Format F, Message 0 (operation terminated)

	0	1	2	3	4	5	6	7
7		Forma	t (x T ')			Messag	ge (x'0')	
8								
9				Not used (x'000000')			
10								
11				Hardware l	evel (Note)			
12								
13				SSID of ma	e subsystem			
14				(x'0000' f	or EDCC)			
15		- 8	Manufacturer	code ('000000')			Factory	code ('00')
16				Not use	d (x'00')			2:
17				Mod	ule ID			
18				Routi	ne ID			
19		Processor	r number			Error code	(don't care)	
20				SSID of sel	f subsystem			
21			``					
22				Symptom co	ode (x'FFF0')			
23								

Note: Hardware level When the bit 0 = 1, Bit 0: Hardware level Bit 1: Not used When the bit 0 = 0, Bit 2-3: Failed storage path Bit 1: Not used Bit 4-7: Number of channels per cluster Bit 2-3: Reported storage path 0000: Parallel channel = 4, serial channel = 0 Bit 4-5: Number of channels per cluster 0001: Parallel channel = 8, serial channel = 0 00: 4 0010: Parallel channel = 4, serial channel = 2 01: 8 0100: Parallel channel = 4, serial channel = 4 10: Not used 0110: Parallel channel = 0, serial channel = 2 11: Not used Bit 6: NVS 1000: Parallel channel = 0, serial channel = 4 1010: Parallel channel = 0, serial channel = 8 0: Not exist 1100: Parallel channel = 4, serial channel = 6 1: Exist Bit 8: Dual frame Bit 7: Not used 0: Dual frame Bit 8-10: Cache size 1: Modular power 000: Non cache Bit 9-11: Cache size 001: 256MB 000: Non cache 010: 512MB 001: 256MB 011: 768MB 010: 512MB 100: 1024MB 011: 768MB 101: 1280MB 100: 1024MB 110: 1536MB 101: 1280MB 111: Over 1536MB 110: 1536MB Bit 11-13: Cluster hardware level 111: Over 1536MB Bit 14-15: Cache/ NVS hardware level Bit 11-13: Cluster hardware level

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Bit 14-15: Cache/ NVS hardware level

Format F, Message 1 (microprogram detected cache failure)

	0	1	2	3	4	5	6	7		
7		Form	at (x'F)			Messag	ge (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*	(0.22.13)	1(5.55)	15.02.000		used					
					number					
10*				Queu	e type					
	VDEV	number				umber				
11*					number					
					umber					
12*					number					
	+			Slot r	umber					
13				0075						
					te subsystem					
14		(x'0000' for EDCC)								
15			Manufacture	code ('000000')			Factory	code ('00')		
16				Not	used		l			
17				Mod	ule ID					
18				Rout	ine ID					
19		Process	or number			Error code	(don't care)			
20				SSID of se	lf subsystem					
21										
22				Symptom c	ode (x'FFF1')					
23										

^{*:} When byte 8, bit 2-4 = 000, upper value is valid. When byte 8, bit $2-4 \neq 000$, lower value is valid.

	T 0								
7	0	1	2	3	4	5	6	7	
<u>7</u>	Subcode: x'0		at (xF')	d Doors			ge (x'2')		
٥	Subcode: XV		ache board (oth	er than ECCU	NCORR and P.	LRCCCCERR) LRCCCCERR)	, without unde	fined registers	
9	70.	i. Ellor in C	erie posta (ott	ROAP	DERR	LRCCCCERR	, with undering	ed registers	
	WRENABLE	RAS0 signal	RAS1 signal		CAS1 signal	ADR0 signal	ADR1 signal	SYND signal	
	signal	abnormal	abnormal	abnormal	abnormal	parity error	parity error	parity error	
	abnormal			aonoman	achomin	parity circi	parity circi	parity error	
10			***************************************	BOAR	D ERR	1,			
	ECC	Uncorrect-	ECC error at	(Not used)	LRC0 error	LRC1 error	LRC2 error	LRC3 error	
	compare error	able memory	writing	·	at writing	at writing	at writing	at writing	
		error at	_						
		reading						Į.	
11				BOAR	D ERR				
	Clock	ADRCTL	ECCCTL1	ECCCTL2	(Not used)	Address	Data transfer	Refresh	
	abnormal	detected	detected	detected		counter	counter	counter	
		abnormal	abnormal	abnormal		abnormal	abnormal	abnormal	
		clock	clock	clock					
12	L			BOAR	D ERR				
	Refresh	RAS0 signal	RAS1 signal	CAS0 signal	CAS1 signal	(Not used)	(Not used)	(Not used)	
	operation	abnormal	abnormal	abnormal	abnormal		· ′	ľ í	
	abnormal								
13			SSID o	f mate subsyste	m (x'0000' for	EDCC)			
14									
15			Manufacturer	code ('000000')			Factory of	code ('00')	
16							<u> </u>		
16		S	lot number of (CACHE with a	n inboard error	(board numbe	r)		
17				Modi	ıle ID				
18				Rout	ine ID				
19	Processor number Error code (don't care)								
20	SSID of self subsystem								
	Som of sen subsystem								
21									
22				Symptom o	code (xFF)				
	Symptom code (xF2')								

(Notice) If Module ID, Routine ID (Reason code or SSB free area byte 2, 3) is C560 ~ C56A, format change to following:

byte 8 : Module ID 1 byte 9 :Routine ID 1 byte 10 : Module ID 2 byte 11 : Routine ID 2 byte 12-15 : Return code byte 16-19 :Processor No. byte 20 : (none) byte 21 : SSID

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byte 22 : Sympton code (high) byte 23 : Sympton code (low)

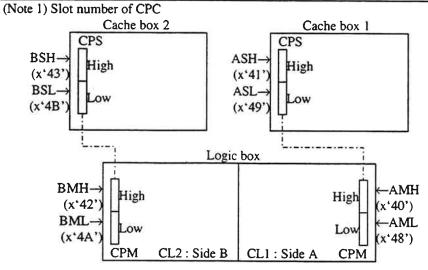
_					 	CCD02 04	20
1	Mar.1995	I.m 400E	Dag 4000			SSB03-24	. JU
	ן כפפו . ובואו	Jun. 1995	Dec. 1990	10			

	0	1	2	3	4	5	6	7							
7			at (x'F')				ge (x'2')								
8	Su	ibcode: x'02': x'82':		he board (ECC he board (ECC	UNCORR), wi UNCORR), wi	thout undefined th undefined re	d registers egisters								
9				Accessed modu	le group numb	ег									
10				BOAR	DERR										
	ECC compare error	Uncorrect- able memory error at reading	ECC error at writing	(Not used)	LRC0 error at writing	LRC1 error at writing	LRC2 error at writing	LRC3 error at writing							
11				MEM EF	RROR 0-3										
	Module grou	Module group number Module side number Bits 05 to 11 Byte number with a memory error valid													
12		MEM ERROR 0-3													
	Byte number memory error		Bits 12 to 17 valid	Byte number	with a memory	/ ептог									
13			SSID	f mate subsyste	em (x'0000' for	EDCC)									
14															
15			Manufacturer	code ('000000'))		Factory	code ('00')							
16			Slot number of	CACHE with a	n inboard error	r (board numbe	r)								
17				Mod	ule ID		_								
18	Routine ID														
19		Processo	or number			Error code	(don't care)								
20				SSID of se	if subsystem										
21															
22				Symptom	code (x'FF')										
23				Symptom	code (x'F2')		Symptom code (x'F2')								

	0	I	2	3	4	5	6	7					
7		Form	at (x'F')			Messa	ge (x'2')						
8	Su	bcode: x'03': x'83':	Error in cach	ne board (PLRC	ERR), without	undefined reg	isters						
9		х 65.	Error in cacr	ne board (PLRC	on mode	defined registe	rs						
	Bus use mode		Access	Bus mode	on mode	Transfer mode							
	0: Sequential		section	0: Two-bus r	mode	0: Normal w	-						
	1: Transactio		0: Memory/	1: Not used		1: Normal re							
	2: Transactio	n to	initializa-	2: Bus-L mo	de	3: Cache to c							
	sequential		tion	3: Bus-H mo		4: Double w							
	3: Sequential	to	1: CACHE			7: Initializati							
	transaction	1	register/			2, 5, 6: Not							
			CPC			, ,							
	4		register										
10				Respon	se status								
	F bus H	CACHE/	H-side BSA	CACHE/	F bus L	CACHE/	L-side BSA	CACHE/					
	response wait		bus system	CPC made a	response wait	CPC made a	bus system	CPC made a					
	timeout	response of	error	response of	timeout	response of	еттог	response of					
		bus system		abnormal end		bus system		abnormal en					
		error detec-	l I	on F bus H.		error detec-		on F bus L.					
		tion on F bus				tion on F bus		1					
		Н.				L.							
11	ECC	**	ECC		e I BODERR		r						
	1	Uncorrect-	ECC error at	(Not used)	LRC0 error	LRC1 error	LRC2 error	LRC3 error					
	compare	able memory	writing		at writing	at writing	at writing	at writing					
	enoi	reading				1							
12		reading	CACHE sl	ave 2 BODERI	R (x'00' in one-	slave mode)							
	ECC	Uncorrect-	ECC error at	(Not used)		LRC1 error	LRC2 error	LRC3 error					
	compare	able memory	writing	(4.00 4.00)	at writing	at writing	at writing	at writing					
	error	error at						u. wiiting					
		reading				1							
13			SSID	f mate subsyste	m (x'0000' for	EDCC)							
	4				(0000 10.	DDCC)							
14													
15				1 ((0000000)									
			Manufacturer (code ('000000')			Factory	code ('00')					
16		S	lot number of	CACHE with a	n inboard error	(board number	r)						
17				Modu	ile ID								
18				Routi	ID								
				Routi	ne 1D								
	Processor number Error code (don't care)												
19		SSID of self subsystem											
19				SSID of Sell	Sold of Soll Subsystem								
20				221D of self	- Subsystem								
20													
20				Symptom c									

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	0	1	2	3	4	5	6	7	
7		Forma					ge (x'2')		
8		Sı	ibcode: x'04':	Error in CPC	board, withou	t undefined reg	gisters		
9			x'84':		board, with us SERR	ndefined regist	ers		
7	Receive address parity error	Transfer count ³ 4	(RSV)	(RSV)	Data parity error	(RSV)	(RSV)	(RSV)	
10				CPCL	SI ERR				
	Counter parity error of RW1 sequencer	Counter parity error of RW2 sequencer	Counter parity error of OUT sequencer	Counter parity error of local sequencer	Sequencer parity error of OUT sequencer	DTSYNC counter parity error	Local bus DT SYNC counter parity error	(RSV)	
11		0040000	ooquoticor		SI ERR		parity Ciroi		
	Sequencer parity error of RW1 sequencer	Sequencer parity error of RW2 sequencer	RW1 sequencer flag abnormal	Sequencer parity error of local sequencer	Sequencer parity error of OUT sequencer	(RSV)	(RSV)	(R\$V)	
12	sequencer	sequencer	aunomiai		S2 ERR				
eQ.	Data parity error of OBF data	Data parity error of OUT data	CACHE port data buffer empty		(RSV)	(RSV)	(RSV)	(RSV)	
13			SSID o	f mate subsyste	em (x'0000' for	EDCC)	<u></u>		
14			45						
15	Manufacturer code ('000000') Factory code ('00')								
1.5			Manufacturer o	code ('000000')			Factory of	code ('00')	
16					an inboard err	or (Note 1)	Factory of	code ('00')	
				er of CPC with		or (Note 1)	Factory of	code ('00')	
16				er of CPC with	an inboard err	or (Note 1)	Factory	code ('00')	
16		Processor	Slot numb	er of CPC with	an inboard err		Factory of	code ('00')	
16 17 18			Slot numb	er of CPC with Mode Routi	an inboard err			code ('00')	
16 17 18 19			Slot numb	er of CPC with Mode Routi	an inboard errule ID			code ('00')	
16 17 18 19 20			Slot numb	er of CPC with Mode Routi	an inboard errule ID			code ('00')	



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			Annual Control	 U	

		0	1	2	3	4	5	6	7	
9 Bus use mode 0: Sequential mode 1: Transaction mode 2: Transaction no equential 3: Sequential to transaction mode Pbus H response wait (CPC made a timeout response of bus system error detection on F bus H. 11 CACHE (slave 1) address error protocol/ nonprotocol error 12 CACHE (slave 2) address error 13 CACHE (slave 2) address error 14 CACHE (slave 2) address error 15 CACHE (slave 2) address error 16 CACHE (slave 2) address error 17 CACHE (slave 2) address error 18 SSID of mate subsystem (x'0000' for EDCC) Manufacturer code ('000000') Manufacturer code ('000000') Manufacturer code ('000000') Manufacturer code ('000000') Manufacturer system error 17 Module ID Processor number SSID of self subsystem SSID of self subsystem Error code (don't care) Symptom code (x'FF')										
Bus use mode 0. Sequential mode 1: Transaction mode 1: Transaction mode 1: Transaction mode 2: Transaction to sequential to register/ CPC register/ CPC reponse wait 10 CACHE (slave 1) address error protocol/ nonprotocol error CACHE (slave 2) address error address error address error address error cerror CPC address error Response status Response wait condition in Fous L CPC made a response of bus system error detection on F bus H. CACHE (slave 1) address error protocol/ nonprotocol error CACHE (slave 2) address error protocol/ address error pro	8	Subco								
O: Sequential mode 1: Transaction mode 2: Transaction mode 2: Transaction to sequential 3: Sequential to sequential 4: Double write 7: Initialization 2, 5, 6: Not used 7: Initialization	9				Operation	on mode				
1: Transaction mode 2: Transaction to sequential 3: Not used initialization 2: Bus-L mode 3: Bus-H mode 4: Double write 7: Initialization 2: Sequential 1 transaction 7: CPC 7: Pegister 7: Processor 1:		Bus use mode		Access	Bus mode		Transfer mode	•		
2: Transaction to sequential 3: Sequential to transaction 4: Double write 7: Initialization 8: Initialization 9: Initialization 9: Initialization 9: Initialization 9: Initialization 9: Initialization 9: In		0: Sequential	l mode	section	0: Two-bus r	node	0: Normal wi	write		
sequential 3: Sequential to transaction 1: CACHE register 2: Double write 7: Initialization 2: 5, 6: Not used 2: 5, 6:		1: Transactio	n mode	0: Memory/	1: Not used		1: Normal re	ad		
3: Sequential to transaction		2: Transaction	n to	initializa- tion	2: Bus-L mo	de	3: Cache to c	ache	Y (
transaction CPC register Response status		sequential	*	1: CACHE	3: Bus-H mo	de	4: Double wi	rite		
Tegister Response status Response of timeout a response of timeout a response of timeout a response of timeout a response of the system error detection on F bus H. Slave I bus system error detection on F bus H. Slave I number of Cache (slave I) (slave I) address error protocol/error Cache initialization : Slot number of Cache (slave I) (Note I) Cache initialization : Slot number of Cache (slave 2) (Note I) Cache initialization : x'00' CPC access : x'00' CPC (ASL) CPC (BMH) CPC (BML)		3: Sequential	lto	register/	1		7: Initializati	on		
Response status Four H F		transaction	ı	CPC			2, 5, 6: Not	used		
F bus H response wait CPC made a timeout response of pus system error detection on F bus H. CACHE (slave 1) address error protocol/error error color error				register						
response wait cPC made a timeout system error bus system error detection on F bus H. 11 CACHE (slave 1) address error protocol/ nonprotocol error error color (CPC access : Slot number of Cache (slave 1) (Note 1) (CPC access : Slot number of CPC (Note2)) 12 CACHE (slave 2) (slave 2) (slave 2) (Cache access : Slot number of CPC (Note2)) 13 SSID of mate subsystem (x'0000' for EDCC) 14 15 Manufacturer code ('000000') 16 CPC (AMH) detected bus system error 2 17 Module ID 18 Routine ID 19 Processor number CPC made a response of thineout aresponse of error aresponse of a timeout aresponse of this system error aresponse of the timeout aresponse of the timeout aresponse of the system error aresponse of the timeout aresponse of t	10				Respon	se status				
response wait cPC made a response of bus system error bus system error detection on F bus H. 11 CACHE (slave 1) address error protocol/ error protocol/ address error protocol/ error err		F bus H	CACHE/	H-side BSA			CACHE/	L-side BSA	CACHE/	
timeout response of bus system error detection on F bus H. 11		response wait	CPC made a	bus system	CPC made a	response wait			1	
bus system error detection on F bus H. CACHE				1 .	response of		l (L.	
CACHE (slave 1) (slave 1) (slave 1) (ache access : Slot number of Cache (slave 1) (ache initialization : Slot number of Cache (slave 2) (ache access : Slot number of Cache (slave 2) (ache initialization : Slot number of Cache (slave 2) (ache access : Slot number of Cache (slave 2) (ache access : Slot number of Cache (slave 2) (ache access : Slot number of Cache (slave 2) (ache access : Slot number of Cache (slave 2) (access access : Slot number of Cache (slave 2) (access access : Slot number of Cache (slave 2) (access access : Slot number of Cache (slave 2) (access access : Slot number of Cache (slave 2) (access access : Slot number of Cache (slave 2) (access access : Slot number of Cache (slave 2) (access access : Slot number of Cache (slave 2) (access access : Slot number of Cache (slave 2) (access access : Slot number of Cache (slave 2) (access access : Slot number of Cache (slave 2) (access access ac									abnormal en	
tion on F bus H. CACHE (slave 1) (slave 1) address error protocol/ error 12 CACHE (slave 2) (slave 2) (slave 2) address error protocol/ error 13 CACHE (slave 2) (slave 2) (cache access : Slot number of Cache (Note 1) CPC access : Slot number of Cache (Note 1) CPC access : Slot number of Cache (Note 1) CPC access : Slot number of Cache (Note 1) CPC access : Slot number of Cache (Note 1) CPC access : Slot number of Cache (Note 1) CPC (Note 2) address error protocol/ error 13 SSID of mate subsystem (x'0000' for EDCC) 14 15 Manufacturer code ('000000') Factory code ('00') 16 CPC (AMH) detected bus system error SSID of self subsystem 17 Module ID 18 Routine ID 19 Processor number Error code (don't care) 20 Symptom code (x'FF')					on F bus H.			ř	on F bus L.	
CACHE (slave I)		1	tion on F bus				tion on F bus			
(slave 1) address error protocol/ nonprotocol/ nonprotocol/ nonprotocol/ nonprotocol/ nonprotocol/ nonprotocol/ nonprotocol/ protocol/ nonprotocol/ address error address error protocol/ nonprotocol/ nonprotocol error address error system error system error protocol/ nonprotocol error address = Silot number of CPC (Note 2) (Cache access : Silot number of Cache (slave 2) (Note 1) (Cache access : x'00' CPC (ASL) (CPC (ASL) detected bus system error system error address detected bus system error system error address sys			H.				L.			
address error protocol/ nonprotocol error 12	11	CACHE	CACHE			Slave I	number			
address error protocol/ nonprotocol error 12		(slave 1)	(slave 1)	(Cache access	s : Slot number	of Cache (slav	e 1) (Note 1)			
CPC (AMH) CPC (AML) detected bus system error system error system error Size error Processor number CPC (ASL) detected bus system error SSID of self subsystem CPC (ASL) CPC (protocol/							
CACHE (slave 2) address error cache initialization : x'00' Cache initialization : x'00' CPC access : x'00' 13			nonprotocol	1						
(slave 2) address error protocol/ nonprotocol error										
address error protocol/ nonprotocol error	12	CACHE	CACHE			Slave 2	number			
address error protocol/ nonprotocol error		(slave 2)	(slave 2)	(Cache acces	s: Slot number	of Cache (slav	e 2) (Note 1)			
SSID of mate subsystem (x'0000' for EDCC) 14		address error	protocol/			•				
SSID of mate subsystem (x'0000' for EDCC) Manufacturer code ('000000') Factory code ('00') 16			nonprotocol	CPC access:	x'00'					
Manufacturer code ('000000') Factory code ('00') 16		1	егтог							
Manufacturer code ('000000') Factory code ('00') 16	13			SSID	f mate subsyste	m (x'0000' for	EDCC)			
Manufacturer code ('000000') Factory code ('00')		4				(// 0000 101	2200)			
CPC (AMH) CPC (AML) CPC (ASH) detected bus system error S	14	1								
CPC (AMH) CPC (AML) CPC (ASH) detected bus system error S	15			Manufacturer	code ('0000000')			Factory	code ('00')	
detected bus system error syste								I detaily		
detected bus system error syste	16	CPC (AMH)	CPC (AMI)	CPC (ASH)	CPC (ASI.)	CPC (BMH)	CPC (RML)	CPC (RSH)	CPC (RST)	
system error syste	.0						1	1 '		
Module ID Routine ID Processor number Error code (don't care) SSID of self subsystem Symptom code (x'FF')		1	1			1	1			
Routine ID Processor number Error code (don't care) SSID of self subsystem Symptom code (x'FF')	2	System error			System chron	System error	System error	3y stem enor	system error	
Processor number Error code (don't care) SSID of self subsystem Symptom code (x'FF')	17				Mode	ule ID			***	
Processor number Error code (don't care) SSID of self subsystem Symptom code (x'FF')	10				D	m				
20 SSID of self subsystem 21 22 Symptom code (x'FF')	18				Kout	ine ID		·		
21 22 Symptom code (x'FF')	19		Processo	r number			Error code	(don't care)		
21 22 Symptom code (x'FF')	20				SSID of sel	f subsystem				
22 Symptom code (x'FF')		-			0010 01 001	saosystom			*	
	21									
23 Symptom code (x'F2')	22				Symptom	code (x'FF')			28	
	23				Symptom	code (x'F2')				

(Note 1) See SIM RC section (SIM-RC02-30). (Note 2) See SSB03-2460.

