Field Engineer Handbook

Technical Volume I

Sun Microsystems, Inc.

Worldwide Customer
Support Division
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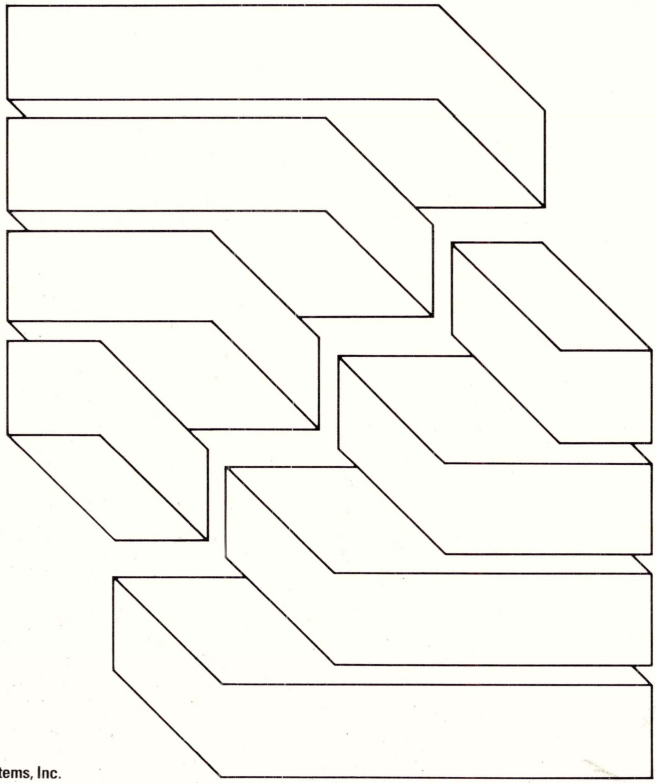
Mountain View, CA 94043



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Written and published by Mike Persichetty and Gerri Roe.

Printed in USA

Preface

The *Field Engineer (FE) Handbook – Technical Volumes I and II,* describes and illustrates specific Sun Microsystems, Inc. products. While Sun publishes extensive hardware documents, this handbook is a portable reference manual for Field Engineers, support personnel, and customers. Sun Field Engineers and customers equipped with the FE Handbook may perform service calls accurately and efficiently, thus reflecting Sun's commitment to quality customer service.

This handbook complements other Sun technical publications and education courses. We assume that Sun Field Engineers, support personnel, and customers who service and repair Sun products have access to these resources.

Handbook Organization

The technical information contained in the Field Engineer Handbook is organized into two volumes.

Volume I contains the following sections.

- Configurations. Contains illustrations identifying jumper and switch locations, and configuration tables for field replaceable boards.
- Power Supplies. Contains illustrations of power supplies and power distribution units with power supply specifications.

Volume II contains the following sections.

- Parts Breakdown. This section contains part numbers and descriptions for Sun systems, racks, options, boards, monitors, keyboard/mouse, and provides miscellaneous hardware information.
- Troubleshooting. This section contains error code charts for CPUs, disks, tapes, and communications.
- Diagnostics. Describes diagnostics tools.

Revision History

DATE	DESCRIPTION		PART NO.
6/87	First Edition		800–1819–01
11/87	Second Edition	Entire contents	800–1819–01
4/88	Third Edition	Entire contents	800–4006–01
9/88	Fourth Edition	Entire contents	800–4006–02
5/89	Fifth Edition	Entire contents	800–4006–03
10/89	Supplement	Change pages New Products	800–4704–01
5/90	Supplement	Change pages New Products	800–5140–01
12/90	Sixth Edition	Entire contents	
		Vol–I	800–4006–04
		Vol–II	800–4247–02
8/15/91	Seventh Edition	Entire contents	
		Vol–I	800–4006–05
		Vol–II	800–4247–03

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FIELD ENGINEER HANDBOOK
TECHNICAL VOLUME I

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Layout and Style

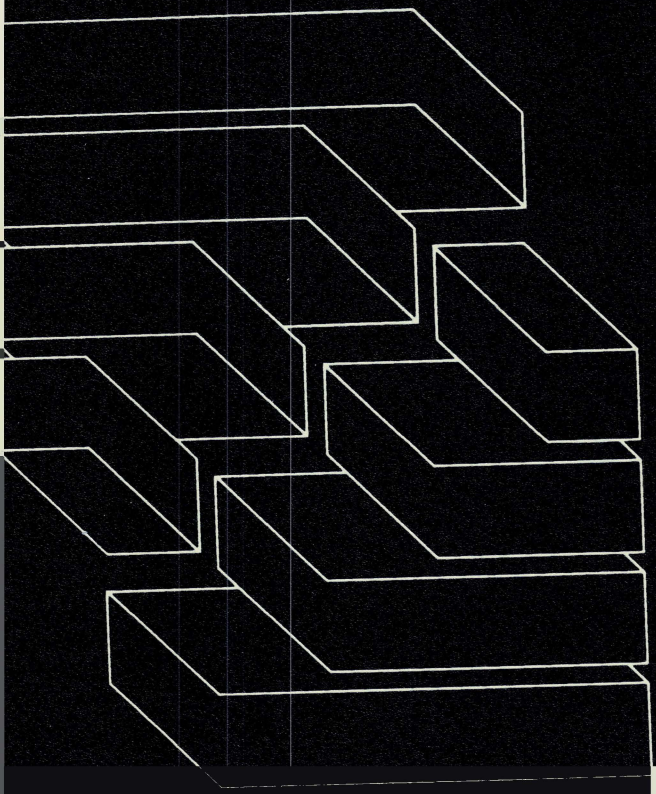
Technical Errors

Typographical Errors

Name

Address

CONFIGURATIONS



Configurations

Handling Static Sensitive Devices

Electronic components on printed circuit boards can be damaged by static electricity. Always wear a grounding strap and use an antistatic mat when handling boards or components.

Overview

This section illustrates boards and peripherals. EEPROM and NVRAM programming, switch settings, and configuration notes are included. Titles include the part name, part number, and systems the part is supported in. The Option number is listed for boards and peripherals that are not installed in the system logic enclosure.

The Backplane section contains connector signals and backplane illustrations.

The Slot Assignment section contains board installation notes and cardcage slot assignment charts.

Reference Documentation

Standard Configurations and Standard Options supported by Sun Microsystems are documented in Configuration Guides, Technical Reports, Product Brochures, Price Lists, and Hardware Installation Manuals.

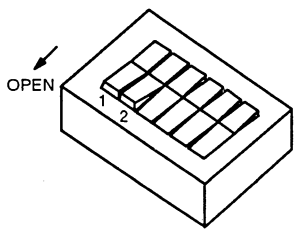
ID PROMs and NVRAM

Transfer the ID PROM or NVRAM when a CPU board is replaced. This component contains the hostid, ethernet address, and machine type.

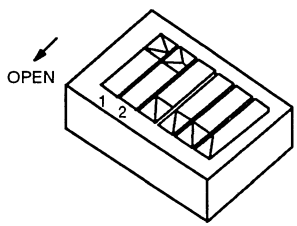
DIP Switches

Rocker and Slide type DIP Switches are used in Sun products. Turn on a Rocker-type switch by pressing down the end of the switch furthest from the OPEN lettering on the switch. Turn on a Slide-type switch by sliding the switch in the direction of the arrow on the switch. Switches 1 and 2 are shown in the ON position in the illustrations below.

Rocker-type

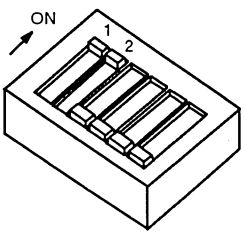


SWITCH TYPE A

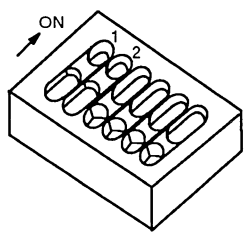


SWITCH TYPE B

Slide-type



SWITCH TYPE C



SWITCH TYPE D

CPU

CPU

CPU

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EEPROM and NVRAM Programming Using the Sun PROM Monitor

To program the EEPROM or NVRAM using the PROM monitor, enter **q** followed by the hexadecimal address in the EEPROM or NVRAM to open and display the contents. Change the contents by typing in the new value followed by a carriage return. To exit, type a space and <CR>, or a "." and <CR>.

Common EEPROM or NVRAM Parameters

Location 0x14 [Installed Memory]

Amount of installed Memory in hexadecimal

Location 0x15 [Tested Memory]

Amount of memory to test during Power On Self–Test

Location 0x16 [Monitor Screen Size]

00 = 1152x900 (standard resolution)
12 = 1024x1024 (1Kx1K)
13 = 1600x1280 (high resolution) (see 0x50 & 0x51)
14 = 1440x1440
15 = 1024x768 (low resolution)

Location 0x17 [Watchdog Reset Action]

00 = Watchdog Reset returns to the PROM monitor
12 = Watchdog Reset causes a Power On Reset (default)

Location 0x18 [Operating System Boot Device]

00 = polls devices (default)
12 = uses EEPROM/NVRAM specified boot device

Common EEPROM or NVRAM Parameters

Location 0x19 – 0x1a [SunOS Boot Device in ASCII]

xy	78	79	id	69	64
xd	78	64	gn	67	6e
sd	73	64	le	6c	65
ie	69	65			

Location 0x1b, 0x1c, and 0x1d [Controller, Unit, Partition]

00 00 00 (default)

Location 0x1f [Primary Terminal]

00 = Monochrome Frame Buffer
10 = Serial Port A
11 = Serial Port B
12 = VMEbus and Sun–3/60 P4 Color Frame Buffers
Configure locations 0x60c – 0x613 when VX and MVX Graphics Options are installed.
20 = P4 Color Frame Buffer

Location 0x20 [Power–Up Banner]

00 = Sun Banner
12 = Custom Banner

Location 0x21 [Keyboard Click]

00 = turns keyboard click OFF
12 = turns keyboard click ON (default)

Location 0x22 – 0x23 [Diagnostic Boot Device in ASCII]

xy	78	79	id	69	64
xd	78	64	gn	67	6e
sd	73	64	le	6c	65
ie	69	65			

Location 0x24, 0x25, and 0x26 [Controller, Unit, Partition]

00 00 00 (default)

Location 0x28 – 0x4f [Diagnostic Boot Path]

These 40 bytes represent the ASCII values for the desired diagnostic boot path.

Common EEPROM or NVRAM Parameters

Location 0x50 [Hi Res # Columns]

50 = 80 columns (standard display)
78 = 120 columns (full screen display)

Location 0x51 [Hi Res # Rows]

22 = 34 rows (standard display)
30 = 48 rows (full screen display)

Location 0x58 [Serial Port A Default Baud Rate]

00 = uses 9600 baud
12 = uses EEPROM/NVRAM defined baud rate

Location 0x59 – 0x5a [Serial Port A Baud Rate]

1200 baud 04 b0
4800 baud 12 c0
9600 baud 25 80

Location 0x5b [Serial Port A DTR/RTS]

00 = asserts DTR and RTS signals
12 = does not assert DTR and RTS signals

Location 0x60 [Serial Port B Default Baud Rate]

00 = uses 9600 baud
12 = uses EEPROM/NVRAM defined baud rate

In the diag position, port B is set to output at 1200 baud. The setting of location 0x60 – 0x62 is ignored.

Location 0x61 – 0x62 [Serial Port B Baud Rate]

1200 baud 04 b0
4800 baud 12 c0
9600 baud 25 80

Location 0x63 [Serial Port B DTR/RTS]

00 = asserts DTR and RTS signals
02 = does not assert DTR and RTS signals

Location 0x111 [Sun386i CPU Revision Level]

0x01 = P1.5 CPU (Should not be in the field)
0x02 = 501–1241–xx and 501–1324–xx CPU Boards
0x03 = 501–1413–xx and 501–1414–xx CPU Boards

Common EEPROM or NVRAM Parameters

Location 0x112 [Sun386i CPU Revision Level]

0x00 = P1.5 CPU (Should not be in the field)
0x00 = ≤501-1241-02, Rev.15
= ≤501-1324-02, Rev.15
0x02 = ≥501-1241-02, Rev.16
= ≥501-1324-02, Rev.16
0x00 = 501-1413-xx and 501-1414-xx

Location 0x154 [Sun386i SCSI Spin Up Delay]
Boot PROM ≥4.5

00 = no delay (default)
xx = delay in seconds

Location 0x162 [Sun386i Password Mode Select]
Boot PROM ≥4.5

5E = fully secure mode
01 = command secure mode
All else = non-secure mode

Location 0x163 - 0x16a [Sun386i Password]
Boot PROM ≥4.5

8 bytes of password in ASCII

Location 0x18f [LogoType]

00 = Sun
06 = 3D for CG6
12 = Custom

Location 0x492 [Sun386i Power-On Mode]

07 = normal boot
06 = diagnostic boot
02 = bypass mode

Location 0x494 [Sun386i Auto Config Message Flag]

00 = no messages
01 = Sun-3 (UNIX expert type messages)
02 = verbose messages

Common EEPROM or NVRAM Parameters

Location 0x492 [Password Mode Select]
Sun-3 & Sun-4 Boot PROM ≥2.7.1

5E = fully secure mode
01 = command secure mode
All else = non-secure mode

Location 0x493-0x49a [Password Bytes]
Sun-3 & Sun-4 Boot PROM ≥2.7.1

8 bytes of password in ASCII

If the PROM Rev level is 2.8, enter a @ character before each letter of the password. Enter one letter per location, followed by <Return>. If the password is less than 8 letters, enter 00 in the remaining locations. The hexidecimal value of the letters can also be used to enter the password.

Location 0x60c - 0x60f [VX and MVX Options Boot Code]

31 40 00 00 = Use the VX/MVX as the system console

Location 0x610 - 0x613 [VX and MVX Options Bus Type]

FC 00 00 00 = Use the VX/MVX as the system console

Location 0x70b [Sun-3/80 Power-On Mode]
Boot PROM ≥2.3

06 = normal boot
12 = diagnostic mode
All else = full diagnostic boot

References

1. *Sun Bootstrap PROM Security Features User's Guide for the Sun Workstation*, 800-8836.
2. *Sun Workstation Bootstrap PROM Security Features User's Guide*, 800-8843.
3. *Sun-3/80 Self-Tests and Monitor Commands*, 800-5027.
4. *SPARCsystem 300 Series Self-Tests and Monitor Commands*, 800-4950.
5. *SPARCsystem 400 Series Self-Tests and Monitor Commands*, 800-4833.
6. *PROM User's Manual*, 800-1736.
7. *EEPROM Users Guide for Sun-3, Sun-4, and SPARCsystems 300/400*, 800-3512.
8. *Boot PROM User's Guide*, 800-4852.

NVRAM Programming Using the Open PROM Toolkit

The examples in this section are from the Sun-4/25 EPROM Release 2.3 Version 95, part number 520-3085-02. Parameters may vary between system types.

The old command mode options are:

b (boot), **c** (continue), or **n** (new command mode)

To enter the new command mode, type **n** at the system prompt:

> **n**

The system prompt in the new command mode changes from ">" to "ok" and the help banner is displayed.

Type **help** for more information.

ok **help**

```
Enter 'help command-name' or 'help category-name' for more help.
(Use ONLY the first word of a category-name or category description)

Examples:  help select   -or-   help line

  Main categories are:
File download and boot
Resume execution
Diag (diagnostic routines)
Select I/O devices
System and boot configuration parameters
Line editor
Tools:(memory,numbers,new commands,loops)
Assembly debugging:(breakpoints,registers,disassembly,symbolic)
>-prompt
Power on reset
Floppy eject
Sync (synchronize disk data)
ok
```

NVRAM Programming Using the Open PROM Toolkit

The **printenv** command displays NVRAM parameter names, current values, and default values.

ok **printenv**

Parameter Name	Value	Default Value
selftest-#megs	1	
oem-logo	5a 5a 5a 5a ...	
oem-logo?	false	false
oem-banner?	false	false
output-device	screen	screen
input-device	keyboard	keyboard
sbus-probe-list	0123	0123
keyboard-click?	false	false
ttyb-rts-dtr-off	false	false
ttyb-ignore-cd	true	true
ttya-rts-dtr-off	false	false
ttya-ignore-cd	true	true
ttyb-mode	9600,8,n,1,-	9600,8,n,1,-
ttya-mode	9600,8,n,1,-	9600,8,n,1,-
diag-file		
diag-device	net	net
boot-file		
boot-device	disk	disk
auto-boot?	true	true
watchdog-reboot?	false	false
fcode-debug?	false	false
local-mac-address?	false	false
use-nvramrc?	false	false
nvramrc		
screen-#columns	80	80
screen-#rows	34	34
sunmon-compat?	true	true
security-mode	none	none
security-password		
security-#badlogins	0	
scsi-initiator-id	7	7
hardware-revision	xxxx	
last-hardware-update		
testarea	0	0
mfg-switch?	false	false
diag-switch?	false	false

NVRAM Programming Using the Open PROM Toolkit

To show a specific parameter, enter **show** and the parameter name. For example:

ok **show selftest-#megs**
1
ok

To change a parameter, use the **setenv** command. For example, to change the number of megabytes tested at power on:

ok **setenv selftest-#megs 8**

The **set-defaults** command restores the default setting of all parameters.

Other commonly used commands are shown below.

OPTION	DESCRIPTION	
banner	Displays the selftest banner message.	
.version	Displays the version and date of boot PROM.	
.enet-addr	Displays the Ethernet address.	
.idprom	Displays the ID PROM contents.	
input [source]	Selects source for input (ttya, ttyb, or keyboard).	
output [source]	Selects source for output (ttya, ttyb, or keyboard).	
reset	Resets entire system, similar to old k2.	
soft-reset	Soft reset, similar to old k1.	
eject-floppy	Ejects floppy diskette from the drive.	
security-mode	Allows user to select security mode.	
	non-secure mode	enter **none**
	command secure mode	enter **command**
	full secure mode	enter **full**
security-password	Allows user to enter a security password.	
	Enter up to 8 bytes of password in ASCII.	
probe-scsi	Displays addresses and types of SCSI devices.	
version2? *	Open BOOT PROM 2.0 mode	enter **true**
	1.7 version 3 mode	enter **false**

* This parameter is only available in the Sun-4/40 EPROM 525-1191-xx. The OBP 2.0 mode is not compatible with SunOS 4.0.3c.

NVRAM Programming Using the Open PROM Toolkit

The use-nvramrc? Parameter

For normal operation, set the **use-nvramrc?** parameter to false. The **nvramrc** parameter is a section of NVRAM reserved for storage of user-defined commands used during system initialization. The **nvramrc** parameter is normally empty. This feature is documented in the *Open Boot PROM 2.0 Command Reference*, 800-6076-10.

OpenBoot PROM Power On Commands

The following commands are initialized by depressing multiple keys on the keyboard during a power on reset.

L1-D forces a diagnostic power on. The NVRAM parameter **diag-switch?** is set to true.

L1-F forces input and output to ttya. Input from the keyboard is disabled except for L1-A.

L1-N forces a **set-defaults** of the NVRAM.

References
1. *SBus Specification A.1*, 800-4453-10.
2. *SBus Specification B.0*, 800-5922-10.
3. *Open Boot PROM Toolkit User's Guide*, 800-4251.
4. *Introduction to Open Boot 2.0*, 800-5674-10.
5. *Open Boot PROM 2.0 Command Reference*, 800-6076-10.
6. *Open Boot PROM Toolkit Reference Summary*, 800-4687-10.
7. *Open Boot PROM Toolkit Reference Summary*, 800-5280-05.
8. *Open Boot PROM Command Summary*, 800-5675-10.

ID PROM and NVRAM Information

The ID PROM or NVRAM on Sun CPU boards contains identification information including a machine–type code, serial number, and hardware ethernet address.

The machine–type code and serial number are combined to create the hostid number that allows use of restricted software on authorized machines.

ID PROMs and NVRAMs are not interchangeable between different CPU board types. For example, if a machine is upgraded from a Sun–3/260 to a Sun–4/260, the upgraded machine requires a new ID PROM.

The **hostid** command under SunOS displays the serial number in hexadecimal. The printed label on the ID PROM and the power–on Self Test banner serial number are in decimal. Do not rely on the printed label on the ID PROM to verify the ID PROM or NVRAM device for a system. Follow the steps in the example below to verify the ID PROM or NVRAM.

The printed label on the ID PROM in a 3/160C workstation is **3 1774**. The system power–on Self Test serial number is **#1774.**

1. Convert the 1774 decimal number to a hexadecimal value of 006EE.
2. Add this number to the hostid machine–type code for a hostid of 110006ee.
3. Use the **hostid** command under SunOS to display the system hostid of **11006ee.**

IDPROM and NVRAM Information

The chart below contains the system type, HostID, label legend, device type, Sun part number, and socket location for IDPROMS and NVRAMS used on Sun CPU boards.

SYSTEM TYPE	HOSTID	PRINTED LABEL	DEVICE TYPE	SUN PART NUMBER	LOCATION
100U/150U	100xxxx	xxxx	IDPROM	520-1042-01	U411
120/170	100xxxx	xxxx	IDPROM	520-1042-01	U411
2/50/130/160	200xxxx	xxxx	IDPROM	520-1039-01	U510
3/75/140/150	1100xxxx	3 xxxx	IDPROM	520-1221-01	U1409
3/160/180	1100xxxx	3 xxxx	IDPROM	520-1221-01	U1409
3/50	1200xxxx	4 xxxx	IDPROM	520-1295-01	U0204
3/260/280	1300xxxx	5 xxxx	IDPROM	520-1322-01	U1907
3/110	1400xxxx	6 xxxx	IDPROM	520-1412-01	U1409
3/60	1700xxxx	0 xxxx	IDPROM	520-1559-01	U224
3E	1800xxxx	9 xxxx	IDPROM	520-8049-01	U224
3/460/470/480	4100xxxx	D xxxx	IDPROM	525-1083-01	U1701
3/80	4200xxxx		NVRAM	525-1031-01	U0205
4/260/280	2100xxxx	A xxxx	IDPROM	520-1532-01	U1901
4/110/150	2200xxxx	B xxxx	IDPROM	520-1638-01	U805
4/3xx	23xxxxxx	C xxxx	IDPROM	523-2136-01	U2202
4/3xx	None	None	NVRAM	100-1628-01	U2200
4/470/490	24xxxxxx		IDPROM	525-1100-01	U1404
4/470/490	None	None	NVRAM	100-1628-01	U3505
4/60	51xxxxxx	None	NVRAM	525-1032-01	U089
4/40	52xxxxxx	None	NVRAM	525-1084-01	U0901
4/65	53xxxxxx	None	NVRAM	525-1109-01	U089
4/20	54xxxxxx	None	NVRAM	520-2749-01	U1011
4/25	56xxxxxx	None	NVRAM	525-1188-01	U0813
4/50	57xxxxxx	None	NVRAM	525-1180-01	U0512
4/75	55xxxxxx	None	NVRAM	525-1112-01	U0512
4E	61xxxxxx	None	NVRAM	523-8151-01	U1101
Sun386i	31xxxxxx	xxxx	IDPROM	520-1811-01	U601
Sun386i	None	None	NVRAM	100-1628-01	U603

Serial # in hexadecimal (3 bytes)

Machine-type (1 byte)

Disk Controller Base Addresses

Sun-3 & Sun-4

HOST ADAPTER	UNIX DEVICE	VMEBUS ADDRESS
Sun2 SCSI	sc	200000
Sun3 SCSI	si	200000
3/50 SCSI	si	140000
3/60 SCSI	si	140000
3/E SCSI	se	310000
4/110 SCSI	sw	a000000

CONTROLLER	UNIX DEVICE	VMEBUS ADDRESS			
		1st	2nd	3rd	4th
Xylogics 450/451	xy	ee40	ee48	n/a	n/a
Xylogics 7053	xd	ee80	ee90	eea0	eeb0
ISP-80	id	00FF	01FF	02FF	03FF

SMD & ESMD Disk Drive Default Drive Type Parameters

DEFAULT DRIVE TYPE	DISK DRIVE MODEL		
0	M2351		
1	CDC-9720-368	Hitachi-DK815-10	M2312
2	M2322/M2284	NEC 02363	
3	M2333	M2361	

The "drive type" parameter used by the Xylogics 450/451 identifies a drive by the number of cylinders, heads, and sectors. Disk drives which use the same "drive type" parameter, but have a different number of cylinders, heads, or sectors, may not be mixed on the same controller (eg. an M2333 and a M2361). This parameter is not used by the Xylogics 7053.

Booting SCSI Peripherals from the Sun PROM Monitor

Legend

DBP = Desktop Backup Pack (Lunchbox)
DDP = Desktop Disc Pack (Lunchbox)
ESM = External Storage Module (P-Box)
EEM = External Expansion Module (P-Box)

Sun-3/80

SCSI DEVICE	TARGET ID	UNIX ID	BOOT ID
1st Internal Disk	3	sd6	sd(0,18,0)
2nd Internal Disk	1	sd2	sd(0,8,0)
1st Internal Tape	4	st0	st(0,0,0)
1st DDP Disk	0	sd0	sd(0,0,0)
2nd DDP Disk	2	sd4	sd(0,10,0)
3rd DDP Disk	1	sd2	sd(0,8,0)
4th DDP Disk	3	sd6	sd(0,18,0)
1st DBP Tape	4	st0	st(0,0,0)
2nd DBP Tape	5	st1	st(0,28,0)
1st ESM Disk	0	sd0	sd(0,0,0)
2nd ESM Disk	2	sd4	sd(0,10,0)
1st ESM Tape	4	st0	st(0,0,0)
1st EEM Disk	1	sd2	sd(0,8,0)

Sun-4/20/25

SCSI DEVICE	TARGET ID	UNIX ID	BOOT ID
1st DDP Disk	0	sd3	sd(0,3,0)
2nd DDP Disk	2	sd2	sd(0,2,0)
3rd DDP Disk	1	sd1	sd(0,1,0)
4th DDP Disk	3	sd0	sd(0,0,0)
1st DBP Tape	4	st0	st(0,0,0)
2nd DBP Tape	5	st1	st(0,1,0)
1st ESM Disk	0	sd3	sd(0,3,0)
2nd ESM Disk	2	sd2	sd(0,2,0)
1st ESM Tape	4	st0	st(0,0,0)
1st EEM Disk	1	sd1	sd(0,1,0)
CD-ROM	6	sr0	sd(0,6,2)

Booting SCSI Peripherals from the Sun PROM Monitor

Sun-4/40/50

SCSI DEVICE	TARGET ID	UNIX ID	BOOT ID
1st Internal Disk	3	sd0	sd(0,0,0)
1st DDP Disk	0	sd3	sd(0,3,0)
2nd DDP Disk	2	sd2	sd(0,2,0)
3rd DDP Disk	1	sd1	sd(0,1,0)
4th DDP Disk	3	sd0	sd(0,0,0)
1st DBP Tape	4	st0	st(0,0,0)
2nd DBP Tape	5	st1	st(0,1,0)
1st ESM Disk	0	sd3	sd(0,3,0)
2nd ESM Disk	2	sd2	sd(0,2,0)
1st ESM Tape	4	st0	st(0,0,0)
1st EEM Disk	1	sd1	sd(0,1,0)
CD-ROM	6	sr0	sd(0,6,2)

Sun-4/60/65

SCSI DEVICE	TARGET ID	UNIX ID	BOOT ID
1st Internal Disk	3	sd0	sd(0,0,0)
2nd Internal Disk	1	sd1	sd(0,1,0)
1st DDP Disk	0	sd3	sd(0,3,0)
2nd DDP Disk	2	sd2	sd(0,2,0)
3rd DDP Disk	1	sd1	sd(0,1,0)
4th DDP Disk	3	sd0	sd(0,0,0)
1st DBP Tape	4	st0	st(0,0,0)
2nd DBP Tape	5	st1	st(0,1,0)
1st ESM Disk	0	sd3	sd(0,3,0)
2nd ESM Disk	2	sd2	sd(0,2,0)
1st ESM Tape	4	st0	st(0,0,0)
1st EEM Disk	1	sd1	sd(0,1,0)
CD-ROM	6	sro	sd(0,6,2)

Sun-4/330

SCSI DEVICE	TARGET ID	UNIX ID	BOOT ID
1st Internal Disk	3	sd6	sd(0,18,0)
2nd Internal Disk	1	sd2	sd(0,8,0)
1st Internal Tape	4	st0	st(0,0,0)
1st DBP Tape	4	st0	st(0,0,0)
2nd DBP Tape	5	st1	st(0,28,0)
1st ESM Disk	0	sd0	sd(0,0,0)
2nd ESM Disk	2	sd4	sd(0,10,0)
1st ESM Tape	4	st0	st(0,0,0)
1st EEM Disk	1	sd2	sd(0,8,0)
CD-ROM	6	sr0	sd(0,30,1)

Booting SCSI Peripherials from the Sun PROM Monitor

Sun-4/370/470 & Sun-3/470

SCSI DEVICE	TARGET ID	UNIX ID	BOOT ID
1st Internal Disk	0	sd0	sd(0,0,0)
2nd Internal Disk	1	sd2	sd(0,8,0)
3rd Internal Disk	2	sd4	sd(0,10,0)
4th Internal Disk	3	sd6	sd(0,18,0)
1st Internal Tape	4	st0	st(0,0,0)
2nd Internal Tape	5	st1	st(0,28,0)
CD-ROM	6	sr0*	sr(0,30,1)

Sun-4/390/490 on SunOS 4.0.3

SCSI DEVICE	HOST ADAPTER	TARGET ID	UNIX ID	BOOT ID
1st Tape	1st SCSI	4	st0	st(0,0,0)
2nd Tape	1st SCSI	5	st1	st(0,28,0)
CD-ROM	1st SCSI	6	sr0*	sr(0,30,1)
1st Tape	2nd SCSI	4	st2	st(1,0,0)
2nd Tape	2nd SCSI	5	st3	st(1,28,0)

Sun-4/390/490 on SunOS 4.1 PSR A

SCSI DEVICE	HOST ADAPTER	TARGET ID	UNIX ID	BOOT ID
1st Tape	1st SCSI	4	st0	st(0,0,0)
2nd Tape	1st SCSI	5	st1	st(0,28,0)
3rd Tape	1st SCSI	3	st2	st(0,18,0)
4th Tape	1st SCSI	2	st3	st(0,10,0)
CD-ROM	1st SCSI	6	sr0*	sr(0,30,1)
1st Tape	2nd SCSI	4	st2	st(1,0,0)
2nd Tape	2nd SCSI	5	st3	st(1,28,0)
3rd Tape	2nd SCSI	3	st6	st(0,18,0)
4th Tape	2nd SCSI	2	st7	st(1,10,0)

* The Sun 4300 CPU requires EPROM 3.0.2 to boot from CD-ROM.
The Sun 4400 CPU requires EPROM 3.0 to boot from CD-ROM.

Booting SCSI Peripherals from the Open Boot PROM

Sun–4/25/40/50/75

SCSI DEVICE	COMMAND	BOOT PATH	TARGET ID	UNIX ID
Internal Disk	boot disk	/sbus/esp/sd@3,0	3	sd0
Internal Disk	boot disk0	/sbus/esp/sd@3,0	3	sd0
Internal Disk	boot disk1	/sbus/esp/sd@1,0	1	sd1
External Disk	boot disk2	/sbus/esp/sd@2,0	2	sd2
External Disk	boot disk3	/sbus/esp/sd@0,0	0	sd3
1st Tape	boot tape	/sbus/esp/st@4,0	4	st0
1st Tape	boot tape0	/sbus/esp/st@4,0	4	st0
2nd Tape	boot tape1	/sbus/esp/st@5,0	5	st1
CD–ROM	boot cdrom	/sbus/esp/sd@6,0:c	6	sr0
Floppy	boot floppy	/fd	---	fd0

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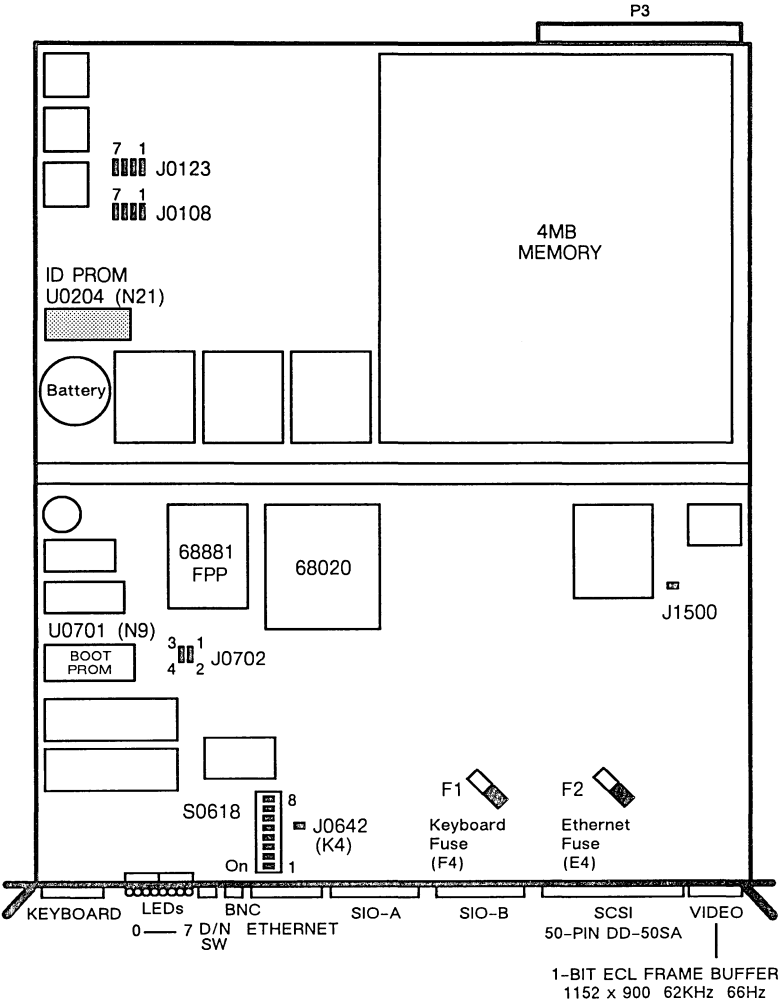
Sun-3/50

501-1075 501-1133 501-1162 501-1207

w/o FPP — w FPP



Power: 13.5 Amps @ +5Vdc
0.8 Amps @ -5Vdc
0.5 Amps @ +12Vdc
100.0 Watts

501-1075 501-1133 501-1162 501-1207
Jumper & Switch Settings

JUMPER	PINS	SETTING	DESCRIPTION
J0108	1-2 3-4 5-6 7-8	In Out Out In	Diag test 4 MB main memory ETH SIA CAL. test SCSI on (on is active high) DCP on (on is active high)
J0123	1-2 3-4 5-6 7-8	In Out Out In	68020 CLK 15MHz 68020 CLK 12.5MHz 68881 CLK 12.5MHz 68881 CLK 15MHz
J0642	1-2	In Out	Level 1 Ethernet transceiver Level 2 Ethernet transceiver
J0702	1-2 3-4	Out In	27256 K BOOT PROM 27512 K BOOT PROM
J1500	1-2	In	100 MHz video CLK

DIP SWITCH	SWITCH	SETTING	DESCRIPTION
S0618	1-8 1-8	Off On*	Set for Ethernet Set for Thin Ethernet

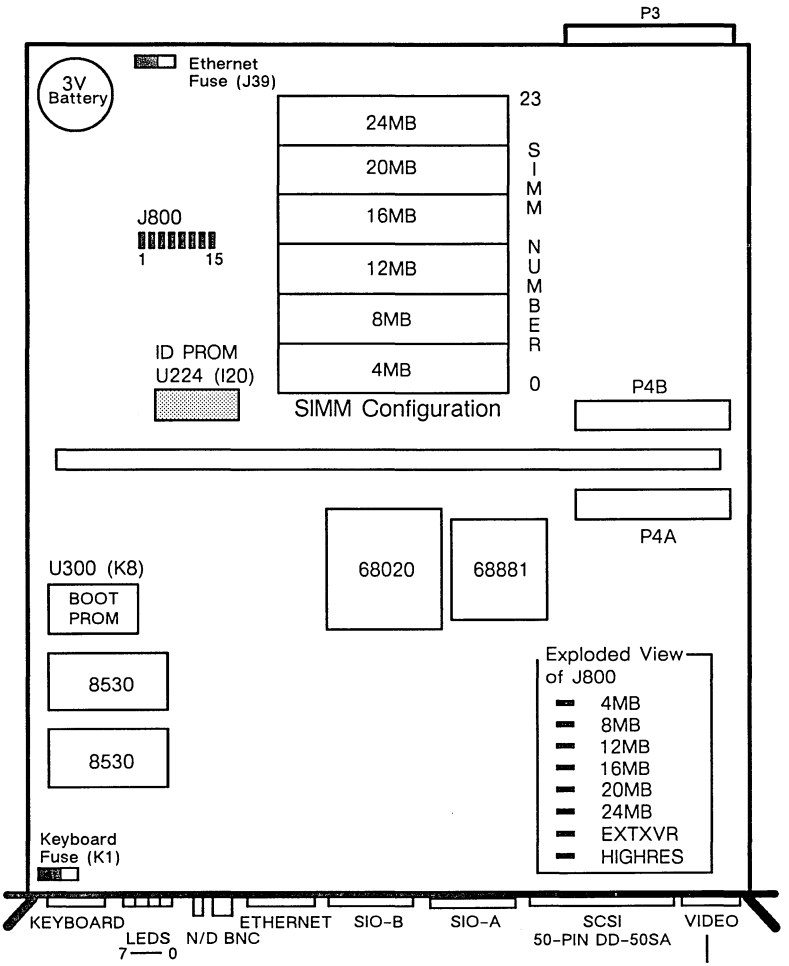
*Default Setting

Notes
1. CPU EPROM 1.8 or greater is required to load SunOS 1/4" tapes in QIC-24 format.
2. CPU EPROM 2.5 or greater is required to load SunOS 1/4" tapes in QIC-24 format from a Sun-2 Shoebox.
3. CPU revisions lower than 501-1075-10, 501-1162-08, and 501-1133-10 may fail under SunOS 3.3.
4. The Sysgen 1/4" Tape Controller, 370-1011, does not work with the Sun-3/50 CPU under SunOS 3.3.
5. A bus error may occur when large executables are run during a prefetch across a page boundry with CPU revisions lower than 501-1162-11 and 501-1207-04.

Reference
Hardware Installation Manual for the Sun 3/50M, 800-1355.

Sun-3/60

501-1205	501-1322	501-1334	501-1345
4MB w Mono	4MB w/o Mono	0MB w Mono	0MB w/o Mono



Power

501-1205 10.1 Amps @ +5Vdc
0.7 Amps @ -5Vdc
54.1 Watts

501-1322 8.9 Amps @ +5Vdc
0.3 Amps @ -5Vdc
46.1 Watts

501-1205 501-1322 501-1334 501-1345
Jumper Settings

JUMPER	PINS	SETTINGS	DESCRIPTION
J800	1-2	*	Select 4MB
	3-4	*	Select 8MB
	5-6	*	Select 12MB
	7-8	*	Select 16MB
	9-10	*	Select 20MB
	11-12	*	Select 24MB
	13-14	Out	Ethernet auto select †
	13-14	In	Select Ethernet
	13-14	Out	Select Thin Ethernet
	15-16	Out	Monitor auto select †§£
	15-16	Out	Select 1152 x 900 resolution
	15-16	In	Select 1600 x 1280 resolution

* Jumper installation depends on memory configuration.

† Factory setting

§ Must be used with mono video cable 530-1359 or 530-1336 for auto select to operate.

£ Hi Resolution Monitor, 540-1427, must be Motorola revision T or greater for auto select to operate.

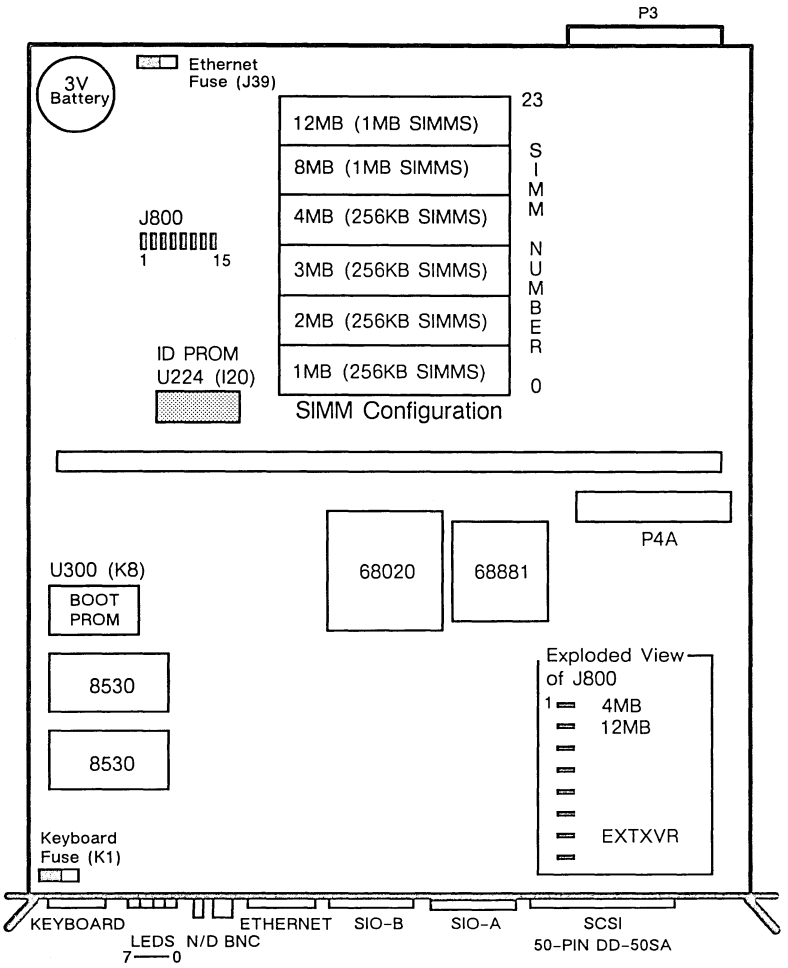
Notes
1. This board uses 1MB SIMM module, 501-1239.
2. SCSI Bus Pin 26 (TERMPWR) is connected to ground on CPU board part numbers ≤501-1205-09, 501-1322-01, 501-1334-01, and 501-1345-01.
3. CPU EPROM 1.6 or greater is required to load SunOS 1/4" distribution tapes in QIC-24 format.

Reference
Hardware Installation Manual for the Sun-3/60 Workstation, 800-1987.

Sun-3/60LE

501-1378

4MB w/o Mono



501–1378
Jumper Settings

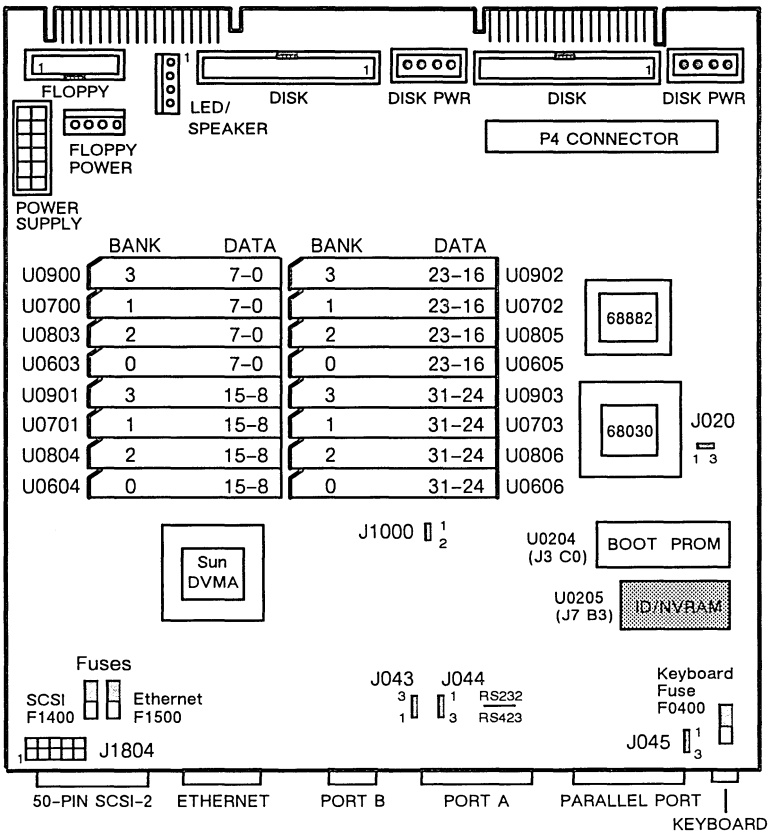
JUMPER	PINS	SETTINGS	DESCRIPTION
J800	1–2	In	Select 8MB
	3–4	In	Select more than 8MB
	5–6	In/Out	Not connected
	7–8	In/Out	Not connected
	9–10	In/Out	Not connected
	11–12	In/Out	Not connected
	13–14	Out	Ethernet auto select
	13–14	In	Select Ethernet
	13–14	Out	Select Thin Ethernet
	15–16	In/Out	Not connected

Notes
1. Memory slots 0 to 15 use 256KB SIMM module, 501–1349.
2. Memory slots 16 to 23 use 1MB SIMM module, 501–1346.
3. The maximum amount of memory is 12MB.

Reference
Hardware READ ME FIRST for the Sun–3/60 and Sun–3/60LE Systems, 800–3065.

Sun-3/80

≥501-1401-10	501-1401	501-1650
4MB	4MB	4MB
FCC-A		FCC-A



Power: 4.6 Amps @ +5Vdc
23.0 Watts

Notes
1. This board uses 1MB SIMM module, 501-1408.
2. SIMM modules must be installed in 1 bank increments.
3. SCSI port, Pin 38, is fused (F1400) with 1.5A Fuse, 150-1383.
4. F0400 and F1500 use 2A Fuses, 150-1174.
5. CPU boards ≤501-1401-07 do not meet the P4 Bus specifications.
6. This board uses SCSI terminator assembly, 150-1537.

501–1401 501–1650
Jumper Settings

JUMPER	PINS	SETTING	DESCRIPTION
J1000	1–2	Out	Watchdog reset (test only)
J020	1–2	In*	20 MHz 68882 clock
J020	2–3	Out	40 MHz 68882 clock
J043	2–3	In*	RS–232, Ports A and B
J044	1–2	In*	RS–232, Ports A and B
J043	1–2	In	RS–423, Ports A and B
J044	2–3	In	RS–423, Ports A and B
J045	1–2	Out	Enable transmit data to mouse
J045	2–3	In*	GND transmit data to mouse

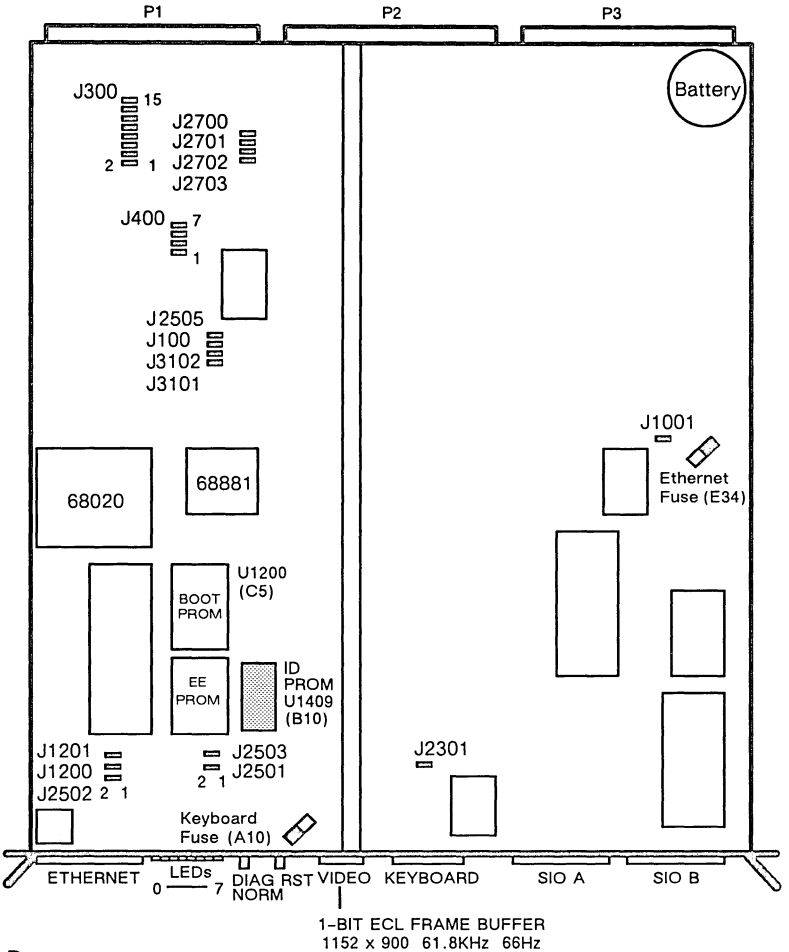
*Default Setting

Sun 3004 CPU

Sun–3/75/140/150/160/180

501–1074 501–1094 501–1163 501–1164

2MB 4MB 2MB 4MB



Power

2MB	14.0 Amps @ +5Vdc
	0.8 Amps @ –5Vdc
	74.2 Watts
4MB	14.6 Amps @ +5Vdc
	0.8 Amps @ –5Vdc
	77.2 Watts

501-1074 501-1094 501-1163 501-1164 Jumper Settings

JUMPER	PINS	SETTING	DESCRIPTION
J300	1-2	Not used	Not used
	3-4	In	VME interrupt level 1
	5-6	In	VME interrupt level 2
	7-8	In	VME interrupt level 3
	9-10	In	VME interrupt level 4
	11-12	In	VME interrupt level 5
	13-14	In	VME interrupt level 6
	15-16	In	VME interrupt level 7
J400	1-2	In	Enable 16.67MHz CPU clock
	3-4	Out	Enable 12.5MHz CPU clock
	5-6	Out	Enable 12.5MHz FFP clock
	7-8	In	Enable 16.67MHz FFP clock
J1001	1-2	In	Enable SCC clock
J1201	5-6	In	If 27512 Boot PROM
J1200	3-4	Out	If 27256 Boot PROM
J2502	1-2	In	Enable VME clock
J2301	1-2	In	Enable Video clock
J2503	1-2	Out	VCC - Pin 7 on Ethernet
J2501	1-2	In	Enable Ethernet CLK
J2700	7-8	Out	Enable VME request only
J2701	5-6	In	Enable VME request/arbiter
J2702	3-4	Out	Enable VME reset slave
J2703	1-2	In	Enable VME reset master
J3101	1-2	In	2MB CPU
J3102	3-4	In	4MB CPU
J100	5-6	Out	Cache disable
J2505	7-8	In	Level 1 Ethernet transceiver
		Out	Level 2 Ethernet transceiver

Notes
1. CPU EPROM 1.8 or greater is required to load SunOS 1/4" distribution tapes in QIC-24 format.
2. CPU EPROM 2.6 or greater is required to load SunOS 1/4" distribution tapes in QIC-24 format from a Sun-2 Shoebox.
3. CPU EPROM 2.6 or greater is required for the Xylogics 7053.
4. The CPU revision must be 501-1094-22, 501-1074-22, 501-1163-09, 501-1164-09, or greater when used with a VME 32-bit data device.

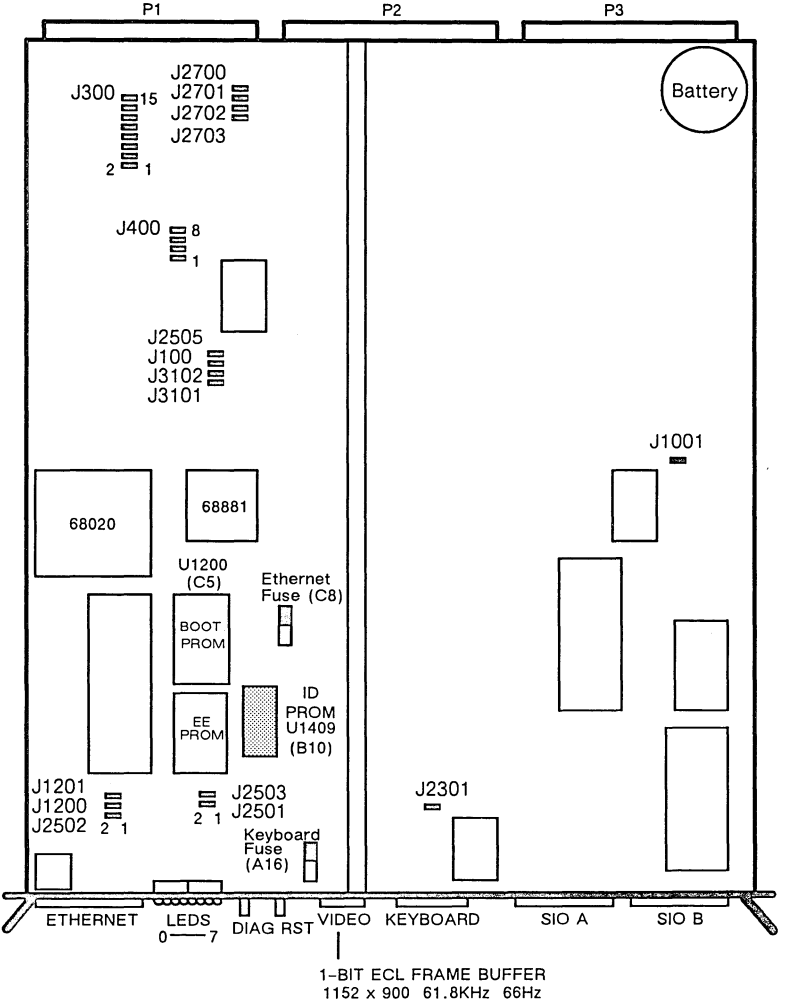
Reference: *Sun 3004 CPU Board Configuration Procedures*, 813-2047.

