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TEST AREA MANAGER #1	DATE	TEST AREA MANAGER #2	DATE
ROGER HARRINGTON			

TITLE

~~TOPGUN SID TEST PROCEDURE~~

ASSY	MODEL NO.	P.N.

AREAS AFFECTED:

<input type="checkbox"/> INCOMING	<input type="checkbox"/> BURN-IN	<input type="checkbox"/> CABINET	CHANGED TEST REQUIREMENTS <input type="checkbox"/> YES <input type="checkbox"/> NO
<input checked="" type="checkbox"/> DTOPS	<input type="checkbox"/> SYSTEMS	<input type="checkbox"/>	

PROPRIETARY INFORMATION

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===== ADDED STEPS FOR DELETING DGUX =====

IP at date password DG remote FE for RBAS

Scm> b st(INSC (0), 4) maverick / AV4000

b sd (INSC ()) usr: /STAND /diag maverick

b cied () usr: /stand /diag AV5000 Topgun

b cimd () usr: /STAND /diag AV6000

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1.0 INTRODUCTION

1.1 Scope

This document is the Apex SID test procedure for the TOPGUN AViion product line.

2.0 APPLICABLE DOCUMENTS

001-32885	Dual Processor 16MB CPU Schematic
001-34212	Single Processor 16MB CPU Schematic
001-34105	Single Processor 8MB CPU Schematic
003-3007	CPU IPL
001-4895	Expansion Memory Schematic
003-	Expansion Memory IPL
118-4846	Sync Controller Purchase Spec
118-4849	Host Adapter Controller Purchase Spec
118-4847	Async Controller Purchase Spec
118-4852	LAN Controller Purchase Spec
118-4826	ESDI Controller Purchase Spec
118-4827	SCSI Controller Purchase Spec

3.0 TEST EQUIPMENT

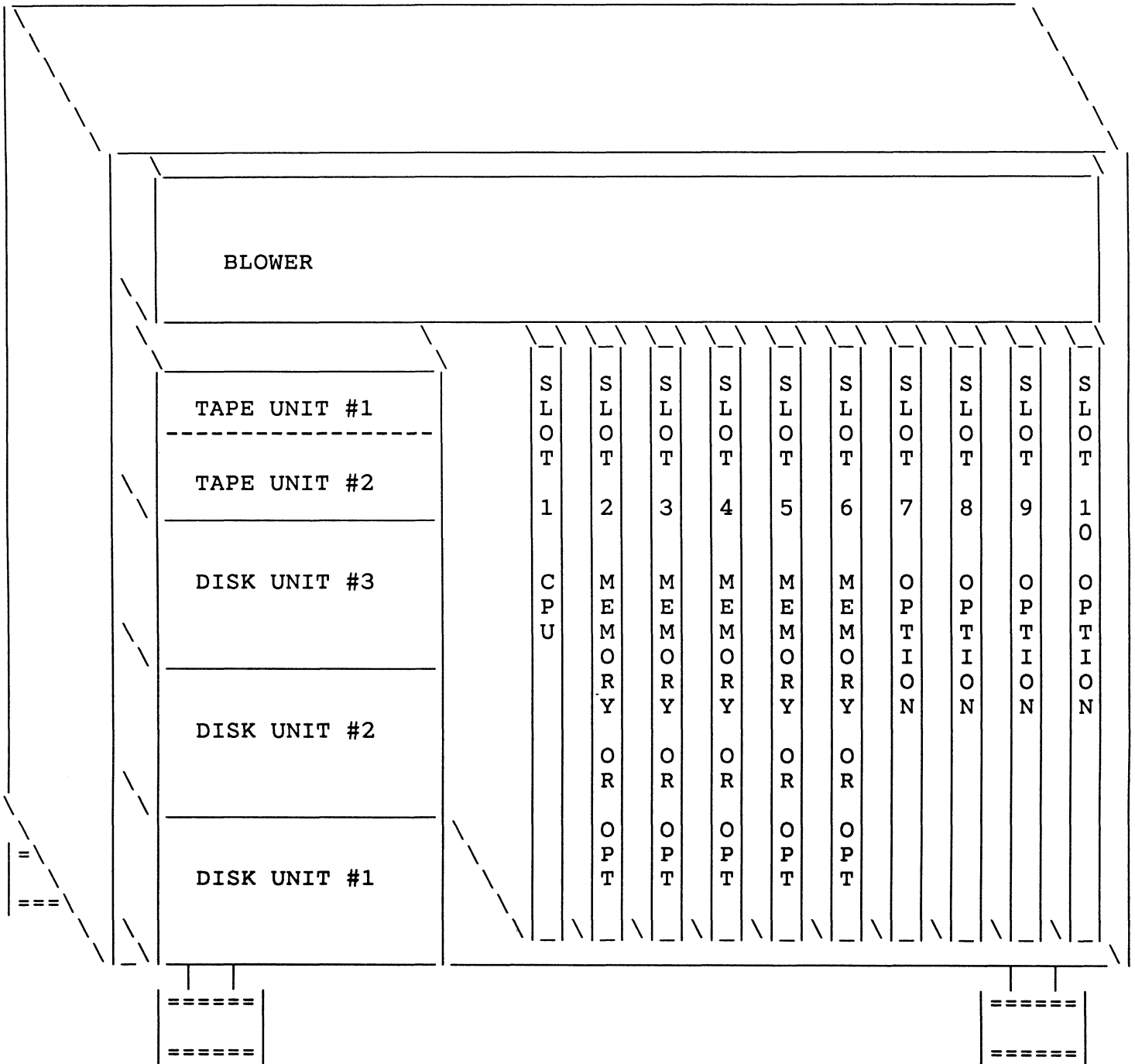
1 - Data General D211 Terminal, or better
1 - 005-34255,34992, or 34993 AViion RS-232 Cable

4.0 TEST DESCRIPTION

- A. POWERUP SELF TEST - A cursory test that is executed from PROM as part of the powerup sequence.
- B. XDIAGS - Extended powerup diagnostics that test boot memory and boot path integrity.
- C. RBOS - System level diagnostic offering complete system performance integrity.

5.0 SETUP

5.1 Configuration



CONFIGURATION TABLE
=====

SLOT TYPE	COMPONENT	PART NUMBER	MODEL #		MIN/MAX PER SYST	BOARD
			PRELIM.	FINAL		
* 1	SINGLE CPU W/8MBYTE	005-34105	G70031-P		1	CPU
1	SINGLE CPU W/16MBYTE	005-34212	G70032-P		1	CPU
1	DUAL CPU W/16MBYTE	005-32885	G70033-P		1	CPU
2-5	48MB EXPANSION MEMORY	005-33490	7003		0/4	MEMORY
	32MB EXPANSION MEMORY	005-34397	7002		0/4	MEMORY
	16MB EXPANSION MEMORY	005-34398	7001		0/4	MEMORY
2-10	SCSI CONTROLLER	005-33386	7407	6544	1/2	OPTION
	ESDI CONTROLLER	005-33384	NOT AN ADD-ON		1/1	OPTION
	ASYNC CONTROLLER	005-34204	7400	4734	0/2	OPTION
	T SERVER HOST ADAPTER	005-34207	7401	4735	0/4	OPTION
	NON-INTEL LAN CONT	005-34209	7405	4739	0/2	OPTION
	SYNC CONTROLLER	005-34206	7404	4738	0/2	OPTION

The option board configuration rules for topgun are as follows:

1. The total number of cards must not exceed the total number of available slots.
2. Cards listed higher in the configuration table have first choice of slots when configuring the system. (ie. begin configuring at slot 1 and fill each and every slot until all boards are configured.)
3. * Not offered for external shipments with unix software.
(Unix Model numbers are P001AHU1CA, Q001AHU1CA, Q001APU1CA, Q001AQU1CA, Q001ARU1CA, Q001ASU1CA)
4. Unix Rev 4.10 has the following hardware limitations: 005-34204's and 005-34207's cannot be configured in the same system. A maximum of two 005-34204's or a maximum of one 005-34207 can be configured in a system. This limitation must be honored on sales orders that have the Unix model numbers shown in step 3.

2.2 Peripheral Configuration

The following peripherals are available on topgun systems.

SIZE	PART NUMBER	MODEL	LIMITATIONS
------	-------------	-------	-------------

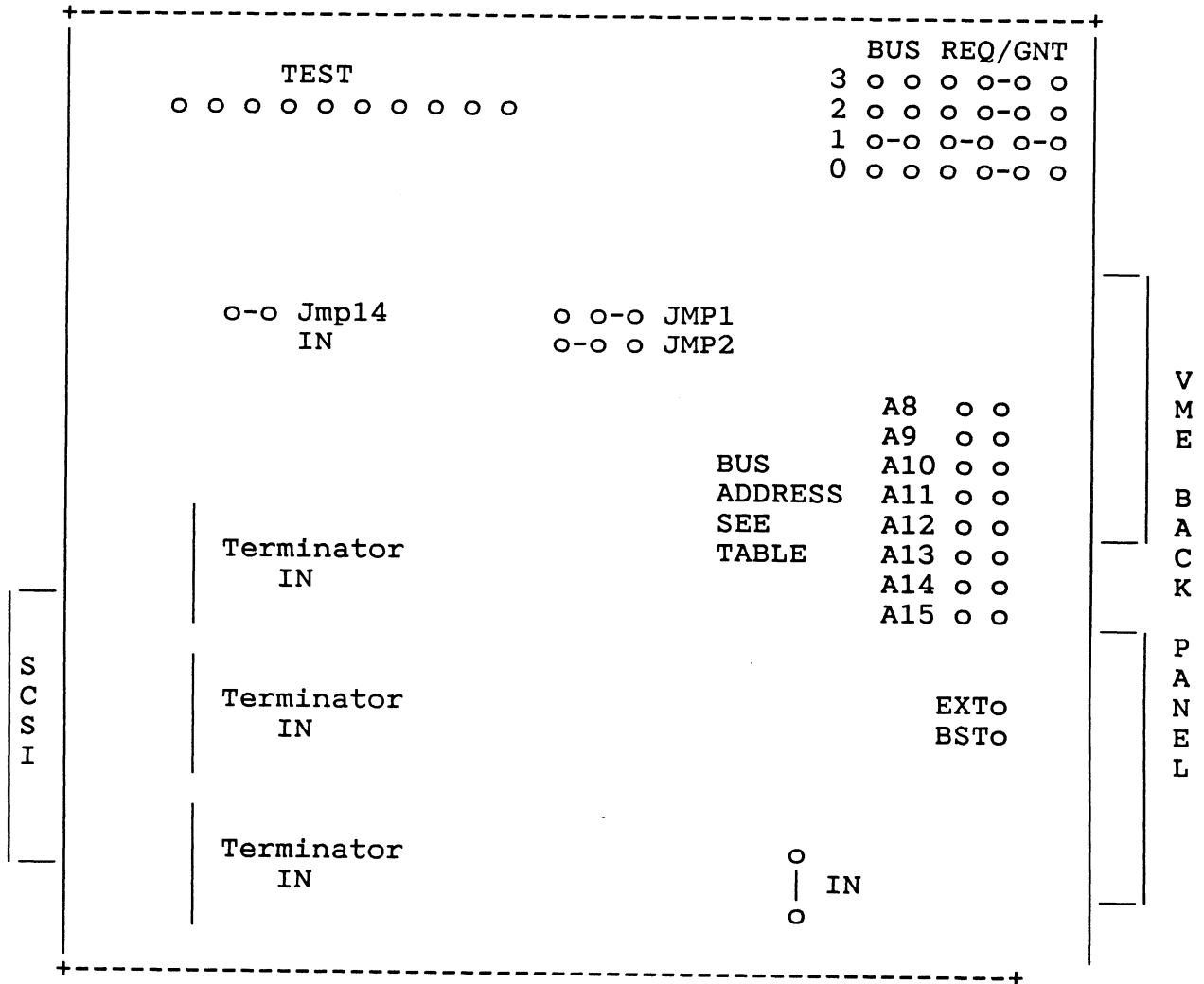
380MB DISK	118-4670	G6442-I	MINIMUM UNITS 1, MAXIMUM 3
645MB DISK	118-4670	G6555-I	MINIMUM UNITS 1, MAXIMUM 3
150MB TAPE	118-4337	G6577-I	MINIMUM UNITS 1, MAXIMUM 2