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	0	1	2	3	4	5	6	7
7		Forma	at (x'F')			Messa	ge (x'2')	
8	Subc	ode: x'09': B	us system error	(two buses, on	e slave, CPC u	nused), withou	t undefined reg	isters
		x'89': B	us system error			nused), with ur	idefined registe	rs
9	ļ		T		on mode			
	Bus use mode		Access	Bus mode Transfer m				
	0: Sequentia		section	0: Two-bus r	node	0: Normal w		
	2: Transaction		0: Memory/ initializa-	1: Not used 2: Bus-L mo	do	1: Normal re 3: Cache to o		
	sequential		tion	3: Bus-H mo		4: Double wi		
	3: Sequentia		1: CACHE			7: Initializati		
	transaction		register/			2, 5, 6: Not		
			CPC			7.		
			register					
10					se status			
	F bus H	CACHE/	H-side BSA	CACHE/	F bus L	CACHE/	L-side BSA	CACHE/
	response wait	I .	bus system	CPC made a	response wait		bus system	CPC made a
	timeout	response of bus system	error	response of abnormal end	timeout	response of	error	response of
		error detec-		on F bus H.		bus system error detec-		abnormal en on F bus L.
		tion on F bus		OH I CUSTI.		tion on F bus		on rous L.
		Н.				L.		
11					(board numbe			
	1		(Cache acce	ss: Slot numbe	r of Cache (slav	ve 1) (Note 1)		
			Cache initi	alization: Slot	number of Cac	he (Note 1))		
12	-			Claus 2 sumbas	. (h			
12	1				r (board number r of Cache (slav			
			(Cacine acce.		zation: x'00')	ve 2) (Note 1)		
			(18)					
13			SSIDo	f mate subsyste	em (x'0000' for	EDCC)		
	-				(11.00.00.00.00.00.00.00.00.00.00.00.00.0	,		
14								
15			Manufacturer (code ('000000')			Factoria	- 1- (1001)
							Pactory	ode ('00')
16	CACHE	CACHE	CACHE	CACHE	CACHE	CACITE	C + CTTE	0.0115
10						CACHE	CACHE (slave 2) bus-	CACHE
	H address	H protocol/	L address	L protocol/	H address	H protocol/	L address	L protocol/
	error	nonprotocol	еттог	nonprotocol	еттог	nonprotocol	ептог	nonprotocol
		еттог		error		ептог	G G.	еттог
17				Modu	ıle ID	y		
18				Routi	ne ID			
	-							
19		Processo	r number			Error code	(don't care)	
20				SSID of sel	f subsystem			
	1							
21	Symptom code (x'FF')							
21				Symptom c	ode (x'FF')			
				Symptom o				

(Note 1) See SIM RC section (SIM-RC02-30).

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	0	1	2	3	4	5	6	7	
7			it (x'F')				ge (x'2')		
8	Subco				e slaves. CPC i e slaves. CPC i				
9				Operatio	on mode				
	Bus use mode		Access	Bus mode		Transfer mode	;		
	0: Sequential	mode	section	0: Two-bus r	node	0: Normal w	rite		
	1: Transactio		0: Memory/	/ 1: Not used 1: Normal read					
	2: Transactio	on to	initializa-	2: Bus-L mo	de	3: Cache to cache			
	sequential tion 3: Bus-H mode 4: Doub								
	3: Sequential		1: CACHE			7: Initializati	on		
							used		
•	CPC						4304		
			register						
10			register	Respon	ise status				
	F bus H	CACHE/	H-side BSA	CACHE/	F bus L	CACHE/	L-side BSA	CACHE	
	response wait		bus system	CPC made a	response wait		bus system	CPC made a	
	timeout	response of	ептог	response of	timeout	response of	егтог	response of	
	timeout	bus system		abnormal end	······································	bus system		abnormal en	
		error detec-		on F bus H.		error detec-		on F bus L.	
	1	tion on F bus	1	C. I Cus II.		tion on F bus		lan Land	
		H.	ľ			L.			
11		In.		Slave 1	number	L.			
• •			(Cache acce		r of Cache (sla	ve 1) (Note 1)			
					number of Ca				
	1				mber of CPC ()				
12	CACHE bus-	CACHE bus-			CACHE bus-		Error 1 in	Error 2 in	
	H address	H address	H protocol/	L address	H address	L protocol/	CACHE	CACHE	
	error I	егтог 2	nonprotocol	ептот 1	error 2	nonprotocol	board	board	
			еттог			ептог	00	002.0	
13		-	ecin -	f mata aubayat	(0000 fo-	EDCC)			
15	4		3310 0	n mate subsyste	em (x'0000' for	EDCC)			
14									
	1		24 6 .	1 ((000000)				1 (1001)	
15			Manufacturer	code ('000000'))		Factory 6	code ('00')	
16	CPC(AMH/	CPC(AMH/	CPC (AML/	CPC (AML/	CPC (ASH/	CPC (ASH/	CPC (ASL/	CPC (ASL/	
10	BMH)	BMH)	BML)	BML)	BSH)	BSH)	BSL)	BSL)	
	detected	detected	detected	detected	detected	detected	detected	detected	
	address error	protocol/	address error	protocol/	address error	protocol/	address error	protocol/	
	addless ellol	1,	address error	1.	addiess error	1.	addless ellor	1.5	
		nonprotocol		nonprotocol		nonprotocol		nonprotoco	
	ļ	error		егтог		error		ептог	
17				Mod	ule ID				
18				Rout	ine ID				
19		Processo	or number			Error code	(don't care)		
20				SSID of se	lf subsystem	11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			
21	1								
22				Symptom	code (x'FF')				
23					code (x'F2')				
20			2002-30)	- Jinptoin	(X12)				

(Note 1) See SIM RC section (SIM-RC02-30).

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7	0	1	2	3	4	5	6	7	
		Forma				Messag			
8	Subco			(two buses, on	e slaves, CPC t		it undefined reg indefined regist		
9	Nu				on mode				
	Bus use mode		Access	Bus mode		Transfer mode			
	0: Sequential	mode	section	0: Two-bus n	node	0: Normal wi	rite		
	1: Transactio	n mode	0: Memory/	1: Not used . 1: Normal rea			ad		
	2: Transactio		initializa-	2: Bus-L mode 3: Cache to cache					
	sequential		tion	3: Bus-H mode 4: Double write					
	3: Sequential	••	1: CACHE	J. Dus-111110	de				
						7: Initializati			
	transaction	1	register/			2, 5, 6: Not	usea		
			CPC						
			register						
10					se status				
	F bus H	CACHE/	H-side BSA	CACHE/	F bus L	CACHE/	L-side BSA	CACHE/	
	response wait	CPC made a	bus system	CPC made a	response wait	CPC made a	bus system	CPC made a	
	timeout	response of	еггог	response of	timeout	response of	error	response of	
	1	bus system		abnormal end		bus system		abnormal en	
	1	error detec-	!	on F bus H.		error detec-		on F bus L.	
		tion on F bus		0 045 71.		tion on F bus		on i ous L.	
		H.				tion on P ous			
11		n.		Clava I mumba	(board numbe	L.		L	
11									
					r of Cache (slav				
	1		Cacne initi	alization : Slot	number of Cac	ne (Note I))			
-12	CA CITC have	CACITE	CACHE bus-	CACTEL	OA CITE I	O A CUTT I	C. CITT.	O . OTTO .	
12	CACHE bus-	CACHE bus-			CACHE bus-		CACHE bus-	CACHE bus	
	H address	H address	H address	H address	H address	H protocol	H protocol	H	
	error 1	error l	еттот 1	error 1	error 2	error (other	егтог	nonprotocol	
	(A/CSYNC	(parity error)	(program	(compare		than	(ESSEQERR)	ептог	
	error)		ептог)	еттог)		ESSEQERR)	.(A)		
13			SSIDo	f mate subsyste	m (x'0000' for	EDCC)			
	4			•	•	,			
14									
	<u> </u>								
15	1		Manufacturer	code ('000000')	1		Factory c	ode ('00')	

16	ICACHE bus-	CACHE bus-	CACHE bus-	CACHE bus-	CACHE bus-	CACHE bus-	CACHE bus-	CACHE bus	
16			ı.				CACHE bus-		
16	L address	L address	L address	L address	L address	L protocol	L protocol	L	
16	L address error 1	L address error 1	L address error 1	L address error 1		L protocol error (other	L protocol еггог	L nonprotocol	
16	L address error 1 (A/CSYNC	L address	L address error 1 (program	L address error 1 (compare	L address	L protocol error (other than	L protocol	L	
16	L address error 1	L address error 1	L address error 1	L address error 1	L address	L protocol error (other	L protocol еггог	L nonprotocol	
17	L address error 1 (A/CSYNC	L address error 1	L address error 1 (program	L address error 1 (compare error)	L address	L protocol error (other than	L protocol еггог	L nonprotocol	
	L address error 1 (A/CSYNC	L address error 1	L address error 1 (program	L address error 1 (compare error) Modu	L address error 2	L protocol error (other than	L protocol еггог	L nonprotocol	
17	L address error 1 (A/CSYNC	L address error 1 (parity error)	L address error 1 (program	L address error 1 (compare error) Modu	L address error 2	L protocol error (other than ESSEQERR)	L protocol еггог	L nonprotocol	
17	L address error 1 (A/CSYNC	L address error 1 (parity error)	L address error 1 (program error)	L address error 1 (compare error) Modu	L address error 2	L protocol error (other than ESSEQERR)	L protocol error (ESSEQERR)	L nonprotocol	
17 18 19 20	L address error 1 (A/CSYNC	L address error 1 (parity error)	L address error 1 (program error)	L address error 1 (compare error) Modu	L address error 2 ale ID	L protocol error (other than ESSEQERR)	L protocol error (ESSEQERR)	L nonprotoco	
17 18 19 20 21	L address error 1 (A/CSYNC	L address error 1 (parity error)	L address error 1 (program error)	L address error l (compare error) Modu Routi	L address error 2 ale ID ine ID	L protocol error (other than ESSEQERR)	L protocol error (ESSEQERR)	L nonprotoco	
17 18 19 20	L address error 1 (A/CSYNC	L address error 1 (parity error)	L address error 1 (program error)	L address error l (compare error) Modu Routi	L address error 2 ale ID	L protocol error (other than ESSEQERR)	L protocol error (ESSEQERR)	L nonprotoco	

(Note 1) See SIM RC section (SIM-RC02-30).

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	0	11	2	3	4	5	6	7
7	_		it (x'F')				ge (x'2')	
8	Subco	x'8C': B	us system error us system error	(bus H/L, two (bus H/L, two	slaves, CPC us slaves, CPC us	ed), without ur ed), with under	idefined registe fined registers	ers
9					on mode			
	Bus use mode		Access	Bus mode		Transfer mode	2	
	0: Sequential	mode	section	0: Two-bus r	node	0: Normal w	rite	
	1: Transactio	n mode	0: Memory/	: Memory/ 1: Not used 1: Normal read				
	2: Transactio	n to	initializa-	2: Bus-L mo	de	3: Cache to c	ache	
	sequential tion 3: Bus-H mode 4: Double write							
	3: Sequential to 1: CACHE 7: Initialization							
	transaction register/ 2, 5, 6: Not used							
			CPC					
			register					
10				Respon	se status			0
	F bus H	CACHE/	H-side BSA	CACHE/	F bus L	CACHE/	L-side BSA	CACHE/
	response wait	CPC made a	bus system	CPC made a	response wait	CPC made a	bus system	CPC made
	timeout	response of	еттог	response of	timeout	response of	ептог	response of
		bus system		abnormal end		bus system		abnormal e
	1	error detec-		on F bus H.		error detec-		on F bus L
		tion on F bus				tion on F bus		
		H.				L.		
11	CACHE	CACHE	ľ			number		
	(slave 1)	(slave 1)			of Cache (slav			
	address error	protocol/			mber of Cache			
		nonprotocol	CPC access:	Slot number of	CPC (Note2))			
12	CACHE	error		· · · · · · · · · · · · · · · · · · ·				
12		State 2 manioer						
			(Cooks sooss	Clas				
	(slave 2)	(slave 2)						
		(slave 2) protocol/	Cache initiali	zation: x'00'				
	(slave 2)	(slave 2)		zation: x'00'				
13	(slave 2)	(slave 2) protocol/ nonprotocol	Cache initiali CPC access:	zation : x'00' x'00')		e 2) (Note 1)		
	(slave 2)	(slave 2) protocol/ nonprotocol	Cache initiali CPC access:	zation : x'00' x'00')	of Cache (slav	e 2) (Note 1)		
13	(slave 2)	(slave 2) protocol/ nonprotocol error	Cache initiali CPC access : SSID o	zation : x'00' x'00')	of Cache (slav	e 2) (Note 1)	Factory o	code ('00')
13 14	(slave 2) address error	(slave 2) protocol/ nonprotocol error	Cache initiali CPC access : SSID o	zation: x'00' x'00') f mate subsyste	of Cache (slav	e 2) (Note 1)	Factory o	code ('00')
13	(slave 2) address error	(slave 2) protocol/ nonprotocol error	Cache initiali CPC access: SSID o	zation: x'00' x'00') of mate subsyste code ('000000')	of Cache (slav	EDCC) CPC	Factory of CPC	code ('00')
13 14	(slave 2) address error CPC (AMH/L)	(slave 2) protocol/ nonprotocol error CPC (AMH/L)	Cache initiali CPC access : SSID o	zation: x'00' x'00') of mate subsyste code ('000000') CPC (ASH/L)	of Cache (slav	EDCC) CPC (BMH/L)	<u> </u>	
13 14	(slave 2) address error CPC (AMH/L) detected	(slave 2) protocol/ nonprotocol error CPC (AMH/L) detected	CPC (ASH/L) detected	zation: x'00' x'00') If mate subsyste code ('000000') CPC (ASH/L) detected	em (x'0000' for CPC (BMH/L) detected	EDCC) CPC (BMH/L) detected	CPC (BSH/L) detected	CPC
13 14	(slave 2) address error CPC (AMH/L)	(slave 2) protocol/ nonprotocol error CPC (AMH/L) detected protocol/	Cache initiali CPC access : SSID o	zation : x'00' x'00') of mate subsyste code ('000000') CPC (ASH/L) detected protocol/	em (x'0000' for CPC (BMH/L)	EDCC) CPC (BMH/L) detected protocol/	CPC (BSH/L)	CPC (BSH/L) detected protocol/
13 14	(slave 2) address error CPC (AMH/L) detected	(slave 2) protocol/ nonprotocol error CPC (AMH/L) detected protocol/ nonprotocol	CPC (ASH/L) detected	zation : x'00' x'00') of mate subsyste code ('000000') CPC (ASH/L) detected protocol/ nonprotocol	em (x'0000' for CPC (BMH/L) detected	EDCC) CPC (BMH/L) detected protocol/ nonprotocol	CPC (BSH/L) detected	CPC (BSH/L) detected protocol/
13 14	(slave 2) address error CPC (AMH/L) detected	(slave 2) protocol/ nonprotocol error CPC (AMH/L) detected protocol/	CPC (ASH/L) detected	zation : x'00' x'00') of mate subsyste code ('000000') CPC (ASH/L) detected protocol/	em (x'0000' for CPC (BMH/L) detected	EDCC) CPC (BMH/L) detected protocol/	CPC (BSH/L) detected	CPC (BSH/L) detected
13 14	(slave 2) address error CPC (AMH/L) detected	(slave 2) protocol/ nonprotocol error CPC (AMH/L) detected protocol/ nonprotocol	CPC (ASH/L) detected	zation: x'00' x'00') of mate subsyste code ('000000') CPC (ASH/L) detected protocol/ nonprotocol error	em (x'0000' for CPC (BMH/L) detected	EDCC) CPC (BMH/L) detected protocol/ nonprotocol	CPC (BSH/L) detected	CPC (BSH/L) detected protocol/ nonprotoco
13 14 15	(slave 2) address error CPC (AMH/L) detected	(slave 2) protocol/ nonprotocol error CPC (AMH/L) detected protocol/ nonprotocol	CPC (ASH/L) detected	zation: x'00' x'00') of mate subsyste code ('000000') CPC (ASH/L) detected protocol/ nonprotocol error Mode	cPC (BMH/L) detected address error	EDCC) CPC (BMH/L) detected protocol/ nonprotocol	CPC (BSH/L) detected	CPC (BSH/L) detected protocol/ nonprotoco
13 14 15 16	(slave 2) address error CPC (AMH/L) detected	(slave 2) protocol/ nonprotocol error CPC (AMH/L) detected protocol/ nonprotocol error	CPC (ASH/L) detected	zation: x'00' x'00') of mate subsyste code ('000000') CPC (ASH/L) detected protocol/ nonprotocol error Mode	cpc (BMH/L) detected address error	CPC (BMH/L) detected protocol/ nonprotocol error	CPC (BSH/L) detected	CPC (BSH/L) detected protocol/ nonprotoco
13 14 15 16	(slave 2) address error CPC (AMH/L) detected	(slave 2) protocol/ nonprotocol error CPC (AMH/L) detected protocol/ nonprotocol error	Cache initiali CPC access: SSID of the second seco	zation: x'00' x'00') of mate subsyste code ('000000') CPC (ASH/L) detected protocol/ nonprotocol error Modu Routi	cpc (BMH/L) detected address error	CPC (BMH/L) detected protocol/ nonprotocol error	CPC (BSH/L) detected address error	CPC (BSH/L) detected protocol/ nonprotoco
13 14 15 16 17 18	(slave 2) address error CPC (AMH/L) detected	(slave 2) protocol/ nonprotocol error CPC (AMH/L) detected protocol/ nonprotocol error	Cache initiali CPC access: SSID of the second seco	zation: x'00' x'00') of mate subsyste code ('000000') CPC (ASH/L) detected protocol/ nonprotocol error Modu Routi	cm (x'0000' for CPC (BMH/L) detected address error alle ID	CPC (BMH/L) detected protocol/ nonprotocol error	CPC (BSH/L) detected address error	CPC (BSH/L) detected protocol/ nonprotoco
13 14 15 16 17 18 19 20	(slave 2) address error CPC (AMH/L) detected	(slave 2) protocol/ nonprotocol error CPC (AMH/L) detected protocol/ nonprotocol error	Cache initiali CPC access: SSID of the second seco	zation: x'00' x'00') of mate subsyste code ('0000000') CPC (ASH/L) detected protocol/ nonprotocol error Modu Routi	cm (x'0000' for CPC (BMH/L) detected address error alle ID	EDCC) CPC (BMH/L) detected protocol/ nonprotocol error	CPC (BSH/L) detected address error	CPC (BSH/L) detected protocol/ nonprotoco

(Note 1) See SIM RC section (SIM-RC02-30).