Sun 3004 CPU

Sun–3/140/150/160/180

501–1208

4MB



Power: 14.6 Amps @ +5Vdc
0.8 Amps @ –5Vdc
77.2 Watts

501-1208
Jumper Settings

JUMPER	PINS	SETTING	DESCRIPTION
J300	1-2	In/Out	Not used
	3-4	In	VME interrupt level 1
	5-6	In	VME interrupt level 2
	7-8	In	VME interrupt level 3
	9-10	In	VME interrupt level 4
	11-12	In	VME interrupt level 5
	13-14	In	VME interrupt level 5
	15-16	In	VME interrupt level 6
J400	1-2	In	Enable 16.67MHz CPU clock
	3-4	Out	Enable 12.5MHz CPU clock
	5-6	Out	Enable 12.5MHz FFP clock
	7-8	In	Enable 16.67MHz FFP clock
J1001	1-2	In	Enable SCC clock
J1201	1-2	In	If 27512 Boot PROM
J1200	1-2	Out	If 27256 Boot PROM
J2502	1-2	In	Enable VME clock
J2301	1-2	In	Enable Video clock
J2503	1-2	Out	Level 1/2
J2501	1-2	In	Enable Ethernet clock
J2700	1-2	Out	Enable VME request only
J2701	1-2	In	Enable VME request/arbiter
J2702	1-2	Out	Enable VME reset slave
J2703	1-2	In	Enable VME reset master
J3101	1-2	In	2MB CPU
J3102	1-2	In	4MB CPU
J100	1-2	Out	Cache disable
J2505	1-2	In/Out	Not Used

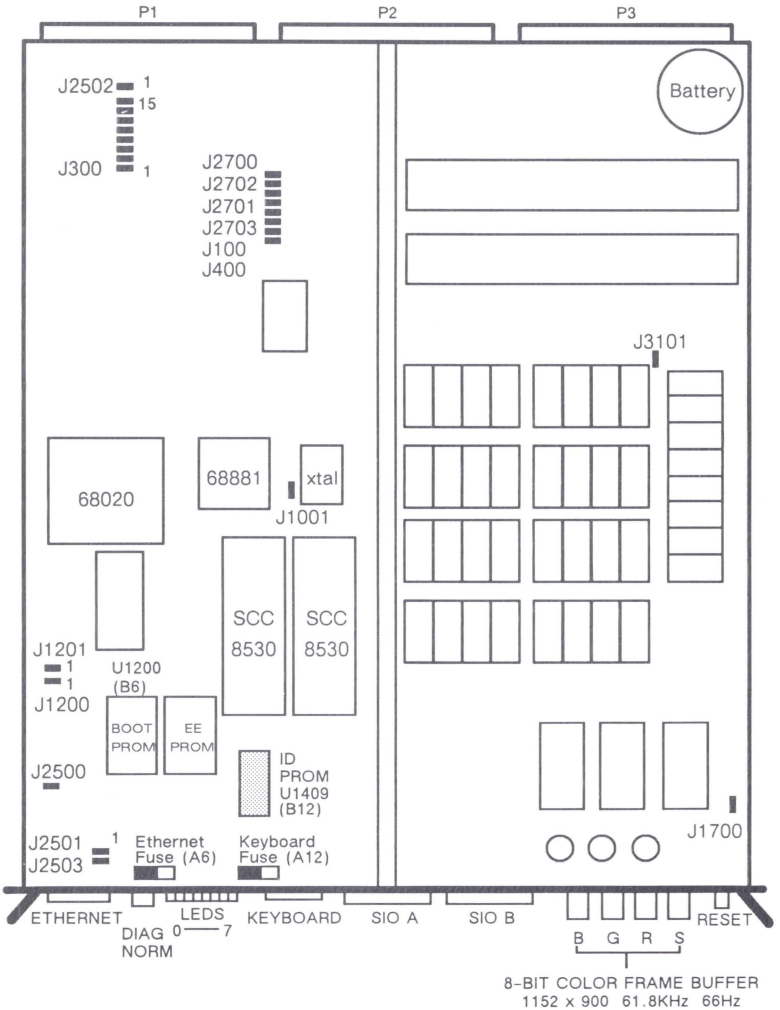
Notes
1. CPU EPROM 1.8 or greater is required to load SunOS 1/4" distribution tapes in QIC-24 format.
2. CPU EPROM 2.6 or greater is required to load SunOS 1/4" distribution tapes in QIC-24 format from a Sun-2 Shoebox.
3. CPU EPROM 2.6 or greater is required for the Xylogics 7053 disk.
4. CPU revisions 501-1208-04 and lower may fail with non-Sun supplied boards. Use 501-1208-05 or greater.

Reference: Sun 3004 CPU Board Configuration Procedures, 813-2047.

Sun-3/110

501-1134 501-1209

4MB



Power: 14.7 Amps @ +5Vdc
4.1 Amps @ -5Vdc
0.15 Amps @ +12Vdc
96.6 Watts

501–1134 501–1209
Jumper Settings

JUMPER	PINS	SETTING	DESCRIPTION
J100	1–2	Out	Cache disable
J300	1–2	In/Out	Not Used
	3–4	In	P1 interrupt request 1
	5–6	In	P1 interrupt request 2
	7–8	In	P1 interrupt request 3
	9–10	In	P1 interrupt request 4
	11–12	In	P1 interrupt request 5
	13–14	In	P1 interrupt request 6
	15–16	In	P1 interrupt request 7
J400	1–2	In	Enable main clock
J1001	1–2	In	Enable SCC clock
J1200	1–2	Out	Sel 256KB PROM
J1201	1–2	In	Sel 512KB PROM
J1700	1–2	In	Video CLK 92.94MHz
J2500	1–2	In	Level 1 Ethernet
		Out	Level 2 Ethernet
J2501	1–2	In	Enable Ethernet clock
J2502	1–2	In	P1 system clock
J2503	1–2	No Pins	+ 5 VDC to pin 7 on Ethernet connector
J2700	1–2	Out	P1 BG3 in
J2701	1–2	In	Bus arbiter/requester
J2702	1–2	Out	VME cntrl buff RST In
J2703	1–2	In	System reset
J3100	1–2	Out	Disable onboard mem.

Notes
1. When this board is installed with a VME 32-bit data device (MCP, HSI, ALM-2, SCA, or SCSI 3), use 501-1134-06 or greater.
2. CPU revisions lower than 501-1134-07, Rev. 50, may fail vid3.diag or video3.exec.

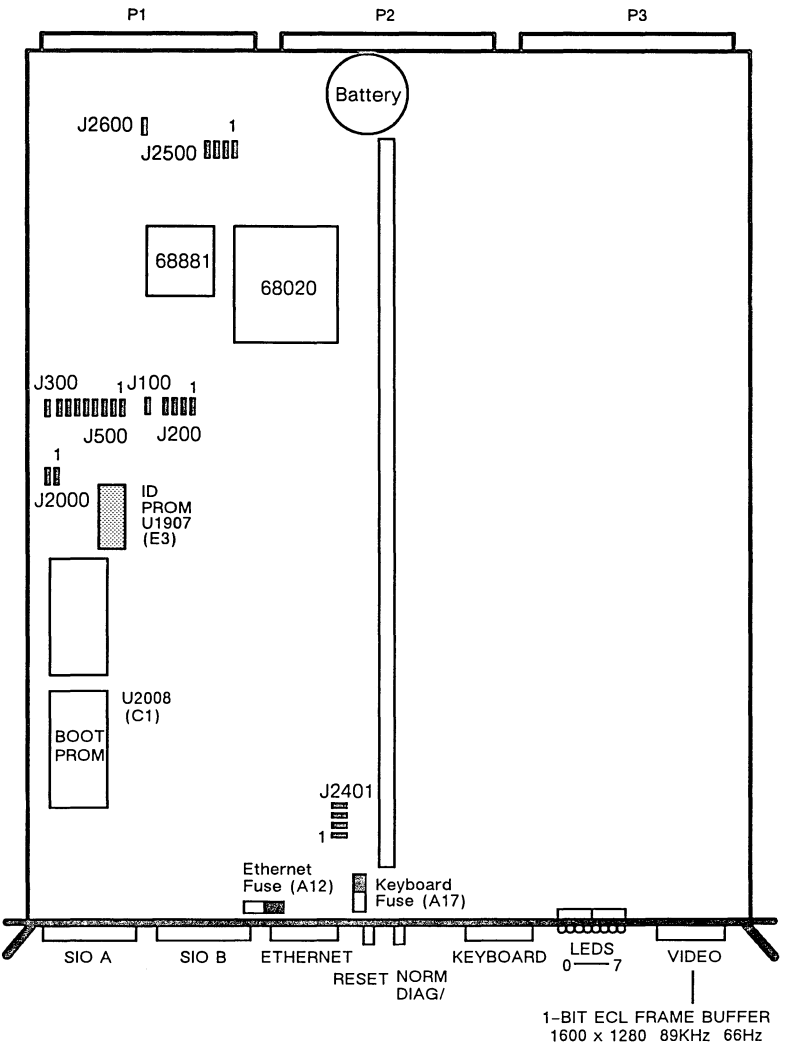
Reference
Sun 501-1134 CPU Board Configuration Procedures, 812-2013.

Sun 3200 CPU

Sun–3/260/280

501–1100 501–~~1550~~ 1206

0MB



Power: 22.5 Amps @ +5Vdc
0.6 Amps @ –5Vdc
115.6 Watts

501–1100 501–1206
Jumper Settings

JUMPER	PINS	SETTING	DESCRIPTION
J100	1–2	Out	Cache Disable for the 68020
J200	1–2	In/Out	Not used
	3–4	In	CPU CLK at 25.00MHz
	5–6	Out	FPP CLK at 25.00MHz
	7–8	In	FPP CLK at 20.00MHz
J300	1–2	In	P2 Bus enable (501–1100 only)
J500	1–2	In	VME IRQ1
	3–4	In	VME IRQ2
	5–6	In	VME IRQ3
	7–8	In	VME IRQ4
	9–10	In	VME IRQ5
	11–12	In	VME IRQ6
	13–14	In	VME IRQ7
	15–16	Out	Not used
J2000	1–2	In	Selects 27512 Boot PROM
	3–4	Out	Selects 27256 Boot PROM
J2401	1–2	In	ETH CLK
	3–4	Out	+5 VDC to pin 7 ETH conn
	5–6	Out	Level 2 (In for Level 1)
	7–8	In	SCC CLK (501–1206 only)
J2500	1–2	In	CPU is VME arbiter/requester
	3–4	Out	CPU is VME requester only
	5–6	Out	CPU is VME reset slave
	7–8	In	CPU is VME reset master
J2600	1–2	In	VME CLK at 16.00MHz

Notes
1. CPU EPROM 2.6 or greater is required for the Xylogics 7053.
2. When CPU EPROM 2.1 is installed, two control–Gs cause the keyboard bell to remain on until the system is reset.
3. The minimum CPU revision required for use with the IPC is 501–1100–08 or 501–1206–06.

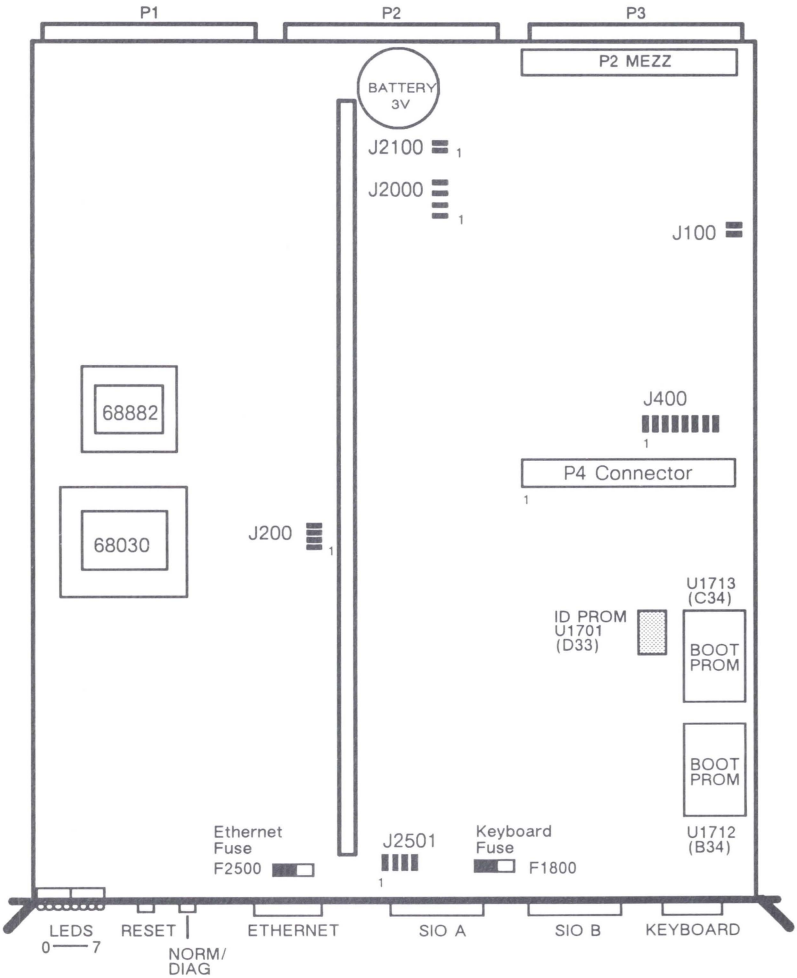
Reference
Sun 501–1206 CPU Board Configuration Procedures, 813–2017.

Sun 3400 CPU

Sun–3/460/470/480

501–1299 501–1550

0MB



Power: 24.5 Amps @ +5Vdc
0.3 Amps @ +12Vdc
126.0 Watts

501–1299 501–1550
Jumper Settings

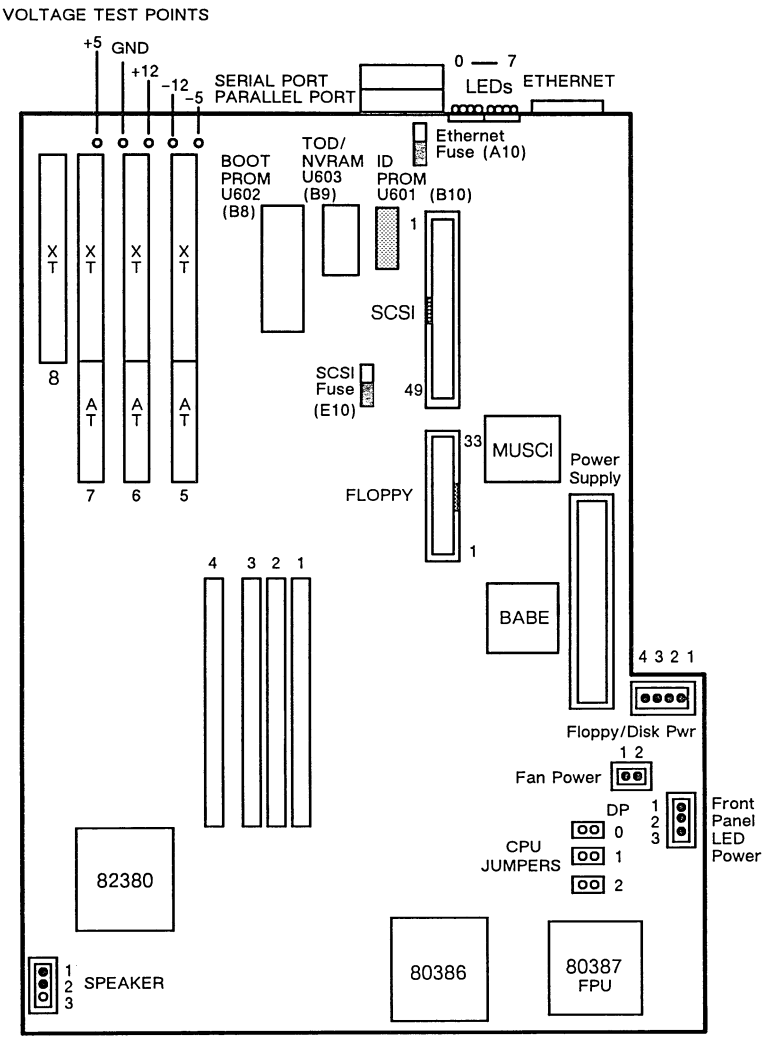
JUMPER	PINS	SETTING	DESCRIPTION
J100	1–2	Out	Enable 68030 cache
J100	3–4	Out	Enable 68030 MMU
J200	1–2	In	Enable 68030 clock
J200	3–4	In/Out	Not used
J200	5–6	In/Out	Not used
J200	7–8	In	Enable 50ns clock
J400	1–2	In	Enable VME interrupt level 1
J400	3–4	In	Enable VME interrupt level 2
J400	5–6	In	Enable VME interrupt level 3
J400	7–8	In	Enable VME interrupt level 4
J400	9–10	In	Enable VME interrupt level 5
J400	11–12	In	Enable VME interrupt level 6
J400	13–14	In	Enable VME interrupt level 7
J400	15–16	In/Out	Not used
J2000	1–2	Out	IN=Enable VME requester
J2000	3–4	In	Enable VME arbiter
J2000	5–6	Out	IN=VME–generated VME reset
J2000	7–8	In	CPU–generated VME reset
J2100	1–2	In	Enable VME system clock
J2100	3–4	In	Enable Round Robin arbiter
J2501	1–2	In	Enable Ethernet clock
J2501	3–4	In/Out	Not used
J2501	5–6	Out	Select level 2 Ethernet (default)
J2501	5–6	In	Select level 1 Ethernet
J2501	7–8	In/Out	Not used

Notes
1. The 8MB Memory board revision must be ≥501–1102–11 to use with the FPA and the FPA+.
2. This CPU is not compatible with 32MB Memory board, 501–1254.
3. The SunLink Channel Adapter requires CPU ≥501–1550–10.

Reference: *Sun 3400 CPU Board Configuration Manual*, 813–2055.

Sun386i/150

501-1241 501-1414



Power: 5.8 Amps @ +5Vdc
28.0 Watts

501–1241 501–1414
Jumper Settings

JUMPER			FUNCTION
0	1	2	
Out	Out	Out	Normal Mode
In	Out	Out	Diagnostic Mode
Out	Out	In	Manufacturing Mode
In	Out	In	Bypass Mode

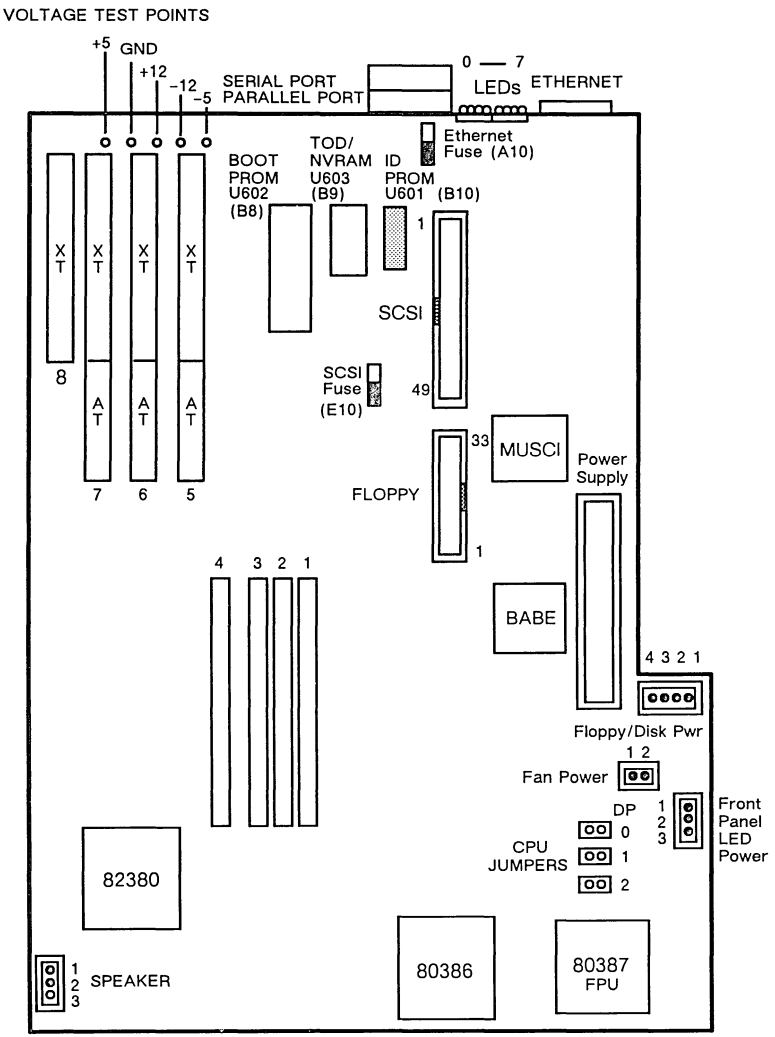
FUNCTION	DESCRIPTION
Normal Mode	Self–Test is executed. Memory tested is determined by NVRAM setting.
Diagnostic Mode	Self–Test is executed. All memory is tested. Status information is directed to the serial port until all video hardware is successfully tested.
Manufacturing Mode	Diagnostic mode runs in a continuous loop.
Bypass Mode	Bypasses most of the Self–Test.

Notes
1. CPU EPROM 4.4 or greater is required for use with the 501–1433 Low–Res Mono Frame Buffer board.
2. The serial port uses a male DB–25 connector.
3. The Ethernet and SCSI fuses are 1 Amp subminiature fuses, part number, 140–1027–01.
4. CPU 501–1241–04, Rev. 01, 501–1414–01, Rev. A, or greater, is required for use with Dynamic Memory boards, 501–1394, 501–1441, and 501–1423.
5. The board is set for Ethernet Level 2. Level 1 is not selectable.

Reference: *Sun386i Field Service Manual*, 814–0002.

Sun386i/250

501–1324 501–1413



Power: 5.8 Amps @ +5Vdc
29.0 Watts

501-1324 501-1413
Jumper Settings

JUMPER			FUNCTION
0	1	2	
Out	Out	Out	Normal Mode
In	Out	Out	Diagnostic Mode
Out	Out	In	Manufacturing Mode
In	Out	In	Bypass Mode

FUNCTION	DESCRIPTION
Normal Mode	Self-Test is executed. Memory tested is determined by NVRAM setting.
Diagnostic Mode	Self-Test is executed. All memory is tested. Status information is directed to the serial port until all video hardware is successfully tested.
Manufacturing Mode	Diagnostic mode runs in a continuous loop.
Bypass Mode	Bypasses most of the Self-Test.

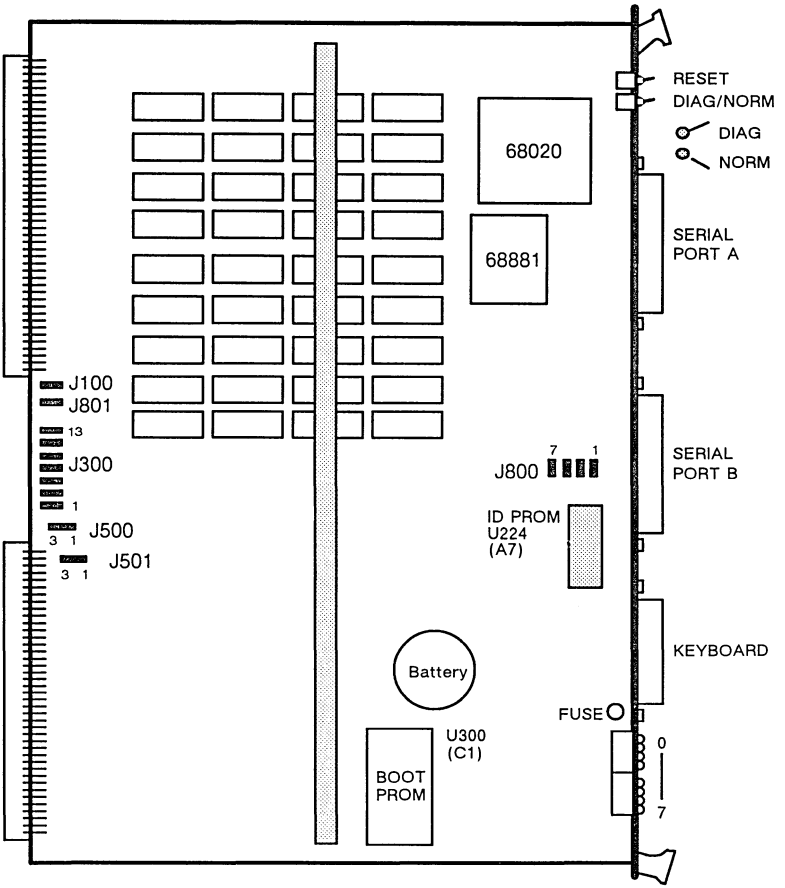
Notes
1. CPU EPROM 4.4 or greater is required for use with the 501-1433 Low-Res Mono Frame Buffer board.
2. The serial port uses a male connector.
3. The Ethernet and SCSI fuses are 1 Amp subminiature fuses, Sun part number, 140-1027-01.
4. The board is set for Ethernet Level 2. Level 1 is not selectable.

Reference: *Sun386i Field Service Manual*, 814-0002.

Sun-3/E

501-8028

4MB



Power: 8.1 Amps @ +5 Vdc
0.25 Amps @ +12 Vdc
0.12 Amps @ -12 Vdc
45.0 Watts

Note: The fuse is not field replaceable.

501–8028
Jumper Settings

JUMPER	PINS	SETTING	DESCRIPTION
J100	1–2	In/Out	Not used
J801	1–2	In	VME system clock driver
J300	1–2	In	Enable VME interrupt level 1
J300	3–4	In	Enable VME interrupt level 2
J300	5–6	In	Enable VME interrupt level 3
J300	7–8	In	Enable VME interrupt level 4
J300	9–10	In	Enable VME interrupt level 5
J300	11–12	In	Enable VME interrupt level 6
J300	13–14	In	Enable VME interrupt level 7
J500	1–2	In	CPU can reset other VME boards
J500	2–3	Out	Other VME boards can reset CPU
J501	1–2	In	CPU is the daisy chain driver
J501	2–3	Out	CPU is not the daisy chain driver
J800	1–2	In/Out	Not used
J800	3–4	In	VMEbus arbiter
J800	5–6	In	Enable video board interrupt
J800	7–8	In	Respond as a VMEbus slave

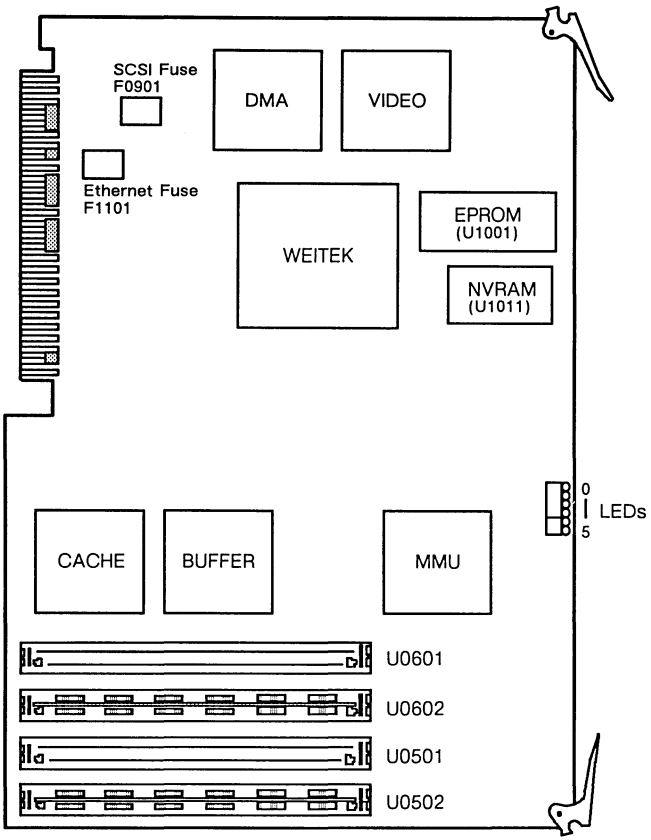
Sun-4/20

501-1627 8MB

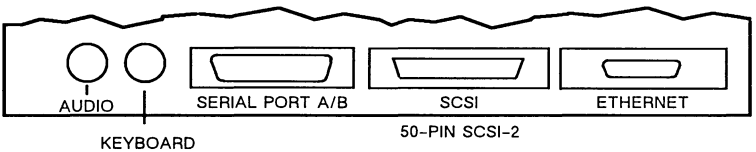
501-1680 0MB FRU

501-1720 0MB FRU

501-1748 8MB



I/O Board Connectors



501-1627 501-1680 501-1720 501-1748

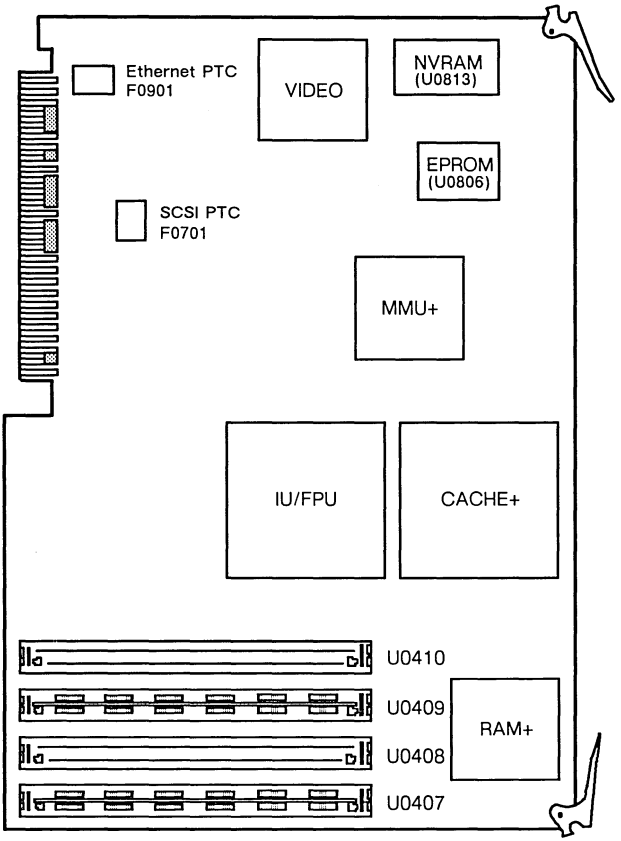
Notes
1. This board uses 4MB SIMM, 501-1676 or 501-1698.
2. Install the first 4MB SIMM in U0502.
3. Fuses F0901 and F1101 are non-replaceable PTC devices.
4. The minimum operating system is SunOS 4.0.3c.
5. CPU boards with the 53C90A SCSI Controller require a patch to operate under SunOS 4.0.3c.

References
1. *SPARCstation SLC Installation & Repair Guide*, 814-5039-03, SunOS 4.1.1.
2. *SPARCstation SLC Installation & Repair Guide*, 814-5043-02, SunOS 4.1.1 Rev B.

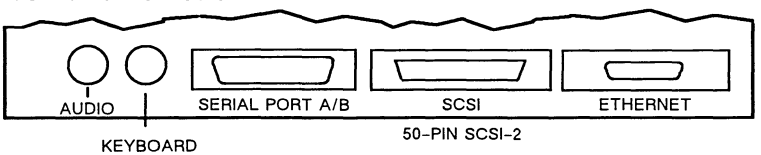
Sun-4/25

501-1861

0MB FRU



I/O Board Connectors



501-1861

SIMM Installation

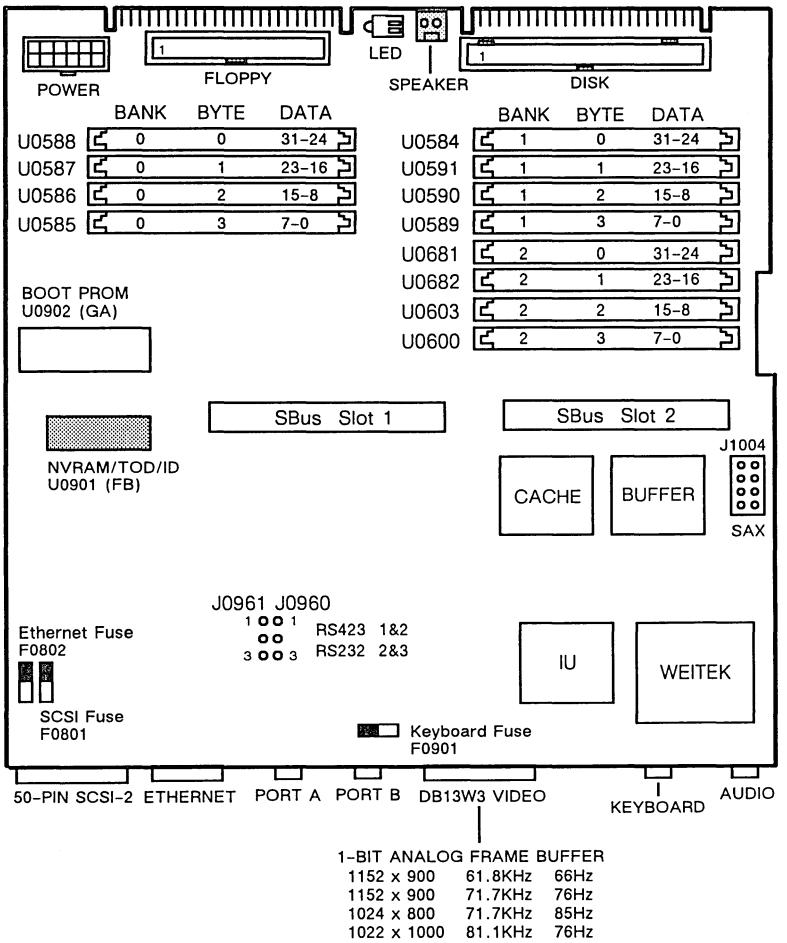
Total Memory	Slot 0 U0310	Slot 1 U0309	Slot 2 U0308	Slot 3 U0307
8MB	4MB		4MB	
12MB	4MB	4MB	4MB	
16MB	4MB	4MB	4MB	4MB
16MB	16MB			
20MB	16MB		4MB	
24MB	16MB	4MB		4MB
28MB	16MB	4MB	4MB	4MB
32MB	16MB	4MB	4MB	4MB
36MB	16MB	16MB	4MB	
40MB	16MB	16MB	4MB	4MB
48MB	16MB	16MB	16MB	
52MB	16MB	16MB	16MB	4MB
52MB	16MB	16MB	16MB	16MB

Notes
1. The Sun-4/25 uses 4MB x 33-bit SIMM module, 501-1812.
2. The Sun-4/25 uses 16MB x 33-bit SIMM module, 501-1822.
3. Install the first SIMM in U0407.
4. The minimum operating system is SunOS 4.1.1c.
5. Fuses F0701 and F0901 are non-replaceable PTC devices.

Reference: *SPARCstation ELC Installation & Repair Guide*, 814-5048.

Sun-4/40

501-1689	501-1690	501-1835
8MB	0MB	8MB
FCC-A	FCC-A	FCC-B



Power: 48MB Board with 4MB SIMMs
3.7 Amps @ +5Vdc
18.5 Watts

501-1689 501-1690 501-1835

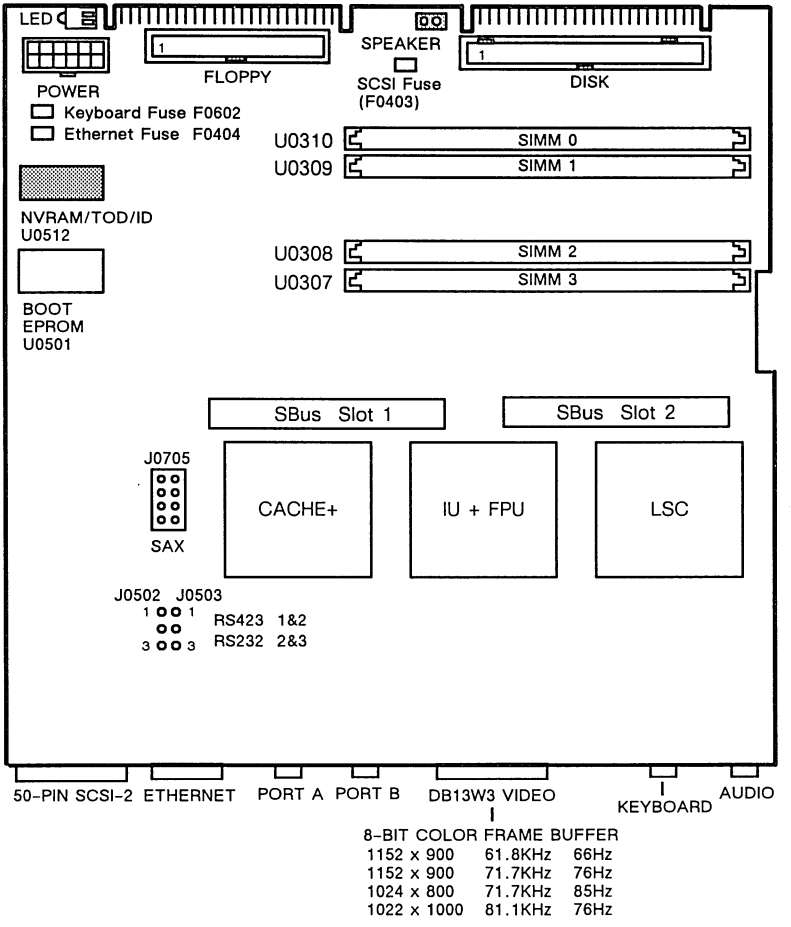
Notes
1. The Sun-4/40 uses 1MB SIMM module, 501-1697.
2. The Sun-4/40 uses 4MB SIMM module, 501-1625.
3. All fuses are 2A, part number 150-1174.
4. The minimum operating system is SunOS 4.0.3c.
5. SCSI bus errors may occur when multiple SCSI devices are used with CPU boards below 501-1689-06.
6. CPU boards below 501-1689-07 fail SunDiag Floppy Drive testing.
7. CPU boards with the 53C90A SCSI Controller require a patch to operate under SunOS 4.0.3c.
8. The default 2.4 boot EPROM mode does not operate under SunOS 4.0.3c. Set the NVRAM parameter **version2?** to *false* to enable the 1.6 boot EPROM mode.

References
1. *SPARCstation IPC Field Service Manual*, 800-5038.
2. *SPARCstation IPC Installation Guide*, 800-5039. SunOS 4.1
3. *SPARCstation IPC Installation Guide*, 800-5565. SunOS 4.1.1
4. *SPARCstation IPC Installation Guide*, 800-5699. SunOS 4.1.1 Rev B

Sun-4/50

501-1780 501-1810

16MB 0MB FRU



Power

64MB CPU 4x16MB SIMMs
- 4.4 Amps @ +5Vdc
- 0.4 Amps @ +12Vdc
- 26.8 Watts

16MB CPU 4x4MB SIMMs
- 3.8 Amps @ +5Vdc
- 0.4 Amps @ +12Vdc
- 22.8 Watts

501-1780 501-1810

SIMM Installation

Total Memory	Slot 0 U0310	Slot 1 U0309	Slot 2 U0308	Slot 3 U0307
8MB	4MB		4MB	
12MB	4MB	4MB	4MB	
16MB	4MB	4MB	4MB	4MB
16MB	16MB			
20MB	16MB		4MB	
24MB	16MB	4MB		4MB
28MB	16MB	4MB	4MB	4MB
32MB	16MB	4MB	4MB	4MB
36MB	16MB	16MB	4MB	
40MB	16MB	16MB	4MB	4MB
48MB	16MB	16MB	16MB	
52MB	16MB	16MB	16MB	4MB
52MB	16MB	16MB	16MB	16MB

Notes
1. The Sun-4/50 uses 4MB SIMM 501-1812.
2. The Sun-4/50 uses 16MB SIMM 501-1822 or 501-1915.
3. The fuses are not field replaceable.
4. The minimum operating system is SunOS 4.1.1.

Reference: *SPARCstation IPX Installation Guide*, 800-5772.

Sun-4/60

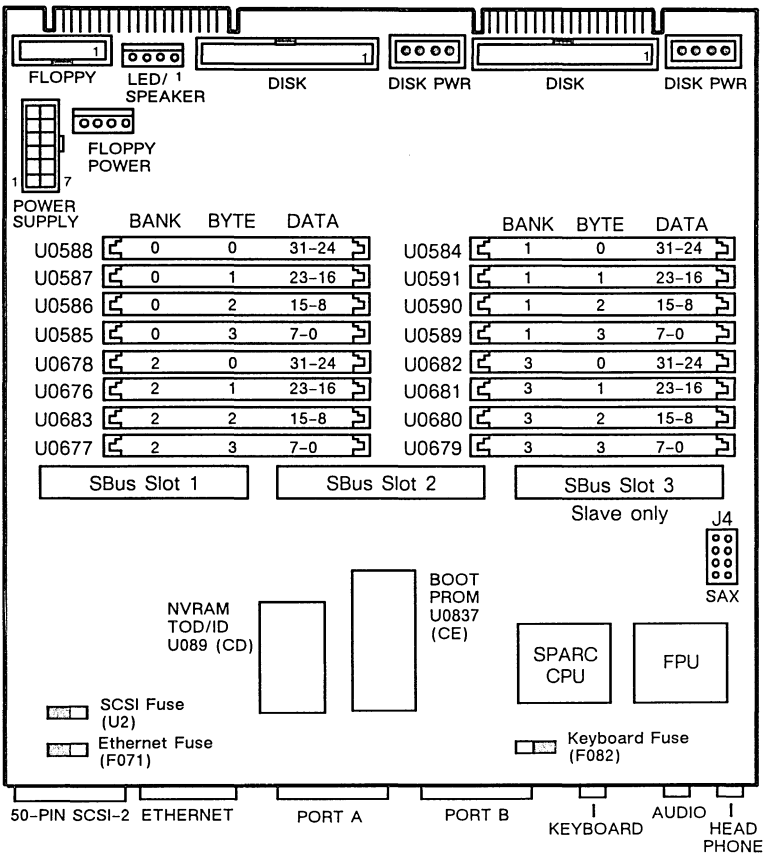
≤501-1382-12 4MB w/o FPU

≥501-1382-13 8MB w FPU

≥501-1382-14 8MB w FPU FCC-A

501-1629 4MB w FPU

≥501-1629-14 4MB w FPU FCC-A



Power: 8MB Board with 1MB SIMMs
2.5 Amps @ +5Vdc
12.5 Watts

501–1382 501–1629

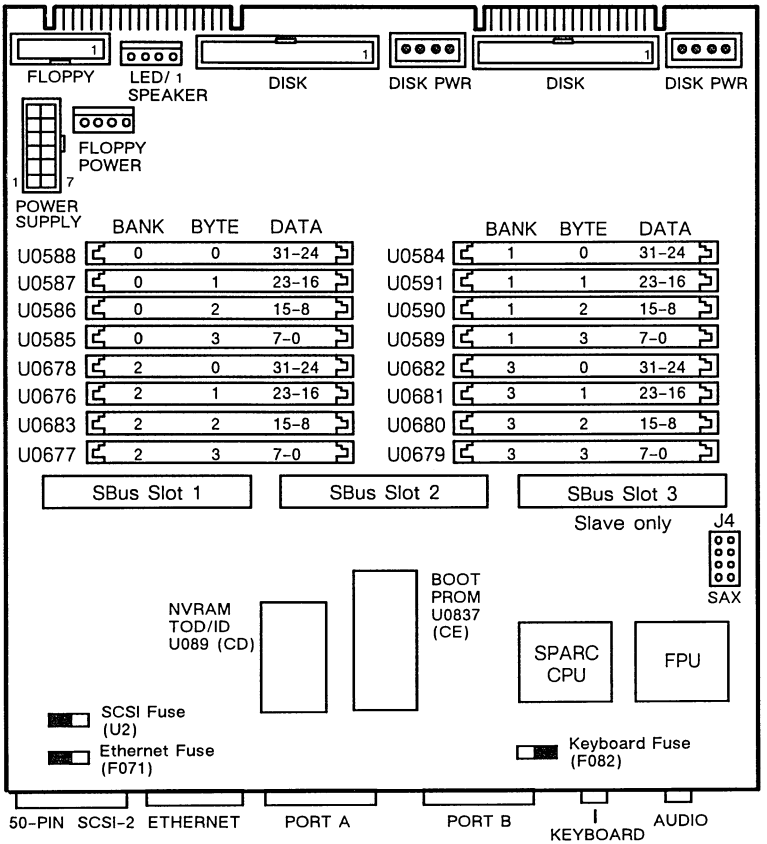
Notes
1. The Sun–4/60 uses 1MB SIMM module, 501–1408.
2. The Sun–4/60 uses 4MB SIMM module, 501–1625.
3. SIMM installation order is Bank 0, Bank 2, Bank 1, Bank 3.
4. All fuses are 2A, part number, 150–1174.
5. The minimum operating system is SunOS 4.0.3c.
6. CPU ≥501–1382–08 or ≥501–1629–10 is required for use with Sun Common LISP, AutoCAD. Cobol, and SunOS 4.1.
7. SPARC IU ≥100–1808–02 is required for use with Sun Common LISP, AutoCAD, Cobol, and SunOS 4.1.
8. Power on systems with CPU boards 501–1382–10 or lower, or 501–1629–10, before turning on external disk drive units.
9. Install Load Board 501–1667 in systems without a disk drive and SBus cards.

Reference: *SPARCstation 1 Installation Guide*, 800–4036.

Sun-4/65

501-1632

8MB w FPU



Power: 8MB Board with 1MB SIMMs
3.0 Amps @ +5Vdc
20.0 Watts

501-1632

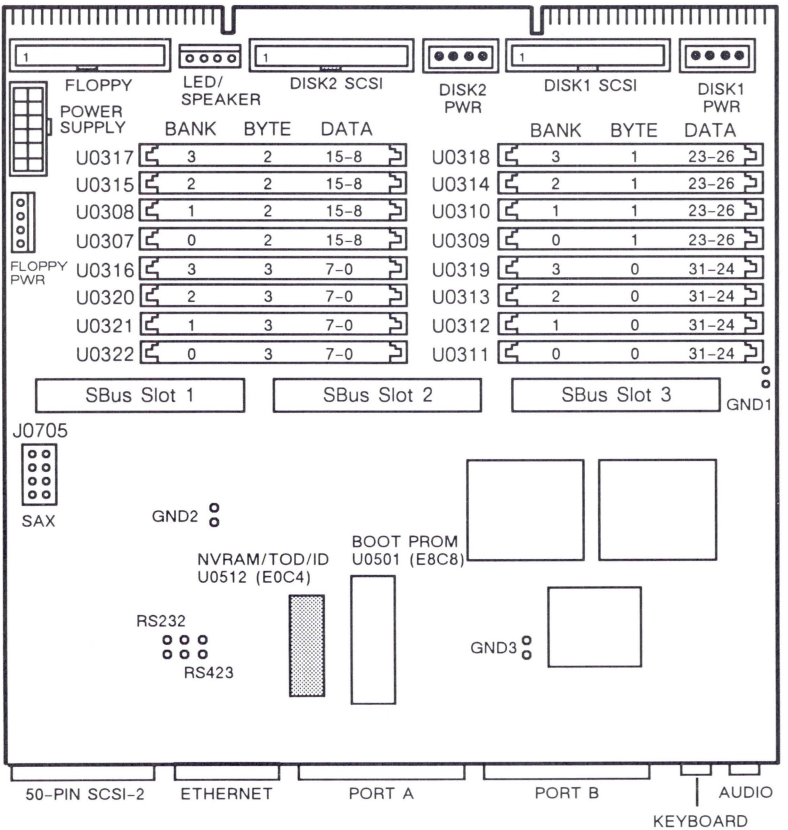
Notes
1. The Sun-4/65 uses 1MB SIMM, 501-1408.
2. The Sun-4/65 uses 4MB SIMM, 501-1625.
3. SIMM installation order is Bank 0, Bank 2, Bank 1, Bank 3.
4. The minimum operating system is SunOS 4.0.3c.
5. All fuses are 2A, part number 150-1174.
6. Install Load Board, 501-1667, in systems without a disk drive and SBus cards.

Reference: *SPARCstation 1+ Installation Guide*, 800-4784.

Sun-4/75

501-1638 501-1744
16MB FCC-A 0MB FRU FCC-A

501-1858 501-1859 501-1912
16MB FCC-B 0MB FRU FCC-B 32MB FCC-B



Power: 16MB Board with 4MB SIMMs
3.6 Amps @ +5Vdc
23.0 Watts

Notes
1. The Sun 4/75 CPU uses 4MB SIMM, 501-1739.
2. The minimum operating system is SunOS 4.1.1.

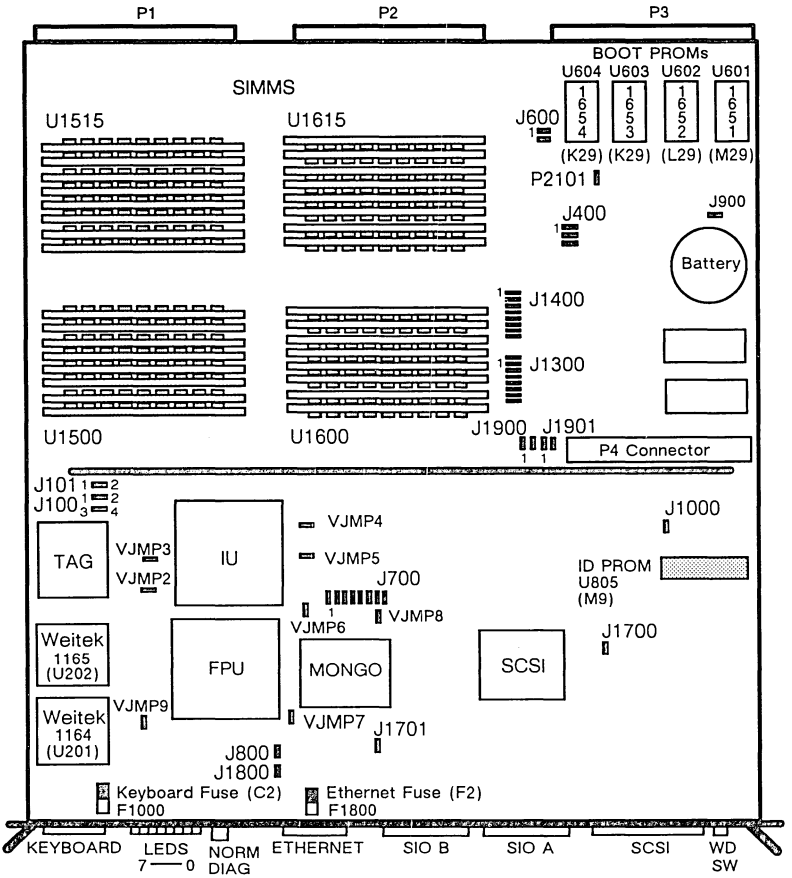
References
1. *SPARCstation 2 Installation Guide*, 800-5035, SunOS 4.1.1.
2. *SPARCstation 2 Installation Guide*, 800-5701, SunOS 4.1.1 Rev B.

Sun 4100 CPU

Sun 4/110/150

501–1199 501–1512	501–1237 501–1513	501–1462 501–1514	501–1463 501–1515
8MB w/o FPC	8MB w FPC	16MB w/o FPC	16MB w FPC

501–1464 501–1516	501–1465 501–1517
32MB w/o FPC	32MB w FPC

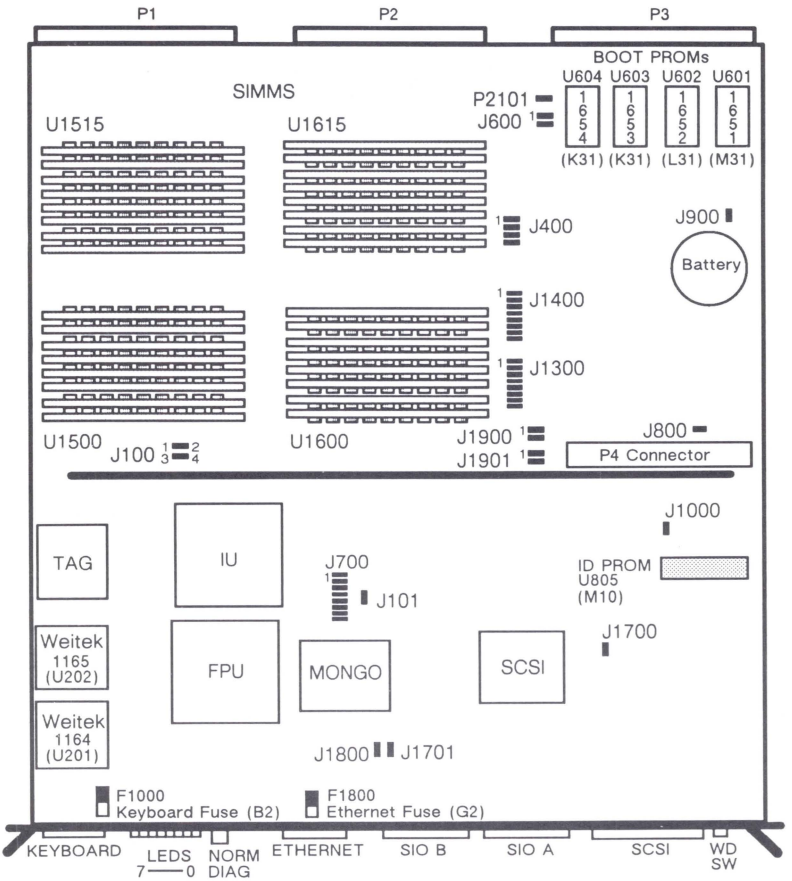


Power: with FPU
13.8 Amps @ +5Vdc
0.1 Amps @ –5Vdc
69.5 Watts

Sun 4100 CPU

Sun–4/110/150

501–1656 8MB w/o FPC
501–1657 8MB w FPC
501–1658 16MB w/o FPC
501–1659 16MB w FPC
501–1660 32MB w/o FPC
501–1661 32MB w FPC



Power: with FPU
13.8 Amps @ +5Vdc
0.1 Amps @ –5Vdc
69.5 Watts

501-1199 501-1237 501-1462 501-1463 501-1464 501-1465 501-1512 501-1513 501-1514 501-1515 501-1516 501-1517 501-1656 501-1657 501-1658 501-1659 501-1660 501-1661

Jumper Settings

JUMPER	PINS	SETTING	DESCRIPTION
J101	1-2	In	Enable 57.1 MHz clock
J600	1-2	In	27512 Boot PROM
J600	3-4	Out	27256 Boot PROM
J700	1-2	In	VME interrupt level 1
J700	3-4	In	VME interrupt level 2
J700	5-6	In	VME interrupt level 3
J700	7-8	In	VME interrupt level 4
J700	9-10	In	VME interrupt level 5
J700	11-12	In	VME interrupt level 6
J700	13-14	In	VME interrupt level 7
J700	15-16	In	Not used
J800	1-2	Out	Force reset
J900	1-2	Out	In=Shorts 3V battery
J1000	1-2	In	Enable UART clock
J1700	1-2	In	Enable Ethernet Clock
J1701	1-2	Out	Ethernet level 2 (In = level 1)
J1800	1-2	Out	Auto sense Ethernet*
J1800	1-2	Out	Force Thin Ethernet
J1800	1-2	In	Force Thick Ethernet
J1900	1-2	Out	CPU is VME requester only
J1900	3-4	In	CPU is VME requester
J1901	1-2	Out	CPU is VME reset slave
J1901	3-4	In	CPU is VME reset master
P2101	1-2	In	Enable VME system clock

*Factory setting. Requires greater than 30 milliamps on +12V return for auto sense feature to operate, (example, DEC DELNI).