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5.2 Board Jumpering

5.2.1 SCSI Controller 005-33886 (118-4827) cisc(X)



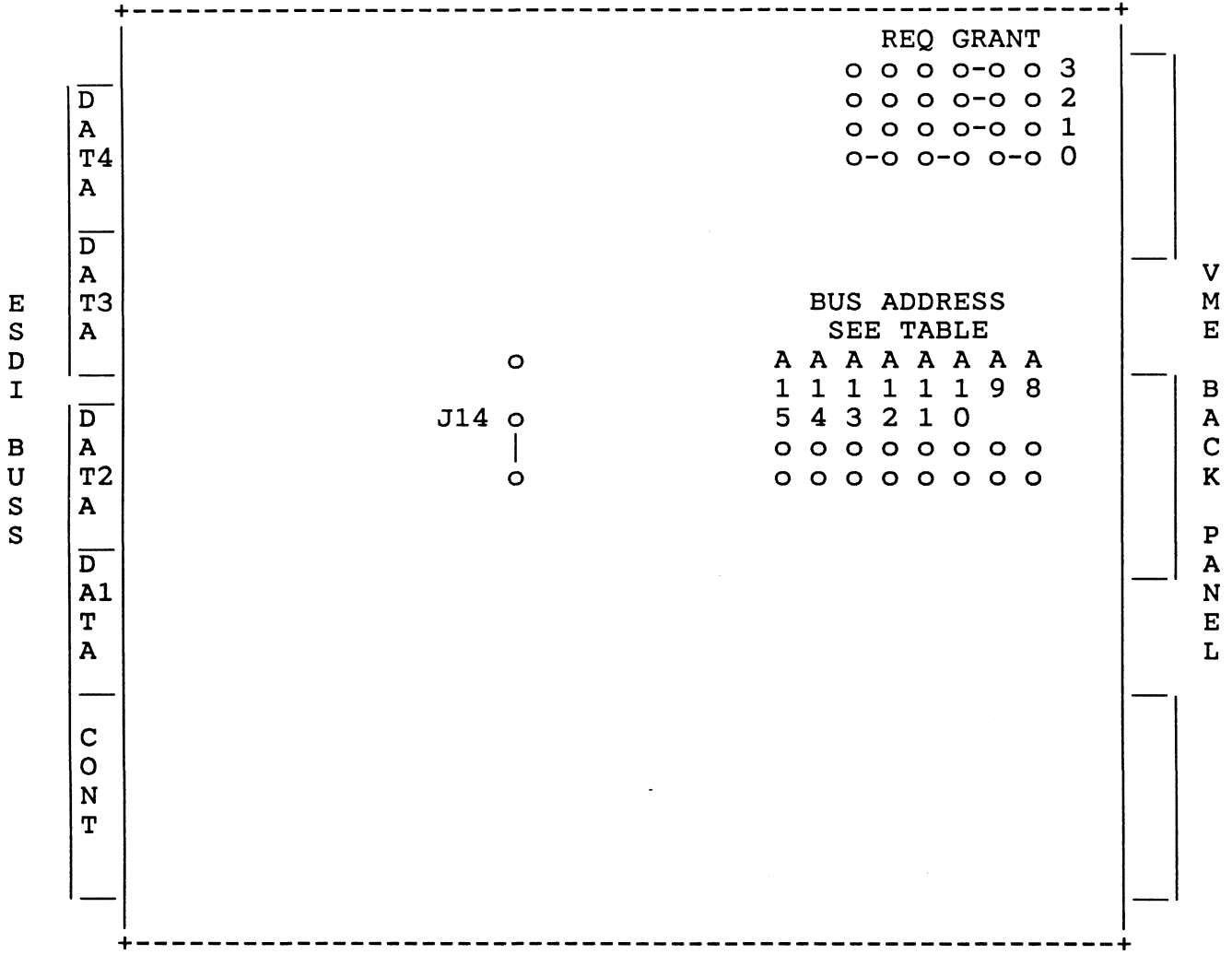
* FACTORY DEFAULT ADDRESS

BOARD #	ADDRESS	A15	A14	A13	A12	A11	A10	A9	A8
*0	FFFFFF300	OUT	OUT	OUT	OUT	IN	IN	OUT	OUT
1	FFFFFF500	OUT	OUT	OUT	OUT	IN	OUT	IN	OUT
2	FFFFFF700	OUT	OUT	OUT	OUT	IN	OUT	OUT	OUT

3	FFFFF900	OUT	OUT	OUT	OUT	OUT	IN	IN	OUT
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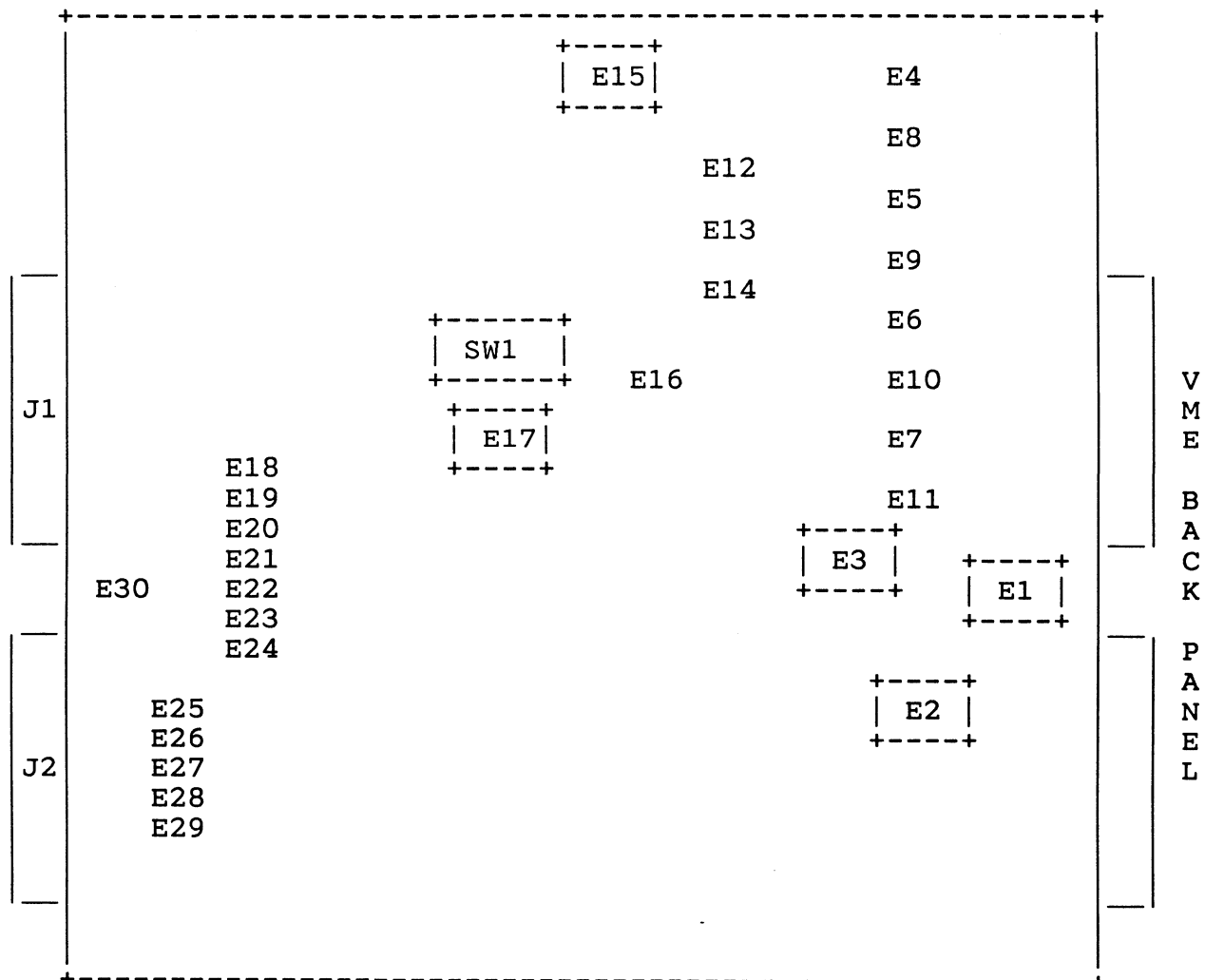
5.2.2 ESDI Controller 005-34438 cisd(X)