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	0	1	2	3	4	5	6	7			
7		Forma	ıt (x'F')			Messas	ze (x'2')				
8	Subco						undefined regi				
9		х ор: ы	us system error		on mode	usea), with un	defined register	.2			
	Bus use mode		Access	Bus mode	on mode	Transfer mode	•				
	0: Sequential		section	0: Two-bus mode 0: Normal w							
	1: Transactio		0: Memory/	1: Not used 1: Normal read							
	2: Transactio		initializa-	2: Bus-L mo	de	3: Cache to c					
	sequential tion 3: Bus-H mode 4: I										
	3: Sequential	to	1: CACHE			7: Initializati					
	transaction		register/			2, 5, 6: Not	used				
			CPC								
			register								
10					ise status						
	F bus H	CACHE/	H-side BSA	CACHE/	F bus L	CACHE/	L-side BSA	CACHE/			
	response wait		bus system	CPC made a	response wait	CPC made a	bus system	CPC made a			
	timeout	response of	еттот	response of	timeout	response of	еггог	response of			
		bus system		abnormal end		bus system		abnormal end			
		error detec-		on F bus H.		еттог detec-		on F bus L.			
		tion on F bus				tion on F bus					
		H.	L			L.					
11	1		<i>(</i> C 1		number						
				ss: Slot numbe							
	1		Cache iinti	alization : Slot	number of Cac	ne (Note 1))					
12	-			Slave 2	number						
	Slave 2 number (Cache access : Slot number of Cache (slave 2) (Note 1)										
	1		,		ization: x'00')	, , , , , , , , , , , , , , , , , , , ,					
13			SSIDo	f mate subsyste	em (x'0000' for	EDCC)					
	+				•	,		40			
14	1										
15			Manufacturer	code ('000000')			Englosy	ode ('00')			
							ractory c				
16	CACHE	CACHE	CACHE (S1)	Error in	CACHE	CACHE	CACITE (S2)	T			
10		(slave 1) bus-		CACHE		CACHE	CACHE (S2)	1			
		H/L address	protocol/	(slave 1)	H/L address	(slave 2) bus- H/L address		CACHE			
	error l	error 2	nonprotocol	board	error I	error 2	protocol nonprotocol	(slave 2) board			
	lenor i	ciroi 2	error	board	enor i	C1101 2	ептог	Doard			
17				Mode	ule ID		101101				
18		•		Pouti	ine ID						
	-				T						
19		Processo	r number			Error code	(don't care)				
	SSID of self subsystem										
20				3312 01 301							
				3310 01 301							
20					code (x'FF')						
20				Symptom o							

(Note 1) See SIM RC section (SIM-RC02-30).

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	Subco	Forma ode: x'0E': Bu				Messag	ge (x'2')		
9	Subco	ide: x'UE': Bi							
	access) x'8E': Bus system error (bus H/L, one slave, CPC used), with undefined registers (Cache access)								
		X OE : DI	is system error		on mode	d), with unders	ned registers (C	ache access)	
	Bus use mode		Access	Bus mode	on mode	Transfer mode			
l	0: Sequential		section	0: Two-bus n	node	0: Normal w			
	1: Transaction		0: Memory/	1: Not used		1: Normal read			
- 1	2: Transaction		initializa-	2: Bus-L mod	ie	3: Cache to cache			
- 1	sequential		tion	3: Bus-H mode 4: Double write					
- 1	3: Sequential	to	1: CACHE			7: Initializati	on		
- 1	transaction	ı	register/			2, 5, 6: Not	used		
- 1			CPC						
10			register	Dansen					
	F bus H	CACHE/	H-side BSA	CACHE/	se status F bus L	CACHE/	I aida DCA	CACITE	
	response wait		bus system	CPC made a	response wait		L-side BSA bus system	CACHE/ CPC made a	
	timeout	response of	error	response of	timeout	response of	error	response of	
		bus system		abnormal end		bus system	•	abnormal en	
- 1		error detec-		on F bus H.		error detec-		on F bus L.	
1		tion on F bus				tion on F bus			
		H.	<u> </u>	l		L.			
11			(Ch		number				
				ss: Slot numbe alization: Slot					
			Cache initi	anzanon . Siot	number of Cac	ne (Note 1))			
12	CACHE bus-	CACHE bus-	CACHE bus-	CACHE bus-	CACHE bus-	CACHE bus-	CACHE bus-	CACHE bus	
	H/L address	H/L address	H/L address	H/L address	H/L address	H/L protocol	H/L protocol	H/L	
		error l	error 1	error 1	еттот 2	error (other	ептог	nonprotocol	
	(A/CSYNC	(parity error)	I	(compare		than	(ESSEQERR)	error	
	error)		error)	error)		ESSEQERR)			
13			SSID o	f mate subsyste	m (x'0000' for	EDCC)			
14									
15			Manufacturer (code ('000000')		1.000	Factory o	ode ('00')	
16	CPC (AMH/	CPC (AMH/	CPC (AMH/	CPC (AMH/	CPC (ASH/	CPC (ASH/	CPC (ASH/	CPC (ASH/	
- 1	L, BMH/L)	L, BMH/L)	L, BMH/L)	L, BMH/L)	L, BSH/L)	L, BSH/L)	L, BSH/L)	L, BSH/L)	
2.1	detected	detected	detected	detected	detected	detected	detected	detected	
	address error	address error	FBUSERR	JBUSERR	address error	address error	FBUSERR	JBUSERR	
17	•			Modu	ile ID				
18				Routi	ne ID				
19		Processo	r number			Error code	(don't care)		
20				SSID of sel	f subsystem				
21									
22		2		Symptom o	code (x'FF')				
		91	9,0-22	Symptom of	code (x'F2')				

(Note 1) See SIM RC section (SIM-RC02-30).

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	0	1	2	3	4	5	6	7
7		Forma	t (x'F')				ge (x'2')	<u> </u>
8	Subco	ode: x'0E': Bu	ıs system error cess)		slave, CPC use	d), without und	lefined registe	
9		ход. д	as system error		on mode	d), with under	iica registers (Ci C access)
	Bus use mode 0: Sequential mode 1: Transaction mode 2: Transaction to sequential 3: Sequential to transaction		Access section 0: Memory/ initialization 1: CACHE register/ CPC register	Bus mode 0: Two-bus r 1: Not used 2: Bus-L mod 3: Bus-H mod	Transfer mode us mode 0: Normal write ed 1: Normal read mode 3: Cache to cache		rite ad cache rite on	
10			105.0101	Respon	se status			
	F bus H response wait timeout	CACHE/ CPC made a response of bus system error detec- tion on F bus H.	H-side BSA bus system error	CACHE/ CPC made a response of abnormal end on F bus H.	F bus L response wait timeout	CACHE/ CPC made a response of bus system error detec- tion on F bus L.	L-side BSA bus system error	CACHE/ CPC made a response of abnormal end on F bus L.
11			CF	C slot number	(See SSB03-24	460)		
12				LBU	SERR			
	Receive address parity error	Transfer count > 4	(RSV)	(RSV)	Receive data parity error	(RSV)	(RSV)	(RSV)
. 13		7/47	SSID o	f mate subsyste	em (x'0000' for	EDCC)		
15	Collection Collection		Manufacturer	code ('000000')			Factory	code ('00')
16	CPC (AMH/ L, BMH/L) detected address error	CPC (AMH/ L, BMH/L) detected address error 2	CPC (AMH/ L, BMH/L) detected FBUSERR	CPC (AMH/ L, BMH/L) detected JBUSERR	CPC (ASH/ L, BSH/L) detected address error	CPC (ASH/ L, BSH/L) detected address error 2	CPC (ASH/ L, BSH/L) detected FBUSERR	CPC (ASH/ L, BSH/L) detected JBUSERR
17			• • • • • • • • • • • • • • • • • • •	Mod	ule ID		1.0	
18	11 =			Rout	ine ID		-	
19		Processo	or number			Error code	(don't care)	
20				SSID of se	f subsystem			
21								
22				Symptom	code (x'FF')			
23				Symptom	code (x'F2')			

	0	1	2	3	4	5	6	7
7		Forma	t (x T)			Messag	ge (x'2')	
8	Subcode: x'0F: Bus system error (bus H/L, one slave, CPC unused), without undefined registers x'8F: Bus system error (bus H/L, one slave, CPC unused), with undefined registers							
9					on mode			- 10
	Bus use mode 0: Sequential 1: Transactio 2: Transactio sequential 3: Sequential transaction	mode n mode n to to	Access section 0: Memory/ initializa- tion 1: CACHE register/ CPC	Bus mode 0: Two-bus n 1: Not used 2: Bus-L mod 3: Bus-H mod	ie	Transfer mode 0: Normal wi 1: Normal re 3: Cache to c 4: Double wi 7: Initializati 2, 5, 6: Not	rite ad ache rite on	
			register					
	F bus H response wait timeout	CACHE/ CPC made a response of bus system error detec- tion on F bus H.	H-side BSA bus system error	Respon CACHE/ CPC made a response of abnormal end on F bus H.	F bus L response wait timeout	CACHE/ CPC made a response of bus system error detec- tion on F bus	L-side BSA bus system error	CACHE/ CPC made a response of abnormal end on F bus L.
11	H. Slave 1 number (Cache access : Slot number of Cache (slave 1) (Note 1) Cache initialization : Slot number of Cache (Note 1))							
12	Response status							
	CACHE bus- H/L ACSEQERR detected	CACHE bus- H/L ACTIMEOT detected	CACHE bus- H/L address error 1 (parity error) detected	CACHE bus- H/L address error 1 (program error)	CACHE bus- H/L address error 1 (LRCUNMA TCH)	CACHE bus- H/L address error 1 (compare error)	"Unused bit on" detected on CACHE bus H/L	CACHE bus- H/L address error 2 detected
13			SSIDo	f mate subsyste	em (x'0000' for	EDCC)		
14								
15			Manufacturer	code ('000000')		***	Factory of	code ('00')
16	DTSEQERR (REG: 20C/21C:b00) detected	DTSTOP (REG: 20C/21C:b01) detected	ACACT (REG: 20C/21C:b02) detected	CNTUNMATCH (REG: 20C/21C:b03) detected	ENTOFF (REG: 20C/21C:b04) detected	ESSEQERR (REG: 20C/21C:b05) detected	DATAPE (REG: 20C/21C:b08) detected	OVERRUN (REG: 20C/21C:b09) detected
17				Modi	ıle ID			
18				Routi	ine ID			
19		Processo	r number			Error code	(don't care)	
20				SSID of sel	f subsystem			
21					****			
22		/		Symptom	code (x'FF)			
23		otion (SIM D		Symptom	code (x'F2')			

(Note 1) See SIM RC section (SIM-RC02-30).

	0		2	3	4	5	6	7
7		Forma	t (x'F')			Messag	ge (x'2')	· ·
8	Subco			r cause, two bu			ers	
9		x'90': Ti	meout (no erro	r cause, two bu		fined registers		
9	Bus use mode		Access	Bus mode	on mode	T		
	0: Sequential mode section			0: Two-bus r	node	Transfer mode 0: Normal wi		
	1: Transaction		0: Memory/	1: Not used	node	1: Normal re		
	2: Transaction		initializa-	2: Bus-L mo	de	3: Cache to c		
	sequential		tion	3: Bus-H mo		4: Double w		
	3: Sequential		I: CACHE			7: Initializati		
	transaction		register/			2, 5, 6: Not	used	
			CPC	ļ				
			register					
10					se status			
	F bus H	CACHE/	H-side BSA	CACHE/	F bus L	CACHE/	L-side BSA	CACHE/
	response wait		bus system	CPC made a	response wait		bus system	CPC made a
	timeout	response of	еттог	response of	timeout	response of	еттог	response of
		bus system error detec-		abnormal end on F bus H.		bus system error detec-		abnormal en
		tion on F bus		on rous n.		tion on F bus		on F bus L.
		H.	9.			L.		
11				Slave 1	number	<u> </u>		
			(Cache acce	ss: Slot numbe	r of Cache (slav	ve 1) (Note 1)		
	Cache initialization: Slot number of Cache (Note 1)							
	CPC access : Slot number of CPC (Note2))							
	-							
12			(0.1					
12		4	(Cache acce	ss : Slot numbe	r of Cache (slav	ve 2) (Note 1)		
12		•	(Cache acce	ss : Slot numbe Cache initial	r of Cache (slavization: x'00'	ve 2) (Note 1)		
				ss: Slot numbe Cache initial CPC acce	r of Cache (slavization: x'00')			=
12				ss : Slot numbe Cache initial	r of Cache (slavization: x'00')			
		· · · · · · · · · · · · · · · · · · ·		ss: Slot numbe Cache initial CPC acce	r of Cache (slavization: x'00')			
13			SSID	ss: Slot numbe Cache initial CPC acce of mate subsyste	r of Cache (slatization: x'00' ss: x'00') em (x'0000' for			
13			SSID	ss : Slot numbe Cache initial CPC acce of mate subsyste	r of Cache (sla: ization: x'00' ss: x'00') em (x'0000' for		Factory	code ('00')
13 14 15			SSID o	ss: Slot numbe Cache initial CPC acce of mate subsyste code ('000000') BSA0/1::	r of Cache (slatization: x'00') ss: x'00') em (x'0000' for	EDCC)		
13	EXERRI HI	EXERRI LO	SSID of Manufacturer of EXERR2 HI	ss: Slot numbe Cache initial CPC acce of mate subsyste code ('000000') BSA0/1::: EXERR2 LO	r of Cache (slatization: x'00' ss: x'00') em (x'0000' for CK2AST1 Remote	EDCC) Slave ID	LRC check	LRC check
13 14 15	byte input	EXERR1 LO byte input	SSID of Manufacturer of EXERR2 HI byte input	ss: Slot numbe Cache initial CPC acce of mate subsyste code ('0000000') BSA0/1:: EXERR2 LO byte input	r of Cache (slatization: x'00' ss: x'00') em (x'0000' for CK2AST1 Remote system BSA	EDCC)	LRC check	LRC check field LRC
13 14 15		EXERR1 LO byte input data	SSID of Manufacturer of EXERR2 HI	ss: Slot number Cache initial CPC acce of mate subsyste code ('0000000') BSA0/1:: EXERR2 LO byte input data	r of Cache (slatization: x'00' ss: x'00') em (x'0000' for CK2AST1 Remote	EDCC) Slave ID	LRC check	LRC check
13 14 15	byte input	EXERR1 LO byte input	SSID of Manufacturer of EXERR2 HI byte input	ss: Slot numbe Cache initial CPC acce of mate subsyste code ('000000') BSA0/1:: EXERR2 LO byte input data P-ERR	r of Cache (slatization : x'00') ss : x'00') em (x'0000' for CK2AST1 Remote system BSA error	EDCC) Slave ID	LRC check	LRC check field LRC
13 14 15 16	byte input	EXERR1 LO byte input data	SSID of Manufacturer of EXERR2 HI byte input	ss: Slot numbe Cache initial CPC acce of mate subsyste code ('000000') BSA0/1:: EXERR2 LO byte input data P-ERR Mode	r of Cache (slavization: x'00' ss: x'00') em (x'0000' for CK2AST1 Remote system BSA error	EDCC) Slave ID	LRC check	LRC check field LRC
13 14 15	byte input	EXERR1 LO byte input data	SSID of Manufacturer of EXERR2 HI byte input	ss: Slot numbe Cache initial CPC acce of mate subsyste code ('000000') BSA0/1:: EXERR2 LO byte input data P-ERR Mode	r of Cache (slatization : x'00') ss : x'00') em (x'0000' for CK2AST1 Remote system BSA error	EDCC) Slave ID	LRC check	LRC check field LRC
13 14 15 16	byte input	EXERR I LO byte input data P-ERR	SSID of Manufacturer of EXERR2 HI byte input	ss: Slot numbe Cache initial CPC acce of mate subsyste code ('000000') BSA0/1:: EXERR2 LO byte input data P-ERR Mode	r of Cache (slavization: x'00' ss: x'00') em (x'0000' for CK2AST1 Remote system BSA error	EDCC) Slave ID error	LRC check	LRC check field LRC
13 14 15 16 17	byte input	EXERR I LO byte input data P-ERR	SSID of Manufacturer of EXERR2 HI byte input data P-ERR	ss: Slot numbe Cache initial CPC acce f mate subsyste code ('000000') BSA0/1:: EXERR2 LO byte input data P-ERR Mode	r of Cache (slavization: x'00' ss: x'00') em (x'0000' for CK2AST1 Remote system BSA error	EDCC) Slave ID error	LRC check field data parity error	LRC check field LRC
13 14 15 16 17 18	byte input	EXERR I LO byte input data P-ERR	SSID of Manufacturer of EXERR2 HI byte input data P-ERR	ss: Slot numbe Cache initial CPC acce f mate subsyste code ('000000') BSA0/1:: EXERR2 LO byte input data P-ERR Mode	r of Cache (slatization: x'00') ss: x'00') em (x'0000' for CK2AST1 Remote system BSA error alle ID	EDCC) Slave ID error	LRC check field data parity error	LRC check field LRC
13 14 15 16 17 18 19 20 21	byte input	EXERR I LO byte input data P-ERR	SSID of Manufacturer of EXERR2 HI byte input data P-ERR	ss: Slot number Cache initial CPC acce of mate subsyster code ('000000') BSA0/1::: EXERR2 LO byte input data P-ERR Modulian Routi	r of Cache (slatization: x'00') ss: x'00') em (x'0000' for CK2AST1 Remote system BSA error alle ID f subsystem	EDCC) Slave ID error	LRC check field data parity error	LRC check field LRC
13 14 15 16 17 18 19 20	byte input	EXERR I LO byte input data P-ERR	SSID of Manufacturer of EXERR2 HI byte input data P-ERR	ss: Slot numbe Cache initial CPC acce of mate subsyste code ('000000') BSA0/1:: EXERR2 LO byte input data P-ERR Mode Routi	r of Cache (slatization: x'00') ss: x'00') em (x'0000' for CK2AST1 Remote system BSA error alle ID	EDCC) Slave ID error	LRC check field data parity error	LRC check field LRC

(Note 1) See SIM RC section (SIM-RC02-30).