Notes

1. 501-1199 must be ≥501-1199-11 and 501-1237 must be ≥501-1237-11 to use with the Type-4 keyboard.
2. The 501-1384 FPU2 is supported only on CPU boards 501-1512, 501-1513, 501-1514, 501-1515, 501-1516, and 501-1517.

Reference: *Sun 4100 Board Set Configuration Procedures*, 813-2049.

501–1199 501–1237 501–1462 501–1463 501–1464 501–1465 501–1512 501–1513 501–1514 501–1515 501–1516 501–1517 501–1656 501–1657 501–1658 501–1659 501–1660 501–1661

Jumper Settings – Continued

Cache Line, J100

MEMORY SIZE	8MB	16MB	20MB	32MB
SIMM SIZE	256K	1MB	1MB/256K	1MB
Pin 1–2	In	Out	In	Out
Pin 3–4	Out	In	Out	In

Memory Strobe Configuration, J400

MEMORY SIZE	8MB	16MB	20MB	32MB
Pin 1–2	Out	In	Out	In
Pin 3–4	In	Out	Out	In
Pin 5–6	In	In	In	Out

SIMM Addressing Mode, J1300

SIMM TYPE	MEMORY SIZE	8MB	16MB	20MB	32MB
		256K	1MB	1MB/256K	1MB
Same*	Pin 1–2	In	Out	Out	In
Different*	Pin 3–4	Out	In	In	Out
256K	Pin 5–6	In	Out	In	Out
1 M	Pin 7–8	Out	In	Out	In
2 M	Pin 9–10	Out	Out	Out	Out
<32M	Pin 11–12	In	In	In	Out
32M	Pin 13–14	Out	Out	Out	In
Unused	Pin 15–16	Out	Out	Out	Out

SIMM Addressing Mode, J1400

SIMM TYPE	MEMORY SIZE	8MB	16MB	20MB	32MB
		256K	1MB	1MB/256K	1MB
Same*	Pin 1–2	In	Out	Out	In
Different*	Pin 3–4	Out	In	In	Out
256K	Pin 5–6	In	Out	Out	Out
1 M	Pin 7–8	Out	In	In	In
2 M	Pin 9–10	Out	Out	Out	Out
<32M	Pin 11–12	In	In	In	Out
32M	Pin 13–14	Out	Out	Out	In
Unused	Pin 15–16	Out	Out	Out	Out

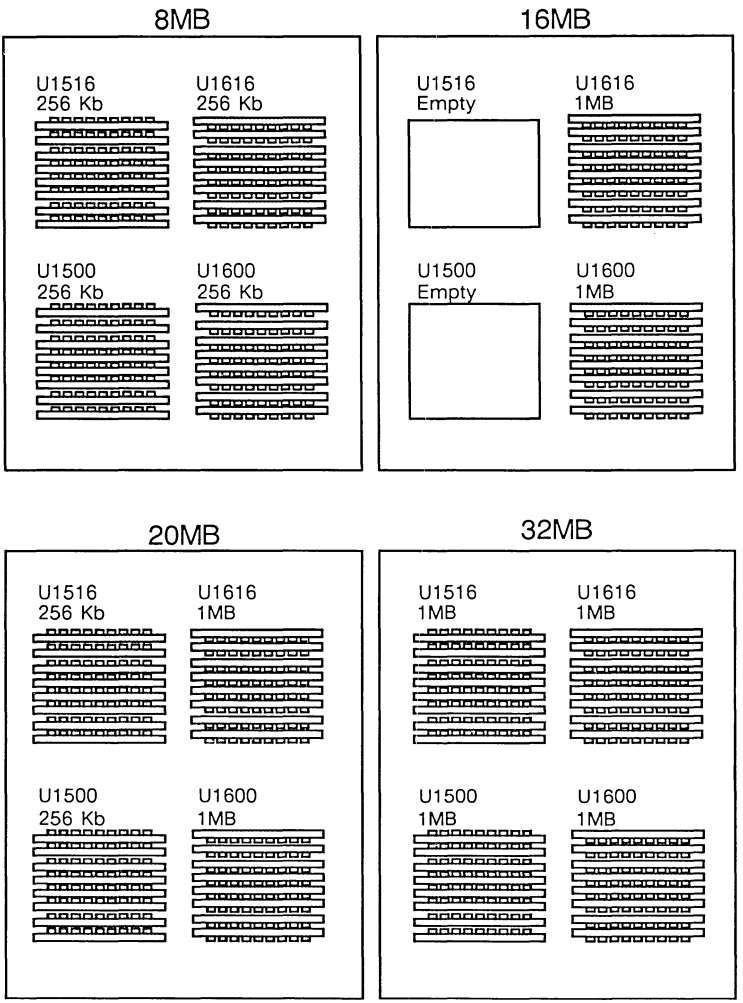
* Same/Different corresponds to sets of 256KB/1MB DRAMS.

Sun 4100 CPU

SIMM Memory Configurations

501–1314 501–1466

256KB SIMMs 1MB SIMMs

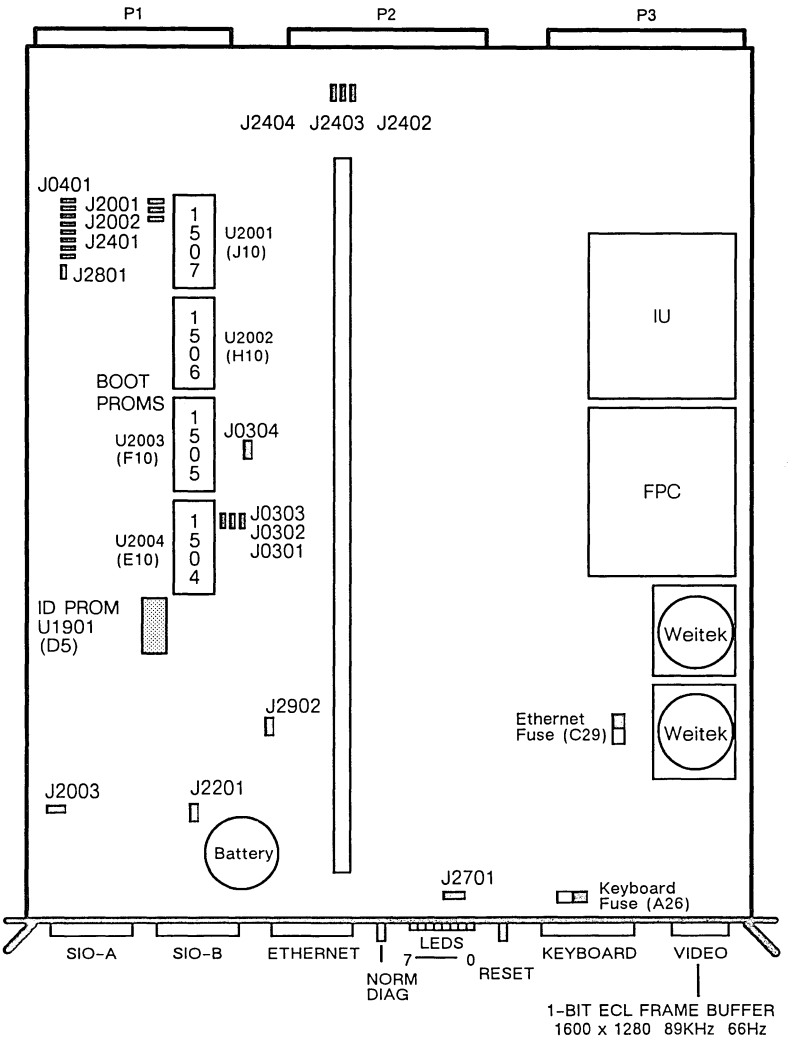


Notes
1. The Sun 4100 CPU uses 256KB SIMM, 501–1314.
2. The Sun 4100 CPU uses 1MB SIMM, 501–1466.

Sun 4200 CPU

Sun-4/260/280

501-1274	501-1491	501-1522
w FPC-6/4	w FPU-2 2-hi Backpanel	w FPC-6/4 2-hi Backpanel



Power: 17.2 Amps @ +5Vdc
1.3 Amps @ -5Vdc
0.4 Amps @ +12Vdc
98.0 Watts

501-1274 501-1491 501-1522
Jumper Settings

JUMPER	PINS	SETTING	DESCRIPTION
J2701	1-2	Out	Debug jumper
J2003	1-2	In	Connect 3V battery
J2201	1-2	In	SCC (UART) clock enable
J2902	1-2	Out	Enet Level 2 (IN for level 1)
J2904	1-2	Out	Null
J0304	1-2	In	Enable VME clock
J0303	1-2	In	16 MHz clock enable
J0302	1-2	In	46.153 MHz clock enable
J0301	1-2	Out	External clock clock
J2801	1-2	In	Enable system DVMA
J0401	1-2	In/Out	Null
J0401	3-4	In	VME interrupt level 1
J0401	5-6	In	VME interrupt level 2
J0401	7-8	In	VME interrupt level 3
J0401	9-10	In	VME interrupt level 4
J0401	11-12	In	VME interrupt level 5
J0401	13-14	In	VME interrupt level 6
J0401	15-16	In	VME interrupt level 7
J2001	1-2	In	Select 27512 PROM
J2002	1-2	Out	Select 27256 PROM
J2401	1-2	Out	CPU is VME requester only
J2402	1-2	In	CPU is arbiter/requester
J2403	1-2	Out	CPU is reset slave
J2404	1-2	In	CPU is reset master

Notes
1. 501-1274 must be ≥501-1274-12 to use with the Type-4 Keyboard.
2. 501-1274 must be ≥501-1274-13 to use with the Xylogics 7053.
3. The Xylogics 7053 requires CPU EPROM 1.7 or greater.
4. CPU EPROM 3.0 or greater is required when more than two 16MB memory boards are used.

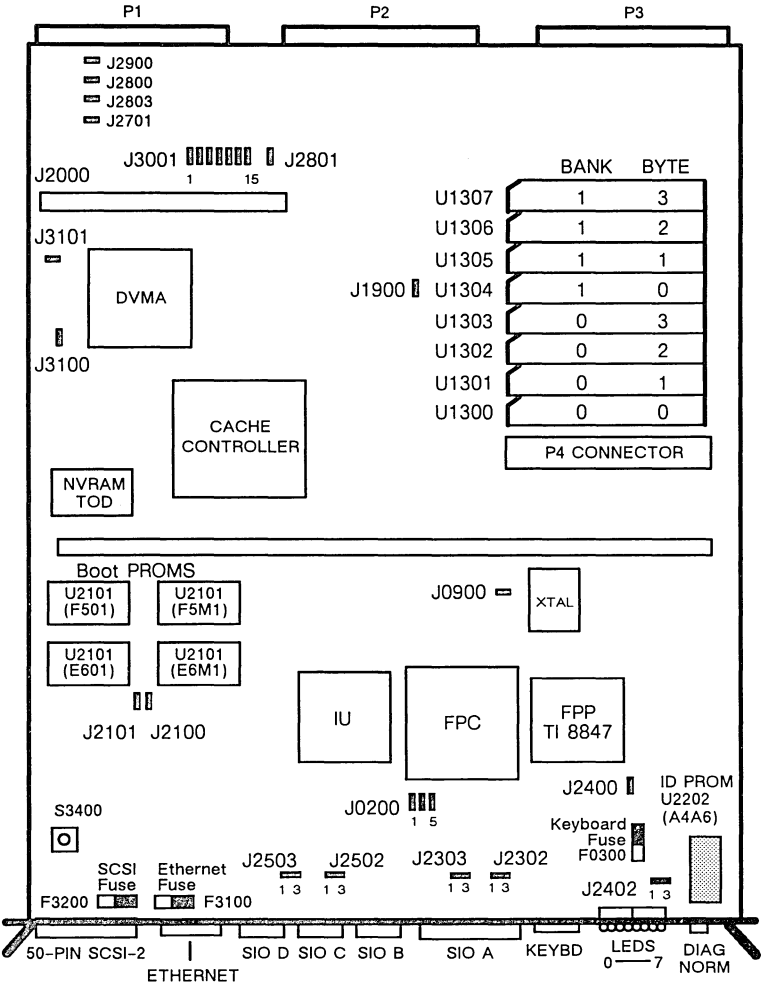
Reference: *Sun-4200 CPU Board Configuration Procedures*, 813-2031.

Sun 4300 CPU

Sun–4/310/330/350/360/370/380/390

501–1316 501–1742

8MB w 1MB SIMMS — 32MB w 4MB SIMMS



Power: 17.5 Amps @ +5vdc
0.2 Amps @ +12vdc
0.2 Amps @ –12vdc
92.3 Watts

501-1316 501-1742
Jumper Settings

JUMPER	PINS	SETTING	DESCRIPTION
J0200	1-2	In	FPC normally low
J0200	3-4	In	FPC normally low
J0200	5-6	Out	FPC normally high
J0900	1-2	In	Enable Sysclock
J1900	1-2	In	CPU has 4MB SIMMs
J1900	1-2	Out	CPU has 1MB SIMMs
J2100	1-2	In	Enable 27512 EPROM
J2101	1-2	Out	Enable 27256 EEPROM
J2302	1-2	In*	Set Ports A,B for RS-232C, +/- 12V
J2303	1-2	In*	Set Ports A,B for RS-232C, +/- 12V
J2302	2-3	In	Set Ports A,B for RS-423, +/- 5V
J2303	2-3	In	Set Ports A,B for RS-423, +/- 5V
J2400	1-2	In	Enable serial port clock
J2402	1-2	Out	Keyboard set on transmit mouse
J2402	2-3	In	Keyboard set on ground
J2502	1-2	In*	Set Ports C,D for RS-232C, +/- 12V
J2503	1-2	In*	Set Ports C,D for RS-232C, +/- 12V
J2502	2-3	In	Set Ports C,D for RS-423, +/- 5V
J2503	2-3	In	Set Ports C,D for RS-423, +/- 5V
J2701	1-2	Out	Disable VME loopback
J2800	1-2	In	Enable VME reset Out
J2801	1-2	In	Enable VME arbiter
J2803	1-2	Out	Enable VME reset IN
J2900	1-2	In	Enable 16 Mhz clock to backplane
J3001	1-2	Out	Not used
J3001	3-4	In	Enable VME interrupt level 1
J3001	5-6	In	Enable VME interrupt level 2
J3001	7-8	In	Enable VME interrupt level 3
J3001	9-10	In	Enable VME interrupt level 4
J3001	11-12	In	Enable VME interrupt level 5
J3001	13-14	In	Enable VME interrupt level 6
J3001	15-16	In	Enable VME interrupt level 7
J3100	1-2	In	Enable 32 Mhz clock
J3101	1-2	In	Enable 48 Mhz clock

501-1316 501-1742
Sun 4300 CPU

Notes

1. The Sun 4300 CPU uses 1MB SIMM, 501-1544, or 501-1565.
2. The Sun 4300 CPU uses 4MB SIMM, 501-1682.
3. 4MB SIMMs, Option X134A, are not supported on the Sun-4/330 CPU.
4. The Sun 4100 1MB SIMM, 501-1466, may be used in the Sun-4/310 and Sun-4/350 system upgrades.
5. Fuses F0300, F3100, and F3200 use 2 Amp Fuse, 150-1174-01.
6. The CPU is Set for Ethernet Level 2. Level 1 is not selectable.
7. CPU ≥501-1316-04 is required for use with the ISP-80 and FDDI controllers and with LISP software.
8. CPU ≥501-1316-03 is required for use with CG5.
9. CPU EPROM 3.0 or greater is required to boot from the 60MB 1/4" tape drive in the Mass Storage Subsystem.
10. CPU EPROM 3.0.1 or greater is required to boot from a tape drive on a second SCSI Host Adapter.
11. CPU EPROM 3.0.3 or greater is required with 4MB SIMM modules.
12. Install Fused Shunt, 150-1669-01, at locations J2302, J2303, J2502, and J2503, to provide circuit protection to the M+ (+12Vdc) and M- (-12Vdc) inputs to the UC5170 Serial Port Line Driver.

Reference: *Sun 4300 CPU Board Installation Notes*, 800-3119.

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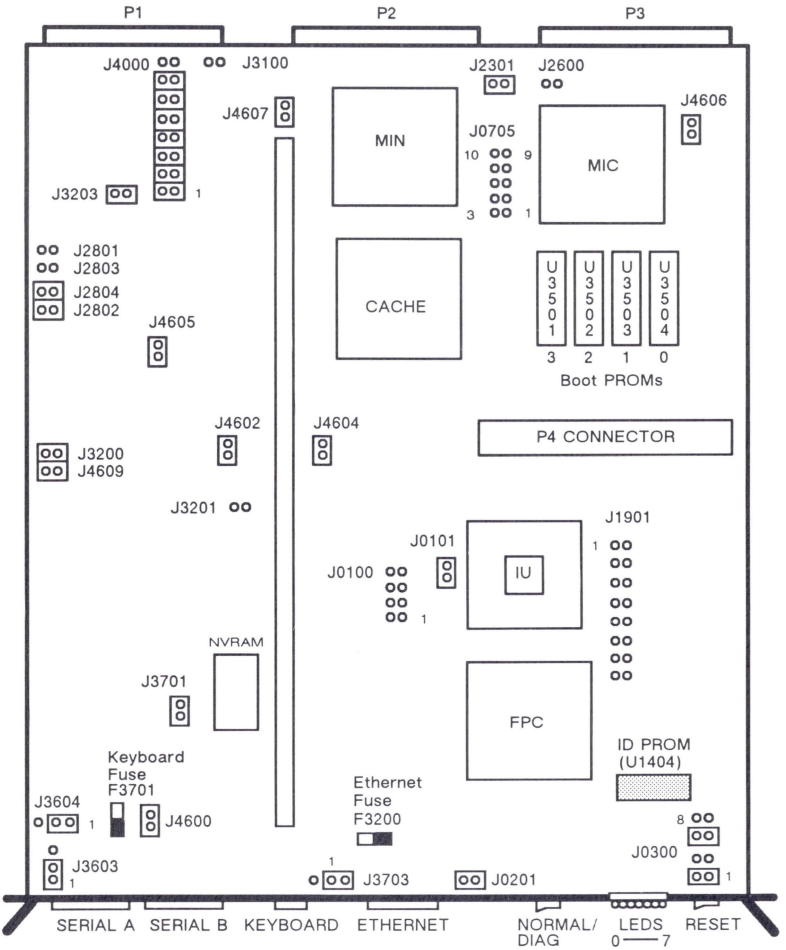
Sun 4400 CPU

Sun–4/470/490

501–1381 501–1899

0MB 0MB



Power: 28.7 Amps @ +5vdc
0.1 Amps @ +12vdc
0.1 Amps @ –12vdc
145.9 Watts

501–1381 501–1899
Jumper Settings

JUMPER	PINS	SETTING	DESCRIPTION
J0100	1–10	Out	Used for debug
J0101	1–2	In	Used for ATE
J0201	1–2	In	Used for ATE
J0300	1–2	In	If FPC is present
J0300	3–4	Out	If FPC is present
J0300	5–6	In	Avoid a trap when I–Flush instruction is executed
J0300	7–8	Out	FPC Chaining (only if FPC is present)
J0705	1–10	Out	Used for debug
J1901	1–36	Out	Used for debug
J2301	1–2	In	Enable system clock (33 MHz)
J2600	1–2	Out	Used for debug
J2801	1–2	Out	Disable VME arbiter
J2802	1–2	In	Enable VME arbiter
J2803	1–2	Out	Connect P1.SYSRST* to VME.RST.IN*
J2804	1–2	In	Connect VME.RST.OUT* to P1.SYSRST*
J3100	1–2	Out	VME loopback mode enabled
J3200	1–2	In	Provide 16 MHz Ethernet clock
J3201	1–2	Out	Enet Level 2 (IN for level 1)
J3203	1–2	In	Provide P1.SYSCLCK
J3603	1–2	In	Select RS–423
J3603	2–3	In	Select RS–232 (+12V)
J3604	1–2	In	Select RS–423
J3604	2–3	In	Select RS–232 (+12V)
J3701	1–2	In	Provide 4.9152 MHz SCC clock
J3703	1–2	In	Keyboard set on transmit mouse
J3703	2–3	In	Pin 7 of keyboard/mouse to GND (default)

501–1381 501–1899
Jumper Settings – Continued

JUMPER	PINS	SETTING	DESCRIPTION
J4000	1–2	In	VME IRQ1
J4000	3–4	In	
J4000	5–6	In	
J4000	7–8	In	
J4000	9–10	In	
J4000	11–12	In	
J4000	13–14	In	VME IRQ7
J4000	15–16	In/Out	Not connected
J4600	1–2	In	Used for ATE
J4602	1–2	In	
J4604	1–2	In	
J4605	1–2	In	
J4606	1–2	In	
J4607	1–2	In	
J4609	1–2	In	

Notes
1. Install Fused Shunt, 150–1669–01, at locations J3603 and J3604, to provide circuit protection to the M+ (+12Vdc) and M– (–12Vdc) inputs to the UC5170 Serial Port Line Driver.
2. The 501–1381 CPU is not supported in Sun–4/470 serial numbers 136Kxxxx and greater. This chassis has two 50–pin SCSI–2 connectors on the rear EMI cover.

Reference
Sun 4400 Board Set Installation and Configuration Manual, 800–3269.

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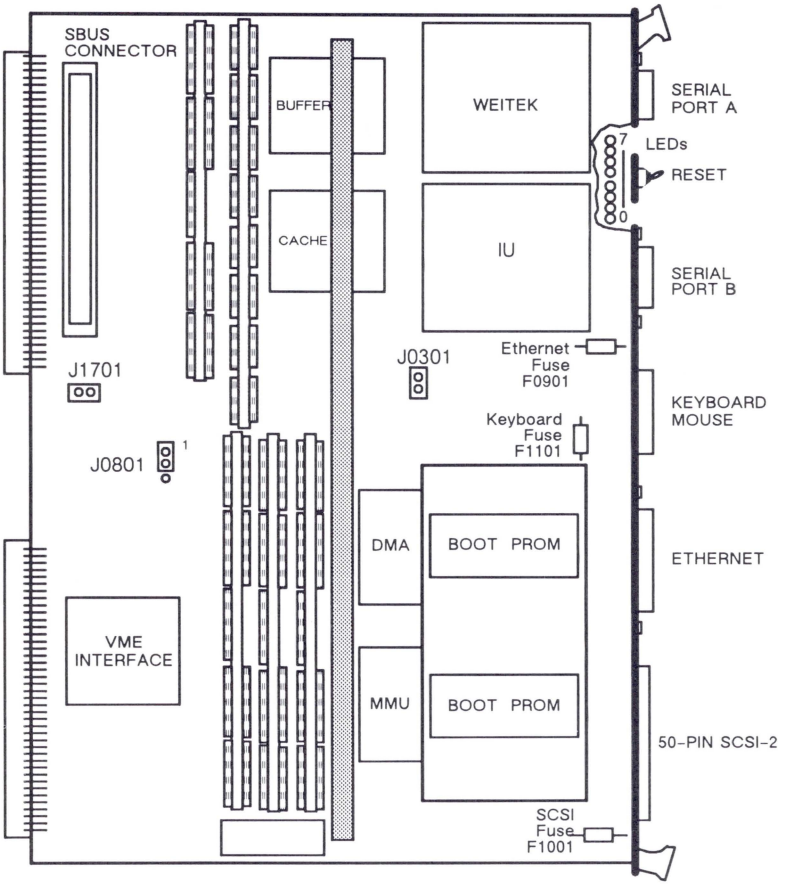
Sun-4/E

SPARCengine 1E

501-8035	501-8058	501-8064
4MB w Weitek	4MB w/o Weitek	16MB w Weitek



Power: 5.0 Amps @ +5vdc
0.1 Amps @ +12vdc
0.1 Amps @ -12vdc
27.4 Watts

501-8035 501-8058 501-8064
Jumper Settings

JUMPER	PINS	SETTING	DESCRIPTION
J0301	1-2	In	20MHz clock enable
J0801	1-2	In	Use 4MB parity memory (default)
J0801	2-3	In	Disable 4MB parity memory
J1701	1-2	In	CPU is installed in VME slot 1

Notes
1. CPU EPROM 1.4 does not support SunOS 4.1e.
2. CPU EPROM 1.5 supports SunOS 4.1e.
3. CPU EPROM 1.6 supports SunOS 4.1e.
4. CPU EPROM 1.6 and EPROM daughter card 500-8013-05 are installed on CPU 501-8035-12.
7. Daughter Card 500-8013-05 is required if a customer supplied PROM is used along with the 1.6 EPROM.
7. A customer supplied EPROM will not function on Daughter Card 500-8013-04 or lower even if the 1.6 EPROM is installed.
8. The fuses are not field replaceable.

Reference
The SPARCengine 1E CPU Card User's Manual, 800-8137.

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MEMORY

MEMORY

Memory

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SIMM Modules

In the chart below, an X indicates the Sun system(s) that use the SIMM modules described by size and part number.

Sun-3 and Sun 386i

SIZE	SIMM P/N	60	60 LE	80	150	250
256KB	501-1349		x			
1MB	501-1239	x				
1MB	501-1346		x			
1MB	501-1375					x
1MB	501-1408			x		
1MB	501-1424				x	x
1MB	501-1510					x

Sun-4

SIZE	SIMM P/N	20	25	40	50	60	65	75	110 150	330 370 390
256KB	501-1314								x	
1MB	501-1408					x	x			x
1MB	501-1466								x	x*
1MB	501-1544									x
1MB	501-1565									x
1MB	501-1697			x			x			x
4MB	501-1625			x		x	x			
4MB	501-1676	x								
4MB	501-1682									x†
4MB	501-1698	x								
4MB	501-1739							x		
4MB	501-1812		x		x					
16MB	501-1915				x§					
16MB	501-1822		x		x					

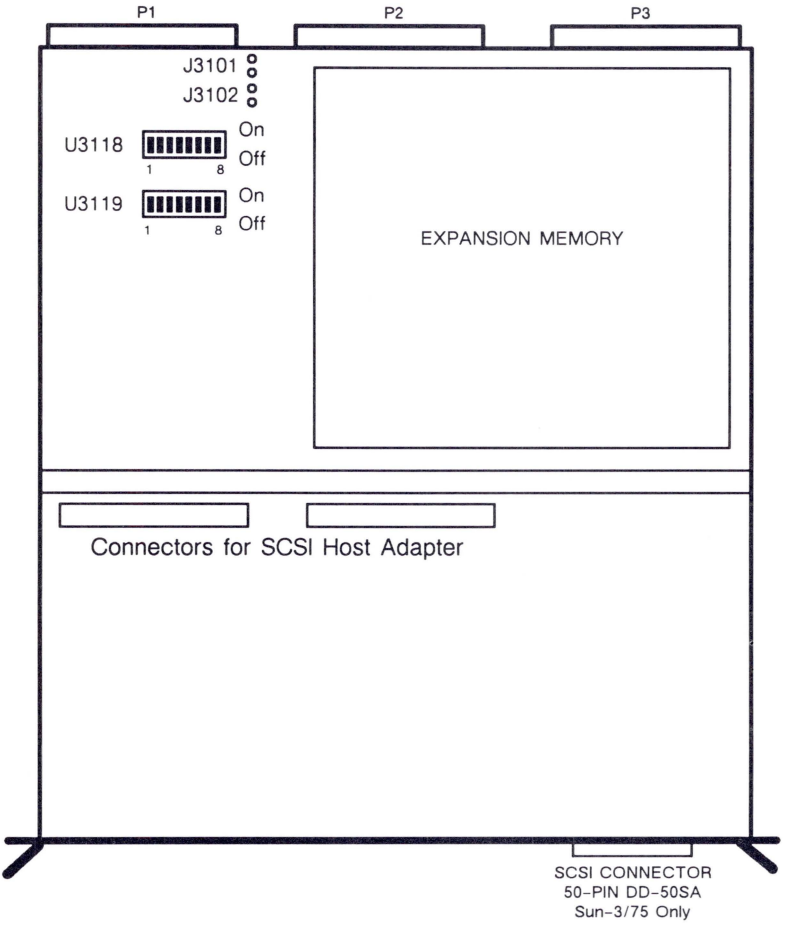
* The 1MB SIMM, 501-1466, can be used in systems upgraded from Sun-4/110 to Sun-4/310 and from Sun-4/150 to Sun-4/350.
† The 4MB SIMM, 501-1682, is not supported on the Sun-4/330 CPU.
§ The 16MB SIMM, 501-1915, is not supported on the Sun-4/25 CPU.

Sun-3/75

501-1111 501-1121 501-1122
2MB 0MB 4MB

Sun-3/110/140/150/160/180

501-1131 501-1132
2MB 4MB



Power

2MB	1.8 Amps @ +5Vdc
	8.5 Watts
4MB	2.3 Amps @ +5Vdc
	11.5 Watts

501-1111 501-1121 501-1122 501-1131 501-1132

Jumper Settings

2MB CPU with 2MB Expansion Memory Boards

ADDRESS RANGE	J3101	U3118	U3119
3rd-4th MB	In	SW-2 On	SW-2 On
5th-6th MB	In	SW-3 On	SW-3 On
7th-8th MB	In	SW-4 On	SW-4 On
9th-10th MB	In	SW-5 On	SW-5 On
11th-12th MB	In	SW-6 On	SW-6 On

2MB CPU with 4MB Expansion Memory Boards

ADDRESS RANGE	J3102	U3118	U3119
3rd-6th MB	In	SW-2 On	SW-3 On
7th-10th MB	In	SW-4 On	SW-5 On
11th-12th MB	In	SW-6 On	SW-7 On

4MB CPU with 2MB Expansion Memory Boards

ADDRESS RANGE	J3101	U3118	U3119
5th-6th MB	In	SW-3 On	SW-3 On
7th-8th MB	In	SW-4 On	SW-4 On
9th-10th MB	In	SW-5 On	SW-5 On
11th-12th MB	In	SW-6 On	SW-6 On
13th-14th MB	In	SW-7 On	SW-7 On
15th-16th MB	In	SW-8 On	SW-8 On

4MB CPU with 4MB Expansion Memory Boards

ADDRESS RANGE	J3102	U3118	U3119
5th-8th MB	In	SW-3 On	SW-4 On
9th-12th MB	In	SW-5 On	SW-6 On
13th-16th MB	In	SW-7 On	SW-8 On

Note: Balance of pins not specified are OUT.

Reference
Sun 501-1131 and 501-1132 Memory Board Configuration Procdures, 813-2016.

Sun-3/260/280 & Sun-4/260/280

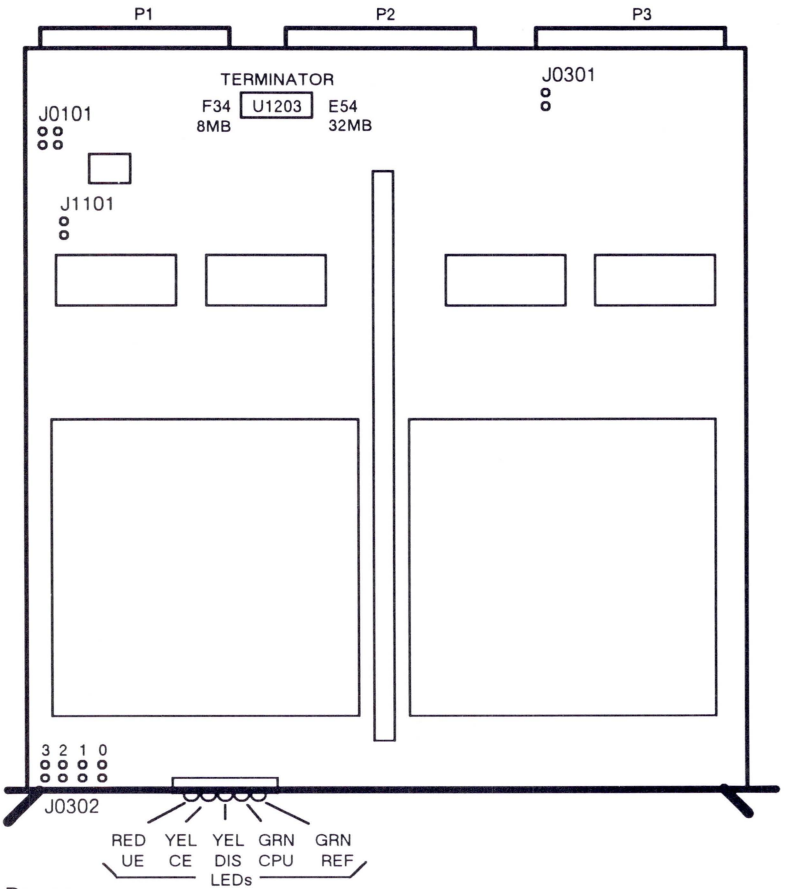
501-1102
8MB

Sun-4/260/280

501-1254 501-1576
32MB 16MB

Sun-3/460/470/480 & Sun-4/260/280

501-1451 501-1576
32MB 16MB



Power

8MB	12.3 Amps @ +5Vdc
	61.5 Watts
32MB	14.0 Amps @ +5Vdc
	70.0 Watts

501-1102 501-1254 501-1451 501-1576

Memory Board LEDs

			STATUS	
	LED	COLOR	INTERPRET ON	INTERPRET OFF
Top	UE	Red	Uncorrectable error	No UE reported
	CE	Yel	Correctable error	No CE reported
	DIS	Yel	CPU access disabled	CPU access enabled
	CPU	Grn	CPU accessing memory	No CPU accesses
Bottom	REF	Grn	Refresh enabled	Refresh failure

Jumper Settings

JUMPER	PINS	SETTING	DESCRIPTION
J0101	1-2 3-4	Out Out	External clock
J1101	1-2	Out	Disable refresh
J0301	1-2	Out In	32MB configuration 16MB configuration
J0302	1 2 3 4	In In In In	1st memory board 2nd memory board 3rd memory board 4th memory board

Notes

1. The Sun 4200 CPU requires EPROM 3.0 or greater when more than two 16MB ECC Memory boards are installed.
2. **501-1092 or 501-1117 Backplanes.** Install a single memory board in slot 6 with a 220/270 Terminator, 120-1613-01, installed at location U1203. Remove the terminator when expansion memory boards are installed in slots 2, 3, 4, and 5.
3. **501-1439 or 501-1498 Backplanes.** Install a 220/270 Terminator, 120-1613-01, at location U1203 on the memory board in slot 1. If placement results in memory boards on both sides of the CPU, remove the terminator at location U1411 on the Sun 3400 CPU, and install terminators on the memory boards in slots 1 and slot 7.
4. The 8MB memory board must be ≥501-1102-11 to use with the Sun 3400 CPU, the FPA, and the FPA+.
5. The 501-1451 32MB board must be ≥501-1451-03 to use with the 501-1576 16MB memory board.
6. Remove jumpers P10, P11, P12, and P13 from the 501-1598 and 501-1832 backplanes when the Sun 3400 board set is installed.

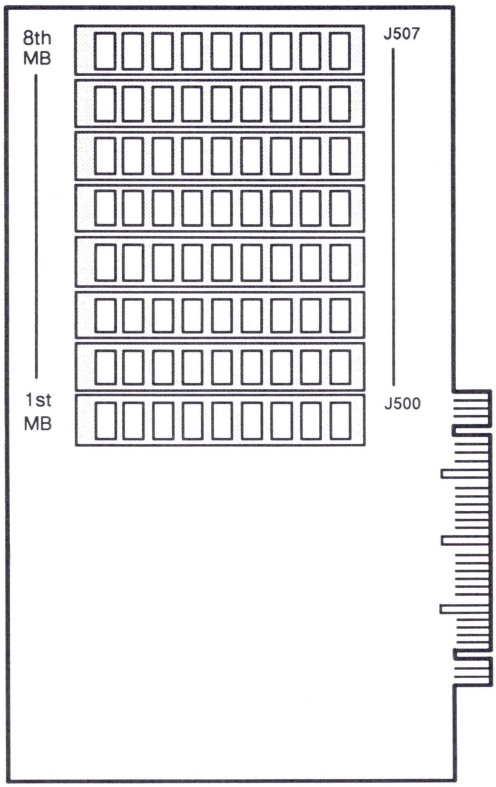
References

1. *Sun 501-1102 Memory Board Configuration Procedures*, 813-2018.
2. *Installation Notes for the 32MB Memory Board*, 800-2123.
3. *16MB ECC Memory Board Installation and Configuration Manual*, 813-1066.

Sun386i Dynamic Memory

386i/150

501–1394 501–1441 555–1423
4MB 8MB 0MB



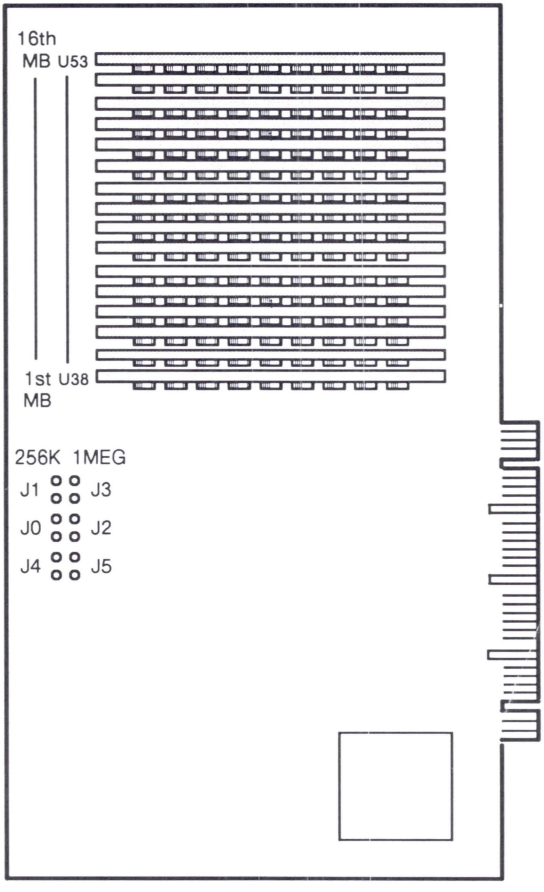
Notes
1. The Dynamic Memory board can be used with any revision of the 501–1414 CPU.
2. CPU revision 501–1241–02, Rev. 03, or greater is required for use with the Dynamic Memory board.
3. CPU revision 501–1241–04, Rev. 01, or greater is required for use with multiple Dynamic Memory boards.
4. The Dynamic Memory board uses the 1MB SIMM module 501–1424.

Reference: *Sun386i Installing SIMM Memory Modules*, 814–5017.

Sun386i XP Cache Memory

386i/150/250

501–1298	501–1325	501–1482	555–1054
8MB	4MB	0MB	0MB



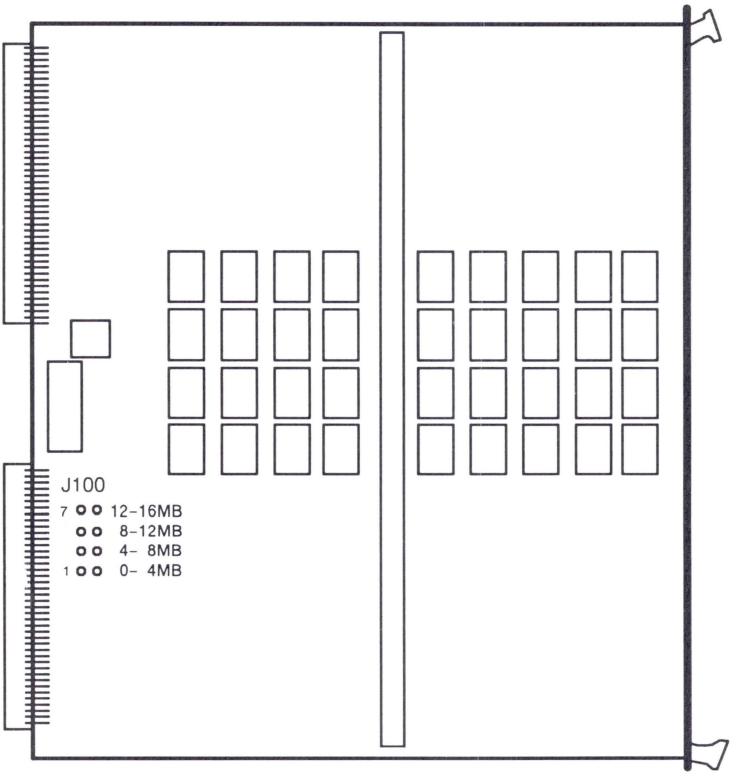
Notes
1. Jumpers on FAB 270–1298–01 do not affect system operation.
2. 555–1054 uses 1MB SIMM module, 501–1424 or 501–1375.
3. 501–1482 uses 1MB SIMM module, 501–1424, 501–1510, or 501–1375.

Reference: *386i Field Service Manual*, 814–0002.

Sun-3/E

501-8031

4MB



JUMPER	PINS	SETTING	DESCRIPTION
J100	0-4MB	N/A	No pins
J100	4-8MB	*	Selects 1st 4MB board
J100	8-12MB	*	Selects 2nd 4MB board
J100	12-16MB	*	Selects 3rd 4MB board

*Only one location is jumpered, depending on the expansion board address range.

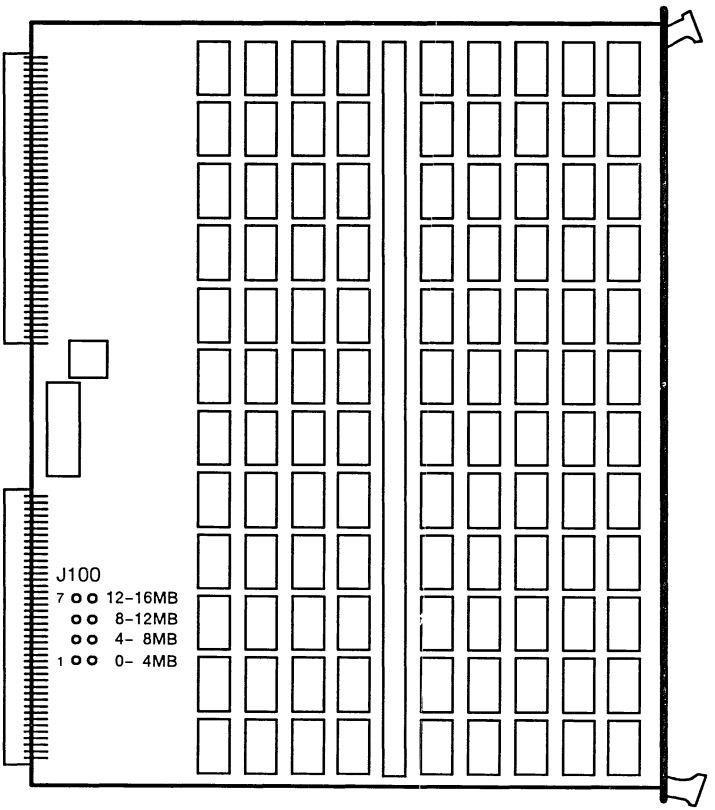
Power: 1.1 Amps @ +5Vdc
5.5 Watts

Note: The Sun 3/E CPU board onboard memory occupies the first 4MB of the addressing range. The 4MB memory board can only be jumpered for 4MB increments in the 5 to 16MB address range.

Sun-3/E

501-8030

12MB



JUMPER	PINS	SETTING	DESCRIPTION
J100	0-4MB	N/A	No pins
J100	4-8MB	*	Selects 1st 4MB bank
J100	8-12MB	*	Selects 2nd 4MB bank
J100	12-16MB	*	Selects 3rd 4MB bank

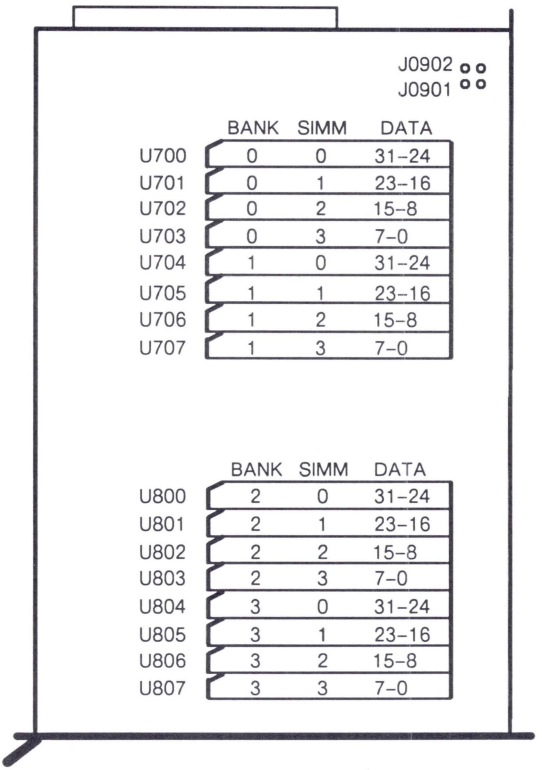
* Normally installed to configure full 12MB of memory

Power: 2.0 Amps @ +5Vdc
10.0 Watts

Note: The Sun 3/E CPU board onboard memory occupies the first 4MB of the addressing range. The 12MB memory board can be jumpered in 4MB increments in the 5 to 16MB range.

Sun-4/330

501-1723	501-1711	501-1755
501-1436	501-1317	501-1704
8MB w 1MB SIMMS	16MB w 1MB SIMMS	32MB w 4MB SIMMS



JUMPER	PINS	SETTING	DESCRIPTION
J0901	1-2	In	8 SIMMS installed
		Out	16 SIMMS installed
J902	1-2	In	1MB SIMM
	1-2	Out	4MB SIMM

Power: 1.1 Amps @ +5Vdc
5.5 Watts

Note: The Sun-4/330 memory uses 1MB SIMM, 501-1544 or 501-1565, or 4MB SIMM module, 501-1682.

Reference
Sun 4300 CPU and Memory Board Configuration Procedure, 813-2064.

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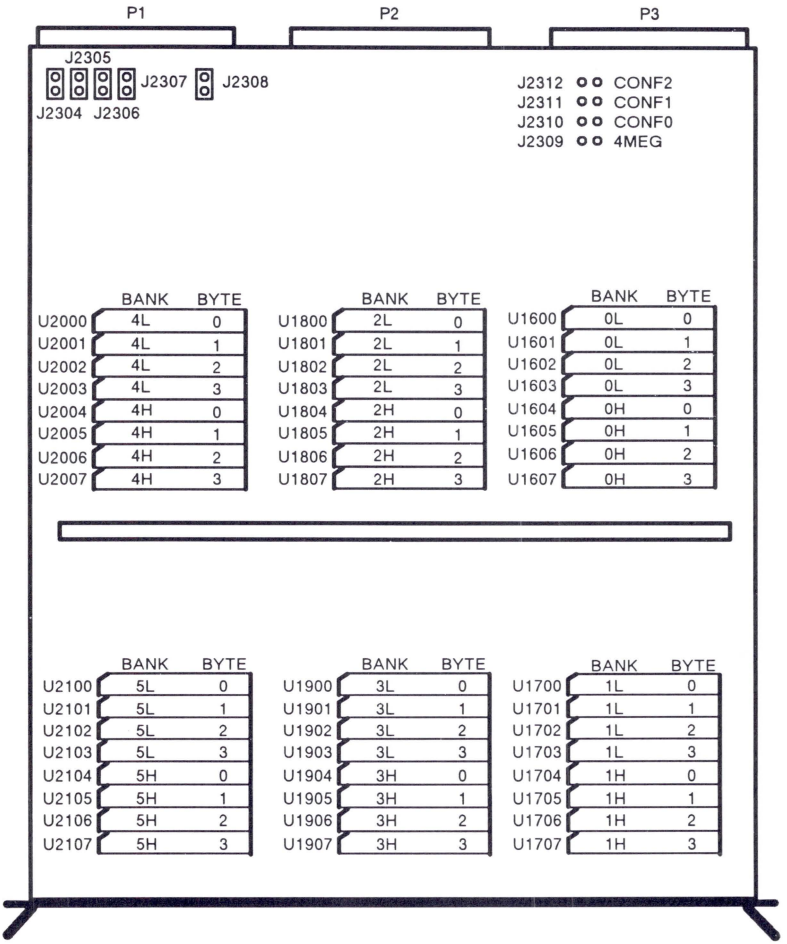
Sun 4300 Memory

Sun–4/310/350/360/370/380/390

501–1563	501–1564	501–1495	501–1703
24MB w 1MB SIMMS	8MB w 1MB SIMMS	48MB w 1MB SIMMS	32MB w 4MB SIMMS



Note: Socket locations are silkscreened on the solder side of this board.

Reference
8 Mbyte, 24 Mbyte, and 48 Mbyte Parity Memory Board Installation and Configuration Manual, 800–3403.

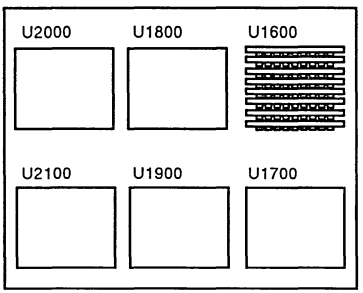
501–1563 501–1564 501–1495 501–1703
Jumper Settings & Memory Configurations

JUMPER	SETTING	DESCRIPTION
J2304	In	BGR0
J2305	In	BGR1
J2306	In	BGR2
J2307	In	BGR3
J2308	In	IACK

JUMPER	SETTING	SIMM MODULE	PART NUMBER
J2309/4MEG	Out	1MB SIMM	501–1565/501–1544/501–1466
J2309/4MEG	In	4MB SIMM	501–1682

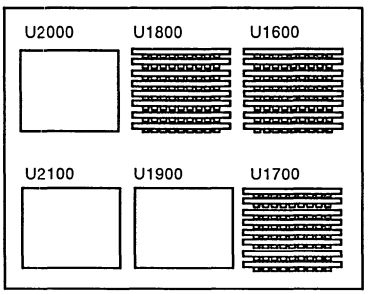
8MB
32MB

J2312 [o o] CONF2
J2311 [o o] CONF1
J2310 [o o] CONF0



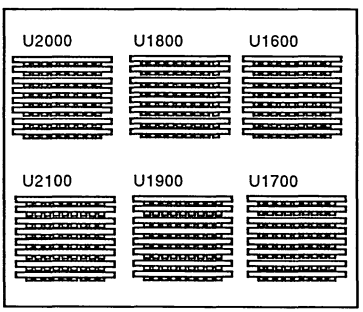
24MB
96MB

J2312 [o o] CONF2
J2311 o o CONF1
J2310 [o o] CONF0



48MB
192MB

J2312 o o CONF2
J2311 [o o] CONF1
J2310 o o CONF0



Power

24MB 4.3 Amps @ +5vdc
21.5 Watts

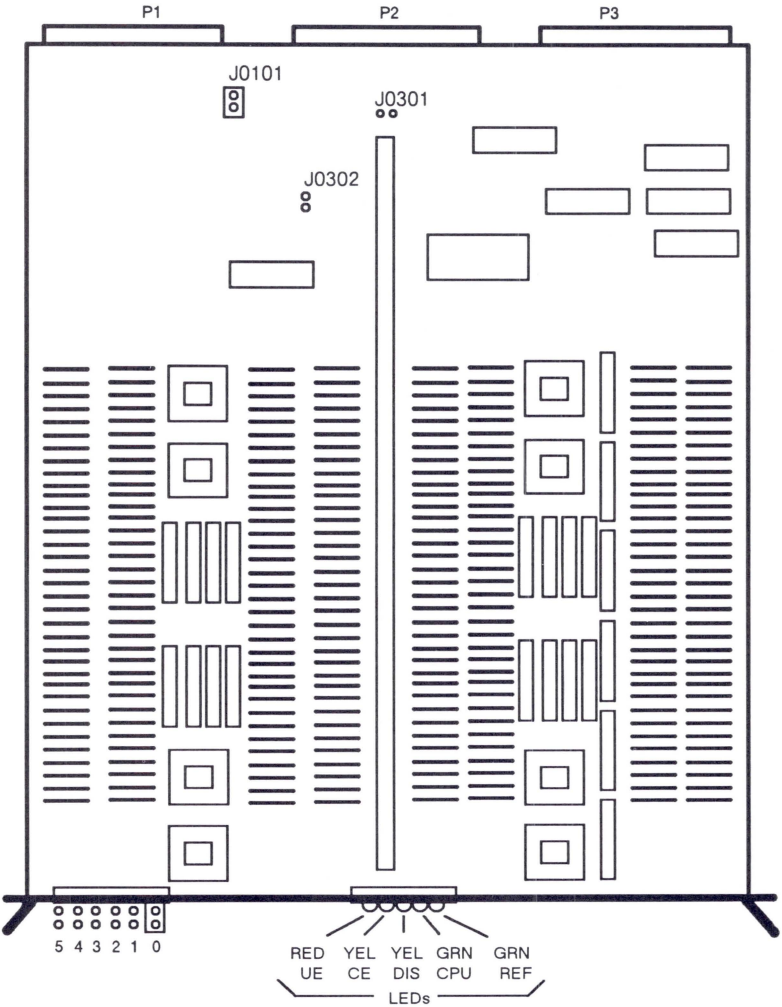
48MB 5.3 Amps @ +5vdc
26.5 Watts

Sun 4400 Memory

Sun–4/470/490

501–1333 501–1721

32MB 128MB



Power

32MB	15.6 Amps @ +5Vdc
	78.0 Watts
128MB	13.7 Amps @ +5Vdc
	68.5 Watts

501–1333 501–1721
LED Status & Jumper Settings

Memory Board LEDs

			STATUS	
	LED	COLOR	INTERPRET ON	INTERPRET OFF
Top	UE	Red	Uncorrectable error	Normal condition
	CE	Yel	Correctable error	Normal condition
	DIS	Yel	CPU access disabled	CPU access enabled
	CPU	Grn	CPU accesses (flickering) memory	No CPU access occurring
Bottom	REF	Grn	Refresh is working properly	Refresh failure. Board needs attension.

