (x'9FIX' X: Message)							
23								

Format 3, Message F (reset allegiance)

	0	1	2	3	4	5	6	7		
7	Format (x'3')				Message (x'F')					
8	Not used									
9	Activated LPN									
10	Device busy	ECI	Command chaining	Path reserve	Stack status	Wait sense	Long busy	Processor connect		
11	Single path mode	Guarant path mode	MCB chaining	0	Block switch	0	0	0		
12	Command code									
13	SSID of mate subsystem (x'0000' for EDCC)									
14										
15	Manufacturer code ('000000')						Factory code ('00')			
16	Specific information (module ID, routine ID)									
17										
18	PCB number				Not used					
19	Not used									
20	SSID of Self Subsystem									
21										
22	Symptom Code (x'3F3F')									
23										

Format 4, Message X (Data check)

	0	1	2	3	4	5	6	7
7	Format (x‘4’)				Message (x‘X’)			
8	Cylinder address							
9								
10								
11	Head address							
12	Record number							
13	Sector number							
14	Controller ID							
15	Not used (x‘00’)							
16								
17								
18	PCB number				Not used (x‘0’)			
19	Not used (x‘00’)							
20	Command code							
21	SSID of Self Subsystem (low order)							
22	Symptom Code (x‘4XYY’ *1)							
23								

*1: Symptom code

X: 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'5' : PA error

YY: x'80' : Correctable (Recovered)

x'C0': Uncorrectable

Format 6, Message X (Statistics)

	0	1	2	3	4	5	6	7
7	Format (x'6')				Message (x'X') (*1)			
8	Number of read or searched bytes							
9								
10								
11								
12	Seek count							
13	Not used (x'00')							
14								
15	Manufacture code ('000000')						Factory code ('00')	
16	Not used (x'00')							
17	DKC serial number							
18								
19								
20	SSID of Self Subsystem							
21	Symptom Code (x'6FYX') (*2)							
22								
23								

*1: X: Channel number when parallel channel is connected.
 LCP number in cluster when serial channel is connected.

*2: Y: 0 : Statistics or RRBL command
 1 : Channel data overrun
 X : See *1.

Format 7, Message 4 (FPC report error)

	0	1	2	3	4	5	6	7
7	Format (x'7')				Message (x'4')			
8	Not used							
9	Not used							
10	Not used							
11	Not used							
12	Module ID							
13	Routine ID							
14	Not used							
15	Drive serial number (x'0C24') + (DKU sequence number) This information is not fixed until DKC reports SSB to HOST.							
16								
17								
18								
19								
20	SSID of Self Subsystem							
21								
22	Symptom Code (x'DF74')							
23								

Format 8, Message 1 (shared memory failure)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'1')			
8	Micro error	MPA error	'00': Micro error or MPA internal error '01':SM error '10':SHSN error '11':DMA error		Access path '0000': A0 path error '0010': B0 path error '0100': C0 path error '0110': D0 path error '0001': A1 path error '0011': B1 path error '0101': C1 path error '0111': D1 path error			
9	MPA: MPA ERR STS: 4200 0100 (b31 - 24)							
	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	FCAINT	DRRINT
10	MPA: MPA ERR STS: 4200 0100 (b23 - 16)							
	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	FCA CHK2 error	DRR CHK2 error
11	MPA: MPA ERR STS: 4200 0100 (b15 - 08)							
	Reserved	Reserved	Reserved	Reserved	PCI I/F CHK1B for QDTA	PCI I/F CHK1B for MPA	FCA I/F CHK1B	DRR I/F CHK1B
12	MPA: MPA ERR STS: 4200 0100 (b07 - 00)							
	BSINT or SCANINT	Master CHK3 status bit	Slave CHK3 status bit	FM I/F CHK1B status bit	Impedance warning error	ROSC warning error	XR I/F CHK1B status bit	MPINT
13	Reserved							
	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
14	MPA: MPACHK3STS: 4200 0108 (b31 - 24)							
	Reserved	Reserved	XR_CMP CHK3	XR_SMRX CHK3	XR_SMTX CHK3	Reserved	XR_DMA CHK3	XR_PCI CHK3
15	MPA: MPACHK3STS: 4200 0108 (b23 - 16)							
	A0_CTLER CHK3	A1_CTLER CHK3	B0_CTLER CHK3	B1_CTLER CHK3	C0_CTLER CHK3	C1_CTLER CHK3	D0_CTLER CHK3	D1_CTLER CHK3
16	MPA: MPACHK3STS: 4200 0108 (b15 - 08)							
	A0_DTER CHK3	A1_DTER CHK3	B0_DTER CHK3	B1_DTER CHK3	C0_DTER CHK3	C1_DTER CHK3	D0_DTER CHK3	D1_DTER CHK3
17	MPA: MPACHK3STS: 4200 0108 (b07 - 00)							
	A0_TOUT CHK3	A1_TOUT CHK3	B0_TOUT CHK3	B1_TOUT CHK3	C0_TOUT CHK3	C1_TOUT CHK3	D0_TOUT CHK3	D1_TOUT CHK3
18	Reserved							
19	Reserved							
20	PCB number				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF81':LDEV TYPE=DKU87I / x'EF81':LDEV TYPE=DKU86I)							
23								

Format 8, Message 1 (CHK3 Reset)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'1')			
8	Related failure internal SSB log No. (Error procedure aid)							
9								
10								
11	Not used (x'00')							
12	OLD PSW (interruption source address)							
13								
14								
15								
16	Not used (x'00')							
17	Not used (x'00')							
18	Detail log number for RESET							
19								
20	PCB number				Message code (x'3') (*1)			
21	SSID (lower order) of Self Subsystem							
22	Symptom code							
23								

*1: Indicates the 'CHK3 Reset'.

Format 8, Message 8 (LCP failure) (*1)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'8')			
8	LCP error message (x'01': LCP CHK-2/adapter interface error)							
9	LCP error code							
10								
11	XR4B(H)							
	BBF OVERRUN	PND OVERRUN	0	0	0	0	0	0
12	XR4B(L)							
	LRCA ERR	LRCB ERR	BBFP PER	BBIP PER	BBOP PER	PND CK2	CNT PER	REQ CNT OVERRUN
13	XR3E(H)							
	RBFA APER	RBFB APER	RBFC APER	RBF WRDER	MBFA APER	MBFB APER	MBFC APER	MBF WRDER
14	XR3E(L)							
	FRM RCTPE	CMP DPER	XFR CHRPER	XFR SEPPER	M-CNT PER	H-CNT PER	0	0
15	XR55(H)							
	BUSPE PA	LRCER PA	REQ ER A	ADTDT ER A	0	0	0	0
16	XR55(L)							
	BUSPE PB	LRCER PB	REQ ER B	ADTDT ER B	0	0	0	0
17								
	Control flag	0	0	STOP (XR49:bit15)	CK2 DTX (XR4A:bit0)	CK2 LIN (XR4A:bit1)	IFERA (XR51:bit12)	IFERB (XR51:bit13)
18	Module ID							
19	Routine ID							
20	PCB number				Message code: x'A' (*1)			
21	SSID (low order)							
22	Symptom Code (high order) (x'FF': LDEV type = DKU87I / x'EF': LDEV type = DKU86I)							
23	Symptom Code (low order) (x'88')							

*1: Indicates LCP failure when SSB7 = 88 and SSB20:b4-7 = A.

Format 8, Message 8 (LCP failure) (*1)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'8')			
8	LCP error message (x'02': Link reception error)							
9	LCP error code							
10								
11	XR36(H)							
	L-SIG ERR0	L-SIG ERR1	CONN ERR0	CONN ERR1	CONN ERR2	0	0	0
12	XR37(H)							
	CONN ERR3	L-SIG ERR	CODE VIOA	SEQ ERR	CRC ERR	ABORT ERR	PROT ERR0	PROT ERR1
13	XR37(L)							
	PROT ERR2	PROT ERR3	PROT ERR4	PROT ERR5	PROT ERR6	PROT ERR7	PROT ERR8	PROT ERR9
14	XR33(H)							
	C-SOF ERR	P-SOF ERR	D-EOF ERR	P-EOF ERR	L-SIG ERR	CODE VIOLA	SEQ ERR	CRC ERR
15	XR33(L)							
	0	0	0	R-CNT 0	R-CNT 1	R-CNT 2	R-CNT 3	R-CNT 4
16								
	0	0	STOP (XR49:bit15)	ABORT (XR32:bit11)	ER RCV1 (XR4A:bit3)	ER RCV2 (XR4A:bit4)	ER RCV3 (XR4A:bit5)	OTHER (XR51:bit6)
17	XR2A(L)							
	Field Information							
18	Module ID							
19	Routine ID							
20	PCB number				Message code: x'A' (*1)			
21	SSID (low order)							
22	Symptom Code (high order) (x'FF': LDEV type = DKU87I / x'EF': LDEV type = DKU86I)							
23	Symptom Code (low order) (x'88')							

*1: Indicates LCP failure when SSB7 = 88 and SSB20:b4-7 = A.

Format 8, Message 8 (LCP failure) (*1)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'8')			
8	LCP error message (x'0C': CHL data > DEV data at writing)							
9	LCP error code							
10								
11								
12	Request count							
13	Number of data received							
14								
15								
16	Not used (x'00')							
17								
18								
19	Module ID							
20	Routine ID							
21	PCB number				Message code: x'A' (*1)			
22	SSID (low order)							
23	Symptom Code (high order) (x'FF': LDEV type = DKU87I / x'EF': LDEV type = DKU86I)							
	Symptom Code (low order) (x'88')							

*1: Indicates LCP failure when SSB7 = 88 and SSB20:b4-7 = A.

Format 8, Message 8 (LCP failure) (*1)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'8')			
8	LCP error message (x'0E': Timeout)							
9	LCP error code							
10								
11								
12	Reason code (*2)							
13	XR49(H)							
	ESYCN	END	RDYOK	RDYRCV	0	CMDFRM	ACPRSP	DATA XF
14	XR49(L)							
	XFREND	DEVEND	CNTFLG	EOF	CMPEQ	CMPGT	0	STOP
15	XR51(H)							
	CAL PA	CAL PB	RDY	P BSY	CALL	SELTD	CHK1	DCK1
16	XR51(L)							
	BFBSY	ATTN	0	0	IFERA	IFERB	PA BSY	PB BSY
17	XR48(H)							
	RUN BSY	RUN TRS	RUN ADP	DAR REQ MOD	XFSTOP	CDFLG	CMPA	CMPB
18	Module ID							
19	Routine ID							
20	PCB number				Message code: x'A' (*1)			
21	SSID (low order)							
22	Symptom Code (high order) (x'FF': LDEV type = DKU87I / x'EF': LDEV type = DKU86I)							
23	Symptom Code (low order) (x'88')							

*1: Indicates LCP failure when SSB7 = 88 and SSB20:b4-7 = A.

*2: Reason code

- x'FF01' : (READ) Timeout in waiting for ACP CMD RSP
- x'FF02' : (READ) Timeout in waiting for frame header
- x'FF03' : (READ) Timeout in waiting for data frame
- x'FF04' : (READ) Timeout in waiting for end of data transfer
- x'FF05' : (READ) Timeout in waiting for data frame
- x'FF06' : (READ) Timeout in waiting for end of data transfer
- x'FF07' : (READ) Timeout in waiting for command frame
- x'FF08' : (READ) Timeout in waiting for DATA REQ
- x'FF09' : (READ) Timeout in waiting for status
- x'FFF1' : (WRITE) Timeout in waiting for ACP CMD RSP
- x'FFF2' : (WRITE) Timeout in waiting for first data
- x'FFF3' : (WRITE) Timeout in waiting for frame header
- x'FFF4' : (WRITE) Timeout in waiting for frame header
- x'FFF5' : (WRITE) Timeout in waiting for frame header
- x'FFF6' : (WRITE) Timeout in waiting for command frame
- x'FFF7' : (WRITE) Timeout in waiting for frame header
- x'FFF8' : (WRITE) Timeout in waiting for end of data transfer
- x'FFF9' : (WRITE) Timeout in waiting for status

Format 8, Message 8 (LCP failure) (*1)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'8')			
8	LCP error message (except x'01'/x'02'/x'0C'/x'0E') (*2)							
9	LCP error code							
10								
11								
12								
13								
14								
15								
16								
17	Not used							
18								
18	Module ID							
19	Routine ID							
20	PCB number				Message code: x'A' (*1)			
21	SSID (low order)							
22	Symptom Code (high order) (x'FF': LDEV type = DKU87I / x'EF': LDEV type = DKU86I)							
23	Symptom Code (low order) (x'88')							

*1: Indicates LCP failure when SSB7 = 88 and SSB20:b4-7 = A.

*2: LCP error message

x'00' : No message

x'08' : Transmission error

x'09' : Protocol error

x'0D' : Retry abort

Format 8, Message 9 (CHA CHK2 : Abnormal Cache Slot Status 1)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'9')			
8	SubCode (x'01' : ESCON I/F CHA - Abnormal Cache Slot Status 1 (*1))							
9	Slot Status							
10								
11								
12								
13	WRITE in Progress	Make GAP	Execute ERASE	Update HA/R0	Update BM	(RSV)		
14	SubBlock Number for Ready Response to Transfer							
15	Start SubBlock Number for Incomplete Recode							
16	End SubBlock Number for Incomplete Recode							
17	Reserved							
18	Module ID (*2)							
19	Routine ID							
20	PK ID (0 ~ x'F')				Message Code (Not Used)			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF89')							
23								

*1: Cache ECC/LRC error has been detected in read side.

*2: Module ID = x'55' :

After synchronous destage, cache slot with dirty attribute has been detected.

Module ID $\neq$ x'55' :

In internal search or orientation process, incomplete subblock has been detected.

Format 8, Message 9 (CHA CHK2 : Abnormal Cache Slot Status 2)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'9')			
8	SubCode (x'02' : ESCON I/F CHA - Abnormal Cache Slot Status 2 (*1))							
9	Slot Status							
10								
11								
12								
13	WRITE in Progress	Make GAP	Execute ERASE	Update HA/R0	Update BM	(RSV)		
14	SubBlock Number for Ready Response to Transfer							
15	Start SubBlock Number for Incomplete Recode							
16	End SubBlock Number for Incomplete Recode							
17	Reserved							
18	Module ID							
19	Routine ID							
20	PK ID (0~x'F')				Message Code (Not Used)			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF89')							
23								

*1: Cache ECC/LRC error has been detected in read side.

Format 8, Message 9 (CHA CHK2)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'9')			
8	SubCode (x'20' or x'A0' : Fibre I/F CHA CHK2 - DMA/PMA Timeout, x'28' or x'A8' : Fibre I/F CHA CHK2 - DMA/PMA Error)							
9	OHUB::DAnXFS0							
	XFREND	(RSV)	(RSV)	(RSV)	MPABORT	HWABORT	SUSABORT	DMA CANCEL
10	OHUB::DAnXFS0							
	CHK2	CHK2A	CHK2B	CHK2C	CHK2D	CHK1B	(RSV)	(RSV)
11	OHUB::DAnXFS0							
	DMA REQID							
12	OHUB::DAnXFS0							
	DMA PID							
13	OHUB::DAnPL_WD11							
	(RSV)	(RSV)	(RSV)	XFRPATH '00000': DXBF -> LM, '00001': LM -> DXBF, '00010': DXBF -> CHSN, '00011': CHSN -> DXBF, '00100': LM -> CHSN, '00101': CHSN -> LM, '00110': PCI → DXBF → CHSN, '00111': CHSN → DXBF → PCI, '01000': PCI → CHSN(target), '01001': CHSN → PCI(target), '01010': PCI → CHSN(master), '01011': CHSN → PCI(master), '01110': PCI → LM, '01111': LM → PCI, '10001': CACHE Copy, '01011': CACHE Format write				
14	OHUB::DAnPL_WD11							
	CHSNMD '0000': Normal Write, '0010': Read '0100': Double Write, '0110': CtoC Copy '0110': CinC Copy				CFMD '00': None '01': with LRC '10': with LA/LRC		INTMSK	PARM LRC CHK
15	OHUB::DAnPL_WD11							
	EDC	OCRC	ENDIAN CHANG	(RSV)	CCF SLRC CHK	(RSV)	CCF SP ACS	CCF DIAG ACS
16	OHUB::DAnPL_WD11							
	UINF			(RSV)	(RSV)	(RSV)	BITMAP ENABLE	CHN FLAG 0: None 1: Chain
17	Reserved							
	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)
18	Module ID							
19	Routine ID							
20	PKID				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF89')							
23								

Format 8, Message 9 (CHA CHK2)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'9')			
8	SubCode (x'30' or x'B0': Fibre I/F CHA CHK2 - CDMA ERR)							
9	OHUB::CXFS							
	XFREND	(RSV)	(RSV)	(RSV)	ABORT	(RSV)	(RSV)	(RSV)
10	OHUB::CXFS							
	CHK2	(RSV)	CHK2B	(RSV)	CDMA0CK	CDMA1CK	CDMA2CK	CDMA3CK
11	OHUB::CXFS							
	REQID							
12	OHUB::CXFS							
	LOP							
13	OHUB::CPARM							
	PATH '000': MYLM -> MP0LM '100': MYLM <- MP0LM '001': MYLM -> MP1LM '101': MYLM <- MP1LM '010': MYLM -> MP2LM '110': MYLM <- MP2LM '011': MYLM -> MP3LM '111': MYLM <- MP3LM				(RSV)	(RSV)	(RSV)	(RSV)
14	OHUB::CPARM							
	DATAL				(RSV)	(RSV)	(RSV)	(RSV)
15	OHUB::CPARM							
	REQID							
16	OHUB::CPARM							
	BANK							
17	Reserved							
	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)
18	Module ID							
19	Routine ID							
20	PKID				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF89')							
23								

Format 8, Message 9 (CHA CHK2)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'9')			
8	SubCode (x'40' : FICON I/F CHA CHK2 - DMA/PMA Timeout)							
9	MHUB::CHUBCHK2AB							
	(RSV)	(RSV)	(RSV)	(RSV)	PMA3 CHK2B	PMA2 CHK2B	PMA1 CHK2B	PMA0 CHK2B
10	MHUB::CHUBCHK2AB							
	DMA3B CHK2B	DMA3A CHK2B	DMA2B CHK2B	DMA2A CHK2B	DMA1B CHK2B	DMA1A CHK2B	DMA0B CHK2B	DMA0A CHK2B
11	MHUB::CHUBCHK2AB							
	(RSV)	(RSV)	DXBF1 CHK2A	DXBF0 CHK2A	(RSV)	(RSV)	(RSV)	(RSV)
12	MHUB::CHUBCHK2AB							
	(RSV)	(RSV)	BFCTL1 CHK2A	BFCTL0 CHK2A	BRG3 CHK2A	BRG2 CHK2A	BRG1 CHK2A	BRG0 CHK2A
13	MHUB::CHUBCHK2CD							
	(RSV)	(RSV)	(RSV)	(RSV)	PMA3 CHK2D	PMA2 CHK2D	PMA1 CHK2D	PMA0 CHK2D
14	MHUB::CHUBCHK2CD							
	DMA3B CHK2D	DMA3A CHK2D	DMA2B CHK2D	DMA2A CHK2D	DMA1B CHK2D	DMA1A CHK2D	DMA0B CHK2D	DMA0A CHK2D
15	MHUB::CHUBCHK2CD							
	(RSV)	(RSV)	(RSV)	(RSV)	PMA3 CHK2C	PMA2 CHK2C	PMA1 CHK2C	PMA0 CHK2C
16	MHUB::CHUBCHK2CD							
	DMA3B CHK2C	DMA3A CHK2C	DMA2B CHK2C	DMA2A CHK2C	DMA1B CHK2C	DMA1A CHK2C	DMA0B CHK2C	DMA0A CHK2C
17	Reserved							
	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)
18	Module ID							
19	Routine ID							
20	PKID				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF89')							
23								

Format 8, Message 9 (CHA CHK2)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'9')			
8	SubCode (x'48' : FICON I/F CHA CHK2 - DMA/PMA Error)							
9	MHUB::DAnXFS0							
	XFREND	(RSV)	HALT I/O	TRUNCAT	MPABORT	HWABORT	SUSABORT	DMYEND
10	MHUB::DAnXFS0							
	CHK2	CHK2A	CHK2B	CHK2C	CHK2D	(RSV)	(RSV)	(RSV)
11	MHUB::DAnXFS0							
	REQID					(RSV)	(RSV)	(RSV)
12	MHUB::DAnXFS0							
	(RSV)	(RSV)	(RSV)	PID				
13	MHUB::DAnPCHK2STS							
	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	LNUM ERR	PIP ERR
14	MHUB:: DAnPCHK2STS							
	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	PCIATRBS PARITY ERR	PCICNTS PARITY ERR	LMADRS PARITY ERR
15	MHUB:: DAnPCHK2STS							
	STATUS PARITY ERR	PARADTL PARITY ERR	PARADTH PARITY ERR	FETCHINC PARITY ERR	(RSV)	(RSV)	(RSV)	PCIST PARITY ERR
16	MHUB:: DAnPCHK2STS							
	(RSV)	PCIATRBF PARITY ERR	PCICNTF PARITY ERR	LMADRF PARITY ERR	STP PARITY ERR	POP PARITY ERR	(RSV)	PARAM LRC ERR
17	Reserved							
	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)
18	Module ID							
19	Routine ID							
20	PKID				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF89')							
23								

Format 8, Message 9 (CHA CHK2)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'9')			
8	SubCode (x'48', : FICON I/F CHA CHK2 - CDMA Error)							
9	MHUB::CXFC							
	Transfer address Byte0							
10	MHUB::CXFC							
	Transfer address Byte1							
11	MHUB::CXFC							
	Transfer address Byte2							
12	MHUB::CXFC							
	Transfer address Byte3							
13	MHUB::CXFS							
	XFREND	(RSV)	(RSV)	(RSV)	MPABORT	(RSV)	(RSV)	(RSV)
14	MHUB::CXFS							
	CHK2	(RSV)	CHK2B	(RSV)	(RSV)	(RSV)	Five2 MCK	Flve0 MCK
15	MHUB::CXFS							
	B1WCHK1	B0WCHK1	A1WCHK1	A0WCHK1	(RSV)	(RSV)	(RSV)	(RSV)
16	MHUB::CXFS							
	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	XMODE
17	Reserved							
	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)
18	Module ID							
19	Routine ID							
20	PKID				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF89')							
23								

Format 8, Message 9 (CHA CHK2)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'9')			
8	SubCode (x'60' : ESCON I/F CHA CHK2 - DMA CHK2)							
9	ESA::XFS							
	XFREND	(RSV)	(RSV)	(RSV)	CHK2	CHK2A	CHK2B	CHK2C
10	ESA::XFS							
	CHK2D	TRUN CATION	HALT I/O	SEARCH DASD = CPU	SEARCH DASD > CPU	SEARCH DASD < CPU	(RSV)	ABORT Detected
11	ESA::XFS							
	(RSV)	(RSV)	(RSV)	(RSV)	MICRO ABORT	HARD ABORT	Force CHK1 Detected	Force CHK2 Detected
12	ESA::XFS							
	NEXT SEG ADR REG STATUS	(RSV)	(RSV)	(RSV)	(RSV)	NEXT SEG ADR WAIT	PFC ZERO	(RSV)
13	ESA::PSTS WD5							
	TAG#							
14	ESA::XFC							
	ENBL XFR	EXEC XFR	(RSV)	(RSV)	(RSV)	CBP PNT INC STOP	CACHE I/O MODE	SSD MODE
15	ESA::XFC							
	XFR Path: 0: ESCON => CACHE 2: ESCON => CBUF 3: CBUF => ESCON 4: CACHE => ESCON 6: CACHE => CBUF 7: CBUF => ESCON 8: CACHE SEARCH 9: CBUF SEARCH B: CACHE COPY				U-MODE (504B SB FORMAT)	(RSV)	(RSV)	WR FBA MODE
16	ESA::XFC							
	(RSV)	ABORT EXEC	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)
17	Reserved							
	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)
18	Module ID							
19	Routine ID							
20	PKID				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF89')							
23								