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Subcode: x111: CHKERR report (no error cause, two buses), with undefined registers x91': CHKERR report (no error cause, two buses), with undefined registers		0	1	2	3	4	5	6	7	
Subcode: x111: CHKERR report (no error cause, two buses), without undefined registers x91: CHKERR report (no error cause, two buses), without undefined registers Subcode x91: CHKERR report (no error cause, two buses), without undefined registers Operation mode Checker	7		Forma							
Sustain Sust	8	Subco			(no error cause	two buses), w				
Bus use mode O: Sequential mode O: Sequential mode O: Sequential mode O: Memory										
0. Sequential mode 1: Transaction mode 2: Transaction mode 2: Transaction to sequential 3: Sequential to 1: CACHE register CPC CPC register CPC CPC register CPC made a timeout 1: Not unsed 2: Bus L mode 3: Cache to cache 4: Double write 7: Initialization 2: 5, 6: Not used 7: Not used	9							-1-		
1: Transaction mode 2: Transaction to sequential 3: Sequential to transaction 3: Sequential to transaction 4: CACHE/ register/ CPC 7: Initialization 7: Init		Bus use mode	:	Access			Transfer mod	e		
2: Transaction to sequential 3: Sequential to transaction 3: Sequential to transaction 4: Double write 7: Initialization 2: Bus-L mode 3: Bus-H mode 3: Bus-H mode 7: Initialization 8: CACHE/ Prepose of the use of CACHE/ Prepose of Post of Cache (slave 1) (Note 1) Cache initialization: Slot number of Cache (slave 2) (Note 1) Cache initialization: Slot numb		0: Sequential	l mode	section	0: Two-bus r	node	0: Normal w	rite	ite	
Sequential to transaction Sequential transac				D: Memory/			1: Normal re	ad		
3: Sequential to transaction I: CACHE register 7: Initialization 2, 5, 6: Not used 7: Not used 7: Initialization 7		2: Transaction to initializa-								
transaction register/ CPC CPC CPC Tegister Response status CACHE/ response wait (CPC made a response of bus system error detection on F bus H. Slave 1 number (Cache access: Slot number of Cache (slave 1) (Note 1) Cache initialization: Slot number of Cache (Note 1) Cache initia					3: Bus-H mo	de			43	
The content of the										
The image is a continuation of the image is a continuation o		transaction	n				2, 5, 6: Not	used		
Post CacHe CacHe H-side BSA CacHE Fous H Cept made a timeout Post Cept made a timeout Post Cach Cept made a timeout Post Cach Cept made a timeout Post Cept made a timeout Post Cach Cept made a timeout Post Cach Cept made a response of bus system error detection on F bus H. Slave 1 number of Cache (slave 1) (Note 1)		1								
F bus H response wait CPC made a timeout response of response of abnormal end on F bus H. Il Slave I number of Cache (slave I) (Note I) Cache initialization: Slot number of Cache (slave 2) (Note I) Cache initialization: Slot number of Cache (slave	10			register	Распан					
response wait timeout bus system response of bus system error detection on F bus H. Slave I number of Cache (slave 1) (Note 1) Cache initialization: Slot number of Cache (slave 2) (Note 1) Cache initialization: Slot number of Cache (slave 2) (Note 1) Cache initialization: Slot number of Cache (slave 2) (Note 1) Cache initialization: Slot number of Cache (slave 2) (Note 1) Cache initialization: Slot number of Cache (slave 2) (Note 1) Cache initialization: x'00' CPC access: Slot number of Cache (slave 2) (Note 1) Cache initialization: x'00' CPC access: x'00') SSID of mate subsystem (x'0000' for EDCC) Manufacturer code ('000000') Factory code ('00') BSA0/1::CK2AST1 EXERR I HI byte input data P-ERR Slot system BSA error Module ID Routine ID Symptom code (x'FF')	10	E bue H	CACHE/	H-side BSA			CACUE	I side DCA	CACITE!	
timeout response of bus system error detection on F bus H. Slave 1 number (Cache access : Slot number of Cache (slave 1) (Note 1) Cache initialization : Slot number of Cache (Note 1) Cache initialization : Slot number of Cache (Slave 2) (Note 1) Cache initialization : x'00' CPC access : Slot number of Cache (slave 2) (Note 1) Cache initialization : x'00' CPC access : x'00') SSID of mate subsystem (x'0000' for EDCC) Manufacturer code ('000000') SSID of mate subsystem (x'0000' for EDCC) Manufacturer code ('000000') EXERRI HI byte input data P-ERR EXERR 2 HI byte input data P-ERR byte input data P-ERR data P-ERR data P-ERR carror cache (don't care) Module ID Routine ID Symptom code (x'FF')					1	V				
bus system error detection on F bus H. Slave I number of Cache (slave I) (Note I)				,				1 1		
Slave number of Cache (slave 1) (Note 1)		*:		0				Ciroi		
Slave 1 number Cache (slave 1) (Note 1)		1								
Slave 1 number (Cache access: Slot number of Cache (slave 1) (Note 1) Cache initialization: Slot number of Cache (Note 1) CPC access: Slot number of CPC (Note2)) 12 Slave 2 number (Cache access: Slot number of Cache (slave 2) (Note 1) Cache initialization: x'00' CPC access: Slot number of Cache (slave 2) (Note 1) Cache initialization: x'00' CPC access: x'00') 13 SSID of mate subsystem (x'0000' for EDCC) 14 15 Manufacturer code ('000000') BSA0/1::CK2AST1 EXERR1 HI byte input data P-ERR byte input data P-ERR byte input data P-ERR cerror Module ID Module ID Routine ID Processor number Error code (don't care) SSID of self subsystem 21 Symptom code (x'FF')			tion on F bus				tion on F bus			
(Cache access : Slot number of Cache (slave 1) (Note 1) Cache initialization : Slot number of Cache (Note 1) CPC access : Slot number of Cache (Note 1) CPC access : Slot number of Cache (Note 2) Slave 2 number (Cache access : Slot number of Cache (slave 2) (Note 1) Cache initialization : x'00' CPC access : x'00') SSID of mate subsystem (x'0000' for EDCC) Manufacturer code ('000000') BSA0/1::CK2AST1 EXERR I HI EXERR I LO EXERR2 HI byte input data P-ERR byte input data P-ERR data P-ERR byte input data P-ERR data P-ERR byte input data P-ERR b			H.				L.			
Cache initialization: Slot number of Cache (Note 1) CPC access: Slot number of CPC (Note2)) Slave 2 number (Cache access: Slot number of Cache (slave 2) (Note 1) Cache initialization: x*00' CPC access: x*00') SSID of mate subsystem (x*0000' for EDCC) Manufacturer code (*000000') BSA0/1::CK2AST1 EXERR1 HI EXERR1 LO EXERR2 HI byte input data P-ERR byte input data P-ERR data P-ERR data P-ERR byte input data P-ERR	11	•)>				*********				
CPC access : Slot number of CPC (Note2)		1								
Slave 2 number Cache (slave 2) (Note 1) Cache (clave 2) (Note 1) Cache (nitialization : x'00' CPC access : x'00') 13		1								
(Cache access: Slot number of Cache (slave 2) (Note 1) Cache initialization: x'00' CPC access: x'00') SSID of mate subsystem (x'0000' for EDCC) Manufacturer code ('000000') Factory code ('00') BSA0/1::CK2AST1 EXERRI HI byte input data P-ERR byte input data P-ERR data P-ERR data P-ERR byte input byte input byte input data P-ERR byte input byte input byte input data P-ERR byte input byte input data P-ERR byte input byte input byte input byte input data P-ERR byte input byte input byte input byte input byte input data P-ERR byte input data P-ERR byte input data P-ERR byte input byte i	10									
Cache initialization : x'00' CPC access : x'00') SSID of mate subsystem (x'0000' for EDCC) Manufacturer code ('000000') EXERRI HI byte input data P-ERR EXERRI LO byte input data P-ERR Manufacturer code ('000000') EXERRI HI byte input data P-ERR EXERRI LO byte input data P-ERR Module ID Module ID Routine ID Processor number Error code (don't care) SSID of self subsystem Symptom code (x'FF')	12			(Cache acce			2) (Notes 1)			
SSID of mate subsystem (x'0000' for EDCC) 13										
SSID of mate subsystem (x'0000' for EDCC) 14										
15 Manufacturer code ('000000') Factory code ('00') 16 EXERRI HI byte input data P-ERR	13			cem o			EDCC)			
Manufacturer code ('000000') Factory code ('00')		4		3312 (i mate subsyste	iii (x 0000 ioi	EDCC)			
BSA0/1::CK2AST1 EXERRI HI byte input data P-ERR EXERR2 HI byte input data P-ERR EXERR2 LO byte input data P-ERR Exercise BSA error Error	14									
BSA0/1::CK2AST1 EXERRI HI byte input data P-ERR EXERR2 HI byte input data P-ERR EXERR2 LO byte input data P-ERR Exercise BSA error Error	his a							1		
EXERRI HI byte input data P-ERR look byte input data P-ERR look error look field data parity error look field data parity error look field data parity error look error look data P-ERR look error look field data parity error look error look field data parity error look error look error look field data parity error look error loo	15			Manufacturer	code ('000000')			Factory	code ('00')	
EXERRI HI byte input data P-ERR look byte input data P-ERR look error look field data parity error look field data parity error look field data parity error look error look data P-ERR look error look field data parity error look error look field data parity error look error look error look field data parity error look error loo					BSA0/1::	CK2AST1				
byte input data P-ERR error field data parity error error Module ID	16	EXERRI HI	EXERRI LO	EXERR2 HI			Slave ID	LRC check	LRC check	
Module ID Routine ID Processor number Error code (don't care) SSID of self subsystem Symptom code (x'FF')		byte input	byte input	byte input	byte input	system BSA	error	1		
Routine ID Processor number Error code (don't care) SSID of self subsystem Symptom code (x'FF')		data P-ERR	data P-ERR	data P-ERR	data P-ERR	ептог		parity error	еттог	
Routine ID Processor number Error code (don't care) SSID of self subsystem Symptom code (x'FF')										
Processor number Error code (don't care) SSID of self subsystem Symptom code (x'FF')	17	1			Modi	ıle ID				
Processor number Error code (don't care) SSID of self subsystem Symptom code (x'FF')		 								
20 SSID of self subsystem 21 22 Symptom code (x'FF')	18	12.2.			Routi	ne ID				
20 SSID of self subsystem 21 22 Symptom code (x'FF')	10		D	•						
21 22 Symptom code (xTF)	19		Processo	r number			Error code	(don't care)		
21 22 Symptom code (xTF)	20				SSID of sel	f subsystem				
22 Symptom code (x'FF')		4			331D 01 3C1	i subsystem				
zypoon cook (xxx)	21	1								
zypoon cook (xxx)		 								
23 Symptom code (x'F2')	22				Symptom o	code (x'FF')				
23 Symptom code (xF2')										
	23				Symptom of	code (x'F2')				

(Note 1) See SIM RC section (SIM-RC02-30).

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	0	1	2	3	4	5	6	7	
7			t (x'F')	555			ge (x'2')		
8	Subco	de: x'12': B	SA detected em	ror (no error car	use, two buses)	, without undef	ined registers		
9		x'92': B	SA detected em	or (no error car		, with undefine	d registers		
9	Bus use mode		Access	Bus mode	on mode	T			
	0: Sequential mode		section	0: Two-bus r	noda	Transfer mode 0: Normal with			
	1: Transactio		0: Memory/	1: Not used	node	1: Normal re			
	2: Transactio		initializa-	2: Bus-L mo	de	3: Cache to c			
	sequential		tion	3: Bus-H mo		4: Double wi			
	3: Sequential	to	1: CACHE			7: Initializati	on		
	transaction	1	register/			2, 5, 6: Not	used		
			CPC						
10			register	December					
10	F bus H	CACHE/	H-side BSA	CACHE/	se status F bus L	CACHE/	T alda DCA	CA CITE!	
	response wait		bus system	CPC made a	response wait	· ·	L-side BSA bus system	CACHE/ CPC made a	
	timeout	response of	error	response of	timeout	response of	error	response of	
		bus system		abnormal end		bus system	0.10.	abnormal en	
		error detec-		on F bus H.		error detec-		on F bus L.	
	3	tion on F bus				tion on F bus			
-,,		Н.				L.			
11	Slave 1 number (Cache access: Slot number of Cache (slave 1) (Note 1) Cache initialization: Slot number of Cache (Note 1)								
	CPC access: Slot number of CPC (Note2))								
12									
	(Cache access: Slot number of Cache (slave 2) (Note 1)								
	Cache initialization: x'00' CPC access: x'00')								
13			SSID o	f mate subsyste	m (x'0000' for	EDCC)			
14									
15			Manufacturer (code ('000000')			Factory	code ('00')	
				BSA0/1::0			Tactory (
16	EXERRI HI	EXERRI LO	EXERR2 HI	EXERR2 LO		Slave ID	LRC check	LRC check	
	byte input	byte input	byte input	byte input	system BSA	error	field data	field LRC	
	data P-ERR	data P-ERR	data P-ERR	data P-ERR	еттог		parity error	error	
17				Modu	ile ID				
18				Routi	ne ID				
19		Processo	r number			Error code	(don't care)		
20				SSID of sel	f subsystem				
21					,				
22				Summan	ode (viletti)				
					code (x'FF')				
23									

(Note 1) See SIM RC section (SIM-RC02-30).

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•	0	1	2	3	4	5	6	7
7		Forma	t (x'F')			Messa	ge (x'2')	
8	Subco				se, two buses), se, two buses),			
9					on mode		-	
	Bus use mode 0: Sequential		Access section	Bus mode 0: Two-bus r	node	Transfer mode 0: Normal w	•	
	1: Transactio		0: Memory/	1: Not used		1: Normal re	ad	
	2: Transactio		initializa-	2: Bus-L mo		3: Cache to c	cache	
	sequential		tion	3: Bus-H mo	de	4: Double wi		
	3: Sequential		1: CACHE			7: Initializati		
	transaction	1	register/ CPC			2, 5, 6: Not	used	
			register					
10					ise status			
	F bus H	CACHE/	H-side BSA	CACHE/	F bus L	CACHE/	L-side BSA	CACHE/
	response wait		bus system	CPC made a	response wait	CPC made a	bus system	CPC made a
	timeout	response of	еггог	response of	timeout	response of	еггог	response of
		bus system		abnormal end		bus system		abnormal end
		error detec-		on F bus H.		error detec-		on F bus L.
		tion on F bus H.				tion on F bus L.		
11	1				number		11	
					r of Cache (sla			
					number of Cad			
			CPC a		mber of CPC (N	Note2))		
12					number			
			(Cache acce		r of Cache (sla	ve 2) (Note 1)		
					ization: x'00'			
				CPC acce	ess: x'00')			
13			SSID o	of mate subsyste	em (x'0000' for	EDCC)		
	-							
14	<u> </u>							
15			Manufacturer				Factory	code ('00')
		E	L	1	K2AST2-5		E	
16		Blocked	Inboard	Register/	Cache	Discrepancy	Discrepancy	Master send
	access error in		error/clock	memory	memory	between	between	data parity
	one-bus mode	section access			access during		DIAG/SP	error
	1		abnormal	initialization	cell refresh	setting and	mode and	1
27						access	command	1
	-	l	l			instruction	instruction	<u> </u>
17				Mod	ule ID			
18				Rout	ine ID	.=		
19		Processo	r number			Error code	(don't care)	
20				SSID of se	lf subsystem			.:
21								
22				Symptom	code (x'FF')			
	Symptom code (x'F2')							
23				Symptom	code (x'F2')			

(Note 1) See SIM RC section (SIM-RC02-30).

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-		0	1	2	3	4	5	6	7
	7		Forma	t (x'F')			Messag	ge (x'2')	
	8	Subco	de: x'14': En		t (no error caus		without undefin	ned registers	
	9				Operation			-	
		Bus use mode		Access	Bus mode		Transfer mode		
		0: Sequential		section	0: Two-bus n	node	0: Normal wi		
	- 1	1: Transaction mode 0: Memory/ 1: Not used 1: Normal rea				ad			
	1	2: Transaction to initializa- 2: Bus-L mode 3: Cache to cache							
		sequential tion 3: Bus-H mode 4: Double write							
		3: Sequential	to	1: CACHE			7: Initializati	on	
ι.	1	transaction	1	register/			2, 5, 6: Not	used	
				CPC					
				register					
	10					se status			
1	1	F bus H	CACHE/	H-side BSA	CACHE/	F bus L	CACHE/	L-side BSA	CACHE/
		response wait	CPC made a	bus system	CPC made a	response wait	CPC made a	bus system	CPC made a
		timeout	response of	error	response of	timeout	response of	error	response of
	1		bus system		abnormal end		bus system	l	abnormal end
			error detec-		on F bus H.		error detec-		on F bus L.
٠			tion on F bus			!	tion on F bus		1
			H.				L	<u> </u>	1
	11 *	Slave 1 number							
	0				ss: Slot numbe				
		Cache initialization : Slot number of Cache (Note 1)							
		CPC access: Slot number of CPC (Note2))							
	12	Slave 2 number (Cache access : Slot number of Cache (slave 2) (Note 1)							
	Ÿ			(Cache acce			ve 2) (Note 1)		
		Cache initialization: x'00' CPC access: x'00')							
					CPC acce	SS: X 00)			
	13			SSID o	f mate subsyste	m (x'0000' for	EDCC)		
\vdash			9						
	14								
	15			Manufacturer	code ('000000')	1		Factory	code ('00')
	15			- Ivianatactorer				Tuctory	
						CK2ASTI			
	16	EXERRI HI	EXERRI LO	EXERR2 HI	EXERR2 LO	1	Slave ID	LRC check	LRC check
l		byte input	byte input	byte input	byte input	system BSA	error	field data	field LRC
l		data P-ERR	data P-ERR	data P-ERR	data P-ERR	еттог		parity error	ептог
	17				Mod	l ule ID			
_	17				IVIOU				
	18				Rout	ine ID			
	19		Processo	or number			Error code	(don't care)	
	20				SSID of se	If subsystem			
H	21	1				-			
-					C	and Cultural			
<u> </u>	22					code (x'FF')			
L	23		action (SIM E		Symptom	code (x'F2')			

(Note 1) See SIM RC section (SIM-RC02-30).