* FACTORY DEFAULT SETTING

BOARD #	ADDRESS	A15	A14	A13	A12	A11	A10	A9	A8
*0	FFFEF00	OUT	OUT	OUT	IN	OUT	OUT	OUT	OUT

5.2.3 Async Controller 005-34204 (118-4847) syac(X)



JUMPERS MARKED =OUT= OR =IN= SIGNIFY NON FACTORY INSTALLED POSITIONS

JUMPER	PIN	FUNCTION	syac(0)	syac(1)
E1	1-2	IN=SPECIFY BIT A23	IN	
	3-4	A22	IN	
	5-6	A21	IN	
	7-8	A20	IN	
	9-10	A19	IN	
	11-12	A18	IN	
	13-14	A17	IN	OUT

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MPERS MARKED =OUT= OR =IN= SIGNIFY NON FACTORY INSTALLED POSITIONS

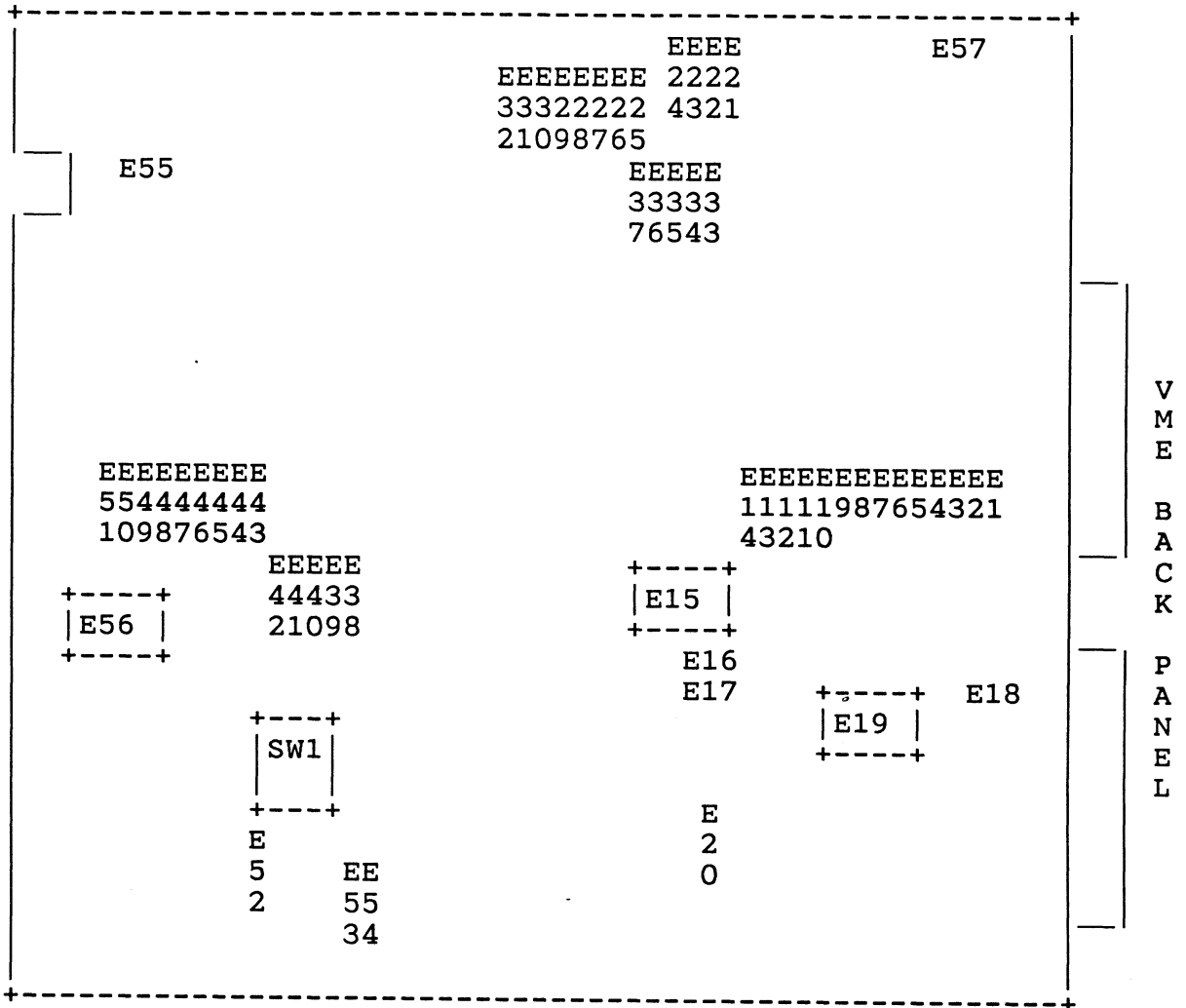
JUMPER	PIN	FUNCTION	syac(0)	syac(0)
E2	1-2	A31		IN
	3-4	A30		OUT
	5-6	A29		OUT
	7-8	A28		IN
	9-10	A27		IN
	11-12	A26		IN
	13-14	A25		IN
	15-16	A24		IN
E3	1-2	INTERUPT REQUEST		OUT
	3-4	THESE JUMPERS		OUT
	5-6	OPERATE IN		OUT
	7-8	CONJUNCTION WITH		IN
	9-10	E21, E22, AND		OUT
	11-12	E23		OUT
13-14			OUT	
E4	2-3	BG 0 PRIMARY JUMPER		IN
E5	2-3	BG 1 PRIMARY JUMPER		IN
E6	2-3	BG 2 PRIMARY JUMPER		IN
E7	1-2	BG 3 PRIMARY JUMPER		IN
	3-4			IN
E8		BUS REQUEST 0		OUT
E9		BUS REQUEST 1		OUT
E10		BUS REQUEST 2		OUT
E11		BUS REQUEST 3		IN
E12		EXTENDED ADDRESSING		OUT
E13		EXTENDED ADDRESSING		OUT
E14		DPRAM IN SUPER SP.		IN

JUMPER	PIN	FUNCTION	syac(0)	syac(1)
E15	1-2	INTER. VEC BIT D0	OUT	IN
	3-4	D1		OUT
	5-6	D2		OUT
	7-8	D3		OUT
	9-10	D4		OUT
	11-12	D5		IN
	13-14	D6		IN
	15-16	D7		OUT
E16	2-3	27256 EPROMS		IN
E17	1-2	IN=SPECIFY BIT A13		IN=
	3-4	A12		IN=
	5-6	A11		IN=
	7-8	A10		IN=
	9-10	A9		IN=
	11-12	A8		IN=
	13-14	UNUSED		OUT
	15-16	UNUSED		OUT
E18		IN=SPECIFY BIT A15		IN
E19		DPRAM IN PROG SPACE		IN
E20		DPRAM IN DATA SPACE		IN
E21		ACKNOWLEDGEMENT IN CONJUNCTION WITH E3.		OUT
E22				IN
E23				IN
E24		IN=SPECIFY BIT A14		IN
E25		IN= 12.5 ms RTC		OUT
E26		IN= 25.0 ms RTC		OUT
E27		IN= 50.0 ms RTC		IN
E28		IN= 100.0 ms RTC		OUT

THESE JUMPERS ARE NOT VALID WHEN E12 IS NOT INSTALLED. THEY ARE JUMPED TO THESE POSITIONS FOR CONSISTENCY ONLY.

JUMPER	PIN	FUNCTION	syac(0)	syac(1)
E29		IN=ALLOWS SYSFAIL		OUT
E30	2-3	DCD TERMINATION		IN
SW1	1	RESERVED		OFF
	2	SELF TEST READ/RITE		ON
	3	SELF TEST		OFF
	4	SELF TEST		OFF
	5	SELF TEST		OFF
	6	RESERVED		OFF
	7	LOG WORD TRANSFER		OFF
	8	RESERVED		OFF

5.2.4 Host Adapter Controller 005-34207 (118-4849) syac(X)



JUMPERS MARKED =OUT= OR =IN= SIGNIFY NON FACTORY INSTALLED POSITIONS

JUMPER	PIN	FUNCTION	syac(0)	syac(1)	syac(2)	syac(3)	syac(4)
E1		IN= EXTENDED ADD.				IN	
E2		IN= SUPERVISOR				IN	
E3		DPRAM IN PROG. SP.				OUT	

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JUMPER	PIN	FUNCTION	syac(0)	syac(1)	syac(2)	syac(3)	syac(4)
E5		DPRAM PROG OR DATA					IN
E6		DPRAM IN USER SPACE					OUT
E7		INT REQ 7					OUT
E8		INT REQ 6					OUT
E9		INT REQ 5					OUT
E10		INT REQ 4					IN
E11		INT REQ 3					OUT
E12		INT REQ 2					OUT
E13		INT REQ 1					OUT
E14		FACTORY RESERVED					IN
E15	1-2	IN= SPECIFY A23					IN
	3-4	A22					IN
	5-6	A21					IN
	7-8	A20					IN
	9-10	A19	IN	IN	IN	IN	=OUT=
	11-12	A18	IN	IN	=OUT=	=OUT=	IN
	13-14	A17	IN	=OUT=	IN	=OUT=	IN
	15-16	A16					IN
E16		A15					IN
E17		A14					IN
E18		EXTENDED ADDRESSING					IN
E19	1-2	IN= SPECIFY A31					IN
	3-4	A30					OUT
	5-6	A29					OUT
	7-8	A28					IN
	9-10	A27					IN
	11-12	A26					IN