Format 8, Message 9 (CHA CHK2)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'9')			
8	SubCode (x'6F' : ESCON I/F CHA CHK2 - DMA Timeout)							
9	ESA::XFS							
	XFREND	(RSV)	(RSV)	(RSV)	CHK2	CHK2A	CHK2B	CHK2C
10	ESA::XFS							
	CHK2D	TRUN CATION	HALT I/O	SEARCH DASD = CPU	SEARCH DASD > CPU	SEARCH DASD < CPU	(RSV)	ABORT Detected
11	ESA::XFS							
	(RSV)	(RSV)	(RSV)	(RSV)	MICRO ABORT	HARD ABORT	Force CHK1 Detected	Force CHK2 Detected
12	ESA::XFS							
	NEXT SEG ADR REG STATUS	(RSV)	(RSV)	(RSV)	(RSV)	NEXT SEG ADR WAIT	PFC ZERO	
13	ESA::PSTS WD5							
	TAG#							
14	ESA::XFC							
	ENBL XFR	EXEC XFR	(RSV)	(RSV)	(RSV)	CBP PNT INC STOP	CACHE I/O MODE	SSD MODE
15	ESA::XFC							
	XFR Path: 0: ESCON => CACHE 2: ESCON => CBUF 3: CBUF => ESCON 4: CACHE => ESCON 6: CACHE => CBUF 7: CBUF => ESCON 8: CACHE SEARCH 9: CBUF SEARCH B: CACHE COPY				U-MODE (504B SB FORMAT)	(RSV)	(RSV)	WR FBA MODE
16	ESA::XFC							
	(RSV)	ABORT EXEC	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)
17	Reserved							
	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)
18	Module ID							
19	Routine ID							
20	PKID				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF89')							
23								

Format 8, Message 9 (CHA CHK2)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'9')			
8	SubCode (x'70' : ESCON I/F CHA CHK2 - EXDMA CHK2 - READ SIDE)							
9	ESA::EXXFS							
	XFREND	Forced Termination	(RSV)	(RSV)	CHK2	(RSV)	(RSV)	(RSV)
10	ESA::EXXFS							
	(RSV)	CHK2B	CHK2C	CHK2D	WARNING	(RSV)	(RSV)	(RSV)
11	ESA::EXXFS							
	TAG#							
12	ESA::EXXFS							
	TAG#							
13	ESA::EXXFC							
	XFRSTART	(RSV)	(RSV)	(RSV)	(RSV)	XFR Path: 0: HUR XFR 1: CACHE WRITE 2: CACHE READ 3: CACHE COPY 4: CACHE ERASE		
14	ESA::EXXFC							
	(RSV)	(RSV)	(RSV)	DTFMT 0: SubBlock 1: Byte	(RSV)	FLRC CHK INH	LA CHK INH	WRSEQ MODE
15	ESA::EXXFC							
	TAG#							
16	ESA::EXXFC							
	TAG#							
17	Reserved							
	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)
18	Module ID							
19	Routine ID							
20	PKID				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF89')							
23								

Format 8, Message 9 (CHA CHK2)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'9')			
8	SubCode (x'71' : ESCON I/F CHA CHK2 - EXDMA CHK2 - WRITE SIDE)							
9	ESA::EXXFS							
	XFREND	Forced Termination	(RSV)	(RSV)	CHK2	(RSV)	(RSV)	(RSV)
10	ESA::EXXFS							
	(RSV)	CHK2B	CHK2C	CHK2D	WARNING	(RSV)	(RSV)	(RSV)
11	ESA::EXXFS							
	TAG#							
12	ESA::EXXFS							
	TAG#							
13	ESA::EXXFC							
	XFRSTART	(RSV)	(RSV)	(RSV)	(RSV)	XFR PATH: 0:HUR XFR 1:CACHE WRITE 2:CACHE READ 3:CACHE COPY 4:CACHE ERASE		
14	ESA::EXXFC							
	(RSV)	(RSV)	(RSV)	DTFMT 0:SubBlock 1:Byte	(RSV)	FLRC CHK INH	LA CHK INH	WRSEQ MODE
15	ESA::EXXFC							
	TAG#							
16	ESA::EXXFC							
	TAG#							
17	Reserved							
	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)
18	Module ID							
19	Routine ID							
20	PKID				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF89')							
23								

Format 8, Message 9 (CHA CHK2)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'9')			
8	SubCode (x'7F' : ESCON I/F CHA CHK2 - EXDMA Timeout)							
9	ESA::EXXFS							
	XFREND	Forced Termination	(RSV)	(RSV)	CHK2	(RSV)	(RSV)	(RSV)
10	ESA::EXXFS							
	(RSV)	CHK2B	CHK2C	CHK2D	WARNING	(RSV)	(RSV)	(RSV)
11	ESA::EXXFS							
	TAG#							
12	ESA::EXXFS							
	TAG#							
13	ESA::EXXFC							
	XFRSTART	(RSV)	(RSV)	(RSV)	(RSV)	XFR PATH: 0:HUR XFR 1:CACHE WRITE 2:CACHE READ 3:CACHE COPY 4:CACHE ERASE		
14	ESA::EXXFC							
	(RSV)	(RSV)	(RSV)	DTFMT 0:SubBlock 1:Byte	(RSV)	FLRC CHK INH	LA CHK INH	WRSEQ MODE
15	ESA::EXXFC							
	TAG#							
16	ESA::EXXFC							
	TAG#							
17	Reserved							
	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)
18	Module ID							
19	Routine ID							
20	PKID				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF89')							
23								

Format 8, Message A (FCA CHK2)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'A')			
8	SubCode (Note1)							
9	MPA::MPASTS							
	(RSV)	(RSV)	FCA 1 XFR INT	DRR 1 XFR INT	(RSV)	(RSV)	FCA XFR INT	DRR XFR INT
10	MPA::MPASTS							
	(RSV)	(RSV)	FCA 1 CHK2 INT	DRR 1 CHK2 INT	(RSV)	(RSV)	FCA CHK2 INT	DRR CHK2 INT
11	MPA::MPASTS							
	(RSV)	(RSV)	(RSV)	(RSV)	PCI CHK1B_Q INT	PCI CHK1B_M INT	FCA CHK1B INT	DRR CHK1B INT
12	FCA::CHK1							
	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	CHK1B Detected
13	FCA::CHK2							
	(RSV)	(RSV)	(RSV)	(RSV)	PCIX-CHK2 Detected	CHK2E Detected	CHK2F Detected	CHK2G Detected
14	FCA::BPMLD2L							
	(RSV)	(RSV)	(RSV)	(RSV)	Transfer mode '0': HDD->CACHE (Normal), '1': CACHE->HDD '4': HDD->CACHE (Double), Others: CACHE COPY			
15	Reserved							
	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)
16	Reserved							
	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)
17	Reserved							
	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)
18	Module ID							
19	Routine ID							
20	PK ID				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF8A')							
23								

(Note1) Subcode: x'10' = CHK2E detected when writing to cache
x'11' = CHK2E detected when reading from cache
x'20' = CHK2F/CHK2G detected when writing to cache
x'21' = CHK2F/CHK2G detected when reading from cache
x'30' = PCI-X CHK2
x'40' = DTN Timeout

Format 8, Message B (DRR CHK2)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'B')			
8	SubCode (x'10' or x'13' or x'21' or x'23')							
9	DRR::DRSTATS							
	XFR END	XFR EXEC	(RSV)	(RSV)	XFR END (CMD A)	XFR EXEC (CMD A)	XFR END (CMD B)	XFR EXEC (CMD B)
10	DRR::DRSTATS							
	CHK2	CHK2A (DRR_CTL)	CHK2B (DRR_DT)	CHK2C (DRR_SOFT)	CHK2D (CHSN_CTL)	CHK2E (CHSN_DT)	CHK2F (TOV/ABT)	CHK1B
11	DRR::DRSTATS							
	P0 USE FLAG	DSK TIMEOUT	P0 ERR INT	P1 ERR INT	ST0 VALID	ST0 CARB/CMA ERR	ST1 VALID	ST1 CARB/CMA ERR
12	DRR::DRERR4							
	DBD1M DATA PARITY ERR	DBD1N DATA PARITY ERR	DBD2 DATA PARITY ERR	DBD3 DATA PARITY ERR	DBD4M DATA PARITY ERR	DBD4N DATA PARITY ERR	(RSV)	(RSV)
13	DRR::DRERR4							
	(RSV)	DBDE4M DATA PARITY ERR	DBDE4N DATA PARITY ERR	WRITE LA CMP ERR1	WRITE LA CMP ERR2	WRITE SLRC CMP ERR	WRITE SLRC PARITY ERR	SLRC DATA PARITY ERR
14	DRR::DRERR4							
	DTSEL DATA PARITY ERR	ACGEN DATA PARITY ERR	READ LA CMP ERR1	READ LA CMP ERR2	READ LA PARITY ERR	READ SLRC CMP ERR	READ SLRC PARITY ERR	PLRC PARITY ERR
15	DRR::DRERR4							
	(RSV)	(RSV)	(RSV)	DBDE4M VERIFY ERR	DBDE4N VERIFY ERR	RPLRCCHK CPLRC0PER	RPLRCCHK DTENDERR	(RSV)
16	DRR::DRERR4							
	ST1 DTPER	ST1CHK ST0CMPER	DBD1M_C2 UCRCTERR	DBD1M_C2 ADRERR	DBD1M_C2 ECCERR	DBD1N_C2 UCRCTERR	DBD1N_C2 ADRERR	DBD1N_C2 ECCERR
17	DRR::DRERR4							
	(RSV)	(RSV)	(RSV)	(RSV)	DBD3X DTPER	ST0 DTPER	ST0 BYTE6 RTNCODEE RR	ST0 BYTE7 RTNCODEE RR
18	Module ID							
19	Routine ID							
20	PK ID				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF89' :LDEV Type=DKU87I / x'EF89': LDEV Type=DKU86I)							
23								

Format 8, Message B (DRR CHK2)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'B')			
8	SubCode (x'11' or x'20' or x'22' or x'40')							
9	DRR::DRSTATS							
	XFR END	XFR EXEC	(RSV)	(RSV)	XFR END (CMD A)	XFR EXEC (CMD A)	XFR END (CMD B)	XFR EXEC (CMD B)
10	DRR::DRSTATS							
	CHK2	CHK2A (DRR_CTL)	CHK2B (DRR_DT)	CHK2C (DRR_SOFT)	CHK2D (CHSN_CTL)	CHK2E (CHSN_DT)	CHK2F (TOV/ABT)	CHK1B
11	DRR::DRSTATS							
	P0 USE FLAG	DSK TIMEOUT	P0 ERR INT	P1 ERR INT	ST0 VALID	ST0 CARB/CMA ERR	ST1 VALID	ST1 CARB/CMA ERR
12	DRR::DRSTATS							
	P0 ABT ERR	P0 ENT TOV	P0 ACK TOV	P0 ST TOV	P0 ABT ERR	P0 ENT TOV	P0 ACK TOV	P0 ST TOV
13	DRR::TPRMA2							
	PARM_A VERIFY_N	PARM_A VERIFY_M	PARM_A MRCF	PARM_A 2WR MODE	PARM_A XFRMODE '2': Read1, '3': Read2 'C': Write, 'E': CACHE Copy			
14	DRR::TPRMA2							
	PARM_A Parity Calculate Parameter0							
15	DRR::TPRMB2							
	PARM_B VERIFY_N	PARM_B VERIFY_M	PARM_B MRCF	PARM_B 2WR MODE	PARM_B XFRMODE '2': Read1, '3': Read2 'C': Write, 'E': CACHE Copy			
16	DRR::TPRMB2							
	PARM_B Parity Calculate Parameter0							
17	DRR::DRMODE0							
	CHK2 INT ENABLE	CHK2A ERR ENABLE	CHK2B ERR ENABLE	CHK2C ERR ENABLE	CHK2D ERR ENABLE	CHK2E ERR ENABLE	CHK2F ERR ENABLE	(RSV)
18	Module ID							
19	Routine ID							
20	PK ID				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF89' :LDEV Type=DKU87I / x'EF89': LDEV Type=DKU86I)							
23								

Format 8, Message B (DRR CHK2)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'B')			
8	SubCode (x'21')							
9	DRR::DRSTATS							
	XFR END	XFR EXEC	(RSV)	(RSV)	XFR END (CMD A)	XFR EXEC (CMD A)	XFR END (CMD B)	XFR EXEC (CMD B)
10	DRR::DRSTATS							
	CHK2	CHK2A (DRR_CTL)	CHK2B (DRR_DT)	CHK2C (DRR_SOFT)	CHK2D (CHSN_CTL)	CHK2E (CHSN_DT)	CHK2F (TOV/ABT)	CHK1B
11	DRR::DRSTATS							
	P0 USE FLAG	DSK TIMEOUT	P0 ERR INT	P1 ERR INT	ST0 VALID	ST0 CARB/CMA ERR	ST1 VALID	ST1 CARB/CMA ERR
12	DRR::DRERR5							
	(RSV)	(RSV)	(RSV)	2SLAVE WR SAME CLS ERR	2SLAVE WR SAME CMA ERR	SQD2 PARM ERR (M)	SQD2 PARM ERR (S)	PRM64 EOR ERR
13	DRR::DRERR4							
	(RSV)	DBDE4M DATA PARITY ERR	DBDE4N DATA PARITY ERR	WRITE LA CMP ERR1	WRITE LA CMP ERR2	WRITE SLRC CMP ERR	WRITE SLRC PARITY ERR	SLRC DATA PARITY ERR
14	DRR::DRERR4							
	DTSEL DATA PARITY ERR	ACGEN DATA PARITY ERR	READ LA CMP ERR1	READ LA CMP ERR2	READ LA PARITY ERR	READ SLRC CMP ERR	READ SLRC PARITY ERR	PLRC PARITY ERR
15	DRR::DRERR4							
	(RSV)	(RSV)	(RSV)	DBDE4M VERIFY ERR	DBDE4N VERIFY ERR	RPLRCCHK CPLRC0PER	RPLRCCHK DTENDERR	(RSV)
16	DRR::DRERR4							
	ST1 DTPER	ST1CHK ST0CMPER	DBD1M_C2 UCRCTERR	DBD1M_C2 ADRERR	DBD1M_C2 ECCERR	DBD1N_C2 UCRCTERR	DBD1N_C2 ADRERR	DBD1N_C2 ECCERR
17	DRR::DRERR4							
	(RSV)	(RSV)	(RSV)	(RSV)	DBD3X DTPER	ST0 DTPER	ST0 BYTE6 RTNCODEE RR	ST0 BYTE7 RTNCODEE RR
18	Module ID							
19	Routine ID							
20	PK ID				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF89' :LDEV Type=DKU87I / x'EF89': LDEV Type=DKU86I)							
23								

Format 8, Message B (DRR CHK2)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'B')			
8	SubCode (x'30')							
9	DRR::DRSTATS							
	XFR END	XFR EXEC	(RSV)	(RSV)	XFR END (CMD A)	XFR EXEC (CMD A)	XFR END (CMD B)	XFR EXEC (CMD B)
10	DRR::DRSTATS							
	CHK2	CHK2A (DRR_CTL)	CHK2B (DRR_DT)	CHK2C (DRR_SOFT)	CHK2D (CHSN_CTL)	CHK2E (CHSN_DT)	CHK2F (TOV/ABT)	CHK1B
11	DRR::DRSTATS							
	P0 USE FLAG	DSK TIMEOUT	P0 ERR INT	P1 ERR INT	ST0 VALID	ST0 CARB/CMA ERR	ST1 VALID	ST1 CARB/CMA ERR
12	DRR::DRERR1							
	SQD3 ENCERR (M)	SQD3 SEPPER (M)	SQD3 DECERR (M)	SQD3 HW ERR (M)	SQD3 ENCERR (S)	SQD3 SEPPER (S)	SQD3 DECERR (S)	SQD3 HW ERR (S)
13	DRR::DRERR1							
	SQD4M ENCERR (M)	SQD4M SEPPER (M)	SQD4M DECERR (M)	SQD4M HW ERR (M)	SQD4M ENCERR (S)	SQD4M SEPPER (S)	SQD4M DECERR (S)	SQD4M HW ERR (S)
14	DRR::DRERR1							
	SQD4N ENCERR (M)	SQD4N SEPPER (M)	SQD4N DECERR (M)	SQD4N HW ERR (M)	SQD4N ENCERR (S)	SQD4N SEPPER (S)	SQD4N DECERR (S)	SQD4N HW ERR (S)
15	DRR::DRERR1							
	SQDE0M ENCERR (M)	SQDE0M SEPPER (M)	SQDE0M DECERR (M)	SQDE0M HW ERR (M)	SQDE0M ENCERR (S)	SQDE0M SEPPER (S)	SQDE0M DECERR (S)	SQDE0M HW ERR (S)
16	DRR::DRERR1							
	SQDE0N ENCERR (M)	SQDE0N SEPPER (M)	SQDE0N DECERR (M)	SQDE0N HW ERR (M)	SQDE0N ENCERR (S)	SQDE0N SEPPER (S)	SQDE0N DECERR (S)	SQDE0N HW ERR (S)
17	DRR::DRERR1							
	S64T ENCERR (M)	S64T SEPPER (M)	S64T DECERR (M)	S64T HW ERR (M)	S64T ENCERR (S)	S64T SEPPER (S)	S64T DECERR (S)	S64T HW ERR (S)
18	Module ID							
19	Routine ID							
20	PK ID				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF89' :LDEV Type=DKU87I / x'EF89': LDEV Type=DKU86I)							
23								

Format 8, Message B (DRR CHK2)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'B')			
8	SubCode (x'31')							
9	DRR::DRSTATS							
	XFR END	XFR EXEC	(RSV)	(RSV)	XFR END (CMD A)	XFR EXEC (CMD A)	XFR END (CMD B)	XFR EXEC (CMD B)
10	DRR::DRSTATS							
	CHK2	CHK2A (DRR_CTL)	CHK2B (DRR_DT)	CHK2C (DRR_SOFT)	CHK2D (CHSN_CTL)	CHK2E (CHSN_DT)	CHK2F (TOV/ABT)	CHK1B
11	DRR::DRSTATS							
	P0 USE FLAG	DSK TIMEOUT	P0 ERR INT	P1 ERR INT	ST0 VALID	ST0 CARB/CMA ERR	ST1 VALID	ST1 CARB/CMA ERR
12	DRR::DRERR2							
	DBD2 XPT PARITY ERR	DBD2 YPT PARITY ERR	DBD2 XXPT PARITY ERR	DBD2 YYPT PARITY ERR	DBD3 XPT PARITY ERR	DBD3 YPT PARITY ERR	DBD3 XXPT PARITY ERR	DBD3 YYPT PARITY ERR
13	DRR::DRERR2							
	DBD4N PRMSNM PARITY ERR	DBD4M PGENCM PARITY ERR	DBD4M CRCTCM (QQ) PARITY ERR	DBD4M CRCTCM (PP) PARITY ERR	DBD4N XPT PARITY ERR	DBD4N YPT PARITY ERR	DBD4N XXPT PARITY ERR	DBD4N YYPT PARITY ERR
14	DRR::DRERR2							
	DBDE1N XPT PARITY ERR	DBDE1N YPT PARITY ERR	DBDE1N XXPT PARITY ERR	DBDE1N YYPT PARITY ERR	DBDE1M XPT PARITY ERR	DBDE1M YPT PARITY ERR	DBDE1M XXPT PARITY ERR	DBDE1M YYPT PARITY ERR
15	DRR::DRERR2							
	ADRCNT64 NWADRCN T PARITY ERR	ADRCNT64 CWADRCN T PARITY ERR	RD ADRCNTN CPLCNT PARITY ERR	RD ADRCNTM CPLCNT PARITY ERR	PRM64 CCMDCNT PARITY ERR	PRM64 NCMDCNT PARITY ERR	WR ADRCNTN CPLCNT PARITY ERR	WR ADRCNTM CPLCNT PARITY ERR
16	DRR::DRERR2							
	PLCNT5281 CPLCNT PARITY ERR	PLCNT5281 NPLCNT PARITY ERR	PLCNT5283 CPLCNT PARITY ERR	PLCNT5283 NPLCNT PARITY ERR	SBCNT1 CSBCNT PARITY ERR	SBCNT1 NSBCNT PARITY ERR	SBCNT3 CSBCNT PARITY ERR	SBCNT3 NSBCNT PARITY ERR
17	DRR::DRERR2							
	PLCNTD4M CPLCNT PARITY ERR	PLCNTD4M NPLCNT PARITY ERR	PLCNTD4N CPLCNT PARITY ERR	PLCNTD4N NPLCNT PARITY ERR	PLCNTD0M CPLCNT PARITY ERR	PLCNTD0M NPLCNT PARITY ERR	PLCNTD0N CPLCNT PARITY ERR	PLCNTD0N NPLCNT PARITY ERR
18	Module ID							
19	Routine ID							
20	PK ID				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF89' :LDEV Type=DKU87I / x'EF89': LDEV Type=DKU86I)							
23								

Format 8, Message B (DRR CHK2)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'B')			
8	SubCode (x'32')							
9	DRR::DRSTATS							
	XFR END	XFR EXEC	(RSV)	(RSV)	XFR END (CMD A)	XFR EXEC (CMD A)	XFR END (CMD B)	XFR EXEC (CMD B)
10	DRR::DRSTATS							
	CHK2	CHK2A (DRR_CTL)	CHK2B (DRR_DT)	CHK2C (DRR_SOFT)	CHK2D (CHSN_CTL)	CHK2E (CHSN_DT)	CHK2F (TOV/ABT)	CHK1B
11	DRR::DRSTATS							
	P0 USE FLAG	DSK TIMEOUT	P0 ERR INT	P1 ERR INT	ST0 VALID	ST0 CARB/CMA ERR	ST1 VALID	ST1 CARB/CMA ERR
12	DRR::DRERR3							
	SQD3X ENCERR (M)	SQD3X SEPPER (M)	SQD3X DECERR (M)	SQD3X HW ERR (M)	SQD3X ENCERR (S)	SQD3X SEPPER (S)	SQD3X DECERR (S)	SQD3X HW ERR (S)
13	DRR::DRERR3							
	(RSV)	(RSV)	(RSV)	SQD3X CMP ERR	DBD3X XPT PARITY ERR	DBD3X YPT PARITY ERR	DBD3X XXPT PARITY ERR	DBD3X YYPT PARITY ERR
14	DRR::TPRMA2							
	PARM_A VERIFY_N	PARM_A VERIFY_M	PARM_A MRCF	PARM_A 2WR MODE	PARM_A XFRMODE '2': Read1, '3': Read2 'C': Write, 'E': CACHE Copy			
15	DRR::TPRMA2							
	PARM_A Parity Calculate Parameter0							
16	DRR::TPRMB2							
	PARM_B VERIFY_N	PARM_B VERIFY_M	PARM_B MRCF	PARM_B 2WR MODE	PARM_B XFRMODE '2': Read1, '3': Read2 'C': Write, 'E': CACHE Copy			
17	DRR::TPRMB2							
	PARM_B Parity Calculate Parameter0							
18	Module ID							
19	Routine ID							
20	PK ID				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF89' :LDEV Type=DKU87I / x'EF89': LDEV Type=DKU86I)							
23								