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	0	1	2	3	4	5	6	7
7		Forma	t (x'F')			Messag	ze (x'2')	
8	Subcoo			(no error cause				
9				Operation	on mode			
	Bus use mode		Access	Bus mode		Transfer mode	2	
	0: Sequential	mode	section	0: Two-bus mode		0: Normal write		
	1: Transaction mode D: Memory/ 1: Not used 1: Normal re				ead			
	2: Transaction to initializa- 2: Bus-L mode 3: Cache to cach					ache		
	sequential tion 3: Bus-H mode 4: Double write							
	3: Sequential to 1: CACHE 7: Initialization				on			
	transaction		register/			2, 5, 6: Not	used	
			CPC					
			register					
10			- N	Respon	se status			
	F bus H	CACHE/	H-side BSA	CACHE/	F bus L	CACHE/	L-side BSA	CACHE/
	response wait		bus system	CPC made a	response wait		bus system	CPC made a
	timeout	response of	error	response of	timeout	response of	error	response of
		bus system		abnormal end		bus system		abnormal end
		error detec-	1	on F bus H.		error detec-		on F bus L.
		tion on F bus				tion on F bus	į.	
		H.				L.	H H	ļ
11	1			Slave I	number	-		
*-	1		(Cache acce	ss : Slot numbe	r of Cache (sla	ve 1) (Note 1)		
	1			ialization: Slot				
		CPC access : Slot number of CPC (Note2))						
12	Slave 2 number							
	1		(Cache acce	ss : Slot numbe	r of Cache (sla	ve 2) (Note 1)		
	(Cache access : Slot number of Cache (slave 2) (Note 1) Cache initialization : x'00'							
100-1101	CPC access: x'00')							
13			SSID	f mate subsyste	em (x'0000' for	EDCC)		
	1				(,		
14								
15			Manufacturer	code ('000000'))		Factory	code ('00')
				BSA0/1::	CK2AST1		· · · · · · · · · · · · · · · · · · ·	
16	EXERRI HI	EXERRI LO	EXERR2 HI	EXERR2 LO		Slave ID	LRC check	LRC check
	byte input	byte input	byte input	byte input	system BSA	егтог	field data	field LRC
	data P-ERR	data P-ERR	data P-ERR	data P-ERR	еттог		parity error	error
				*			F ,	
17 =				Mod	ule ID			
18				Rout	ine ID			
19		Processo	or number			Error code	(don't care)	
20				SSID of se	If subsystem			
21	1							
22				Symptom	code (xFF)			
23					code (x'F2')	· · · · · · · · · · · · · · · · · · ·		
دے		ection (SIM I		- Jinptolli	COGE (XIZ)			

(Note 1) See SIM RC section (SIM-RC02-30).

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	0	1	2	3	4.	5	6	7
7			ıt (x'F)			Messa	ge (x'2')	•
8	Subco	ode: x'16': I x'96': I	SSA detected e	rror (no error c	ause), without i	indefined regis	iters	
9					on mode	omica register.		
	Bus use mode 0: Sequential 1: Transactio 2: Transactio	i mode on mode	Access section 0: Memory/ initializa-	Bus mode 0: Two-bus mode 1: Not used 2: Bus-L mode		Transfer mode 0: Normal write 1: Normal read 3: Cache to cache		
	sequential 3: Sequential transaction	l to	tion 1: CACHE register/ CPC register	3: Bus-H mo		4: Double wi 7: Initializati 2, 5, 6: Not	rite on	
10				Respon	se status			
	F bus H response wait timeout	CACHE/ CPC made a response of bus system error detec- tion on F bus H.	H-side BSA bus system error	CACHE/ CPC made a response of abnormal end on F bus H.	F bus L response wait timeout	CACHE/ CPC made a response of bus system error detec- tion on F bus L.	L-side BSA bus system ептог	CACHE/ CPC made a response of abnormal end on F bus L.
11		Slave 1 number (Cache access : Slot number of Cache (slave 1) (Note 1) Cache initialization : Slot number of Cache (Note 1) CPC access : Slot number of CPC (Note2))						
12	Slave 2 number (Cache access: Slot number of Cache (slave 2) (Note 1) Cache initialization: x'00' CPC access: x'00')							
13			SSID o	f mate subsyste	em (x'0000' for	EDCC)		
14			Manufacturer	code ('000000')			F	
							Factory	code ('00')
16	EXERR1 HI byte input data P-ERR	EXERR! LO byte input data P-ERR	EXERR2 HI byte input data P-ERR		Remote system BSA error	Slave ID error	LRC check field data parity error	LRC check field LRC error
17				Modu	ile ID			
18				Routi	ne ID			
19		Processo	r number			Error code	(don't care)	
20				SSID of sel	f subsystem			
21								
23					code (x'FF')			
	See SIM RC se	: (CI) (D	C00 20'	Symptom o	code (x'F2')			

(Note 1) See SIM RC section (SIM-RC02-30).

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	0	11	2	3	4	5	6	7
7			at (x'F')			Messa	ge (x'2')	
8	Subce	ode: x'17': E	rror status repo	ort (no error car	ise, one bus), w			
				ort (no error car	ise, one bus), w			
9					on mode			
	Bus use mode	-	Access	Bus mode		Transfer mod	le	
	0: Sequential mode section 0: Two-bus mode 0: Normal write		rite					
	1: Transaction mode p: Memory/ 1: Not used 1: Normal read		ad					
	2: Transaction		initializa-	2: Bus-L mo		3: Cache to	cache	
	sequentia		tion	3: Bus-H mo	ode	4: Double w	rite	
	3: Sequentia		I: CACHE	1		7: Initializat	ion	
	transactio	n	register/			2, 5, 6: Not	used	
			CPC			1		
	-		register					
10	<u></u>	T	r		ise status			
	F bus H	CACHE/	H-side BSA	CACHE/	F bus L	CACHE/	L-side BSA	CACHE/
		t CPC made a	bus system	CPC made a	response wait		bus system	CPC made
	timeout	response of	error	response of	timeout	response of	егтог	response of
	SEC. 1	bus system		abnormal end	1	bus system	1	abnormal er
		error detec-		on F bus H.	1	error detec-		on F bus L.
		tion on F bus H.				tion on F bus		1
11		In.	l	Classe		L.		
			(Cache acce	ss : Slot numbe	number	ua I) (Nata I)		
			Cache init	ialization: Slot	number of Co	ve i) (Note i)		
				ccess: Slot nu				
12		200	0.00			(O(CZ))		
	Slave 2 number (Cache access : Slot number of Cache (slave 2) (Note 1)							
	1		(Cache acce	ss : Slot numbe	r of Cache (sla	ve 2) (Note 1)		
			(Cache acce			ve 2) (Note 1)		
		,	(Cache acce	Cache initial	r of Cache (slatization: x'00' ss:x'00')	ve 2) (Note 1)		
13		,		Cache initial CPC acce	ization : x'00' ss : x'00')			
13		,		Cache initial	ization : x'00' ss : x'00')			
13		,		Cache initial CPC acce	ization : x'00' ss : x'00')		-	
		,		Cache initial CPC acce	ization : x'00' ss : x'00')			
			SSID	Cache initial CPC acce	ization: x'00' rss: x'00') rem (x'0000' for		Factory	code ('00')
14			SSID	Cache initial CPC acce of mate subsyste	ization : x'00' ess : x'00') em (x'0000' for		Factory	code ('00')
14	Two-bus	Blocked	SSID	Cache initial CPC acce of mate subsyste code ('000000') BSA0/1::C	ization : x'00' ess : x'00') em (x'0000' for	EDCC)		
14	Two-bus access error		SSID of Manufacturer	Cache initial CPC acce of mate subsyste	ization : x'00' ess : x'00') em (x'0000' for	EDCC) Discrepancy	Discrepancy	Master send
14	1	Blocked	SSID of Manufacturer of Inboard error/clock	Cache initial CPC acce of mate subsyste code ('000000') BSA0/1::C Register/ memory	ization: x'00' ess: x'00') em (x'0000' for EK2AST2-5 Cache memory	EDCC) Discrepancy between	Discrepancy	Master send
14	access error	Blocked MG/CACHE	SSID of Manufacturer of Inboard error/clock	Cache initial CPC acce of mate subsyste code ('000000') BSA0/1::C Register/ memory	ization : x'00' ess : x'00') em (x'0000' for K2AST2-5 Cache	EDCC) Discrepancy between register	Discrepancy between DIAG/SP	Master send
14	access error in one-bus	Blocked MG/CACHE	SSID of Manufacturer Inboard error/clock refresh	Cache initial CPC acce of mate subsyste code ('000000') BSA0/1::C Register/ memory access before	ization: x'00' ess: x'00') em (x'0000' for K2AST2-5 Cache memory access during	EDCC) Discrepancy between	Discrepancy between DIAG/SP mode and	Master send data parity
14	access error in one-bus	Blocked MG/CACHE	SSID of Manufacturer Inboard error/clock refresh	Cache initial CPC acce of mate subsyste code ('000000') BSA0/1::C Register/ memory access before	ization: x'00' ess: x'00') em (x'0000' for K2AST2-5 Cache memory access during	EDCC) Discrepancy between register setting and	Discrepancy between DIAG/SP mode and command	Master send data parity
14	access error in one-bus	Blocked MG/CACHE	SSID of Manufacturer Inboard error/clock refresh	Cache initial CPC acce of mate subsyste code ('000000') BSA0/1::C Register/ memory access before initialization	ization: x'00' ess: x'00') em (x'0000' for EK2AST2-5 Cache memory access during cell refresh	EDCC) Discrepancy between register setting and access	Discrepancy between DIAG/SP mode and	Master send data parity
14 15 16	access error in one-bus	Blocked MG/CACHE	SSID of Manufacturer Inboard error/clock refresh	Cache initial CPC acce of mate subsyste code ('000000') BSA0/1::C Register/ memory access before initialization	ization: x'00' ess: x'00') em (x'0000' for K2AST2-5 Cache memory access during cell refresh	EDCC) Discrepancy between register setting and access	Discrepancy between DIAG/SP mode and command	Master send
14 15 16	access error in one-bus	Blocked MG/CACHE	SSID of Manufacturer Inboard error/clock refresh	Cache initial CPC acce of mate subsyste code ('000000') BSA0/1::C Register/ memory access before initialization	ization: x'00' ess: x'00') em (x'0000' for EK2AST2-5 Cache memory access during cell refresh	EDCC) Discrepancy between register setting and access	Discrepancy between DIAG/SP mode and command	Master send
14 15 16	access error in one-bus	Blocked MG/CACHE	Manufacturer Inboard error/clock refresh abnormal	Cache initial CPC acce of mate subsyste code ('000000') BSA0/1::C Register/ memory access before initialization	ization: x'00' ess: x'00') em (x'0000' for K2AST2-5 Cache memory access during cell refresh	Discrepancy between register setting and access instruction	Discrepancy between DIAG/SP mode and command	Master send
14 15 16 17	access error in one-bus	Blocked MG/CACHE section access	Manufacturer Inboard error/clock refresh abnormal	Cache initial CPC acce of mate subsyste code ('000000') BSA0/1::C Register/ memory access before initialization Modu	ization: x'00' ess: x'00') em (x'0000' for EK2AST2-5 Cache memory access during cell refresh	Discrepancy between register setting and access instruction	Discrepancy between DIAG/SP mode and command instruction	Master send
14 15 16 17 18 19 20	access error in one-bus	Blocked MG/CACHE section access	Manufacturer Inboard error/clock refresh abnormal	Cache initial CPC acce of mate subsyste code ('000000') BSA0/1::C Register/ memory access before initialization	ization: x'00' ess: x'00') em (x'0000' for EK2AST2-5 Cache memory access during cell refresh	Discrepancy between register setting and access instruction	Discrepancy between DIAG/SP mode and command instruction	Master send
14 15 16 17 18 19 20 21	access error in one-bus	Blocked MG/CACHE section access	Manufacturer Inboard error/clock refresh abnormal	Cache initial CPC acce of mate subsyste code ('000000') BSA0/1::C Register/ memory access before initialization Modu Routi	ization: x'00' rss: x'00') rm (x'0000' for EK2AST2-5 Cache memory access during cell refresh ale ID f subsystem	Discrepancy between register setting and access instruction	Discrepancy between DIAG/SP mode and command instruction	Master send
14 15 16 17 18 19 20	access error in one-bus	Blocked MG/CACHE section access	Manufacturer Inboard error/clock refresh abnormal	Cache initial CPC acce of mate subsyste code ('000000') BSA0/1::C Register/ memory access before initialization Modu Routi	ization: x'00' ess: x'00') em (x'0000' for EK2AST2-5 Cache memory access during cell refresh	Discrepancy between register setting and access instruction	Discrepancy between DIAG/SP mode and command instruction	Master send

(Note 1) See SIM RC section (SIM-RC02-30).

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	0	1	2	3	4	5	6	7			
7			it (x'F')				ge (x'2')				
8	Subco		board error at								
9		x'F0': Inboard error at initialization, with undefined registers BOARD ERR									
,	WRENABLE	RAS0 signal	RAS1 signal	CAS0 signal	CAS1 signal	ADR0 signal	ADR1 signal	SYND signal			
Ç	signal	abnormal	abnormal	abnormal	abnormal	parity error	parity error	parity error			
	abnormal	20.10	uononna.	Lonomia	donomia	parity choi	parity circi	parity error			
10				BOAR	D ERR	-					
	ECC	Uncorrect-	ECC error at	(Not used)	LRC0 error	LRC1 error	LRC2 error	LRC3 error			
	compare	able memory	writing		at writing	at writing	at writing	at writing			
	error	error at									
		reading									
11 *					ERR						
	Clock	ADRCTL	ECCCTL1	ECCCTL2	(Not used)	Address	Data transfer	Refresh			
	abnormal	detected	detected	detected		counter	counter	counter			
		abnormal	abnormal	abnormal		abnormal	abnormal	abnormal			
		clock	clock	clock	<u></u>						
12	D.C. I	In . co : 1	D.O		ERR	La.					
	Refresh	RAS0 signal	RAS1 signal	CAS0 signal	CAS1 signal	(Not used)	(Not used)	(Not used)			
	operation abnormal	abnormal	abnormal	abnormal	abnormal						
	abilorinal			<u> </u>							
13			SSID o	f mate subsyste	m (x'0000' for	EDCC)					
14											
14			90				V				
15			Manufacturer	code ('000000')	1		Factory o	code ('00')			
16			Slot number	of CACHE wi	th an inboard e	ποr (Note 1)					
17				Mod	ule ID						
				WIOGI							
18				Routi	ine ID						
19		Processo	r number			Error code	(don't care)				
20				SSID of sel	f subsystem						
	-			GOLD OF SCI	i aucay sicili						
21											
22				Symptom	code (x'FF')						
23			viies si	Symptom	code (x'F2')						
() T . 1\ C	077.470	etion (CIM D	G00 00\								

(Note 1) See SIM RC section (SIM-RC02-30).

Format F, Message 6 (CFW impossible)

	0	1	2	3	4	5	6	7				
7		Forma	at (x'F')			Messag	Message (x'6')					
8				Reason co	ode (Note)							
9												
10				Not	used							
11												
12												
13				SSID of ma	te subsystem							
, 14					or EDCC)							
15			Manufacturer	code ('000000')			Factory of	code ('00')				
16	8			Not	used							
17		87		Mod	ule ID							
18				Routi	ne ID							
19		Processo	or number			Error code	(don't care)					
20				SSID of sel	f subsystem							
21			K)									
22			•	Symptom co	ode (x'FFF6')							
23												

(Note) Reason code

X'00'

: Reserved

X'01 : CFW ID inconsistent

X'02'-X'0F' : Reserved

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Format F, Message A (NVS terminated)

	0	l l	2	3	4	5	6	7		
7		Forma	it (x T ')			Messag	ge (x'A')			
8		Reason code (Note)								
9				Not	used					
10		o i		Not	used					
11				Not	used					
					+					
12				Not	used					
13				SSID of ma	te subsystem			7		
14					or EDCC)					
15			Manufacturer	code ('000000')			Factory	code ('00')		
16				Not	used					
17				Mod	ule ID					
18				Rout	ine ID					
19		Processo	or number	*		Error code	(don't care)			
20				SSID of se	f subsystem					
21										
22				Symptom co	ode (x'FFFA')					
23			2							

(Note) Reason code

X'00'-X'01'

: Reserved

X'02'

: NVS failure

X03'- X'0F'

: Reserved

Format F, Message B (HRC/HODM 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 (Note)							
9				RCU dev	ice address						
10			RC	U Manufacture	code/Factory c	ode					
11				(x'00	2690')						
12											
13				RCU Sec	uence No.						
14		100 004401010									
15		MCU Manufacture code/Factory code									
16	1			(x'00	2690')						
17											
18				MCU Sec	quence No						
19	1										
20											
21											
22		Sympton code (x'FE')									
23				Sympton code	(same byte #8)						

(Note) 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).