13-14
15-16

A25
A24

IN
IN

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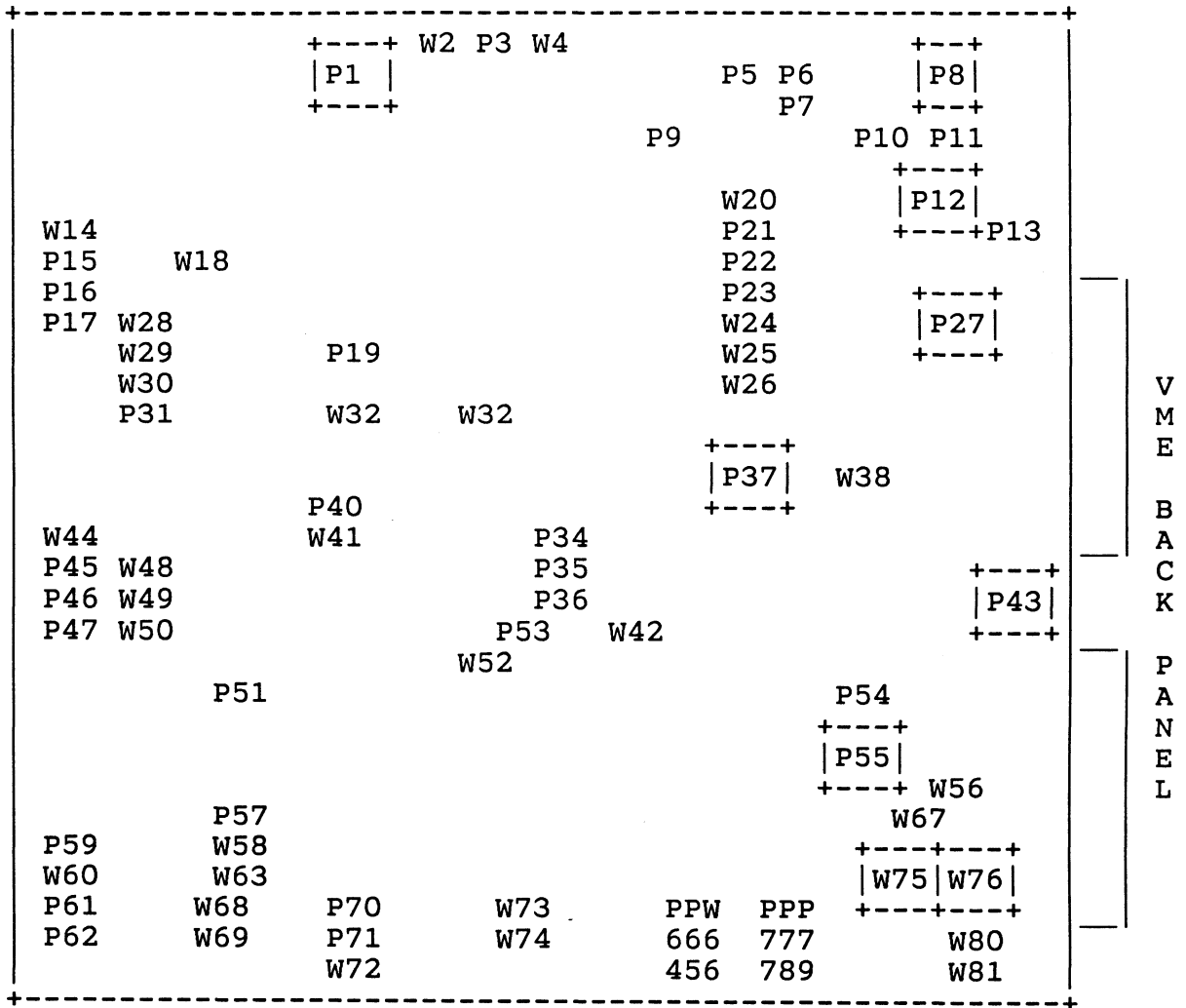
JUMPER	PIN	FUNCTION	syac(0)	syac(1)	syac(2)	syac(3)	syac(4)
E20		FACTORY RESERVED					OUT
E21	2-3	BUS GRANT 0					IN
E22	2-3	BUS GRANT 1					IN
E23	2-3	BUS GRANT 2					IN
E24	1-2 3-4	BUS GRANT 3 SELECTED					IN IN
E25		STATUS/ID BIT D7					OUT
E26		STATUS/ID BIT D6					IN
E27		STATUS/ID BIT D5					IN
E28		STATUS/ID BIT D4					OUT
E29		STATUS/ID BIT D3					OUT
E30		STATUS/ID BIT D2	OUT	OUT	OUT	OUT	=IN=
E31		STATUS/ID BIT D1	OUT	OUT	=IN=	=IN=	OUT
E32		STATUS/ID BIT D0	OUT	=IN=	OUT	=IN=	OUT
E33		BUS REQ LEVEL 3					IN
E34		BUS REQ LEVEL 2					OUT
E35		BUS REQ LEVEL 1					OUT
E36		BUS REQ LEVEL 0					OUT
E37		FACTORY RESERVED					OUT
E38		FACTORY RESERVED					OUT
E39		FACTORY RESERVED					OUT
E40		P/O BG JUMPERING					OUT
E41		P/O BG JUMPERING					IN

E43	RWD RELEASE	OUT
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JUMPER	PIN	FUNCTION	syac(0)	syac(1)	syac(2)	syac(3)	syac(4)
E44		3.1 us TIMEOUT					OUT
E45		6.3 us TIMEOUT					OUT
E46		12.5 us TIMEOUT					OUT
E47		25.0 us TIMEOUT					IN
E48		12.5 ms TIMEOUT					OUT
E49		25.0 ms TIMEOUT					OUT
E50		50.0 ms TIMEOUT					IN
E51		100.0 ms TIMEOUT					OUT
E52		IN= ALLOWS SYSFAIL					OUT
E53	1-2	IN= SMALL PROMS					IN
E54	1-2	IN= SMALL PROMS					IN
E55		TERM COAX @ ADAPTER					IN
E56	1-2	TRANSPORT NODE ADD.					IN
	3-4					IN	
	5-6					IN	
	7-8					IN	
	9-10					IN	
	11-12					IN	
	13-14					IN	
15-16					IN		
E57		BCLR					OUT
SW1	1	RESERVED					ON
	2	SELF TEST READ/RITE					ON
	3	SELF TEST					OFF
	4	SELF TEST					OFF
	5	SELF TEST					OFF
	6	RESERVED					OFF
	7	LOG WORD TRANSFER					OFF
	8	RESERVED					OFF

5.2.5 Sync Controller 005-34206 (118-4846) sdcP(X)



INDIVIDUAL PINS FOR EACH JUMPER GROUP ARE NUMBERED AS FOLLOWS:

VERTICAL BLOCK OF PINS	COLUMNS PINS	HORIZONTAL BLOCK OF PINS	ROWS OF PINS
1 2	1	1 3 5 7 9	1 2 3 4
3 4	2	2 4 6 8 10	
5 6	3		
7 8	4		

JUMPERS MARKED =OUT= OR =IN= SIGNIFY NON FACTORY INSTALLED POSITIONS

JUMPER	PIN	FUNCTION	sdcp(0)	sdcp(1)
P1	1-2	OPTION 0		OUT
	3-4	1		OUT
	5-6	2		OUT
	7-8	3		IN
P3	1-2	RESET FROM BUS		IN
P5	1-2	SUPER. SLAVE DECODE		IN
	3-4	FACTORY USE ONLY		IN
P6	2-3	BUS GRANT 0		IN
P7	2-3	BUS GRANT 3		IN
P8	1-2	PGM ONLY SLAVE DEC		OUT
	3-4	DATA ONLY SLAVE DEC		OUT
	5-6	PGM&DATA SLAVE DEC		IN
	7-8	USER SLAVE DECODE		OUT
P9	1-2	TIMEOUT TO LOCAL		IN
P10	1-2	BUS GRANT 2		IN
	3-4	(SELECTED)		IN
P11	2-3	BUS GRANT 1		IN
P12	1-2	BUS REQUEST 3		OUT
	3-4	2		IN
	5-6	1		OUT
	7-8	0		OUT
P13	1-2	BUS RELEASE OPTION		OUT
P15		CHAN A RS-232 GND		IN
P16		CHAN A RC GND		OUT
P17		CHAN A FRAME GND		OUT
P19	1-2	DMA A 19/15		IN
P21		A03 INT LEVEL DEC		IN
P22	1-2	A02 INT LEVEL DEC		OUT

P23	1-2	AO1 INT LEVEL DEC	OUT
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JUMPER	PIN	FUNCTION	sdcp(0)	sdcp(1)
P27	1-2	INT REQ LEVEL 7 HI		OUT
P27	3-4	6		OUT
P27	5-6	5		OUT
P27	7-8	4		OUT
P27	9-10	3		IN
P27	11-12	2		OUT
P27	13-14	1 LOW		OUT
P31	1-2	CHAN A MULTIDROP EN		OUT
P34	1-2	DMA ADDRESS SEL		IN
	3-4			IN
P35	2-3	A16-27512		IN
P36	2-3	A15-27256		IN
P37	1-2	STD SLAVE ADD A23		OUT
	3-4	A22		IN
	5-6	A21		OUT
	7-8	A20		OUT
	9-10	A19		IN
	11-12	A18		IN
	13-14	A17		IN
	15-16	A16	IN	=OUT=
P40	1-2	CHAN B MULTIDROP		OUT
P43	1-2	STATUS/ID BIT 7		OUT
	3-4	6		IN
	5-6	5		OUT
	7-8	4		IN
	9-10	3		OUT
	11-12	2		OUT
	13-14	1		OUT
	15-16	0		OUT
P45	1-2	CHAN B RS-232 GND		IN
P46	1-2	CHAN B RC GND		OUT
P47	1-2	CHAN B FRAME GND		OUT
P51	1-2	CHAN B CLOCK OPT		IN

JUMPER	PIN	FUNCTION	sdcp(0)	sdcp(1)
P53	1-2	BYTE SWAP		IN
P54	1-2	STD/EXT SLAVE DEC		IN
P55	1-2	EXT SLAVE ADD A31		IN
	3-4	A30		OUT
	5-6	A29		IN
	7-8	A28		OUT
	9-10	A27		IN
	11-12	A26		OUT
	13-14	A25		IN
	15-16	A24		OUT
P57	1-2	CHAN A CLOCK OPT		IN
P59	1-2	CHAN C RS-232 GND		IN
P61	1-2	CHAN C RC GND		OUT
P62	1-2	CHAN C FRAME GND		OUT
P64	1-2	CHAN D CLOCK OPT		IN
P65	1-2	CHAN D MULTIDROP		OUT
P70	1-2	CHAN C CLOCK OPT		IN
P71	1-2	CHAN C MULTIDROP EN		OUT
P77	1-2	CHAN D RS232 GND		IN
P78	1-2	CHAN D RS GND		OUT
P79	1-2	CHAN D FRAM GND		OUT

THE FOLLOWING WIRE JUMPERS ARE SOLDERED IN PLACE.
THE CONFIGURATION CANNOT BE CHANGED.