Format 8, Message B (DRR CHK2)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'B')			
8	SubCode (x'36')							
9	DRR::DRSTATS							
	XFR END	XFR EXEC	(RSV)	(RSV)	XFR END (CMD A)	XFR EXEC (CMD A)	XFR END (CMD B)	XFR EXEC (CMD B)
10	DRR::DRSTATS							
	CHK2	CHK2A (DRR_CTL)	CHK2B (DRR_DT)	CHK2C (DRR_SOFT)	CHK2D (CHSN_CTL)	CHK2E (CHSN_DT)	CHK2F (TOV/ABT)	CHK1B
11	DRR::DRSTATS							
	P0 USE FLAG	DSK TIMEOUT	P0 ERR INT	P1 ERR INT	ST0 VALID	ST0 CARB/CMA ERR	ST1 VALID	ST1 CARB/CMA ERR
12	DRR::DRERR6							
	C0 WAITCNT TIMER PARITY ERR	C0 ACKTCNT TIMER PARITY ERR	C0 STTCNT TIMER PARITY ERR	C0 ENTTCNT TIMER PARITY ERR	C0 CHABT HWERR (M)	C0 CHABT HWERR (S)	C0 ENTTCNT TIMER CMP ERR	C0 ACKTCNT TIMER CMP ERR
13	DRR::DRERR6							
	C0 CHABT ENCERR (M)	C0 CHABT ENCERR (S)	C0 CHABT DECERR (M)	C0 CHABT DECERR (S)	C0 CHABT SEQPER (M)	C0 CHABT SEQPER (S)	C0 RXSEQ HWERR (M)	C0 RXSEQ HWERR (S)
14	DRR::DRERR6							
	C0 RXSEQ ENCERR (M)	C0 RXSEQ ENCERR (S)	C0 RXSEQ DECERR (M)	C0 RXSEQ DECERR (S)	C0 RXSEQ SEQPER (M)	C0 RXSEQ SEQPER (S)	C0 SQP3 HWERR (M)	C0 SQP3 HWERR (S)
15	DRR::DRERR63							
	C0 SQP3 ENCERR (M)	C0 SQP3 ENCERR (S)	C0 SQP3 DECERR (M)	C0 SQP3 DECERR (S)	C0 SQP3 SEQPER (M)	C0 SQP3 SEQPER (S)	(RSV)	(RSV)
16	DRR::DRERR6							
	C0 TXSEQ ENCERR (M)	C0 TXSEQ ENCERR (S)	C0 TXSEQ DECERR (M)	C0 TXSEQ DECERR (S)	C0 TXSEQ SEQPER (M)	C0 TXSEQ SEQPER (S)	C0 TXXSEQ HWERR (M)	C0 TXXSEQ HWERR (S)
17	DRR::DRERR6							
	C0 TXXSEQ ENCERR (M)	C0 TXXSEQ ENCERR (S)	C0 TXXSEQ DECERR (M)	C0 TXXSEQ DECERR (S)	C0 TXXSEQ SEQPER (M)	C0 TXXSEQ SEQPER (S)	C0_DBP0 XPTPER	C0_DBP0 XXPTPER
18	Module ID							
19	Routine ID							
20	PK ID				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF89' :LDEV Type=DKU87I / x'EF89': LDEV Type=DKU86I)							
23								

Format 8, Message B (DRR CHK2)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'B')			
8	SubCode (x'37')							
9	DRR::DRSTATS							
	XFR END	XFR EXEC	(RSV)	(RSV)	XFR END (CMD A)	XFR EXEC (CMD A)	XFR END (CMD B)	XFR EXEC (CMD B)
10	DRR::DRSTATS							
	CHK2	CHK2A (DRR_CTL)	CHK2B (DRR_DT)	CHK2C (DRR_SOFT)	CHK2D (CHSN_CTL)	CHK2E (CHSN_DT)	CHK2F (TOV/ABT)	CHK1B
11	DRR::DRSTATS							
	P0 USE FLAG	DSK TIMEOUT	P0 ERR INT	P1 ERR INT	ST0 VALID	ST0 CARB/CMA ERR	ST1 VALID	ST1 CARB/CMA ERR
12	DRR::DRERR7							
	C1 WAITCNT TIMER PARITY ERR	C1 ACKTCNT TIMER PARITY ERR	C1 STTCNT TIMER PARITY ERR	C1 ENTTCNT TIMER PARITY ERR	C1 CHABT HWERR (M)	C1 CHABT HWERR (S)	C1 ENTTCNT TIMER CMP ERR	C1 ACKTCNT TIMER CMP ERR
13	DRR::DRERR7							
	C1 CHABT ENCERR (M)	C1 CHABT ENCERR (S)	C1 CHABT DECERR (M)	C1 CHABT DECERR (S)	C1 CHABT SEQPER (M)	C1 CHABT SEQPER (S)	C1 RXSEQ HWERR (M)	C1 RXSEQ HWERR (S)
14	DRR::DRERR7							
	C1 RXSEQ ENCERR (M)	C1 RXSEQ ENCERR (S)	C1 RXSEQ DECERR (M)	C1 RXSEQ DECERR (S)	C1 RXSEQ SEQPER (M)	C1 RXSEQ SEQPER (S)	C1 SQP3 HWERR (M)	C1 SQP3 HWERR (S)
15	DRR::DRERR7							
	C1 SQP3 ENCERR (M)	C1 SQP3 ENCERR (S)	C1 SQP3 DECERR (M)	C1 SQP3 DECERR (S)	C1 SQP3 SEQPER (M)	C1 SQP3 SEQPER (S)	(RSV)	(RSV)
16	DRR::DRERR7							
	C1 TXSEQ ENCERR (M)	C1 TXSEQ ENCERR (S)	C1 TXSEQ DECERR (M)	C1 TXSEQ DECERR (S)	C1 TXSEQ SEQPER (M)	C1 TXSEQ SEQPER (S)	C1 TXXSEQ HWERR (M)	C1 TXXSEQ HWERR (S)
17	DRR::DRERR7							
	C1 TXXSEQ ENCERR (M)	C1 TXXSEQ ENCERR (S)	C1 TXXSEQ DECERR (M)	C1 TXXSEQ DECERR (S)	C1 TXXSEQ SEQPER (M)	C1 TXXSEQ SEQPER (S)	C1_DBP0 XPTPER	C1_DBP0 XXPTPER
18	Module ID							
19	Routine ID							
20	PK ID				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF89' :LDEV Type=DKU87I / x'EF89': LDEV Type=DKU86I)							
23								

Format 8, Message B (DRR CHK2)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'B')			
8	SubCode (x'38')							
9	DRR::DRSTATS							
	XFR END	XFR EXEC	(RSV)	(RSV)	XFR END (CMD A)	XFR EXEC (CMD A)	XFR END (CMD B)	XFR EXEC (CMD B)
10	DRR::DRSTATS							
	CHK2	CHK2A (DRR_CTL)	CHK2B (DRR_DT)	CHK2C (DRR_SOFT)	CHK2D (CHSN_CTL)	CHK2E (CHSN_DT)	CHK2F (TOV/ABT)	CHK1B
11	DRR::DRSTATS							
	P0 USE FLAG	DSK TIMEOUT	P0 ERR INT	P1 ERR INT	ST0 VALID	ST0 CARB/CMA ERR	ST1 VALID	ST1 CARB/CMA ERR
12	DRR::DRERR8							
	C1 LCNTRX NPLCNT PARITY ERR	C1 LCNTRX CPLCNT PARITY ERR	C1 PLCNTTX NPLCNT PARITY ERR	C1 PLCNTTX CPLCNT PARITY ERR	C0 LCNTRX NPLCNT PARITY ERR	C0 LCNTRX CPLCNT PARITY ERR	C0 PLCNTTX NPLCNT PARITY ERR	C0 PLCNTTX CPLCNT PARITY ERR
13	DRR::DRERR8							
	C1 TXXSEQ CMP ERR	C0 TXXSEQ CMP ERR	C1 TXSEQ CMP ERR	C0 TXSEQ CMP ERR	C1 SQP3 CMP ERR	C0 SQP3 CMP ERR	C1 CHABT CMP ERR	C0 CHABT CMP ERR
14	DRR::DRERR8							
	(RSV)	(RSV)	C1 TXSEQ ACS ERR (M)	C1 TXSEQ ACS ERR (S)	C0 TXSEQ ACS ERR (M)	C0 TXSEQ ACS ERR (S)	C1 RXSEQ CMP ERR	C0 RXSEQ CMP ERR
15	DRR::DRERR8							
	(RSV)	C1 ENTTCNT ERRINTER	C1 ENTTCNT ACKERR	C1 ENTTCNT ENTERR	(RSV)	C0 ENTTCNT ERRINTER	C0 ENTTCNT ACKERR	C0 ENTTCNT ENTERR
16	Reserved							
	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)
17	Reserved							
	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)
18	Module ID							
19	Routine ID							
20	PK ID				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF89' :LDEV Type=DKU87I / x'EF89': LDEV Type=DKU86I)							
23								

Format 8, Message B (DRR CHK2)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'B')			
8	SubCode (x'A0')							
9	DRR::DRSTATS							
	XFR END	XFR EXEC	(RSV)	(RSV)	XFR END (CMD A)	XFR EXEC (CMD A)	XFR END (CMD B)	XFR EXEC (CMD B)
10	DRR::DRSTATS							
	CHK2	CHK2A (DRR_CTL)	CHK2B (DRR_DT)	CHK2C (DRR_SOFT)	CHK2D (CHSN_CTL)	CHK2E (CHSN_DT)	CHK2F (TOV/ABT)	CHK1B
11	DRR::DRSTATS							
	P0 USE FLAG	DSK TIMEOUT	P0 ERR INT	P1 ERR INT	ST0 VALID	ST0 CARB/CMA ERR	ST1 VALID	ST1 CARB/CMA ERR
12	DRR::DRSTATS							
	P0 ABT ERR	P0 ENT TOV	P0 ACK TOV	P0 ST TOV	P0 ABT ERR	P0 ENT TOV	P0 ACK TOV	P0 ST TOV
13	DRR::DRSTATS							
	ABORT	YWING ERR	(RSV)	(RSV)	IMP-ERR Warning	ROSC-ERR Warning	PASWD- ERR	T64 ERR
14	DRR::TPRMA2							
	PARM_A VERIFY_N	PARM_A VERIFY_M	PARM_A MRCF	PARM_A 2WR MODE	PARM_A XFRMODE '2': Read1, '3': Read2 'C': Write, 'E': CACHE Copy			
15	DRR::P0DSKCTL1							
	P0 DLYADR(5)	P0 DLYADR(4)	P0 DLYADR(3)	P0 DLYADR(2)	P0 DLYADR(1)	P0 DLYADR(0)	P0 CALLEV1	P0 CHKLEV1
16	DRR::P1DSKCTL1							
	P1 DLYADR(5)	P1 DLYADR(4)	P1 DLYADR(3)	P1 DLYADR(2)	P1 DLYADR(1)	P1 DLYADR(0)	P1 CALLEV1	P1 CHKLEV1
17	DRR::DRMODE0							
	CHK2 INT ENABLE	CHK2A ERR ENABLE	CHK2B ERR ENABLE	CHK2C ERR ENABLE	CHK2D ERR ENABLE	CHK2E ERR ENABLE	CHK2F ERR ENABLE	(RSV)
18	Module ID							
19	Routine ID							
20	PK ID				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF89' :LDEV Type=DKU87I / x'EF89': LDEV Type=DKU86I)							
23								

Format 8, Message D (Power Failure)

	0	1	2	3	4	5	6	7
7	Format (x‘8’)				Message (x‘D’)			
8	SubCode (x‘40’ : DKC Power Failure)							
9	Reserved							
	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)
10	Power Failure Hardware Information							
	ACOFFDTCT Value							
11	Micro Information							
	Power Failure Status Management Information							
12	Reserved							
	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)
13	Reserved							
	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)
14	Reserved							
	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)
15	Reserved							
	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)
16	Reserved							
	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)
17	Reserved							
	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)
18	Not used							
19								
20	Processor Number (x‘00’ ~ x‘0F’)							
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x‘FF8D’)							
23								

Format 8, Message D (Power Failure)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'D')			
8	SubCode (x'80' : DKU/HDU Power Failure)							
9	Detected from Error Occurred PDEV							
	0x00 ~ 0x4F : Detected from Error Occurred RDEV# 0xFF : Detected from Polling							
10	Micro Information							
	1st DKU Power Failure Status				2nd DKU Power Failure Status			
11	Micro Information							
	3rd DKU Power Failure Status				4th DKU Power Failure Status			
12	Micro Information							
	Power Failure Process Trace Information							
13	Micro Information							
	Power Failure Process Trace Information							
14	Micro Information							
	Power Failure Process Trace Information							
15	Micro Information							
	Power Failure Process Trace Information							
16	Hardware Power Status (*1)							
	1st DKU Power Status 0: Normal 1: Alarm	2nd DKU Power Status 0: Normal 1: Alarm	1st DKU Config 0: Not mount 1: Mount	2nd DKU Config 0: Not mount 1: Mount	3rd DKU Power Status 0: Normal 1: Alarm	4th DKU Power Status 0: Normal 1: Alarm	3rd DKU Config 0: Not mount 1: Mount	4th DKU Config 0: Not mount 1: Mount
17	Reserved							
	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)
18	Not used							
19								
20	Processor Number (x'00' ~ x'0F')							
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF8D')							
23								

*1: When a DKU is not mounting, the power status is always "Alarm".

Format 8, Message D (Power Failure)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'D')			
8	SubCode (x'90' : DKU/HDU Power Failure Recover)							
9	Reserved							
	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)
10	Micro Information							
	1st DKU Power Failure Status				2nd DKU Power Failure Status			
11	Micro Information							
	3rd DKU Power Failure Status				4th DKU Power Failure Status			
12	Micro Information							
	Power Failure Process Trace Information							
13	Micro Information							
	Power Failure Process Trace Information							
14	Micro Information							
	Power Failure Process Trace Information							
15	Micro Information							
	Power Failure Process Trace Information							
16	Reserved							
	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)
17	Reserved							
	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)
18	Not used							
19								
20	Processor Number (x'00' ~ x'0F')							
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF8D')							
23								

Format 8, Message E (processor failure : CHK1A)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	SubCode (x'20' : PLD/FM CHK1A)							
9	MPID							
10	Y-Wing::INT STATUS							
	CH16 INT STATUS	CH15 INT STATUS	CH14 INT STATUS	CH13 INT STATUS	CH12 INT STATUS	CH11 INT STATUS	CH10 INT STATUS	CH09 INT STATUS
11	Y-Wing::INT STATUS							
	CH08 INT STATUS	CH07 INT STATUS	CH06 INT STATUS	CH05 INT STATUS	CH04 INT STATUS	CH03 INT STATUS	CH02 INT STATUS	CH01 INT STATUS
12	Y-Wing:: PLD ERR STATUS							
	(RSV)	FMWP ERR	FM WERR	SEQ CNT PERR	SEQ CNT ERR	SEQ WERR	SEQ RERR	SEQ PERR
13	Y-Wing:: PLD ERR STATUS							
	YWING ERR	(RSV)	FM RD AERR	FM RD PERR	(RSV)	LCE2 ERR	LDAT PERR	LADR PERR
14	(RSV)							
15	(RSV)							
16	(RSV)							
17	(RSV)							
18	Module ID							
19	Routine ID							
20	P/K ID (Failed processor)				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF8E':LDEV TYPE=DKU87I / x'EF8E':LDEV TYPE=DKU86I)							
23								

Format 8, Message E (processor failure : CHK1B)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	SubCode (x'40' : MPA XR CHK1B)							
9	MPID							
10	Y-Wing::INT STATUS							
	CH08 INT STATUS	CH07 INT STATUS	CH06 INT STATUS	CH05 INT STATUS	CH04 INT STATUS	CH03 INT STATUS	CH02 INT STATUS	CH01 INT STATUS
11	CMPA::MPA_STS							
	BSINT	CHK3 HSN MST	CHK3 HSN SLV	CHK1B FM	IMP WARN	ROSC WARN	CHK1B XR	MPINT
12	CMPA::PASSWORD CHK1B							
	(RSV)	(RSV)	FMDIR	ILBCNT	ILADR	BSTRD	BSTWR	PWD CHK1B
13	CMPA::REGBUF CHK1B							
	MMOL PER3	MMOL PER2	MMOL PER1	MMOL PER0	MMO_PER3	MMO_PER2	MMO_PER1	MMO_PER0
14	CMPA::ROTX ERR STS 1							
	MMOLPER3	MMOLPER2	MMOLPER1	MMOLPER0	MMOPER3	MMOPER2	MMOPER1	MMOPER0
15	CMPA::ROTX ERR STS 1							
	BEHPER	BELPER	BYTPER1	BYTPER0	CMPER3	CMPER2	CMPER1	CMPER0
16	CMPA::ROTX ERR STS 1							
	ADRPER7	ADRPER6	ADRPER5	ADRPER4	ADRPER3	ADRPER2	ADRPER1	ADRPER0
17	CMPA::ROTX ERR STS 1							
	MMOLPER3	MMOLPER2	MMOLPER1	MMOLPER0	MMOPER3	MMOPER2	MMOPER1	MMOPER0
18	Module ID							
19	Routine ID							
20	P/K ID (Failed processor)				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF8E':LDEV TYPE=DKU87I / x'EF8E':LDEV TYPE=DKU86I)							
23								

Format 8, Message E (processor failure : CHK1A)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	SubCode (x'41' : FM CHK1B)							
9	MPID							
10	Y-Wing::INT STATUS							
	CH08 INT STATUS	CH07 INT STATUS	CH06 INT STATUS	CH05 INT STATUS	CH04 INT STATUS	CH03 INT STATUS	CH02 INT STATUS	CH01 INT STATUS
11	CMPA::MPA_STS							
	BSINT	CHK3 HSN MST	CHK3 HSN SLV	CHK1B FM	IMP WARN	ROSC WARN	CHK1B XR	MPINT
12	CMPA::FMSEQ_ERR							
	ILLACS_MP3	DECODE_MP3	ENCODE_MP3	CST_MP3	ILLACS_MP2	DECODE_MP2	ENCODE_MP2	CST_MP2
13	CMPA::FMSEQ_ERR							
	ILLACS_MP1	DECODE_MP1	ENCODE_MP1	CST_MP1	ILLACS_MP0	DECODE_MP0	ENCODE_MP0	CST_MP0
14	CMPA::FMSEQCNT_ERR							
	(RSV)	(RSV)	(RSV)	MP3_ACC_TO	MP3_WEH_TO	MP3_WP_TO	MP3_ACC_PER	MP3_WEH_PER
15	CMPA::FMSEQCNT_ERR							
	(RSV)	(RSV)	(RSV)	MP2_ACC_TO	MP2_WEH_TO	MP2_WP_TO	MP2_ACC_PER	MP2_WEH_PER
16	CMPA::FMSEQCNT_ERR							
	(RSV)	(RSV)	(RSV)	MP1_ACC_TO	MP1_WEH_TO	MP1_WP_TO	MP1_ACC_PER	MP1_WEH_PER
17	CMPA::FMSEQCNT_ERR							
	(RSV)	(RSV)	(RSV)	MP0_ACC_TO	MP0_WEH_TO	MP0_WP_TO	MP0_ACC_PER	MP0_WEH_PER
18	Module ID							
19	Routine ID							
20	P/K ID (Failed processor)				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF8E':LDEV TYPE=DKU87I / x'EF8E':LDEV TYPE=DKU86I)							
23								

Format 8, Message E (processor failure : CHK1B)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	SubCode (x'42' : PCI_CHK1B(CMPA))							
9	MPID							
10	Y-Wing::INT STATUS							
	CH16 INT STATUS	CH15 INT STATUS	CH14 INT STATUS	CH13 INT STATUS	CH12 INT STATUS	CH11 INT STATUS	CH10 INT STATUS	CH09 INT STATUS
11	Y-Wing::INT STATUS							
	CH08 INT STATUS	CH07 INT STATUS	CH06 INT STATUS	CH05 INT STATUS	CH04 INT STATUS	CH03 INT STATUS	CH02 INT STATUS	CH01 INT STATUS
12	CMPA::MPA_STS							
	(RSV)	(RSV)	FCA CHK1 B 4MP	DRR CHK1 B 4MP	PCI CHK1 B Q	PCI CHK1 B M	FCA CHK1 B 8/4MP	DRR CHK1 B 8/4MP
13	CMPA::MPA_STS							
	BSINT	CHK3 H SNMST	CHK3 H SNSLV	CHK1B FM	(RSV)	(RSV)	CHK1B XR	MPINT
14	Y-Wing::SERR Status/PCI Error Status							
	SS	SS	SS	RCO	SCCO	USC	SCD	RSCE
15	Y-Wing::PCI Error Status							
	DCD	DAP	DDP	STA	RFU	DMDP	RTA	RMA
16	Y-Wing::OnChipBus Error Status							
	OPE	RFU	RFU	BL64E	BL32E	BL16E	BL8E	BL4E
17	Y-Wing::OnChipBus Error Status							
	RFU			RCOE	DNDE	BEE	RFU	
18	Module ID							
19	Routine ID							
20	P/K ID (Failed processor)				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF8E':LDEV TYPE=DKU87I / x'EF8E':LDEV TYPE=DKU86I)							
23								

Format 8, Message E (processor failure : CHK1B)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	SubCode (x'43' : OHUB CHK1B)							
9	MPID							
10	Y-Wing::INT STATUS							
	CH16 INT STATUS	CH15 INT STATUS	CH14 INT STATUS	CH13 INT STATUS	CH12 INT STATUS	CH11 INT STATUS	CH10 INT STATUS	CH09 INT STATUS
11	Y-Wing::INT STATUS							
	CH08 INT STATUS	CH07 INT STATUS	CH06 INT STATUS	CH05 INT STATUS	CH04 INT STATUS	CH03 INT STATUS	CH02 INT STATUS	CH01 INT STATUS
12	OHUBCHK1B							
	YPCI1	YPCI0	TPCI1	TPCI0	PMA3	PMA2	PMA1	PMA0
13	OHUBCHK1B							
	DMA7	DMA6	DMA5	DMA4	DMA3	DMA2	DMA1	DMA0
14	OHUBCHK1B							
	(RSV)	REG1	DMMARB1	DMAARB0	Doorbell	PCIINT	REG0	(RSV)
15	OHUBCHK1B							
	(RSV)	(RSV)	BFCTL1	BFCTL0	(RSV)	(RSV)	(RSV)	(RSV)
16	(RSV)							
17	(RSV)							
18	Module ID							
19	Routine ID							
20	P/K ID (Failed processor)				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF8E':LDEV TYPE=DKU87I / x'EF8E':LDEV TYPE=DKU86I)							
23								

Format 8, Message E (processor failure : CHK1B)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	SubCode (x'44' : MHUB CHK1B)							
9	MPID							
10	Y-Wing::INT STATUS							
	CH08 INT STATUS	CH07 INT STATUS	CH06 INT STATUS	CH05 INT STATUS	CH04 INT STATUS	CH03 INT STATUS	CH02 INT STATUS	CH01 INT STATUS
11	Y-Wing::PERRSTAT							
	RFU						RCO	SCCO
12	CHUBCHK1B							
	YPCI1	YPCI0	TPCI1	TPCI0	PMA3	PMA2	PMA1	PMA0
13	CHUBCHK1B							
	DMA7	DMA6	DMA5	DMA4	DMA3	DMA2	DMA1	DMA0
14	CHUBCHK1B							
	(RSV)	REG1	DMMARB1	DMAARB0	Doorbell	PCIINT	REG0	(RSV)
15	CHUBCHK1B							
	(RSV)	(RSV)	BFCTL1	BFCTL0	(RSV)	(RSV)	(RSV)	(RSV)
16	CHUBREPCHK							
	(RSV)	FPP1DCHK	FPP1CHK	FPPMCHK1	(RSV)	FPP0DCHK	FPP0CHK	FPPMCHK0
17	CHUBREPCHK							
	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)
18	Module ID							
19	Routine ID							
20	P/K ID (Failed processor)				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF8E':LDEV TYPE=DKU87I / x'EF8E':LDEV TYPE=DKU86I)							
23								