Jumper Settings

JUMPER	PINS	SETTING	DESCRIPTION
J0101	1–2	In	Enable SET.RDY
J0301	1–2	In	Set for 32MB board
J0302	1–2	Out	Set for 32MB board
J0301	1–2	Out	Set for 128MB board
J0302	1–2	In	Set for 128MB board
J0310	1–2	In	1st memory board
J0311	1–2	In	2nd memory board
J0312	1–2	In	3rd memory board
J0313	1–2	In	4th memory board
J0314	1–2	In	5th memory board
J0315	1–2	In	6th memory board

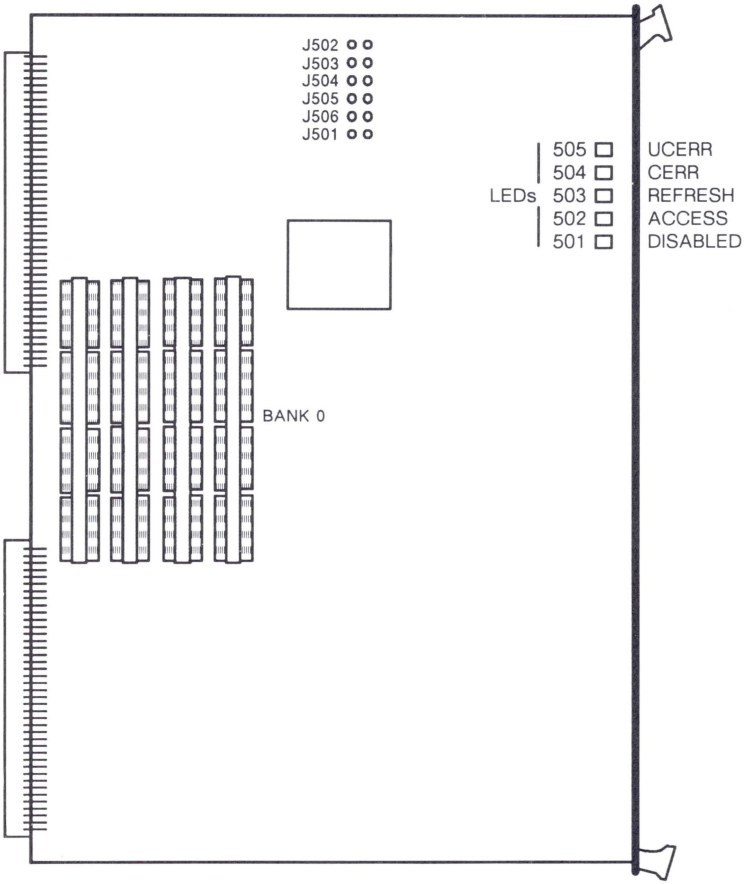
Notes
1. The Sun 4400 CPU requires EPROM 3.0 or greater to support the 128MB Memory Board.
2. SunOS 4.0.3 supports up to 256MB of memory.
3. SunOS 4.1 PSR A requires *4.1 PSR A Sun–4 PMEG Patch* to enable over 256MB of memory.
4. A Correctable Error on the sixth 128MB board turns on the CE LED and turns off error logging. Reset power to clear this condition.

Reference
32– and 128–Mbyte Memory Board Installation and Configuration Procedures, 800–3518.

Sun-4/E

501-8042

4MB



501–8042
Jumper Descriptions

BOARD SIZE — Sets the memory size of the board.

BOARD ID — Determines where a memory board is mapped into the 256MByte space allocated for memory expansion.

HI/LOW MEM — IN maps the memory board into the lowest 256MBytes of CPU type 0 space. OUT maps the memory board in the address range between 256MBytes and 512MBytes.

BD ID	LOW MEMORY		HIGH MEMORY
0 =	0x00000000 – 0x003fffff	or	0x10000000 – 0x103fffff
1 =	0x01000000 – 0x013fffff	or	0x11000000 – 0x113fffff
2 =	0x02000000 – 0x023fffff	or	0x12000000 – 0x123fffff
3 =	0x03000000 – 0x033fffff	or	0x13000000 – 0x133fffff

1M/4M DRAM — Specifies 1MByte or 4Mbyte DRAM modules.

Jumper Settings

Memory Mapped into the Upper 256MBytes of Type 0 Address Space

BOARD SIZE	BOARD ID	HI/LOW MEM	1/4MB DRAM	ADDRESS RANGE		
J0502	J0503	J0504	J0505	J0506	J0501	PHYSICAL ADDR RANGE
Out	Out	Out	Out	Out	Out	0x10000000 – 0x103fffff
Out	Out	Out	In	Out	Out	0x11000000 – 0x113fffff
Out	Out	In	Out	Out	Out	0x12000000 – 0x123fffff
Out	Out	In	In	Out	Out	0x13000000 – 0x133fffff

Memory Mapped into the Lower 256MBytes of Type 0 Address Space

BOARD SIZE	BOARD ID	HI/LOW MEM	1/4MB DRAM	ADDRESS RANGE		
J0502	J0503	J0504	J0505	J0506	J0501	PHYSICAL ADDR RANGE
Out	Out	Out	Out	In	Out	0x00000000 – 0x003fffff
Out	Out	Out	In	In	Out	0x01000000 – 0x013fffff
Out	Out	In	Out	In	Out	0x02000000 – 0x023fffff
Out	Out	In	In	In	Out	0x03000000 – 0x033fffff

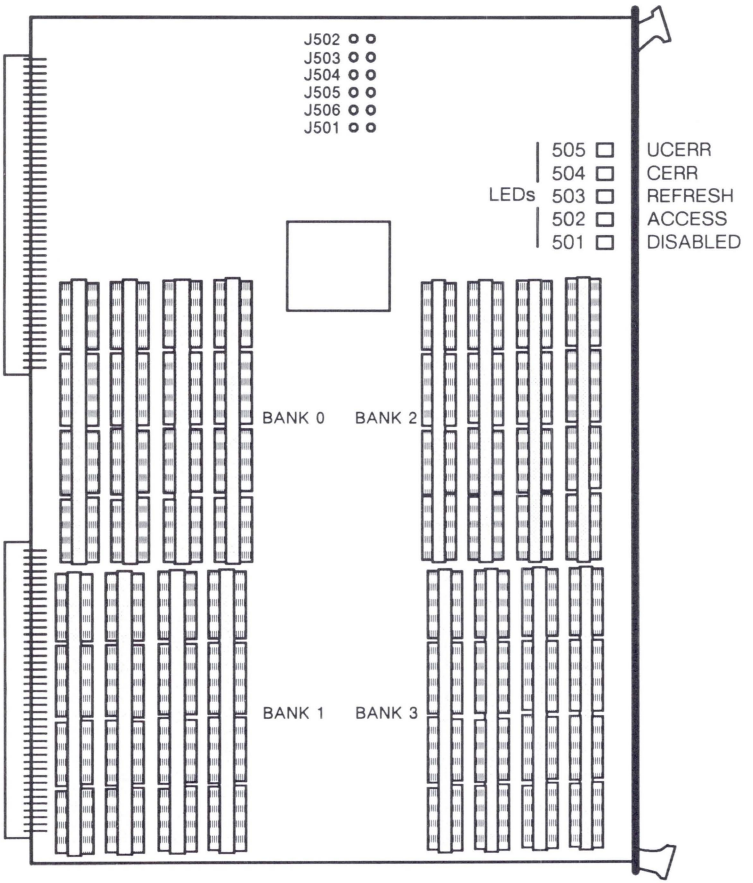
Notes
1. For specific application dependent memory configurations refer to the *SPARCengine 1E ECC Memory Card User's Manual*, 800–8138.
2. The default configuration for Hi Mem/Low Mem is J0506 OUT.

Reference
SPARCengine 1E ECC Memory Card User's Manual, 800–8138.

Sun-4/E

501-8036

16MB



501–8036
Jumper Descriptions

BOARD SIZE — Sets the memory size of the board.

BOARD ID — Determines where a memory board is mapped into the 256MByte space allocated for memory expansion.

HI/LOW MEM — IN maps the memory board into the lowest 256MBytes of CPU type 0 space. OUT maps the memory board in the address range between 256MBytes and 512MBytes.

BD ID	LOW MEMORY		HIGH MEMORY
0 =	0x00000000 – 0x00ffffff	or	0x10000000 – 0x10ffffff
1 =	0x01000000 – 0x01ffffff	or	0x11000000 – 0x11ffffff
2 =	0x02000000 – 0x02ffffff	or	0x12000000 – 0x12ffffff
3 =	0x03000000 – 0x03ffffff	or	0x13000000 – 0x13ffffff

1M/4M DRAM — Specifies 1MByte or 4MByte DRAM modules.

Jumper Settings

Memory Mapped into the Upper 256MBytes of Type 0 Address Space

BOARD SIZE	BOARD ID	HI/LOW MEM	1/4MB DRAM	ADDRESS RANGE		
J0502	J0503	J0504	J0505	J0506	J0501	PHYSICAL ADDR RANGE
In	In	Out	Out	Out	Out	0x10000000 – 0x10ffffff
In	In	Out	In	Out	Out	0x11000000 – 0x11ffffff
In	In	In	Out	Out	Out	0x12000000 – 0x12ffffff
In	In	In	In	Out	Out	0x13000000 – 0x13ffffff

Memory Mapped into the Lower 256MBytes of Type 0 Address Space

BOARD SIZE	BOARD ID	HI/LOW MEM	1/4MB DRAM	ADDRESS RANGE		
J0502	J0503	J0504	J0505	J0506	J0501	PHYSICAL ADDR RANGE
In	In	Out	Out	In	Out	0x00000000 – 0x00ffffff
In	In	Out	In	In	Out	0x01000000 – 0x01ffffff
In	In	In	Out	In	Out	0x02000000 – 0x02ffffff
In	In	In	In	In	Out	0x03000000 – 0x03ffffff

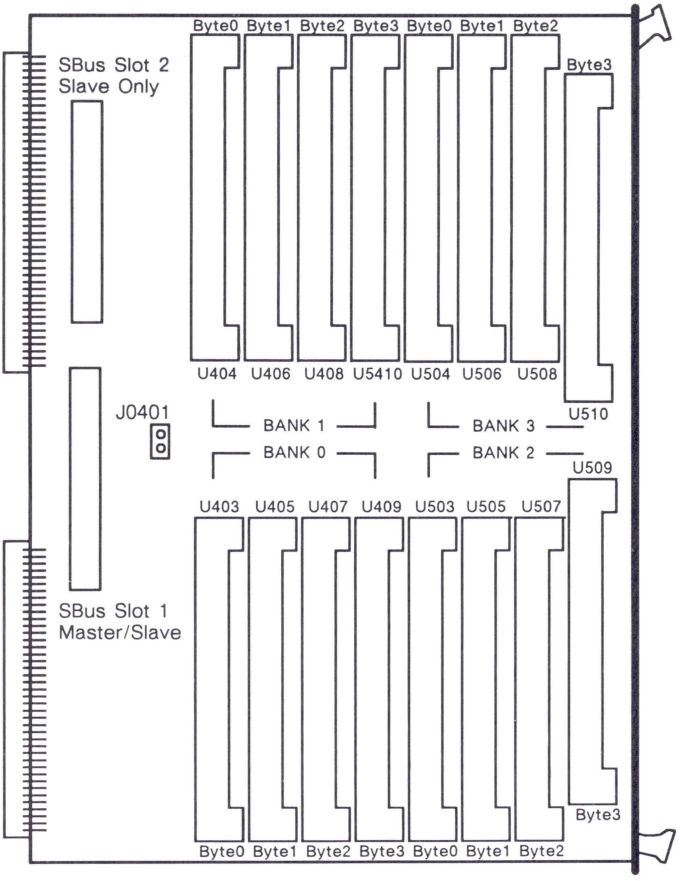
Notes
1. For specific application dependent memory configurations refer to the *SPARCengine 1E ECC Memory Card User's Manual*, 800–8138.
2. The default configuration for Hi Mem/Low Mem is J0506, OUT.

Reference
SPARCengine 1E ECC Memory Card User's Manual, 800–8138.

Sun–4/E Combo Memory

501–8060

0MB



JUMPER	SETTING	DESCRIPTION
J0401	In	Enable Memory
J0401	Out	Disable Memory

Note: SunOS 4.0.3e requires the *4.0.3e SRX Feature Tape* to support the Combo Memory Card.

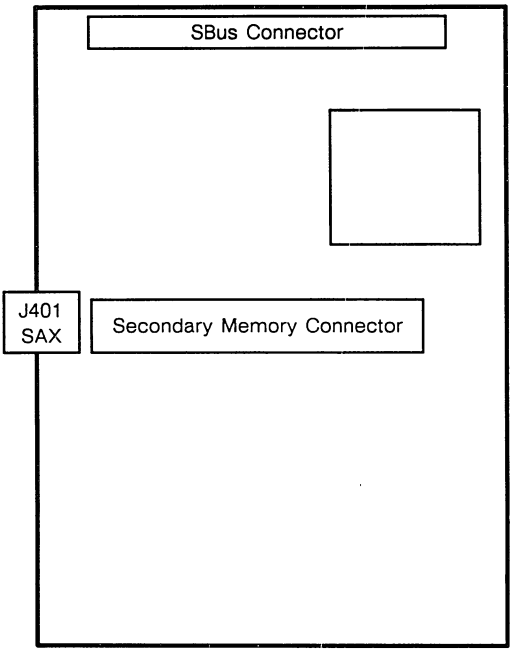
Reference
SPARCengine 1E Combo Memory Card User's Manual, 800–8152.

SBus Primary Memory

Sun–4/75

501–1823

32MB



Power: 0.8 Amps @ +5Vdc
4.0 Watts

Notes

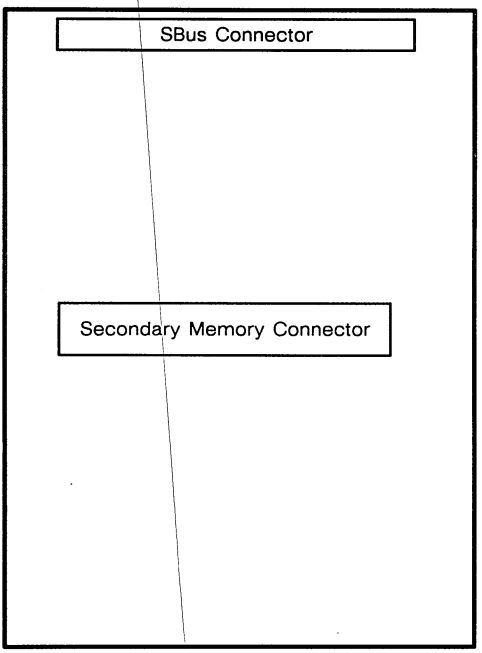
1. Connect Flex Cable 530–1814 to J401 on the Primary Memory and to the SAX connector on the CPU.
2. Use standoff 240–1879 to mount the Secondary Memory.

SBus Secondary Memory

Sun–4/75

501–1824

32MB



Power: 0.8 Amps @ +5Vdc
4.0 Watts

Notes
1. The Secondary Memory must be installed onto the 501–1823 Primary Memory board.
2. Use standoff 240–1879–01 to mount the Secondary Memory.

VIDEO/GRAPHICS

VIDEO/GRAPHICS

Video/Graphic

VMEbus

P4 Bus

Sun386i

Video/Graphic – Continued

SBus

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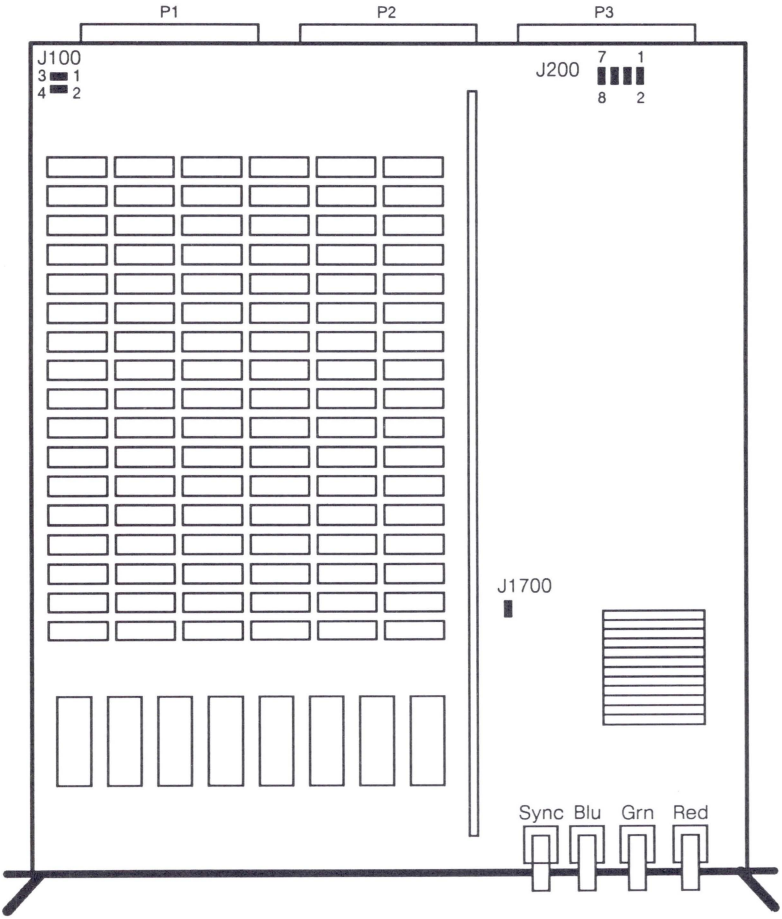
Sun 2160 Color Frame Buffer

1152 x 900 61.8KHz 66Hz

Sun–3/150/180/260/280/460/470/480

501–1014



UNIX ID: /dev/cgtwo0

Power: 15.0 Amps @ +5Vdc
5.7 Amps @ –5Vdc
0.2 Amps @ –12Vdc
107.0 Watts

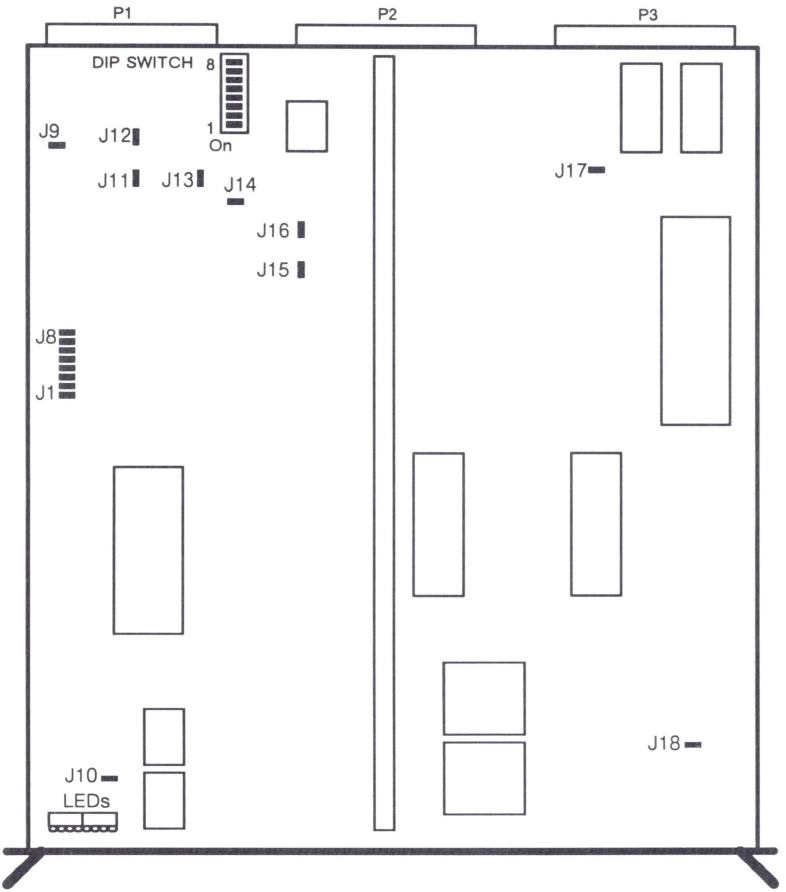
501–1014
Jumper Settings

JUMPER	PINS	SETTING	DESCRIPTION
J100*	1–3 3–4	In Hardwired	Sets base address to 400000
J200	1–2 3–4 5–6 7–8	Out Out Out Out	Sense Bit 0 Sense Bit 1 Sense Bit 2 Sense Bit 3
J1700	1–2	In	Enable clock

* Pins 1–3 are hardwired on Fab 270–1014–02/03.
Pins 1–3 are not hardwired on Fab 270–1014–05/06.

GP Graphics Processor

Sun–3/160/180/260/280/460/470/480
Sun–4/150/260/280/330/350/360/370/380
501–1055



UNIX ID: /dev/gpone0a–d

Power

GP 16.4 Amps @ +5Vdc
82.0 Watts

501–1055
Jumper & Switch Settings

JUMPER	SETTING	DESCRIPTION
J1	Out	GP board ID bit 3
J2	In	GP board ID bit 4
J3	In	GP board ID bit 2
J4	Out	GP board ID bit 5
J5	Out	GP board ID bit 1
J6	Out	GP board ID bit 6
J7	In, if GB present	GP board ID bit 0
J8	Out	GP board ID bit 7
J9	Out*	GND test point
J10	Out*	GND test point
J11	Out*	PP halt test point
J12	Out*	VP halt test point
J13	Out*	Manual reset test point
J14	In	Main clock connect
J15	Out	VP free-running CLK test point
J16	Out	PP free-running CLK test point
J17	Out*	GND test point
J18	Out	GND test point

*Hardwired

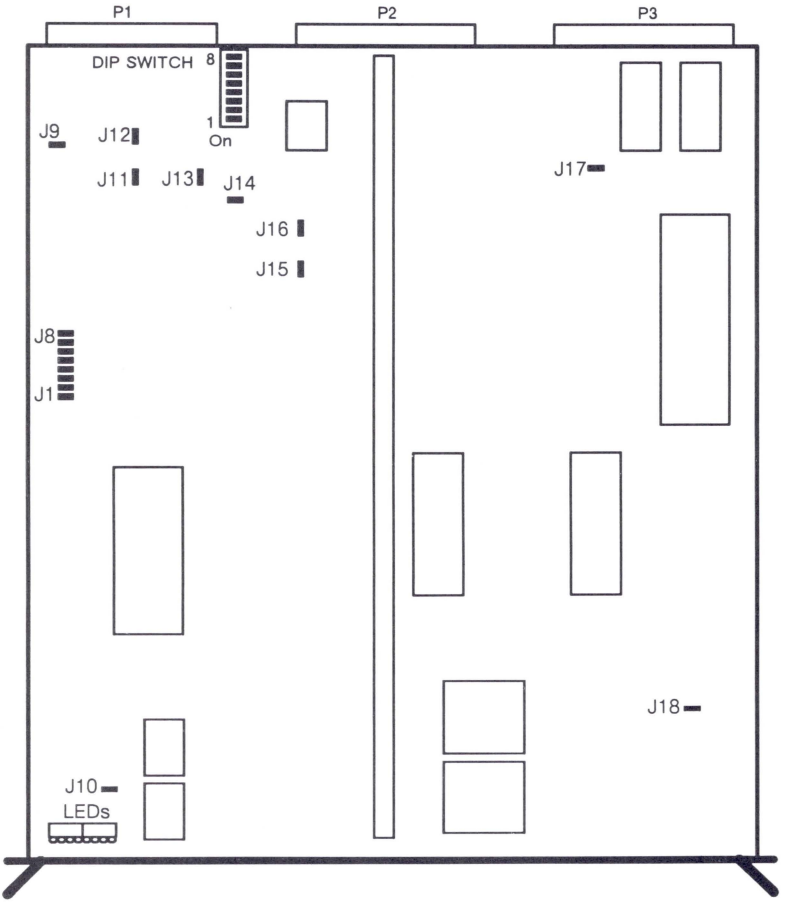
DIP SWITCH	ON/OFF	DESCRIPTION
1	On	VME address bit 17
2	Off	VME address bit 16
3	On	VME address bit 23
4	On	VME address bit 22
5	Off	VME address bit 21
6	On	VME address bit 20
7	On	VME address bit 19
8	On	VME address bit 18

Notes
1. J7 must be IN when a Graphics Buffer is installed.
2. The Sun-2/160 Power Supply requires RC Network 540-1300-01.
3. The default base address is 0x210000.

Reference
Hardware Installation Manual for the Sun-2/130 and Sun-2/160, 800-1144.

GP+ Graphics Processor Plus

Sun–3/160/180/260/280/460/470/480
Sun–4/150/260/280/330/350/360/370/380
501–1139



UNIX ID: /dev/gpone0a–d

Power

GP+ 14.6 Amps @ +5Vdc
73.0 Watts

501–1139
Jumper & Switch Settings

JUMPER	SETTING	DESCRIPTION
J1	Out	GP board ID bit 3
J2	In	GP board ID bit 4
J3	In	GP board ID bit 2
J4	Out	GP board ID bit 5
J5	Out	GP board ID bit 1
J6	Out	GP board ID bit 6
J7	In, if GB present	GP board ID bit 0
J8	Out	GP board ID bit 7
J9	Out*	GND test point
J10	Out*	GND test point
J11	Out*	PP halt test point
J12	Out*	VP halt test point
J13	Out*	Manual reset test point
J14	In	Main clock connect
J15	Out	VP free–running CLK test point
J16	Out	PP free–running CLK test point
J17	Out*	GND test point
J18	Out	GND test point

*Hardwired

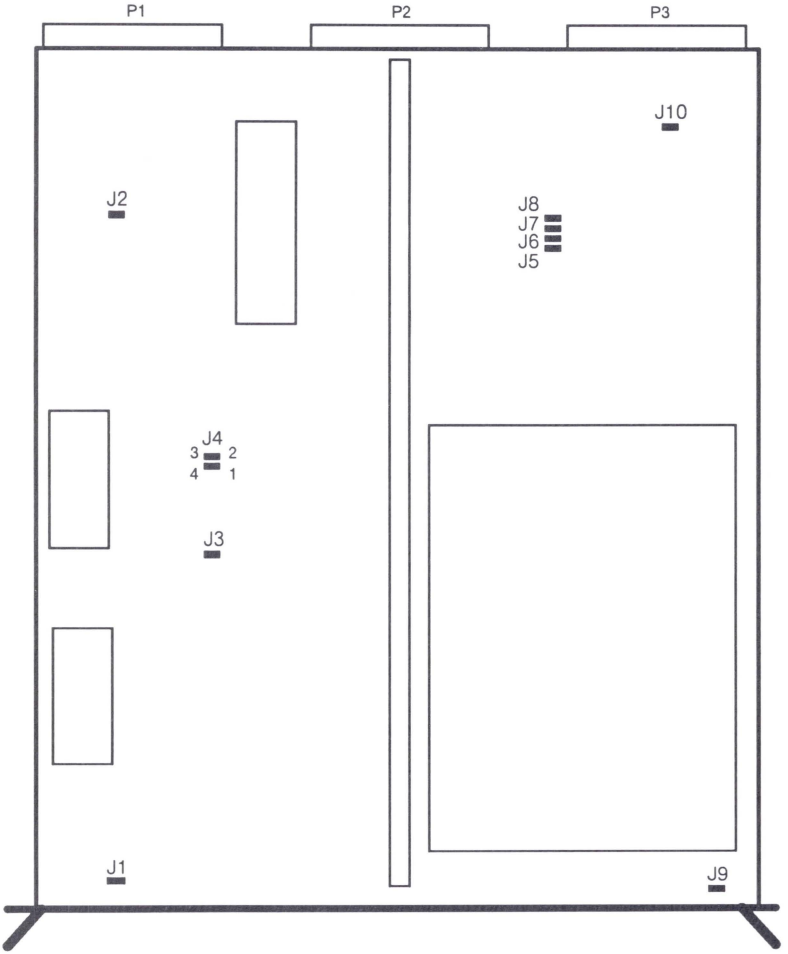
DIP SWITCH	ON/OFF	DESCRIPTION
1	On	VME address bit 17
2	Off	VME address bit 16
3	On	VME address bit 23
4	On	VME address bit 22
5	Off	VME address bit 21
6	On	VME address bit 20
7	On	VME address bit 19
8	On	VME address bit 18

Notes
1. The Sun–2/160 Power Supply requires RC Network 540–1300–01 (FCO 160–0002, Doc 807–0029).
2. The default base address is 0x210000.

Reference
Graphics Processor Plus Configuration Procedures, 813–2023.

GB Graphics Buffer

Sun–3/160/180/260/280/460/470/480
Sun–4/150/260/280/360/370/380
501–1058



Power: 2.1 Amps @ +5Vdc
10.5 Watts

501–1058
Jumper Settings

JUMPER	SETTING	DESCRIPTION
J1	Out	GND test point
J2	Out	GND test point
J3	Out	Manual reset test point
J4 (2–3)	In	Graphics buffer = 2MB
J5	Out *	Refresh interval test point bit 0
J6	Out *	Refresh interval test point bit 1
J7	Out *	Refresh interval test point bit 2
J8	Out *	Refresh interval test point bit 3
J9	Out	GND test point
J10	Out	GND test point

* Hardwired

Note: The Sun–2/160 Power Supply requires RC Network, 540–1300–01, (FCO 160–0002, Doc 807–0029).

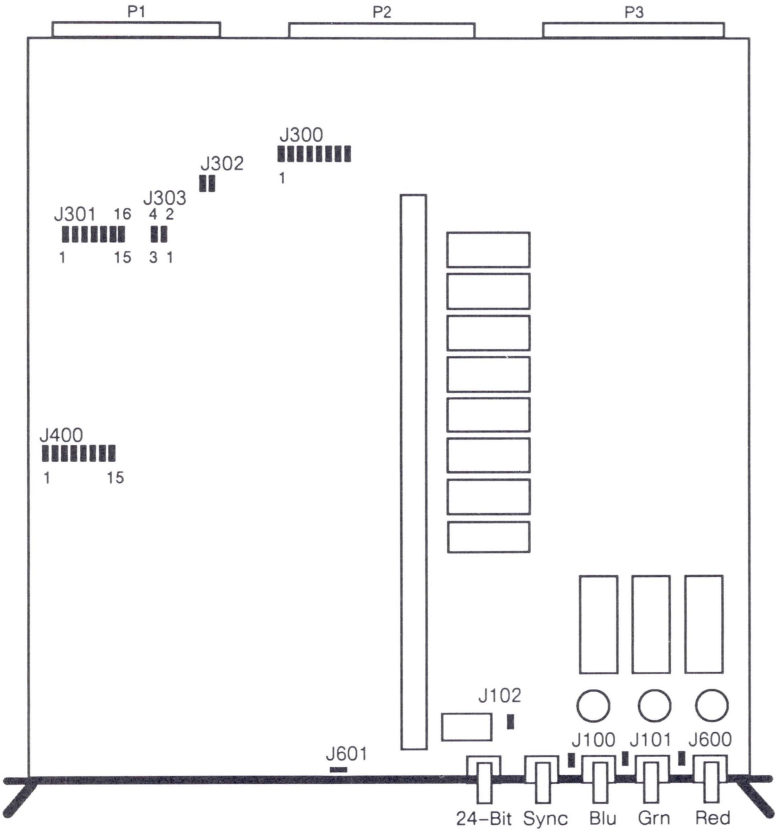
Reference
Hardware Installation Manual for the Sun–2/130 and Sun–2/160, 800–1144.

CG3 Sun 3160 Color Frame Buffer

1152 x 900 61.8KHz 66Hz

Sun–3/150/160/180/260/280/460/470/480
Sun–4/110/150/260/280/310/330/350/360/370/380

501–1116	501–1089	501–1319
Single Buffered	Double Buffered*	1Kx1K



*Double buffering requires SunOS 3.5 (Sun–3) or SunOS 4.0 (Sun–4).

UNIX ID: /dev/cgtwo0

Power:	501–1116	501–1319 and 501–1089
	8.2 Amps @ +5Vdc	8.3 Amps @ +5Vdc
	2.9 Amps @ –5Vdc	3.1 Amps @ –5Vdc
	0.1 Amps @ +12Vdc	0.1 Amps @ +12 Vdc
	0.2 Amps @ –12Vdc	0.2 Amps @ –12Vdc
	59.0 Watts	61.2 Watts

501–1116 501–1089 501–1319
Jumper Settings

JUMPER	PINS	SETTING	DESCRIPTION
J100	All	Factory Set	
J101	All	Factory Set	
J102	1–2	In	
J300	1–2	Out	
	3–4	Out	
	5–6	Out	
	7–8	Out	
	9–10	Out	
	11–12	Out	
	13–14	Out	
	15–16	Out	
J301	1–2	Out	
	3–4	Hardwired	
	5–6	Out	
	7–8	Out	Default Address
	9–10	Hardwired	= 0x400000
	11–12	Out	
	13–14	Hardwired	
	15–16	Hardwired	
J302	1–2	Out	
	3–4	Hardwired	
J303	1–2	Hardwired	
	3–4	Out	
J400	1–2/J8	Out †	
	3–4/J9	Out	1152x900
	5–6/J10	Out	Resolution
	7–8/J11	Out	
	9–10/J12	Out	VME port and GP port
	11–12/J13	In*	VME port fast read
	13–14/J14	Out	Reserved
	15–16/J15	Out	Reserved
J600	All	Factory Set	
J601	All	Factory Set	

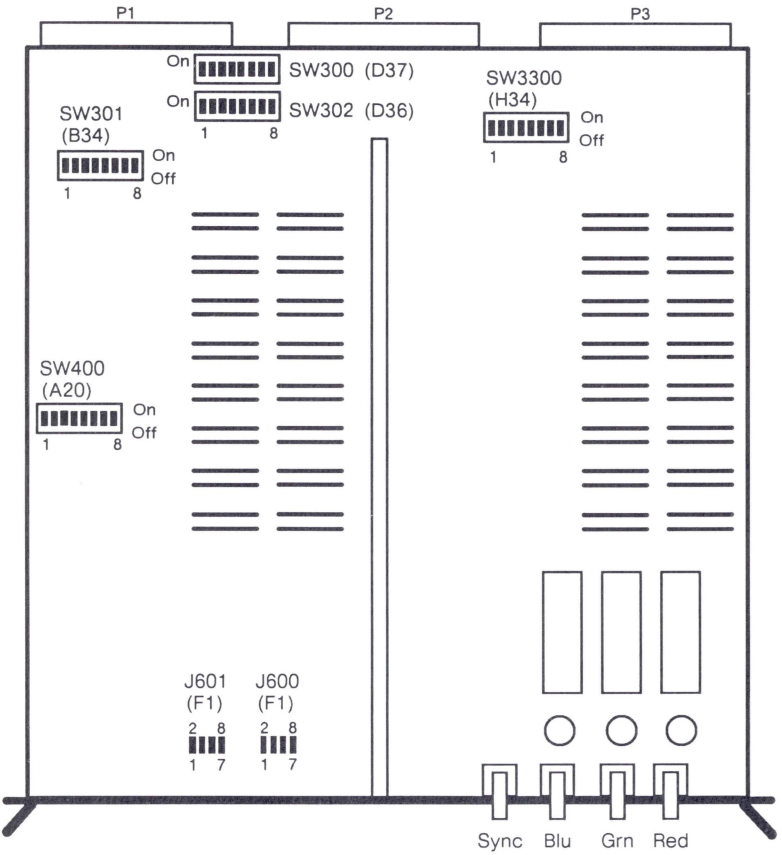
* For revisions below 501–1116–06, J400, Pins 11–12/J13 are OUT.
† Jumper J400, Pins 1–2/J8, are jumpered for 1024x1024 resolution.

References
1. *Installation Notes for the GP2 and CG5 Boards*, 800–2330.
2. *Sun–3 Color Board Configuration Procedures*, 813–2030.

CG5 Color Frame Buffer

1152 x 900 61.8KHz 66Hz

Sun–3/150/160/180/260/280/460/470/480
Sun–4/110/150/260/280/310/330/350/360
Sun–4/370/380/380/470/490
501–1267



UNIX ID: /dev/cgtwo0

Power: 8.8 Amps @ +5Vdc
3.2 Amps @ –5Vdc
0.2 Amps @ +12Vdc
0.1 Amps @ –12Vdc
64.2 Watts

501–1267
Switch Settings

SWITCH	SETTING	DESCRIPTION
SW300–1	Off	A24 address decode
SW300–2	Off	A25 address decode
SW300–3	Off	A26 address decode
SW300–4	Off	A27 address decode
SW300–5	Off	A28 address decode
SW300–6	Off	A29 address decode
SW300–7	Off	A30 address decode
SW300–8	Off	A31 address decode
SW301–1	Off	A22 address decode
SW301–2	On	A23 address decode
SW301–3	Off	AM4 decode
SW301–4	Off	AM5 decode
SW301–5	On	2MB H/L decode
SW301–6	Off	2/4MB, A21 decode
SW301–7	On	2/4MB, X.A21 decode
SW301–8	On	2/4MB, X.A21
SW302–1	On	Control space 2/4MB decode
SW302–2	Off	Control space 2/4MB decode
SW302–3	Off	24/32 bit address decode (24 bit)
SW302–4	On	24/32 bit address decode (24 bit)
SW302–5	n/c	Not used
SW302–6	n/c	Not used
SW302–7	n/c	Not used
SW302–8	n/c	Not used
SW400–1	Off	Status bit 08 (resolution)
SW400–2	Off	Status bit 09 (resolution)
SW400–3	Off	Status bit 10 (resolution)
SW400–4	Off	Status bit 11 (resolution)
SW400–5	On	Status bit 12 (extra registers)
SW400–6	On	Status bit 13 (fast RD)
SW400–7	Off	Status bit 14 (RFU)
SW400–8	Off	Status bit 15 (RFU)

501-1267
Switch Settings – Continued

SWITCH	SETTING	DESCRIPTION
SW3300-1	On	Selects board 0
SW3300-2	Off	Selects board 1
SW3300-3	Off	Selects board 2
SW3300-4	Off	Selects board 3
SW3300-5	*	P2 Bus enable
SW3300-6	Off	No connection
SW3300-7	Off	No connection
SW3300-8	Off	No connection

* SW3300-5 is ON when the CG5 is used with the GP2 and OFF when when it is not used with the GP2.

Jumper Settings

J600

PINS	SETTING	DESCRIPTION
1 to 2	In	V reset
3 to 4	Out	Ext vertical blank output to ground
5 to 6	Out	Ext display buffer A output to ground
7 to 8	Out	No connection

J601

PINS	SETTING	DESCRIPTION
1 to 2	In	Green sync
3 to 4	Out	Green sync
5 to 6	Out	Sync
7 to 8	In	Sync

Notes
1. The Sun 4300 CPU must be ≥501-1316-03 for use with CG5.
2. The CG5 must be ≥501-1267-05 for use with the 501-1539 ISP-80 Disk Controller.

References
1. *Installation Notes for the GP2 and CG5 Boards*, 800-2330.
2. *Configuration Procedures for the GP2 and CG5 Boards*, 813-2059.

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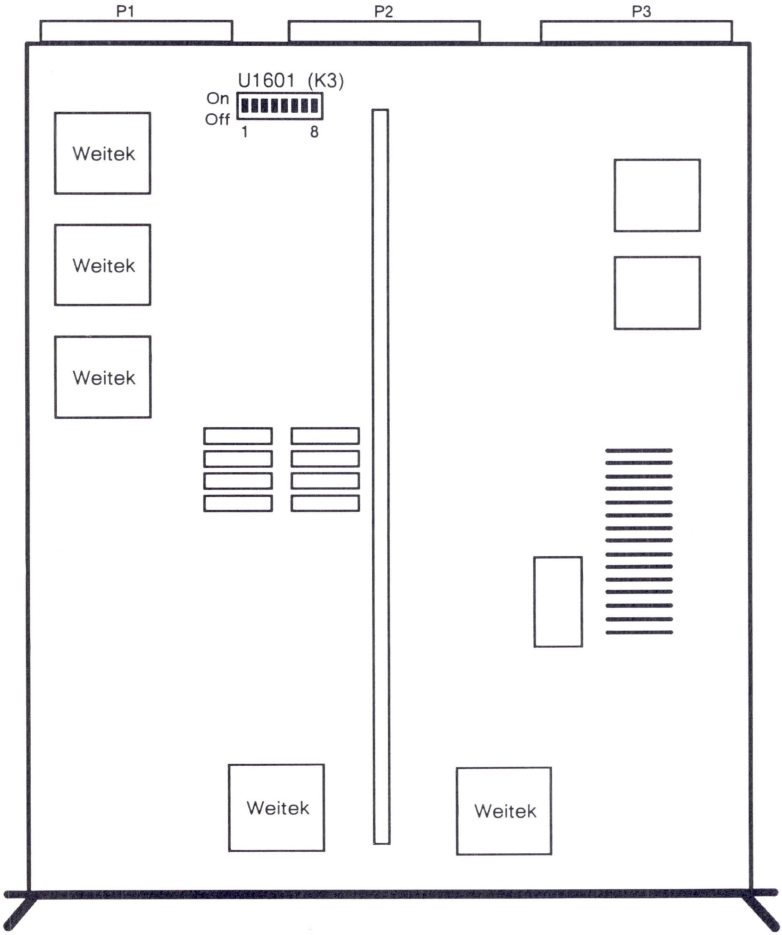
GP2 Graphics Processor

Sun–3/150/160/180/260/280/460/470/480
Sun–4/150/260/280/330/350/360/370/380
Sun–4/390/470/490
501–1268



UNIX ID: /dev/gpone0a–d

Power: 12.1 Amps @ +5Vdc
60.5 Watts

501–1268
Switch Settings

U1601 – Enable P2 Connection

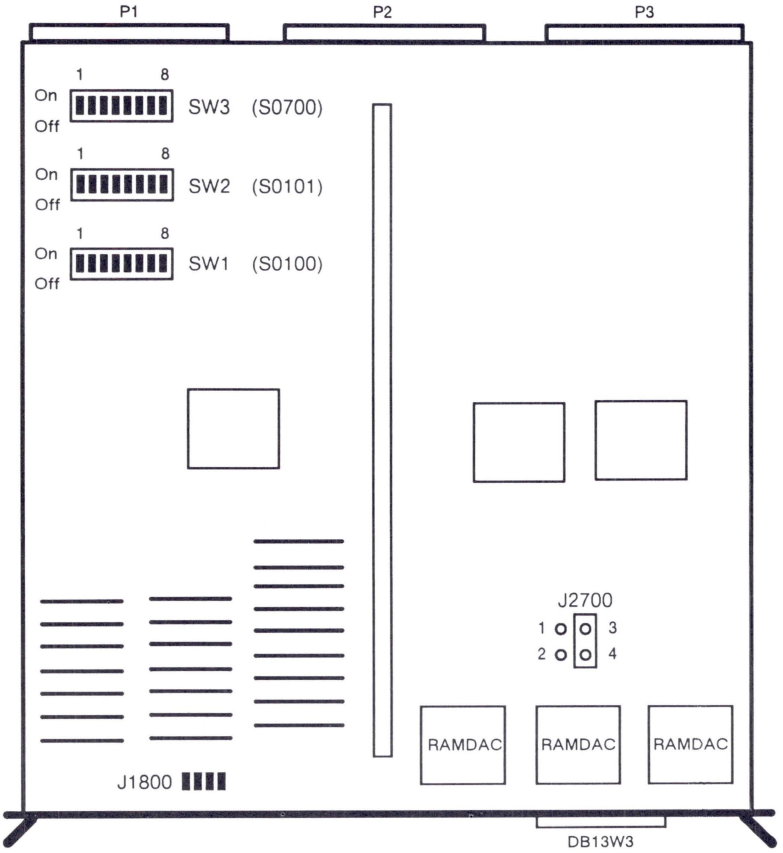
DIP SWITCH	SWITCH	SETTING	DESCRIPTION
U1601	1	Off	A18 address decode
	2	On	A19 address decode
	3	On	A20 address decode
	4	Off	A21 address decode
	5	On	A22 address decode
	6	On	A23 address decode
	7	On	Not used
	8	On	Not used

Notes
1. The GP2 is used with the CG5 or CG9. Unbundled software is required for SunOS 3.5, 3.5.1, 3.5.2, Sys4–3.2, and Sys4–3.2.1. Unbundled software is not required for SunOS 4.0.
2. The GP2 must be ≥501–1268–07 for use with CG9.
3. The CG9 is not supported under OpenWindows Version 2.

References
1. *Installation Notes for the GP2 and CG5 Boards*, 800–2330.
2. *Configuration Procedures for the GP2 and CG5 Boards*, 813–2059.

CG9 24-bit Color Frame Buffer

1152 x 900 61.8KHz 66Hz
Sun-3/260/460/470/480
Sun-4/150/260/280/330/350/360/370/380
Sun-4/390/470/490
501-1434



UNIX ID: /dev/cgnine0

Power: 14.6 Amps @ +5Vdc
73.0 Watts

Notes
1. The GP2 must be ≥501-1268-07 when used with CG9.
2. The CG9 is not supported with the GP or GP+.
3. CG9 must be ≥501-1434-04 for use with the Xylogics 7053.
4. The CG9 is not supported under OpenWindows Version 2.

501–1434
Jumper & Switch Settings

JUMPER	PINS	SETTING	DESCRIPTION
J1800	1–2	Out	Display
	3–4	Out	Video blank
	5–6	Out	N/C
	7–8	Out	N/C
J2700	1–2	Out	Sync or Green
	3–4	In	Normal operation sync

SW1 S0100

DIP	SETTING	DESCRIPTION
1	On	A24
2	On	A25
3	On	A26
4	Off	A27
5	On	A28
6	On	A29
7	On	A30
8	On	A31

SW2 S0101

DIP	SETTING	DESCRIPTION
1	On/Off	N/C
2	On/Off	N/C
3	On	Flag
4	On/Off	N/C
5	Off	A32 mode
6	On	AM4 switch
7	On	AM5 switch
8	On	A23 mode

SW3 S0700

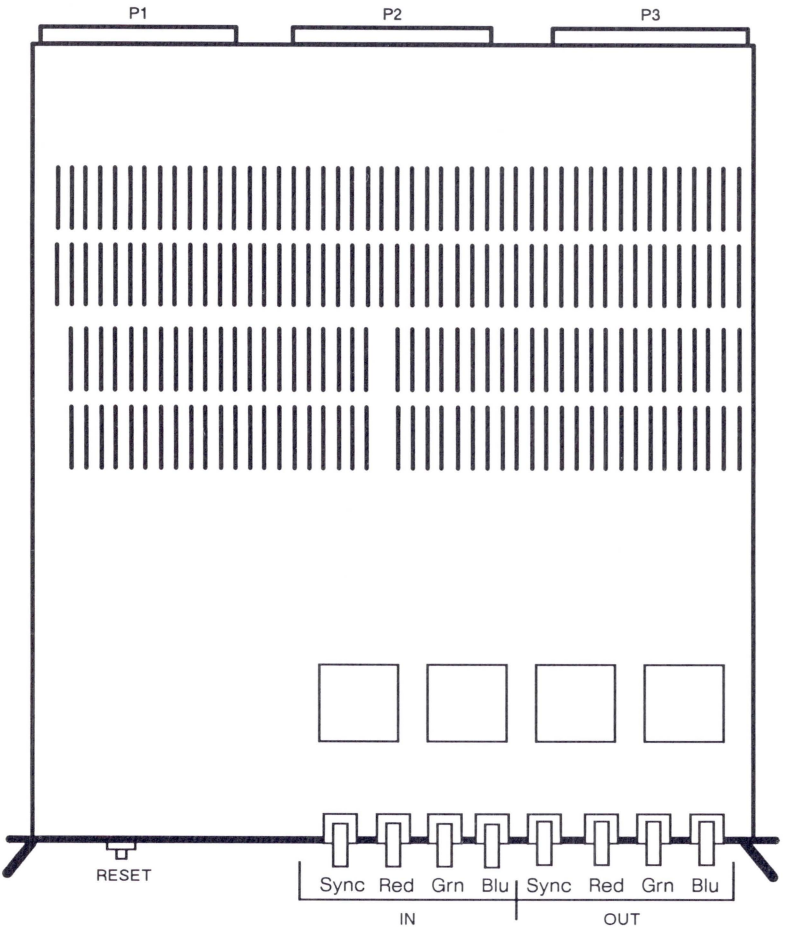
DIP	SETTING	DESCRIPTION
1	Off	P2 Bus enable
2	Off	Selects board 3
3	Off	Selects board 2
4	Off	Selects board 1
5	On	Selects board 0
6	On	N/C
7	Off	N/C
8	On	N/C

Reference
Installation and Configuration Guide for the CG9 Color Frame Buffer, 800–3627.

TAAC–1 Application Accelerator

Sun–3/160/180/260/280/460/470/480
Sun–4/260/280/360/370/380/390/470/490
501–1383 501–1447

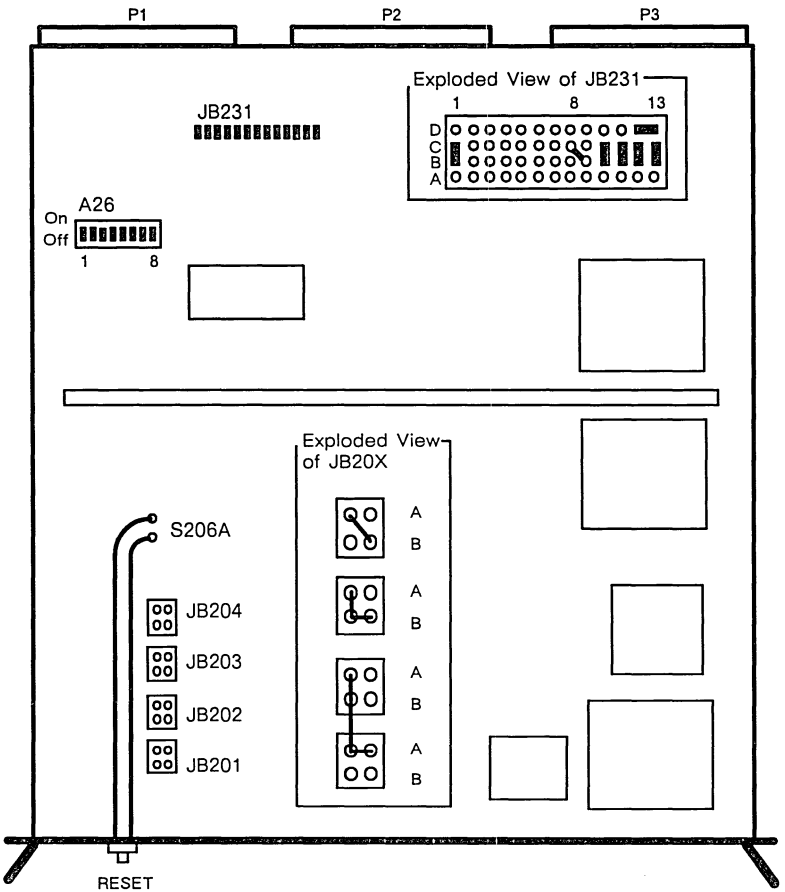
POP Board



UNIX ID: /dev/taac0

Power: 23.9 Amps @ +5Vdc
0.4 Amps @ –5Vdc
0.2 Amps @ +12Vdc
123.9 Watts

501–1383 501–1447
DFB Board



501-1383 501-1447
DFB Board
Jumper & Switch Settings

Jumper JB231

ROW	SHUNTS	DESCRIPTION
1	B - C	
2-7*	Not Used	Base addressing
8	8C - 9B	BGIN
9	Empty	
10	B - C	VMBG IN/OUT 0
11	B - C	VMBG IN/OUT 1
12	B - C	VMBG IN/OUT 2
12	12D - 13D	Enable 50MHz CLK
13	B - C	VMBG IN/OUT 3

*Jumpers 2-7 are hardwired on board revisions without Switch A26. These boards are Not marked with a Sun Part Number. Jumpers 2-7 are empty on board revisions that have Switch A26.

Switch A26

SWITCH NUMBER	DEFAULT SETTING*	Sun 4/150 †	VME ADDRESS
1†	On	On	Bit 25
2	On	On	Bit 26
3	Off	Off	Bit 27
4	On	Off	Bit 28
5	Off	Off	Bit 29
6	On	Off	Bit 30
7	On	Off	Bit 31

* Base address = 0x28000000
† Base adress = 0xF8000000

Notes
1. Do not disassemble the two-board assembly.
2. The TAAC-1 is not supported with the Sun-2 Color Frame Buffer.
3. The TAAC-1 is not supported with the CG9 Color Frame Buffer.
4. Jumpers JB201-JB204 are hardwired for 16K x 4K RAM.

Reference
Hardware Installation Manual for the Sun-2/130 and Sun-2/160, 800-1144.

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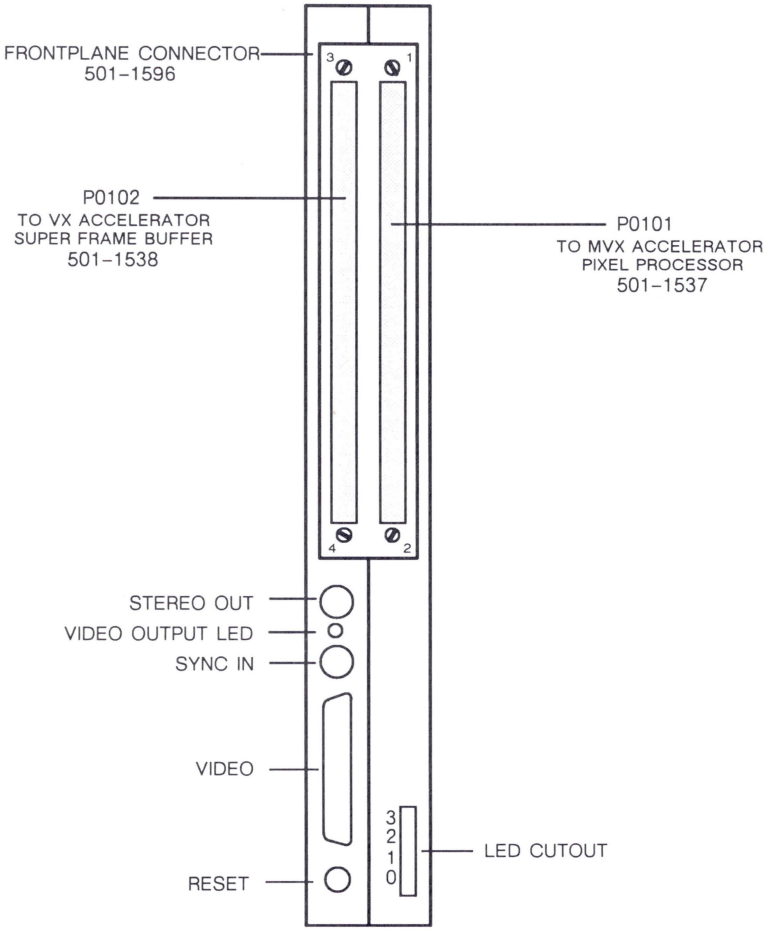
VX and MVX Visualization Accelerators

Board Set

501–1537 501–1538



Note: Tighten frontplane connector screws 1, 2, 3, and 4 in sequence, turning each screw no more than two turns at a time.