JUMPER	PIN	FUNCTION	sdc(0)	sdc(1)
W2	1-2	FACTORY USE ONLY		OUT
W4	1-2 3-4	FACTORY USE ONLY FACTORY USE ONLY		IN IN
W14	1-2	CHAN A DCD/DSR SEL		IN
W18	2-3	CHAN A RXC/TXC SEL		IN
W20	1-2	FACTORY USE ONLY		OUT
W24	1-2	FACTORY USE ONLY		OUT
W25	1-2	FACTORY USE ONLY		IN
W26	1-2	FACTORY USE ONLY		OUT
W28	2-3	CHAN A RT/ST REC		IN
W29	2-3	CHAN A ST/TT REC		IN
W30	1-2	FACTORY USE ONLY		IN
W32	1-2	FACTORY USE ONLY		IN
W33	1-2	FACTORY USE ONLY		IN
W38	1-2	FACTORY USE ONLY		OUT
W39	1-2	FACTORY USE ONLY		OUT
W41	1-2	FACTORY USE ONLY		IN
W42	1-2 3-4	FACTORY USE ONLY FACTORY USE ONLY		IN IN
W44	1-2	CHAN B DCD/DSR SEL		IN
W48	2-3	CHAN B RXC/TXC SEL		IN
W49	2-3	CHAN B RT/ST REC		IN
W50	2-3	CHAN B ST/TT REC		IN

W52	1-3	FACTORY USE ONLY	IN
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JUMPER	PIN	FUNCTION	sdcpl(0)	sdcpl(1)
W56	2-3	CHAN D RXD/TXC REC	IN	
W58	1-2	FACTORY USE ONLY	IN	
W60	1-2	8530 CLK OPTION	IN	
W63	1-2	FACTORY USE ONLY	IN	
W66	1-2	FACTORY USE ONLY	IN	
W67	2-3	CHAN D RT/ST REC	IN	
W68	2-3	CHAN C RXC/TXC SEL	IN	
W69	2-3	CHAN D RT/ST REC	IN	
W72	1-2	FACTORY USE ONLY	IN	
W73	1-2	CHAN C DCD/DSR SEL	IN	
W74	2-3	CHAN C ST/TT REC	IN	
W75	1-2	P2 ISOLATION	IN	
	3-4		IN	
	5-6		IN	
	7-8		IN	
	9-10		IN	
	11-12		IN	
	13-14		IN	
	15-16		IN	
	17-18		IN	
	19-20		IN	
21-22	IN			
W76	1-2	P2 ISOLATION	IN	
	3-4		IN	
	5-6		IN	
	7-8		IN	
	9-10		IN	
	11-12		IN	
	13-14		IN	
	15-16		IN	
	17-18		IN	
	19-20		IN	

W80	1-2	CHAN D DCD/DSR SEL	IN
W81	2-3	CHAN D ST/TT REC	IN

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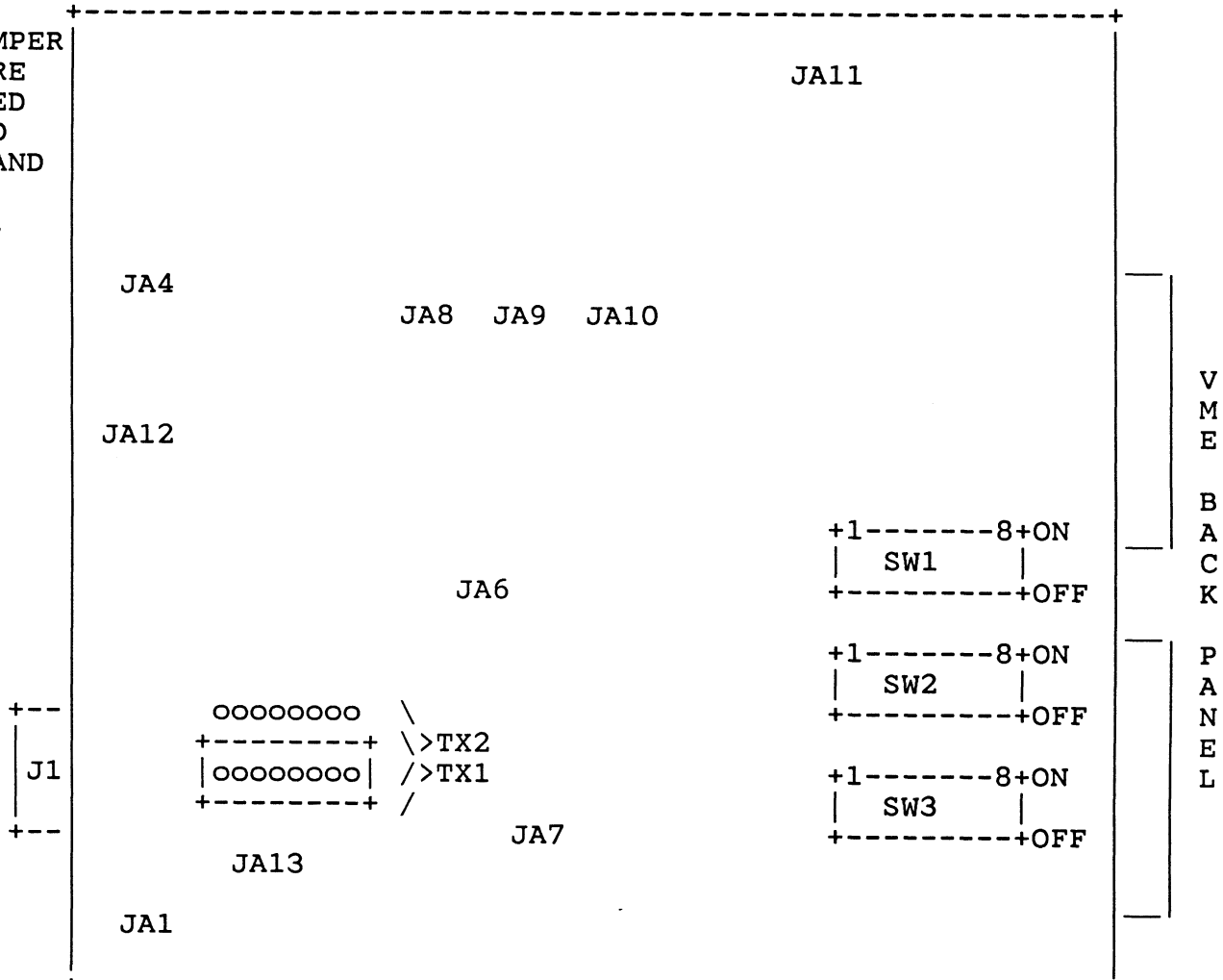
5.2.6 LAN Controller 005-34209 (118-4852) hken(X)

ALL JUMPER
PINS ARE
NUMBERED
LEFT TO
RIGHT AND
TOP TO
BOTTOM.
EITHER

1 2 3

OR

3
2
1



JUMPERS MARKED =OUT= OR =IN= SIGNIFY NON FACTORY INSTALLED POSITIONS

JUMPER	PIN	FUNCTION	hken(0)	hken(1)
SW1	1	BASE ADDRESS A15 A14 A13		ON
	2			OFF
	3			ON
	4	A12	ON	=OFF=
	5	A11		ON
	6	A10		ON
	7	A9		ON

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JUMPER	PIN	FUNCTION	hken(0)	hken(1)	
SW2	1	BASE ADDRESS	A23	OFF	
	2		A22	ON	
	3		A21	ON	
	4		A20	OFF	
	5		A19	ON	=OFF=
	6		A18	ON	
	7	32 BIT		OFF	
	8	24 BIT		OFF	
SW3	1	BASE ADDRESS	A31	ON	
	2		A30	OFF	
	3		A29	ON	
	4		A28	OFF	
	5		A27	ON	
	6		A26	OFF	
	7		A25	ON	
	8		A24	OFF	
JA1	1-2	TRANS POWER @ FRONT		IN	
JA4	1-2	SLOW DTACK		IN	
JA7		TEST POINT		OUT	
JA8	2-3	DISABLE PARITY		IN	
JA9	2-3	TRANS POWER @ FRONT		IN	
JA10	1-2	SYSCLK SUPPLY		=IN=	
JA11		SYSFAIL DISABLED		OUT	
JA12	1-2	PARITY ERRORS		=IN=	
JA13		HALF STEP AUI INTER		OUT	

5.2.7 Back Panel 005-34395 (viewed from rear of chassis)

J1 CONNECTOR											SLOT ROW
10 CBA	9 CBA	8 CBA	7 CBA	6 CBA	5 CBA	4 CBA	3 CBA	2 CBA	1 CBA		
1	
2	
3	
4	
5	BG0
6	
7	BG1
8	
9	BG2
10	
11	BG3
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	IACK
23	
30	
31	
32	

J2 CONNECTOR					
	6	5	4	3	1
1
32	┌───┐	MEM BUS TERMINATOR			
	└───┘

J3 CONNECTOR					
	6	5	4	3	1
1
32	┌───┐	MEM BUS TERMINATOR			
	└───┘

BUSS GRANT and IACK jumpers must be placed on all unused slots except for slot 10. The above example is for a system configured with a system board, expansion memory board, SCSI controller, ESDI controller, and a Communications board.

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5.2.8 Terminal Configuration

Baud rate 9600
Data bits 7
Parity Mark
Mode ANSI

6.0 TEST PROCEDURE

6.1 Powerup Testing

1. Power the sytem up.

Single processor systems will print the prompt: SCM>
Dual processor system will print the prompt: Jp#x/SCM>
where x is the processor number 0 or 1.