Format 8, Message E (processor failure : CHK1B)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	SubCode (x'45' : PCI CHK1B OHUB/MHUB PPCI)							
9	MPID							
10	Y-Wing::INT STATUS							
	CH16 INT STATUS	CH15 INT STATUS	CH14 INT STATUS	CH13 INT STATUS	CH12 INT STATUS	CH11 INT STATUS	CH10 INT STATUS	CH09 INT STATUS
11	Y-Wing::INT STATUS							
	CH08 INT STATUS	CH07 INT STATUS	CH06 INT STATUS	CH05 INT STATUS	CH04 INT STATUS	CH03 INT STATUS	CH02 INT STATUS	CH01 INT STATUS
12	Y-Wing::PCI Error Status							
	RCO	SCCO	USC	SCD	RSCE	DCD	DAP	DDP
13	Y-Wing::PCI Error Status/SERR Status/OnChipBus Error Status							
	STA	DMDP	RTA	RMA	SS			OPE
14	Y-Wing:: OnChipBus Error Status							
	BL64E	BL32E	BL16E	BL8E	BL4E	RCOE	DNDE	BEE
15	(RSV)							
16	(RSV)							
17	(RSV)							
18	Module ID							
19	Routine ID							
20	P/K ID (Failed processor)				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF8E':LDEV TYPE=DKU87I / x'EF8E':LDEV TYPE=DKU86I)							
23								

Format 8, Message E (processor failure : CHK1B)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	SubCode (x'46' : PCI CHK1B OHUB/MHUB YPCI)							
9	MPID							
10	Y-Wing::INT STATUS							
	CH16 INT STATUS	CH15 INT STATUS	CH14 INT STATUS	CH13 INT STATUS	CH12 INT STATUS	CH11 INT STATUS	CH10 INT STATUS	CH09 INT STATUS
11	Y-Wing::INT STATUS							
	CH08 INT STATUS	CH07 INT STATUS	CH06 INT STATUS	CH05 INT STATUS	CH04 INT STATUS	CH03 INT STATUS	CH02 INT STATUS	CH01 INT STATUS
12	Y-Wing::PCI Error Status							
	RCO	SCCO	USC	SCD	RSCE	DCD	DAP	DDP
13	Y-Wing::PCI Error Status/SERR Status/OnChipBus Error Status							
	STA	DMDP	RTA	RMA	SS			OPE
14	Y-Wing:: OnChipBus Error Status							
	BL64E	BL32E	BL16E	BL8E	BL4E	RCOE	DNDE	BEE
15	(RSV)							
16	(RSV)							
17	(RSV)							
18	Module ID							
19	Routine ID							
20	P/K ID (Failed processor)				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF8E':LDEV TYPE=DKU87I / x'EF8E':LDEV TYPE=DKU86I)							
23								

Format 8, Message E (processor failure : CHK1B)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	SubCode (x'47' : ESA CHK1B)							
9	MPID							
10	Y-Wing::INT STATUS							
	CH08 INT STATUS	CH07 INT STATUS	CH06 INT STATUS	CH05 INT STATUS	CH04 INT STATUS	CH03 INT STATUS	CH02 INT STATUS	CH01 INT STATUS
11	ESA::ESA_CHK1B							
	LMADP CK1B	XTRG CK1B	XMST CK1B	PCI CK1B	(RSV)	XTRG_EX CK1B	(RSV)	PCI-EX CK1B
12	ESA::ESA_CHK1B							
	CBF CK1B	PL CK1B	HSN_XR ERR	HSN_CLK ERR	PCI_CLK ERR	ESA_CLK ERR	ALCP_DG CK1B	BLCP_DG CK1B
13	ESA::ESA_LMAERR							
	COMMO PERR	COM1 PERR	COM2 PERR	COM3 PERR	1031C PERR	10304 PERR	10314 PERR	(RSV)
14	ESA::ESA_LMAERR							
	1030C PERR	10318 PERR	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)
15	ESA::ESA_XRTRGCK1B							
	SEQERR	ADRPERR	CNTERR	SELERR	WR_TOV	RD_TOV	WRPERR	RDPERR
16	ESA::ESA_XRMSTCK1B							
	SEQERR	ADRPERR	DTOPERR	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)
17	ESA::ESA_EXTRGCK1B							
	SEQERR	ADRPERR	CNTERR	SELERR	WR_TOV	RD_TOV	WRPERR	RDPERR
18	Module ID							
19	Routine ID							
20	P/K ID (Failed processor)				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF8E':LDEV TYPE=DKU87I / x'EF8E':LDEV TYPE=DKU86I)							
23								

Format 8, Message E (processor failure : CHK1B)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	SubCode (x'48' : PCI CHK1B(ESA))							
9	MPID							
10	Y-Wing::INT STATUS							
	CH16 INT STATUS	CH15 INT STATUS	CH14 INT STATUS	CH13 INT STATUS	CH12 INT STATUS	CH11 INT STATUS	CH10 INT STATUS	CH09 INT STATUS
11	Y-Wing::INT STATUS							
	CH08 INT STATUS	CH07 INT STATUS	CH06 INT STATUS	CH05 INT STATUS	CH04 INT STATUS	CH03 INT STATUS	CH02 INT STATUS	CH01 INT STATUS
12	ESA::ESA_CHK1B							
	LMADP CK1B	XTRG CK1B	XMST CK1B	PCI CK1B	(RSV)	XTRG_EX CK1B	(RSV)	PCI-EX CK1B
13	ESA::ESA_CHK1B							
	CBF CK1B	PL CK1B	HSN_XR ERR	HSN_CLK ERR	PCI_CLK ERR	ESA_CLK ERR	ALCP_DG CK1B	BLCP_DG CK1B
14	Y-Wing::SERR Status/PCI Error Status							
	SS	SS	SS	RCO	SCCO	USC	SCD	RSCE
15	Y-Wing::PCI Error Status							
	DCD	DAP	DDP	STA	RFU	DMDP	RTA	RMA
16	Y-Wing::OnChipBus Error Status							
	OPE	RFU	RFU	BL64E	BL32E	BL16E	BL8E	BL4E
17	Y-Wing::OnChipBus Error Status							
	RFU			RCOE	DNDE	BEE	RFU	
18	Module ID							
19	Routine ID							
20	P/K ID (Failed processor)				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF8E':LDEV TYPE=DKU87I / x'EF8E':LDEV TYPE=DKU86I)							
23								

Format 8, Message E (processor failure : CHK1B)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	SubCode (x'49' : PCI_CHK1B(Ywing))							
9	MPID							
10	Y-Wing::INT_STATUS							
	CH16 INT STATUS	CH15 INT STATUS	CH14 INT STATUS	CH13 INT STATUS	CH12 INT STATUS	CH11 INT STATUS	CH10 INT STATUS	CH09 INT STATUS
11	Y-Wing::INT_STATUS							
	CH08 INT STATUS	CH07 INT STATUS	CH06 INT STATUS	CH05 INT STATUS	CH04 INT STATUS	CH03 INT STATUS	CH02 INT STATUS	CH01 INT STATUS
12	CMPA::MPA_STS							
	(RSV)	(RSV)	FCA CHK1 B 4MP	DRR CHK1 B 4MP	PCI CHK1 B Q	PCI CHK1 B M	FCA CHK1 B 8/4MP	DRR CHK1 B 8/4MP
13	CMPA::MPA_STS							
	BSINT	CHK3 H SNMST	CHK3 H SNSLV	CHK1B FM	(RSV)	(RSV)	CHK1B XR	MPINT
14	Y-Wing::SERR Status/PCI Error Status							
	SS	SS	SS	RCO	SCCO	USC	SCD	RSCE
15	Y-Wing::PCI Error Status							
	DCD	DAP	DDP	STA	RFU	DMDP	RTA	RMA
16	Y-Wing::OnChipBus Error Status							
	OPE	RFU	RFU	BL64E	BL32E	BL16E	BL8E	BL4E
17	Y-Wing::OnChipBus Error Status							
	RFU			RCOE	DNDE	BEE	RFU	
18	Module ID							
19	Routine ID							
20	P/K ID (Failed processor)				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF8E':LDEV TYPE=DKU87I / x'EF8E':LDEV TYPE=DKU86I)							
23								

Format 8, Message E (processor failure : CHK1B)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	SubCode (x'4A' : Y-Wing CHK1B MNI)							
9	MPID							
10	Y-Wing::INT_STATUS							
	CH16 INT STATUS	CH15 INT STATUS	CH14 INT STATUS	CH13 INT STATUS	CH12 INT STATUS	CH11 INT STATUS	CH10 INT STATUS	CH09 INT STATUS
11	Y-Wing::INT_STATUS							
	CH08 INT STATUS	CH07 INT STATUS	CH06 INT STATUS	CH05 INT STATUS	CH04 INT STATUS	CH03 INT STATUS	CH02 INT STATUS	CH01 INT STATUS
12	NMI_STATUS							
	(RSV)					OnChipBus Parity Error	Ethernet#2 Parity Error	Ethernet#1 Parity Error
13	NMI_STATUS							
	BCU Parity Error	SC memory un correctable Error	SC memory correctable Error	SC memory Parity Error	SDRAM un correctable Error	SDRAM correctable Error	BIU-OnChipBus Error	Outside NMI (MPHOLD)
14	(RSV)							
15	(RSV)							
16	(RSV)							
17	(RSV)							
18	Module ID							
19	Routine ID							
20	P/K ID (Failed processor)				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF8E':LDEV TYPE=DKU87I / x'EF8E':LDEV TYPE=DKU86I)							
23								

Format 8, Message E (processor failure : CHK1B)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	SubCode (x'50' : MPA XR CHK1B)							
9	MPID							
10	Y-Wing::INT STATUS							
	CH08 INT STATUS	CH07 INT STATUS	CH06 INT STATUS	CH05 INT STATUS	CH04 INT STATUS	CH03 INT STATUS	CH02 INT STATUS	CH01 INT STATUS
11	CMPA::MPA STS							
	BSINT	CHK3 HSN MST	CHK3 HSN SLV	CHK1B FM	IMP WARN	ROSC WARN	CHK1B XR	MPINT
12	CMPA::PASSWORD CHK1B							
	(RSV)	(RSV)	FMDIR	ILBCNT	ILADR	BSTRD	BSTWR	PWD CHK1B
13	CMPA::REGBUF CHK1B							
	MMOL PER3	MMOL PER2	MMOL PER1	MMOL PER0	MMO_PER3	MMO_PER2	MMO_PER1	MMO_PER0
14	CMPA::ROTX ERR STS 1							
	MMOLPER3	MMOLPER2	MMOLPER1	MMOLPER0	MMOPER3	MMOPER2	MMOPER1	MMOPER0
15	CMPA::ROTX ERR STS 1							
	BEHPER	BELPER	BYTPER1	BYTPER0	CMPER3	CMPER2	CMPER1	CMPER0
16	CMPA::ROTX ERR STS 1							
	ADRPER7	ADRPER6	ADRPER5	ADRPER4	ADRPER3	ADRPER2	ADRPER1	ADRPER0
17	CMPA::ROTX ERR STS 1							
	MMOLPER3	MMOLPER2	MMOLPER1	MMOLPER0	MMOPER3	MMOPER2	MMOPER1	MMOPER0
18	Module ID							
19	Routine ID							
20	P/K ID (Failed processor)				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF8E':LDEV TYPE=DKU87I / x'EF8E':LDEV TYPE=DKU86I)							
23								

Format 8, Message E (processor failure : CHK1B)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	SubCode (x'51' : FM CHK1B)							
9	MPID							
10	Y-Wing::INT STATUS							
	CH08 INT STATUS	CH07 INT STATUS	CH06 INT STATUS	CH05 INT STATUS	CH04 INT STATUS	CH03 INT STATUS	CH02 INT STATUS	CH01 INT STATUS
11	CMPA::MPA_STS							
	BSINT	CHK3 HSN MST	CHK3 HSN SLV	CHK1B FM	IMP WARN	ROSC WARN	CHK1B XR	MPINT
12	CMPA::FMSEQ_ERR							
	ILLACS_MP3	DECODE_MP3	ENCODE_MP3	CST_MP3	ILLACS_MP2	DECODE_MP2	ENCODE_MP2	CST_MP2
13	CMPA::FMSEQ_ERR							
	ILLACS_MP1	DECODE_MP1	ENCODE_MP1	CST_MP1	ILLACS_MP0	DECODE_MP0	ENCODE_MP0	CST_MP0
14	CMPA::FMSEQCNT_ERR							
	(RSV)	(RSV)	(RSV)	MP3_ACC_TO	MP3_WEH_TO	MP3_WP_TO	MP3_ACC_PER	MP3_WEH_PER
15	CMPA::FMSEQCNT_ERR							
	(RSV)	(RSV)	(RSV)	MP2_ACC_TO	MP2_WEH_TO	MP2_WP_TO	MP2_ACC_PER	MP2_WEH_PER
16	CMPA::FMSEQCNT_ERR							
	(RSV)	(RSV)	(RSV)	MP1_ACC_TO	MP1_WEH_TO	MP1_WP_TO	MP1_ACC_PER	MP1_WEH_PER
17	CMPA::FMSEQCNT_ERR							
	(RSV)	(RSV)	(RSV)	MP0_ACC_TO	MP0_WEH_TO	MP0_WP_TO	MP0_ACC_PER	MP0_WEH_PER
18	Module ID							
19	Routine ID							
20	P/K ID (Failed processor)				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF8E':LDEV TYPE=DKU87I / x'EF8E':LDEV TYPE=DKU86I)							
23								

Format 8, Message E (processor failure : CHK1B)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	SubCode (x'52' : PCI CHK1B(CMPA))							
9	MPID							
10	Y-Wing::INT STATUS							
	CH16 INT STATUS	CH15 INT STATUS	CH14 INT STATUS	CH13 INT STATUS	CH12 INT STATUS	CH11 INT STATUS	CH10 INT STATUS	CH09 INT STATUS
11	Y-Wing::INT STATUS							
	CH08 INT STATUS	CH07 INT STATUS	CH06 INT STATUS	CH05 INT STATUS	CH04 INT STATUS	CH03 INT STATUS	CH02 INT STATUS	CH01 INT STATUS
12	CMPA::MPA_STS							
	(RSV)	(RSV)	FCA CHK1 B 4MP	DRR CHK1 B 4MP	PCI CHK1 B Q	PCI CHK1 B M	FCA CHK1 B 8/4MP	DRR CHK1 B 8/4MP
13	CMPA::MPA_STS							
	BSINT	CHK3 H SNMST	CHK3 H SNSLV	CHK1B FM	(RSV)	(RSV)	CHK1B XR	MPINT
14	Y-Wing::SERR Status/PCI Error Status							
	SS	SS	SS	RCO	SCCO	USC	SCD	RSCE
15	Y-Wing::PCI Error Status							
	DCD	DAP	DDP	STA	RFU	DMDP	RTA	RMA
16	Y-Wing::OnChipBus Error Status							
	OPE	RFU	RFU	BL64E	BL32E	BL16E	BL8E	BL4E
17	Y-Wing::OnChipBus Error Status							
	RFU			RCOE	DNDE	BEE	RFU	
18	Module ID							
19	Routine ID							
20	P/K ID (Failed processor)				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF8E':LDEV TYPE=DKU87I / x'EF8E':LDEV TYPE=DKU86I)							
23								

Format 8, Message E (processor failure : CHK1B)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	SubCode (x'55' : PCI CHK1B,OHUB/MHUB PPCI)							
9	MPID							
10	Y-Wing::INT STATUS							
	CH16 INT STATUS	CH15 INT STATUS	CH14 INT STATUS	CH13 INT STATUS	CH12 INT STATUS	CH11 INT STATUS	CH10 INT STATUS	CH09 INT STATUS
11	Y-Wing::INT STATUS							
	CH08 INT STATUS	CH07 INT STATUS	CH06 INT STATUS	CH05 INT STATUS	CH04 INT STATUS	CH03 INT STATUS	CH02 INT STATUS	CH01 INT STATUS
12	Y-Wing::PCI Error Status							
	RCO	SCCO	USC	SCD	RSCE	DCD	DAP	DDP
13	Y-Wing::PCI Error Status/SERR Status/OnChipBus Error Status							
	STA	DMDP	RTA	RMA	SS	OPE	STA	DMDP
14	Y-Wing:: OnChipBus Error Status							
	BL64E	BL32E	BL16E	BL8E	BL4E	RCOE	DNDE	BEE
15	(RSV)							
16	(RSV)							
17	(RSV)							
18	Module ID							
19	Routine ID							
20	P/K ID (Failed processor)				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF8E':LDEV TYPE=DKU87I / x'EF8E':LDEV TYPE=DKU86I)							
23								

Format 8, Message E (processor failure : CHK1B)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	SubCode (x'56' : PCI CHK1B,OHUB/MHUB YPCI)							
9	MPID							
10	Y-Wing::INT STATUS							
	CH16 INT STATUS	CH15 INT STATUS	CH14 INT STATUS	CH13 INT STATUS	CH12 INT STATUS	CH11 INT STATUS	CH10 INT STATUS	CH09 INT STATUS
11	Y-Wing::INT STATUS							
	CH08 INT STATUS	CH07 INT STATUS	CH06 INT STATUS	CH05 INT STATUS	CH04 INT STATUS	CH03 INT STATUS	CH02 INT STATUS	CH01 INT STATUS
12	Y-Wing::PCI Error Status							
	RCO	SCCO	USC	SCD	RSCE	DCD	DAP	DDP
13	Y-Wing::PCI Error Status/SERR Status/OnChipBus Error Status							
	STA	DMDP	RTA	RMA	SS			OPE
14	Y-Wing:: OnChipBus Error Status							
	BL64E	BL32E	BL16E	BL8E	BL4E	RCOE	DNDE	BEE
15	(RSV)							
16	(RSV)							
17	(RSV)							
18	Module ID							
19	Routine ID							
20	P/K ID (Failed processor)				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF8E':LDEV TYPE=DKU87I / x'EF8E':LDEV TYPE=DKU86I)							
23								

Format 8, Message E (processor failure : CHK1B)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	SubCode (x'58' : PCI CHK1B(ESA))							
9	MPID							
10	Y-Wing::INT STATUS							
	CH16 INT STATUS	CH15 INT STATUS	CH14 INT STATUS	CH13 INT STATUS	CH12 INT STATUS	CH11 INT STATUS	CH10 INT STATUS	CH09 INT STATUS
11	Y-Wing::INT STATUS							
	CH08 INT STATUS	CH07 INT STATUS	CH06 INT STATUS	CH05 INT STATUS	CH04 INT STATUS	CH03 INT STATUS	CH02 INT STATUS	CH01 INT STATUS
12	ESA::ESA_CHK1B							
	LMADP CK1B	XTRG CK1B	XMST CK1B	PCI CK1B	(RSV)	XTRG_EX CK1B	(RSV)	PCI-EX CK1B
13	ESA::ESA_CHK1B							
	CBF CK1B	PL CK1B	HSN_XR ERR	HSN_CLK ERR	PCI_CLK ERR	ESA_CLK ERR	ALCP_DG CK1B	BLCP_DG CK1B
14	Y-Wing::SERR Status/PCI Error Status							
	SS	SS	SS	RCO	SCCO	USC	SCD	RSCE
15	Y-Wing::PCI Error Status							
	DCD	DAP	DDP	STA	RFU	DMDP	RTA	RMA
16	Y-Wing::OnChipBus Error Status							
	OPE	RFU	RFU	BL64E	BL32E	BL16E	BL8E	BL4E
17	Y-Wing::OnChipBus Error Status							
	RFU			RCOE	DNDE	BEE	RFU	
18	Module ID							
19	Routine ID							
20	P/K ID (Failed processor)				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF8E':LDEV TYPE=DKU87I / x'EF8E':LDEV TYPE=DKU86I)							
23								

Format 8, Message E (processor failure : CHK1B)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	SubCode (x'60' : MPA XR CHK1B)							
9	MPID							
10	Y-Wing::INT STATUS							
	CH08 INT STATUS	CH07 INT STATUS	CH06 INT STATUS	CH05 INT STATUS	CH04 INT STATUS	CH03 INT STATUS	CH02 INT STATUS	CH01 INT STATUS
11	DHAB::MPA STS							
	BSINT	CHK3 HSN MST	CHK3 HSN SLV	CHK1B FM	IMP WARN	ROSC WARN	CHK1B XR	MPINT
12	DHAB::PASSWORD CHK1B							
	(RSV)	(RSV)	FMDIR	ILBCNT	ILADR	BSTRD	BSTWR	PWD CHK1B
13	DHAB::REGBUF CHK1B							
	MMOL PER3	MMOL PER2	MMOL PER1	MMOL PER0	MMO_PER3	MMO_PER2	MMO_PER1	MMO_PER0
14	DHAB::ROTX ERR STS 1							
	MMOLPER3	MMOLPER2	MMOLPER1	MMOLPER0	MMOPER3	MMOPER2	MMOPER1	MMOPER0
15	DHAB::ROTX ERR STS 1							
	BEHPER	BELPER	BYTPER1	BYTPER0	CMPER3	CMPER2	CMPER1	CMPER0
16	DHAB::ROTX ERR STS 1							
	ADRPER7	ADRPER6	ADRPER5	ADRPER4	ADRPER3	ADRPER2	ADRPER1	ADRPER0
17	DHAB::ROTX ERR STS 1							
	MMOLPER3	MMOLPER2	MMOLPER1	MMOLPER0	MMOPER3	MMOPER2	MMOPER1	MMOPER0
18	Module ID							
19	Routine ID							
20	P/K ID (Failed processor)				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF8E':LDEV TYPE=DKU87I / x'EF8E':LDEV TYPE=DKU86I)							
23								

Format 8, Message E (processor failure : CHK1B)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	SubCode (x'61' : FM CHK1B)							
9	MPID							
10	Y-Wing::INT STATUS							
	CH08 INT STATUS	CH07 INT STATUS	CH06 INT STATUS	CH05 INT STATUS	CH04 INT STATUS	CH03 INT STATUS	CH02 INT STATUS	CH01 INT STATUS
11	DHAB::MPA_STS							
	BSINT	CHK3 HSN MST	CHK3 HSN SLV	CHK1B FM	IMP WARN	ROSC WARN	CHK1B XR	MPINT
12	DHAB::FMSEQ_ERR							
	ILLACS_MP3	DECODE_MP3	ENCODE_MP3	CST_MP3	ILLACS_MP2	DECODE_MP2	ENCODE_MP2	CST_MP2
13	DHAB::FMSEQ_ERR							
	ILLACS_MP1	DECODE_MP1	ENCODE_MP1	CST_MP1	ILLACS_MP0	DECODE_MP0	ENCODE_MP0	CST_MP0
14	DHAB::FMSEQCNT_ERR							
	(RSV)	(RSV)	(RSV)	MP3_ACC_TO	MP3_WEH_TO	MP3_WP_TO	MP3_ACC_PER	MP3_WEH_PER
15	DHAB::FMSEQCNT_ERR							
	(RSV)	(RSV)	(RSV)	MP2_ACC_TO	MP2_WEH_TO	MP2_WP_TO	MP2_ACC_PER	MP2_WEH_PER
16	DHAB::FMSEQCNT_ERR							
	(RSV)	(RSV)	(RSV)	MP1_ACC_TO	MP1_WEH_TO	MP1_WP_TO	MP1_ACC_PER	MP1_WEH_PER
17	DHAB::FMSEQCNT_ERR							
	(RSV)	(RSV)	(RSV)	MP0_ACC_TO	MP0_WEH_TO	MP0_WP_TO	MP0_ACC_PER	MP0_WEH_PER
18	Module ID							
19	Routine ID							
20	P/K ID (Failed processor)				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF8E':LDEV TYPE=DKU87I / x'EF8E':LDEV TYPE=DKU86I)							
23								