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Format F, Message F (Cache/Shared Memory/M-bus/F-bus/J-bus warning)

	0	1	2	3	4	5	6	7				
7		Format	(x'F')		Message (xT')							
8			Su	ibcode (details	ils given separately)							
9	· · ·											
10		Hardware information (details given separately)										
11												
12												
13				SSID of mat	e subsystem							
14		(x'0000' for EDCC)										
15		M	Aanufacturer o	ode ('000000')			Factory o	ode ('00')				
16			Hardware	information (details given se	parately)						
17				Modu	ıle ID							
18				Routi	ne ID							
19		Processor	number			Error code	(don't care)					
20				SSID of self	subsystem							
21												
22				Symptom co	de (x'FFFF')							
23					-100							

(1) Byte 8 = 02: Cache 1 bit error

	0	1	2	3	4	5	6	7		
8			S	ubcode: x'02':	Cache 1 bit en	ror				
9		Ca	sche board slot	number (See S	IM RC section	n (SIM-RC02-30).)				
				MEMERR	OR0/1/2/3					
10	Module grou	p number		Module side number	Bits 05 to 11 valid	Byte number of memory error Byte number of 1-byte error First byte number of 2-byte error				
	MEMERROR0/1/2/3									
11	Byte number error	of memory	Bits 13 to 17 valid		of memory erre e number of 2-					
			<u> </u>	WAR	NING					
12	1-byte error detected in memory	2-byte error detected in memory	(Not used)	(Not used)	(Not used)	(Not used) (Not used) (Not				
16	Ī		Module nur	nber (CMXX :	See LOCATIO)N02-50/60)	-	1		

(2) Byte 8 = 03: Cache 2 bit error

	0	11	2	3	4	5	6	7		
8			St	ubcode: x'03';	Cache 2 bit en	ror				
9		Ca	sche board slot	number (See S	IM RC section	(SIM-RC02-3	60).)			
				MEMERE	OR0/1/2/3					
10	Module group number Module side Bits 05 to 11 Byte number of memory error valid Byte number of 1-byte error First byte number of 2-byte						ror			
				MEMERE	OR0/1/2/3					
11 .	Byte number error	of memory	Bits 13 to 17 valid	Byte number	of memory err					
				WAR	NING					
12	1-byte error detected in memory	2-byte error detected in memory	(Not used)	(Not used)	(Not used)	(Not used)	(Not used)	(Not used		

16	5	Module group number (four CMXX : See LOCATION02-50/60)

(3) Byte 8 = 04: Shared memory 1 symbol error

	0	1	2	3	4	5	6	7
8			Subcode	: X'04': Share	i memory 1 syr	nbol error		
9			Shared mem	ory slot numbe	τ (side A: x'00',	side B: x'01')		
				SMC MBUS E	RRORSTATU	S		
10	Correctable	Uncorrecta-	Read data	Write data	DBL access	Transfer	Bus mode	Transfer
	error	ble error	check error	check error	inconsistent	count error	еттог	mode error
	ii			SMC FBUS E	RRORSTATU	S		
11	Соггеставле	Uncorrecta-	Read data	Write data	DBL access	Transfer	Bus mode	Transfer
	error	ble error	check error	check error	inconsistent	count error	еттог	mode error
				SMC MEM	ORYREADY			
12	(Not used)	(Not used)	(Not used)	(Not used)	(Not used)	(Not used)	(Not used)	Memory ready
			Sì	MC MBUS ER	ROR LOCATION	ON		
13				Smodule with	оптесtable епто	r		
	module 00	module 01	module 02	module 03	module 04	module 05	module 06	module 07
			SI	MC MBUS ER	ROR LOCATION	N		
14				Smodule with	correctable erro	r		
	module 08	module 09	module 10	module 11	module 12	module 13	module 14	module 15
			Sì	MC FBUS ER	OR LOCATIO	N		
15	Smodule with correctable error							
	module 00	module 01	module 02	module 03	module 04	module 05	module 06	module 07
			Sì	MC FBUS ER	OR LOCATIO	N		
16				Smodule with	оптесtable епто	r		
	module 08	module 09	module 10	module 11	module 12	module 13	module 14	module 15

(4) Byte 8 = 10: Three SMC MBUS BUSOPEN lines inconsistent

	0	1	2	3	4	5	6	7		
8		Sı	ubcode: x'10': 7	Three SMC ME	BUS BUSOPEN	lines inconsi	stent			
9		Shared memory slot number (side A: x'00', side B: x'01')								
					RRORSTATU					
10	Bus open	Last cycle	No DSYNC	No CSYNC	Wait ESYNC	Data check	Command	Address		
	unmatch	error			еттог	еттог	check error	check error		
		243		SMC FBUS E	RRORSTATUS	3	L			
11	Bus open	Last cycle	No DSYNC	No CSYNC	Wait ESYNC	Data check	Command	Address		
	unmatch	ептог			епог	ептог	Check error	check error		
				Not	used					
12										

16	Not used

(5) Byte 8 = 11/12: Three SMP lines inconsistent

	0	1	2	3	4	5	6	7	
8		Su			BUSOPEN lines				
x'12': Three SMP MCHKERR lines inconsistent									
9				N	P D				
				SMP M	BOPEN R				
10	Not used	Not used	Not used	Not used	MBOPEN 0	MBOPEN 1	MBOPEN 2	Warning	
				SMP M	CHKERR R				
11	Not used	Not used	Not used	Not used	MCHK	MCHK	MCHK	Warning	
					еттог 0	error 1	еттот2		
	SMP FLCHKERR R								
12	Not used	Not used	Not used	Not used	FLCHK	FLCHK	FLCHK	Warning	
					error 0	error 1	error 2		

16	Not used
1	· · · · · · · · · · · · · · · · · · ·

(6) Byte 8 = 14: Three SMC FBUSL BUSOPEN lines inconsistent

	0	1	2	3	4	5	6	7	
8		Su	ibcode: x'14': T	hree SMC FBU	JSL BUSOPE	N lines inconsis	stent		
9		Shared memory slot number (side A: x'00', side B: x'01')							
	SMC MBUS ERRORSTATUS								
10	Bus open	Last cycle	No DSYNC	No CSYNC	ESYNC	Data check	Command	Address	
	unmatch	error			error	еттог	check error	check error	
	SMC FBUS ERRORSTATUS								
11	Bus open	Last cycle	No DSYNC	No CSYNC	ESYNC	Data check	Command	Address	
	unmatch	еттог			error	error	check error	check error	
	Not used								
12									
					L				

16	Not used

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(7) Byte 8 = 16: Three SMP lines inconsistent

	0	1	2	3	4	5	6	7	
8			Subcode: x	16': Three SMI	FLCKERR line	es inconsistent			
9				N	APID .				
				SMP M	BOPEN R				
10	Not used	Not used	Not used	Not used	MBOPEN 0	MBOPEN 1	MBOPEN 2	Warning	
	SMP MCHKERR R								
11	Not used	Not used	Not used	Not used	MCHK error 0	MCHK error l	MCHK error 2	Warning	
				SMP FL	CHKERR R				
12	Not used	Not used	Not used	Not used	FLCHK error 0	FLCHK error 1	FLCHK error 2	Warning	

16	AT-A
10	Not used
the same of the sa	

(8) Byte 8 = 18/19/1A: Three BSA FBUSH lines inconsistent

	0	1	2	3	4	5	6	7		
8	Subcode: x'18': Three BSA FBUSH BUSOPEN lines inconsistent x'19': Three BSA FBUSH LIVEINS lines inconsistent x'1A': Three BSA FBUSH CHKERR lines inconsistent									
9	a.	MPID								
				BSA H C	K2DST1					
10	FBUS OPEN0	FBUS OPEN1	FBUS OPEN2	FBUS OPEN 0 & 1	FBUS OPEN 1 & 2	FBUS OPEN 0 & 2	(Not used)	(Not used)		
				BSA H C	K2DST2					
11	LIVE INS 0	LIVE INS 1	LIVE INS 2	LIVE INS 0 & 1	LIVE INS 0 & 2	LIVE INS 1 & 2	(Not used)	(Not used)		
	BSA H CK2AST0									
12	CHKERR0	CHKERR1	CHKERR2	CHKERRO & CHKERRI	CHKERR0 & CHKERR2	CHKERR1 & CHKERR2	(Not used)	(Not used)		

1		
	16	Not used
		1101 2502

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(9) Byte 8 = 1C/1D/1E: Three BSA FBUSL lines inconsistent

	0	1	2	3	4	5	6	7			
8	Subcode: x'1C': Three BSA FBUSL BUSOPEN lines inconsistent x'1D': Three BSA FBUSL LIVEINS lines inconsistent x'1E': Three BSA FBUSL CHKERR lines inconsistent										
9		MPID									
		BSA L CK2DST1									
10	FBUS OPEN0	FBUS OPEN1	FBUS OPEN2	FBUS OPEN 0 & 1	FBUS OPEN 1 & 2	FBUS OPEN 0 & 2	(Not used)	(Not used)			
		BSA L CK2DST2									
11	LIVE INS 0	LIVE INS 1	LIVE INS 2	LIVE INS 0 & 1	LIVE INS 0 & 2	LIVE INS 1 & 2	(Not used)	(Not used)			
				BSA L C	K2AST0						
12	CHKERR0	CHKERR1	CHKERR2	CHKERRO & CHKERR1	CHKERRO & CHKERR2	CHKERR1 & CHKERR2	(Not used)	(Not used)			
16				Not	need						

(10) Byte 8 = 20/21: Three CPC (H-side) CHKERR lines inconsistent

	0	1	2	3	4	5	6	7			
8	Subcode: x'20': Three CPC (AMH/BMH) JBUSH CHKERR lines inconsistent x'21': Three CPC (ASH/BSH) JBUSH CHKERR lines inconsistent										
9			CP	C slot number	(See SSB03-24	160)					
		CPC AMH/BMH WARNING									
10	F-bus FCHKERR0 -2 inconsistent	J-bus FCHKERR0 -2 inconsistent	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)			
		CPC ASH/BSH WARNING									
11	F-bus FCHKERR0 -2 inconsistent	J-bus FCHKERR0 -2 inconsistent	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)			
	CPC AML/BML WARNING										
12	F-bus FCHKERR0 -2 inconsistent	J-bus FCHKERR0 -2 inconsistent	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)			

	CPC ASL/BSL WARNING								
16	F-bus FCHKERR0 -2 inconsistent	J-bus FCHKERR0 -2 inconsistent	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	

(11) Byte 8 = 24/25: Three CPC (L-side) CHKERR lines inconsistent

	0	1	2	3	4	5	6	7		
8		Subcode:	x'24': Thr x'25': Thr	ee CPC (AML)	/BML) JBUSI BSL) JBUSL (CHKERR lines	es inconsistent inconsistent			
9	CPC slot number (See SSB03-2460)									
				CPC AMH/E	MH WARNE	NG				
10	F-bus FCHKERR0 -2 inconsistent	-2	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)		
	CPC ASH/BSH WARNING									
11	F-bus FCHKERR0 -2 inconsistent	-2	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)		
	CPC AML/BML WARNING									
12	F-bus FCHKERR0 -2 inconsistent	J-bus FCHKERR0 -2 inconsistent	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)		
				CPC ASL/B	SL WARNIN	G				
16	F-bus FCHKERR0 -2 inconsistent	-2	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)	(RSV)		

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									
Bit Byte	0	1	2	3	4	5	6	7		
0	Command rejection	Intervention required	Not used	Device check	Data check			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.*									
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		Except	ion class							
23		Exc	æption code, o	r, CHL#, LPN, .	and LCP# beyo	nd the threshol	a †			
24				Logging me	ssage control					
25				Program a	ction code					
26	Dual frame	EDCC Mode	Duplex pair	error	Nonsynchro- nous operation	Serial channel	Report output	Permanent path error		
27	32-byte SSB (0)		Not used		DKU86I TRK compatible mode	Not used	Path n	umber		
28			Message co	ie, or, number o	f read or search	ned bytes ††				
29	iř.		Cylinder add	ess, or, number	of read or con-	Abad berse ++		2.		
30					or read or seal	Careta Dytes 11				
31	Head address; or, number of read or searched bytes ††									

: Varies by the exception class and format.

- * "Remaining count" is for exception class 0 and format 4; otherwise, "Command overrun threshold reached" applies.
- † "CHL#, LPN, and LCP# beyond the threshold" is for exception class 6; otherwise, "Exception code" applies.
- $\dagger\dagger$ "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

Byte	Bit	Name	Description							
0	0	Command rejection	A chain ended without receiving the commands in the LR/LRE domain. If no other error is detected, "incomp 1.	expected number of data transfer lete domain" (byte 0, bit 7) is also set to						
ş.	1	Intervention required	 The drive is not physically connected. The drive power is off. 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 prohibited by the mask byte.							
	5	Not used								
•	6	Not used								
	7	Incomplete domain	Indicates that as many data transfer of RECORD count parameter have not be	ommands as defined in the LOCATE peen received.						
1	0	Permanent error		Indicates that an error occurred and recovery failed.						
	1	Invalid track format	 The record size parameter is inconsistent with the record to be updated. Nonstandard R0 was detected during branching in Fast Write/Dual Copy operation. 							
	2	Not used	X'06'							
L.	3	Operator message	Not used for other than DKC SIM. For DKC SIM, indicates that messages are output to the operator							
	4	Not used	and operator							
	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.							
R	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 of type/env data pres	ironmental	 For excluding DKC SIM and Cache SIM, this byte indicate DKC type (x'06'). For DKC SIM and Cache SIM, this byte indicate environmental data present (x'10'). 							
3	comman	ng count; or, d overrun l 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 a	ddress	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'							

Byte	Bit	Name				Description			
5	Devid	ce type code	ty	pe (x'24').		C, D and E, this byte indicates device and F, always x'00'.			
6	Conte	ent and format	Indicates formats	whether the o	ther bytes	of SSB are valid or invalid and their			
	0	Unit flage		32 (storage cor 35 (device type		is valid			
	1	Device address valid	1: SSE	84 is invalid 84 is valid					
i.	2	CYL, HD address valid		0: SSB29-31 invalid 1: SSB29-31 valid					
Į.	3	Not used							
	4-7	Format		F', this SSB is					
22	0-3	Exception class	sequ 4: Data 6: Subs B: Fails	ence exception check, retry proposition check,	n prohibition KC and D	format, status exception, command , PCI, subretry success ASD CTL (reserved)			
			D: Failure between controller and device E: Device failure						
	4-7		For details, see Section 4.3.						
23	CHL	ption code; or, #, LPN, and beyond the							
24	(Logg	ging message							
	0-2	Not used							
	3	Logging mode	Forced l	og mode					
	4-5	Logging action	10: Lo	conditionally l	;	ocurrence on the path			
	6-7	Operator	00: Mes	sage not outpu	t				
		message control		sage output ur		ally			
				sage output or					
	<u> </u>				ly once or	nly for frequent occurrence on the path			
25	Progr	am action code		IT0= 0		BITO= 1			
			BIT	Single	BIT1	0 SSBs 26 and 27 have no meaning.			
			1-7	program action code		Executes error recovery specific to DC.			
					2	Does not execute ERP based on SSB28.			
						1 Executes ERP based on SSB28.			
					3	Another path retry request			
			1		4-5	Not used			
					6-7	00 Does not retry			
						01 Retry twice			
						10 Retry ten times			
						11 Retry 255 times			

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Byte	Bit	Name	Desc	ription				
26 *	0	Dual frame	0: Single-frame configuration					
			1: Dual-frame configuration					
	1	EDCC mode	0: DCC mode					
			1: EDCC mode	1: EDCC mode				
	2	Duplex pair	0: Simplex					
	<i>i</i>		1: Duplex pair					
	3	Subvolume	0: Not a subvolume error					
		error	1: Subvolume error					
	4	Nonsynchro-	0: Synchronous operation					
		nous	1: Asynchronous operation					
		operation	\$1					
	5	Serial	0: Parallel channel): Parallel channel				
		channel	1: Serial channel					
	6	Report	0: Excluding environmental data present and SIM					
		output	1: Environmental data present and S	IM				
	7	Permanent	0: Permanent error for all paths					
		path error	1: Permanent error for this path					
27 *	0	32-byte SSB	ECKD 32-byte SSB = 0					
	1-3	Not used						
9	4	DKU86I	0: Not in DKU86I track compatible:	mode				
		TRK	1: In DKU86I track compatible mod	1: In DKU86I track compatible mode or changing to DKU86I track				
		compatible	compatible mode					
		mode						
	5	Not used						
	6-7	Path number	Indicates the SSB creation path numb	er.				
28	Message	code	Instructs the message status of the	"Number of read or searched bytes"				
	 		EREP log and operator console.	for exception class 6				
29	Cylinder	r address	Indicates the cylinder address with					
30			an error.					
31	Head ad	dress	Indicates the head address with an					
			error.					

^{*:} Configuration information

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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					
В	0	Reserved					
	1	Shared Memory Failure					
	2-7	Reserved					
	8	LCP/MCP Failure					
	9	Host Adapter CHK2					
ii.	A	Disk Adapter CHK2					
	В	DRR CHK2					
	С	Reserved					
	D	Power Failure					
	E	Processor Failure					
	F	Logical inconsistency					
D	0	Drive report error*					
	1	SPC 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.

Exception 0, Format 3 (Machine condition exception)

	0	1	2	3	4	5	6	7			
6	Unit indication	Byte 4 valid Bytes 29 to Not used Format (x'3')									
7			L	R/LRE comma	nd operation by	yte					
8			Extension ope	ration byte (by	te 17) for LR/I	RE command					
9		byte 2 for LR/LRE command									
10				Rese	erved						
11	*										
12		Search parameter of LR command (CCHHR)									
13		or									
14		Record ID of re-execution command (R)									
15											
16			Sec	tor number to	re-execute the	LR					
17				TLF for LR/L	RE command						
18											
19		Operat	ion byte =	0x3F Others	:LR/LRE Exter :Reserved	rnal operation l	byte				
20				SS	ID						
21					3-						
22				Exception	on code						
23				x'08							

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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			L	R/LRE comma	nd operation by	rte						
8			Extension ope	ration byte (by	te 17) for LR/L	RE command						
9												
10		Head address of extent (DX command parameter)										
11												
12												
13		*										
14												
15												
16				Path or	oup ID							
17		(bytes 1 to 7	7 of the ID tran	sferred by the	newest SET PA	TH GROUP II	command)					
18												
19												
20				SSID of sel	f subsystem							
21		• Sold of son subsystem										
22				Excepti	on code							
23					mplete 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 r	umber*						
8				Cylinder	address*						
9											
10		_7 = w=		Head a	ddress*						
11											
12		Record number*									
13		Error displacement									
14		•									
15											
16											
17			(X	Drive ser '0C69' + DKU	ial number sequence num	iber)					
18											
19											
20				SSID of sel	f subsystem		-,				
21			-								
22		Exception	class (x'4')			Mess	sage [†]				
23		Correction flag ^{††}									

- * Not determined for occurrence in HA or R0.
- † 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

†† 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			D	ata overrun thr	eshold exceede	ed				
8		¥0		Seek	count					
9										
10										
11										
12		Drive serial number (X '0C69' + DKU sequence number)								
13										
14										
15										
16	ļ									
17			(X'0		al number C sequence nur	nber)				
18										
19	ğ		w.t.	10/1-2						
20				SSID of sel	f subsystem					
21										
22		Exception	class (x'6')			Exception	code (x'F')			
23	0: Statistics or RRBL command For parallel/serial channel standard path: CHL							CHL#/LPN (0-7)		
	2: Channel da	ta overrun			For serial char	nnel extension	path: LCP nu			

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Exception B. Format 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			S	ubcode (F/M =	81 SSB Byte 8	3)					
9	i			F/M = 81 S	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 S	SB Byte 10						
15											
16	,			Drive seri	al number						
17			(X'	0C69' + DKU	sequence numb	per)					
18											
19											
20				SS	ID						
21				1840							
22			Excepti	ion class (0xB).	Exception cod	e (0x1)					
23		Exc	eption code (F	/M = 81 SSB B	yte 20:Processo	or#/Message co	de)				

Exception B. Format 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								
16				Drive seri	al number			
17			(Xʻ	0C69' + DKU	sequence numi	ber)		
18								
19								
20				SS	SID			
21								
22			Except	ion class (0xB)	Exception cod	le (0x8)		
23		Exc	eption code (F	/M = 88 SSB E	Byte 20:Process	or#/Message co	ode)	

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Exception B, Format 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					
7	0x89								
8			S	ubcode (F/M =	89 SSB Byte 8	3)			
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									
16				Drive seria	al number				
17			(X'0	OC69' + DKU :	sequence numb	er)			
18									
19									
20				SSI	D				
21									
22			Exception	on class (0xB)/	Exception code	(0x9)			
23		Exce	ption code (F/I	M = 89 SSB By	te 20:Processo	r#/Message coo	ie)		

*1

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

Exception B. Format 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					
7	0x8A								
8			S	ubcode (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									
16				Drive seri	al number				
17			(X'	0C69' + DKU	sequence numi	ber)			
18		å.							
19				. •					
20				SS					
21									
22			Excepti	on class (0xB)	Exception cod	e (0xA)			
23		Exc	eption code (F/	M = 8A SSB I	Syte 20:Process	or#/Message co	ode)		

*1

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

Exception B. Format B (DRR CHK2)