2. At the "SCM>" prompt, enter:

e fff81000 <cr>

3. At the Memory FFF81000 / FFFFFFFxx:

0 <cr><esc>

4. At the "SCM>" prompt, enter:

f <cr>

5. At the View or Change System Configuration, enter:

6 <cr> Change testing parameters

6. At the Select bits to toggle - > prompt, enter:

15 <cr> Prompting mode (Reserved)

7. At the Select bits to toggle - > prompt, enter:

9 <cr> Halt on error

8. At the Select bits to toggle - > prompt, enter:

<cr>

9. At the View or Change System Configuration, enter:

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10. At the "Change boot parameters" enter:

1 <cr> Change system boot path

11. The system should print:

System boot path = []

If it doesn't enter: Y <cr> and At:
Enter new system boot path -> <cr>

12. At the "Do you want to modify the system boot path? [N]" enter:

<cr>

13. At the "Do you want to boot? [N]" enter:

<cr>

14. At the Change boot parameters, enter:

2 <cr> Change diagnostic boot path

The system should print:

Diagnostic boot path = []

If it doesn't enter: Y <cr> and At:
Enter new diagnostic boot path -> <cr>

15. At the "Do you want to modify the diagnostic boot path? [N]" enter:

<cr>

16. At the "Change boot parameters" enter:

<cr>

17. At the View or Change System Configuration, enter:

<cr> This will leave you at the SCM> prompt

18. Insert a scratch into the tape drive.

19. At the SCM prompt enter:

xdiag 11 12 <cr>

*** Enter password -> DGFEMODE (cr>

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20. At the "Select subtest(s) to enable/disable ->" enter:

 <cr>
21. At the "*** Unit number [U]:" verify

 that U = 4, if it doesn't
 enter the correct unit before entering a <cr>.
22. At the "*** Controller Address [0xAAAAAAAA]:" verify

 that the address "AAAAAAAA" = FFFFF300, if it doesn't
 enter the correct address before entering a <cr>.
23. The system will now run the SCSI tape test. About 30 secs.
24. At the "Select subtest(s) to enable/disable ->" enter:

 <cr>
25. At the "*** Unit number [U]:" prompt, verify

 that U = 0, if it doesn't
 enter the correct unit before entering a <cr>.
26. At the "*** Controller Address [0xAAAAAAAA]:" prompt, verify

 that the address "AAAAAAAA" = FFFFEF00, if it doesn't
 enter the correct address before entering a <cr>.
27. At the "*** Select device type [Z]:" verify:

 that the device Z = 1, if it doesn't
 enter the correct device before entering a <cr>.
28. The system will now run the ESDI disk test. About 30 secs.
29. At the "SCM>" prompt, enter:

 f <cr>
30. At the View or Change System Configuration, enter:

 6 <cr> Change testing parameters

31. At the Select bits to toggle - > prompt, enter:
15 <cr>
32. At the Select bits to toggle - > prompt, enter:
<cr>
33. At the View or Change System Configuration, enter:
<cr>
34. At the SCM> prompt, enter:
xdiag 1 <cr> to execute the extended powerup diags
(runtime is approx. = 4.5 minutes)
35. Verify that the tests run correctly.
36. On dual processor system change to processor 1 by entering:
a 1 <cr>
xdiag 1
a 0 <cr>

6.2 RBOS Testing

1. At the SCM prompt enter:

b usr:stand/diags

2. Enter <cr> after the disclosure banner.

3. Verify that controllers found match the Sales Order ****

4. At the Press New Line to proceed, enter:

<cr>

5. At the Run instruction caches prompt enter:

<cr>

6. At the Run data caches prompt enter:

<cr>

7. At the correct time prompt....., enter:

CTRL P

8. At the Enter password:, enter:

DGREMOTEFEE <cr> *** No errors allowed ***

9. At the correct time prompt....., enter:

<cr> if time is correct
enter n <cr> and correct the time if it
is incorrect

10. The system will size for peripherals. Verify that all peripherals are sized, then enter:

<cr>

19. After 2 hours block the tape tests.

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11. At the "MAIN MENU" enter:

2 <cr> System exerciser *** If selection 2 is not
*** System exerciser you entered
*** the Password incorrectly.
*** Reset the system and repeat
*** the previous steps. s

12. At the "System Exerciser Menu" enter:

4 <cr> Test Specific Environment Setup

13. Enter <cr> for all test except---> ESDI disk units 1 and 2

Enter "P" for the ESDI disk units 1 and 2.

14. At the "Press New Line to return to the previous menu" enter:

<cr>

15. At the "System Exerciser Menu" enter:

1 <cr>

16. At the "Press New Line to proceed" enter:

<cr>

17. Enter <cr> for all prompts except:

"Destructive testing (NO, YES) [NO]:" enter: y<cr>

"Are you sure you want to do this (NO,YES) [NO]:" enter: y<cr>

18. On systems that are configured with a LAN board check the LAN address using the following steps:

1. Enter "1" Detailed Status Report
2. At the "Enter Test ID of the Test to Report on" enter the LAN test ID.
3. Verify that the LAN address is 00-00-77-00-xx-xx for all Lan boards present in the system.
4. Boards that do not have this LAN Address MUST BE REJECTED!! (UDD tag should state "LAN ADDRESS NOT SET" along with the LAN address that was printed.)

20. After 100 hours stop testing by entering CNTRL-D

***** Burn time is 100 hours *****
For all external systems

21. At the "Press New Line to Return to the System Exerciser Menu"
enter

<cr>

22. Enter 8 <cr> to return to main menu

23. Enter 5 <cr> to exit.

24. Remove the scratch tape (\$19 each)

6.3 UNIX Testing

1. At the "SCM>" enter:

b dgux.starter <cr>

2. At the "Device name? enter:

duart() <cr>
cird() <cr>
<cr>

3. Examine the Ficle and determine if the customer ordered
any of the following DGUX software Model Numbers:

PO01AHU1CA, Q001AHU1CA, Q001APU1CA,
Q001AQU1CA, Q001ARU1CA, Q001ASU1CA

If not; enter the following command:

rm /dgux.starter Note: After entering this command DGUX
will no longer boot. RBOS will
still be bootable.

4. At the "#" enter:

sync <cr>
halt -q <cr>

7.0 PASS/FAIL/RETEST REQUIREMENTS

7.1 Allowable errors

1. CPU board

- a. Powerup Selftest - Duart test on processor JP#1.

2. SCSI

- a. SCSI disk test: When a target gets a "media changed or SCSI bus reset error", it is reported as a soft error and a data compare error will follow.
- b. SCSI tape test: When running the Positioning subtest an "I/O timeout" error may be reported when the tape is positioning backwards.
- c. SCSI tape test: An "Invalid error condition" error may be reported when the media is removed and re-inserted. What should be reported is "Media changed or SCSI bus reset." The error will also show up in the level 2 status report as a "data compare error." This is a software problem.

3. ESDI and SCSI Disks

- a. Soft errors: No more than 10 errors in 10^{11} bits read. This is roughly equivalent to:

1 soft error in 12,500,000 KBYTES READ PER DISK
- b. Hard errors: No more than 10 errors in 10^{13} bits read. This is roughly equivalent to:

1 HARD error in 1,250,000,000 KBYTES READ PER DISK
- c. Seek errors: No more than 10 errors in 10^7 seeks.

None allowed at present time.

4. HOST ADAPTERS and ASYNC boards

- a. Soft errors: No more than 1/hour/board

+-----+
| REJECT THE DRIVE |
+-----+

+-----+
| CONTINUE NORMAL TESTING |
+-----+

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7.2 RETEST REQUIREMENTS

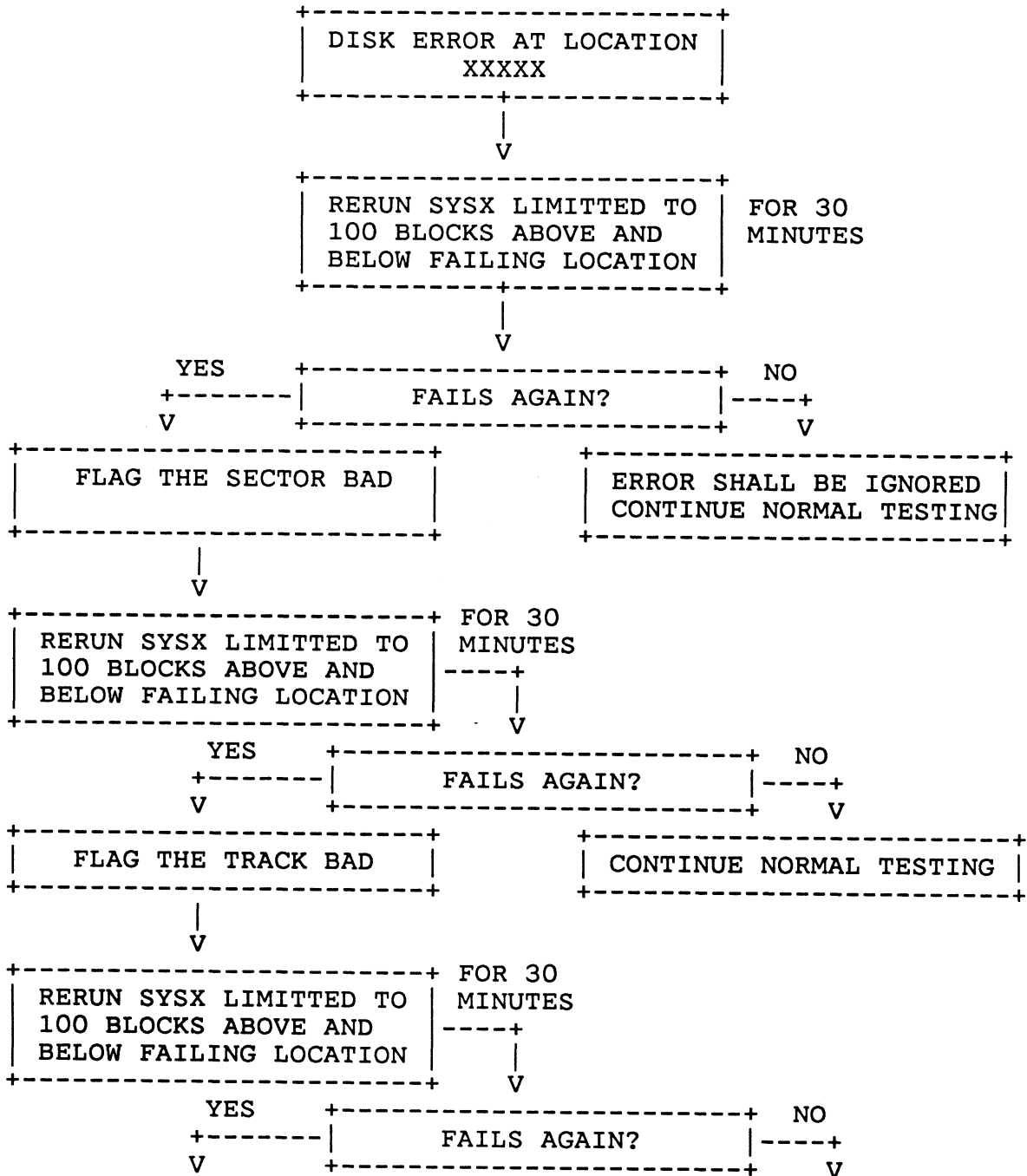
The following is the minimum retest requirements for TOPGUN systems

TEST TO BE REPREFORMED					
	H I P O T	X D I A G	B U R N I N	3 0 M I N S Y S X	2 H R S S Y S X
UNIT REPLACED					
POWER SUPPLY	X		X		
CPU/MEMORY BOARD		X	X		
ASYNC/SYNC/LAN		X	X		
PERIPHERIAL CONTROLLERS		X	X		
TAPE DRIVE		X			X
FAN MODULE	X			X	
CABLE HARNESS AC/DC POWER	X			X	
CABLE HARNESS SIGNAL					X
*LOGIC ECO		X			X
**RECONFIGURATION		X			X

- * ECO TO ANY LOGIC BOARD WHERE THE BOARD IS REMOVED, REWORKED, AND REINSTALLED INTO THE SAME SYSTEM FROM WHICH IT WAS REMOVED.
- ** ALL SYSTEMS THAT ARE RECONFIGURAED USING PREVIOUSLY BURNED IN PARTS. IE USING A BURNED IN CPU FROM ONE SYSTEM IN ANOTHER SYSTEM MUST COMPLETE THE RETEST SPECIFIED.