Format 8, Message E (processor failure : CHK1B)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	SubCode (x'62' : FCA CHK1B)							
9	MPID							
10	Y-Wing::INT STATUS							
	CH16 INT STATUS	CH15 INT STATUS	CH14 INT STATUS	CH13 INT STATUS	CH12 INT STATUS	CH11 INT STATUS	CH10 INT STATUS	CH09 INT STATUS
11	Y-Wing::INT STATUS							
	CH08 INT STATUS	CH07 INT STATUS	CH06 INT STATUS	CH05 INT STATUS	CH04 INT STATUS	CH03 INT STATUS	CH02 INT STATUS	CH01 INT STATUS
12	DHUB::MPA_STS							
	(RSV)	(RSV)	FCA INT 4MP	DRR INT 4MP	(RSV)	(RSV)	FCA INT B 8/4MP	DRR INT B 8/4MP
13	DHUB::MPA_STS							
	(RSV)	(RSV)	FCA CHK2 4MP	DRR CHK2 4MP	(RSV)	(RSV)	FCA CHK2 B 8/4MP	DRR CHK2 B 8/4MP
14	DHUB::MPA_STS							
	(RSV)	(RSV)	FCA CHK1 B 4MP	DRR CHK1 B 4MP	PCI CHK1 B Q	PCI CHK1 B M	FCA CHK1 B 8/4MP	DRR CHK1 B 8/4MP
15	DHUB::MPA_STS							
	BSINT	CHK3 H SNMST	CHK3 H SNSLV	CHK1B FM	(RSV)	(RSV)	CHK1B XR	MPINT
16	FCA::FCA_CHK1B							
	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	bit00
17	FCA:: FCA_CHK1B							
	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	bit00
18	Module ID							
19	Routine ID							
20	P/K ID (Failed processor)				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF8E':LDEV TYPE=DKU87I / x'EF8E':LDEV TYPE=DKU86I)							
23								

Format 8, Message E (processor failure : CHK1B)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	SubCode (x'63' : QDTA CHK1B)							
9	MPID							
10	Y-Wing::INT STATUS							
	CH08 INT STATUS	CH07 INT STATUS	CH06 INT STATUS	CH05 INT STATUS	CH04 INT STATUS	CH03 INT STATUS	CH02 INT STATUS	CH01 INT STATUS
11	DHUB::MPA_STS							
	(RSV)	(RSV)	FCA INTB 8/4MP	DRR INTB 8/4MP	(RSV)	(RSV)	FCA CHK2 4MP	DRR CHK2 4MP
12	DHUB::QDTA_DRMODEO							
	TREND_EREN	DRRCHK1B_EREN	PCICHK1B_EREN	YER_EREN	(RSV)	DRBACS2	DRBACS1	DRBACS0
13	DHUB::QDTA_DRSTATS							
	CHK2	CHK2A (DRR_CTL)	CHK2B (DRR_DT)	CHK2C(DR R_MICRO)	CHK2D(CH SN_CTL)	CHK2E (CNSN_DT)	CHK2F (TO/ABT)	CHK1B
14	DHUB::QDTA_DRSTATS							
	REV NO_#3	REV NO_#2	REV NO_#1	REV NO_#0	MP NO#3	MP NO#2	MP NO#1	MP NO#0
15	DHUB::QDTA_DRSTATS							
	ABORT	YWING_ERR	(RSV)	(RSV)	IMP-ERR Warning	ROSC-ERR Warning	PASWD-ERR	T64ERR
16	DHUB::QDTA_DRERRC							
	SQDEOM_R DDTPER (M)	SQDEOM_R DDTPER (S)	SQDEON_R DDTPER (M)	SQDEON_R DDTPER (S)	DETDR_RDDTPER	DETDR_W/R_DTPER	CO_PLCNT RX_RDDTPER	CO_PLCNT TX_RDDTPER
17	DHUB::QDTA_DRERRE							
	DBF3_C1_ECCERR	(RSV)	(RSV)	C1_DSKCNT_RDDTPER	C0_DSKCNT_RDDTPER	PCICHK1B_MONI	YWINGERR_MONI	QDTACHK1B_MONI
18	Module ID							
19	Routine ID							
20	P/K ID (Failed processor)				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF8E':LDEV TYPE=DKU87I / x'EF8E':LDEV TYPE=DKU86I)							
23								

Format 8, Message E (processor failure : CHK1B)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	SubCode (x'64' : PCI_CHK1B(DHUB))							
9	MPID							
10	Y-Wing::INT STATUS							
	CH16 INT STATUS	CH15 INT STATUS	CH14 INT STATUS	CH13 INT STATUS	CH12 INT STATUS	CH11 INT STATUS	CH10 INT STATUS	CH09 INT STATUS
11	Y-Wing::INT STATUS							
	CH08 INT STATUS	CH07 INT STATUS	CH06 INT STATUS	CH05 INT STATUS	CH04 INT STATUS	CH03 INT STATUS	CH02 INT STATUS	CH01 INT STATUS
12	DHUB::MPA_STS							
	(RSV)	(RSV)	FCA CHK1 B 4MP	DRR CHK1 B 4MP	PCI CHK1 B Q	PCI CHK1 B M	FCA CHK1 B 8/4MP	DRR CHK1 B 8/4MP
13	DHUB::MPA_STS							
	BSINT	CHK3 H SNMST	CHK3 H SNSLV	CHK1B FM	(RSV)	(RSV)	CHK1B XR	MPINT
14	Y-Wing::SERR Status/PCI Error Status							
	SS	SS	SS	RCO	SCCO	USC	SCD	RSCE
15	Y-Wing::PCI Error Status							
	DCD	DAP	DDP	STA	RFU	DMDP	RTA	RMA
16	Y-Wing::OnChipBus Error Status							
	OPE	RFU	RFU	BL64E	BL32E	BL16E	BL8E	BL4E
17	Y-Wing::OnChipBus Error Status							
	RFU			RCOE	DNDE	BEE	RFU	
18	Module ID							
19	Routine ID							
20	P/K ID (Failed processor)				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF8E':LDEV TYPE=DKU87I / x'EF8E':LDEV TYPE=DKU86I)							
23								

Format 8, Message E (processor failure : CHK1B)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	SubCode (x'65' : PCI_CHK1B(FCA))							
9	MPID							
10	Y-Wing::INT STATUS							
	CH16 INT STATUS	CH15 INT STATUS	CH14 INT STATUS	CH13 INT STATUS	CH12 INT STATUS	CH11 INT STATUS	CH10 INT STATUS	CH09 INT STATUS
11	Y-Wing::INT STATUS							
	CH08 INT STATUS	CH07 INT STATUS	CH06 INT STATUS	CH05 INT STATUS	CH04 INT STATUS	CH03 INT STATUS	CH02 INT STATUS	CH01 INT STATUS
12	DHUB::MPA_STS							
	(RSV)	(RSV)	FCA CHK1 B 4MP	DRR CHK1 B 4MP	PCI CHK1 B Q	PCI CHK1 B M	FCA CHK1 B 8/4MP	DRR CHK1 B 8/4MP
13	DHUB::MPA_STS							
	BSINT	CHK3 H SNMST	CHK3 H SNSLV	CHK1B FM	(RSV)	(RSV)	CHK1B XR	MPINT
14	Y-Wing::SERR Status/PCI Error Status							
	SS	SS	SS	RCO	SCCO	USC	SCD	RSCE
15	Y-Wing::PCI Error Status							
	DCD	DAP	DDP	STA	RFU	DMDP	RTA	RMA
16	Y-Wing::OnChipBus Error Status							
	OPE	RFU	RFU	BL64E	BL32E	BL16E	BL8E	BL4E
17	Y-Wing::OnChipBus Error Status							
	RFU			RCOE	DNDE	BEE	RFU	
18	Module ID							
19	Routine ID							
20	P/K ID (Failed processor)				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF8E':LDEV TYPE=DKU87I / x'EF8E':LDEV TYPE=DKU86I)							
23								

Format 8, Message E (processor failure : CHK1B)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	SubCode (x'66' : PCI_CHK1B(FCA_DX2))							
9	MPID							
10	Y-Wing::INT STATUS							
	CH16 INT STATUS	CH15 INT STATUS	CH14 INT STATUS	CH13 INT STATUS	CH12 INT STATUS	CH11 INT STATUS	CH10 INT STATUS	CH09 INT STATUS
11	Y-Wing::INT STATUS							
	CH08 INT STATUS	CH07 INT STATUS	CH06 INT STATUS	CH05 INT STATUS	CH04 INT STATUS	CH03 INT STATUS	CH02 INT STATUS	CH01 INT STATUS
12	DHUB::MPA_STS							
	(RSV)	(RSV)	FCA CHK1 B 4MP	DRR CHK1 B 4MP	PCI CHK1 B Q	PCI CHK1 B M	FCA CHK1 B 8/4MP	DRR CHK1 B 8/4MP
13	DHUB::MPA_STS							
	BSINT	CHK3 H SNMST	CHK3 H SNSLV	CHK1B FM	(RSV)	(RSV)	CHK1B XR	MPINT
14	Y-Wing::SERR Status/PCI Error Status							
	SS	SS	SS	RCO	SCCO	USC	SCD	RSCE
15	Y-Wing::PCI Error Status							
	DCD	DAP	DDP	STA	RFU	DMDP	RTA	RMA
16	Y-Wing::OnChipBus Error Status							
	OPE	RFU	RFU	BL64E	BL32E	BL16E	BL8E	BL4E
17	Y-Wing::OnChipBus Error Status							
	RFU			RCOE	DNDE	BEE	RFU	
18	Module ID							
19	Routine ID							
20	P/K ID (Failed processor)				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF8E':LDEV TYPE=DKU87I / x'EF8E':LDEV TYPE=DKU86I)							
23								

Format 8, Message E (processor failure : CHK1B)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	SubCode (x'67' : PCI_CHK1B(Y_Wing))							
9	MPID							
10	Y-Wing::INT STATUS							
	CH16 INT STATUS	CH15 INT STATUS	CH14 INT STATUS	CH13 INT STATUS	CH12 INT STATUS	CH11 INT STATUS	CH10 INT STATUS	CH09 INT STATUS
11	Y-Wing::INT STATUS							
	CH08 INT STATUS	CH07 INT STATUS	CH06 INT STATUS	CH05 INT STATUS	CH04 INT STATUS	CH03 INT STATUS	CH02 INT STATUS	CH01 INT STATUS
12	DHUB::MPA_STS							
	(RSV)	(RSV)	FCA CHK1 B 4MP	DRR CHK1 B 4MP	PCI CHK1 B Q	PCI CHK1 B M	FCA CHK1 B 8/4MP	DRR CHK1 B 8/4MP
13	DHUB::MPA_STS							
	BSINT	CHK3 H SNMST	CHK3 H SNSLV	CHK1B FM	(RSV)	(RSV)	CHK1B XR	MPINT
14	Y-Wing::SERR Status/PCI Error Status							
	SS	SS	SS	RCO	SCCO	USC	SCD	RSCE
15	Y-Wing::PCI Error Status							
	DCD	DAP	DDP	STA	RFU	DMDP	RTA	RMA
16	Y-Wing::OnChipBus Error Status							
	OPE	RFU	RFU	BL64E	BL32E	BL16E	BL8E	BL4E
17	Y-Wing::OnChipBus Error Status							
	RFU			RCOE	DNDE	BEE	RFU	
18	Module ID							
19	Routine ID							
20	P/K ID (Failed processor)				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF8E':LDEV TYPE=DKU87I / x'EF8E':LDEV TYPE=DKU86I)							
23								

Format 8, Message E (processor failure : CHK1B)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	SubCode (x'68' : Y_Wing_CHK1B)							
9	MPID							
10	Y-Wing::INT_STATUS							
	CH16 INT STATUS	CH15 INT STATUS	CH14 INT STATUS	CH13 INT STATUS	CH12 INT STATUS	CH11 INT STATUS	CH10 INT STATUS	CH09 INT STATUS
11	Y-Wing::INT_STATUS							
	CH08 INT STATUS	CH07 INT STATUS	CH06 INT STATUS	CH05 INT STATUS	CH04 INT STATUS	CH03 INT STATUS	CH02 INT STATUS	CH01 INT STATUS
12	Y-Wing::NMI_STATUS							
	(RSV)					OnChipBus Parity Error	Ethernet#2 Parity Error	Ethernet#1 Parity Error
13	Y-Wing::NMI_STATUS							
	BCU Parity Error	SC memory un correctable Error	SC memory correctable Error	SC memory Parity Error	SDRAM un correctable Error	SDRAM correctable Error	BIU-OnChipBus Error	Outside NMI (MPHOLD)
14	(RSV)							
15	(RSV)							
16	(RSV)							
17	(RSV)							
18	Module ID							
19	Routine ID							
20	P/K ID (Failed processor)				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF8E':LDEV TYPE=DKU87I / x'EF8E':LDEV TYPE=DKU86I)							
23								

Format 8, Message E (processor failure : CHK1B)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	SubCode (x'6A' : QDTA CHK1B(4MP))							
9	MPID							
10	Y-Wing::INT STATUS							
	CH08 INT STATUS	CH07 INT STATUS	CH06 INT STATUS	CH05 INT STATUS	CH04 INT STATUS	CH03 INT STATUS	CH02 INT STATUS	CH01 INT STATUS
11	DHUB::MPA_STS							
	(RSV)	(RSV)	FCA INT B 8/4MP	DRR INT B 8/4MP	(RSV)	(RSV)	FCA CHK2 4MP	DRR CHK2 4MP
12	DHUB::QDTA_DRMODEO							
	TREND_EREN	DRRCHK1B_EREN	PCICCHK1B_EREN	YER_EREN	(RSV)	DRBACS2	DRBACS1	DRBACS0
13	DHUB::QDTA_DRSTATS							
	CHK2	CHK2A (DRR_CTL)	CHK2B (DRR_DT)	CHK2C(DR R_MICRO)	CHK2D(CH SN_CTL)	CHK2E (CNSN_DT)	CHK2F (TO/ABT)	CHK1B
14	DHUB::QDTA_DRSTATS							
	REV NO_#3	REV NO_#2	REV NO_#1	REV NO_#0	MP NO#3	MP NO#2	MP NO#1	MP NO#0
15	DHUB::QDTA_DRSTATS							
	ABORT	YWING_ERR	(RSV)	(RSV)	IMP-ERR Warning	ROSC-ERR Warning	PASWD-ERR	T64ERR
16	DHUB::QDTA_DRERRC							
	SQDEOM_R DDTPER(M)	SQDEOM_R DDTPER(S)	SQDEON_R DDTPER(M)	SQDEON_R DDTPER(S)	DETDR_RDDTPER	DETDR_W/ R_DTPER	CO_PLCNT RX_RDDTPER	CO_PLCNT TX_RDDTPER
17	DHUB::QDTA_DRERRE							
	DBF3_C1_ECCERR	(RSV)	(RSV)	C1_DSKCN T_RDDTPER	C0_DSKCN T_RDDTPER	PCICCHK1B_MONI	YWINGERR _MONI	QDTACHK1 B_MONI
18	Module ID							
19	Routine ID							
20	P/K ID (Failed processor)				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF8E':LDEV TYPE=DKU87I / x'EF8E':LDEV TYPE=DKU86I)							
23								

Format 8, Message E (processor failure : CHK1B)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	SubCode (x'70' : MPA XR CHK1B)							
9	MPID							
10	Y-Wing::INT STATUS							
	CH08 INT STATUS	CH07 INT STATUS	CH06 INT STATUS	CH05 INT STATUS	CH04 INT STATUS	CH03 INT STATUS	CH02 INT STATUS	CH01 INT STATUS
11	DHAB::MPA_STS							
	BSINT	CHK3 HSN MST	CHK3 HSN SLV	CHK1B FM	IMP WARN	ROSC WARN	CHK1B XR	MPINT
12	DHAB::PASSWORD CHK1B							
	(RSV)	(RSV)	FMDIR	ILBCNT	ILADR	BSTRD	BSTWR	PWD CHK1B
13	DHAB::REGBUF CHK1B							
	MMOL PER3	MMOL PER2	MMOL PER1	MMOL PER0	MMO_PER3	MMO_PER2	MMO_PER1	MMO_PER0
14	DHAB::ROTX ERR STS 1							
	MMOLPER3	MMOLPER2	MMOLPER1	MMOLPER0	MMOPER3	MMOPER2	MMOPER1	MMOPER0
15	DHAB::ROTX ERR STS 1							
	BEHPER	BELPER	BYTPER1	BYTPER0	CMPER3	CMPER2	CMPER1	CMPER0
16	DHAB::ROTX ERR STS 1							
	ADRPER7	ADRPER6	ADRPER5	ADRPER4	ADRPER3	ADRPER2	ADRPER1	ADRPER0
17	DHAB::ROTX ERR STS 1							
	MMOLPER3	MMOLPER2	MMOLPER1	MMOLPER0	MMOPER3	MMOPER2	MMOPER1	MMOPER0
18	Module ID							
19	Routine ID							
20	P/K ID (Failed processor)				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF8E':LDEV TYPE=DKU87I / x'EF8E':LDEV TYPE=DKU86I)							
23								

Format 8, Message E (processor failure : CHK1B)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	SubCode (x'71' : FM CHK1B)							
9	MPID							
10	Y-Wing::INT STATUS							
	CH08 INT STATUS	CH07 INT STATUS	CH06 INT STATUS	CH05 INT STATUS	CH04 INT STATUS	CH03 INT STATUS	CH02 INT STATUS	CH01 INT STATUS
11	DHAB::MPA STS							
	BSINT	CHK3 HSN MST	CHK3 HSN SLV	CHK1B FM	IMP WARN	ROSC WARN	CHK1B XR	MPINT
12	DHAB::FMSEQ ERR							
	ILLACS_MP3	DECODE_MP3	ENCODE_MP3	CST_MP3	ILLACS_MP2	DECODE_MP2	ENCODE_MP2	CST_MP2
13	DHAB::FMSEQ ERR							
	ILLACS_MP1	DECODE_MP1	ENCODE_MP1	CST_MP1	ILLACS_MP0	DECODE_MP0	ENCODE_MP0	CST_MP0
14	DHAB::FMSEQCNT ERR							
	(RSV)	(RSV)	(RSV)	MP3_ACC_TO	MP3_WEH_TO	MP3_WP_TO	MP3_ACC_PER	MP3_WEH_PER
15	DHAB::FMSEQCNT ERR							
	(RSV)	(RSV)	(RSV)	MP2_ACC_TO	MP2_WEH_TO	MP2_WP_TO	MP2_ACC_PER	MP2_WEH_PER
16	DHAB::FMSEQCNT ERR							
	(RSV)	(RSV)	(RSV)	MP1_ACC_TO	MP1_WEH_TO	MP1_WP_TO	MP1_ACC_PER	MP1_WEH_PER
17	DHAB::FMSEQCNT ERR							
	(RSV)	(RSV)	(RSV)	MP0_ACC_TO	MP0_WEH_TO	MP0_WP_TO	MP0_ACC_PER	MP0_WEH_PER
18	Module ID							
19	Routine ID							
20	P/K ID (Failed processor)				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF8E':LDEV TYPE=DKU87I / x'EF8E':LDEV TYPE=DKU86I)							
23								

Format 8, Message E (processor failure : CHK1B)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	SubCode (x'73' : QDTA-MICRO CHK1B)							
9	MPID							
10	Y-Wing::INT STATUS							
	CH08 INT STATUS	CH07 INT STATUS	CH06 INT STATUS	CH05 INT STATUS	CH04 INT STATUS	CH03 INT STATUS	CH02 INT STATUS	CH01 INT STATUS
11	DHUB::MPA_STS							
	(RSV)	(RSV)	FCA INT B 8/4MP	DRR INT B 8/4MP	(RSV)	(RSV)	FCA CHK2 4MP	DRR CHK2 4MP
12	DHUB::QDTA_DRMODEO							
	TREND_ER EN	DRRCHK1B_EREN	PCICHK1B_EREN	YER_EREN	(RSV)	DRBACS2	DRBACS1	DRBACS0
13	DHUB::QDTA_DRSTATS							
	CHK2	CHK2A (DRR_CTL)	CHK2B (DRR_DT)	CHK2C(DR R MICRO)	CHK2D(CH SN_CTL)	CHK2E (CNSN_DT)	CHK2F (TO/ABT)	CHK1B
14	DHUB::QDTA_DRSTATS							
	REV NO_#3	REV NO_#2	REV NO_#1	REV NO_#0	MP NO#3	MP NO#2	MP NO#1	MP NO#0
15	DHUB::QDTA_DRSTATS							
	ABORT	YWING_ERR	(RSV)	(RSV)	IMP-ERR Warning	ROSC-ERR Warning	PASWD-ERR	T64ERR
16	DHUB::QDTA_DRERRC							
	(RSV)	WADBO_X RBCERR	WADBO_X RADRERR	XRSEQ_BL KACSERR_S	XRSEQ_BL KACSERR_M	WADBO_L MRDDTPER	PRM0_RDPER	PRM1_RDPER
17	DHUB::QDTA_DRERRC							
	CMD64SEQ_HWERR (M)	CMD64SEQ_RDPER (M)	CMD64SEQ_ENCERR (S)	PRM64_WT PER	PRM64_RDP ER	RDBO_DTP ER	CMD64SEQ_SEQPER (M)	CMD64SEQ_DECERR (M)
18	Module ID							
19	Routine ID							
20	P/K ID (Failed processor)				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF8E':LDEV TYPE=DKU87I / x'EF8E':LDEV TYPE=DKU86I)							
23								

Format 8, Message E (processor failure : CHK1B)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	SubCode (x'74' : PCI_CHK1B(DHUB))							
9	MPID							
10	Y-Wing::INT STATUS							
	CH16 INT STATUS	CH15 INT STATUS	CH14 INT STATUS	CH13 INT STATUS	CH12 INT STATUS	CH11 INT STATUS	CH10 INT STATUS	CH09 INT STATUS
11	Y-Wing::INT STATUS							
	CH08 INT STATUS	CH07 INT STATUS	CH06 INT STATUS	CH05 INT STATUS	CH04 INT STATUS	CH03 INT STATUS	CH02 INT STATUS	CH01 INT STATUS
12	DHUB::MPA_STS							
	(RSV)	(RSV)	FCA CHK1 B 4MP	DRR CHK1 B 4MP	PCI CHK1 B Q	PCI CHK1 B M	FCA CHK1 B 8/4MP	DRR CHK1 B 8/4MP
13	DHUB::MPA_STS							
	BSINT	CHK3 H SNMST	CHK3 H SNSLV	CHK1B FM	(RSV)	(RSV)	CHK1B XR	MPINT
14	Y-Wing::SERR Status/PCI Error Status							
	SS	SS	SS	RCO	SCCO	USC	SCD	RSCE
15	Y-Wing::PCI Error Status							
	DCD	DAP	DDP	STA	RFU	DMDP	RTA	RMA
16	Y-Wing::OnChipBus Error Status							
	OPE	RFU	RFU	BL64E	BL32E	BL16E	BL8E	BL4E
17	Y-Wing::OnChipBus Error Status							
	RFU			RCOE	DNDE	BEE	RFU	
18	Module ID							
19	Routine ID							
20	P/K ID (Failed processor)				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF8E':LDEV TYPE=DKU87I / x'EF8E':LDEV TYPE=DKU86I)							
23								

Format 8, Message E (processor failure : CHK1B)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	SubCode (x'75' : PCI_CHK1B(FCA))							
9	MPID							
10	Y-Wing::INT STATUS							
	CH16 INT STATUS	CH15 INT STATUS	CH14 INT STATUS	CH13 INT STATUS	CH12 INT STATUS	CH11 INT STATUS	CH10 INT STATUS	CH09 INT STATUS
11	Y-Wing::INT STATUS							
	CH08 INT STATUS	CH07 INT STATUS	CH06 INT STATUS	CH05 INT STATUS	CH04 INT STATUS	CH03 INT STATUS	CH02 INT STATUS	CH01 INT STATUS
12	DHUB::MPA_STS							
	(RSV)	(RSV)	FCA CHK1 B 4MP	DRR CHK1 B 4MP	PCI CHK1 B Q	PCI CHK1 B M	FCA CHK1 B 8/4MP	DRR CHK1 B 8/4MP
13	DHUB::MPA_STS							
	BSINT	CHK3 H SNMST	CHK3 H SNSLV	CHK1B FM	(RSV)	(RSV)	CHK1B XR	MPINT
14	Y-Wing::SERR Status/PCI Error Status							
	SS	SS	SS	RCO	SCCO	USC	SCD	RSCE
15	Y-Wing::PCI Error Status							
	DCD	DAP	DDP	STA	RFU	DMDP	RTA	RMA
16	Y-Wing::OnChipBus Error Status							
	OPE	RFU	RFU	BL64E	BL32E	BL16E	BL8E	BL4E
17	Y-Wing::OnChipBus Error Status							
	RFU			RCOE	DNDE	BEE	RFU	
18	Module ID							
19	Routine ID							
20	P/K ID (Failed processor)				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF8E':LDEV TYPE=DKU87I / x'EF8E':LDEV TYPE=DKU86I)							
23								