501–1537 501–1538
VX and MVX Visualization Accelerators

Notes
1. The minimum operating system is SunOS 4.1.1.
2. The Sun 4300 CPU and the Sun 4400 CPU require EPROM 4.1.1 when the VX is used as the system console.
3. Set the following NVRAM locations to the values shown when the VX is used as the system console:

LOCATION	SETTING
0x1f	12
0x60c	31
0x60d	40
0x60e	00
0x60f	00
0x610	fc
0x611	00
0x612	00
0x613	00

4. The LEDs on the MVX are not used.

References
1. *Hardware Installation for the VX and MVX Visualization Accelerators*, 800–5424–10ter.
2. *Software Installation for the VX and MVX Visualization Accelerators*, 800–6290–10.

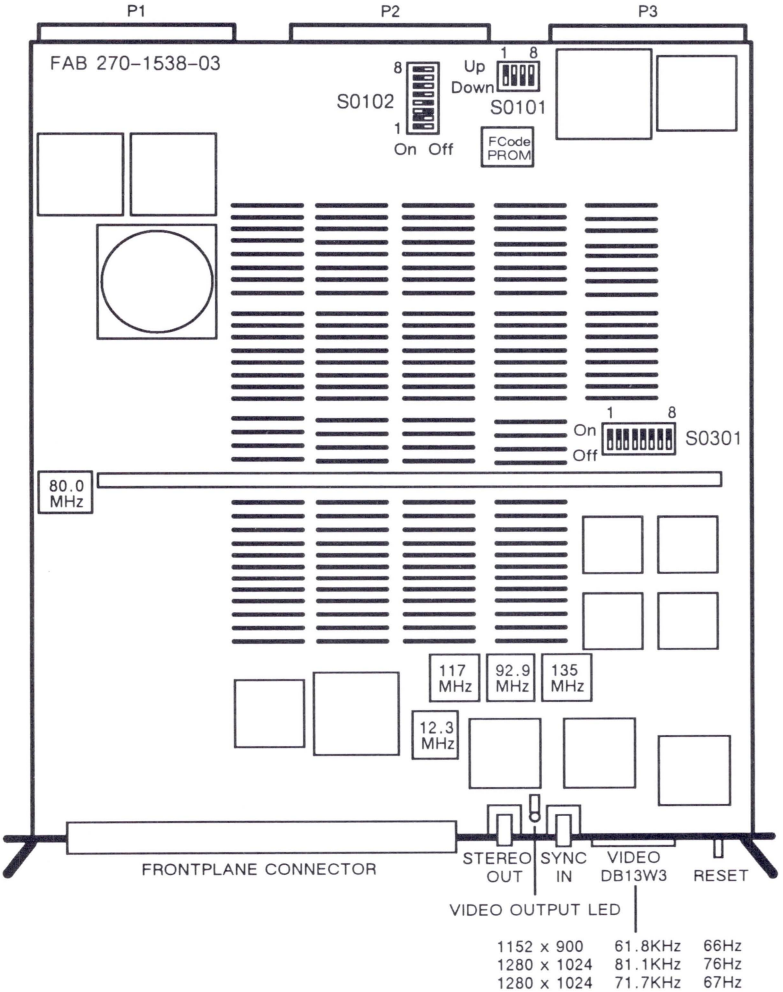
VX Visualization Accelerator

Super Frame Buffer

1280 x 1024 71.7KHz 67Hz

Sun–4/330/370/390/470/490

501–1538



1152 x 900	61.8KHz	66Hz
1280 x 1024	81.1KHz	76Hz
1280 x 1024	71.7KHz	67Hz

Power: 14.0 Amps @ +5Vdc
1.45 Amps @ –5Vdc
88.0 Watts

501–1538
Switch Settings

Interrupt Request Switch S0101

SWITCH	SETTING	REQUEST BIT
1	Up	2
2	Down	1
3	Down	0
4	Up	VMRQ

VME Bus Address Switch S0102

SWITCH	SETTING	ADDRESS BIT
1	On	A31
2	On	A30
3	Off	A29
4	Off	A28
5	On	A27
6	On	A26
7	On	A25
8	On/Off	Not Used

VX Bus Address Switch S0301

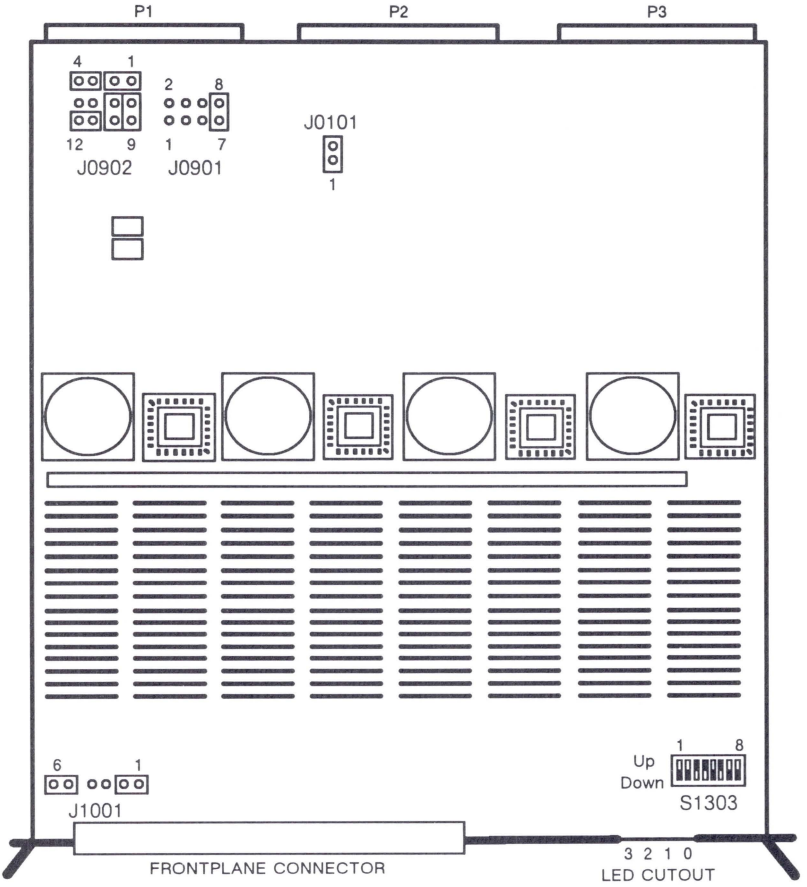
SWITCH	SETTING	ADDRESS BIT
1	On/Off	Not Used
2	On/Off	Not Used
3	On	A26
4	On	A27
5	On	A28
6	On	A29
7	On	A30
8	On	A31

MVX Visualization Accelerator

Sun–4/330/370/390/470/490

Pixel Processor

501–1537



Power: 14.0 Amps @ +5Vdc
70.0 Watts

501–1537
Switch & Jumper Settings

Clock Jumper J0101

PIN	SETTING	DESCRIPTION
1–2	In	Enable 80MHz Clock

Bus Request Jumper J0901

PIN	SETTING	DESCRIPTION
3–4	In	VME BUS REQUEST 1
5–6	Out	VME BUS REQUEST 2
7–8	In	VME BUS REQUEST 3

Bus Grant Jumper J0902

PIN	SETTING	DESCRIPTION
1–2	In	BG2 OUT – BG2 IN
3–4	In	BG1 OUT – BG1 IN
5–9	In	BGx OUT – BG3 OUT
6–10	In	BGx IN – BG3 IN
7	Out	BGx OUT
8	Out	BGx IN
11–12	In	BG0 OUT – BG0 In

Bus Control and Arbitration Jumper J1001

PIN	SETTING	DESCRIPTION
1–2	In	VCC – CTRL
3	Out	GND
4	Out	VCC
5–6	In	GND – MODE

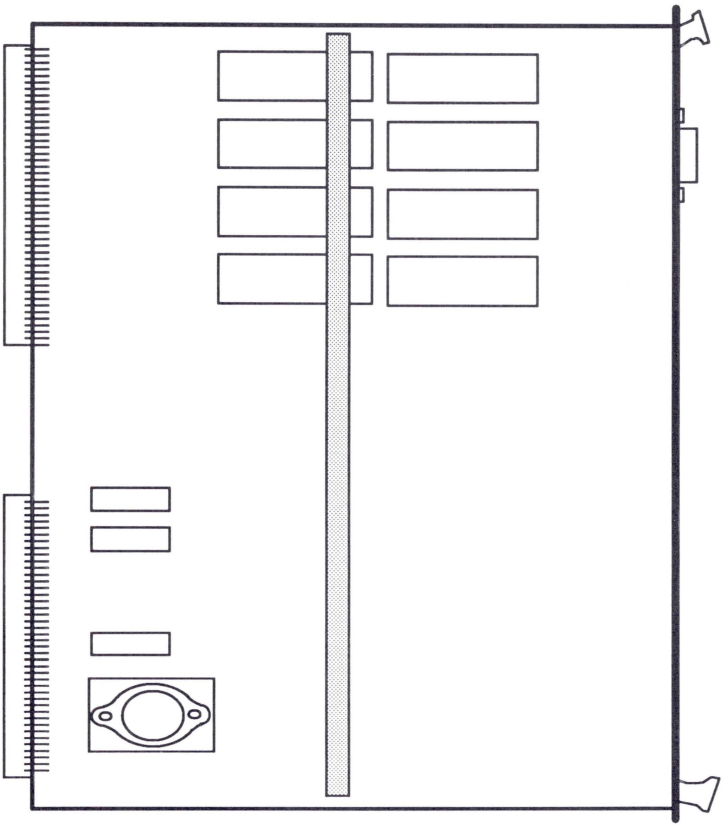
Base Address Switch S1303

SWITCH	SETTING	ADDRESS BIT
1	Down	A31
2	Down	A30
3	Up	A29
4	Up	A28
5	Down	A27
6	Up	A26
7	Down	A25
8	Down/Up	Not Used

Sun–3/E Monochrome Frame Buffer

1152 x 900 61.8KHz 66Hz

501–8020



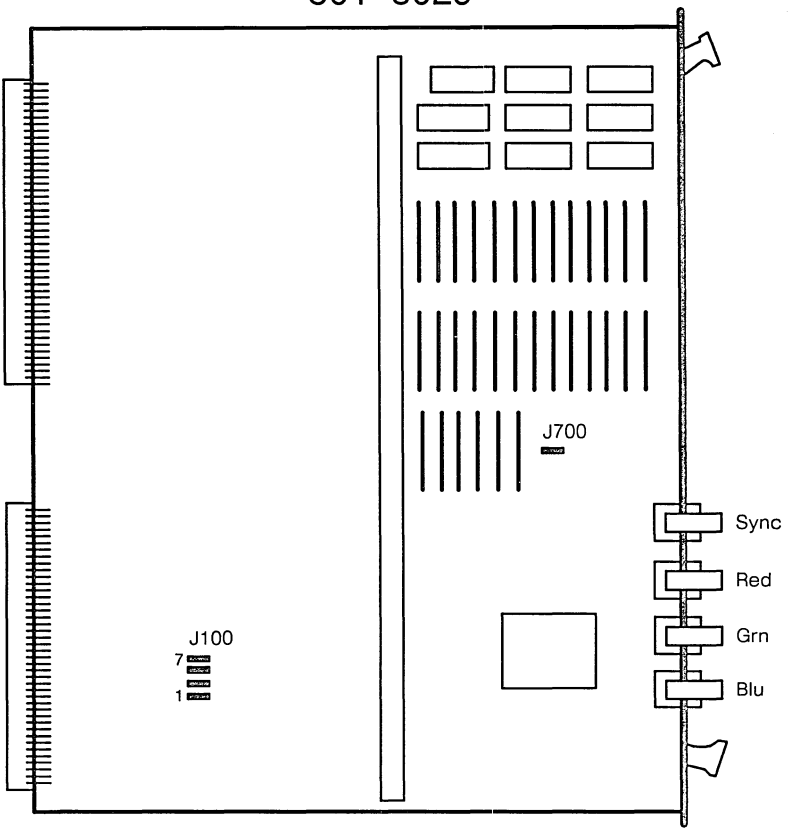
UNIX ID: /dev/bwtwo0

Power: 3.0 Amps @ +5Vdc
15.0 Watts

Sun-3/E Color Frame Buffer

1152 x 900 61.8KHz 66Hz

501-8029



JUMPER	PINS	SETTING	DESCRIPTION
J100	1-2	In	Base address
J100	3-4	Out	=FF400000
J100	5-6	In	
J100	7-8	Out	
J700	1-2	In	Clock enable

UNIX ID: /dev/cgtwo0

Power: 4.0 Amps @ +5Vdc
20.0 Watts

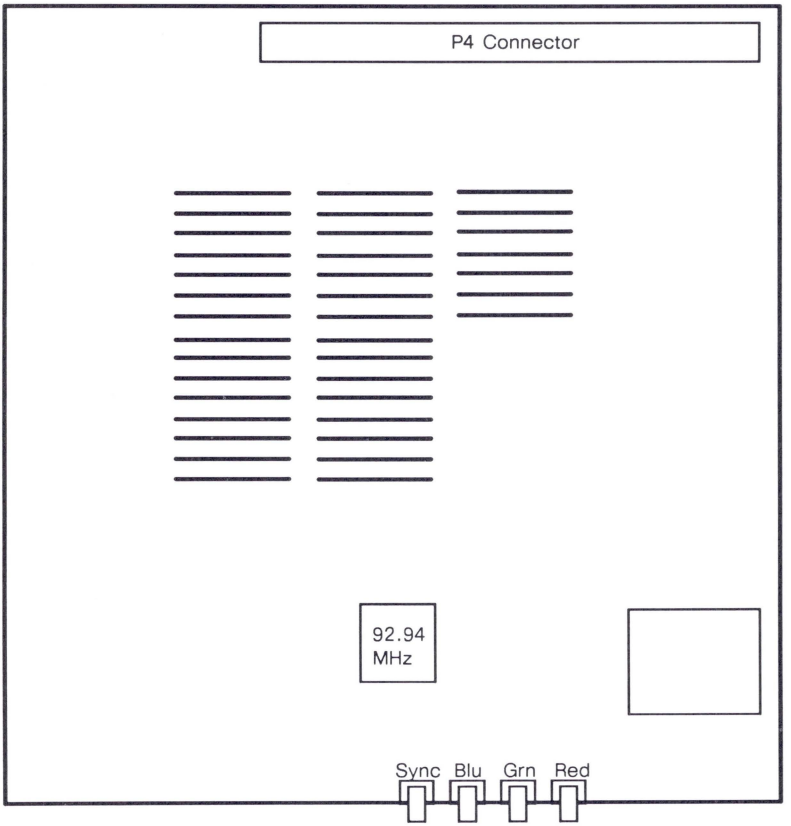
Notes:
1. The Sun-3/E Color Frame Buffer requires a 3/E CPU, ≥501-8028-07,
2. This board requires SunOS 3.5 or greater.

Sun-3/60 CG4 Color Frame Buffer

1152 x 900 61.8KHz 66Hz

Sun-3/60

501-1210



UNIX ID: /dev/cgfour0 and /dev/bwtwo1

Power: 2.6 Amps @ +5Vdc
13.0 Watts

Notes
1. There are no jumpers on the Sun-3/60 CG4 Color Frame Buffer.
2. Set EEPROM location 0x1F to 0x12.

MG3 ECL Monochrome Frame Buffer

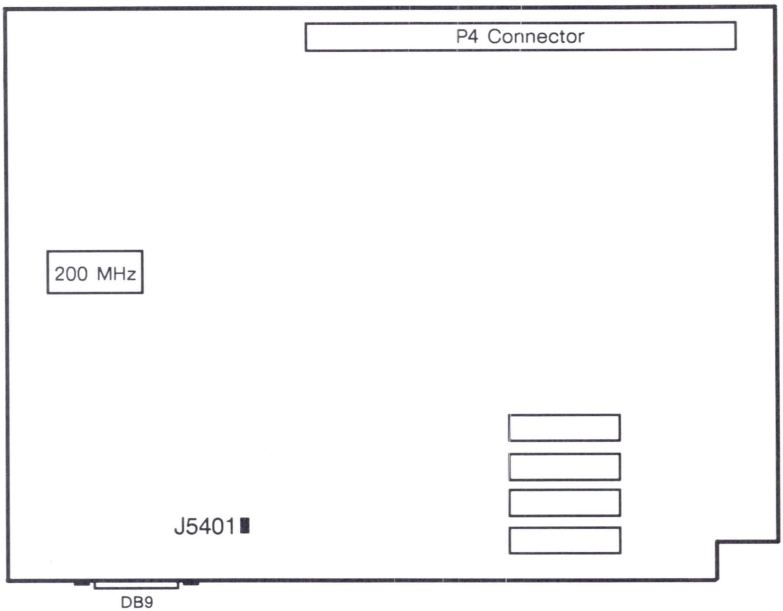
1152 x 900 61.8KHz 66Hz

Sun-3/60/80/460/470/480

Sun-4/110/150/310/330/350/370/390/470/490

501-1247 501-1637

w 3/80 Backpanel



Jumper J5401 Settings

JUMPER	PINS	SETTING	DESCRIPTION
J5401	1-2	Out	Monitor auto select
J5401	1-2	In	Select 1600 x 1280 resolution
J5401	1-2	Out	Select 1152 x 900 resolution

UNIX ID: /dev/bwtwo0

Power: 501-1247
0.8 Amps @ +5Vdc
1.2 Amps @ -5Vdc
10.0 Watts

Notes
1. Set EEPROM location 0x1f to 20.
2. The auto-select feature requires cable 530-1336 or 530-1359.
3. Hi resolution Monitor 540-1427 must be Motorola revision T or greater for the auto-select feature to operate.

CG4 Color Frame Buffer

1152 x 900 61.8KHz 66Hz

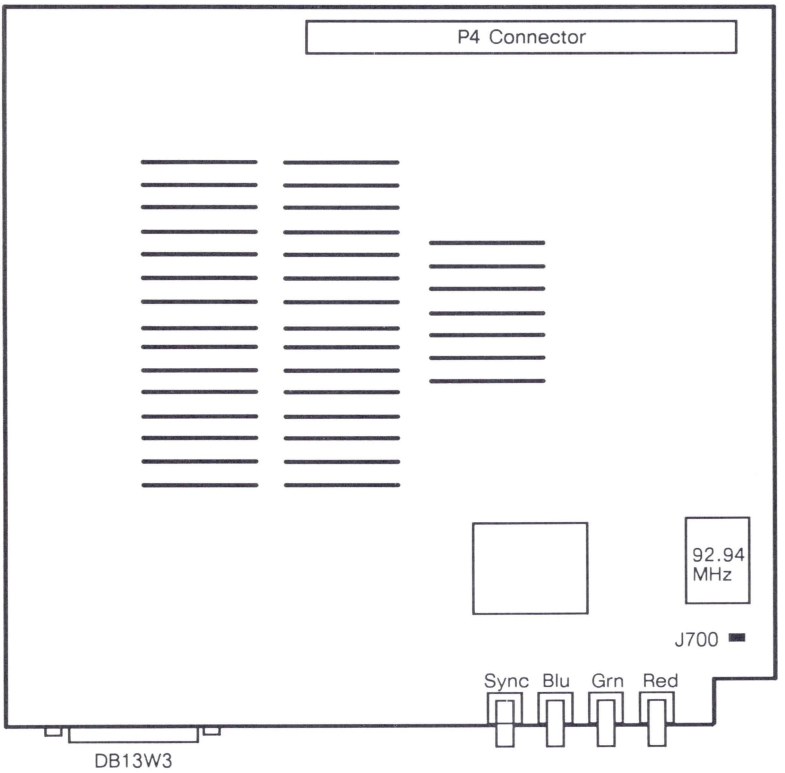
Sun–3/60/80/460/470/480

Sun–4/110/150/310/350/370/390/470/490

501–1248 501–1443

BNC

DB13W3
w 3/80 Backpanel



J700 Setting

PINS	SETTING	DESCRIPTION
1–2	In	Enable clock

UNIX ID: /dev/cgfour0 and /dev/bwtwo1

Power: 501–1443
3.8 Amps @ +5Vdc
19.0 Watts

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CG6 Color Frame Buffer

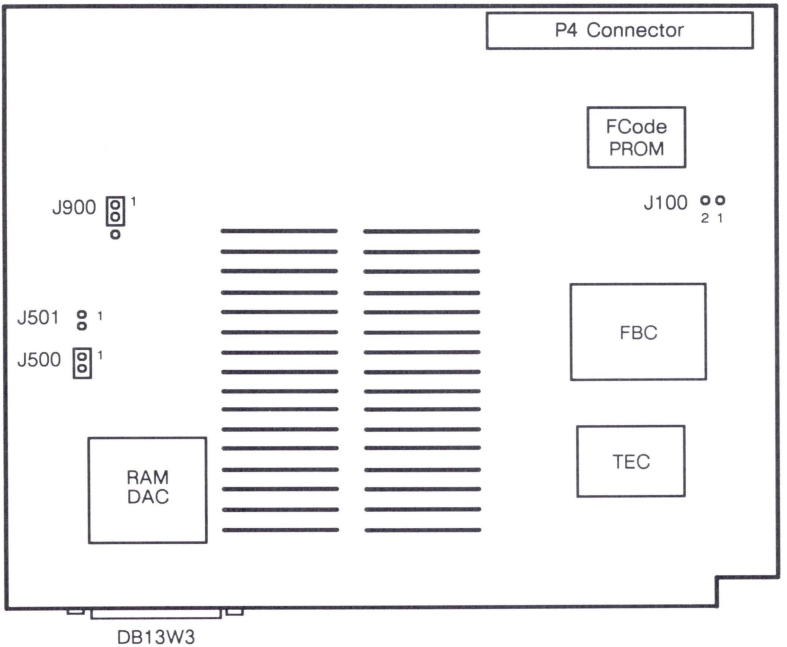
1152 x 900 61.8KHz 66Hz

Sun–3/60/80/460/470/480

Sun–4/110/150/310/350/370/390/470/490

501–1374 501–1505 501–1532

3/80 w Panel



UNIX ID: /dev/cgsix0

Power

501–1374 3.5 Amps @ +5Vdc
17.5 Watts

501–1505 and 501–1532
4.9 Amps @ +5Vdc
24.5 Watts

501–1374 501–1505 501–1532
Jumper Settings

JUMPER	PINS	SETTING	DESCRIPTION
J100	1–2	Out	Monitor I.D.
J500	1–2	In	V.Y. CLK memory control
J501	1–2	Out	OSC 2 CLK
J900	2–3	In	1152 x 900 (on 270–1532 Fab)

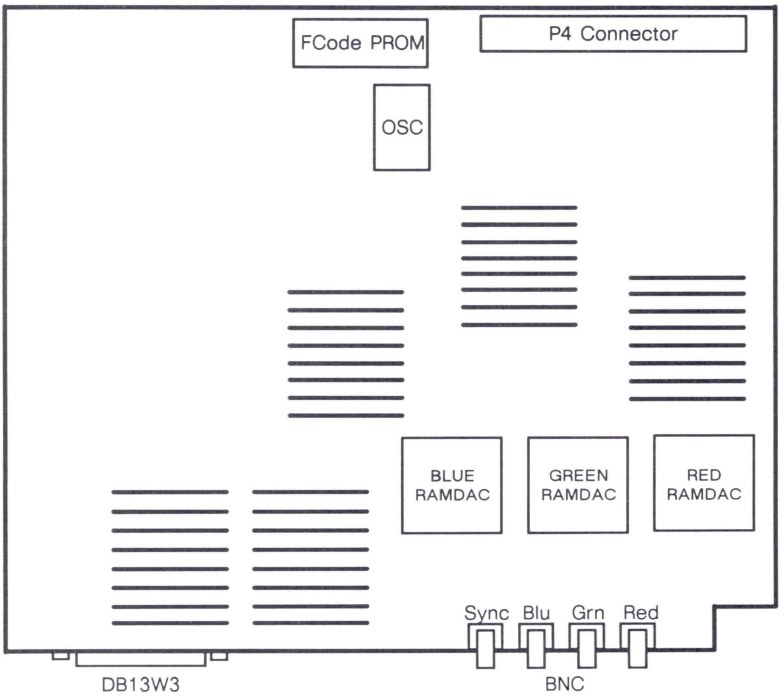
Notes
1. Sun–3/60, Sun–4100, and Sun–4300 CPU boards require EPROM revision 3.0 or greater.
2. Set CPU EEPROM location 0x1F to 0x20.
3. The minimum operating system is SunOS 4.0.3.

CG8 24-bit Color Frame Buffer

1152 x 900 61.8KHz 66Hz

Sun-4/110/150

501-1371	501-1518	501-1577
BNC	DB13W3	w 3/80 rear panel DB13W3



UNIX ID: /dev/cgeight0

Power

501-1371 and 501-1518
5.5 Amps @ +5Vdc
27.5 Watts

501-1577 4.8 Amps @ +5Vdc
24.0 Watts

Notes

1. There are no jumpers or switches on this board.
2. Set CPU EEPROM location 0x1F to 0x20.
3. Requires SunOS 4.0 CG8 or 4.0.3 or greater.
4. SunOS 4.0 CG8 is not upgradeable to 4.0.1.
5. CG8 must be 501-1374-04 or greater for use with Sun 3400 and Sun 4300 CPU boards.
6. The CG8 is not supported under OpenWindows Version 2.

MG4 Analog/ECL Frame Buffer

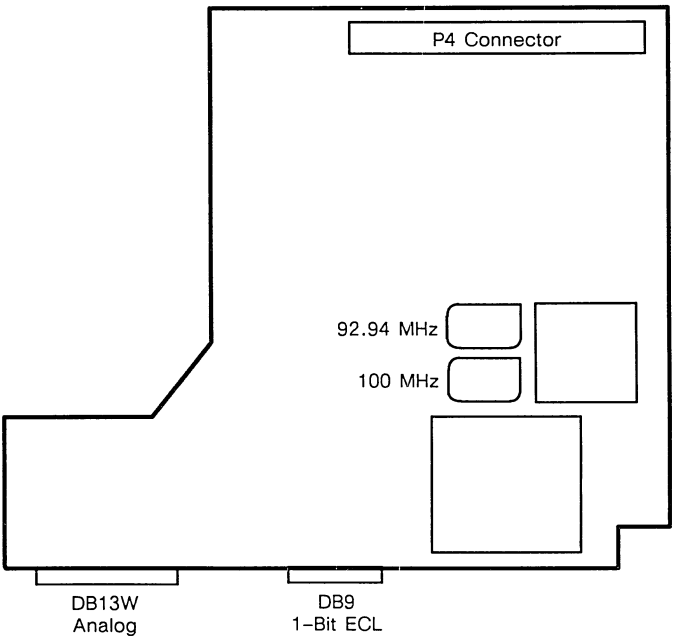
1152 x 900 61.8KHz 66Hz

Sun–3/80/460/470/480

Sun–4/310/330/350/370/390/470/490

501–1402

w 3/80 Backpanel



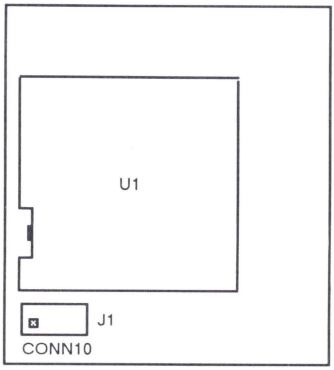
UNIX ID: /dev/bwtwo0

Power: 3.3 Amps @ +5Vdc
16.5 Watts

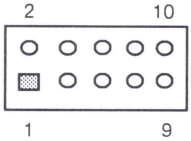
DC to DC Converter

Sun–3/80

501–1483



Exploded View of Connector J1



Power

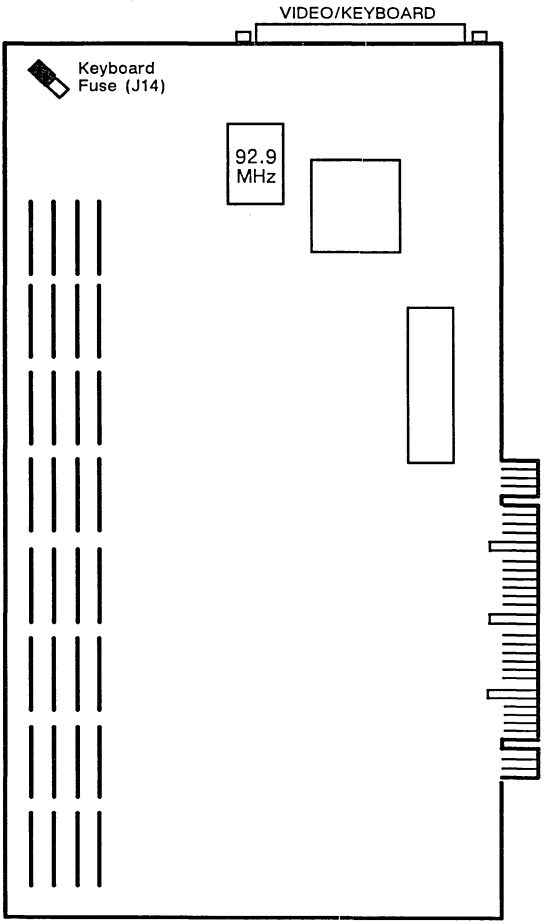
Total Power for 501–1483 and 501–1637 is 2.7 Amps @ +5Vdc

Notes

1. The DC to DC Converter used with the MG3 Frame Buffer allows the Sun–3/80 to operate a 1600 x 1280 High Resolution monitor.
2. The –5 volt DC output of the DC to DC Converter can be measured on Pins 1 and 10 of connector J1 and on Pins 31 and 63 of the CPU P4 connector.

Color Frame Buffer

1152 x 900 61.8KHz 66Hz
Sun386i/150/250
501-1243

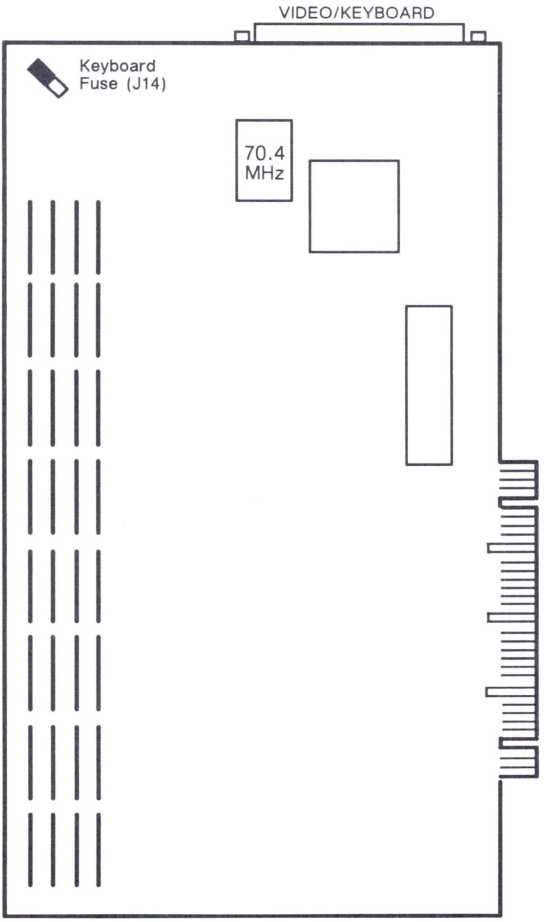


UNIX ID: /dev/cgthree0

Notes
1. There are no jumpers on the Sun386i Color Frame Buffer.
2. The Keyboard fuse is a 1 Amp subminiature fuse, Sun part number 140-1027-01.

Color Frame Buffer

1024 x 768 53.6KHz 66Hz
Sun386i/150/250
501–1286

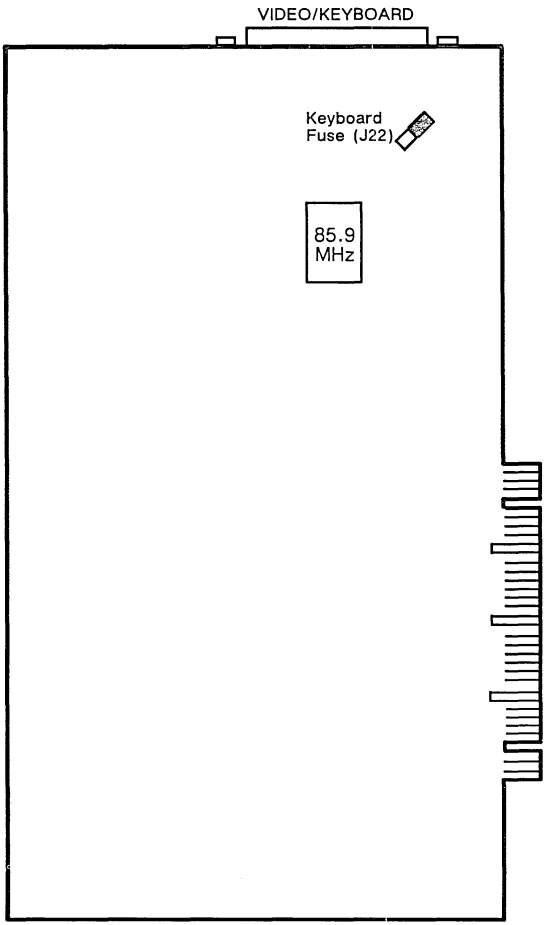


UNIX ID: /dev/cgthree0

Notes
1. There are no jumpers on the Sun386i Color Frame Buffer.
2. The Keyboard fuse is a 1 Amp subminiature fuse, Sun part number 140–1027–01.

Monochrome Frame Buffer

1024 x 768 63.9KHz 76Hz
Sun386i/150/250
501–1433 501–1568

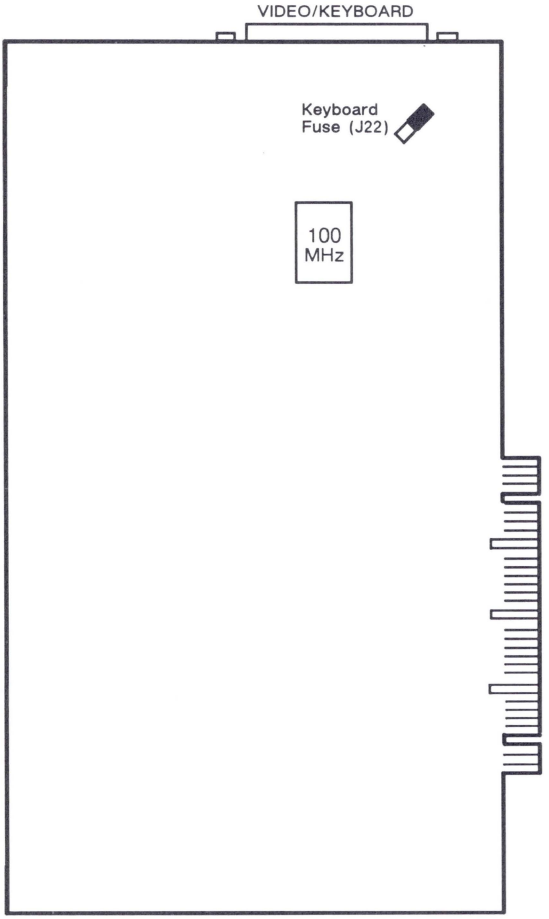


UNIX ID: /dev/bwtwo0

Notes
1. There are no jumpers on this board.
2. The Keyboard fuse is a 1 Amp subminiature fuse, part number 140–1027–01.
3. The CPU requires EPROM revision 4.4 or greater.

Monochrome Frame Buffer

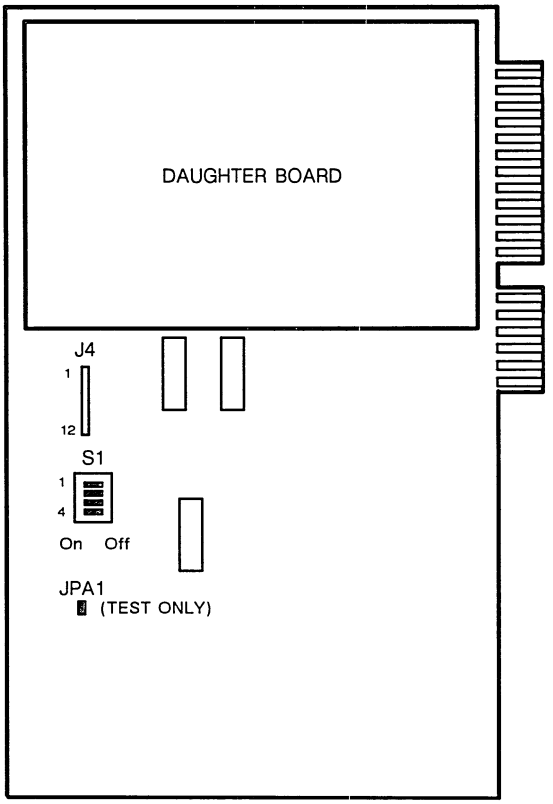
1152 x 900 61.8KHz 66Hz
Sun386i/150/250
501–1244 501–1567



UNIX ID: /dev/bwtwo0

Notes
1. There are no jumpers on this board.
2. The Keyboard fuse is a 1 Amp subminiature fuse, part number 140–1027–01.

SunVGA/EGA
Sun386i/150/250
501-1397



S1 Switch Settings

SWITCH	SETTING	DESCRIPTION
1	On	Set Base Address = A000
2	Off	
3	On	
4	Off	

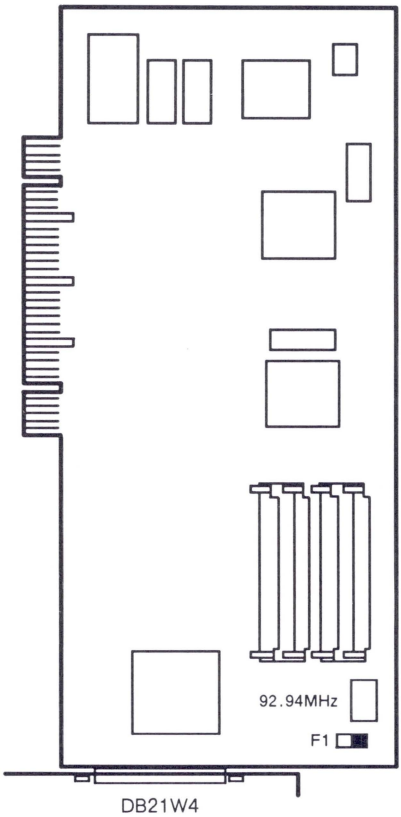
Notes
1. The SunVGA requires a color frame buffer.
2. The SunVGA requires SunOS 4.0.1.

GXi Color Frame Buffer

1152 x 900 61.8KHz 66Hz

Sun386i/150/250

501-1352



UNIX ID: /dev/cgfive0

Notes
1. The Sun386i CPU requires EPROM revision 4.3 or greater.
2. 1MB SIMM modules are not installed at locations J1000, J1001, J1002, and J1003 on the 2D GXi board.
3. F1 uses a 1 Amp fuse, 140-1027-01.
4. OpenWindows is not supported on the GXi.

Reference: *Sun386i GX Installation and Upgrade Guide*, 814-5024.

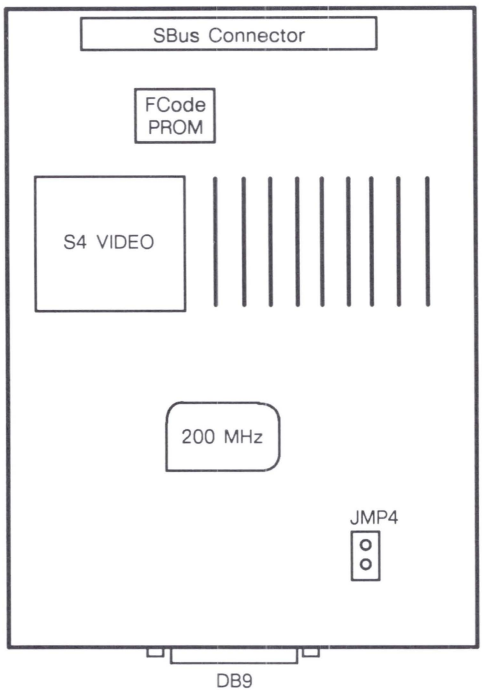
MG1 ECL Monochrome Frame Buffer

1152 x 900 61.8KHz 66Hz

Sun–4/60/65 Sun 4/E

501–1419 501–8043

w 4/E Backpanel



Jumper JMP4

PINS	SETTING	DESCRIPTION
1–2	In	Select 1600 x 1280 resolution
1–2	Out	Select 1152 x 900 resolution
1–2	Out	Monitor auto select

UNIX ID: /dev/bwtwo0

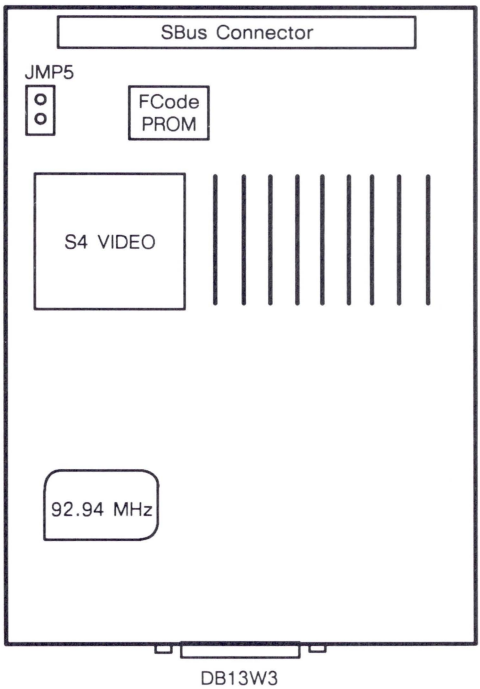
Power: 1.3 Amps @ +5Vdc
6.5 Watts

MG2 Analog Frame Buffer

1152 x 900 61.8KHz 66Hz

Sun–4/60/65

501–1455



Jumper JMP5

PINS	SETTING	DESCRIPTION
1–2	In	Select 27C256 EPROM
1–2	Out	Select 27C64 EPROM

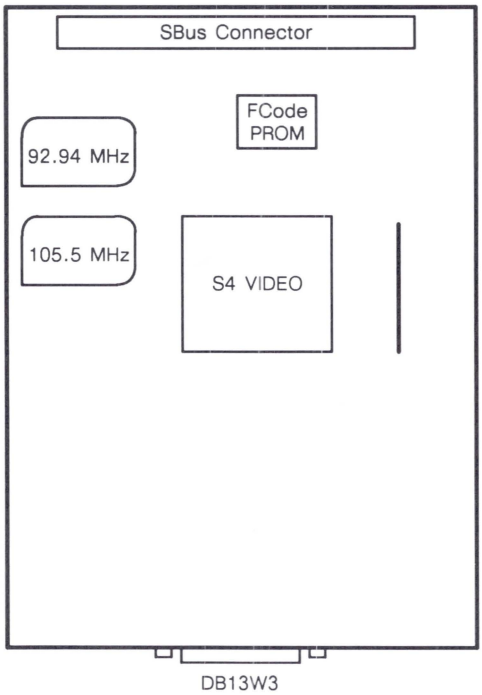
UNIX ID: /devbwtwo0

Power: 0.4 Amps @ +5Vdc
2.0 Watts

Note: The MG2 Frame Buffer produces a 1–bit Analog output.

MG2 Analog Frame Buffer

1152x900 61.8KHz 66Hz
1152x900 71.7KHz 76Hz
Sun-4/75
501-1561



Power: 0.3 Amps @ +5Vdc
1.6 Watts

Note: The MG2 Frame Buffer produces a 1-bit Analog output.

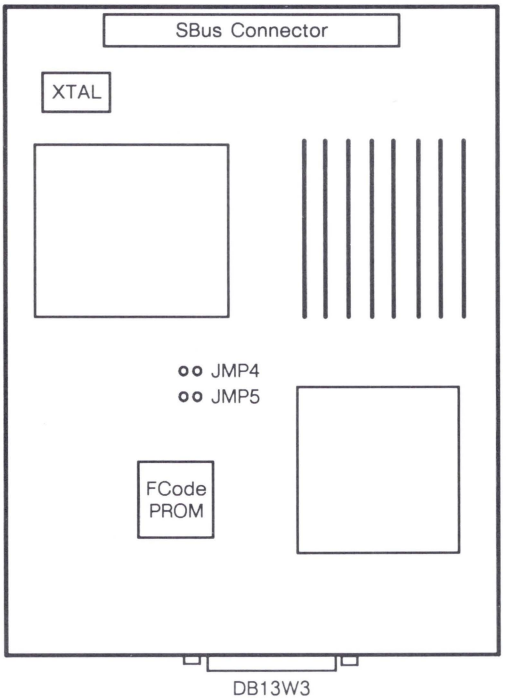
CG3 Color Frame Buffer

1152 x 900 61.8KHz 66Hz

Sun–4/60/65 Sun–4/E

501–1415 501–8044

w 4/E Backpanel



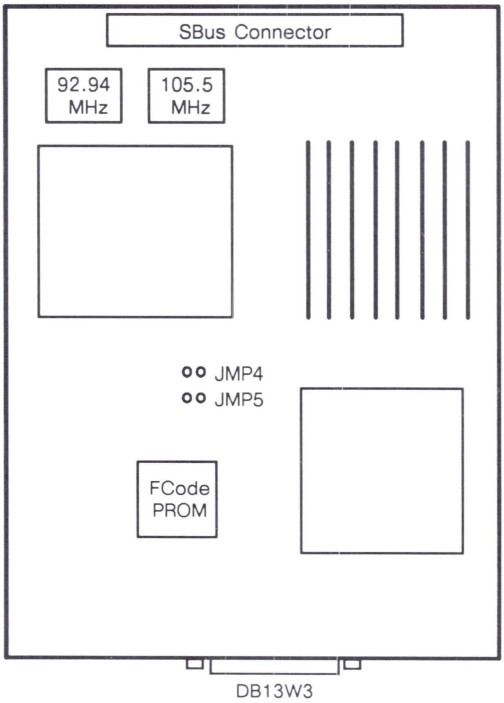
UNIX ID: /dev/cgthree0

Power: 0.7 Amps @ +5Vdc
3.5 Watts

Note: The jumpers on this board are not used.

CG3 Color Frame Buffer

1152x900 61.8KHz 66Hz
1152x900 71.7KHz 76Hz
Sun–4/75
501–1718



UNIX ID: /dev/cgthree0

Power: 1.1 Amps @ +5Vdc
5.5 Watts.

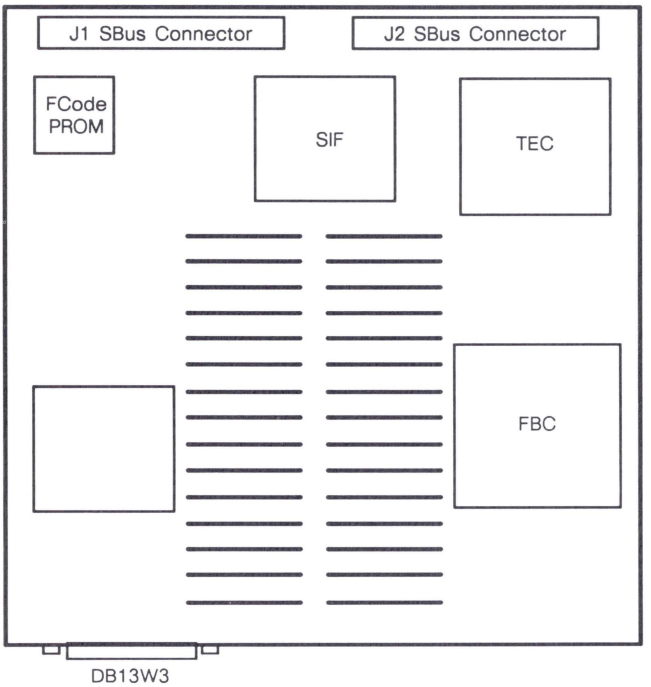
Note: The jumpers on this board are not used.

GX CG6 Color Frame Buffer

1152 x 900 61.8KHz 66Hz

Sun–4/60

501–1481



UNIX ID: /dev/cgsix0

Power: 1.4 Amps @ +5Vdc
7.0 Watts

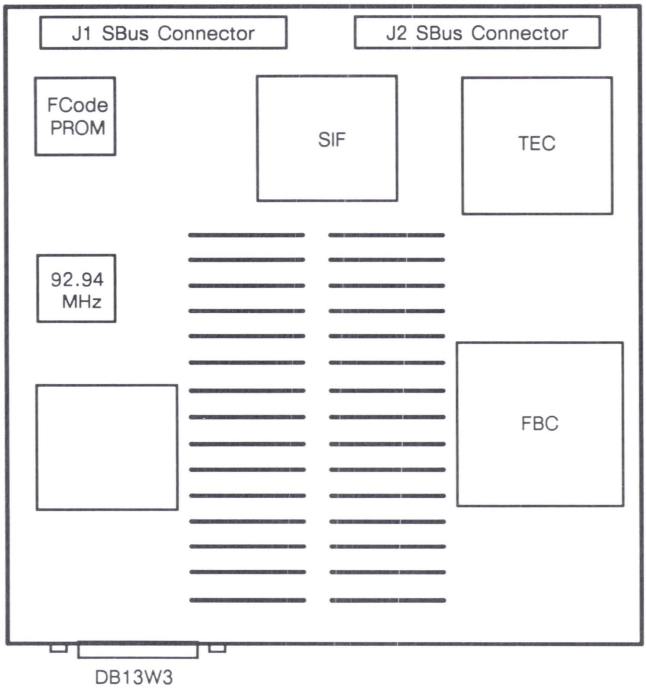
Note: The 501–1481 board is only supported in the Sun–4/60.

GX CG6 Color Frame Buffer

1152 x 900 61.8KHz 66Hz

Sun–4/60/65/75

501–1645

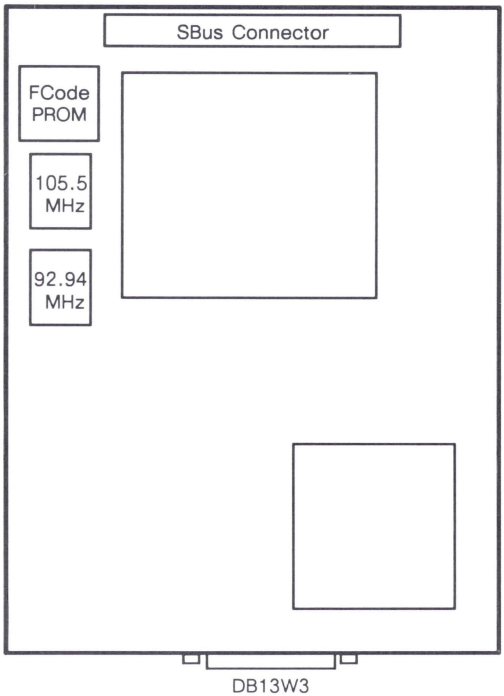


UNIX ID: /devcgsix0

Power: 1.4 Amps @ +5Vdc
7.0 Watts

GX CG6 Color Frame Buffer

1152x900 61.8KHz 66Hz
1152x900 71.7KHz 76Hz
Sun–4/75
501–1672



UNIX ID: /dev/cgsix0

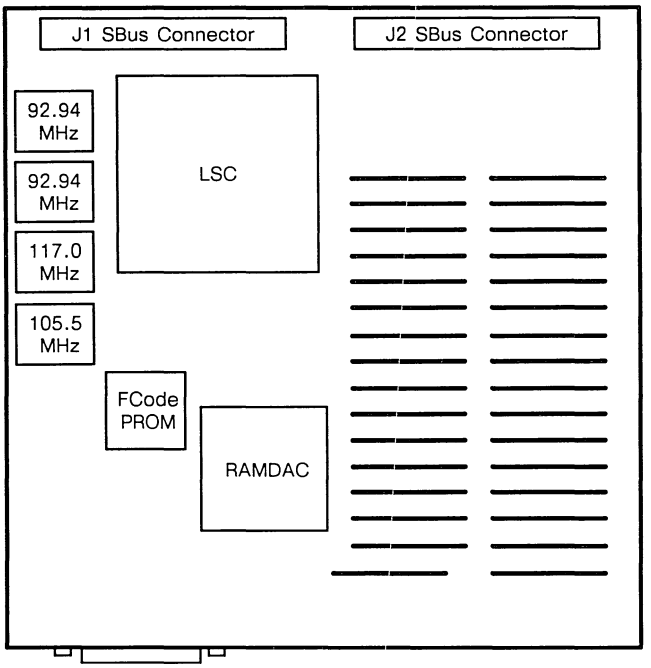
Power: 1.0 Amps @ +5Vdc
5.0 Watts

GXplus CG6 Color Frame Buffer

1280 x 1024 71.7KHz 67Hz

Sun-4/75

501-1717



1152 x 900	61.8KHz	66Hz
1152 x 900	71.7KHz	76Hz
1022 x 1000	81.1Hz	76Hz
1280 x 1024	71.7KHz	67Hz

UNIX ID: /devcgsix0

Power: 2.5 Amps @ +5Vdc
12.5 Watts

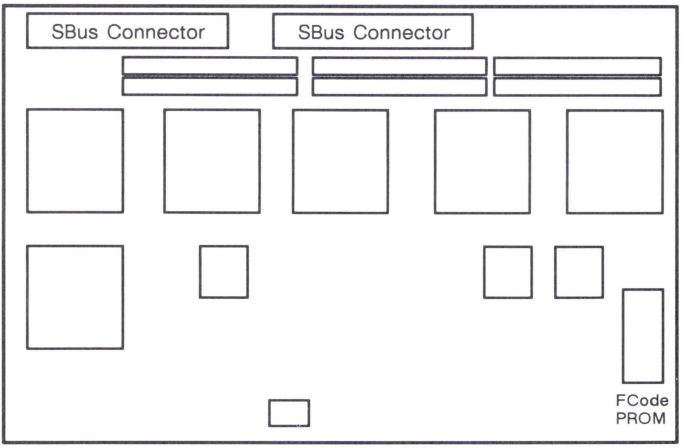
Reference: *GXplus Installation Guide*, 800-5940-10.