	0	1	2	3	4	5	6	7	
6	Unit indication	Byte 4 valid	Bytes 29 to 31 valid	o Not used Format (x'0')					
7		0x8B							
8			S	ubcode (F/M =	8B SSB Byte	8)			
9		F/M = 8B SSB Byte 9							
į 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									
16				Drive seri	al number				
17			(X	0C69' + DKU	sequence numi	ber)			
18		*							
19									
20				SS	SID				
21									
22			Except	ion class (0xB)	Exception cod	e (0xB)			
23		Exc	eption code (F.	/M = 8B SSB I	Byte 20:Process	or#/Message co	ode)		

*1

ID Code	Sense
0x10	LRC Error
0x00	Other Error

Exception B. Format 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			S	ubcode (F/M =	8D SSB Byte 8	3)			
9	F/M = 8D SSB Byte 9								
10		F/M = 8D SSB Byte 10							
11				F/M =8D S	SB Byte 11				
12				Internal SSB S	Serial number				
13		DOS DOS MALITON							
14		F/M = 8D SSB Byte 18							
15									
16				Drive seri	al number				
17			(X'	0C69' + DKU	sequence numb	er)			
18									
19									
20				SS	D				
21									
22			Exception	on class (0xB)/	Exception code	: (0xD)			
23		Exce	ption code (F/	M = 8D SSB B	yte 20:Processo	or#/Message co	de)		

Exception B. Format 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 S	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									
16				Drive seri	al number		ě.		
17			(Xʻ	0C69' + DKU	sequence numb	oer)			
18						5			
19									
20				SS	D				
21					J.				
22			Excepti	on class (0xB)	Exception code	e (0xE)			
23		Exce	ption code (F/	M = 8E SSB B	yte 20:Processo	or#/Message co	de)	*	

Exception B, Format E (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			t (x'0')	,
7		0x8E						
8				F/M = 8E S	SSB Byte 8			
9				F/M = 8E S	SSB Byte 9			
, 10			Lost SSB	's Module ID (F/M = 8E SSE	Byte 14)		
11			Lost SSE	s's Routine ID (F/M =8E SSB	Byte 15)		
12				Internal SSB S	Serial number			
13								
14		F/M = 8E SSB Byte 10						
15			•					
16				Drive seri	al number			
17			(Xʻ	0C69' + DKU	sequence numl	ber)		
18								
19								
20				SS	D			
21				W 11 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2				
22			Excepti	on class (0xB)	Exception cod	e (0xE)		
23		Exception code (F/M = 8E SSB Byte 20:Processor#/Message code)						

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Exception B. Format 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				0x	8F					
8			Mo	odule ID (F/M	= 8F SSB Byte	: 8)				
9				F/M = 8F :	SSB Byte 9					
10				F/M = 8F S	SB Byte 10					
11				F/M =8F S	SB Byte 11					
12				Internal SSB	Serial number					
13										
14				F/M = 8F S	SB Byte 12					
15										
16				Drive seri	al number					
17			(X'	0C69' + DKU	sequence numl	ber)				
18										
19										
20				SS	D.					
21										
22			Except	ion class (0xB)	Exception cod	le (0xF)				
23		Exc	eption code (F	/M = 8F SSB E	Syte 20:Process	or#/Message co	ode)			

Exception D. Format 1 (SPC 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') (SPC re	eport error)	Not used		Rese	rved		
8			SPC interrup	tion status regi	ster (See SSB()4-110 ~ 140)			
9			SPC comm	and step regist	er (See SSB04	-150 ~ 170)			
10			SCS	SI command co	de (See SSB04	-95)			
11			Т	hreshold type (See SSB04-28	0)			
12				Modu	ıle ID				
13		Routine ID							
14		Not used							
15									
16	1								
17			(X	Drive ser '0C69' + DKU	ial number sequence num	ber)			
18									
19]								
20				SSID of sel	f subsystem				
21									
22		Exception of	class (x'D')		DKA No.				
23		CDE	V No.		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 (Type code ('000') (drive report error) Not used Sense key							
8			Additional Se	nse Code+Add		Code Qualifier			
9				(See SSB04	-190 ~ 270) 				
10				SCSI comm	and code††				
11			T	hreshold type (See SSB04-28	0)			
12				Modu	ile ID				
13				Routi	ne ID				
14				Not	used				
15									
16									
17	-		(X	Drive ser OC69' + DKU	al number sequence num	ber)			
18									
19				42					
20				SSID of sel	f subsystem				
21									
22		Exception	class (x'E')			DKA	No.		
23		CDE	V No.		RDEV No.				

†	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
	··· 6 6 7 .	LINITE ATTENDED ON

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) †† SCSI command

x'00': TEST UNIT READY x'03': REQUEST SENSE x'04': FORMAT UNIT x'07': REASSIGN BLOCKS x'12': INQUIRY

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

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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	Type code ('000') (drive report error) Not used Sense key [†]							
8			Additional Se	nse Code+Add	itional Sense C	Code Qualifier			
9			-	(See SSB04	-190 ~ 270)	_			
10				SCSI comm	and code††				
11				Threshold type	e (≠ x'5X/6X')				
12				Modu	ıle ID				
13		Routine ID							
14		Not used							
15									
16									
17			(X,		al number sequence num	ber)			
18									
19									
20				SSID of self	f subsystem				
21									
22		Exception o	elass (x'E')			DKA	No.		
23		CDEV	/ No.		RDEV No.				

T	Sense	kev	
•	CILIC	VC A	

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)

11	COCT	command
1.1	2021	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

ID	Kind	Description
2078	W	You should add the alternate path or delete the HODM pair. Do you want to
2010		stop this process?
	[Contents]	(The meaning is same as the message)
	[Action]	Please select [Yes] to stop the operation. You should delete the pair or add
		alternate path by decided with customers and retry again. If you select [No], SVP will continue the process.
		if you select [140], SVP will continue the process.
2079	W	HRC/HODM data copy in progress. Please wait for copy end or you should
		delete or suspend the HRC/HODM volume pair using SVP operation on
	[On manufa]	MCU. Do you want to stop this process?
		(The meaning is same as the message)
	[Action]	Please select [Yes] to stop the operation. You should wait until HRC/HODM is finished copy or you have to delete or suspend the HRC/HODM pair from
		MCU by decided with customers and retry again.
		, ,
2080	1	Specified R-VOL is still online from HOST.
	[Contents]	(The meaning is same as the message)
	[Action]	Please check if the input number of R-VOL is correct. If not, input the correct
		R-VOL number. If the number is correct, please vary offline the concerned path from the host.
		pact from the floot.
2081	E	Connection error occurred between Remote Console and Controller.
	[Contents]	Remote Console could not connect to the DKC. SVP sometimes displays
	PA nation m3	"Controller" as "Subsystem" but these are same meaning.
	[Action]	Please check the connection and retry the same operation. If it can not be recovered by retry operation, then at first, disconnect from
		DKC, and connect machine again. Next, retry the same operation.
2222	•	Mait 40 minutes. The male see about if substituting status is O.K. and an O.M.
2082	1	Wait 10 minutes. Then please check if subsystem's status is OK and no SIM. After that press [OK].
		Remote Console could not connect to the DKC.
	[Action]	Please check the connection and retry the same operator.
	•	
2083	•	Can't execute specified function while HRC & HODM monitoring is active. If you want to execute the function, please stop the monitoring function at first
		and retry again.
	[Contents]	Remote Console could not connect to the DKC.
21	[Action]	Please check the connection and retry the same operator.
2084	w	The specified number of Path is less than the Minimum number of Paths on
2004		RCU Option screen.
	-	The number of Paths is less than the Minimum number of Paths on RCU
		option screen.
		Confirm the number of Minimum Paths with RCU Option screen and retry the operation after establishing the number of paths more than Minimum Paths.
		,

3. Interruption related to phase transition

Interruption code	Cause of interruption	Conditions for interruption		
54h	Initial phase error*	Inconsistency occurred when the phase of the received C. COMMAND received the first REQ signal.		
5 <i>5</i> h	Initial phase error & MSG received [†]	An initial phase error occurred and one message was received for the target MSG-IN request.		
56h	Initial phase error & STATUS received [†]	An initial phase error occurred and one STATUS was received for the target STATUS receive request.		
42h	Command stop (ATN condition detected)††	During execution of the data phase that failed in phase transition due to the generation of the ATN condition of the initiator, the transfer is stopped at the transfer block boundary and this interruption is reported. (At this time, the data register is empty.)		
43h	Command stop (ATN condition detected & MSG received) [†]	One message was received after responding to the MSG-OUT reque		

- * If a phase error has occurred and the DATAIN phase has been requested, the operation is as follows:
 - When the target with a nexus is in the asynchronous transfer mode
 One-byte data is received.
 - 2) When the target with a nexus is in the synchronous transfer mode
 The number of bytes for the received REQ signal are received (ACK signal is not asserted).
- † Occurs only when the AUTO receive mode is set.
- †† Occurs only when the AUTO receive mode is not set.

4. Interruption related to report

Interruption code	Cause of interruption	Conditions for interruption
60h	Command complete	Received command has ended normally.
64h	Command Reject	 A command has been received during automatic operation of this SPC (AUTO selection/reselection response).
		 Another command has been received during execution of a command.
		 The message length is 33 or more bytes when the SEND MSG command for EXTEND-MSG has been received.
65h	Command Invalid	 A command of the target has been received during operation as an initiator.
		2) A command of the initiator has been received during operation as a target.
		3) A sequential command is present in the user program memory.
//e		4) The received command code is not defined.
	*	5) A command that requires the setting of the data block register/data byte register (MC byte counter) has been received, but the register value is "0".
•0		6) Transfer is impossible because the CDB length of group 6/7 is set to "0".
		7) The CDB of group 3/4 or a transfer command has been received.
66h	REG parity error detected	A parity error has been detected in the register set by the host MPU.
67h	COMMAND PAUSE	 The COMMAND PAUSE command was received and processing ended.
68h	Self-diagnostic result "GOOD"	Self-diagnostics are performed, and the result is "normal."
69h	Self-diagnostic result "NO GOOD"	Self-diagnostics are performed, and the result is "abnormal."
70h	Disconnected	Bus free status has been detected while making a nexus as an initiator.
71h	REQ Asserted	Next phase execution is requested from the target. This interruption occurs only when no command is received in the nexus.
61h	Command complete (ATN condition detected)	The command ends normally and the ATN condition generated by the initiator is detected only when an ATN signal is asserted when an ACK signal is asserted for the last phase of the executed command.
62h	Command complete (ATN condition detected & MSG received)	A command has ended normally and one message has been received after responding to the ATN condition generated by the initiator. An ATN signal is detected only when an ATN signal is asserted when an ACK signal is asserted for the last phase of the executed command.

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5. Interruption related to selection/reselection

Interruption code	Cause of interruption	Conditions for interruption
82h	Sel/Reselection timeout	The time that is set for selection/reselection timeout has been exceeded.
90h	Reselected	The target has been reset as the initiator.
80h	Selected	The initiator has been selected as the target.
81h	Selected with ATN	The initiator has been selected as the target, and the ATN condition generated by the initiator has been detected.

5. Interruption related to response operation for auto selection/reselection

Course of intermedia	0 ": 1
	Conditions for interruption
AUTO mode phase error	The reselection phase changed to a phase other than the MSG-IN phase.
MSG received	After the reselection phase, one message was received.
AUTO mode phase error	No ATN signal was asserted in the selection phase. This interruption occurs only when the MSG-OUT phase is set after the selection phase.
MSG received	After the selection phase, a message other than Identify-MSG was received.
Illegal Identify MSG received	Identify-MSG was received after the selection phase, but bits 5, 4, and 3 are set to '1'.
MSG received with Identify MSG	After the selection phase, Identify-MSG was received, followed by another message.
unknown CDB received	After the selection phase, an attempt to receive one command was made, but only one byte was received because the CD8 length of group 6 or 7 was unobtainable.
	This interruption occurs only when the MSG or CMD phase is set after the selection phase.
unknown CDB received with Identify MSG	After the selection phase, an attempt was made to receive a command following Identify-MSG, but only one byte was received because the CD8 length of group 6 or 7 was unobtainable.
CMD received **	After the selection phase, one command was received.
	This interruption occurs only when the MSG or CMD phase is set after the selection phase.
CMD received with Identify MSG	After the selection phase, Identify-MSG was received, followed by a command.
CMD received & MSG received	After the selection phase, one command was received. Then one message was received for the attention status.
	This interruption occurs only when the MSG or CMD phase is set after the selection phase.
CMD received with Identify MSG received	After the selection phase, Identify-MSG was received, followed by a command. Then one message was received for the attention status.
	AUTO mode phase error MSG received Illegal Identify MSG received MSG received with Identify MSG unknown CDB received unknown CDB received with Identify MSG CMD received ** CMD received with Identify MSG CMD received with Identify MSG CMD received with Identify MSG CMD received with Identify MSG

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Command step

No.	Command name		Function	STEP	Description
1	RESELECTION &	1)	Performs reselection.	X'00'	Command received
	1-MSG	2)	Changes to the MSG-IN phase.		BUS FREE phase awaited
		3)	Issues a message.	X'01'	BUS FREE phase detected
					During arbitration
				X'02'	Bus use right acquired
					During reselection
				X'03'	Nexus established
					Transition to the MSG-IN phase
					MSG-IN phase running
				X'04'	All MSG bytes being issued
					Command complete
2	RESELECTION &	1)	Performs reselection.	X'00'	Command received
	N-Byte-MSG	2)	Changes to the MSG-IN phase.		BUS FREE phase awaited
		3)	Issues a message.	X'01'	BUS FREE phase detected
					During arbitration
			8 .	X'02'	Bus use right acquired
		2			During reselection
				X'03'	Nexus established
				A 05	Transition to the MSG-IN phase
	x)		6		MSG-IN phase running
				X'04'	All MSG bytes being issued
				11 04	Command complete
3	RESELECTION &	1)	Performs reselection.	X'00'	Command received
	TERMINATE		Performs the Terminate	11 00	BUS FREE phase awaited
		-′	sequence.	X'01'	BUS FREE phase detected
			soquenee.	1 01	During arbitration
				X'02'	Bus use right acquired
				1 02	During reselection
				X'03'	Nexus established
				1 03	Transition to the STATUS phase
					STATUS phase running
		,		X'04'	STATUS issuance complete
				11 0 /	Transition to the MSG-IN phase
					MSG-IN phase running
				X'05'	Message issuance complete
				11 05	Disconnect
					Command complete
4	RESELECTION &	1)	Performs reselection.	X'00'	Command received
	LINK TERMINATE		Performs the LINK-Terminate	55	BUS FREE phase awaited
	-	′	sequence.	X'01'	BUS FREE phase detected
				0.	During arbitration
				X'02'	Bus use right acquired
	, .	1		11.02	During reselection
				X'01'	Nexus established
					Transition to the STATUS phase
					STATUS phase running
				X'03'	STATUS issuance complete
				1 . 03	Transition to the MSG-IN phase
					MSG-IN phase running
				X'04'	All MSG bytes being issued
				7 04	Command complete
					Command complete

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No.	Command name	Function	STEP	Description
5	TERMINATE	1) Changes to the STATUS	X,00,	Command received
		phase. 2) Issues one-byte status. 3) Changes to the MSG-IN phase.	X'01'	During transition to the STATUS phase STATUS phase running
		4) Issues a one-byte message.5) Disconnect	X'02'	STATUS issuance complete Transition to the MSG-IN phase MSG-IN phase running
			X*03'	Message issuance complete Disconnect Command complete
6	LINK TERMINATE	Changes to the STATUS phase.	X'00'	Command received BUS FREE phase awaited
		2) Issues one-byte status.3) Changes to the MSG-IN phase.	X'01'	Transition to the STATUS phase STATUS phase running
		4) Issues a one-byte message.	X-02	STATUS issuance complete Transition to the MSG-IN phase MSG-IN phase running
			X'03'	Message issuance complete Command complete
7	DISCONNECT SEQUENCE	 Changes to the MSG-IN phase. Issues a two-byte message. 	X,00,	Command received BUS FREE phase awaited
		3) Disconnect	X'01'	Transition to the MSG-IN phase MSG-IN phase running
			X'02'	Two-byte message issuance complete Disconnect Command complete
8	SEND	1) Changes to the MSG-IN phase	X'00'	Command received
	N-Byte-MSG	2) Issues N-byte messages (two or more messages)	X'03'	Transition to the MSG-IN phase MSG-IN phase running
			X'04'	All MSG bytes being issued Command complete
9	RECEIVE	1) Changes to the CMD phase.	X'00'	Command received
	N-Byte-CMD	2) Receives an N-byte CDB (undefined CDB).	X'04'	Transition to the CMD phase CMD phase running
		(andomica obb).	X'05'	All CDB bytes received completely Command complete
10	RECEIVE	1) Transition to the MSG-OUT	X,00,	Command received
10	N-Byte-MSG	phase	X'02'	Transition to the MSG-OUT phase
		2) Receives an N-byte CDB (33		MSG-OUT phase running
		bytes or more messages).	X,03,	All message bytes received completely
11	RESELECTION	Performs reselection.	X'00'	Command complete Command received
11	RESELECTION	r chomis reserection.	1	BUS FREE phase awaited
			X'01'	BUS FREE phase detected
			-	During arbitration
			X'02'	Bus use right acquired During reselection
			X'03'	Nexus established
				Command complete
12	SET REQ	Asserts REQ.	X'00'	Command received
			X'01'	
13	RESET REQ	Negates REQ.	X,00,	
		J	X'01'	C. Command Complete

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No.	Command name	Function	STEP	Description
14	Disconnect	Releases a BSY signal.	X'00'	Command received
			X'01'	C. Command Complete
15	SEND DATA	1) Changes to the DATA-IN.	X,00,	Command received
	from MPU	phase.	X'01'	Transition to the DATA-IN phase
		2) Issues data in the program	1,, 0,	DATA-IN phase running
		transfer mode	X'02'	All data bytes received completely
				Command complete
16	SEND DATA	1) Changes to the DATA-IN.	X'00'	Command received
	from DMA	phase.	X'01'	Transition to the DATA-IN phase
		2) Issues data in the program		DATA-IN phase running
ů.		transfer mode	X'02'	All data bytes received completely
			1 1	Command complete
17	RECEIVE DATA	1) Changes to the DATA-OUT	X'00'	Command received
	from MPU	phase.	X'01'	Transition to the DATA-OUT phase.
		2) Receives data in the program	1	DATA-OUT phase running
		transfer mode.	X'02'	All data bytes received completely
				Command complete
18	RECEIVE DATA	1) Changes to the DATA-OUT	X'00'	Command received
	from DMA	phase.	X'01'	Transition to the DATA-OUT phase.
	501	2) Receives data in the program		DATA-OUT phase running
	, •.:	transfer mode.	X'02'	All data bytes received completely
				Command complete
19	SEND 1-MSG	1) Changes to the MSG-IN	X'00'	Command received
ii.		phase	X'01'	Transition to the MSG-IN phase
		2) Issues a message.		MSG-IN phase running
			X'02'	All message bytes issued completely
				Command complete
20	RECEIVE MSG	1) Changes to the MSG-OUT	X,00,	Command received
		phase.	X'01'	Transition to the MSG-OUT phase
		2) Issues a message.		MSG-OUT phase running
		1	X'02'	All message bytes received completely
				Command complete
21	SEND STATUS	1) .Changes to the STATUS	X,00,	Command received
		phase.	X'01'	Transition to the STATUS phase
		2) Issues one-byte status.		STATUS phase running
			X'02'	STATUS issuance complete
20	DECEME CLAS		1	Command complete
22	RECEIVE CMD	1) Changes to the CMD	X'00'	Command received
		phase.	X'01'	Transition to the CMD phase
		2) Receives CDB.		CMD phase running
		1	X'02'	All CDB bytes received completely
				Command complete

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SCSI sense key

Sense key	Definition
O _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)
Вн	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

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Additional sense code + Additional sense code Qualifier

Sense key	Code*	Error name	Description
0	00 00	No Additional Sense Information	No valid additional sense information.
4	01 00	No Index/Sector Signal	Index signal cannot be detected.Sector signal cannot be detected.
1/4	02 00	No Seek Complete	The Seek operation of the drive cannot be performed properly.
1/4	03 00	Write Fault	Drive Write Fault has been detected.
1/4	03 80	Write at inhibit condition	The Write is attempted under the write inhibit condition.
2	04 00	Drive Not Ready	Drive Ready signal cannot be detected.The drive cannot be accessed.
2	04 01	Drive is in Process of Becoming Ready	The drive is not ready and will soon get ready.
2	04 02	Drive Not Ready, Initializing Command Required	The drive is not ready. Issue the START UNIT command to get it ready.
2	04 04	Drive Not Ready, Format in Progress	The drive is not ready. (Format in progress)
2	04 80	Drive not Ready	The drive is not ready caused by drop ready.
2	05 00	Drive Not Selected	Drive cannot be selected. (Does not occur)
1/4	06 00	Not Track Zero Found	Positioning to track zero is impossible.
4	08 00	Logical Unit Communication Failure	A drive interface error has occurred.
4	08 01	Logical Unit Communication Time Out	A drive interface time-out error has occurred.
4	08 02	Logical Unit Communication Parity Error	A drive interface parity error has occurred.
1/4	09 00	Track Following Error	Track positioning failed.
1/4	09 80	Track Positioning Error during ATN OFF to MESDI CMD EXEC	The track is out of position between ATN OFF and MESDI command (seek) issued.
1	0C 01	Write Error Recovered with Auto Reallocation	(Does not occur.)
3	0C 02	Write Error-Auto Reallocation Failed	Automatic reallocation was attempted for an ID error detected during a write, but it failed. (Does not occur.)
3	10 00	ID CRC Error	A CRC or ECC error has occurred in the ID field. (Does not occur.) DK306:CRC, DK308:ECC.
3	11 00	Unrecovered Read Error	An error has occurred in the DATA field (retry not applied).