Format 8, Message E (processor failure : CHK1B)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	SubCode (x'76' : PCI_CHK1B(FCA_DX2))							
9	MPID							
10	Y-Wing::INT STATUS							
	CH16 INT STATUS	CH15 INT STATUS	CH14 INT STATUS	CH13 INT STATUS	CH12 INT STATUS	CH11 INT STATUS	CH10 INT STATUS	CH09 INT STATUS
11	Y-Wing::INT STATUS							
	CH08 INT STATUS	CH07 INT STATUS	CH06 INT STATUS	CH05 INT STATUS	CH04 INT STATUS	CH03 INT STATUS	CH02 INT STATUS	CH01 INT STATUS
12	DHUB::MPA_STS							
	(RSV)	(RSV)	FCA CHK1 B 4MP	DRR CHK1 B 4MP	PCI CHK1 B Q	PCI CHK1 B M	FCA CHK1 B 8/4MP	DRR CHK1 B 8/4MP
13	DHUB::MPA_STS							
	BSINT	CHK3 H SNMST	CHK3 H SNSLV	CHK1B FM	(RSV)	(RSV)	CHK1B XR	MPINT
14	Y-Wing::SERR Status/PCI Error Status							
	SS	SS	SS	RCO	SCCO	USC	SCD	RSCE
15	Y-Wing::PCI Error Status							
	DCD	DAP	DDP	STA	RFU	DMDP	RTA	RMA
16	Y-Wing::OnChipBus Error Status							
	OPE	RFU	RFU	BL64E	BL32E	BL16E	BL8E	BL4E
17	Y-Wing::OnChipBus Error Status							
	RFU			RCOE	DNDE	BEE	RFU	
18	Module ID							
19	Routine ID							
20	P/K ID (Failed processor)				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF8E':LDEV TYPE=DKU87I / x'EF8E':LDEV TYPE=DKU86I)							
23								

Format 8, Message E (processor failure : CHK1B)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	SubCode (x'77' : PCI_CHK1B(Y_Wing))							
9	MPID							
10	Y-Wing::INT STATUS							
	CH16 INT STATUS	CH15 INT STATUS	CH14 INT STATUS	CH13 INT STATUS	CH12 INT STATUS	CH11 INT STATUS	CH10 INT STATUS	CH09 INT STATUS
11	Y-Wing::INT STATUS							
	CH08 INT STATUS	CH07 INT STATUS	CH06 INT STATUS	CH05 INT STATUS	CH04 INT STATUS	CH03 INT STATUS	CH02 INT STATUS	CH01 INT STATUS
12	DHUB::MPA_STS							
	(RSV)	(RSV)	FCA CHK1 B 4MP	DRR CHK1 B 4MP	PCI CHK1 B Q	PCI CHK1 B M	FCA CHK1 B 8/4MP	DRR CHK1 B 8/4MP
13	DHUB::MPA_STS							
	BSINT	CHK3 H SNMST	CHK3 H SNSLV	CHK1B FM	(RSV)	(RSV)	CHK1B XR	MPINT
14	Y-Wing::SERR Status/PCI Error Status							
	SS	SS	SS	RCO	SCCO	USC	SCD	RSCE
15	Y-Wing::PCI Error Status							
	DCD	DAP	DDP	STA	RFU	DMDP	RTA	RMA
16	Y-Wing::OnChipBus Error Status							
	OPE	RFU	RFU	BL64E	BL32E	BL16E	BL8E	BL4E
17	Y-Wing::OnChipBus Error Status							
	RFU			RCOE	DNDE	BEE	RFU	
18	Module ID							
19	Routine ID							
20	P/K ID (Failed processor)				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF8E':LDEV TYPE=DKU87I / x'EF8E':LDEV TYPE=DKU86I)							
23								

Format 8, Message E (processor failure : CHK1B)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	SubCode (x'7A' : QDTA-MICRO CHK1B(4MP))							
9	MPID							
10	Y-Wing::INT STATUS							
	CH08 INT STATUS	CH07 INT STATUS	CH06 INT STATUS	CH05 INT STATUS	CH04 INT STATUS	CH03 INT STATUS	CH02 INT STATUS	CH01 INT STATUS
11	DHUB::MPA_STS							
	(RSV)	(RSV)	FCA INT B 8/4MP	DRR INT B 8/4MP	(RSV)	(RSV)	FCA CHK2 4MP	DRR CHK2 4MP
12	DHUB::QDTA_DRMODEO							
	TREND_ER EN	DRRCHK1B EREN	PCICCHK1B EREN	YER_EREN	(RSV)	DRBACS2	DRBACS1	DRBACS0
13	DHUB::QDTA_DRSTATS							
	CHK2	CHK2A (DRR_CTL)	CHK2B (DRR_DT)	CHK2C(DR R_MICRO)	CHK2D(CH SN_CTL)	CHK2E (CNSN_DT)	CHK2F (TO/ABT)	CHK1B
14	DHUB::QDTA_DRSTATS							
	REV NO_#3	REV NO_#2	REV NO_#1	REV NO_#0	MP NO#3	MP NO#2	MP NO#1	MP NO#0
15	DHUB::QDTA_DRSTATS							
	ABORT	YWING_ERR	(RSV)	(RSV)	IMP-ERR Warning	ROSC-ERR Warning	PASWD-ERR	T64ERR
16	DHUB::QDTA_DRERRC							
	(RSV)	WADBO_XRBCERR	WADBO_XRADRERR	XRSEQ_BLKACSERR_S	XRSEQ_BLKACSERR_M	WADBO_LMRDDTPER	PRM0_RDPER	PRM1_RDPER
17	DHUB::QDTA_DRERRC							
	CMD64SEQ_HWERR (M)	CMD64SEQ_RDPER (M)	CMD64SEQ_ENCERR (S)	PRM64_WTPER	PRM64_RDPER	RDBO_DTPER	CMD64SEQ_SEPPER (M)	CMD64SEQ_DECERR (M)
18	Module ID							
19	Routine ID							
20	P/K ID (Failed processor)				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF8E':LDEV TYPE=DKU87I / x'EF8E':LDEV TYPE=DKU86I)							
23								

Format 8, Message E (processor failure : CHK1B)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	SubCode (x'7B' : QDTA-MICRO CHK1B(4MP))							
9	MPID							
10	Y-Wing::INT STATUS							
	CH08 INT STATUS	CH07 INT STATUS	CH06 INT STATUS	CH05 INT STATUS	CH04 INT STATUS	CH03 INT STATUS	CH02 INT STATUS	CH01 INT STATUS
11	DHUB::MPA STS							
	(RSV)	(RSV)	FCA INT B 8/4MP	DRR INT B 8/4MP	(RSV)	(RSV)	FCA CHK2 4MP	DRR CHK2 4MP
12	DHUB::QDTA_DRMODEO							
	TREND_EREN	DRRCHK1B_EREN	PCICHK1B_EREN	YER_EREN	(RSV)	DRBACS2	DRBACS1	DRBACS0
13	DHUB::QDTA_DRSTATS							
	CHK2	CHK2A (DRR_CTL)	CHK2B (DRR_DT)	CHK2C (DRR_MICRO)	CHK2D (CHSN_CTL)	CHK2E (CNSN_DT)	CHK2F (TO/ABT)	CHK1B
14	DHUB::QDTA_DRSTATS							
	REV NO_#3	REV NO_#2	REV NO_#1	REV NO_#0	MP NO#3	MP NO#2	MP NO#1	MP NO#0
15	DHUB::QDTA_DRSTATS							
	ABORT	YWING_ERR	(RSV)	(RSV)	IMP-ERR Warning	ROSC-ERR Warning	PASWD-ERR	T64ERR
16	DHUB::QDTA_DRERRC							
	(RSV)	WADBO_XRBCERR	WADBO_XRADRERR	XRSEQ_BL KACSERR_S	XRSEQ_BL KACSERR_M	WADBO_L MRDDTPER	PRM0_RDPER	PRM1_RDPER
17	DHUB::QDTA_DRERRE							
	CMD64SEQ_HWERR (M)	CMD64SEQ_RDPER (M)	CMD64SEQ_ENCERR (S)	PRM64_WTPER	PRM64_RDPER	RDBO_DTPER	CMD64SEQ_SEQPER (M)	CMD64SEQ_DECERR (M)
18	Module ID							
19	Routine ID							
20	P/K ID (Failed processor)				Message Code (x'0')			
21	SSID for Self Subsystem (Low)							
22	Symptom Code (x'FF8E':LDEV TYPE=DKU87I / x'EF8E':LDEV TYPE=DKU86I)							
23								

Format 8, Message E (Selective Reset)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	Not used (x'00')							
9	DCN status							
	Force device busy	Channel connect request	Command chain execute	Path reserve	Stack status	Sense pending	Long Busy (Command process)	Processor connect
10	DCN status							
	Single path mode	Gurant path mode	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	Garant path MP
11	DCN flag							
	RST NTF/RST ALG SSB PND	Pin Data pending	(RSV)	(RSV)	ODE pending	RSQ pending	SCI/SCE pending	PCH pending
12	LCT initiation cause							
	0: Ready 1: Not ready	0: Disable 1: Enable	0: No SNS 1: 64 SNS pending	0: Mount 1: Not mount	0: No RST ALG LPN 1: Exist	0: No SYS RST LPN 1: Exist	0: No stack 1: Exist	0: No Wait SNS 1: Exist
13	LCT initiation cause							
	0: No Wait-RI 1: Exist	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	0: Others 1: DEV BSY JOB
14	Command interface flag							
	Pending exist	SCE(RSP)	(RSV)	(RSV)	ODE pending	RSG pending	SCI pending	PCH pending
15	Command code							
16	Internal SSB log No.							
17								
18	Detail log number for RESET							
19								
20	PCB number				Message code (x'1') (*1)			
21	SSID (lower order) of Self Subsystem							
22	Symptom Code (x'FF8E': LDEV type = DKU87I / x'EF8E': LDEV type = DKU86I)							
23								

*1: Indicates the 'Selective Reset'.

Format 8, Message E (Wait SENSE Timeout)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	Not used (x'00')							
9	LDEV#							
10*	Basic sense byte 0							
	Basic sense byte 0							
11*	Basic sense byte 1							
	Basic sense byte 1							
12*	Basic sense byte 2							
	Exception code (higher order)							
13*	Format/Message							
	Exception code (lower order)							
14*	Module ID							
	Module ID							
15*	Routine ID							
	Routine ID							
16	Internal SSB number for RESET							
17								
18	Detail log number for RESET							
19								
20	PCB number				Message code (x'3') (*1)			
21	SSID (lower order) of Self Subsystem							
22	Symptom Code (x'FF8E': LDEV type = DKU87I / x'EF8E': LDEV type = DKU86I)							
23								

*: Timeout SSB information
 Upper case: 24-byte format SSB
 Lower case: 32-byte format SSB

*1: Indicates the 'Wait SENSE Timeout'.

Format 8, Message E (CHK1B Reset)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	Related failure internal SSB log No. (Error procedure aid)							
9								
10								
11	Not used (x'00')							
12	OLD PSW (interruption source address)							
13								
14								
15								
16	Internal SSB log No. (reset)							
17	Detail log number for RESET							
18								
19								
20	PCB number				Message code (x'5') (*1)			
21	SSID (lower order) of Self Subsystem							
22	Symptom Code (x'FF8E': LDEV type = DKU87I / x'EF8E': LDEV type = DKU86I)							
23								

*1: Indicates the 'CHK1B Reset'.

Format 8, Message E (DKC Internal Reset)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	Not used (x'00')							
9								
10								
11								
12	OLD PSW (interruption source address)							
13								
14								
15								
16	Internal SSB log No.							
17								
18	Detail log number for RESET							
19								
20	PCB number				Message code (x'6') (*1)			
21	SSID (lower order) of Self Subsystem							
22	Symptom Code (x'FF8E': LDEV type = DKU87I / x'EF8E': LDEV type = DKU86I)							
23								

*1: Indicates the 'DKC Internal Reset'.

Format 8, Message E (LCP Internal Reset)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	Not used (x'00')				Not used (x'00')			
9								
10	Reset cause							
11								
12*	OLD PSW (0) LCP error code (higher order)							
13*	OLD PSW (1) LCP error code (lower order)							
14*	OLD PSW (2) x'00'							
15*	OLD PSW (3) x'00'							
16	Internal SSB No.							
17								
18	Detail log number for RESET							
19								
20	PCB number				Message code (x'7') (*1)			
21	SSID (lower order) of Self Subsystem							
22	Symptom Code (x'FF8E': LDEV type = DKU87I / x'EF8E': LDEV type = DKU86I)							
23								

*: Upper case: Hot line
 Lower case: Int Sel Reset

*1: Indicates the 'LCP Internal Reset'.

Format 8, Message E (Force Reset)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	Not used (x'00')							
9								
10								
11								
12	OLD PSW (interruption source address)							
13								
14								
15								
16	Internal SSB log No.							
17								
18	Detail log number for RESET							
19								
20	PCB number				Message code (x'8') (*1)			
21	SSID (lower order) of Self Subsystem							
22	Symptom Code (x'FF8E': LDEV type = DKU87I / x'EF8E': LDEV type = DKU86I)							
23								

*1: Indicates the 'Force Reset'.

Format 8, Message E (Logical inconsistency reset)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'E')			
8	Not used							
9								
10								
11								
12	OLD PSW (interruption source address)							
13								
14								
15								
16	Internal SSB log number							
17								
18	Detail log number for RESET							
19								
20	PCB number				Message code (x'9') (*1)			
21	SSID (lower order) of Self Subsystem							
22	Symptom Code (x'FF8E': LDEV type = DKU87I / x'EF8E': LDEV type = DKU86I)							
23								

*1: Indicates the 'Logical inconsistency reset'.

Format 8, Message F (Micro-program detected error : Logical inconsistency)

	0	1	2	3	4	5	6	7
7	Format (x'8')				Message (x'F')			
8	Module ID							
9	Routine ID							
10	Error information							
11								
12								
13								
14								
15								
16								
17								
18								
19								
20	PCB number				Message code (don't care)			
21	SSID (lower order) of Self Subsystem							
22	Symptom Code (high order) (x'FF': LDEV type = DKU87I / x'EF': LDEV type = DKU86I)							
23	Symptom Code (low order) (x'8F')							

Module ID (SSB8) List (1/4)

No.	Module ID	Function name	Remarks
1	00	Initialization	
2	01	Power disconnection	
3	02	CUDG	
4	10	Job management	
5	11	Synchronous management	
6	12	Communication control between processors	
7	13	Cache control	
8	14	Resource management	
9	15	Configuration control	
10	16	Reset	
11	17	SVP management	
12	18	Configuration control (RAID provided)	
13	19	Configuration control (drive recovery provided)	
14	30	Standard function	
15	31	SVP-provided function	
16	32	Error procedure aid	
17	40	CHA monitor	
18	41	CHA initiator	
19	42	CHA terminator	
20	43	CHA kernel (common function)	
21	48	Remote copy command	
22	49	Remote copy command	
23	50	Command chain start	
24	51	Command chain termination	
25	52	Command execution status analysis	
26	53	Command execution CHL I/F control	
27	54	Channel server common process 1	
28	55	Channel server common process 2	
29	56	Channel server common process 3	
30	57	Channel server common process 4	
31	58	Channel server data transfer 1	
32	59	Channel server data transfer 2	

Module ID (SSB8) List (2/4)

No.	Module ID	Function name	Remarks
33	5A	Read/write common process	
34	5B	Subsystem command common process	
35	5C	Channel server asynchronous control 1	
36	5D	Channel server asynchronous control 2	
37	5E	Channel server command queuing control	
38	5F	Channel server JOB FRR	
39	60	Read command process 1	
40	61	Read command process 2	
41	62	Read command process 3	
42	63	Read command process 4	
43	64	Read command process 5	
44	65	Read command process 6	
45	66	Write command process 1	
46	67	Write command process 2	
47	68	Write command process 3	
48	69	Write command process 4	
49	6A	Write command process 5	
50	6B	Write command process 6	
51	6D	Control command process 1	
52	6E	Control command process 2	
53	6F	Search command	
54	70	Path control command process	
55	71	Diagnostic command process	
56	72	DIAG command process	
57	73	Subsystem command process 1	
58	74	Subsystem command process 2	
59	75	Subsystem command process 3	
60	78	CHL I/F link level frame control	
61	79	CHL I/F device frame control	

Module ID (SSB8) List (3/4)

No.	Module ID	Function name	Remarks
62	7A	CHL I/F common control	
63	7B	LDEV format	
64	7E	Concurrent copy process	
65	7F	Channel server WDCP/differential (M specified)	
66	80	DKA monitor	
67	81	DKA initiator	
68	82	DKA terminator	
69	88	External I/O 1	
70	89	External I/O 2	
71	8A	External I/O 3	
72	8B	External I/O 4	
73	90	Staging	
74	91	LDEV destaging	
75	92	PDEV destaging	
76	93	Drive recovery	
77	94	Offline monitor	
78	95	Physical drive maintenance	
79	98	RAID synchronous type	
80	99	RAID LDEV destaging	
81	9A	RAID PDEV destaging	
82	9B	RAID drive recovery	
83	9C	RAID external provided	
84	9F	RAID failed slot operation	
85	A0	SCSI control	
86	A1	DRR control	
87	A2	SVP command execution	
88	A3	Test activation	
89	A4	SCSI control	
90	A5	Offline monitor	
91	A6	Physical drive maintenance	
92	A7	SCSI control	
93	A8	DRR control	
94	AC	External path/device manager 1	
95	AD	External path/device manager 2	
96	AE	SCSI control	

Module ID (SSB8) List (4/4)

No.	Module ID	Function name	Remarks
97	C0	HRC CHL/SVP I/F	
98	C1	HRC Remote copy monitor	
99	C2	HRC Configuration control	
100	C3	HRC common copy procedure	
101	C4	HRC Remote copy procedure	
103	C6	HRC channel server procedure	*1
104	C7	HRC Remote I/O manager	
105	C8	HRC Remote I/O 1	*1
106	C9	HRC Remote I/O 2	
107	CA	HRC path control	
108	CB	HRC asynchronous remote copy procedure	
109	CC	HRC asynchronous CT manager	
110	CD	HRC asynchronous scheduler	
111	CE	HRC Configuration control	
112	CF	HRC Configuration control	

*1: No action is required for error codes, C60E, C870, C871 and C872. These error codes are reported only to have the host processor re-drive the failed CCW chain.

Format F, Message 0 (Operation terminated)

	0	1	2	3	4	5	6	7
7	Format (x'F')				Message (x'0')			
8	Not used (x'000000')							
9								
10								
11	Hardware level (*1)							
12	SSID of mate subsystem (x'0000' for EDCC)							
13								
14	Manufacturer code ('000000')						Factory code ('00')	
15	Not used (x'00')							
16	Module ID							
17	Routine ID							
18	PCB number				Error code (don't care)			
19	SSID of Self Subsystem							
20	Symptom code (x'FFF0')							
21								
22								
23								

*1: Hardware level

Bit 0 : Hardware level

When the bit 0 = 0,

Bit 1: Not used
 Bit 2-3: Reported storage path
 Bit 4-5: Number of channels per cluster
 00 : 4
 01 : 8
 10 : Not used
 11 : Not used
 Bit 6: NVS
 0 : Not exist
 1 : Exist
 Bit 7: Not used
 Bit 8-10: Cache size
 000 : Non cache
 001 : 256MB
 010 : 512MB
 011 : 768MB
 100 : 1024MB
 101 : 1280MB
 110 : 1536MB
 111 : Over 1536MB
 Bit 11-13: Cluster hardware level
 Bit 14-15: Cache/NVS hardware level

When the bit 0 = 1,

Bit 1: Not used
 Bit 2-3: Failed storage path
 Bit 4-7: Number of channels per cluster
 0000 : Parallel channel = 4, serial channel = 0
 0001 : Parallel channel = 8, serial channel = 0
 0010 : Parallel channel = 4, serial channel = 2
 0100 : Parallel channel = 4, serial channel = 4
 0110 : Parallel channel = 0, serial channel = 2
 1000 : Parallel channel = 0, serial channel = 4
 1010 : Parallel channel = 0, serial channel = 8
 1100 : Parallel channel = 4, serial channel = 6
 Bit 8: Dual frame
 0 : Dual frame
 1 : Modular power
 Bit 9-11: Cache size
 000 : Non cache
 001 : 256MB
 010 : 512MB
 011 : 768MB
 100 : 1024MB
 101 : 1280MB
 110 : 1536MB
 111 : Over 1536MB
 Bit 11-13: Cluster hardware level
 Bit 14-15: Cache/NVS hardware level

Format F, Message 1 (Micro-program detected cache failure)

	0	1	2	3	4	5	6	7
7	Format (x'F')				Message (x'1')			
8	Queue transition in progress (Side A)	Queue transition in progress (Side B)	Free SGCB queue operation in progress	Free SLCB queue operation in progress	Free GRPT queue operation in progress	Not used		
9*	Not used							
	VDEV number							
10*	Queue type							
	VDEV number		Slot number					
11*	Queue number							
	Slot number							
12*	Queue number							
	Slot number							
13	SSID of mate subsystem							
14	(x'0000' for EDCC)							
15	Manufacture code ('000000')						Factory code ('00')	
16	Not used							
17	Module ID							
18	Routine ID							
19	PCB number				Error code (don't care)			
20	SSID of Self Subsystem							
21								
22	Symptom Code (x'FFF1')							
23								

*: When byte 8, bit 2-4 = 000, upper value is valid.
When byte 8, bit 2-4 ≠ 000, lower value is valid.