7.3 DISK VERIFICATION

The following flow chart shall be used to verify any and all hard and soft disk errors that violate the error spec.



Rejection Trace

Continue normal

Testing

Failing FRU:

- 00 - Not Applicable
- 01 - System Board
- 02 - Memory Module 0
- 03 - Memory Module 1
- 04 - Memory Module 2
- 05 - Memory Module 3
- 06 - Memory Module 4
- 07 - Memory Module 5
- 08 - Memory Module 6
- 09 - Controller
- 0A - SCSI Fuse
- 0B - Media
- 0C - Cable
- 0D - Drive (Tape or Disk)
- 0E - Transceiver
- 0F - Target Node
- 10 - Power Supply
- 11 - Printer
- 12 - Battery

Failing Test:

- 00 - Not Applicable
- 01 - Memory Random Test
- 02 - Memory Retention Test
- 03 - CPU Test
- 04 - Multiple CPU Test
- 05 - Parallel Printer Test
- 06 - Duart Channel A Test
- 07 - Duart Channel B Test
- 08 - Clock
- 09 - Lan Internal Loopback Test
- 0A - Disk Test
- 0B - Tape Test
- 0C - Sync Test
- 0D - Async Test

Failing Controller:

00 - Not Applicable
01 - ESDI Controller @ffffef00
02 - ESDI Controller @fffff100
03 - SMD Controller @ffffef00
04 - SMD Controller @fffff100
05 - SCSI Controller @fffff300
06 - SCSI Controller @fffff500
07 - LAN Controller @ffff4000
08 - LAN Controller @ffff5000
09 - Host Adaptor Controller @60000000
0A - Host Adaptor Controller @60020000
0B - Host Adaptor Controller @60040000
0C - Host Adaptor Controller @60060000
0D - 16-line MUX Controller @60000000
0E - 16-line MUX Controller @60020000
0F - 16-line MUX Controller @60040000
10 - 16-line MUX Controller @60060000
11 - Sync Controller @55b00000
12 - Sync Controller @55b10000
13 - SCSI Controller
14 - LAN Controller
15 - Duart Controller
16 - CPU 0 (Primary CPU)
17 - CPU 1
18 - CPU 2
19 - CPU 3

Failing Target:

For SCSI, ESDI, and SMD Controllers:

eeee = Unit Number

NOTE: A unit number of 7 means controller took failure.

For 16-Line MUX:

eeee = Port Number

NOTE: A port number of FFFF indicates controller took failure.

For Host Adaptor:

eeee is redefined as xxyy where

xx = Cluster Number

yy = Port Number on that Cluster

NOTE: A cluster/port number of FFFF indicates
controller took failure.

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For Duart Controller:

eeee = Channel Number

For all other controllers this field is not applicable and
eeee will be set to 0000.

Errorcode:

0000 - Invalid Error Condition
0001 - Invalid command
0002 - Bad unit number specification
0003 - Bad unit type for this command
0004 - Drive not configured
0005 - Bad logical block number specified
0006 - Bad number of blocks specified
0007 - Bad track starting block
0008 - Bad number of block for track-wide operation
0009 - Reserved field not zero
000a - Bad number of scatter/gather headers specified
000b - Bad length of scatter/gather table
000c - Command list stopped
000d - Bad command list size field
000e - Bad command list number to start/stop
000f - List state wrong for start/stop command
0010 - VME (software) bus memory timeout
0011 - VME (software)Bus Error (reported by control chip)
0012 - Drive won't select or not present(SCSI sel)
0013 - SCSI disconnect timeout
0014 - Drive reported parity error
0015 - Unexpected disconnect
0016 - Undefined or uninterpretable SCSI error
0017 - Check condition bit set
0018 - Bad gap size found during format
0019 - Command complete timeout
001a - Floppy disk unit not ready
001b - Seek fault on floppy drive
001c - CRC error in ID
001d - Write fault on drive
001e - Data CRC error
001f - Sector not found
0020 - Floppy disk data lost
0021 - Data underrun during operation
0022 - No sense
0023 - Recovered error
0024 - Medium error
0025 - Hardware error

- 0026 - Illegal request
- 0027 - Unit attention
- 0028 - Data protect, or incorrect media type
- 0029 - Blank check

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002a - Vender unique
002b - Copy aborted
002c - Aborted command
002d - Equal
002e - Volume overflow
002f - Data compare error
0031 - Drive not ready
0032 - Mass storage device busy
0033 - Drive reported seek fault
0034 - Write fault detected
0035 - Sector too short / overrun error
0036 - Data ECC error, no correction done
0037 - ID sync error, sector not found
0038 - ID CRC error
0039 - No data synchronization
003a - Seek timeout
003b - Data operation timeout
003c - Misseek / direct access to alt.
003d - Error reading sector ID
003e - Direct access to bad track or sector
003f - ECC correction performed
0040 - ECC correction failed
0041 - Sectors per track do not match disk
0042 - Sectors per track bad or greater than physical size
0043 - Field too long (preamble gap)
0044 - Bad parameter in configure command
0045 - Attempt to initialize control group 0
0046 - Bad source in defect mapping command
0047 - Bad destination in defect mapping command
0048 - No spares left on track
0049 - Bad recovery field in defect mapping command
004a - Reservation conflict
004b - End of media encountered
004c - Filemark encountered
004d - Illegal length indicator
004e - Cache memory diagnostic error
004f - Static RAM error
0050 - PROM Checksum error
0051 - Undefined diagnostic specified
0052 - Too many media defects found
0053 - Media defects found
0054 - I/O timeout
0055 - Intentional SCSI bus reset
0056 - Hard bus error during disconnect
0057 - Unexpected SCSI bus reset
0058 - Unexpected SCSI bus free
0059 - Memory parity error
005A - SCSI phase mismatch

- 005B - Media change (or device reset)
- 005C - Command not completed
- 005d - Request sense failure
- 005e - Memory transfer alignment error

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005f - Bad Surface specified for Read Defect Map
0060 - ESDI bit send timeout without attention
0061 - ESDI attention won't clear
0062 - ESDI drive-controller interface fault
0063 - ESDI drive reported invalid command
0064 - ESDI write gate with track offset (firmware error)
0065 - Drive reported power on reset
0066 - Drive reported spindle moter stopped
0067 - Drive write protected
0068 - Bytes per sector bad or greater than physical
0069 - Not ESDI drive, cannot use
006a - Drive cannot set requested physical sectors per track
006b - Floppy disk option not installed
006c - Scatter/gather descriptor block read error
006d - Bad byte seen by SCSI controller chip
006e - Error in synchronous transfer negotiation
006f - Bus hang during programmed I/O
0070 - Device not open
0071 - Framing Error
0072 - Silo Overflow
0073 - CRC Error
0074 - Buffer Error - No Receive Buffer While Chaining
0075 - Missed Packet - No Receive Buffer
0076 - Memory Error
0077 - Babble Error - Transmit Packet too Large
0078 - Collision Error
0079 - Transmit Failure - Excessive Collisions
007A - Silo Underflow
007B - Transmit Failure - Loss of Carrier
007C - Transmit Buffer Error
007D - Late Collision
007E - Lan Reset
007F - Out of paper
0080 - Offline
0081 - Busy
0082 - Character not requested
0083 - Printer not attached
0084 - IOCB error...IOCB structure invalid
0085 - Non-IOCB nonfatal error
0086 - Nonfatal application error
0087 - FATAL system error
0088 - IOCB error...Requested operation invalid
0089 - HPS not jumpered to execute (or failure to request)
 host portion of self-test
008A - HPS host self-test start/error/completion code timeout
008B - HPS host portion of self-test detected error
008C - Cannot get HPS system address table
008D - Cannot get HPS initial on-board config table

008E - Cannot get HPS initial on-board TRACER table
008F - Attempt to overwrite existing HPS config table
0090 - Write error when attempting to download O/S
0091 - HPS VRTX table write failed

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0092 - HPS TRACER table write failed
0093 - Checksum error during HPS O/S load
0094 - Port open failed due to selftest failure
0095 - Undefined error code
0096 - ROM checksum error
0097 - Stack data test error
0098 - Stack address test error
0099 - Stack checkerboard test error
009A - Zero stack test error
009B - Stack addressing conflict error
009C - Watchdog timeout test error
009D - Real-time clock interrupt error (no RTC present)
009E - Real-time clock interrupt error (bad clock pulse width)
009F - Undefined error code
00A0 - DRAM address test error
00A1 - DRAM checkerboard test error
00A2 - Zero DRAM test error
00A3 - Serial port 00 failed DUART test
00A4 - Serial port 01 failed DUART test
00A5 - Serial port 02 failed DUART test
00A6 - Serial port 03 failed DUART test
00A7 - Serial port 04 failed DUART test
00A8 - Serial port 05 failed DUART test
00A9 - Serial port 06 failed DUART test
00AA - Serial port 07 failed DUART test
00AB - Serial port 08 failed DUART test
00AC - Serial port 09 failed DUART test
00AD - Serial port 10 failed DUART test
00AE - Serial port 11 failed DUART test
00AF - Serial port 12 failed DUART test
00B0 - Serial port 13 failed DUART test
00B1 - Serial port 14 failed DUART test
00B2 - Serial port 15 failed DUART test
00B3 - OctART/Network interrupt error
00B4 - Watchdog timeout error
00B5 - Watchdog timeout occurred too early
00B6 - ALL ports failed OctART test
00B7 - DPRAM address test error
00B8 - DPRAM checkerboard test error
00B9 - DPRAM zero test error
00BA - Host to HPS I/F test: data wrap test error
00BB - Host to HPS I/F test: flag byte interrupt test error
00BC - Host to HPS I/F test: host interrupt bit will not reset
00BD - Host to HPS I/F test: data returned <> data sent
00BE - Host to HPS I/F test: host not ready for more data error
00BF - RAM parity error..Bank 0
00C0 - RAM parity error..Bank 1
00C1 - RAM parity error..Bank 0 & 1