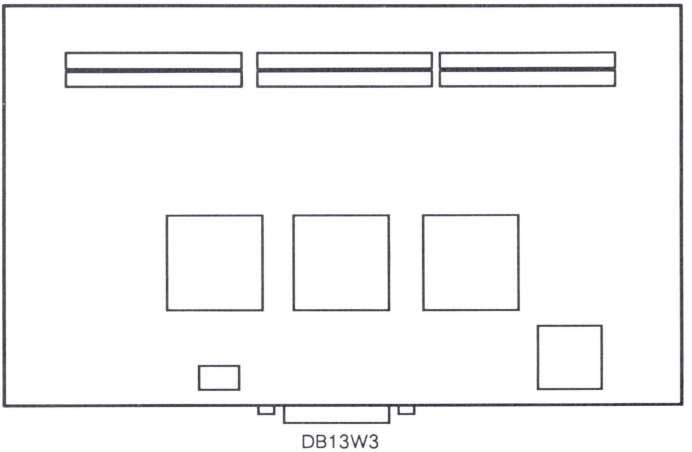
GS CG12 24-bit Color Frame Buffer

1152 x 900 71.7KHz 76Hz

Sun-4/75

370-1329 370-1370

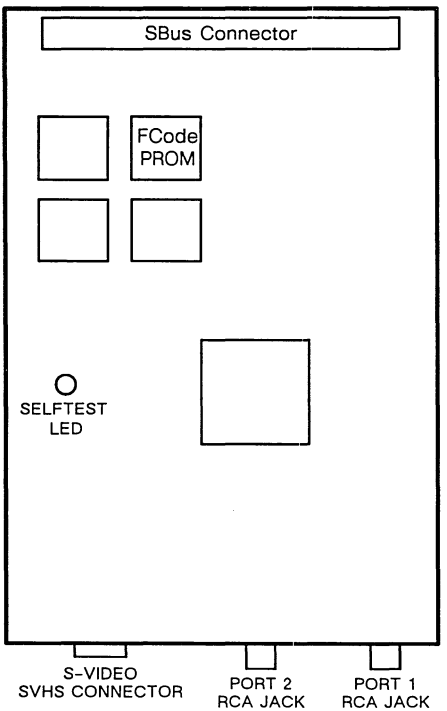




UNIX ID: /dev/cgtwelve0

Power: 4.1 Amps @ +5Vdc
20.5 Watts

VideoPics
Sun–4/40/50/60/65/75
501–1706



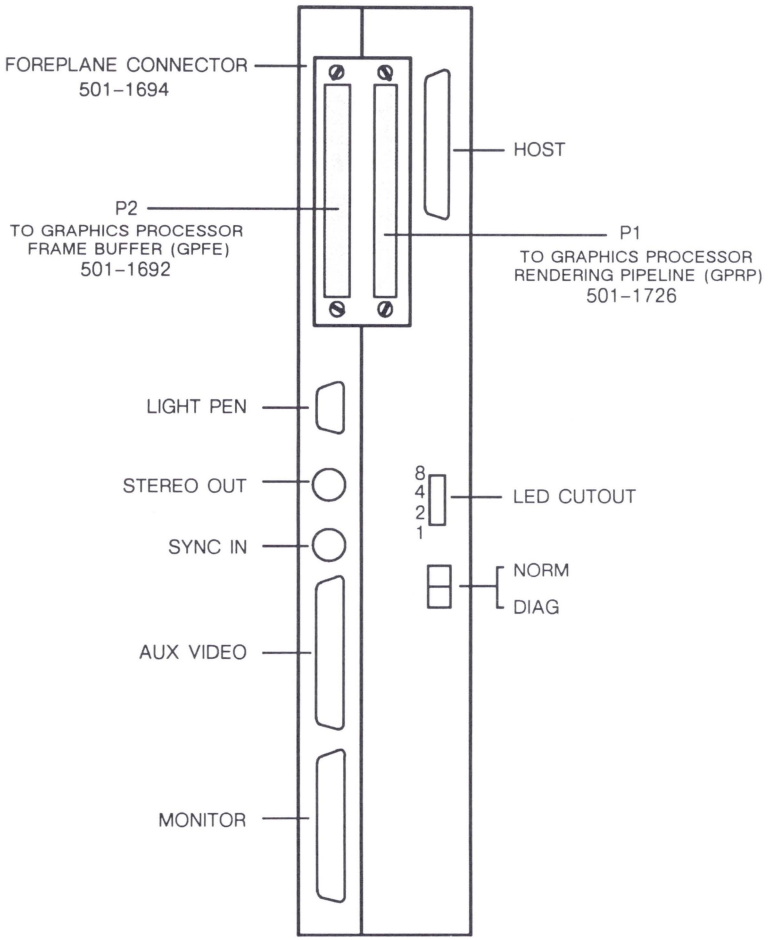
Power: 1.0 Amps @ +5Vdc
5.0 Watts

Reference: *Using VideoPics*, 800–5099.

GT Graphics Subsystem

Board Set

501–1624 501–1692 501–1694 501–1726



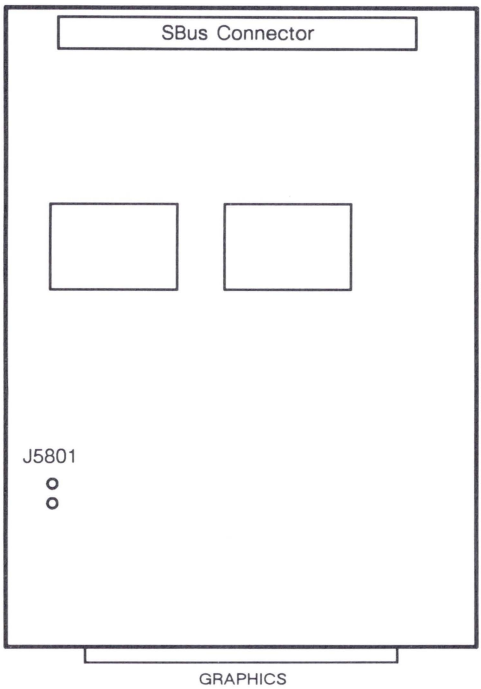
UNIX ID: /dev/gt0

501-1624 501-1692 501-1694 501-1726
GT Graphics Subsystem

Notes
1. Install the Frame Buffer in Slot 1 of the GT Graphics Tower.
2. Install the GPRP and GPFE in Slot 2 of the GT Graphics Tower.
3. The GT Graphics Option is not supported in the Sun-3/110, Sun-3/140, Sun-3/150, Sun-4/110, Sun-4/150, Sun-4/310, or Sun-4/350 chassis.
4. Backplane jumpers BG3 and IACK are not used.
5. Standoff, 230-1260-01, fastens the GPFE to the GPRP.
6. Screw, 240-1584-01, fastens the GPFE to the GPRP rear panel.

Reference
Hardware Installation Manual for the GT Graphic Subsystem, 800-5258.

GT Graphics Option
Sun–4/75
SBus Adapter
501–1693



Jumper J5801

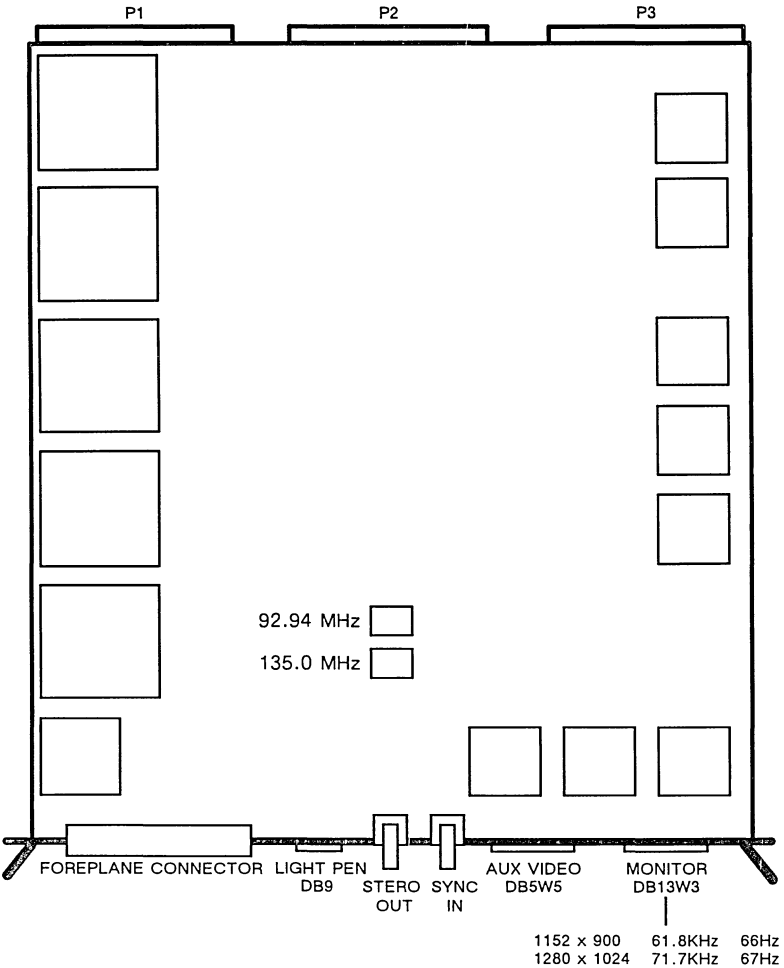
PINS	SETTING	DESCRIPTION
1–2	Out	Ground Test Points

GT Graphics Option

Frame Buffer

1280 x 1024 81.1KHz 76Hz

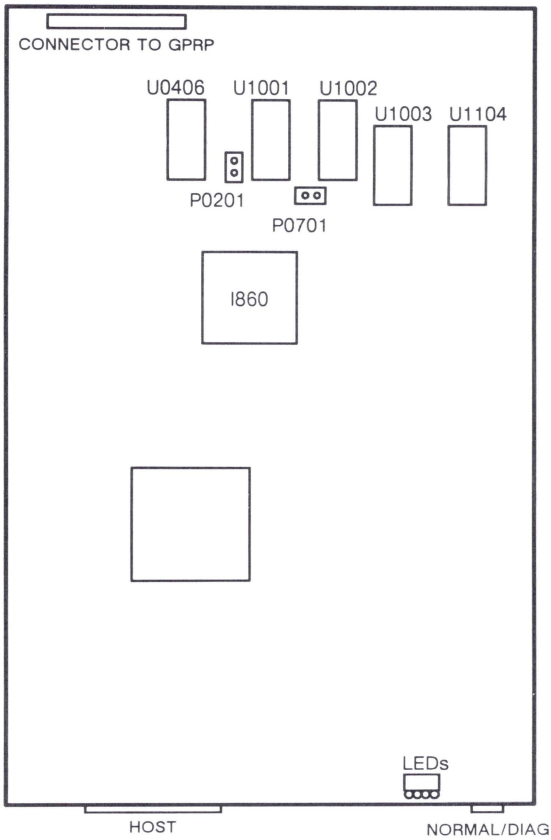
501–1624



GT Graphics Option

Graphics Processor Front End (GPFE)

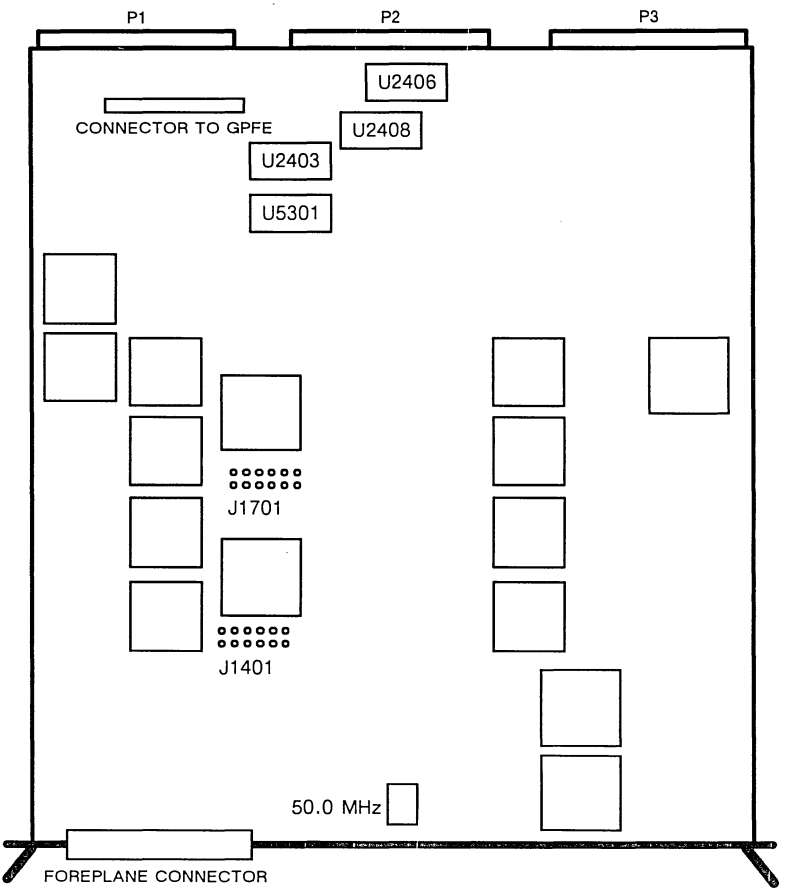
501–1692



GT Graphics Option

Graphics Processor Rendering Pipeline (GPRP)

501–1726



Jumper Settings

501–1692
Graphics Processor Front End (GPFE)

Jumper P0201

PIN	SETTING	DESCRIPTION
1–2	In	Enable Cache

Jumper P0701

PIN	SETTING	DESCRIPTION
1–2	In	Enable I860

501–1726
Graphics Processor Rendering Pipeline (GPRP)

Jumper J1401 and J1701

PIN	SETTING	DESCRIPTION
1–2	Out	Manufacturing ICT
3–4	Out	Manufacturing ICT
5–6	Out	Manufacturing ICT
7–8	Out	Manufacturing ICT
9–10	Out	Manufacturing ICT
11–12	Out	Manufacturing ICT

DISK

DISK

Disk

Disk – Continued

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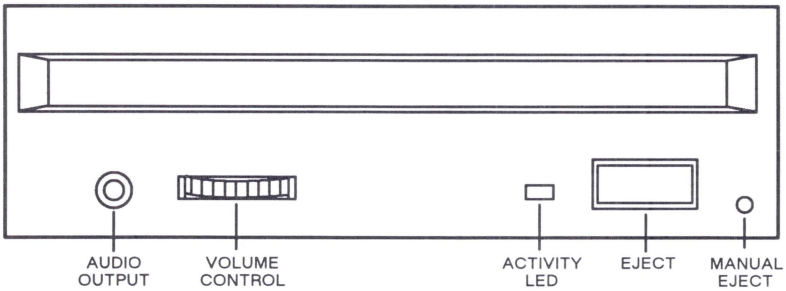
Sony CDU-8012 644MB

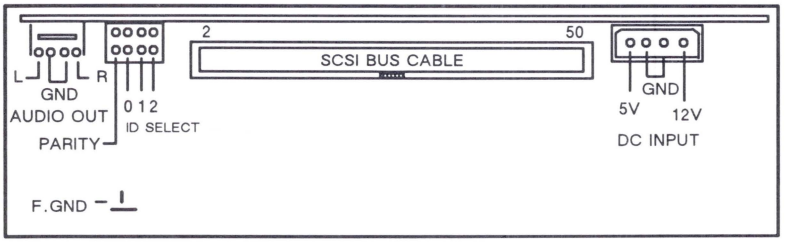
Sun-4/330/370/390/470/490

Options 558 559

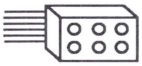
370-1312 370-1347

White Bezel Black Bezel





Flex Cable



To install the 370-1312 CD-ROM drive in the Desktop SunCD Pack, orient flex cable 530-1454 as shown, and plug it into the ID Select jumper block. Set the ID switch on the back of the SunCD Pack to 6.

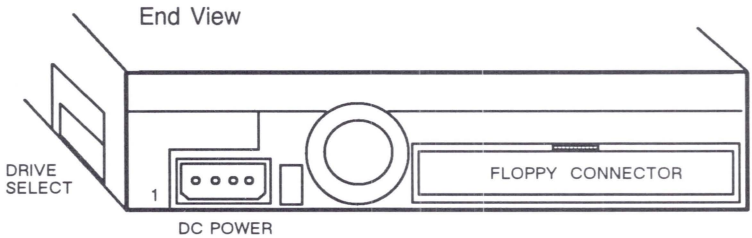
JUMPER	SETTING	DESCRIPTION
1	In	
2	In	ID6 (SR0)
Parity	In	Enable Parity

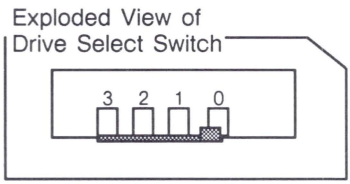
Power: 0.5 Amps @ +5Vdc
0.5 Amps @ +12Vdc
8.5 Watts

Note: The Sun CD-ROM requires 1.0 SunCD for SunOS 4.0.3c.

Sony Floppy Disk 1.4MB

Sun386i	Sun–3/80 Sun–4/60/65/75	Sun–4/40
370–1150	370–1207	370–1354
White Bezel	4 mm Black Bezel	8 mm Black Bezel
MP–F73W–34D	MP–17W–5PF	MP–17W–2PF
	MP–17W–FP	MP–17W–F1





Power: 0.3 Amps @ +5Vdc
1.5 Watts

Notes
1. Set the Drive Select Switch to 1 for the Sun386i.
2. Set the Drive Select Switch to 0 for all other systems.

References
1. *Sun–3/80 Internal Diskette Drive Installation Manual*, 813–1065–10.
2. *Installing SPARCstation 1 Internal Drives*, 800–4902–05.

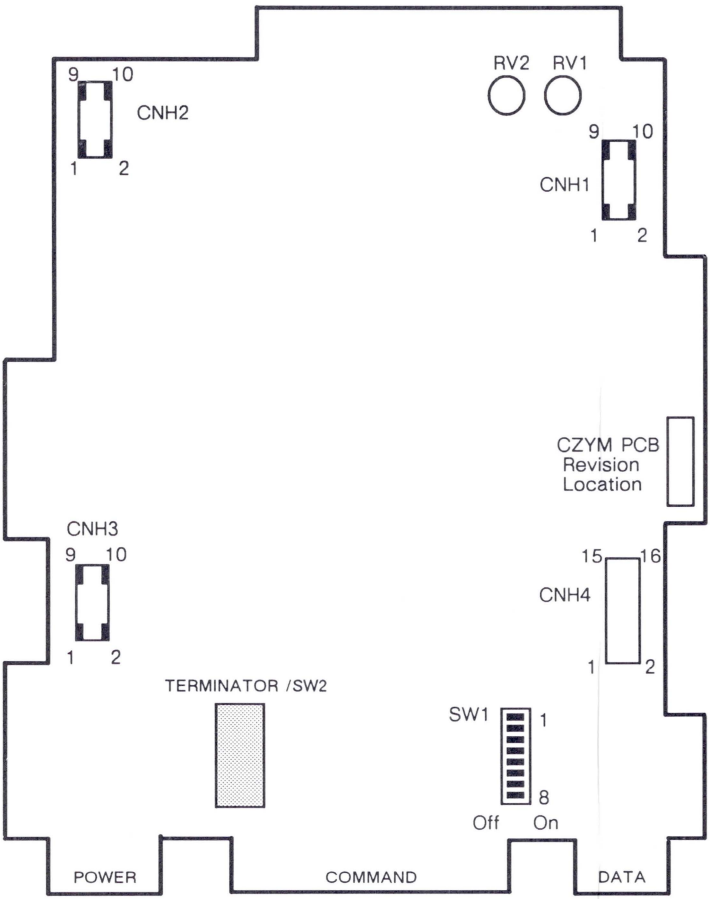
Fujitsu M2243AS 71MB

5-1/4" ST506

Sun-3/160

Options 55 55EX 56 501 503 511

370-1034



Power: 2.0 Amps @ +5 Vdc
3.1 Amps @ +12 Vdc
47.2 Watts

370–1034
Switch Settings

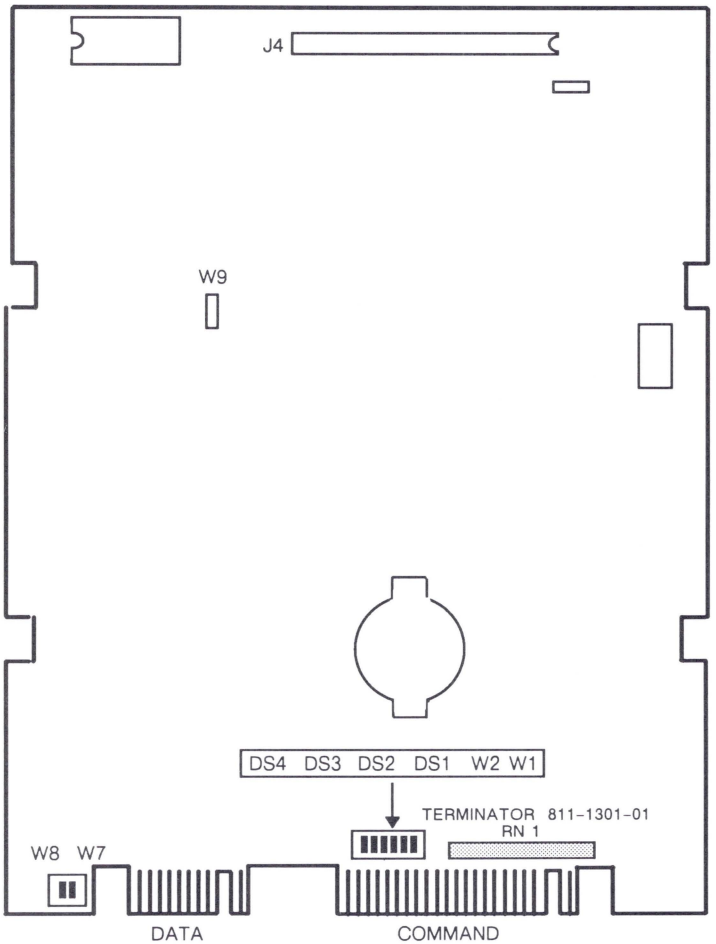
DIP	SWITCH	SETTING
SW1	1	On; Off for drive unit 1
	2	Off; On for drive unit 1
	3	Off
	4	Off
	5	Off
	6	On; Off for CZYM boards below revision 46L
	7	Off
	8	Off
SW2*	1–8	On for termination enabled Off for termination disabled

* Present only on drives revision C0 and above; drives below C0 use a resister pack for termination.

Note: The Adaptec controller must be jumpered for no precompensation (PU–R).

Reference
71 MByte Disk Drive Configuration Procedures, 813–2026–06.

Micropolis 1325 71MB
5-1/4" ST506
Sun-3/160
Options 55 55EX 56 501 503 511
370-1034



Power: 2.0 Amps @ +5 Vdc
3.1 Amps @ +12 Vdc
47.2 Watts

370–1034
Jumper Settings

W1	W2	DS1*	DS2*	DS3	DS4	W7	W8	W9
In	In	In	Out	Out	Out	Out	In	Out

*DS1 is Out and DS2 is In for drive unit 1.

Note: The Adaptec controller must be jumpered for no precompensation (PU–R).

Reference
71 MByte Disk Drive Configuration Procedures, 813–2026–06.

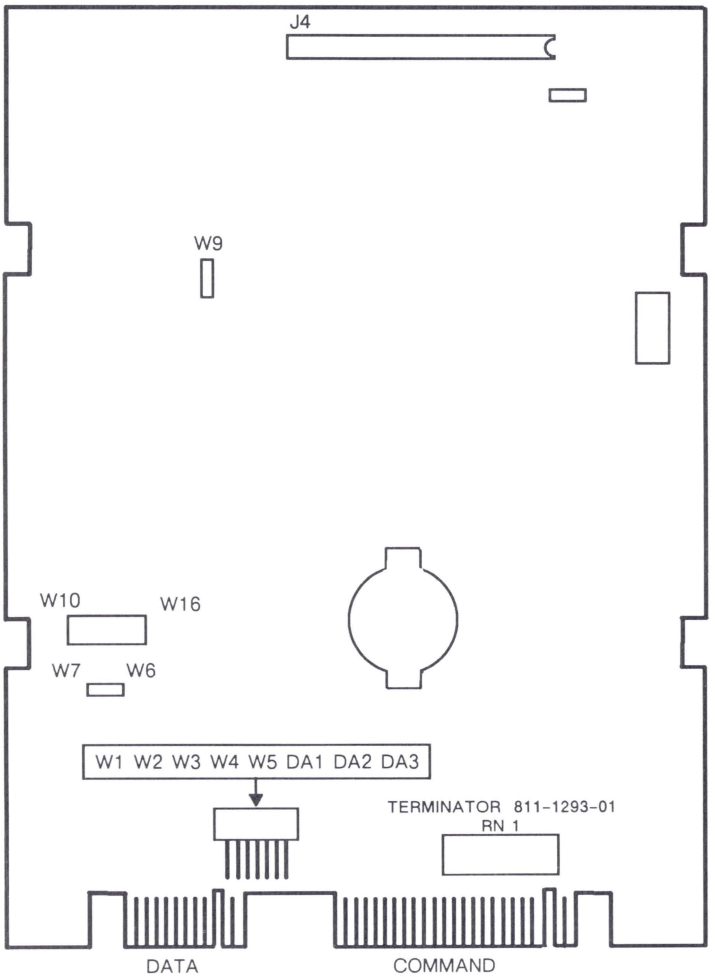
Micropolis 1355 141MB

5–1/4" EDSI

Sun–3/160/260 & Sun–4/260

Options 504 505 514

370–0551



Power: 1.4 Amps @ +5 Vdc
2.4 Amps @ +12 Vdc
35.8 Watts

370–0551
Jumper Settings

JUMPER*	SETTING
W1	Out
W2	Out
W3	Out
W4	Out
W5	Out
DA1†	In
DA2†	Out
DA3	Out

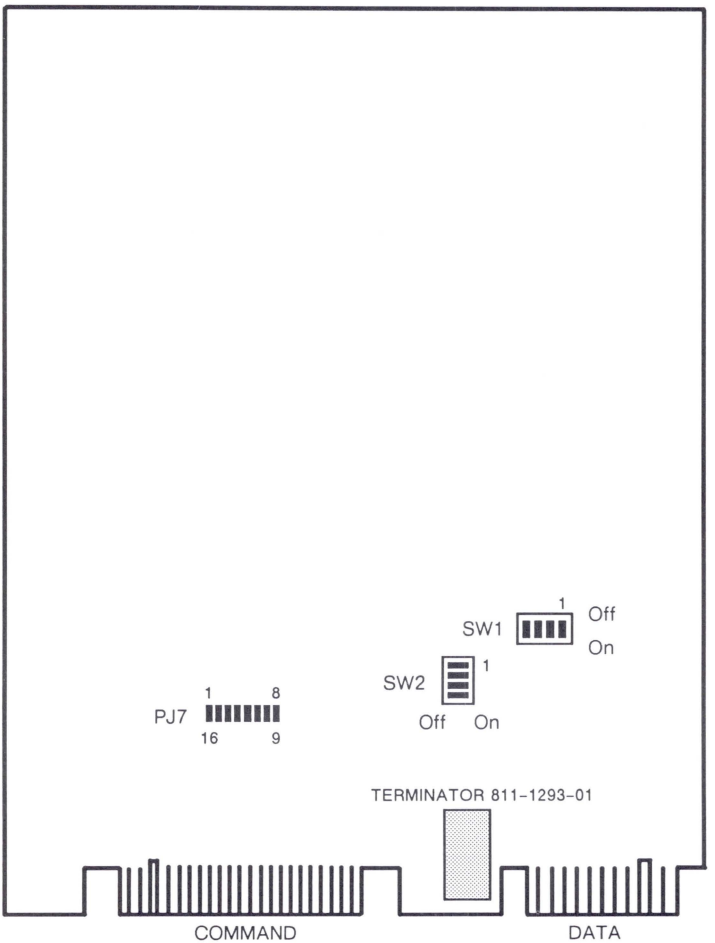
* Jumpers not described here are factory set and must not be disturbed.

† DA1 is OUT and DA2 is IN for drive unit 1.

Reference
141 MByte Disk Drive Configuration Procedures, 813–2021–10.

Toshiba MK156 141MB

5–1/4" ESDI
Sun–3/160/260 & Sun–4/260
Options 504 505 514
370–0551



Power: 1.4 Amps @ +5Vdc
2.4 Amps @ +12Vdc
35.8 Watts

370–0551
Switch & Jumper Settings

DIP	SWITCH	SETTING
SW1	1	On
	2	Off
	3	Off
	4	Off
SW2	1	Off
	2	Off; On for drive unit 1
	3	On; Off for drive unit 1
	4	On

JUMPER*	PINS	SETTING
PJ7	1–16	Out
	2–15	In
	3–14	Out
	4–13	Out
	5–12	Out
	6–11	In
	7–10	Out
	8–9	Out

*Jumpers not described are factory set and must not be disturbed.

Reference
141 MByte Disk Drive Configuration Procedures, 813–2021–10.

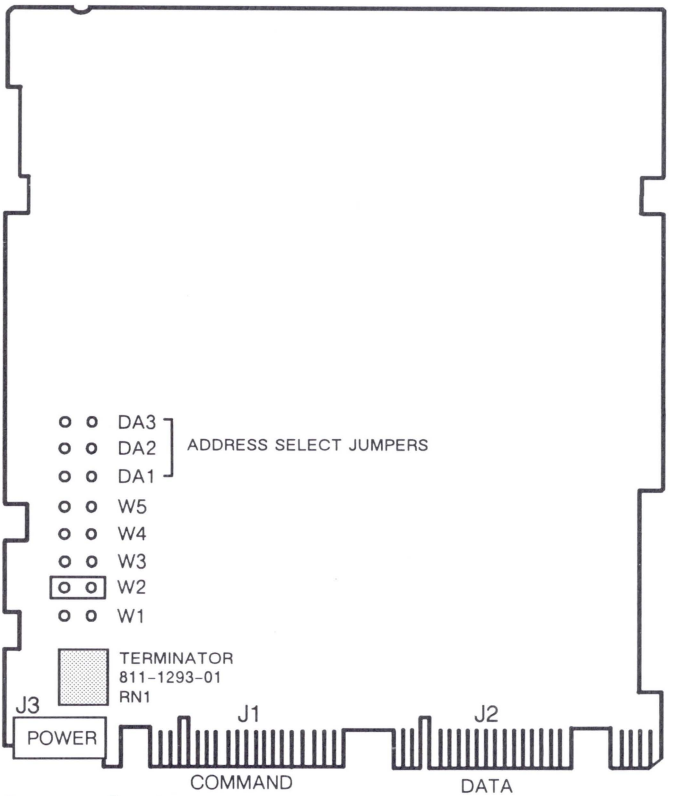
Micropolis 1558–15 327MB

5–1/4" ESDI

Sun–3/160/260 & Sun–4/260

Options 506 507 509 510 516

370–1133



Jumper Settings

DRIVE	W1	W2	W3	W4	W5	DA1	DA2	DA3
Drive 0	Out	In	Out	Out	Out	In	Out	Out
Drive 1	Out	In	Out	Out	Out	Out	In	Out

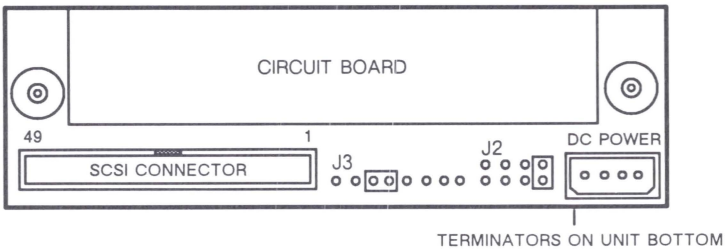
Power: 1.3 Amps @ +5Vdc
1.9 Amps @ +12Vdc
29.3 Watts

Reference
327 MByte Disk Drive Configuration Procedures, 813–2048–03.

CDC 94211-91 91MB

5-1/4" Embedded SCSI
Sun386i/150/250
Option RR133
555-1004 370-1148

End View



Terminator Power Source Select and Test Seek Jumper J3

TP – +5V	In	Terminator power is from DC connector

Drive Select and Parity Check Jumper J2

JUMPER	SETTING	DESCRIPTION	USAGE
P	In	Parity check	All drives
2	In	Drive select	Target 2*
1,2,4	Out	Drive select	Target 0†

* Target 2, drive sd2, is located in the CPU chassis.
† Target 0, drive sd0, is located in the peripheral box.

Power: 1.3 Amps @ +5Vdc
1.7 Amps @ +12Vdc
26.9 Watts

Note: Remove the drive terminators. Use terminator part number 530-1381 to terminate the SCSI bus.

Reference
1. *386i Field Service Manual, 814-0002-10.*
2. *91MB Embedded SCSI Configuration Procedures, 814-1017-01.*

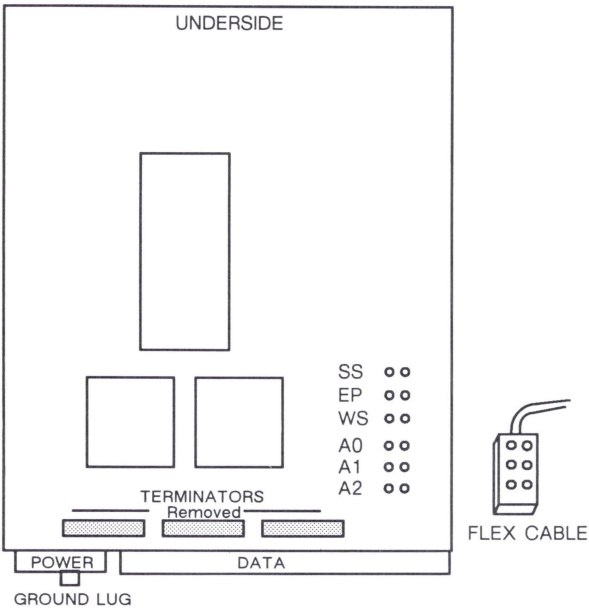
Quantum 105S 104MB

3 1/2" Embedded SCSI

Sun–3/80 & Sun–4/60/65

Option 550

370–1200



In the Desktop Storage Pack, orient flex cable 530–1454 as shown, and plug it into jumper block A0, A1, A2.

JUMPER	SETTING	DESCRIPTION	USAGE
SS	Out	Spindle Sync	Not used
EP	Out	Parity	Not Used
WS	Out	Wait Spin	Not Used
A0,A1,A2	Out	Drive ID	Target 0
A0	In	Drive ID	Target 1
A1	In	Drive ID	Target 2
A0,A1	In	Drive ID	Target 3

Power: 0.7 Amps @ +5Vdc
0.5 Amps @ +12Vdc
9.5 Watts

Reference: *Sun–3/80 Internal Disk Drive Installation Manual,* 813–1064.

CDC 94161-155 155MB

5 1/4" Embedded SCSI

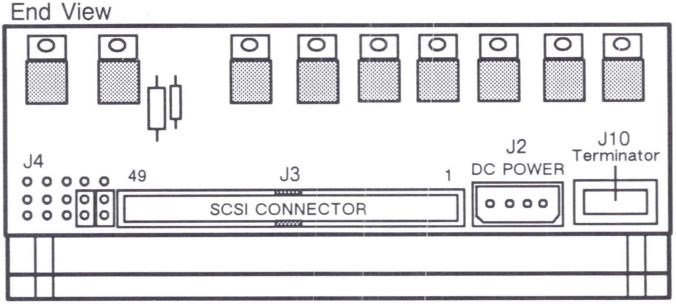
Sun386i/150/250

Option RR131

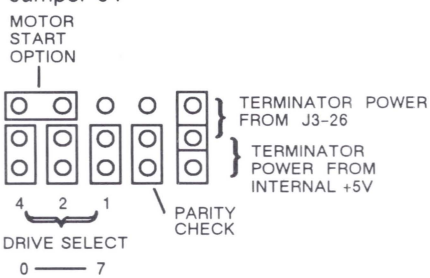
555-1059 370-1191

w Bracket w/o Bracket

End View



Jumper J4



JUMPER	SETTING	DESCRIPTION	USAGE
Motor Start	Out	Motor start	Not used
T P (J3-26)	Out	Term pwr from J3-26	Not used
T P (+5V)	In	Term pwr from +5V	Enable
Parity Check	In	Parity check	Enable
4,2,1	All Out	Drive select	Target 0*
4	In	Drive select	Target 1
2	In	Drive select	Target 2†
4,2	In	Drive select	Target 3

* Target 0, drive sd0, is located in the peripheral box (Sun386i).
† Target 2, drive sd2, is located in the CPU chassis (Sun386i).

Note: Remove terminator J10 on the end of the drive for normal operation.

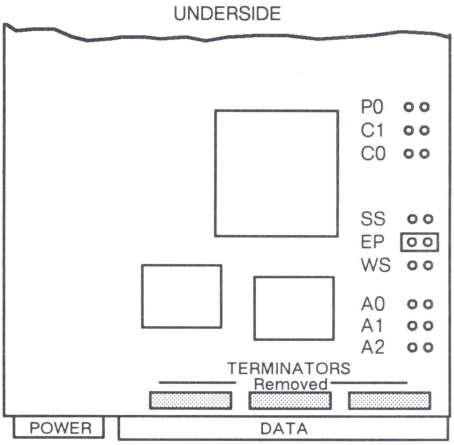
Reference
155MB Embedded SCSI Disk Drive Configuration Procedures, 813-2070-05 and 814-1018-01.

Quantum 210S 207MB

3 1/2" Embedded SCSI

Sun-4/40/50/75

370-1327



JUMPER	SETTING	DESCRIPTION	USAGE
SS	Out	Spindle Sync	Not used
EP	In	Parity	Enable Parity
WS	Out	Wait Spin	Not Used
A0,A1,A2	Out	Drive ID	Target 0
A0	In	Drive ID	Target 1
A1	In	Drive ID	Target 2
A0,A1	In	Drive ID	Target 3

Power: 0.7 Amps @ +5Vdc
0.7 Amps @ +12Vdc
11.9 Watts

Note: The Sun-4/60 or Sun-4/65 chassis does not provide adaquate cooling for the 207MB Disk Drive.

References

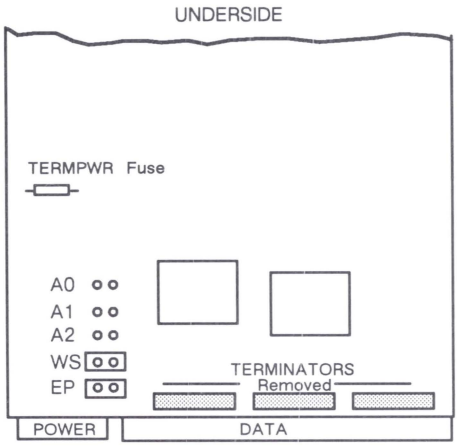
1. *SPARCstation IPC Installation Guide*, 800-5037-10.
2. *SPARCstation IPC Installation Guide*, 800-5565-10.
3. *Installing SPARCstation 2 Internal Disk Drives*, 800-5661-10.

Maxtor LXT-213SY 207MB

3 1/2" Embedded SCSI

Sun-4/40/50/75

370-1327



JUMPER	SETTING	DESCRIPTION	USAGE
A0,A1,A2	Out	Drive ID	Target 0
A0	In	Drive ID	Target 1
A1	In	Drive ID	Target 2
A0,A1	In	Drive ID	Target 3
WS	In	Wait Spin	Spin with power
EP	In	Parity	Enable parity

Power: 0.6 Amps @ +5Vdc
0.6 Amps @ +12Vdc
10.2 Watts

Notes

1. The Sun-4/60 or Sun-4/65 chassis does not provide adaquate cooling for the 207MB Disk Drive.
2. This drive is not supported inside the Desktop Storage Pack due to the orientation of the address jumpers.

References

1. *SPARCstation IPC Installation Guide*, 800-5037-10.
2. *SPARCstation IPC Installation Guide*, 800-5565-10.
3. *Installing SPARCstation 2 Internal Disk Drives*, 800-5661-10.

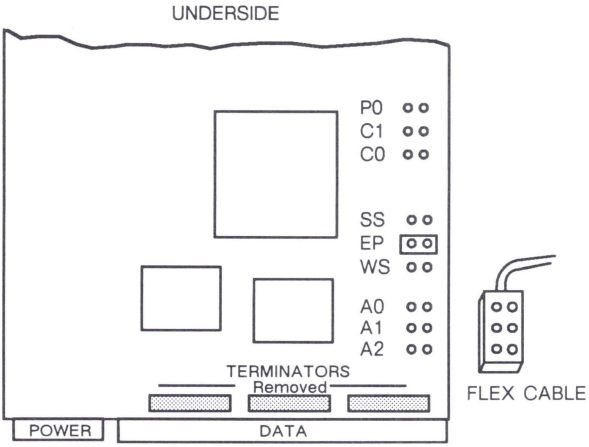
Quantum 210S 207MB

3 1/2" Embedded SCSI

Option 552

370-1376

Desktop Storage Pack



In the Desktop Storage Pack, orient the flex cable 530-1454 as shown, and plug it into jumper block A0, A1, A2.

JUMPER	SETTING	DESCRIPTION	USAGE
SS	Out	Spindle Sync	Not used
EP	In	Parity	Enable Parity
WS	Out	Wait Spin	Not Used
A0,A1,A2	Out	Drive ID	Target 0
A0	In	Drive ID	Target 1
A1	In	Drive ID	Target 2
A0,A1	In	Drive ID	Target 3

Power: 0.7 Amps @ +5Vdc
0.7 Amps @ +12Vdc
11.9 Watts

Note: The Sun-4/60 or Sun-4/65 chassis does not provide adaquate cooling for the 207MB Disk Drive.

References

1. *SPARCstation IPC Installation Guide*, 800-5037-10.
2. *SPARCstation IPC Installation Guide*, 800-5565-10.
3. *Installing SPARCstation 2 Internal Disk Drives*, 800-5661-10.

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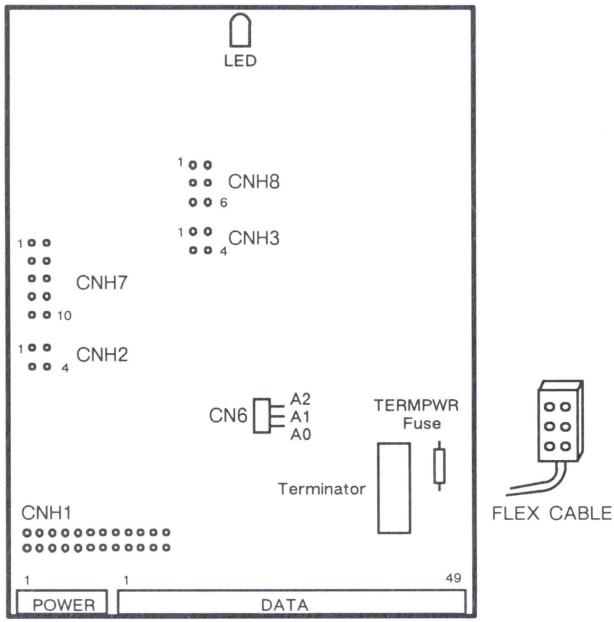
Fujitsu M2623SA 424MB

3 1/2" Embedded SCSI
Sun–4/75
Option 540
370–1392



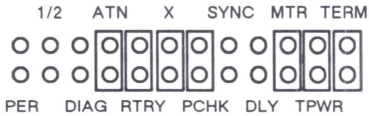
In the Desktop Storage Pack, orient flex cable 530–1825 as shown, and plug it into jumper CN6.

Power: 1.0 Amps @ +5Vdc
0.6 Amps @ +12Vdc
12.2 Watts

References
1. *Desktop Storage Pack Service Manual*, 800–4895–10.
2. *Installing Drives in a SPARCstation 2*, 800–6398–10.

370-1392
Jumper Settings

CNH1



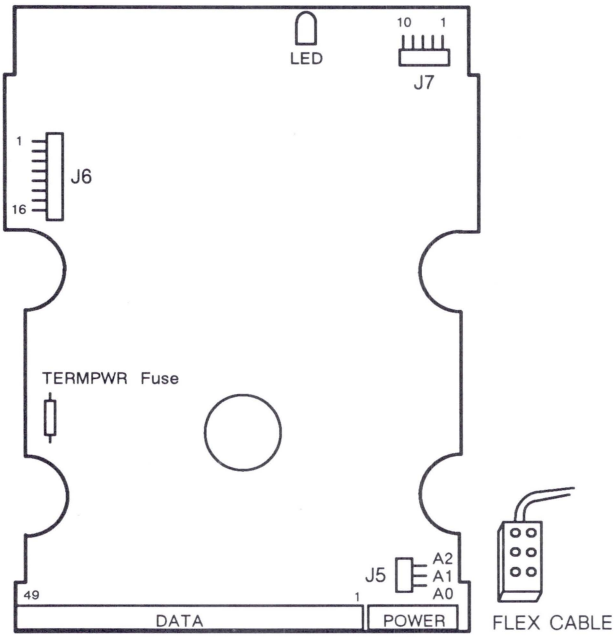
PIN	SETTING	DESCRIPTION
PER	Out	Mode Select Post Error
1/2	Out	SCSI Level
DIAG	Out	Offline Self-Diagnostics
ATN	In	Enable Unit Attention Report Mode
RTRY	In	Enable Reselection Retry Count
X	In	
PCHK	In	Enable SCSI Bus Parity Checking
SYNC	Out	Synchronous Mode Transfer
DLY	Out	Disable Motor Spin-up Delay
MTR	In	Enable Remote Spin-up
TPWR	In	Power Supplied to Terminator
TERM	In	Power Supplied to SCSI Bus

CNH2, CNH3, CNH7, and CNH8

JUMPER	PIN	SETTING	DESCRIPTION
CNH2	1-2	Out	Not used
CNH2	3-4	Out	Not used
CNH3	1-2	In	
CNH3	3-4	In	
CNH7	1-2	Out	Drive select A0, not used
CNH7	3-4	Out	Drive select A1, not used
CNH7	5-6	Out	Drive select A2, not used
CNH7	7-8	In	Write Enable
CNH7	9-10	Out	
CHN8	1-2	Out	
CNH8	3-4	Out	
CNH8	5-6	Out	

Seagate ST1480N 424MB

3 1/2" Embedded SCSI
Sun–4/75
Option 540
370–1392



In the Desktop Storage Pack, orient flex cable 530–1825 as shown, and plug it into jumper J5.

Drive Select and Option Select Jumpers

Power: 0.8 Amps @ +5Vdc
1.0 Amps @ +12Vdc
16.0 Watts Operating Maximum

References

1. *Desktop Storage Pack Service Manual*, 800–4895–10.
2. *Installing Drives in a SPARCstation 2*, 800–6398–10.

370–1392
Jumper Settings

J5

PIN	SETTING	DESCRIPTION	TARGET
All	Out	Drive select	Target 0
A0	In	Drive select	Target 1
A1	In	Drive select	Target 2
A0	In	Drive select	Target 3
A1	In	Drive select	Target 3

J6

PIN	SETTING	DESCRIPTION
1–2	Out	Factory use only
3–4	In	Motor start option enabled for Sun–4/75 Option 541
3–4	Out	Motor start option disabled for Option 540
5–6	Out	Motor start delay = 16 seconds times drive ID
7–8	Out	Write enabled
7–8	In	Write protected
9–10	In	Enable Parity
11–12	Out	Reserved for future use
13–14	In	Drive supplies TERMPWR to the SCSI bus (default)
15–16	In	Drive supplies TERMPWR to itself (default)
13–14	Out	Drive supplies TERMPWR to itself
15–16	In	Drive supplies TERMPWR to itself
13–14	In	Drive supplies TERMPWR to the SCSI bus
15–16	Out	Drive supplies TERMPWR to the SCSI bus
13–15	Out	Drive receives TERMPWR from the SCSI bus
14–16	In	Drive receives TERMPWR from the SCSI bus

J7

PIN	SETTING	DESCRIPTION	USAGE
1–2	Out	Drive select ID1	Not used
3–4	Out	Drive select ID2	Not used
5–6	Out	Drive select ID4	Not used
7–8	Out	Spindle Sync	Not implemented
9–10	Out	Remote LED	Not used

Micropolis 1588-15 669MB

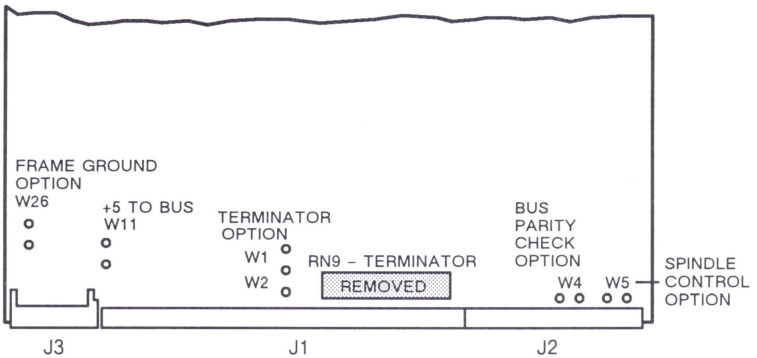
5 1/4" Embedded SCSI

Sun-4/330/370/470

Options 561 563 565 566

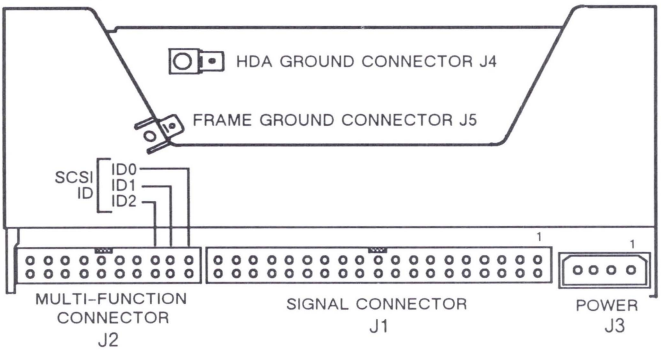
370-1319	370-1326	555-1151
FS0013-03-5 Black Bezel Green LED	FS0019-01-6 No Bezel No LED	FS0019-01-6 No Bezel No LED w Bracket

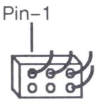
Bottom View



Note: All other jumpers on this board are set by the manufacturer. Do not change these settings.

End View





In the External Storage Module, orient Pin-1 of Address Select Switch Cable 530-1659 with ID2 of Connector J2.

370–1319 370–1326 555–1151
Option Jumper Settings

JUMPER	SETTING	DESCRIPTION
W5	Out	Spindle starts at power on
W4	Out	Enable parity detection
W1 W2 W11	In Out Out	Drive provides internal terminator power
W28	Out	Frame ground not connected to logic ground

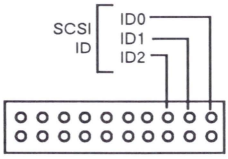
External Storage & External Expansion Modules

JUMPER	SETTING	DESCRIPTION
W5	Out	Spindle starts at power on
W4	Out	Enable parity detection
W1 W2 W11	In Out Out	Drive provides internal terminator power
W28	In	Frame ground connected to logic ground

Address Jumper Settings

J2 Multi–function Connector

PIN	SETTING	DESCRIPTION
0,1,2	Out	Target 0
0	In	Target 1
1	In	Target 2
0,1	In	Target 3



References
1. *5–1/4" SCSI Disk Drive Installation and Configuration for Sun Office Pedestals*, 813–2048–11.
2. *Revised Removal/Replacement Procedures for Sun ESM and EEM Storage Units*, 814–3044–01.

Maxtor XT-8760S 669MB

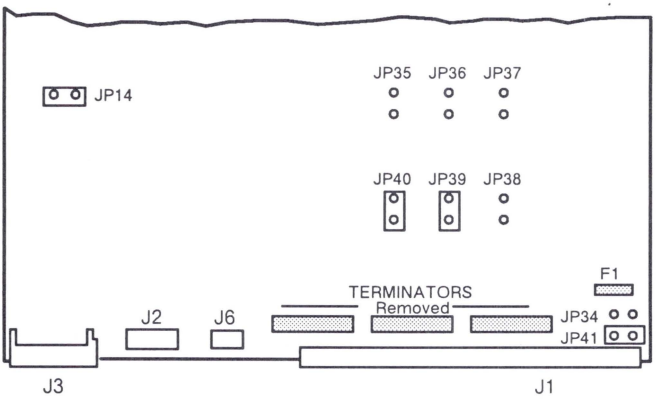
5 1/4" Embedded SCSI

Sun-4/330/370/470

Options 561 563 565 566

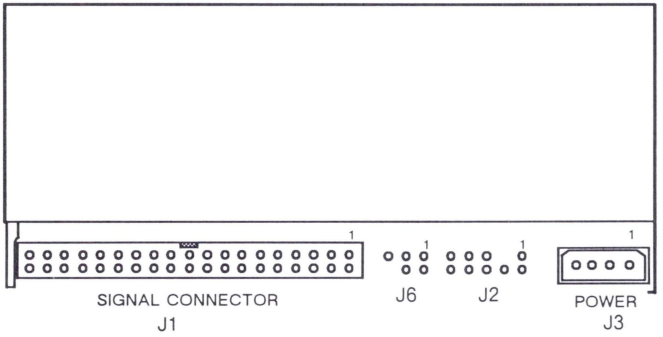
370-1319	370-1326	555-1151
1098618-B	1098778-B	FS0019-01-6
Black Bezel	No Bezel	No Bezel
Green LED	No LED	No LED
		w Bracket

Bottom View

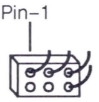


Note: All other jumpers on this board are set by the manufacturer. Do not change these settings.

End View



In the External Storage Module, orient Pin-1 of Address Select Switch Cable 530-1659 with ID4 on the the J2 Adapter Plug.



370–1319 370–1326 555–1151
Option Jumper Settings

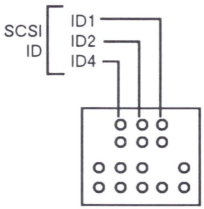
JUMPER	SETTING	DESCRIPTION
JP14	In	Spindle starts at power on
JP38	Out	No motor delay at power on
JP40	In	Enable parity detection
JP41	In	Drive provides internal terminator power
JP34	Out	Terminator power option

Address Jumper Settings

Drive address selection is set either on the J2 Adapter or on jumpers JP35, JP36, and JP37. Because these circuits are in parallel, install jumpers at only one location.