Format F, Message 2 (CACHE ERR)

	0	1	2	3	4	5	6	7
7	Format (x'F')				Message (x'2')			
8	SubCode							
	Error Detected: '1' = P PATH (DTA), '3' = P PATH (CSW) '5' = C PATH (CSW), '7' = C PATH (CMA) '8' = CACHE BOARD, '9' = CACHE MEMORY 'A' = P PATH (Calibration Detected) 'B' = C PATH (Calibration Detected)				CARB BOARD ERR '0' = NO '1' = YES	CMA BOARD ERR '0' = NO '1' = YES	CARB REG LOG ERR '0' = OK '1' = NG	CMA REG LOG ERR '0' = OK '1' = NG
	Transfer Information							
	Transfer P/K Type and Master Path '0' = ESCON I/F CHA '2' = FICON I/F CHA '5' = OPEN-FC I/F CHA '8' = FIBRE I/F DKA				Transfer Mode '0' = DMA0 '1' = DMA1 '4' = PMA '6' = FCA0 '7' = FCA1 '8' = DRR 'A' = ESCON 'B' = EXDMA			
	XFR MODE							
	'0' = Normal Write, '1' = Read '2' = 2 Slave Write, '3' = CtoC Cache Copy '4' = CinC Cache Copy				(RSV)	(RSV)	(RSV)	(RSV)
11	Using Path Code							
	P PATH# '0' = P#0 '1' = P#1	SLAVE#1 CACHE P/K# ('0' ~ '7')			LOG PATH# '0' = ORIGIN '1' = OTHER	SLAVE#2 CACHE P/K# ('0' ~ '7')		
12	STATUS0 (SLAVE #1) byte0							
	STATUS0 ERR	STATUS0 CARB ERR	STATUS0 CMA ERR	STATUS0 CMA STATUS ERR	STATUS0 CARB UNINITIAL	STATUS0 CARB WARNING	STATUS0 CMA WARNING0	STATUS0 CMA WARNING1
13	SSID for Other Subsystem ('0000')							
14								
15	Maker Code ('000000')				Factory Code ('00')			
16	STATUS0 (SLAVE #1) byte1							
	STATUS0 PATH ID# ('0' ~ 'F')				STATUS0 CMA UNINITIAL	STATUS0 ANSWER CACHE#		
17	Module ID							
18	Routine ID							
19	P/K ID				Error code (Don't care)			
20	SSID for Self Subsystem							
21								
22	Symptom Code (x'FFF2')							
23								

Format F, Message 5 (Remote Copy Paths Removed/Restored)

	0	1	2	3	4	5	6	7
7	Format (x'F')				Message (x'5')			
8	Reason code (*1)							
9	RCU device address							
10	RCU Manufacture code/Factory code							
11								
12								
13	RCU Sequence No.							
14								
15								
16	MCU Manufacture code/Factory code							
17	MCU Sequence No.							
18								
19								
20	SSID of self subsystem							
21	Symptom Code (x'3887')							
22								
23								

*1: Reason code

x'01' : One or more remote copy paths removed unexpectedly

x'02' : One or more remote copy paths restored

x'03' : All remote copy paths removed unexpectedly

Format F, Message 6 (CFW impossible)

	0	1	2	3	4	5	6	7
7	Format (x‘8’)				Message (x‘E’)			
8	Reason code (*1)							
9	Not used							
10								
11								
12								
13	SSID of mate subsystem							
14	(x‘0000’ for EDCC)							
15	Manufacturer code (‘000000’)						Factory code (‘00’)	
16	Not used							
17	Module ID							
18	Routine ID							
19	PCB number				Error code (don’t care)			
20	SSID of Self Subsystem							
21								
22	Symptom Code (x‘FFF6’)							
23								

*1: Reason code

x'00' : Reserved
 x'01' : CFW ID inconsistent
 x'02'-x'0F' : Reserved

Format F, Message A (NVS terminated)

	0	1	2	3	4	5	6	7
7	Format (x'F')				Message (x'A')			
8	Reason code (*1)							
9	Not used							
10								
11								
12								
13	SSID of mate subsystem							
14	(x'0000' for EDCC)							
15	Manufacturer code ('000000')						Factory code ('00')	
16	Not used							
17	Module ID							
18	Routine ID							
19	PCB number				Error code (don't care)			
20	SSID of Self Subsystem							
21								
22	Symptom Code (x'FFFA')							
23								

*1: Reason code

x'00'-x'01' : Reserved

x'02' : NVS failure

x'03'-x'0F' : Reserved

Format F, Message B (HRC Pair Suspend)

	0	1	2	3	4	5	6	7
7	Format (x'F')				Message (x'B')			
8	R-Vol suspended	R-Vol failed	Reason code (*1)					
9	RCU device address							
10	RCU Manufacture code/Factory code (x'0C220')							
11								
12								
13								
14	RCU Sequence No.							
15	MCU Manufacture code/Factory code (x'0C220')							
16								
17								
18								
19	MCU Sequence No.							
20								
21								
22	Symptom Code (x'FE')							
23	Symptom Code (same byte #8)							

*1: Reason code

x'14'-x'2F' : Reserved

x'30' : Pair suspended. MCU device write error.

x'31' : Pair suspended. RCU subsystem error/or MCU subsystem error.

x'32' : Pair suspended. RCU device communication error.

x'33' : Pair suspended (Critical device status). All write command is rejected until pair re-established.

x'34' : Pair suspended. RCU device is not ready (intervention required).

Format F, Message F (DXBF Memory : Correctable error)

	0	1	2	3	4	5	6	7
7	Format (x'F')				Message (x'F')			
8	Subcode (x'01' : DXBF Correctable error)							
9	MPID (reported SSB)							
10	Not used (x'00')							
11	Not used (x'00')							
12	Not used (x'00')							
13	Not used (x'00')							
14	Not used (x'00')							
15	Not used (x'00')							
16	Not used (x'00')							
17	Module ID							
18	Routine ID							
19	PKID				Not used (x'0')			
20	SSID of self subsystem							
21								
22	Symptom code (x'FFFF')							
23								

Format F, Message F (ECMA : Warning)

	0	1	2	3	4	5	6	7
7	Format (x'F')				Message (x'F')			
8	Subcode (x'02' : ECMA Warning)							
9	MPID (reported SSB)							
10	Not used (x'00')							
11	Not used (x'00')							
12	Not used (x'00')							
13	Not used (x'00')							
14	Not used (x'00')							
15	Not used (x'00')							
16	Not used (x'00')							
17	Module ID							
18	Routine ID							
19	PKID				Not used (x'0')			
20	SSID of self subsystem							
21								
22	Symptom code (x'FFFF')							
23								

Format F, Message F (Shared Memory : Warning)

	0	1	2	3	4	5	6	7
7	Format (x'F')				Message (x'F')			
8	Subcode (x'04' : SMA Warning)							
9	MPID (reported SSB)							
10	Not used (x'00')							
11	Not used (x'00')							
12	Warning (Side A:x'00', Side B:x'01', Side C:x'02', Side D:x'03')							
13	Not used (x'00')							
14	Not used (x'00')							
15	Not used (x'00')							
16	Not used (x'00')							
17	Module ID							
18	Routine ID							
19	PKID				Not used (x'0')			
20	SSID of self subsystem							
21								
22	Symptom code (x'FFFF')							
23								

Format F, Message F (Side SM : Warning)

	0	1	2	3	4	5	6	7
7	Format (x'F')				Message (x'F')			
8	Subcode (x'06' : SM(A) THREE SM (A) DISABLE LINES INCONSISTENT) (x'07' : SM(B) THREE SM (A) DISABLE LINES INCONSISTENT) (x'08' : SM(C) THREE SM (A) DISABLE LINES INCONSISTENT) (x'09' : SM(D) THREE SM (A) DISABLE LINES INCONSISTENT)							
9	MPID (reported SSB)							
10	EMPA:HOUT CD							
	(Not used)	SMDC OUTX(2)	SMDC OUTX(1)	SMDC OUTX(0)	(Not used)	SMDD OUTX(2)	SMDD OUTX(1)	SMDD OUTX(0)
11	EMPA:HOUT AB							
	(Not used)	SMDA OUTX(2)	SMDA OUTX(1)	SMDA OUTX(0)	(Not used)	SMDB OUTX(2)	SMDB OUTX(1)	SMDB OUTX(0)
12	EMPA:HIN CD							
	SMDCMV	SMDCX(2)	SMDCX(1)	SMDCX(0)	SMDDMV	SMDDX(2)	SMDDX(1)	SMDDX(0)
13	Not used (x'00')							
14	Not used (x'00')							
15	Not used (x'00')							
16	EMPA:HIN AB							
	SMDAMV	SMDAX(2)	SMDAX(1)	SMDAX(0)	SMDBMV	SMDBX(2)	SMDBX(1)	SMDBX(0)
17	Module ID							
18	Routine ID							
19	PKID				Not used (x'0')			
20	SSID of self subsystem							
21								
22	Symptom code (x'FFFF')							
23								

Format F, Message F (Scan : Warning)

	0	1	2	3	4	5	6	7
7	Format (x'F')				Message (x'F')			
8	Subcode (x'10' : SMA Slave error)							
9	MPID (reported SSB)							
10	SCAN slave MPID (Micro Information)							
11	Type of SCAN (MP Status Read:'04', SCAN Read:'02', SCAN write:'01')							
12	Slave Error detected SM# (Side A:x'00', Side B:x'01', Side C:x'02', Side D:x'03')							
13	Not used (x'00')							
14	Not used (x'00')							
15	Not used (x'00')							
16	Not used (x'00')							
17	Module ID							
18	Routine ID							
19	PKID				Not used (x'0')			
20	SSID of self subsystem							
21								
22	Symptom code (x'FFFF')							
23								

Format F, Message F (MPA Slave : Warning)

	0	1	2	3	4	5	6	7
7	Format (x'F')				Message (x'F')			
8	Subcode (x'11' : MPA Slave warning)							
9	MPID (reported SSB)							
10	Scarce SMA (Side A: x'04', Side B: x'03', Side C: x'02', Side D: x'01')							
11	SSB reported P/K#							
12	MPA:MPASTS (Warning BIT35)							
	BSINT	CHK3 HSNMST	CHK3 HSNSLV	CHK1B FM	IMP WARN	ROSC WARN	CHK1B XR	MPINT
13	Not used (x'00')							
14	Not used (x'00')							
15	Not used (x'00')							
16	MPA:SLVCHK3STS							
	(Not used)	(Not used)	(Not used)	(Not used)	(Not used)	(Not used)	(Not used)	(Not used)
17	Module ID							
18	Routine ID							
19	PKID				Not used (x'0')			
20	SSID of self subsystem							
21								
22	Symptom code (x'FFFF')							
23								

Format F, Message F (SCINT : Warning)

	0	1	2	3	4	5	6	7
7	Format (x'F')				Message (x'F')			
8	Subcode (x'12' : SCINT Warning)							
9	MPID (reported SSB)							
10	Warning (Side A: x'04', Side B: x'03', Side C: x'02', Side D: x'01')							
11	Not used (x'00')							
12	Not used (x'00')							
13	Not used (x'00')							
14	Not used (x'00')							
15	Not used (x'00')							
16	Not used (x'00')							
17	Module ID							
18	Routine ID							
19	PKID				Not used (x'0')			
20	SSID of self subsystem							
21								
22	Symptom code (x'FFFF')							
23								

Format F, Message F (BCINT : Warning)

	0	1	2	3	4	5	6	7
7	Format (x'F')				Message (x'F')			
8	Subcode (x'13' : BCINT Warning)							
9	MPID (reported SSB)							
10	Warning (Side A: x'00', Side B: x'01', Side C: x'02', Side D: x'03')							
11	Not used (x'00')							
12	Not used (x'00')							
13	Not used (x'00')							
14	Not used (x'00')							
15	Not used (x'00')							
16	Not used (x'00')							
17	Module ID							
18	Routine ID							
19	PKID				Not used (x'0')			
20	SSID of self subsystem							
21								
22	Symptom code (x'FFFF')							
23								

Format F, Message F (LED BUS : Warning)

	0	1	2	3	4	5	6	7
7	Format (x'F')				Message (x'F')			
8	SubCode (x'20' : FSW HBC BUS test)							
9	MPID (reported SSB)							
10	LEDADRDT: 7004 (HBC Bus Access : address)							
	LED ADDRESS REG							
11	LEDADRDT: 7004 (HBC Bus Access : write data)							
	LED DATA REG							
12	LEDADRDT: 7004 (HBC Bus Access : write data)							
	SERIAL RD DT							
13	Not used (x'00')							
14	Not used (x'00')							
15	Not used (x'00')							
16	LEDCMD: 7008 (HBC Bus Access : command)							
	LED CMD REG 0x01:WT,0x02:RD							
17	Module ID							
18	Routine ID							
19	PKID				Not used (x'0')			
20	SSID of self subsystem							
21								
22	Symptom code (x'FFFF')							
23								

Format F, Message F (Abnormal MODE : Warning)

	0	1	2	3	4	5	6	7
7	Format (x'F')				Message (x'F')			
8	Subcode (x'40' : Abnormal DC Voltage CTL Warning)							
9	MPID (reported SSB)							
10	Register access result BYTE (00:No Error, 01:Error detected)							
11	Not used (x'00')							
12	Not used (x'00')							
13	Not used (x'00')							
14	Not used (x'00')							
15	Not used (x'00')							
16	Not used (x'00')							
17	Module ID							
18	Routine ID							
19	PKID				Not used (x'0')			
20	SSID of self subsystem							
21								
22	Symptom code (x'FFFF')							
23								

Format F, Message F (Abnormal CEMODE : Warning)

	0	1	2	3	4	5	6	7
7	Format (x'F')				Message (x'F')			
8	Subcode (x'41' : Abnormal CEMODE Warning)							
9	MPID (reported SSB)							
10	Register access result BYTE (00:No Error, 01:Error detected)							
11	Not used (x'00')							
12	Not used (x'00')							
13	Not used (x'00')							
14	Not used (x'00')							
15	Not used (x'00')							
16	Not used (x'00')							
17	Module ID							
18	Routine ID							
19	PKID				Not used (x'0')			
20	SSID of self subsystem							
21								
22	Symptom code (x'FFFF')							
23								

Format F, Message F (Abnormal CEDT0 : Warning)

	0	1	2	3	4	5	6	7
7	Format (x'F')				Message (x'F')			
8	Subcode (x'42' : Abnormal CEDT0 Warning)							
9	MPID (reported SSB)							
10	Register access result BYTE (00:No Error, 01:Error detected)							
11	Not used (x'00')							
12	Not used (x'00')							
13	Not used (x'00')							
14	Not used (x'00')							
15	Not used (x'00')							
16	Not used (x'00')							
17	Module ID							
18	Routine ID							
19	PKID				Not used (x'0')			
20	SSID of self subsystem							
21								
22	Symptom code (x'FFFF')							
23								

Format F, Message F (MHUB : Correctable error)

	0	1	2	3	4	5	6	7
7	Format (x'F')				Message (x'F')			
8	Subcode (x'80' : MHUB Correctable error)							
9	MPID (reported SSB)							
10	Not used (x'00')							
11	Not used (x'00')							
12	Not used (x'00')							
13	Not used (x'00')							
14	Not used (x'00')							
15	Not used (x'00')							
16	Not used (x'00')							
17	Module ID							
18	Routine ID							
19	PKID				Not used (x'0')			
20	SSID of self subsystem							
21								
22	Symptom code (x'FFFF')							
23								

Format F, Message F (DHUB DDR : Warning)

	0	1	2	3	4	5	6	7
7	Format (x'F')				Message (x'F')			
8	Subcode (x'81' : DHUB DDR Warning)							
9	MPID (reported SSB)							
10	Not used (x'00')							
11	Not used (x'00')							
12	Not used (x'00')							
13	Not used (x'00')							
14	Not used (x'00')							
15	Not used (x'00')							
16	Not used (x'00')							
17	Module ID							
18	Routine ID							
19	PKID				Not used (x'0')			
20	SSID of self subsystem							
21								
22	Symptom code (x'FFFF')							
23								

Format F, Message F (FCA : Warning)

	0	1	2	3	4	5	6	7
7	Format (x‘F’)				Message (x‘F’)			
8	Subcode (x‘82’ : FCA Warning)							
9	MPID (reported SSB)							
10	Not used (x‘00’)							
11	Not used (x‘00’)							
12	Not used (x‘00’)							
13	Not used (x‘00’)							
14	Not used (x‘00’)							
15	Not used (x‘00’)							
16	Not used (x‘00’)							
17	Module ID							
18	Routine ID							
19	PKID				Not used (x‘0’)			
20	SSID of self subsystem							
21								
22	Symptom code (x‘FFFF’)							
23								

Format F, Message F (DCMA : Warning)

	0	1	2	3	4	5	6	7
7	Format (x'F')				Message (x'F')			
8	Subcode (x'83' : DCMA Warning)							
9	MPID (reported SSB)							
10	Not used (x'00')							
11	Not used (x'00')							
12	Not used (x'00')							
13	Not used (x'00')							
14	Not used (x'00')							
15	Not used (x'00')							
16	Not used (x'00')							
17	Module ID							
18	Routine ID							
19	PKID				Not used (x'0')			
20	SSID of self subsystem							
21								
22	Symptom code (x'FFFF')							
23								

Format F, Message F (CARB Memory : Warning)

	0	1	2	3	4	5	6	7
7	Format (x'F')				Message (x'F')			
8	Subcode (x'84' : CARB Memory Warning)							
9	MPID (reported SSB)							
10	Not used (x'00')							
11	Not used (x'00')							
12	Not used (x'00')							
13	Not used (x'00')							
14	Not used (x'00')							
15	Not used (x'00')							
16	Not used (x'00')							
17	Module ID							
18	Routine ID							
19	PKID				Not used (x'0')			
20	SSID of self subsystem							
21								
22	Symptom code (x'FFFF')							
23								

Format F, Message F (PCI : Warning)

	0	1	2	3	4	5	6	7
7	Format (x'F')				Message (x'F')			
8	Subcode (x'85' : PCI Warning)							
9	MPID (reported SSB)							
10	LSI-ID							
11	Not used (x'00')							
12	LOG No. (L#)							
13	Not used (x'00')							
14	Not used (x'00')							
15	Not used (x'00')							
16	Not used (x'00')							
17	Module ID							
18	Routine ID							
19	PKID				Not used (x'0')			
20	SSID of self subsystem							
21								
22	Symptom code (x'FFFF')							
23								

Format F, Message F (OHUB : Correctable error)

	0	1	2	3	4	5	6	7
7	Format (x'F')				Message (x'F')			
8	Subcode (x'86' : OHUB Correctable error)							
9	MPID (reported SSB)							
10	Not used (x'00')							
11	Not used (x'00')							
12	Not used (x'00')							
13	Not used (x'00')							
14	Not used (x'00')							
15	Not used (x'00')							
16	Not used (x'00')							
17	Module ID							
18	Routine ID							
19	PKID				Not used (x'0')			
20	SSID of self subsystem							
21								
22	Symptom code (x'FFFF')							
23								

Format F, Message F (ESA : Correctable error)

	0	1	2	3	4	5	6	7
7	Format (x'F')				Message (x'F')			
8	Subcode (x'87' : ESA Correctable error)							
9	MPID (reported SSB)							
10	Not used (x'00')							
11	Not used (x'00')							
12	Not used (x'00')							
13	Not used (x'00')							
14	Not used (x'00')							
15	Not used (x'00')							
16	Not used (x'00')							
17	Module ID							
18	Routine ID							
19	PKID				Not used (x'0')			
20	SSID of self subsystem							
21								
22	Symptom code (x'FFFF')							
23								

Format F, Message F (CARB ERROR : Warning)

	0	1	2	3	4	5	6	7
7	Format (x'F')				Message (x'F')			
8	Subcode (x'85' : CARB Memory Warning)							
9	MPID (reported SSB)							
10	Register access result BYTE (00:No Error, 01:Error detected)							
11	Used P-PATH# (00:P-PATH0, 01:P-PATH1)							
12	Not used (x'00')							
13	Not used (x'00')							
14	Not used (x'00')							
15	Not used (x'00')							
16	Not used (x'00')							
17	Module ID							
18	Routine ID							
19	PKID				Not used (x'0')			
20	SSID of self subsystem							
21								
22	Symptom code (x'FFFF')							
23								

Format F, Message F (CMA ERROR : Warning)

	0	1	2	3	4	5	6	7
7	Format (x'F')				Message (x'F')			
8	Subcode (x'B1' : CMA ERROR)							
9	MPID (reported SSB)							
10	Register access result BYTE (00:No Error, 01:Error detected)							
11	Used P-PATH# (00:P-PATH0, 01:P-PATH1)							
12	Target CM PK NO. (00:CACHE-1CA, 01:CACHE-2CC)							
13	Not used (x'00')							
14	Not used (x'00')							
15	Not used (x'00')							
16	Not used (x'00')							
17	Module ID							
18	Routine ID							
19	PKID				Not used (x'00')			
20	SSID of self subsystem							
21								
22	Symptom code (x'FFFF')							
23								

Format F, Message F (SFP : Warning)

	0	1	2	3	4	5	6	7
7	Format (x'F')				Message (x'F')			
8	Subcode (x'C0' : SFP (Tachyon) Warning) (x'C2' : SFP (FIVE) Warning) (x'C3' : SFP (ISP4022) Warning)							
9	MPID (reported SSB)							
10	Tx Fault detection Port#							
11	Not used (x'00')							
12	Not used (x'00')							
13	Not used (x'00')							
14	Not used (x'00')							
15	Not used (x'00')							
16	Not used (x'00')							
17	Module ID							
18	Routine ID							
19	PKID				Not used (x'0')			
20	SSID of self subsystem							
21								
22	Symptom code (x'FFFF')							
23								

4. ECKD 32-BYTE SSB

4.1 Basic Sense Bytes

The following describes details of 32 ECKD basic sense bytes 0 to 6 and 22 to 31.

	ECKD 32-Byte Sense Data							
	0	1	2	3	4	5	6	7
0	Command rejection	Intervention required	Not used	Device check	Data check	Not used	Not used	Incomplete domain
1	Permanent error	Invalid track format	Not used	Operator message	Not used	File protection	Write inhibit	Imprecise ending
2	Storage control type							
3	Remaining count; or, command overrun reached threshold *1							
4	Device address							
5	Device type							
6	Unit indication 0: SSB2 1: SSB5	SSB4 valid	SSB29-31 valid	Not used	Format			
7 to 21	Bytes 7 to 21: Depend on the exception class and format. (For details, see Section 4.3.)							
22	Exception class							
23	Exception code; or, CHL#, LPN, and LCP# beyond the threshold *2							
24	Logging message control							
25	Program action code							
26	Dual frame	EDCC Mode	Duplex pair	Subvolume error	Nonsynchronous operation	Serial channel	Report output	Permanent path error
27	32-byte SSB (0)	Not used	Not used	Not used	DKU86I TRK compatible mode	Not used	Path number	
28	Message code; or, number of read or searched bytes *3							
29	Cylinder address; or, number of read or searched bytes *3							
30								
31	Head address; or, number of read or searched bytes *3							

■: Varies by the exception class and format.

*1: “Remaining count” is for exception class 0 and format 4; otherwise, “Command overrun threshold reached” applies.

*2: “CHL#, LPN, and LCP# beyond the threshold” is for exception class 6; otherwise, “Exception code” is applied.

*3: “Number of read or searched bytes” is for exception class 6.