^{*} The higher-order byte of the code indicates an additional sense code (byte 8), and the lower-order byte an additional sense code qualifier (byte 9).

Sense key	Code	Error name	Description
3	11 01	Read Retries Exhausted	A retry was attempted for a DATA field read error, but recovery was impossible (error correction not applied).
3	11 02	Error Too Long to Correct	ECC correction of the DATA field read error is impossible.
3	11 04	Unrecovered Read Error- Auto Reallocation Failed	(Does not occur.)
3	11 82	Error Too Long to Multi-	Can not correct a Read error in DATA field with Multi-
		Symbol Soft Correction	Symbol Soft Correction.
3	12 00	No Address Mark Found in ID Field	No address mark cannot be detected in the ID field. (Does not occur.)
1/3	13 00	No Address Mark Found in Data Field	No address mark cannot be detected in the DATA field.
1/3	13 80	Sprit Data AM Not Found	AM in Sprit Data is not found.
1	13 E1	Data AM not Found: Recovered with VFO Hi- gain Offset 1)	Data AM not Found is recovered with VFO Hi-gain Offset (1)
1	13 E2	Data AM not Found: Recovered with VFO Hi- gain Offset (2)	Data AM not Found is recovered with VFO Hi-gain Offset (2)
1	13 E3	Data AM not Found: Recovered with VFO Hi- gain Offset (3)	Data AM not Found is recovered with VFO Hi-gain Offset (3)
1	13 E4	Sprit AM not Found: Recovered with VFO Hi- gain Offset (1)	Sprit AM not Found is recovered with VFO Hi-gain Offset (1)
1	13 E5	Sprit AM not Found: Recovered with VFO Hi- gain Offset (2)	Sprit AM not Found is recovered with VFO Hi-gain Offset (2)
1	13 E6	Sprit AM not Found: Recovered with VFO Hi- gain Offset (3)	Sprit AM not Found is recovered with VFO Hi-gain Offset (3)
1/3	14 01	No Record Found	A block with a consistent ID field cannot be detected.
1/3	14 80	Flag Error	The flag in the ID field is inconsistent.
1/3	14 81	Drive Fault with ATN OFF	A drive fault was detected when ESDI ATN is off.
1/3	14 82	Mismatch Sector ID	The sector address in the ID field is inconsistent.
1/3	14 83	Drive Error with no Factor	A drive error was detected, but all error cause were off.
3	14 84	ID Check Code Error	Check Code error is detected in ID On the Fly.
		at ID ON the Fly	
3	14 91	Uncorrectable Data Error using previous sector ID	A data error was recovered by a previous sector ID retry but the data is uncorrectable error by ECC.

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Sense key	Code	Error name	Description
3	14 93	Data AM not found using previous Sector ID	A previous sector ID retry was attempted, but the data AM of the data cannot be detected.
3	14 94	Sprit Data AM Not Found using Previous Sector ID	A previous sector ID retry was attempted, but the Sprit data AM of the data cannot be detected.
1,	14 98	ECC Correctable Error using previous Sector ID	A data error was recovered using previous sector ID retry, but the data is recovered data by ECC.
3	14 A0	Reassign Fault because of Reserve Sector No REC	A reassign command failed. (The reserved sector is No REC.)
3	14 A1	Previous Sector Error with Previous Sector ID retry	A previous sector ID retry was attempted, but an error occurred in previous ID.
3	14 B1	Error too much to recover using previous ID	A previous sector ID retry cannot execute. (Number of error ID \geq 2)
1/3	14 C0	ID On the Fly Correction Error	ID error is detected with ID On the Fly correction and CCH not coincident.
1/3	14 E1	No Record Found with VFO Hi-Gain Offset (1)	No Record Found with VFO Hi-Gain Offset (1)
1/3	14 E2	No Record Found with VFO Hi-Gain Offset (2)	No Record Found with VFO Hi-Gain Offset (2)
1/3	14 E3	No Record Found with VFO Hi-Gain Offset (3)	No Record Found with VFO Hi-Gain Offset (3)
3	15 00	Seek Positioning Error	The target address cannot be sought. (Does not occur.)
1/3	15 01	Mechanical Positioning Error	A seek error has occurred. (Does not occur.)
1/3	15 02	Positioning Error Detected by Read of Medium	A seek ended normally but the address was not the target address.
1/3	16 00	Data Synchronization Mark Error	(Does not occur.)
1 ×	17 00	Recovered Data with No Error Correction Applied	Indicates that a retry has succeeded in error recovery.
1	17 01	Recovered Data with Retries	A retry has succeeded in error recovery (no head offset).
1	17 02	Recovered Data with Positive Head Offset	A retry with a positive head offset has succeeded in error recovery.
1	17 03	Recovered Data with Negative Head Offset	A retry with a negative head offset has succeeded in error recovery.
1,	17 05	Recovered Data Using Previous Sector ID	A data recovery has been executed by a previous ID retry
1.	17 06	Recovered Data without ECC-Data Auto Reallocated	(Does not occur.)
1	17 85	Recovered Data with Physical SCT Pulse Read	Error is recovered with Physical Sector pulse read.
1	17 86	Auto REA Exhausted without ECC Correction	(Does not occur)

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Sense key	Code	Error name	Description
1/3	17 D6	Drive Overrun Occurred	Drive Overrun occurred by hardware failure.
1	17 E1	Recovered Data with VFO Hi-Gain Offset (1)	Data error is recovered with VFO Hi-Gain Offset (1).
1	17 E2	Recovered Data with VFO Hi-Gain Offset (2)	Data error is recovered with VFO Hi-Gain Offset (2).
1	17 E3	Recovered Data with VFO Hi-Gain Offset (3)	Data error is recovered with VFO Hi-Gain Offset (3).
1	18 00	Recovered Data with Error Correction Applied	Error recovery has been accomplished with ECC correction (no retry).
1	18 01	Recovered Data with ECC and Retries Applied	Indicates that a retry has succeeded in error recovery with ECC correction.
1	18 02	Recovered Data with ECC and/or Retries Data Auto Reallocated	(Does not occur.)
1	18 80	Recovered Data without Retries or Multi-Symbol Soft Correction	Recovered Data without Retries or Multi-Symbol Soft Correction.
1	18 81	Recovered Data with Retries and/or Multi- Symbol Soft Correction	Recovered Data with Retries and/or Multi-Symbol Soft Correction.
1/3	19 02	Defect List Error in Primary List	An error has occurred during Primary (P) list access.
1/3	19 03	Defect List Error in Grown List	An error has occurred during Grown (G) list access.
5	1A 00	Parameter List Length Error	Parameter list length is invalid. (Does not occur.)
1/3	1C 01	Primary Defect List Not Found	Positioning to the Primary (P) list failed.
1/3	1C 02	Grown Defect List Not Found	Positioning to the Grown (G) list failed.
E	1D 00	Miscompare During Verify Operation	Indicates that a data compare error has occurred during Verify operation.
5	20 00	Invalid Command Operation Code	The operation code is invalid.
5	21 00	Logical Block Address out of Range	A logical address (LBA) beyond the capacity of the medium has been pointed out.
5	21 44	Logical Block Address out of Zone Range	Illegal access is made over a zone in LBA Mapping.
5	24 00	Illegal Field in CDB	An error is in the CDB command. Examples: Reserved bit/value _ Zero Unsupported bit/value _ Zero

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ID	Kind	Description
2183	E	Configuration file read error has occurred.
	[Contents]	Error has occurred on reading configuration form SVP file.
	[Action]	Retry maintenance, but same error has occurred, reboot SVP.
2184	W	The unused FD is inserted though the option is installed in this controller. If
		you select [OK] with checking 'ON' in the next window, the FD will be used
	[Contents]	only for this controller. The unused FD is inserted though there will be used FD because the function
	[oomonto]	is installed. If you select [OK] with checking 'ON' in the next window, the FD
		will be used only for this controller.
	[Action]	Please look for the used FD this controller, and use it. If you need to continue
		the operation, please select [OK].
2185	1	Please remove the special FD.
2103	[Contents]	Please remove the special FD from SVP.
		Please remove the FD, and select [OK].
	[, totalon]	, the second sec
2186	1	Too many ECC groups which you selected!
2100	[Contents]	Your selection was not correct.
		Please check the ECC group.
	g	3,
2187	1	Too many Spare Drives which you selected!
2101	[Contents]	Your selection was not correct.
	-	Please check the spare drives and select again.
		·
2188	1	You select different attribute ECC group other groups, Please select same
2100		attribute ECC group.
		Your selected group was not correct.
	[Action]	Please check the ECC group and select again.
2189	I	The ECC group which you selected is already setup complete. Please
	[Contents]	select. Your selected group was not correct.
	-	Please check the group and select again.
	li totioni	Thouse officer and group and corest again.
2190	1	Too many logical devices.
2190	[Contents]	Too many logical devices.
	-	Please check the logical devices.
	[/ totion]	The second secon
2191	1	Please enter number of cylinders.
2131	[Contents]	Please enter number of cylinders.
	-	Please check the number and enter.
	[\raceton]	Trouble direct the maniper wild effect.
2402	ı	Too many logical devices (Customized Volume).
2192	[Contente]	Too many logical devices (Customized Volume).
	-	Please check the logical devices.
	[MCHOH]	T lease officer the logical devices.

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ID	Kind	Description
2193	1	Invalid number of cylinders.
	[Contents]	You entered the wrong number of cylinders.
	[Action]	Please check the number of cylinders and enter again.
2194	I	Illegal logical device allocation.
	[Contents]	Detected the illegal logical device allocation.
	[Action]	Please check the logical device allocation.
2195	I	This logical device ID is already used.
	[Contents]	This logical device ID is already used.
	[Action]	Please check the device ID.
9		
2196	1	Please enter logical device ID.
		Please enter logical device ID.
	[Action]	Please check the correct logical device ID and enter.
2197	I .	This logical device ID is already used.
		This device ID is already used.
	[Action]	Please check the logical device ID again.
		Januariid COID
2198	 	Invalid SSID.
		Invalid SSID was detected.
	[Action]	Please check the SSID.
2400		This SSID is already used.
2199	[Contente]	The SSID was already used.
	-	Please check the SSID again.
	[Action]	Tiodde check the eelb again.
2200	ı	Capacity of Shared memory which you entered is lower than minimum
2200		capacity.
		You entered the wrong capacity.
	[Action]	Please check the minimum capacity and enter again.
Į.	•••	The same has a board of Good Black Standard and board and
2201	W	This name has already defined. Please input another name.
	-	This name has already defined. Please input another name.
	[Action]	Select [OK], and input another name.
0000	141	This controller has already defined
2202	W [Contents]	This controller has already defined.
		The serial number has already defined.
	[Action]	Check the serial number.

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ID	Kind	Description
2203	W	WARNING: Panel switches status is ignored because "Set Force" option is
2203		specified. Are you sure you want to change the devices status forcibly? You set the Set Force option so that Remote Console will set the Lock/Read
	[Action]	only/Read-Write to the target devices forcibly. If you want to change the devices status forcibly, please select Yes. Remote
		Console will set your setting information to the target devices forcibly. If you do not what to change, please select No. Remote Console will stop changing the status.
2204	I	Please confirm that system configuration of SCSI host returned the original condition.
	[Contents]	Confirm that system configuration of SCSI host returned the original condition.
	[Action]	Select OK after confirming that system configuration of SCSI host returned the original condition.
2205	t	Backup file for SCSI path information already exists. Do you replace existing file?
	[Contents]	This message checks whether you will replace existing backup file for SCSI path information with new one.
	[Action]	If you replace existing backup file, select [Yes] button.
2206	1	Controller is not ready.
	[Contents]	Controller which you want to connect or you have connected is not ready to execute Remote Console function.
	[Action]	Please check the target controller if it is ready.
2207	1	Keylock Panel is not built-in.
		A Controller Which you what to connect does not equip the Keylock Panel.
	[Action]	Please check the target controller if the Keylock Panel has already equipped.
2208	w	Switches status does not match Keylock Panel. Please open "Device Status Overview" screen, and confirm switches status.
	[Contents]	When setting the lock/Read-only/Read-Write to the devices, the Keylcok
	[Action]	panel has already changed and your setting information will not be available. Please select Refresh button to display the last status of panel switches in the "Device Status Overview" screen. And please retry again.
2209	1	Backup file for SCSI path information was made.
	[Contents]	This is end of making a backup file for SCSI path information.
2210	1	This will restore SCSI path information with a backup file.
	[Contents]	If you select [OK] button, this will restore a backup file for SCSI path
	[Action]	information. If you read a backup file and display the information, select [OK] button.
2211	1	This will make SCSI path information a backup file for.
	[Contents]	If you select [OK] button, this will make a backup file for SCSI path
	[Action]	information. If you make a backup file, select [OK] button.

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ID	Kind	Description
2212	l	Without making a backup file for SCSI path information, do you delete selected SCSI path definition?
	[Contents]	This message checks whether you will delete selected SCSI path definition
	-	without making a backup file for SCSI path information.
	[Action]	In case of deleting selected SCSI path definition without making a backup file, select [Yes] button. Otherwise, select [No] button to make backup file.
		The, select (res) button. Otherwise, select [No] button to make backup me.
2213	ŀ	PORT is not selected. Please select PORT(S).
	[Contents]	This message says that you need to select PORT(S) form PORT display
		column before selecting [Set] button.
	[Action]	Please select PORT(S) from PORT display column.
0044		MODE is not palested. Plance salest MODE
2214	[Contonto]	MODE is not selected. Please select MODE. This message says that you need to select MODE form MODE display
	[Contents]	column before selecting [Set] button.
	[Action]	Please select MODE form MODE display column.
2215	I	Please select [Backup] button for making a backup file.
	[Contents]	This message prompts to select [Backup] button for making a backup file for SCSI path information.
	[Action]	If you make a backup file for SCSI path information, please select [Backup]
	-	button.
		De very week to check sub-proton status?
2216	[Contonto]	Do you want to check sub system status?
	-	Select checking or not sub system status. If you want to check sub system status, select [Yes]. If you don't want to
	[Action]	check, select [No].
2217	E	Error has occurred at DKU path inline. Please confirm connection of target
	[Contents]	part, and press Retry. Possibly you have connected the wrong terminal of replaced part and cable.
		Connect cable to the right terminal, and select [Retry]. If connection has not
		wrong, select [Cancel].
	_	Disease reheat the DO and do the same energian again. If you could not do
2218	E	Please reboot the PC and do the same operation again. If you could not do the same operation, please call Technical Support Center.
	[Contents]	SVP detected invalid data so that you should reboot PC.
	[Action]	Alter selecting [OK], please reboot the PC and dot the same operation again.
		If you could not do the same operation, please call Technical Support Center.
2219	W	No available configuration. Please check CONFIG files or CONFIG version.
		There is no drive type/emulation type for install in CONFIG file.
		Check CONFIG version, if invalid, install CONFIG valid version.
2220	W	You have installed maximum number of logical devices.
	[Contents]	You have installed max. number of available logical devices.
	[Action]	Check all logical device ID which you entered (compare with work sheet).

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ID	Kind	Description
2221	W	No enough free logical device ID. Please enter another logical device ID.
	[Contents]	There is no enough free logical device ID from ID you are entered to end of
		ID.
	[Action]	Check all logical device ID which you entered (compare with work sheet).
2222	W	No enough free SS ID. Please enter another SS ID.
	[Contents]	There is no enough free SS ID form ID you entered to end of ID.
	[Action]	Check all SS ID which entered (compare with work sheet).
2223	w	Please select DCR type.
	[Contents]	No select DCR type.
	[Action]	Select DCR type.
2224	W	Invalid parameter.
	[Contents]	You enter invalid parameter of DCR configuration.
	[Action]	Check all parameter and enter valid parameter.
2225	w	There is no enough DCR area.
	[Contents]	You enter over available size of DCR.
	[Action]	Check all parameter and enter valid parameter (compare with work sheet).
2226	W	Different DCR type is already uses in this area.
	[Contents]	DCR area which you entered is already used for another DCR type.
	[Action]	Check DCR type, cylinder, head which you entered and enter valid parameter (compare with work sheet).
2227	E	HRC or HODM operation was rejected.
	[Contents]	All CHAs are not active for HRC & HODM.
	[Action]	Please replace the CHAs and retry operation.

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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		2
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) (Note 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	T	ype 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 (Note 2)								
13	Routine ID (Note 2)								
14	Not used								
15									
16									
17			(x'		al number sequence numi	per)			
18				53					
19									
20				SSID of sel	f subsystem				
21									
22				Exception co	de (x'F000')				
23					(.1. 2000)				

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

(Note 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

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Exception E. Format 0 (LDEV not ready) (Note 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'0C69' + DKU sequence number)							
16								
17								
18								
19								
20	SSID of self subsystem							
21								
22	Exception code (x'E210')							
23								

(Note 1) Byte 0, bit1 (intervention required) is set to 1.