00C2 - RAM parity error..Bank 2
00C3 - RAM parity error..Bank 0 & 2
00C4 - RAM parity error..Bank 1 & 2
00C5 - RAM parity error..Bank 0, 1, & 2

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00C6 - RAM parity error..Bank 3
00C7 - RAM parity error..Bank 0 & 3
00C8 - RAM parity error..Bank 1 & 3
00C9 - RAM parity error..Bank 0, 1, & 3
00CA - RAM parity error..Bank 2 & 3
00CB - RAM parity error..Bank 0, 2, & 3
00CC - RAM parity error..Bank 1, 2, & 3
00CD - RAM parity error..Bank 0, 1, 2, & 3
00CE - Centronics option data loop error
00CF - HPS local bus exception error
00D0 - HPS local address exception error
00D1 - HPS illegal instruction exception error
00D2 - HPS interrupt exception error
00D3 - HPS trap exception error
00D4 - HPS unknown/other exception error
00D5 - One or more serial ports failed DUART test
00D6 - Break detected
00D7 - Parity error
00D8 - Framing error
00D9 - Data Overrun
00DA - HPS Network RAM data test error
00DB - HPS Network RAM location addressability test error
00DC - HPS Network RAM checkerboard test error
00DD - HPS Network RAM zero test error
00DE - HPS COM 9026 test: status register incorrect value
00DF - HPS COM 9026 test: network ID invalid (cannot = 0)
00E0 - HPS COM 9026 test: network interrupt test error
00E1 - COM 9026 interrupt occurred when interrupts disabled
00E2 - COM 9026 'POR bit' is not set during interrupt
00E3 - HPS Dynamic RAM parity error
00E4 - Cannot set HPS address modifier level
00E5 - DCP Dynamic RAM address lines test fails
00E6 - DCP Dynamic RAM data and data line test fails
00E7 - DCP Unspecified Error Code
00E8 - DCP Unspecified Error Code
00E9 - DCP Dual Port RAM address lines test fails
00EA - DCP Dual Port RAM data and data lines test fails
00EB - DCP DMA controller test fails (DMA1)
00EC - DCP DMA controller test fails (DMA2)
00ED - DCP Prom Checksum Failure
00EE - DCP 8255 data and data bus test fails
00EF - DCP Serial I/O failed to interrupt CPU
00F0 - DCP Serial I/O failed DMA Test
00F1 - DCP Unspecified Error Code
00F2 - DCP 8255 BUSERR input is set
00F3 - DCP 8255 NMIINT input is set
00F4 - DCP Selftest Timeout
00F5 - HPS port status error

00F6 - Size discrepancy error
00F7 - Clock failure
00F8 - Branch test failed
00F9 - BCND instruction with r0 failed

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00FA - CMP instruction with r0 = 0 failed
00FB - ADDU or SUBU instruction failed
00FC - BCDN equal to 0 with r1 failed
00FD - Error detected in the Branch test
00FE - Instruction combination OR/CMP/BBO failed
00FF - Error detected in the BSR test
0100 - Branch on bit set (bb1) failed
0101 - Branch on bit clear (bb0) failed
0102 - Error detected in the JMP test
0103 - Error detected in the OR test
0104 - Error detected in the AND test
0105 - Error detected in the ROT test
0106 - Error detected in the ADDU test
0107 - Error detected in the ADD test
0108 - Error detected in the SUBU test
0109 - Error detected in the SUB test
010A - Error detected in the MASK test
010B - Error detected in the XOR test
010C - Error detected in the CMP test
010D - Error detected in the FF1 test
010E - Error detected in the FFO test
010F - Error detected in the DIVU test
0110 - Error detected in the DIV test
0111 - Error detected in the MUL test
0112 - Error detected in the CLR test
0113 - Error detected in the EXTU test
0114 - Error detected in the EXT test
0115 - Error detected in the SET test
0116 - Error detected in the MAK test
0117 - Error detected in the LD test
0118 - Error detected in the ST test
0119 - Error detected in the LDA test
011A - Error detected in the XMEM test
011B - Error detected in the FLT test
011C - Error detected in the INT test
011D - Error detected in the NINT test
011E - Error detected in the TRUN test
011F - Error detected in the FCMP test
0120 - Error detected in the FADD test
0121 - Error detected in the FSUB test
0122 - Error detected in the FMUL test
0123 - Error detected in the FDIV test
0124 - Error detected in the FLDCR test
0125 - Error detected in the FSTCR test
0126 - Error detected in the FXCR test
0127 - Error detected in the LDCR test
0128 - Error detected in the STCR test
0129 - Error detected in the XCR test

012A - Error detected in the RTE test
012B - Error detected in the TB1 test
012C - Error detected in the TBO test
012D - Error detected in the TBND test

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012E - Error detected in the TCND test
0137 - Error detected in XMEMIM test
0138 - Error detected in XMEMRG test
0139 - Error detected in XMEMBU test
013A - Error detected in EXCEPTION PROCESSING test
0147 - Remote processor Branch test failed
0148 - Remote processor BCND instruction with r0 failed
0149 - Remote processor CMP instruction with r0 =0 failed
014A - Remote processor ADDU or SUBU instruction failed
014B - Remote processor BCDN equal to 0 with r1 failed
014C - Remote processor error running the Branch test
014D - Remote processor combination OR/CMP/BBO failed
014E - Remote processor error running the BSR test
014F - Remote processor Branch on bit set (bb1) failed
0150 - Remote processor Branch on bit clear (bb0) failed
0151 - Remote processor error running the JMP test
0152 - Remote processor error running the OR test
0153 - Remote processor error running the AND test
0154 - Remote processor error running the ROT test
0155 - Remote processor error running the ADDU test
0156 - Remote processor error running the ADD test
0157 - Remote processor error running the SUBU test
0158 - Remote processor error running the SUB test
0159 - Remote processor error running the MASK test
015A - Remote processor error running the XOR test
015B - Remote processor error running the CMP test
015C - Remote processor error running the FF1 test
015D - Remote processor error running the FF0 test
015E - Remote processor error running the DIVU test
015F - Remote processor error running the DIV test
0160 - Remote processor error running the MUL test
0161 - Remote processor error running the CLR test
0162 - Remote processor error running the EXTU test
0163 - Remote processor error running the EXT test
0164 - Remote processor error running the SET test
0165 - Remote processor error running the MAK test
0166 - Remote processor error running the LD test
0167 - Remote processor error running the ST test
0168 - Remote processor error running the LDA test
0169 - Remote processor error running the XMEM test
016A - Remote processor error running the FLT test
016B - Remote processor error running the INT test
016C - Remote processor error running the NINT test
016D - Remote processor error running the TRUN test
016E - Remote processor error running the FCMP test
016F - Remote processor error running the FADD test
0170 - Remote processor error running the FSUB test
0171 - Remote processor error running the FMUL test

- 0172 - Remote processor error running the FDIV test
- 0173 - Remote processor error running the FLDCR test
- 0174 - Remote processor error running the FSTCR test
- 0175 - Remote processor error running the FXCR test

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0176 - Remote processor error running the LDCR test
0177 - Remote processor error running the STCR test
0178 - Remote processor error running the XCR test
0179 - Remote processor error running the RTE test
017A - Remote processor error running the TB1 test
017B - Remote processor error running the TB0 test
017C - Remote processor error running the TBND test
017D - Remote processor error running the TCND test
0187 - No Index/Sector signal (Hardware)
0188 - No Seek Complete (Hardware)
0189 - Write Fault (Hardware)
018a - Drive Not Ready
018b - Drive Not Selected (Not Ready)
018c - No Track Zero Found ((Hardware)
018d - Multiple Drives Selected (Hardware)
018e - Logical Unit Communication Failure (Hardware)
018f - Track Following Error
0196 - ID CRC or ECC error (Hardware/Medium)
0197 - Unrecovered Read error of data blocks (Medium)
0198 - No Address Mark found in ID field (Medium)
0199 - No Address Mark found in Data field (Medium)
019a - No record found (Medium)
019b - Seek Positioning Error (Hardware/Medium)
019c - Data Synchronization Mark error (Medium)
019d - Recovered Read data with retries (Recovered)
019e - Recovered Read data with ECC (Recovered)
019f - Defect List Error (Medium/Recovered)
01a0 - Parameter Overrun (Hardware)
01a1 - Synchronous Transfer Error (Medium/Illegal Req.)
01a2 - Primary Defect List Not Found (Medium/Illegal Req.)
01a3 - Compare Error (Miscompare)
01a6 - Invalid Command Operation Code
01a7 - Illegal Logical Block Address.
01a8 - Illegal function for device type
01aa - Illegal field in CDB
01ab - Invalid LUN
01ac - Invalid field in Parameter List
01ad - Write Protected (Hardware)
01ae - Medium Changed (Unit Attention)
01af - Power On or Reset Occured (Unit Attention)
01b0 - Mode Select Paramters Changed
01b7 - Incompatible Cartridge (Medium)
01b8 - Medium Format corrupted (Medium)
01b9 - No Defect Spare Location Available
01c7 - RAM failure (Hardware)
01c8 - Data Path diagnostic failure (Hardware)
01c9 - Power On Diagnostic Failure (Hardware)
01ca - Message Reject Error (Hardware/Aborted)

- 01cb - Target Internal Controller Error (Hardware/Aborted)
- 01cc - Select/Reselect failed (Hardware/Aborted)
- 01cd - Unsuccessful Soft Reset (Hardware/Aborted)
- 01ce - SCSI Interface Parity Error (Hardware/Aborted)

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01cf - Initiator Dected Error (Hardware/Aborted)
01d0 - Inappropriate/Illegal Message (Hardware/Aborted)
01d7 - Memory Corruption Error