J2 Auxiliary Connector with Adapter Plug

JUMPER	SETTING	DESCRIPTION
1,2,4	Out	Target 0
1	In	Target 1
2	In	Target 2
1,2	In	Target 3



JP35, JP36, and JP37

JUMPER	SETTING	DESCRIPTION
JP35, JP36, JP37	Out	Target 0
JP35	In	Target 1
JP36	In	Target 2
JP35, JP36	In	Target 3

370–1319 370–1326 555–1151
Maxtor XT–8760S

Notes

1. The J2 Adapter Plug must be installed in order for the ID Select Switch on the External Storage Module to function.
2. Drive address selection cannot be set on Auxiliary Connector J2 unless the Adapter Plug is installed.
3. The Maxtor drive does not fit into the lower drive position of External Storage Modules manufactured prior to October 1990. Remove the vertical stop block with 10–Inch End Cutter, 250–1074–01.

References

1. *5–1/4" SCSI Disk Drive Installation and Configuration for Sun Office Pedestals*, 813–2048–11.
2. *Revised Removal/Replacement Procedures for Sun ESM and EEM Storage Units*, 814–3044–01.

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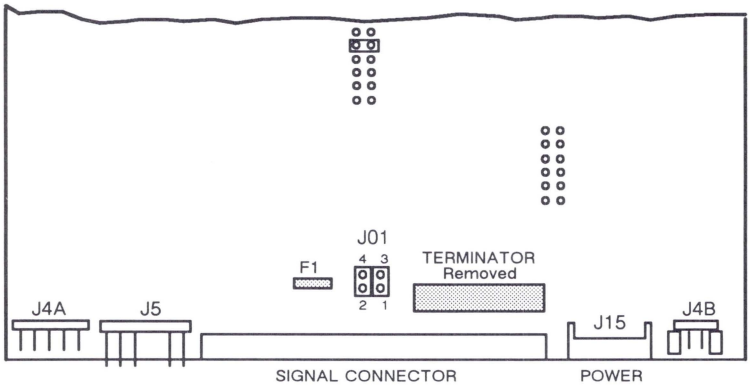
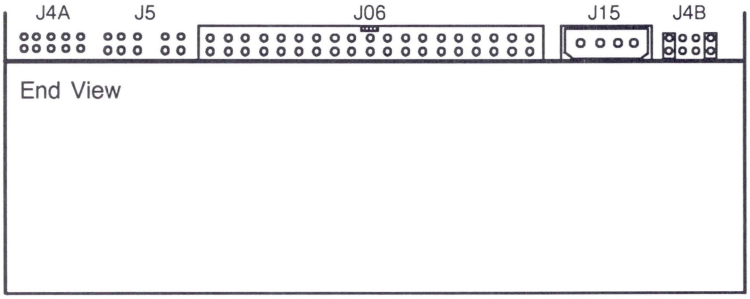
Seagate 976002-012 1.3GB

Equipment Number PA4E1/ST41600N
5 1/4" Embedded SCSI
Sun-4/470
Option 571
370-1377

Top View

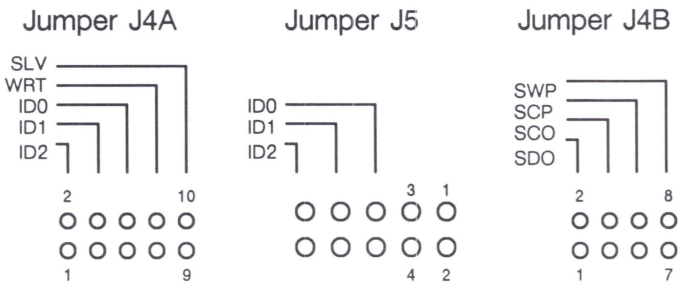




In the Desktop Storage Module, orient Pin-1 of Address Select Switch Cable 530-1659 with ID4 on J5.

Note: All other jumpers on the EYEX-3 Control Board are set by the manufacturer. Do not change these settings.

370–1377
Jumper Settings



J4A

JUMPER	SETTING	DESCRIPTION
ID2	Out	Drive ID Select, not used
ID1	Out	Drive ID Select, not used
ID0	Out	Drive ID Select, not used
WRT	Out	Write Enabled
SLV	Out	Spindle Sync Master

J5

JUMPER	SETTING	DESCRIPTION
ID0,ID1,ID2	In	Drive ID Select, Target 0
ID0	In	Drive ID Select, Target 1
ID1	In	Drive ID Select, Target 2
ID0,ID1	In	Drive ID Select, Target 3

J4B

JUMPER	SETTING	DESCRIPTION
SDO	In	Spinup Delay = 10sec x Target ID
SCO	Out	Spinup according to SD0 setting
SCP	Out	Parity Enabled
SWP	In	Sweep Cycle Enabled

370-1377
Jumper Settings – Continued

JUMPER	SETTING	DESCRIPTION
1-2		The drive supplies TERMPWR to its own terminator. It does not supply TERMPWR to the SCSI bus.
2-4		The drive supplies no TERMPWR. The initiator supplies TERMPWR to the bus.
1-3 2-4	In In	The drive supplies TERMPWR for the external terminator at the end of the daisy chain. This option is recommended only for the last drive on a daisy chain.

Notes
1. The minimum operating system is SunOS 4.1.1.
2. SunOS 4.1.1 Sun-4c requires the *1.3GB Disk Drive Enhancement* (esp.o, sd.o, and format.dat).
3. SunOS 4.1.1 Rev B Sun-4c requires the *1.3GB Disk Drive Enhancement* (esp.o and sd.o).
4. SunOS 4.1.1 Sun-4 requires the *1.3GB Disk Drive Enhancement* (format.dat).
5. The 1.3GB Disk Drive is not supported inside Sun 12-Slot Office Pedestals that use SCSI Interface PCB's 501-1493 and 501-1496.
6. The 1.3GB Disk Drive is not supported inside SCSI Peripheral Trays that use SCSI Interface PCB 501-1496.

References
1. *Desktop Storage Module Service Manual*, 800-6219-10.
2. *Sus SCSI Expansion Pedestal Service Manual*, 800-6219-10.
3. *12-Slot Office Pedestal with Single Peripheral Tray*, 800-6497-10.

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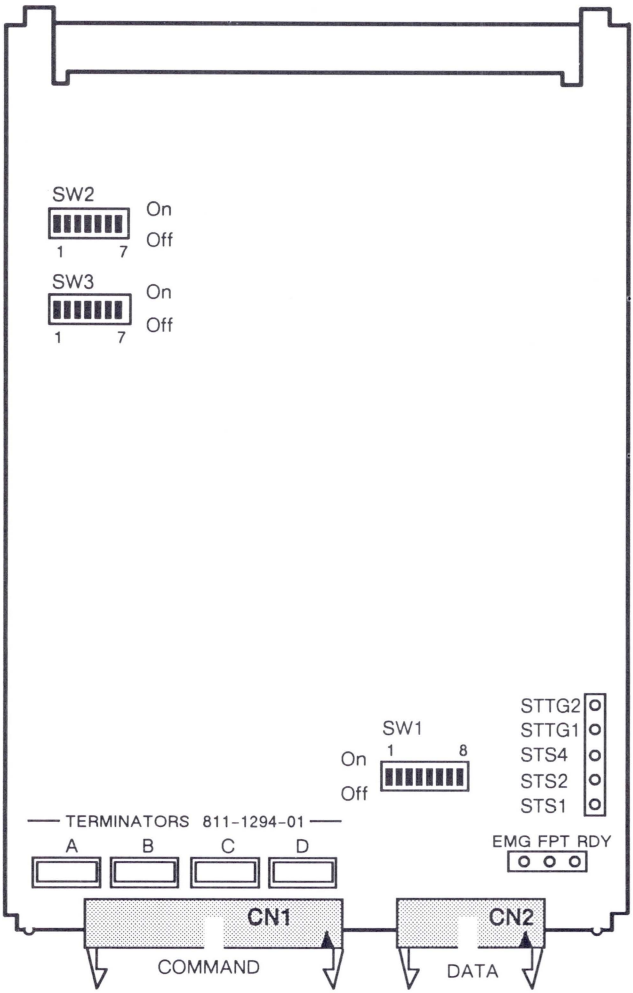
Fujitsu M2322 130MB

8" SMD

Options 63 64 65 601 602 603

370-1014



370–1014
Switch Settings

Non–slip sector format
32 Sectors/Track

DIP	SWITCH	SETTING
SW1	1	Off*
	2	Off
	3	Off
	4	On
	5	Off
	6	Off
	7	Off*
	8	Off*
SW2	1	On
	2	On
	3	On
	4	On
	5	On
	6	On
	7	On
SW3	1	Off
	2	Off
	3	On
	4	Off
	5	Off
	6	Off
	7	Off

Slip sector format
33 Sectors/Track

DIP	SWITCH	SETTING
SW1	1	Off*
	2	Off
	3	Off
	4	On
	5	Off
	6	Off
	7	Off*
	8	Off*
SW2	1	Off
	2	Off
	3	On
	4	On
	5	Off
	6	On
	7	On
SW3	1	Off
	2	Off
	3	On
	4	Off
	5	Off
	6	Off
	7	Off

*SW1 Switch Settings

Switch–1, On, for drive 1, Off, for drive 0
Switch–7, On, enables write protect
Switch–8, On, when drive is mounted on–end

Notes
1. Remove the TVQM cover plate for normal operation.
2. Attach the TVQM cover plate to the drive to prevent damage to C15 and C16 during shipping.

Fujitsu M2351 380MB

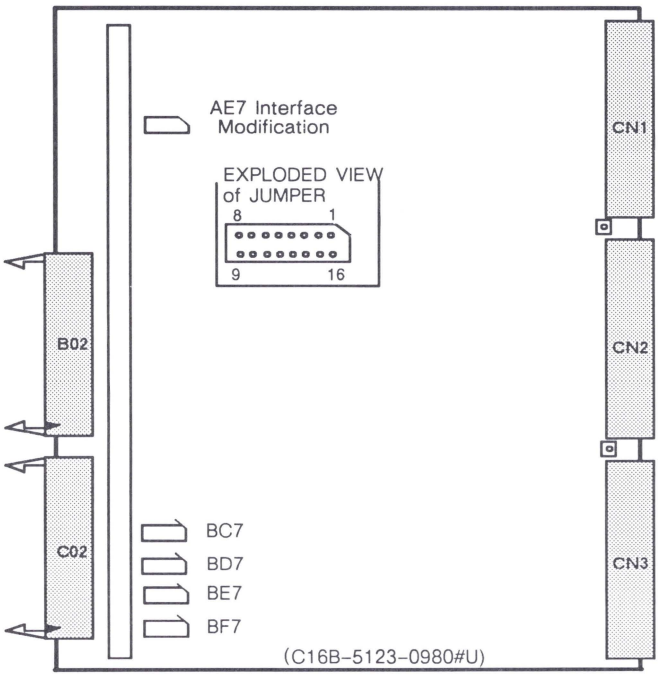
10" SMD

Options 68 69 620 621

Options D474 D474EX D474TR

370-1003

Logic PCB



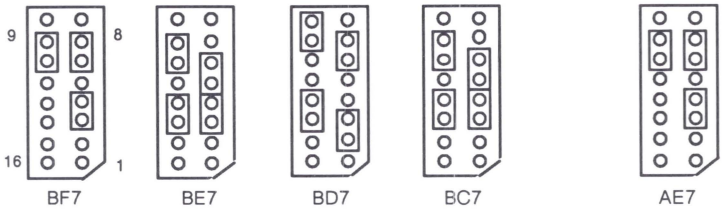
Non-slip sector format for Xylogics 450/451 46 Sectors/Track

Jumper	2-3	3-4	5-6	6-7	9-10	10-11	12-13	13-14
BF7	Out	In	Out	In	Out	In	Out	Out
BE7	Out	In	In	Out	Out	In	Out	In
BD7	In	Out	Out	In	In	Out	Out	In
BC7	In	Out	In	Out	In	Out	Out	In
AE7	Out	In	Out	In	Out	In	Out	Out

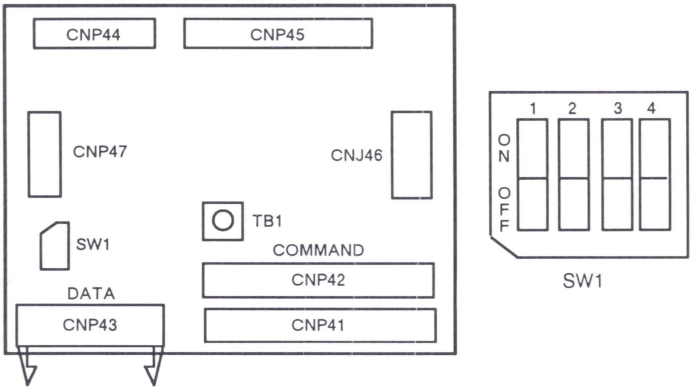
Slip Sector format for Xylogics 450/451 47 Sectors/Track

Jumper	2-3	3-4	5-6	6-7	9-10	10-11	12-13	13-14
BF7	Out	In	Out	In	Out	In	Out	Out
BE7	Out	In	In	Out	Out	In	Out	In
BD7	In	Out	Out	In	In	Out	Out	In
BC7	Out	In	In	Out	Out	In	Out	In
AE7	Out	In	Out	In	Out	In	Out	Out

370-1003
Setting of Sector Count on Logic PCB (Slip Sector Format)



Interface PCB



Note: Install Terminator 370-1004-01 into CNP42 and ground at location TB1.

SW1 Drive Addressing

DRIVE ADDRESS	SWITCH POSITION			
	1	2	3	4
0	Off	Off	Off	Not Used
1	On	Off	Off	
2	Off	On	Off	
3	On	On	Off	

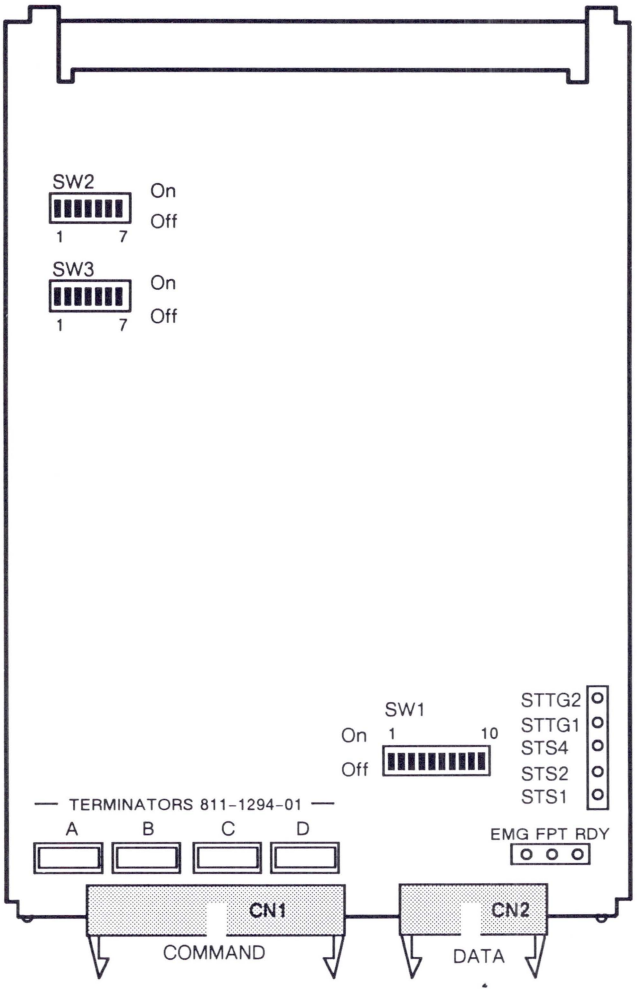
Fujitsu M2333 280MB

8" ESMD

Options 605 606

540–1635 370–1068

w Bracket w/o Bracket



Power: 4.5 Amps @ +5Vdc
3.5 Amps @ −12Vdc
4.0 Amps @ +24Vdc
165.5 Watts

540–1635 370–1068
Switch Settings

DIP	SWITCH	SETTING
SW1	1	Off*
	2	Off
	3	Off
	4	Off
	5	On
	6	On
	7	On
	8	Off
	9	Off*
	10	Off*
SW2	1	On
	2	On
	3	Off
	4	On
	5	Off
	6	On
	7	Off
SW3	1	Off
	2	On
	3	Off
	4	Off
	5	Off
	6	Off
	7	Off

*SW1 Switch Settings
Switch–1, On, for drive 1, Off, for drive 0
Switch–9, On, enables write protect
Switch–10, On, when drive is mounted on–end

Notes
1. Remove the TVQM cover plate for normal operation.
2. Attach the TVQM cover plate to the drive to prevent damage to C15 and C16 during shipping.

Reference
280 MByte Disk Drive Configuration Procedures, 813–2006–07.

CDC/Seagate 9720-368 280MB

Equipment Number PA8Y2

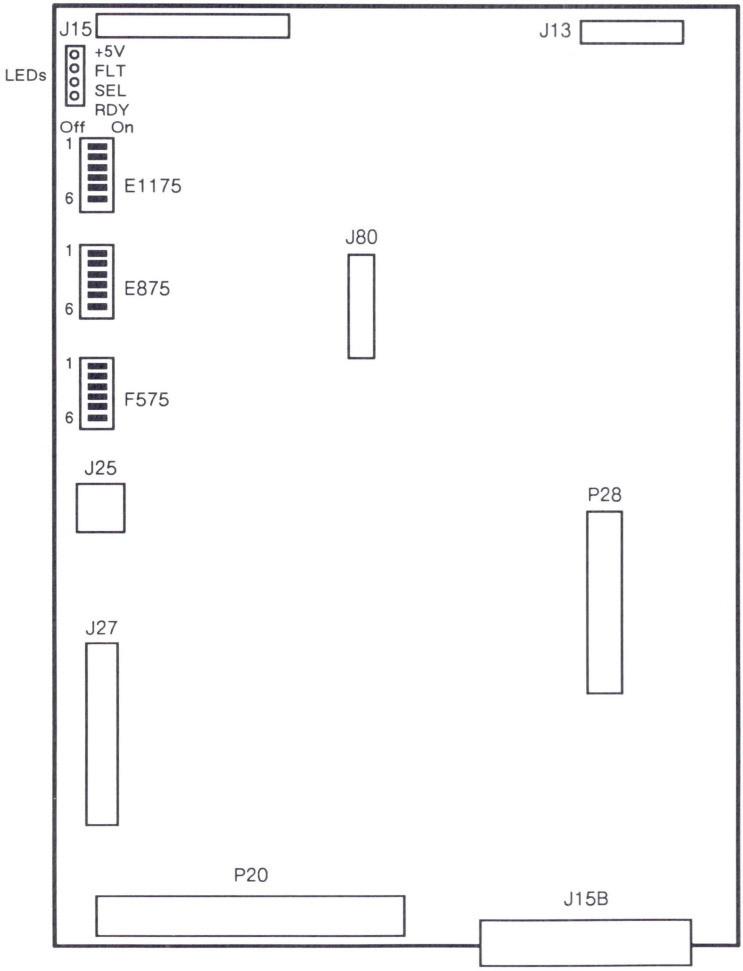
8" ESMD

Options 605 606

540-1635 370-1068

w Bracket w/o Bracket

Control Board



540–1635 370–1068
Switch Settings

Control Board

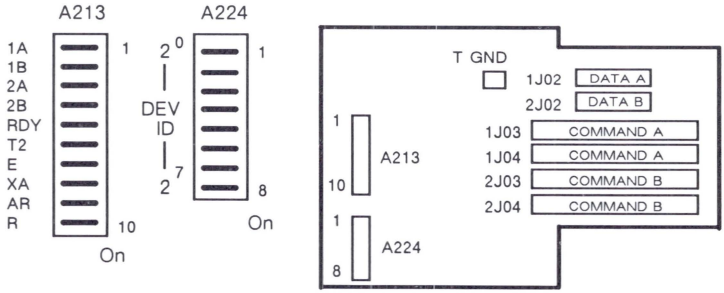
DIP	SWITCH	SETTING
E1175	1	On*
	2	On
	3	On
	4	On
	5	On
	6	On
E875	1	On
	2	Off
	3	Off
	4	Off
	5	Off
	6	On
E575	1	Off
	2	Off
	3	Off
	4	On
	5	Off
	6	Off

I/O Board

DIP	SWITCH	SETTING
A213	1	Off
	2	Off
	3	On
	4	On
	5	Off
	6	On
	7	On
	8	Off
	9	Off
	10	On
A224	1	On
	2	On
	3	On
	4	On
	5	On
	6	On
	7	On
	8	On

*E1175, Switch–1, On, for drive 0, Off, for drive 1

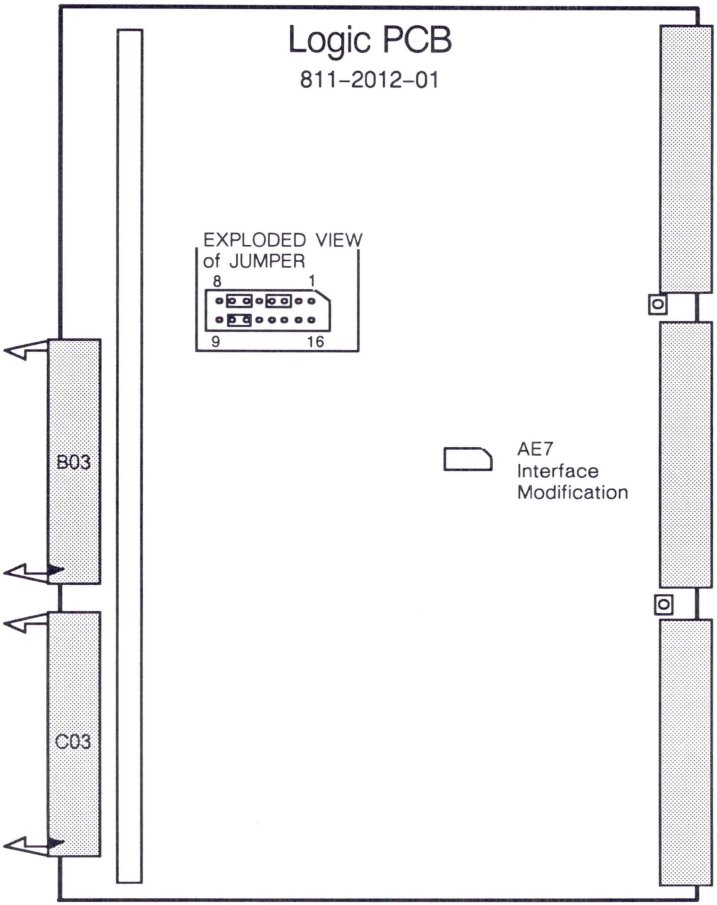
I/O Board



Notes
1. Install terminator 811–1298–01 at location 1J03.
2. Install the ground wire at T GND.

Reference: *280 MByte Disk Drive Configuration Procedures*, 813–2006.

Fujitsu M2361 575MB
10" ESMD
Options 625 626
370-1069



Jumper Settings

JUMPER	2-3	3-4	5-6	6-7	9-10	10-11	12,13,14,15,16
AE7	Out	In	Out	In	Out	In	Out

370–1069
Switch Settings

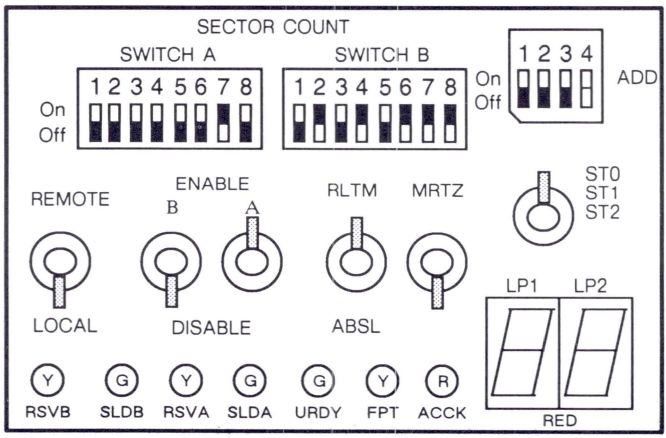
Slip Sector format for Xylogics 451, 68 Sectors/Track

SWITCH	1	2	3	4	5	6	7	8
A	Off	Off	Off	Off	Off	Off	On	Off
B	Off	On	Off	On	Off	On	On	On

STATE SWITCHES	SETTING
Remote/Local	Local
Enable A/Disable A	Enable A
Enable B/Disable B	Disable B
RLTM/ABSL	Either position
MRTZ	Off
ST0/ST1/ST2	Either position

DRIVE	ADDRESS SWITCH			
	1	2	3	4
Drive0	Off	Off	Off	Off
Drive1	Off	Off	Off	On

Operator Panel



Reference
Fujitsu 2361A Disk Drive Configuration Procedures, 813–2005–05.

CDC/Seagate 9720-850 688MB

Equipment Number PA8K2

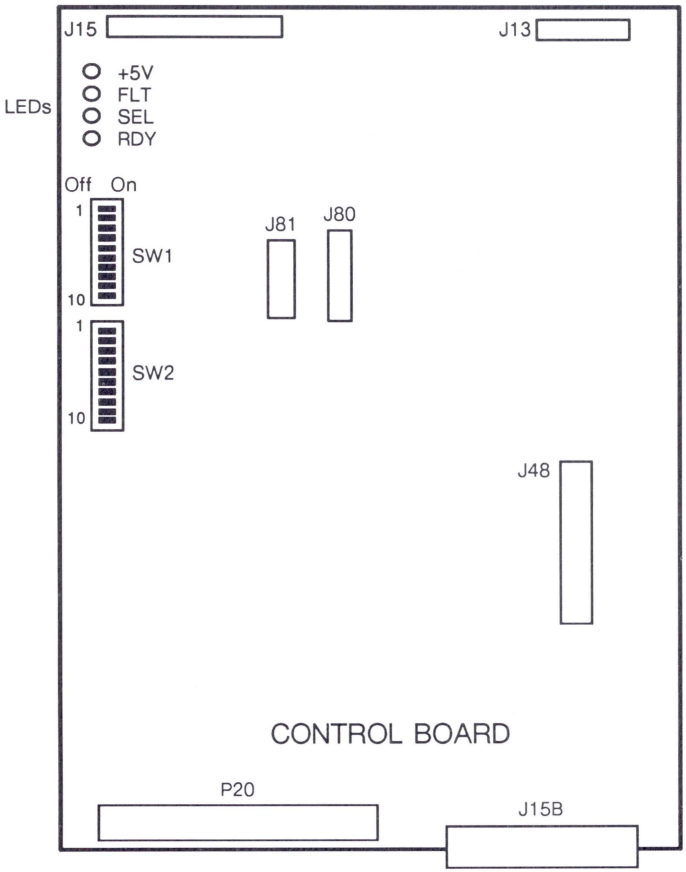
8" ESMD

Options 615 616 731 732 733 734

370-1197 w/o Bracket

540-1768 (FRU) w Mass Storage Pedestal Bracket

540-1813 (FRU) w Sun Expansion Pedestal Bracket



Notes

1. Power Supply 300-1014 must be Boschert, Rev F or greater.
2. The upper fans in the Mass Storage Pedestal must intake air. The lower fans must exhaust air.
3. The 688MB drive is only supported on the Xylogics 7053.
4. Power Supply 300-1075 does not support the 688MB Disk Drive.

540–1768 370–1197 540–1813

Switch Settings

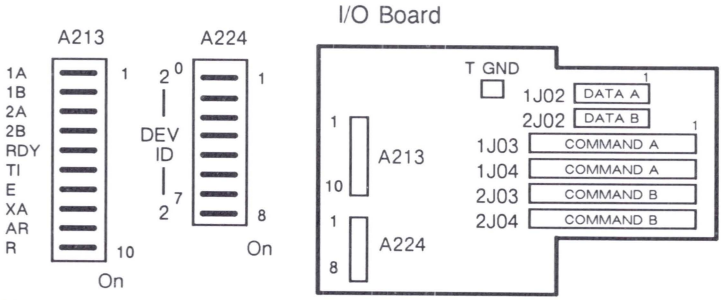
Control Board

DIP	SWITCH	SETTING
SW1	1	On*
	2	On
	3	On
	4	On
	5	On
	6	On
	7	Off
	8	On
	9	On
	10	On
SW2	1	On
	2	Off
	3	Off
	4	On
	5	On
	6	Off
	7	On
	8	On
	9	On
	10	On

I/O Board

DIP	SWITCH	SETTING
A213	1	Off
	2	Off
	3	On
	4	On
	5	Off
	6	On
	7	Off
	8	Off
	9	Off
	10	On
A224	1	On
	2	On
	3	On
	4	On
	5	On
	6	On
	7	On
	8	On

* SW1, Switch-1, ON for drive 0, OFF for drive 1



Notes

1. Install the terminator at location 1J03.
2. Install the ground wire from the terminator board to T GND.
3. Jumpers not described are factory set and are not user configurable.

Reference: *688 MByte Disk Drive Configuration Procedures*, 813–2062.

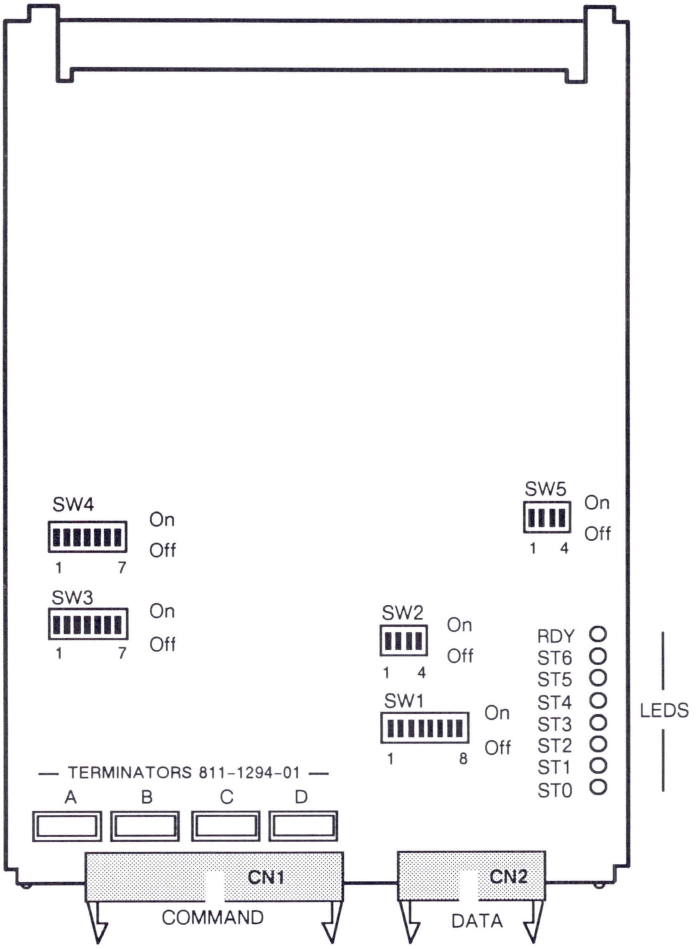
Fujitsu M2372 688MB

8" ESMD

Options 615 616 731 732 733 734

370-1197 540-1768 540-1813

w/o Bracket — w Mass Storage Pedestal Bracket — w Sun Expansion Pedestal Bracket



Power: 3.5 Amps @ +5Vdc
3.5 Amps @ -12Vdc
4.5 Amps @ +12Vdc
164.5 Watts

540–1768 370–1197 540–1813
Switch Settings

DIP	SWITCH	SETTING
SW1	1	Off*
	2	Off
	3	Off
	4	Off
	5	Off
	6	Off
	7	Off
	8	Off
SW2	1	Off
	2	Off
	3†	Off
	4	Off
SW3	1	On
	2	On
	3	Off
	4	On
	5	Off
	6	On
	7	Off

DIP	SWITCH	SETTING
SW4	1	Off
	2	On
	3	Off
	4	Off
	5	Off
	6	Off
	7	Off
SW5	1	Off
	2	Off
	3	Off
	4	Off

* SW1 Switch Settings
Switch–1, OFF, for drive 0, ON, for drive 1
Switch–5, ON, enables write protect

† SW2, Switch–3, ON, for Sun Expansion Pedestal side–mount

Notes
1. Power Supply 300–1014 must be Boschert, Rev F or greater.
2. The upper fans in the Mass Storage Pedestal must intake air. The lower fans must exhaust air.
3. The 688MB Disk Drive is only supported on the Xylogics 7053.
4. Drives manufactured prior to 5/8/89 may require the Fujitsu M2372 noise insulator kit, Sun part number 370–1300–01.
5. Power Supplies 300–1052–03, 300–1052–04, 300–1056–03, and 300–1056–04 do not support the Fujitsu M2372 Disk Drive. Use 300–1052–05 or 300–1056–05.
6. Power Supply 300–1075 does not support the 688MB Disk Drive.

Reference: *688 MByte Disk Drive Configuration Procedures*, 813–2062.

Hitachi DK815-10 892MB

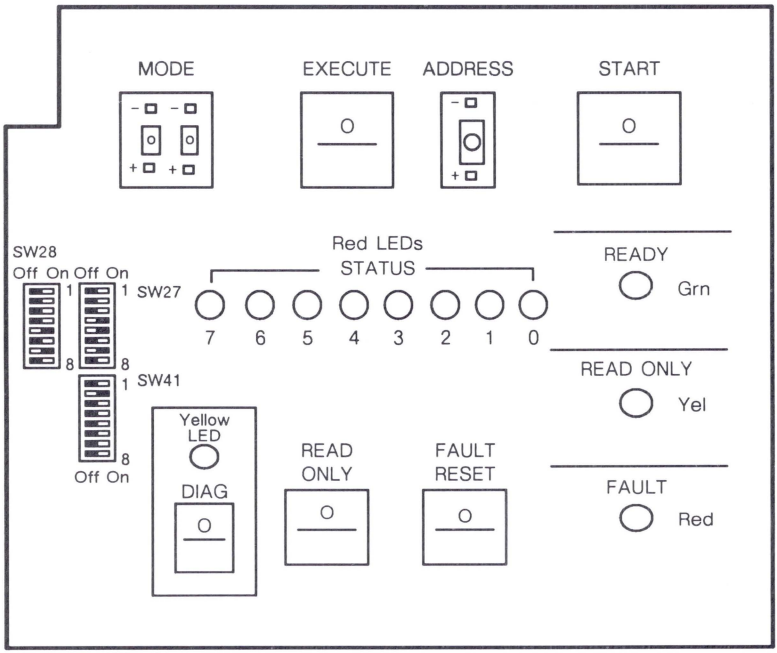
9" ESMD

Options 629 630 631

Options 641 642 643 644 645 646

555-1008 370-1141

w Mounting Hardware



555–1008 370–1141
Switch Settings

Sector Count Switches – 68 sectors per track

SWITCH	1	2	3	4	5	6	7	8
SW–27	Off	Off	Off	On	On	Off	On	Off
SW–41	Off	On	Off	Off	Off	Off	Off	Off

Drive Mode Switch

SWITCH	1	2	3	4	5	6	7	8
SW–28	Off	Off	Off	Off	On	Off	On	Off

Operator Panel

SWITCH	SETTING
Mode	00
Execute	N/A*
Address	0,1,2, or 3
Start	On
Fault Reset	N/A*
Diag	Off
Read Only	Off

*Indicates a momentary switch

Notes
1. A maximum of two drives may be installed in a system rack using the 115V power sequencer.
2. A maximum of four drives may be installed in a system rack using the 230V or 240V, 20 sec delay power sequencer.
3. The six and eight drive expansion racks are only available as factory installed configurations. Sun does not support installation in the field of more than four 892MB drives in any expansion rack.
4. The minimum software level is Sys4–3.2 or 3.5.
5. Different drive types cannot be connected to the same Xylogics 451 Disk Controller when an 892MB Disk Drive is installed.
6. The Xylogics 450 is not supported with the 892MB Disk Drive, and cannot be mixed with the Xylogics 451 in any 892MB configuration.

Reference
Sun 900 MByte Disk Drive Configuration Procedures, 813–2046–07.

NEC D2363 892MB

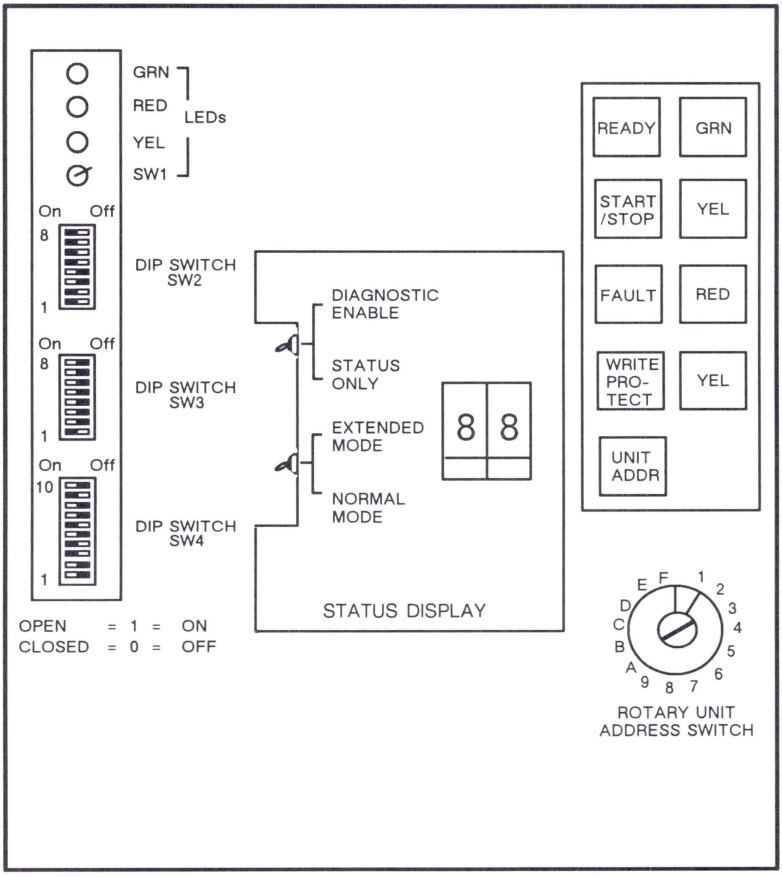
9" ESMD

Options 629 630 631

Options 641 642 643 644 645 646

555–1008 370–1140 370–1141

w Mounting Hardware



555–1008 370–1140 370–1141
Switch Settings

Operator Panel

SWITCH	SETTING
Ready	Indicator lamp
Start/Stop	In
Fault	Momentary switch
Write Protect	Out

Status Display Panel

SWITCH	SETTING
Diagnostic Enable/Status Only	Status only
Extended Mode/Normal Mode	Normal Mode
CE Reset/Reset Drive Status	N/A*

*Momentary switch only

Parameter Selection Switches

SWITCH	1	2	3	4	5	6	7	8
SW–2	On	On	Off	Off	On	On	On	On
SW–3	On	Off	Off	Off	Off	Off	Off	Off

Sector Count Switch – 68 Sectors Per Track

SWITCH	1	2	3	4	5	6	7	8	9	10
SW–4	Off	Off	On	On	Off	On	Off	Off	On	Off

Notes

1. The Rotary Unit Address Switch is selectable from unit 1 to unit F. It is enabled when SW2 switches 5,6,7, 8 are ON
2. The six and eight drive expansion racks are only available as factory installed configurations. Sun does not support installation in the field of more than four 892MB drives in any expansion rack.

Reference

Sun 900 MByte Disk Drive Configuration Procedures, 813–2046–07.

Seagate 97229-11G 911MB

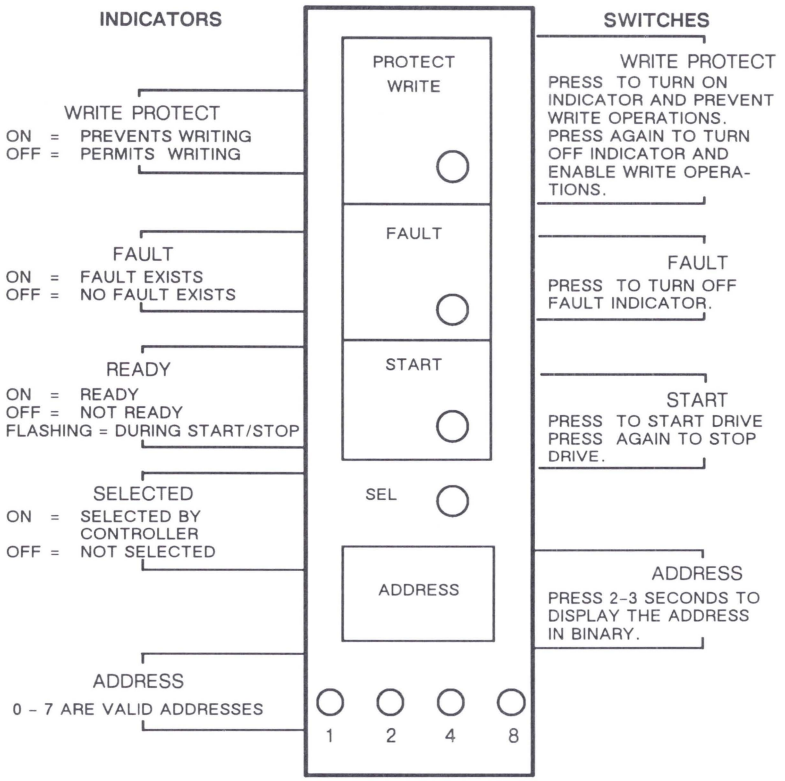
Equipment Number PA8Y2

8" IPI-2 6MB/Sec

Options 716 717 719 720

Options 741L 742L 743L 744L 745L

Operator Panel 370-1355



Note: Each drive power on sequence is delayed for a time equal to five seconds times its address. For example, if the address is 3, the drive starts after a 15 second delay.

Disk Enclosure

370–1351	370–1352	540–2005	540–2008
Rackmount Disk w/o Tray w/o Power Supply	Pedestal Disk w/o Bracket	Rackmount Disk w Tray w Power Supply	Pedestal Disk w Bracket

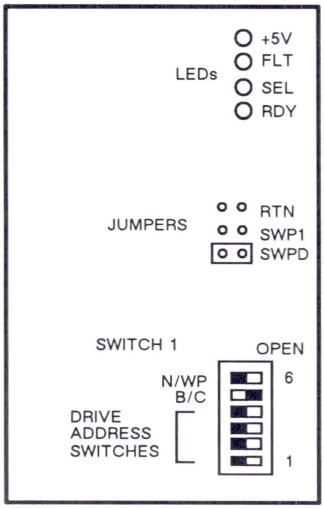
Control Board Dip Switch Settings

Dip Switch 1, Switches 1,2,3,4

DRIVE	SWITCH 4	SWITCH 3	SWITCH 2	SWITCH 1
0	Closed	Closed	Closed	Closed
1	Closed	Closed	Closed	Open
2	Closed	Closed	Open	Closed
3	Closed	Closed	Open	Open
4	Closed	Open	Closed	Closed
5	Closed	Open	Closed	Open
6	Closed	Open	Open	Closed
7	Closed	Open	Open	Open

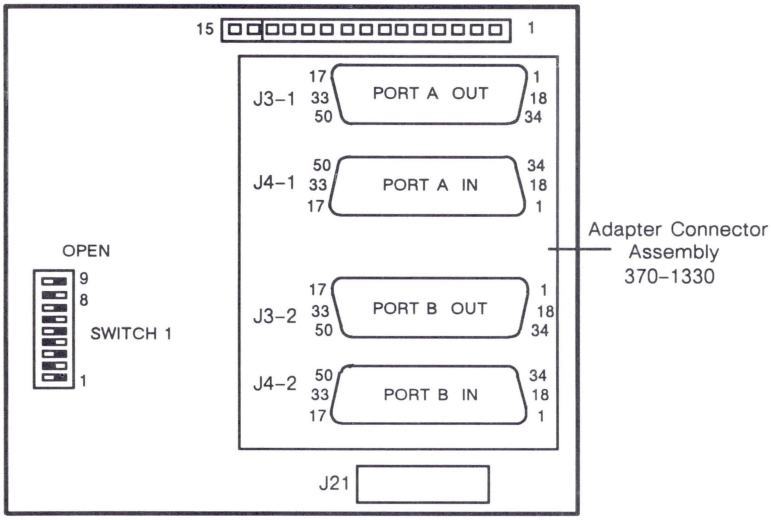
Dip Switch 1, Switches 5 and 6

SWITCH	DESCRIPTION
5	Not Used
6	Open = Write Protected Closed = Write enabled



Disk Enclosure
370–1351 370–1352 540–2005 540–2008

I/O Board Rear View



Power Connector

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
+24 RTN	+24	+24	+24	+24 RTN	+24 RTN	N/C	PWR OK	–12	–5	–5	GND	GND	+5	+5

Dip Switch 1 Settings

SWITCH	SETTING	DESCRIPTION
1	Open	Drive starts when DC Power is applied
2	Closed	Disable Port B
3	Open	Enable Port A
4	Closed	Disable internal diagnostics
5	Open	1D 3 — ID Microcode. Do Not Change.
6	Closed	1D 2 — ID Microcode. Do Not Change.
7	Open	1D 1 — ID Microcode. Do Not Change.
8	Closed	1D 0 — ID Microcode. Do Not Change.
9	Open	Slave/Master spindle sync–slave

370-1351 370-1352 540-2005 540-2008 Seagate 97229-11G

Notes

1. The 911MB Disk requires minimum ISP-80 firmware 525-1023-05, 525-1024-07, and 525-1025-07.
2. ISP-80 501-1539-05 and 501-1855-01 contain the minimum firmware required by the 911MB Disk.
3. Upgrade lower revision ISP-80 Controller boards with Option X2080A.
4. Use terminator 370-1220-01 on the Port A/B Out connector.
5. Disable an unused port with the Port Enable/Disable switch.
6. Do not install a terminator on an unused port.
7. There are cooling vents on the cover of 911MB Drive 370-1351. Do not install this drive in the Sun Expansion Pedestal.
8. There are no cooling vents on the cover of 911MB Drive 370-1352. Do not install this drive in the Sun 56" Rack.
9. Power Supply 300-1052 does not support the 911MB Drive.
10. Use Power Supply 300-1075 in the Sun Expansion Pedestal.

References

1. *IPI8-1000/2HP Disk Drive Configuration and Installation Procedures for the Sun Expansion Pedestal, 813-5377-11.*
2. *IPI8-1000 and IPI8-1000/2HP Disk Drive Configuration and Installation Procedures for the Sun 56-inch Cabinets, 813-1109-10.*

Seagate 97209-12G 1.2GB

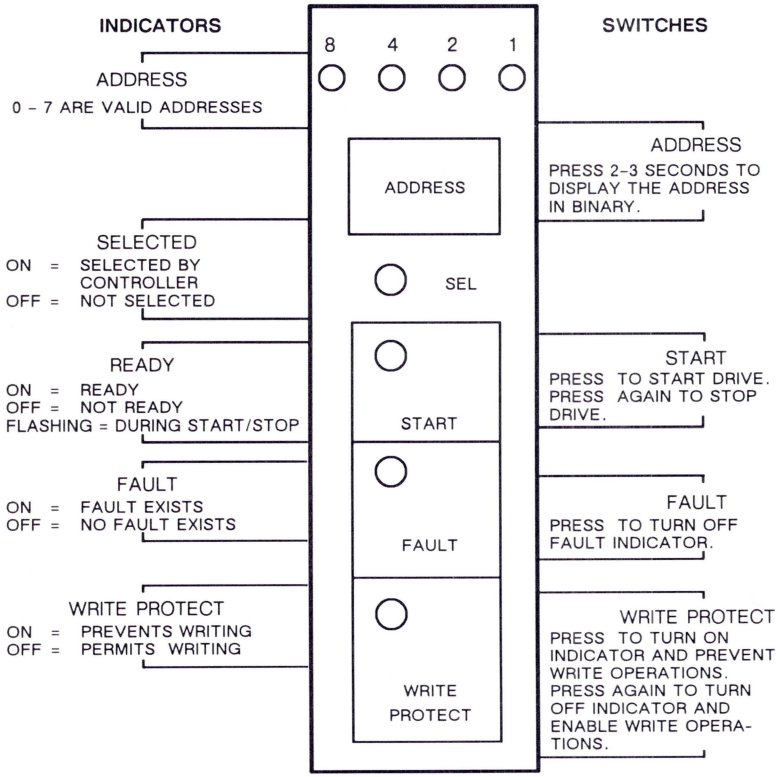
Equipment Number PA8R2

8" IPI-2 3MB/Sec

Options 706 707 709 710

Options 741A 742A 743A 744A 745A

Operator Panel 370-1221



Note: Each drive power on sequence is delayed for a time equal to five seconds times its address. For example, if the address is 3, the drive starts after a 15 second delay.

Disk Enclosure

370–1187	370–1314	540–1770	540–1926
Rackmount Disk w/o Power Supply w/o Tray	Pedestal Disk w/o Bracket	Rackmount Disk w Power Supply w Tray	Pedestal Disk w Tray

Control Board Dip Switch Settings

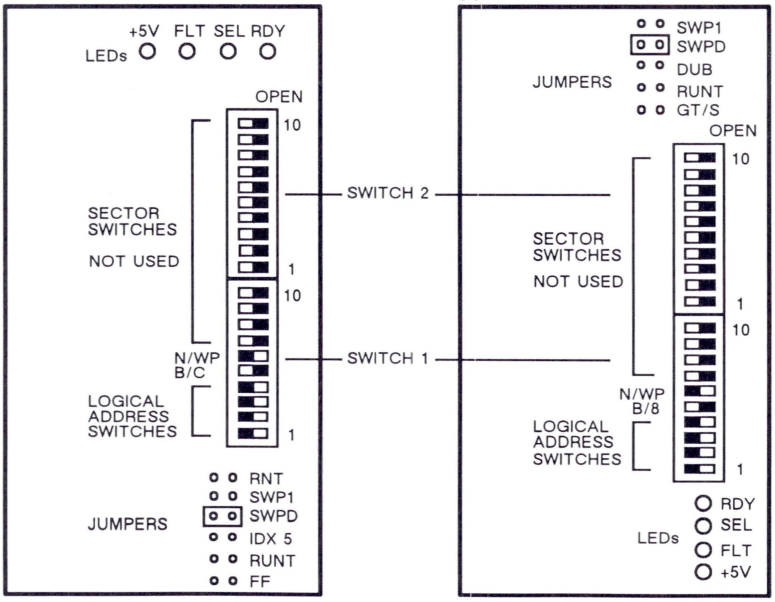
Dip Switch 1, Switches 1,2,3,4

DRIVE	SWITCH 4	SWITCH 3	SWITCH 2	SWITCH 1
0	Closed	Closed	Closed	Closed
1	Closed	Closed	Closed	Open
2	Closed	Closed	Open	Closed
3	Closed	Closed	Open	Open
4	Closed	Open	Closed	Closed
5	Closed	Open	Closed	Open
6	Closed	Open	Open	Closed
7	Closed	Open	Open	Open

Dip Switch 1, Switches 5 and 6

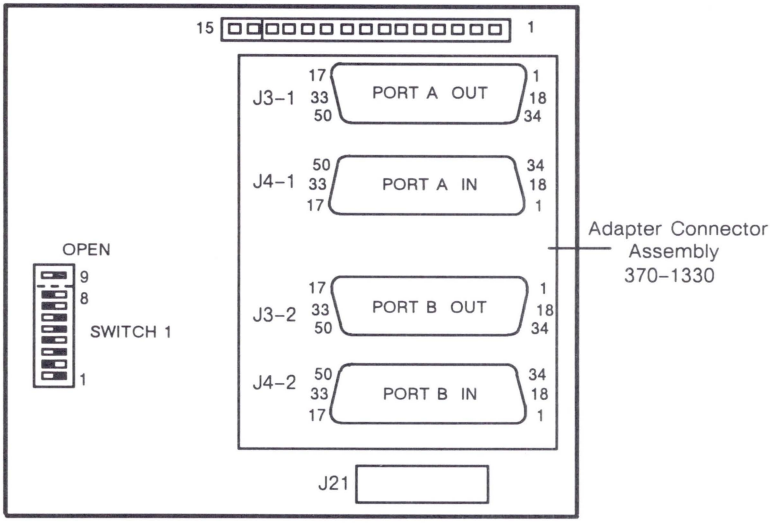
SWITCH	DESCRIPTION
5	Not used
6	Open = Write protected Closed = Write enabled

Control Board Types



Disk Enclosure
370–1187 370–1314 540–1770 540–1926

I/O Board Rear View



Power Connector

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
+24 RTN	+24	+24	+24	+24 RTN	+24 RTN	N/C	PWR OK	–12	–5	–5	GND	GND	+5	+5

Dip Switch 1 Settings

SWITCH	SETTING	DESCRIPTION
1	Open	Drive starts when DC Power is applied
2	Closed	Disable Port B
3	Open	Enable Port A
4	Closed	Disable internal diagnostics
5	Open	1D 3 — ID Microcode. Do Not Change.
6	Open	1D 2 — ID Microcode. Do Not Change.
7	Closed	1D 1 — ID Microcode. Do Not Change.
8	Closed	1D 0 — ID Microcode. Do Not Change.
9	Open	Slave/Master spindle sync–slave

370–1187 370–1314 540–1770 540–1926 Seagate 97209–12G

Notes

1. Use terminator 370–1220–01 on the Port A/B Out connector.
2. Disable an unused port with the Port Enable/Disable switch.
3. Do not install a terminator on an unused port.
4. Switch 9 is on I/0 board LYBX. It is not on I/O board BXDX.
5. Do not install Disk Drive 370–1187 in the Sun Expansion Pedestal if there are cooling vents on the top cover.
6. Power Supply 300–1052–02 does not support 1.2GB Disk Drives.
7. Power Supply 300–1052–03 supports two 1.2GB Disk Drives. Power must be distributed between the two 410 Watt modules.
8. Power Supply 300–1052–04 supports four 1.2GB Disk Drives.
9. Power Supply 300–1052–05 does not support 1.2GB Disk Drives.
10. Use Power Supply 300–1075 in the Sun Expansion Pedestal.