Otherwise:

Byte 28 = “Message code”

Byte 29-30 = “Cylinder address”

Byte 31 = “Head address”

Common Sense Bytes (ECKD 32-Byte SSB)

ECKD 32-Byte SSB (1/3)

Byte	Bit	Name	Description
0	0	Command rejection	A chain ended without receiving the expected number of data transfer commands in the LR/LRE domain. If no other error is detected, “incomplete domain” (byte 0, bit 7) is also set to 1.
	1	Intervention required	1. The drive is not physically connected. 2. The drive power is off. 3. The ENABLE/DISABLE switch is set to DISABLE.
	2	Not used	
	3	Device check	DKC or drive hardware is abnormal.
	4	Data check	Indicates that a data error has been detected in the information from the drive. This bit is set to 1 when the data error is uncorrectable or error correction is prohibited by the mask byte.
	5	Not used	
	6	Not used	
	7	Incomplete domain	Indicates that as many data transfer commands as defined in the LOCATE RECORD count parameter have not been received.
1	0	Permanent error	Indicates that an error occurred and recovery failed.
	1	Invalid track format	1. The record size parameter is inconsistent with the record to be updated. 2. Nonstandard R0 was detected during branching in Fast Write/Dual Copy operation.
	2	Not used	X‘06’
	3	Operator message	Not used for other than DKC SIM. For DKC SIM, indicates that messages are output to the operator.
	4	Not used	
	5	File protection	An attempt was made to move to a track not defined in DEFINE EXTENT during execution of the LOCATE RECORD command (updating write in asynchronous mode).
	6	Write inhibit	A write command has been received that uses a resource write-prohibited by the DIAGNOSTIC CONTROL command. “Device check” (byte 0, bit 3) is also set to 1.
	7	Imprecise ending	Indicates that CCW has ended abnormally in the LR/LRE domain and the error is for a previously completed command (whose end status report is already finished).
2	Storage control type/environmental data present		1. For excluding DKC SIM and Cache SIM, this byte indicate DKC type (x‘06’). 2. For DKC SIM and Cache SIM, this byte indicate environmental data present (x‘10’).
3	Remaining count; or, command overrun threshold reached		When the command overrun threshold is reached in exception class 6: X‘01’ Exception class 0 In exception class 0 and format 4: “Remaining count” (number of records/tracks remaining in the LR/LRE domain being handled)
4	Device address		1. When the exception class is 4, 6, B, C, D, or E: Bit 0-1: Storage path number Bit 2: Controller number Bit 3-7: Device number 2. When the exception class is 1, 2, 3, or F: Always ‘00’

ECKD 32-Byte SSB (2/3)

Byte	Bit	Name	Description																
5		Device type code	1. For exception class 4, 6, B, C, D and E, this byte indicates device type (x'24'). 2. For exception class 1, 2, 3 and F, always x'00'.																
6		Content and format	Indicates whether the other bytes of SSB are valid or invalid and their formats.																
	0	Unit indication	0: SSB2 (storage control type) is valid 1: SSB5 (device type) is valid																
	1	Device address valid	0: SSB4 is invalid 1: SSB4 is valid																
	2	CYL, HD address valid	0: SSB29-31 invalid 1: SSB29-31 valid																
	3	Not used																	
	4-7	Format	When x'F', this SSB is SIM.																
22	0-3	Exception class	0: File protection, invalid track format, status exception, command sequence exception 4: Data check, retry prohibition, PCI, subretry success 6: Subsystem data B: Failure between DKC and DASD CTL C: Controller failure (reserved) D: Failure between controller and device E: Device failure																
	4-7		For details, see Section 4.3.																
23		Exception code; or, CHL#, LPN, and LCP# beyond the threshold																	
24		(Logging message control)																	
	0-2	Not used																	
	3	Logging mode	Forced log mode																
	4-5	Logging action	00: Not logged 01: Unconditionally logged 10: Logged only once 11: Logged only for frequent occurrence on the path																
	6-7	Operator message control	00: Message not output 01: Message output unconditionally 10: Message output only once 11: Message output only once only for frequent occurrence on the path																
25		Program action code	<table> <tr> <th colspan="2">Bit 0 = 0</th><th colspan="2">Bit 0 = 1</th></tr> <tr> <td rowspan="5">Bit 1-7</td><td rowspan="5">Single program action code</td><td>Bit 1</td><td>0: SSBs 26 and 27 have no meaning. 1: Executes error recovery specific to DC.</td></tr> <tr> <td>2</td><td>0: Does not execute ERP based on SSB28. 1: Executes ERP based on SSB28.</td></tr> <tr> <td>3</td><td>Another path retry request</td></tr> <tr> <td>4-5</td><td>Not used</td></tr> <tr> <td>6-7</td><td>00: Does not retry 01: Retry twice 10: Retry ten times 11: Retry 255 times</td></tr> </table>	Bit 0 = 0		Bit 0 = 1		Bit 1-7	Single program action code	Bit 1	0: SSBs 26 and 27 have no meaning. 1: Executes error recovery specific to DC.	2	0: Does not execute ERP based on SSB28. 1: Executes ERP based on SSB28.	3	Another path retry request	4-5	Not used	6-7	00: Does not retry 01: Retry twice 10: Retry ten times 11: Retry 255 times
Bit 0 = 0		Bit 0 = 1																	
Bit 1-7	Single program action code	Bit 1	0: SSBs 26 and 27 have no meaning. 1: Executes error recovery specific to DC.																
		2	0: Does not execute ERP based on SSB28. 1: Executes ERP based on SSB28.																
		3	Another path retry request																
		4-5	Not used																
		6-7	00: Does not retry 01: Retry twice 10: Retry ten times 11: Retry 255 times																

ECKD 32-Byte SSB (3/3)

Byte	Bit	Name	Description	
26 *	0	Dual frame	0: Single-frame configuration 1: Dual-frame configuration	
	1	EDCC mode	0: DCC mode 1: EDCC mode	
	2	Duplex pair	0: Simplex 1: Duplex pair	
	3	Subvolume error	0: Not a subvolume error 1: Subvolume error	
	4	Nonsynchronous operation	0: Synchronous operation 1: Asynchronous operation	
	5	Serial channel	0: Parallel channel 1: Serial channel	
	6	Report output	0: Excluding environmental data present and SIM 1: Environmental data present and SIM	
	7	Permanent path error	0: Permanent error for all paths 1: Permanent error for this path	
27 *	0	32-byte SSB	ECKD 32-byte SSB = 0	
	1-3	Not used		
	4	DKU86I TRK compatible mode	0: Not in DKU86I track compatible mode 1: In DKU86I track compatible mode or changing to DKU86I track compatible mode	
	5	Not used		
	6-7	Path number	Indicates the SSB creation path number.	
28	Message code		Instructs the message status of the EREP log and operator console.	“Number of read or searched bytes” for exception class 6
29	Cylinder address		Indicates the cylinder address with an error.	
30				
31	Head address		Indicates the head address with an error.	

*: Configuration information

4.2 Exception Classes and Formats

Exception class	Format	Description
0	0-1	Reserved
	2	Reserved
	3	Machine condition exception
	4	Command sequence exception
	5-F	Reserved
4	0	Reserved
	1	Data exception (PCI, permanent)*
	2	Reserved
	3-E	Reserved
	F	SIM
6	0	Reserved
	1	Subsystem information*
	2-F	Reserved
B	0	DKC and DASD CTL report error
	1-F	Reserved
D	0	Drive report error*
	1	FPC report error*
	2-E	Reserved
	F	SIM
E	0	Drive failure, LDEV blockade/Pin volume detected/Write inhibited, LDEV not ready*
	1-E	Reserved
	F	SIM

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

4.3 Details of Sense Bytes

Exception 0, Format 3 (Machine condition exception)

	0	1	2	3	4	5	6	7
6	Unit indication	Byte 4 valid	Bytes 29 to 31 valid	Not used	Format (x'3')			
7	LR/LRE command operation byte							
8	Extension operation byte (byte 17) for LR/LRE command							
9	Byte 2 for LR/LRE command							
10	Reserved							
11	Search parameter of LR command (CCHHR) or Record ID of re-execution command (R)							
12								
13								
14								
15								
16	Sector number to re-execute the LR							
17	TLF for LR/LRE command							
18								
19	Operation byte = 0x3F :LR/LRE External operation byte Others :Reserved							
20	SSID							
21								
22	Exception code							
23	x'08C1'							

Exception 0, Format 4 (Command sequence exception)

	0	1	2	3	4	5	6	7
6	Unit indication	Byte 4 valid	Bytes 29 to 31 valid	Not used	Format (x'4')			
7	LR/LRE command operation byte							
8	Extension operation byte (byte 17) for LR/LRE command							
9	Head address of extent (DX command parameter)							
10								
11								
12								
13	Path group ID (bytes 1 to 7 of the ID transferred by the newest SET PATH GROUP ID command)							
14								
15								
16								
17								
18								
19								
20	SSID of self subsystem							
21								
22	Exception code							
23	x'0212': incomplete domain							

Exception 4, Format 1 (data exception, PCI, permanent)

	0	1	2	3	4	5	6	7
6	Unit indication	Byte 4 valid	Bytes 29 to 31 valid	Not used	Format (x‘1’)			
7	Sector number*1							
8	Cylinder address*1							
9								
10								
11	Head address*1							
12	Record number*1							
13	Error displacement							
14	Drive serial number (X‘0C24’ + DKU sequence number)							
15								
16								
17								
18								
19	SSID of self subsystem							
20								
21								
22	Exception class (x‘4’)				Message*2			
23	Correction flag*3							

*1: Not determined for occurrence in HA or R0.

*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 sink byte in HA field
 x'5' : Missing sink byte in C field (PA error)
 x'6' : Missing sink byte in K field
 x'7' : Missing sink byte in D field
 x'8' : Not used
 x'9' : Missing AM during retry
 x'A' to x'F' : Not used

*3: Contents of correction flag

Bits 0 and 1: CORRECTION BIT
 00: Correctable (Recovered)
 11: Uncorrectable
 Bit 2: Offset active
 Bits 3 to 7: Not used

Exception 6, Format 1 (Subsystem information)

	0	1	2	3	4	5	6	7
6	Unit indication	Byte 4 valid	Bytes 27 to 31 valid	Not used	Format (x'1')			
7	Data overrun threshold exceeded							
8	Seek count							
9								
10								
11	Drive serial number (X '0C24' + DKU sequence number)							
12								
13								
14								
15	DKC serial number (X'0C2400' + DKC sequence number)							
16								
17								
18								
19								
20	SSID of self subsystem							
21								
22	Exception class (x'6')				Exception code (x'F')			
23	0: Statistics or RRBL command 2: Channel data overrun				For parallel/serial channel standard path: CHL#/LPN (0-7)			
					For serial channel extension path: LCP number			

Exception B, Format 0 Exception code 1 (Shared Memory Failure)

	0	1	2	3	4	5	6	7
6	Unit indication	Byte 4 valid	Bytes 29 to 31 valid	Not used	Format (x'0')			
7	0x81							
8	Subcode (F/M = 81 SSB Byte 8)							
9	F/M = 81 SSB Byte 9							
10	Module ID (F/M = 81 SSB Byte 18)							
11	Routine ID (F/M =81 SSB Byte 19)							
12	Internal SSB Serial number							
13								
14	F/M = 81 SSB Byte 10							
15	Drive serial number (X'0C24' + DKU sequence number)							
16								
17								
18								
19	SSID							
20								
21	Exception class (0xB)/Exception code (0x1)							
22								
23	Exception code (F/M = 81 SSB Byte 20:Processor#/Message code)							

Exception B, Format 0 Exception code 8 (LCP/MCP Failure)

	0	1	2	3	4	5	6	7
6	Unit indication	Byte 4 valid	Bytes 29 to 31 valid	Not used	Format (x'0')			
7	0x88							
8	LCP Error Code (F/M = 88 SSB Byte 9)							
9	LCP Error Code (F/M = 88 SSB Byte 10)							
10	Module ID (F/M = 88 SSB Byte 18)							
11	Routine ID (F/M =88 SSB Byte 19)							
12	Internal SSB Serial number							
13								
14	LCP Error Message (F/M = 88 SSB Byte 8)							
15	Drive serial number (X'0C24' + DKU sequence number)							
16								
17								
18								
19	SSID							
20								
21	Exception class (0xB)/Exception code (0x8)							
22								
23	Exception code (F/M = 88 SSB Byte 20:Processor#/Message code)							

Exception B, Format 0 Exception code 9 (Host Adapter CHK2)

	0	1	2	3	4	5	6	7
6	Unit indication	Byte 4 valid	Bytes 29 to 31 valid	Not used	Format (x'0')			
7	0x89							
8	Subcode (F/M = 89 SSB Byte 8)							
9	F/M = 89 SSB Byte 9							
10	Module ID (F/M = 89 SSB Byte 18)							
11	Routine ID (F/M =89 SSB Byte 19)							
12	Internal SSB Serial number							
13								
14	Error ID Code *1							
15	Drive serial number (X'0C24' + DKU sequence number)							
16								
17								
18								
19	SSID							
20								
21	Exception class (0xB)/Exception code (0x9)							
22								
23	Exception code (F/M = 89 SSB Byte 20:Processor#/Message code)							

Exception B, Format 0 Exception code A (Disk Adapter CHK2)

	0	1	2	3	4	5	6	7
6	Unit indication	Byte 4 valid	Bytes 29 to 31 valid	Not used	Format (x'0')			
7	0x8A							
8	Subcode (F/M = 8A SSB Byte 8)							
9	F/M = 8A SSB Byte 9							
10	Module ID (F/M = 8A SSB Byte 18)							
11	Routine ID (F/M =8A SSB Byte 19)							
12	Internal SSB Serial number							
13								
14	Error ID Code *1							
15	Drive serial number (X'0C24' + DKU sequence number)							
16								
17								
18								
19	SSID							
20								
21	Exception class (0xB)/Exception code (0xA)							
22								
23	Exception code (F/M = 8A SSB Byte 20:Processor#/Message code)							

*1:

ID Code	Sense
0x20	LA Error
0x10	LRC Error
0x00	Other Error

Exception B, Format 0 Exception code B (DRR CHK2)

	0	1	2	3	4	5	6	7
6	Unit indication	Byte 4 valid	Bytes 29 to 31 valid	Not used	Format (x'0')			
7	0x8B							
8	Subcode (F/M = 8B SSB Byte 8)							
9	F/M = 8B SSB Byte 9							
10	Module ID (F/M = 8B SSB Byte 18)							
11	Routine ID (F/M =8B SSB Byte 19)							
12	Internal SSB Serial number							
13								
14	Error ID Code *1							
15	Drive serial number (X'0C24' + DKU sequence number)							
16								
17								
18								
19	SSID							
20								
21	Exception class (0xB)/Exception code (0xB)							
22								
23	Exception code (F/M = 8B SSB Byte 20:Processor#/Message code)							

*1:

ID Code	Sense
0x10	LRC Error
0x00	Other Error

Exception B, Format 0 Exception code D (Power Failure)

	0	1	2	3	4	5	6	7
6	Unit indication	Byte 4 valid	Bytes 29 to 31 valid	Not used	Format (x'0')			
7	0x8D							
8	Subcode (F/M = 8D SSB Byte 8)							
9	F/M = 8D SSB Byte 9							
10	F/M = 8D SSB Byte 10							
11	F/M =8D SSB Byte 11							
12	Internal SSB Serial number							
13								
14								
15								
16	Drive serial number (X'0C24' + DKU sequence number)							
17								
18								
19								
20	SSID							
21								
22	Exception class (0xB)/Exception code (0xD)							
23	Exception code (F/M = 8D SSB Byte 20:Processor#/Message code)							

Exception B, Format 0 Exception code E (Power Failure)

	0	1	2	3	4	5	6	7
6	Unit indication	Byte 4 valid	Bytes 29 to 31 valid	Not used	Format (x'0')			
7	0x8E							
8	F/M = 8E SSB Byte 8							
9	F/M = 8E SSB Byte 9							
10	Module ID (F/M = 8E SSB Byte 18)							
11	Routine ID (F/M =8E SSB Byte 19)							
12	Internal SSB Serial number							
13								
14	F/M = 8E SSB Byte 10							
15	Drive serial number (X'0C24' + DKU sequence number)							
16								
17								
18								
19	SSID							
20								
21	Exception class (0xB)/Exception code (0xE)							
22								
23	Exception code (F/M = 8E SSB Byte 20:Processor#/Message code)							

Exception B, Format 0 Exception code E (Selective Reset Notification/Wait Sense Time Over)

	0	1	2	3	4	5	6	7
6	Unit indication	Byte 4 valid	Bytes 29 to 31 valid	Not used	Format (x'0')			
7	0x8E							
8	F/M = 8E SSB Byte 8							
9	F/M = 8E SSB Byte 9							
10	Lost SSB's Module ID (F/M = 8E SSB Byte 14)							
11	Lost SSB's Routine ID (F/M =8E SSB Byte 15)							
12	Internal SSB Serial number							
13								
14	F/M = 8E SSB Byte 10							
15	Drive serial number (X'0C24' + DKU sequence number)							
16								
17								
18								
19	SSID							
20								
21	Exception class (0xB)/Exception code (0xE)							
22								
23	Exception code (F/M = 8E SSB Byte 20:Processor#/Message code)							

Exception B, Format 0 Exception code F (Logical inconsistency)

	0	1	2	3	4	5	6	7
6	Unit indication	Byte 4 valid	Bytes 29 to 31 valid	Not used	Format (x'0')			
7	0x8F							
8	Module ID (F/M = 8F SSB Byte 8)							
9	Routine ID (F/M = 8F SSB Byte 9)							
10	F/M = 8F SSB Byte 10							
11	F/M =8F SSB Byte 11							
12	Internal SSB Serial number							
13								
14	F/M = 8F SSB Byte 12							
15	Drive serial number (X'0C24' + DKU sequence number)							
16								
17								
18								
19	SSID							
20								
21	Exception class (0xB)/Exception code (0xF)							
22								
23	Exception code (F/M = 8F SSB Byte 20:Processor#/Message code)							

Exception D, Format 1 (FPC report error)

	0	1	2	3	4	5	6	7
6	Unit indication	Byte 4 valid	Bytes 29 to 31 valid	Not used	Format (x'1')			
7	Type code ('111') (FPC report error)			Not used	Reserved			
8								
9								
10	SCSI command code (See SSB04-200)							
11	Not used							
12	Module ID							
13	Routine ID							
14	CDEV No.							
15	Drive serial number (X'0C24' + DKU sequence number)							
16								
17								
18								
19								
20	SSID of self subsystem							
21								
22	Exception class (x'D')				x'0'			
23	RDEV No.							

Exception D, Format 0 (drive report error)

	0	1	2	3	4	5	6	7
6	Unit indication	Byte 4 valid	Bytes 29 to 31 valid	Not used	Format (x'0')			
7	Type code ('000') (drive report error)			Not used	Sence key *1			
8	Additional Sense Code+Additional Sense Code Qualifier							
9								
10	SCSI command code *2							
11	Not used							
12	Module ID							
13	Routine ID							
14	CDEV No.							
15	Drive serial number (X'0C24' + DKU sequence number)							
16								
17								
18								
19								
20	SSID of self subsystem							
21								
22	Exception class (x'E')				x'0'			
23	RDEV No.							

*1: Sense key

x'0' : NO SENSE
 x'1' : RECOVERED
 x'2' : NOT READY
 x'3' : MEDIUM ERROR
 x'4' : HARDWARE ERROR
 x'5' : ILLEGAL REQUEST
 x'6' : UNIT ATTENTION
 x'7' : DATA PROTECT
 x'8' : BLANK CHECK (Not used)
 x'9' : VENDOR 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)

*2: 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 SELECT
 x'1A' : MODE SENSE
 x'1B' : START/STOP UNIT
 x'1C' : RECEIVE DIAGNOSTIC RESULT
 x'1D' : SEND DIAGNOSTIC
 x'28' : READ (EXTEND)
 x'2A' : WRITE (EXTEND)
 x'2E' : WRITE AND VERIFY
 x'3B' : WRITE BUFFER

Exception E, Format 0 (drive report error)

	0	1	2	3	4	5	6	7
6	Unit indication	Byte 4 valid	Bytes 29 to 31 valid	Not used	Format (x'0')			
7	Type code ('000') (drive report error)			Not used	Sence key *1			
8	Additional Sense Code+Additional Sense Code Qualifier							
9								
10	SCSI command code *2							
11	Not used							
12	Module ID (≠ x'5X/6X')							
13	Routine ID							
14	CDEV No.							
15	Drive serial number (X'0C24' + DKU sequence number)							
16								
17								
18								
19	SSID of self subsystem							
20								
21								
22	Exception class (x'E')				x'0'			
23	RDEV No.							

*1: Sense key

x'0' : NO SENSE
 x'1' : RECOVERED
 x'2' : NOT READY
 x'3' : MEDIUM ERROR
 x'4' : HARDWARE ERROR
 x'5' : ILLEGAL REQUEST
 x'6' : UNIT ATTENTION
 x'7' : DATA PROTECT
 x'8' : BLANK CHECK (Not used)
 x'9' : VENDOR 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)

*2: 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 SELECT
 x'1A' : MODE SENSE
 x'1B' : START/STOP UNIT
 x'1C' : RECEIVE DIAGNOSTIC RESULT
 x'1D' : SEND DIAGNOSTIC
 x'28' : READ (EXTEND)
 x'2A' : WRITE (EXTEND)
 x'2E' : WRITE AND VERIFY
 x'3B' : WRITE BUFFER

SCSI sense key

Sense key	Definition
0 _H	NO SENSE: Indicates that the key information reported from the specified logical unit is not for specific use. This indicates that the command has ended normally.
1 _H	RECOVERED ERROR: Indicates that the last command has ended normally after recovery operation by the controller. Details can be determined by checking the additional sense byte and information byte.
2 _H	NOT READY: Indicates that the addressed logical unit cannot be accessed. Recovery from this status may require operator's intervention.
3 _H	MEDIUM ERROR: Indicates that the command has ended in the irrecoverable error status due to damage to the medium or an error in recorded data.
4 _H	HARDWARE ERROR: Indicates that the controller has detected an irrecoverable hardware error (e.g., controller failure, device failure, parity error, etc.) during execution of a command or self-diagnostics.
5 _H	ILLEGAL REQUEST: Indicates that illegal data has been detected in the CDB or the additional parameter given as data for some commands (FORMAT UNIT, MODE SELECT, etc.). The controller terminates the command without changing the medium if an invalid parameter has been detected in the CDB. If an invalid parameter has been detected in the additional parameter given as data, the medium may already have been changed.
6 _H	UNIT ATTENTION: Indicates that the unit attention status has occurred because the MODE SELECT parameter has been changed or the controller has been reset.
7 _H	DATA PROTECT: Indicates that a write command has been received when write to media is prohibited. Write operation is not performed.
8 _H	BLANK CHECK. (Not used)
9 _H	Vendor Unique. (Not used)
A _H	COPY ABORTED. (Not used)
B _H	ABORTED COMMAND: Indicates that the controller has aborted the command. The host can retry the command for recovery.
C _H	EQUAL. (Not used)
D _H	VOLUME OVERFLOW. (Not used)
E _H	MISCOMPARE: Data comparison failed during byte comparison and verification. Or, data in the WRITE BUFFER command from the same host was changed before execution of the READ BUFFER command.
F _H	Reserved

Threshold type

Code	Threshold (failure) type	Code	Threshold (failure) type
00	CHA CHK1A	30	Cache 1 bit correctable error
01	CHA CHK1B	31	Cache uncorrectable error
02	CHA CHK3	32	Cache 2 bits correctable error
03	CHA CHK2	33	CPC check error
04	CHA ADP temporary error	40	SCSI port failure
05	LCM hardware error	41	Drive mechanism recovered error
06	BSA F bus open	42	Drive mechanism unrecovered error
07	BSA LIVEINS	43	Drive media recovered error
08	BSA check error	44	Drive media unrecovered error
09	SMP M bus open	45	Drive R/W recovered error
0A	SMP M bus check error	46	Drive R/W unrecovered error
0B	SMP H/L check error	47	Drive interface recovered error
10	DKA CHK1A	48	Drive interface unrecovered error
11	DKA CHK1B	49	Controller recovered error
12	DKA CHK3	4A	Controller unrecovered error
13	DKA SCA temporary error	4B	SCSI interface recovered error
14	DKA DRR temporary error	4C	SCSI interface unrecovered error
16	BSA F bus open	4D	Drive I/O read error
17	BSA LIVEINS	4E	Drive I/O write error
18	BSA check error	60	SVP interface error
19	SMP M bus open	FF	Invalid threshold type
1A	SMP M bus check error		
1B	SMP H/L check error		
20	Shared memory correctable error		
21	Shared memory uncorrectable error		
22	SMC M bus open		
23	SMC H/L bus open		

Exception E, Format 0 (LDEV blockade/Pin volume detected/Write inhibited) (*1)

	0	1	2	3	4	5	6	7
6	Unit indication	Byte 4 valid	Bytes 29 to 31 valid	Not used	Format (x'0')			
7	Type Code ('000')			Not used				
8	Ready	Enable	SSB pending	Not used				
9	Not used							
10	Media maintenance reserve	Pin volume	Write inhibited	Not used				
11	Not used							
12	Module ID (*2)							
13	Routine ID (*2)							
14	Not used							
15	Drive serial number (x'0C24' + DKU sequence number)							
16								
17								
18								
19								
20	SSID of self subsystem							
21	Exception code (x'E000')							
22								
23								

*1: Byte 0, Bit 3 (device check) is set to 1.

*2: Module ID · Routine ID

x'5011/501C/5202'	: LDEV blockade
x'501A/501B'	: PIN volume detected
x'6605/6697/6705/6784/6805/6853/6909/6953'	: Write inhibited

Exception E, Format 0 (LDEV not ready) (*1)

	0	1	2	3	4	5	6	7
6	Unit indication	Byte 4 valid	Bytes 29 to 31 valid	Not used	Format (x'2')			
7	Type Code ('000')			Not used	Not used			
8	Ready	Enable	SSB pending	0	0	0	0	0
9	x'00'							
10	Media maintenance reserve	Pin volume	0	0	0	0	0	0
11	Host type	DKC type	0	0	DKU type			
12	Module ID (x'50'/x'52')							
13	Routine ID (x'1C'/x'02')							
14	Not used							
15	Drive serial number (x'0C24' + DKU sequence number)							
16								
17								
18								
19								
20	SSID of self subsystem							
21	Exception code (x'E210')							
22								
23								

*1: Byte 0, bit 1 (intervention required) is set to 1.