References

1. *IPI8–1000/2HP Disk Drive Configuration and Installation Procedures for the Sun Expansion Pedestal, 813–5377–11.*
2. *IPI8–1000 and IPI8–1000/2HP Disk Drive Configuration and Installation Procedures for the Sun 56–inch Cabinets, 813–1109–10.*

Seagate 975002-005 1.3GB

Equipment Number PA4F2/ST41201K

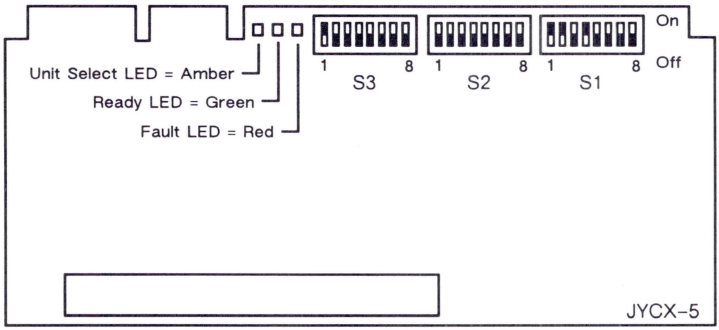
5 1/4" IPI

Sun-4/490

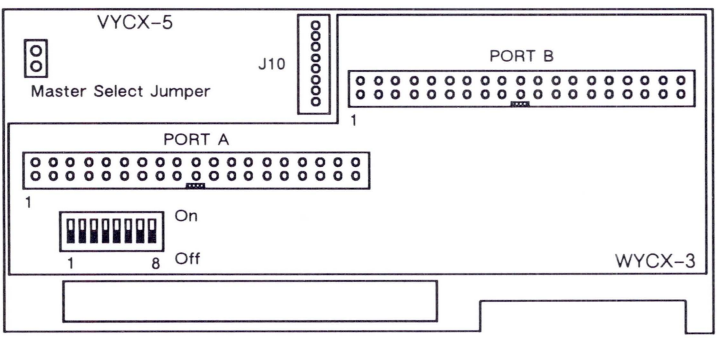
Options 726 727 728

540-2127

Servo Board



I/O Board and I/O Transceiver Board



Power: 2.7 Amps @ +5Vdc
2.0 Amps @ +12Vdc
37.5 Watts

540–2127
Servo Board Switch Settings

S1

SWITCH	SETTING	DESCRIPTION
1	On	Enable sweep cycle
2	On	Controller–driven sweep cycle
3	Off	Manufacturing test switch
4	On	Write enable
5	Off	Unit select switch 0
6	Off	Unit select switch 1
7	Off	Unit select switch 2
8	Off	Unit select switch 3

S2

SWITCH	SETTING	DESCRIPTION
1	Off	Sector switch 2^8
2	Off	Sector switch 2^9
3	Off	Sector switch 2^{10}
4	Off	Sector switch 2^{11}
5	Off	Sector switch 2^{12}
6	Off	Sector switch 2^{13}
7	Off	Sector switch 2^{14}
8	Off	Runt sector switch

S3

SWITCH	SETTING	DESCRIPTION
1	On	Sector switch 2^0
2	Off	Sector switch 2^1
3	Off	Sector switch 2^2
4	Off	Sector switch 2^3
5	Off	Sector switch 2^4
6	Off	Sector switch 2^5
7	Off	Sector switch 2^6
8	Off	Sector switch 2^7

540–2127
I/O Transceiver Board Switch Settings

SWITCH	SETTING	DESCRIPTION
1	Off	Spindle starts at power on
2	Off	Enable Port B
3	Off	Enable Port A
4	Off	Enable internal diagnostics
5	Off	Microcode ID3
6	Off	Microcode ID2
7	Off	Microcode ID1
8	Off	Microcode ID0

Notes
1. The minimum operating system is SunOS 4.1.1.
2. SunOS 4.1.1 and SunOS 4.1.1 Rev B require the *1.3GB Disk Drive Enhancement* (format.dat).
3. The 1.3GB Disk requires minimum ISP–80 firmware 525–1023–05, 525–1024–09, and 525–1025–09.
4. ISP–80 501–1539–09 and 501–1855–03 contain the minimum firmware required by the 1.3GB Disk.
5. Upgrade lower revision ISP–80 Controller boards with Option X2080A.
6. IPI Cables without toroids, 530–1487 and 530–1518, can be used with the Sun–4/490.

Reference
Sun 1.3GB IPI Tray and Disk Drive Installation/Service Manual, 800–6676.

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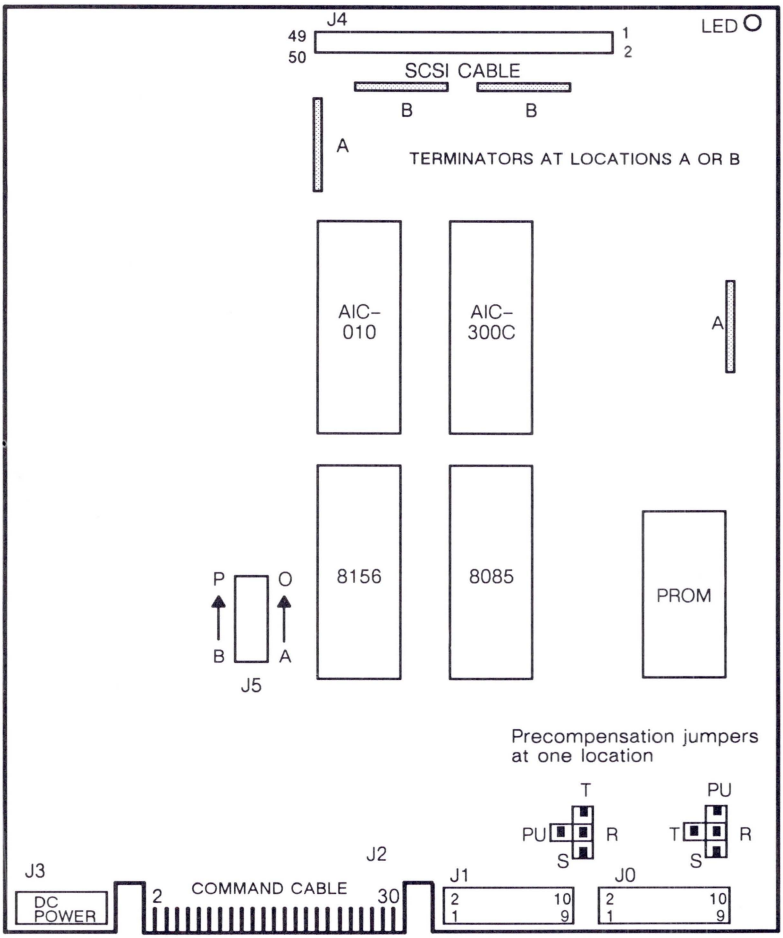
Adaptec ACB4000

Sun–3/160

Options 55 55EX 56 501 503 511

370–1010



Power: 1.5 Amps @ +5Vdc
0.1 Amps @ +12Vdc
8.7 Watts

370–1010
Jumper Settings

JUMPER	PINS	SETTING	DESCRIPTION
S, R	R–S	Out	Selects Precomp at Cyl 400*
T&PU	R–T	Out	Selects Precomp all tracks
	R–PU	In	De–selects Precomp all tracks
J5	A–B†	Out	SCSI bus address
	C–D	Out	SCSI bus address
	E–F	Out	SCSI bus address
	G–H	Out	Halves the transfer rate
	I–J	Out	Not used
	K–L	Out	Not used
	M–L	Out	Selects a seek complete status
	O–P	Out	Not used

*Refer to the charts below for the Micropolis 1304 disk drive.

DRIVE SERIAL NUMBER	ACTION
41210001 and greater	Jumper the Adaptec for NO precompensation (PU–R)
411559999 or lower	Check the drive PCB

DRIVE PCB SERIAL NUMBER	ACTION
101242–xx–x	Jumper the Adaptec for precompensation (R–S).
101362–xx–x	Jumper the Adaptec for NO precompensation (PU–R).

† A–B, In, for second Adaptec controller

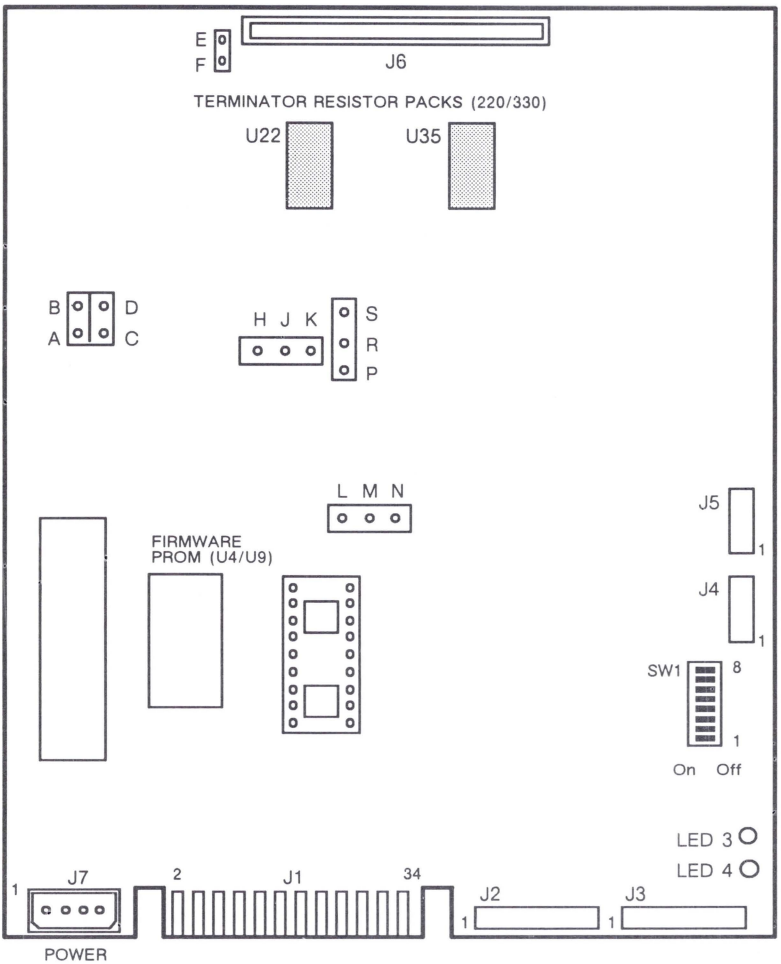
Reference
71 MByte Disk Controller Configuration Procedures, 813–2027.

Emulex MD21

Sun–3/160/260 & Sun–4/260

Options 504 505 507 509 510 514 516

370–0552 370–1236



Power: 1.6 Amps @ +5Vdc
8.0 Watts

370–0552 370–1236
Switch & Jumper Settings

DIP SWITCH	SETTING	DESCRIPTION
1 2 3	Off * Off Off	SCSI BUS ADDRESS/TARGET Bit 0–7
4	Off	Not used
5	Off	512 byte/sector
6	Off	Power on spin-up
7	Off	Soft errors reported
8	Off	Parity disabled

* For DeskTop Expansion Shoebox, Dip Switch 1 is ON for Target 1.

JUMPER	SETTING	DESCRIPTION
E,F *	Out	SCSI bus termination power option

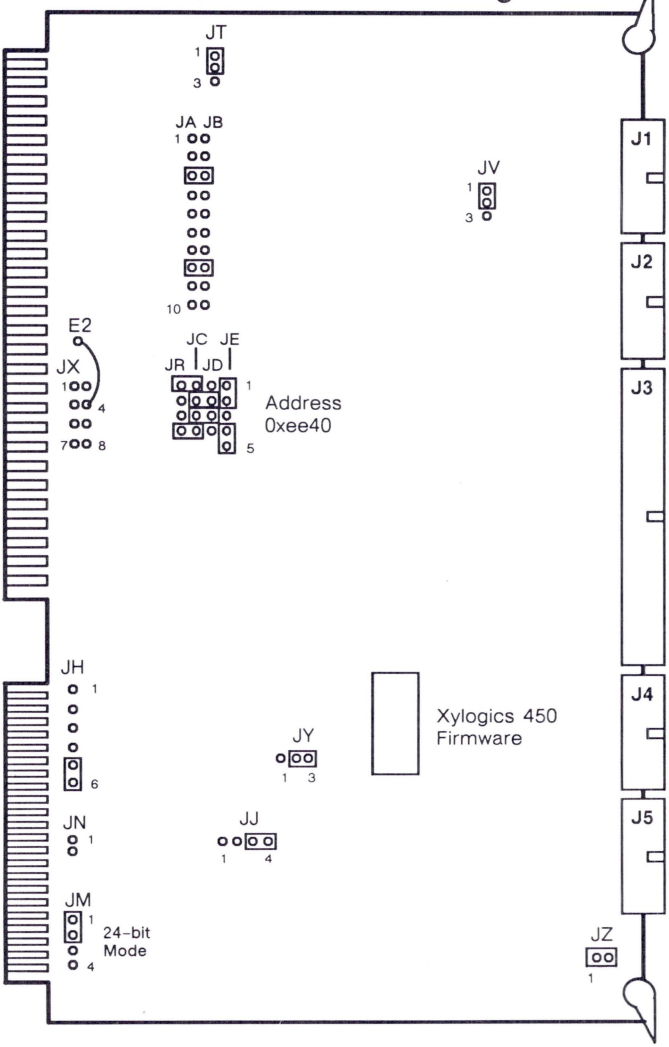
*Jumpers E and F are not on Emulex Rev MD2110103.

Note: Install termination resistor packs on the last Tape/Disk Controller on the SCSI bus.

Reference: *ESDI Disk Controller Configuration Procedures*, 813–2022.

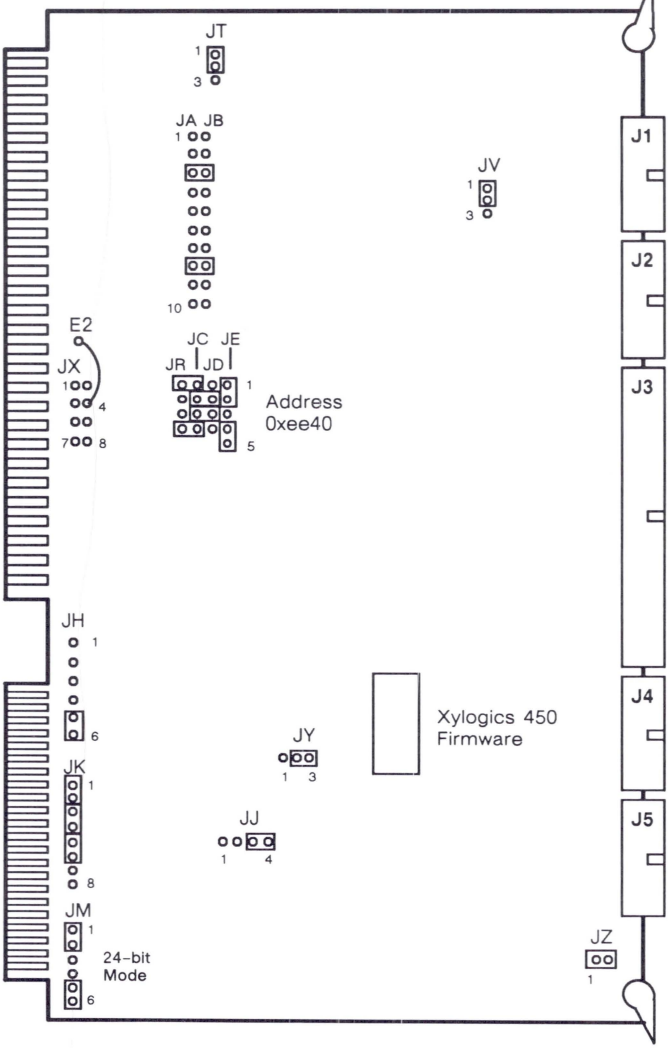
Xylogics 450
Sun–3/160/180/260/280/460/470/480
Sun–4/260/280
370–1012

Fab C, Revisions C through K



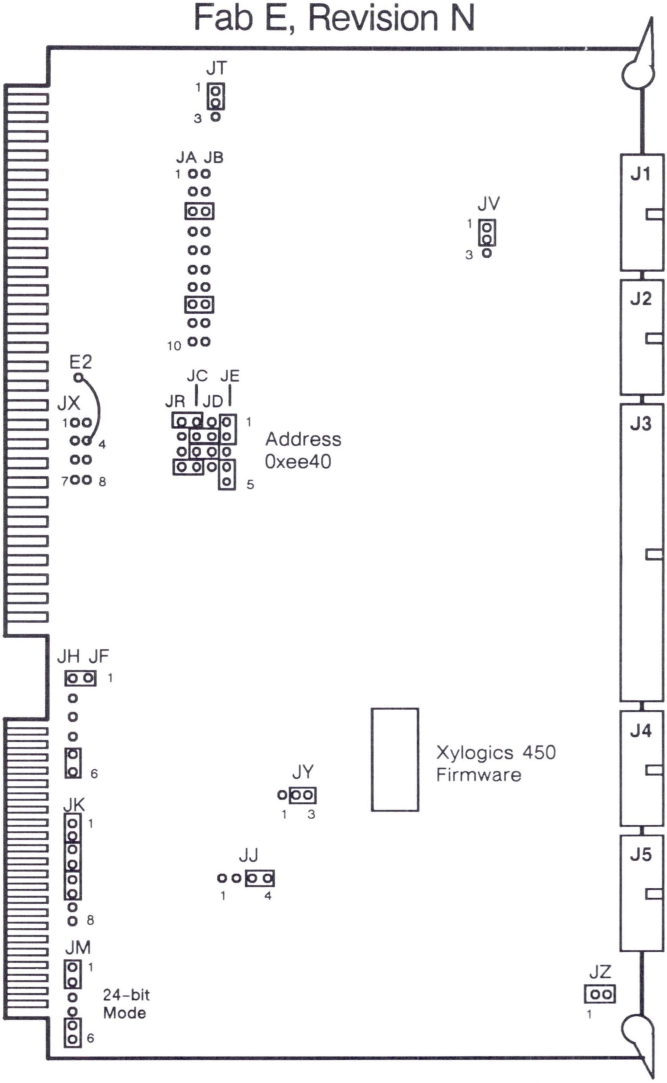
Xylogics 450
Sun–3/160/180/260/280/460/470/480
Sun–4/260/280
370–1012

Fab D, Revision K, L, and M



Xylogics 450
Sun–3/160/180/260/280/460/470/480
Sun–4/260/280
370–1012

Fab E, Revision N



370–1012
Jumper Settings

JUMPER	PINS	SETTING	DESCRIPTION
JV	1–2 3	In N/A	Optional 8KB
JT	1–2 3	In N/A	Optional 8KB
JJ	1–2 3–4	Out In	Disk Sequencer Clock
JY	1 2–3	N/A In	Close ECC Feedback
E2	JX 4	In	Interrupt Request Level 2
JA & JB	JA JB 1 to 1 2 to 2 3 to 3 4 to 4 5 to 5 6 to 6 7 to 7 8 to 8 9 to 9 10 to10	 Out Out In Out Out Out Out In Out Out	 16 or 8 Bit Address Control Address Bit F Address Bit 8 Address Bit E Address Bit 9 Address Bit D Address Bit A Address Bit C Address Bit B Ground
JE	1 to 2 3 4 to 5	Out N/A In	Selects Parallel Arbitration Address Bit 7 (Hex)
JR, JC & JD	JR JC 1 to 1 JD JC 2 to 2 3 to 3 4 to 4	 In In In In	 Address Bit 6 (Hex) Address Bit 5 (Hex) Address Bit 4 (Hex) Address Bit 3 (Hex)	Sets Address of device for xyc0 EE40
	JR JC 1 to 1 4 to 4 JD JC 2 to 2 3 to 3	 In In In In	 Address Bit 6 (Hex) Address Bit 3 (Hex) Address Bit 5 (Hex) Address Bit 4 (Hex)	Sets Address of device for xyc1 EE48
JZ	1 to 2	In	Clock Enable

370–1012
Jumper Settings – Continued

Fab C, Revisions C through K

JUMPER	PINS	SETTING	DESCRIPTION
JH	1–2 3–4 5–6	Out Out In	Automatically Selects DC Power Fail Detection Inhibit DMA Sequencer Clock Select DMA Sequencer Clock
JM	1–2 3–4	In Out	24–Bit Address Selected 24–Bit Address Selected
JN	1 to 2	Out	Disable Remote Act Indicator

Fab D, Revision K, L, and M

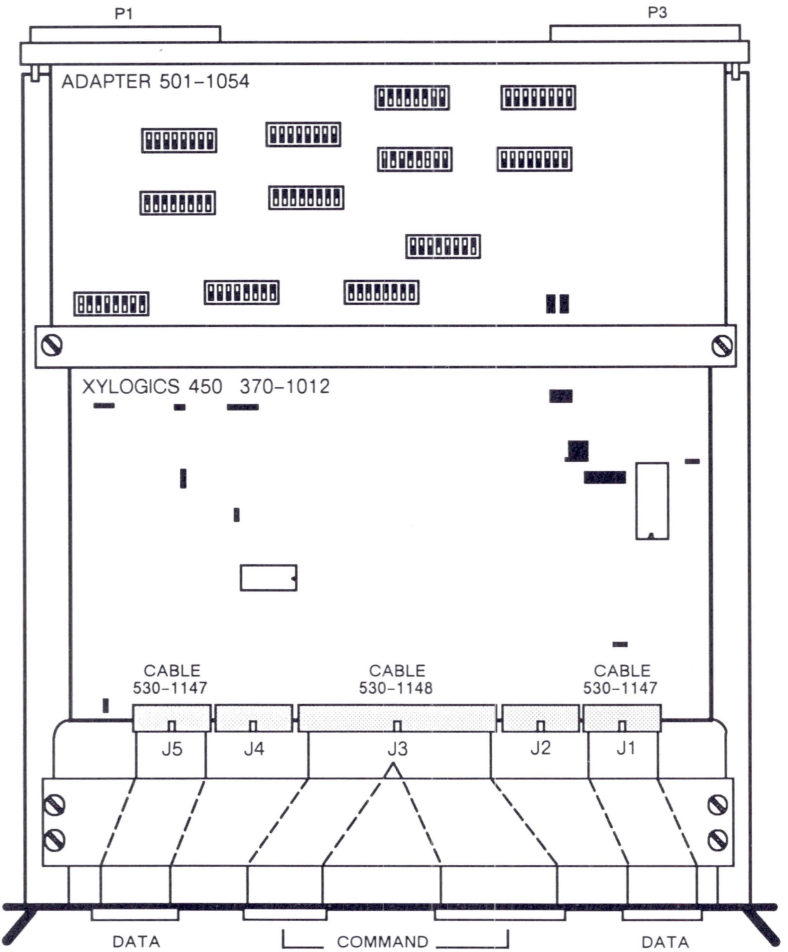
JUMPER	PINS	SETTING	DESCRIPTION
JH	1 to 2 3 to 4 5 to 6	Out Out In	Automatically selects DC power fail detection Inhibit DMA Sequencer Clock Select DMA Sequencer Clock
JM	1 to 2 3 to 4 5 to 6	In Out In	24–Bit Address Selected 20–Bit Address Selected Connect ADR0x14
JK	1 to 2 3 to 4 5 to 6 7 to 8	In In In Out	Connect ADR0x16 Connect ADR0x17 Connect ADR0x15 Disable ACT Indicator

Fab E, Revision N

JUMPER	PINS	SETTING	DESCRIPTION
JF to JH	1 to 1	In	DC Power Fail Detection Selected
JH ONLY	1 to 2 3 to 4 5 to 6	Out Out In	AC Power Fail Detection–not in Sun systems Inhibit DMA Sequencer Clock Select DMA Sequencer Clock
JM	1 to 2 3 to 4 5 to 6	In Out In	24–Bit Address Selected 20–Bit Address Selected Connect ADR0x14
JK	1 to 2 3 to 4 5 to 6 7 to 8	In In In Out	Connect ADR0x16 Connect ADR0x17 Connect ADR0x15 Disable ACT Indicator

VMEbus to Multibus Adapter with Xylogics 450

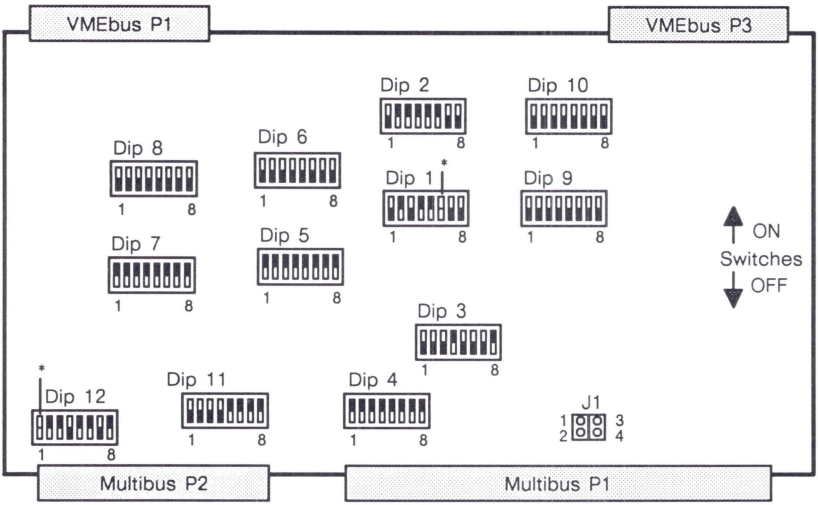
Sun–3/160/180/260/280/460/470/480
Sun–4/260/280
501–1154



Power: 8.0 Amps @ +5Vdc
0.6 Amps @ –5Vdc
43.1 Watts

VMEbus to Multibus Adapter with Xylogics 450

501–1154



VME TO MULTIBUS ADAPTER BOARD SWITCH SETTINGS									
SWITCH	1	2	3	4	5	6	7	8	DESCRIPTION
U1	N/C	ON	OFF	ON	ON	*	OFF	OFF	I–O Address
U2	N/C	ON	ON	ON	ON	ON	OFF	OFF	I–O Space = 8
U3	OFF	OFF	OFF	ON	OFF	OFF	OFF	ON	I–O Address = 0xEE
U4	ON	ON	ON	ON	ON	ON	ON	ON	VME I–O Space
U5	ON	ON	ON	ON	ON	ON	ON	ON	24–Bit Memory Address Space
U6	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	24–Bit Memory Block Size
U7	ON	ON	ON	ON	ON	ON	ON	ON	24–Bit Memory Address Space
U8	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	24–Bit Memory Block Size
U9	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	No connection
U10	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	No connection
U11	OFF	OFF	OFF	OFF	ON	ON	ON	ON	Sets Address Bits A23 Thru A20
U12	*	ON	ON	OFF	ON	ON	OFF	ON	Interrupt Vector
J1	PINS 1–2		IN	If BCLK is desired					
	PINS 3–4		IN	If CCLK is desired					

* On = xyc0 csr 0xee40 xyintr 0x48
Off = xyc1 csr 0xee48 xyintr 0x49

370–1012 501–1154
Xylogics 450

Notes

1. Firmware revisions greater than 952C do not work with the Fujitsu M2284 disk drive.
2. Firmware revisions lower than 952C do not work with the Fujitsu M2284 disk drive and SunOS 3.2 or greater.

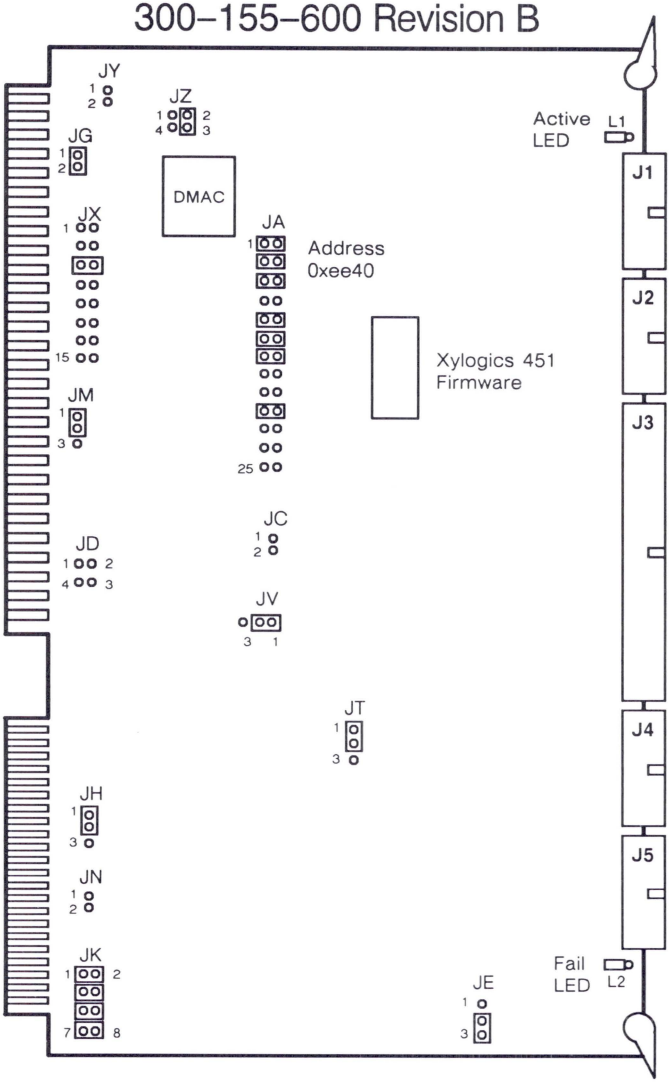
Reference

Xylogics 450/451 SMD Controller Board Configuration Procedures, 813–2002–09.

Xylogics 451

Sun–3/160/180/260/280/460/470/480
Sun–4/260/280/360/370/380
370–1082

300–155–600 Revision B



370–1082
Jumper Settings
300–155–600 Revision B

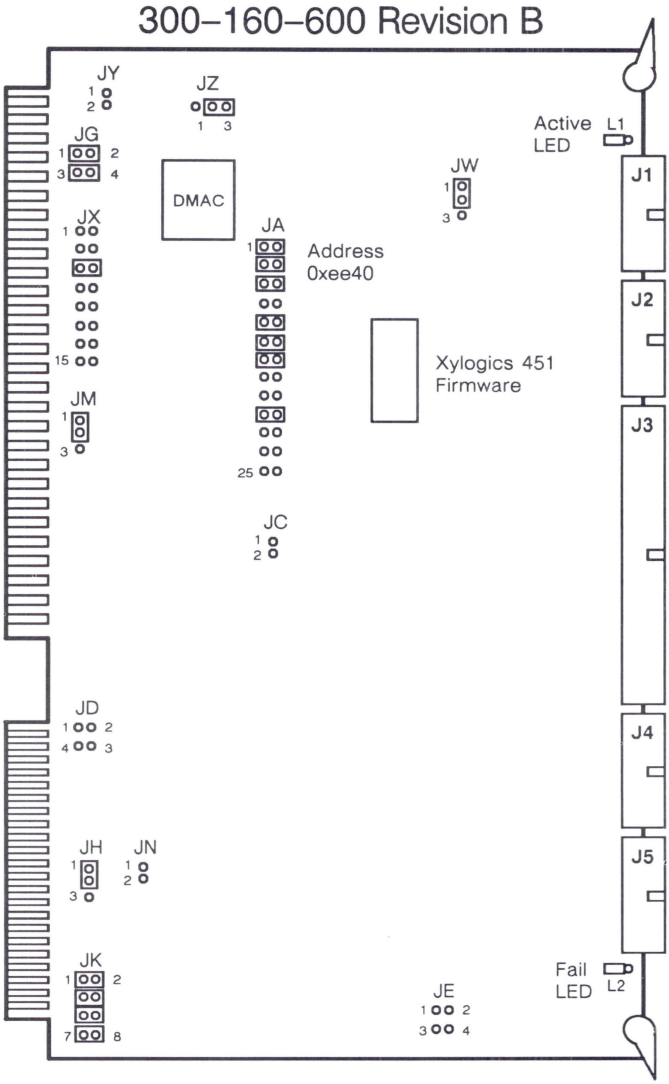
JUMPER	PINS	SETTING	DESCRIPTION
JA	1–2	In	Address Bit A15
	3–4	In	Address Bit A14
	5–6	In	Address Bit A13
	7–8	Out	Address Bit A12
	9–10	In	Address Bit A11
	11–12	In	Address Bit A10
	13–14	In	Address Bit A9
	15–16	Out	Address Bit A8
	17–18	Out	Address Bit A7
	19–20	In	Address Bit A6
	21–22	Out	Address Bit A5
	23–24	Out	Address Bit A4
	25–26	Out	Address Bit A3*
JC	1–2	Out	Enables 16–bit addressing mode
JD	1–2–3–4	Out	–5 Vdc Option
JE	2–3	In	–5 Vdc Option
JG	1–2	In/Out	–5 Vdc Option (hardwired)
JH	1–2	In	Enable AC Power–Fail Protection
JK	1–8	In	Enable Address Bits A17 – A14
JM	1–2	In	Enable 24–bit Addressing
JN	1–2	Out	Disable Remote Activity Indicator
JT	1–2	In	8Kb FIFO Buffer Option
JV	1–2	In	8Kb FIFO Buffer Option
JX	1–2	Out	Interrupt Request Level 0
	3–4	Out	Interrupt Request Level 1
	5–6	In	Interrupt Request Level 2
	7–8	Out	Interrupt Request Level 3
	9–10	Out	Interrupt Request Level 4
	11–12	Out	Interrupt Request Level 5
	13–14	Out	Interrupt Request Level 6
	15–16	Out	Interrupt Request Level 7
JY	1–2	Out	Bus arbitration (BPRO)
JZ	2–3	In	Disable Common Bus Request

*In for xyc1 @ 0xee48, Out for xyc0 @ 0xee40

Xylogics 451

Sun–3/160/180/260/280/460/470/480
Sun–4/260/280/360/370/380
370–1082

300–160–600 Revision B



370–1082
Jumper Settings
300–160–600 Revision B

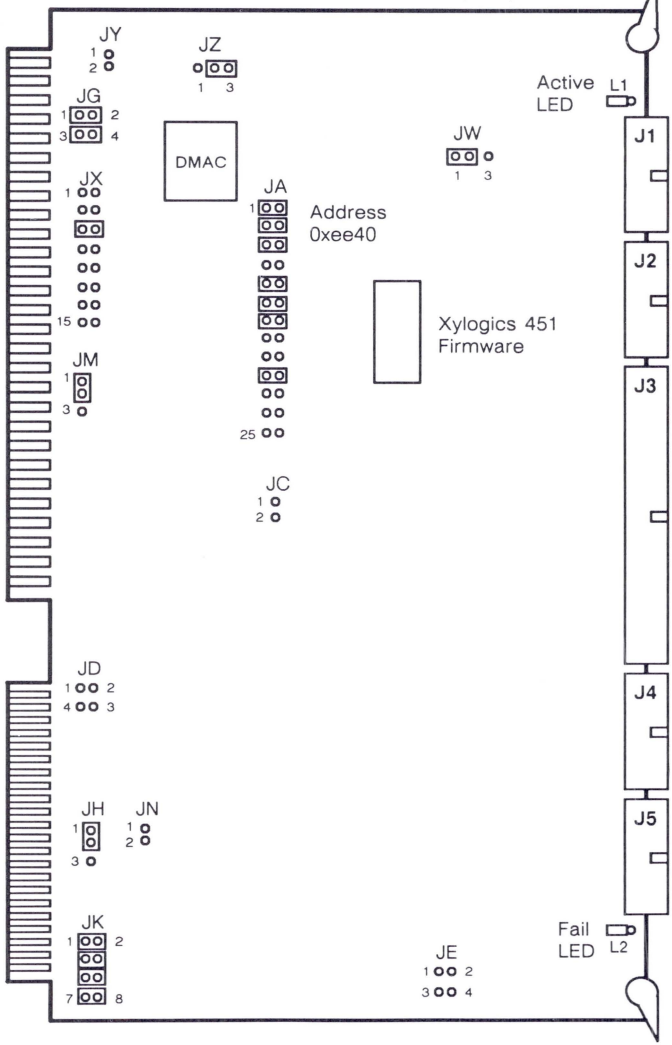
JUMPER	PINS	SETTING	DESCRIPTION
JA	1–2	In	Address Bit A15
	3–4	In	Address Bit A14
	5–6	In	Address Bit A13
	7–8	Out	Address Bit A12
	9–10	In	Address Bit A11
	11–12	In	Address Bit A10
	13–14	In	Address Bit A9
	15–16	Out	Address Bit A8
	17–18	Out	Address Bit A7
	19–20	In	Address Bit A6
	21–22	Out	Address Bit A5
	23–24	Out	Address Bit A4
	25–26	Out	Address Bit A3*
JC	1–2	Out	Enables 16-bit addressing mode
JD	1–2/3–4	Out	-5 Vdc Option
JE	1–2/3–4	Out	-5 Vdc Option
JG	1–2/3–4	In	-5 Vdc Option
JH	1–2	In	Enable AC Power-Fail Protection
JK	1–2/3–4	In	Enable Address Bits A23 - A22
	5–6/7–8	In	Enable Address Bits A21 - A20
JM	1–2	In	Enable 24-bit Addressing
JN	1–2	Out	Disable Remote Activity Indicator
JW	1–2	In	BUSY not synchronized to clock
JX	1–2	Out	Interrupt Request Level 0
	3–4	Out	Interrupt Request Level 1
	5–6	In	Interrupt Request Level 2
	7–8	Out	Interrupt Request Level 3
	9–10	Out	Interrupt Request Level 4
	11–12	Out	Interrupt Request Level 5
	13–14	Out	Interrupt Request Level 6
	15–16	Out	Interrupt Request Level 7
JY	1–2	Out	Bus arbitration (BPRO)
JZ	2–3	In	Disable Common Bus Request

*In for xyc1 @ 0xee48, Out for xyc0 @ 0xee40

Xylogics 451

Sun–3/160/180/260/280/460/470/480
Sun–4/260/280/360/370/380
370–1082

300–160–600 Revision C, D, and E



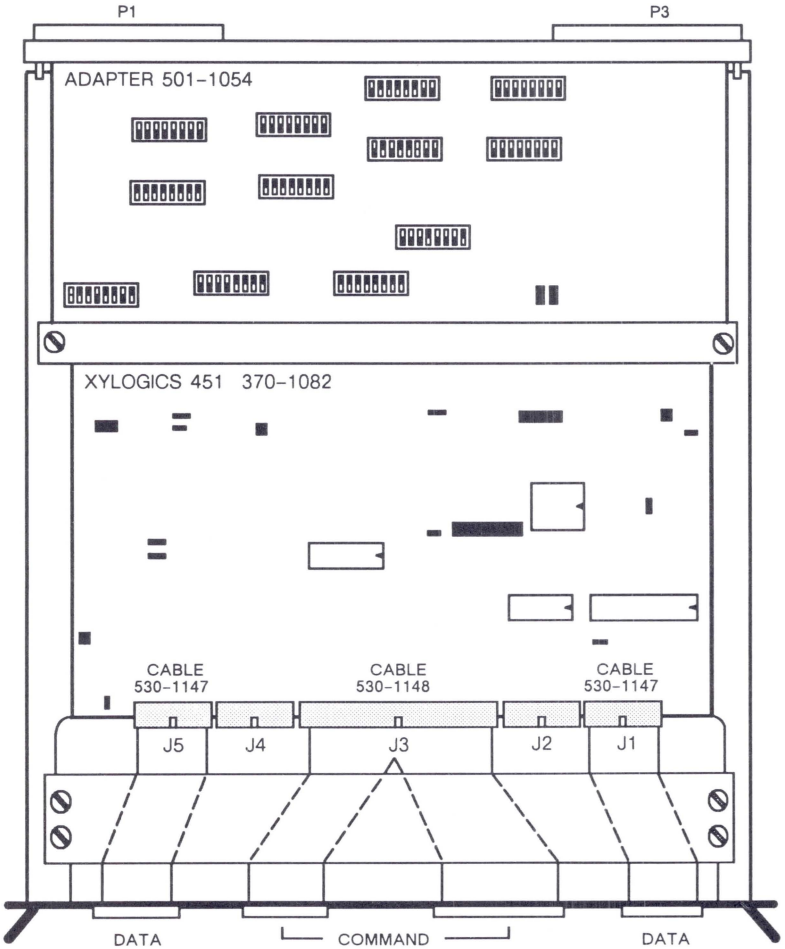
370–1082
Jumper Settings
300–160–600 Revision C, D, and E

JUMPER	PINS	SETTING	DESCRIPTION
JA	1–2	In	Address Bit A15
	3–4	In	Address Bit A14
	5–6	In	Address Bit A13
	7–8	Out	Address Bit A12
	9–10	In	Address Bit A11
	11–12	In	Address Bit A10
	13–14	In	Address Bit A9
	15–16	Out	Address Bit A8
	17–18	Out	Address Bit A7
	19–20	In	Address Bit A6
	21–22	Out	Address Bit A5
	23–24	Out	Address Bit A4
	25–26	Out	Address Bit A3*
JC	1–2	Out	Enables 16-bit addressing mode
JD	1–2/3–4	Out	-5 Vdc Option
JE	1–2/3–4	Out	-5 Vdc Option
JG	1–2/3–4	In	-5 Vdc Option
JH	1–2	In	Enable AC Power-Fail Protection
JK	1–2/3–4	In	Enable Address Bits A23 - A22
	5–6/7–8	In	Enable Address Bits A21 - A20
JM	1–2	In	Enable 24-bit Addressing
JN	1–2	Out	Disable Remote Activity Indicator
JW	1–2	In	BUSY not synchronized to clock
JX	1–2	Out	Interrupt Request Level 0
	3–4	Out	Interrupt Request Level 1
	5–6	In	Interrupt Request Level 2
	7–8	Out	Interrupt Request Level 3
	9–10	Out	Interrupt Request Level 4
	11–12	Out	Interrupt Request Level 5
	13–14	Out	Interrupt Request Level 6
	15–16	Out	Interrupt Request Level 7
JY	1–2	Out	Bus arbitration (BPRO)
JZ	2–3	In	Disable Common Bus Request

*In for xyc1 @ 0xee48, Out for xyc0 @ 0xee40

VMEbus to Multibus Adapter with Xylogics 451

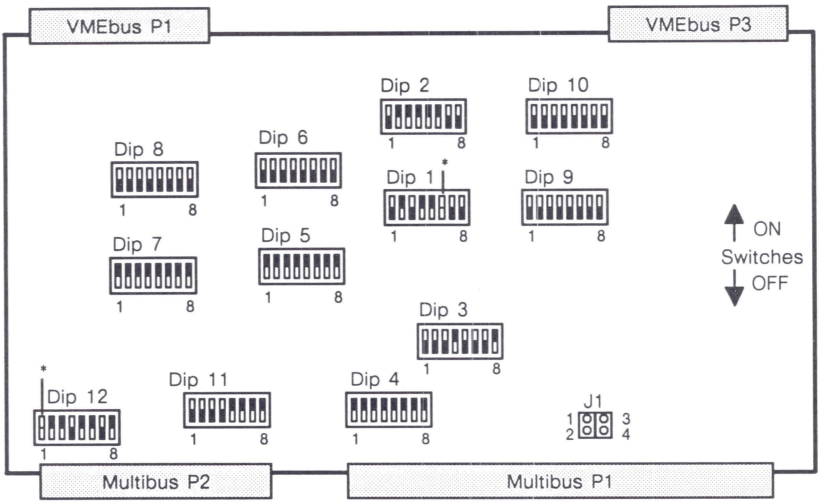
Sun–3/160/180/260/280/460/470/480
Sun–4/260/280/360/370/380
501–1166



Power: 6.3 Amps @ +5Vdc
0.6 Amps @ –5Vdc
34.6 Watts

VMEbus to Multibus Adapter with Xylogics 451

501–1166



VME TO MULTIBUS ADAPTER BOARD SWITCH SETTINGS									
SWITCH	1	2	3	4	5	6	7	8	DESCRIPTION
U1	N/C	ON	OFF	ON	ON	*	OFF	OFF	I–O Address
U2	N/C	ON	ON	ON	ON	ON	OFF	OFF	I–O Space = 8
U3	OFF	OFF	OFF	ON	OFF	OFF	OFF	ON	I–O Address = 0xEE
U4	ON	ON	ON	ON	ON	ON	ON	ON	VME I–O Space
U5	ON	ON	ON	ON	ON	ON	ON	ON	24–Bit Memory Address Space
U6	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	24–Bit Memory Block Size
U7	ON	ON	ON	ON	ON	ON	ON	ON	24–Bit Memory Address Space
U8	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	24–Bit Memory Block Size
U9	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	No connection
U10	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	No connection
U11	OFF	OFF	OFF	OFF	ON	ON	ON	ON	Sets Address Bits A23 Thru A20
U12	*	ON	ON	OFF	ON	ON	OFF	ON	Interrupt Vector
J1	PINS 1–2		IN	If BCLK is desired					
	PINS 3–4		IN	If CCLK is desired					

* On = xyc0 csr 0xee40 xyintr 0x48
Off = xyc1 csr 0xee48 xyintr 0x49

370-1082 501-1166
Xylogics 451

Notes

1. The Xylogics 451 SMD Controller may exhibit random "no return status seek errors" due to intermittent contact between the gate array and its socket. Replace with 370-1082-05 or 501-1166-05 or higher.
2. 370-1082-05 or lower my exhibit "cylinder head header" or "seek error header 1" when used with the Fujitsu M2351. Replace with 370-1082-06 or greater.
3. The Xylogics 450 cannot be mixed with the Xylogics 451 for any 892MB disk drive configuration.
4. Systems using Sun-2 SCSI, 501-1138, or Sun-3 SCSI, 501-1217, may mix a maximum of one Xylogics 451 and two Xylogics 7053 disk controllers.
5. Systems using Sun-2 SCSI, 501-1167, may mix a maximum of one Xylogics 451 and two Xylogics 7053 disk controllers.
6. Systems using Sun-2 SCSI, 501-1149, or Sun-3 SCSI, 501-1170, may mix a maximum of one Xylogics 451 and one Xylogics 7053.

Reference

Xylogics 450/451 SMD Controller Board Configuration Procedures, 813-2002-09.

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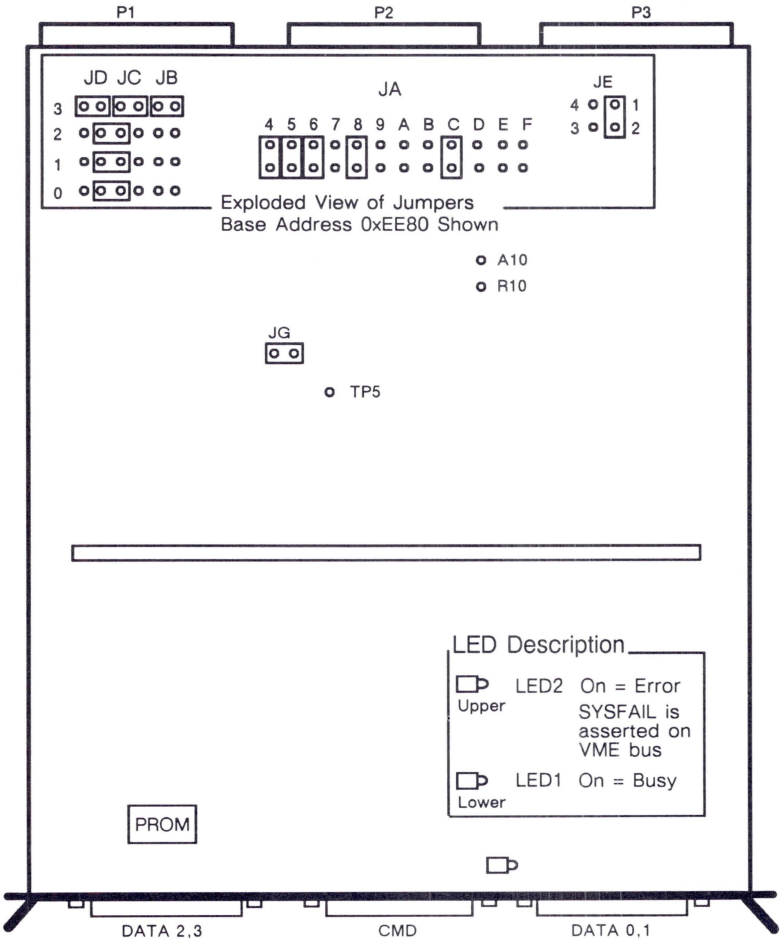
Xylogics 7053

Sun–3/160/180/260/280/460/470/480
Sun–4/260/280/370/390/470/490
501–1249



Power: 4.8 Amps @ +5Vdc
0.6 Amps @ −12Vdc
31.2 Watts

501–1249
Jumper Settings

JA – Controller Address

4	5	6	7	8	9	A	B	C	D	E	F	BOARD BASE ADDRESS
▣	▣	▣	○	▣	○	○	○	▣	○	○	○	ee80 = xdc0
○	▣	▣	○	▣	○	○	○	▣	○	○	○	ee90 = xdc1
▣	○	▣	○	▣	○	○	○	▣	○	○	○	eea0 = xdc2
○	○	▣	○	▣	○	○	○	▣	○	○	○	eeb0 = xdc3

JB, JC, JD

PINS	SETTING	DESCRIPTION
JB3	In	Bus request level 3
JC3	In	Bus request level 3
JD3	In	Bus request level 3
JD2–JC2	In	BG2In –BG2Out
JD1–JC1	In	BG1In –BG1Out
JD0–JC0	In	BG0In –BG0Out

JE

PINS	SETTING	DESCRIPTION
1–2	In*	Unrestricted maintenance mode
3–4	Out†	(In=disables self test mode)

* JE, 1–2, Out, enables only diagnostic maintenance mode.
† JE, 3–4, In, disables diagnostic maintenance mode testing.

JG

PINS	SETTING	DESCRIPTION
1–2	In	Enables bus release if data is not available

501–1249
Xylogics 7053

Notes

1. Do not install jumpers at test points R10 and A10.
2. When the Xylogics 7053 is installed in a Sun-4/2xx, the CPU be revision 501-1274-13, 501-1491-01, 501-1522-01, or greater.
3. When the Xylogics 7053 is installed in a Sun-3/160/180, use only the 501-1208 CPU board.
4. When the Xylogics 7053 is installed in a Sun-3/1xx or Sun-3/2xx, the CPU requires EPROM 2.6 or greater.
5. Systems using Sun-2 SCSI, 501-1138, or Sun-3 SCSI, 501-1217, may mix a maximum of one Xylogics 451 and two Xylogics 7053 disk controllers.
6. Systems using Sun-2 SCSI, 501-1167, may mix a maximum of one Xylogics 451 and two Xylogics 7053 disk controllers.
7. Systems using Sun-2 SCSI, 501-1149, or Sun-3 SCSI, 501-1170, may mix a maximum of one 451 and one 7053.
8. Requires SunOS 4.0.1 or greater. Minimum 4.0.1 requirements are the MB and SCSI fixes.
9. Requires 1.0 SunFeatures tape for SunOS 4.0.1.
10. Systems using more than two Fujitsu M2372 disk drives on a single controller require 501-1249-05 or greater.
11. CG9 must be ≥501-1434-04 for use with the Xylogics 7053 Disk Controller.
12. The Sun 4400 CPU must be ≥501-1381-12 when used with the Xylogics 7053.
13. The Xylogics 7053 must be ≥501-1249-04 when used with the Sun 4400 CPU.
14. SunOS 4.1.1 is required when the Xylogics 7053 is used with the Sun 4400 CPU.
15. The data transfer rate of the Xylogics 7053-105, Sun part number 501-1249-xx, is 2.4MB/second.
16. The data transfer rate of the Xylogics 7053-106 is 3.0MB/second.

Reference

VME/SMD Disk Controller Configuration Procedures, 813-2033-05.

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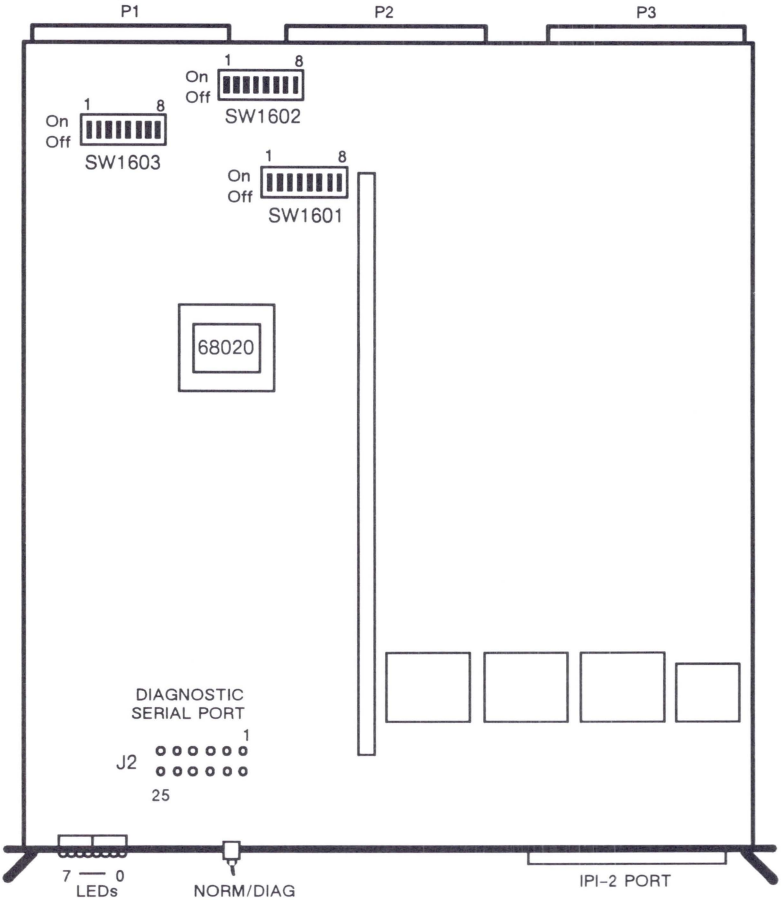
ISP-80 IPI-2

Sun-4/370/390/470/490

501-1539 501-1855



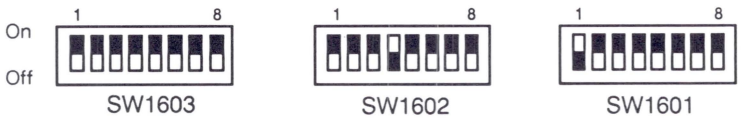
Power: 11.8 Amps @ +5Vdc
59.0 Watts

Base Address Select Switches

DIP SWITCH	1	2	3	4	5	6	7	8
SW1603	AM0	AM1	A10	A11	A12	A13	A14	A15
SW1602	A16	A17	A18	A19	A20	A21	A22	A23
SW1601	A24	A25	A26	A27	A28	A29	A30	A31

501–1539 501–1855
Switch & Jumper Settings

Controller isc0 at Base Address 0x01080000



Controller isc1 at Base Address 0x01080400

Controller isc2 at Base Address 0x1080800

Controller isc3 at Base Address 0x01080C00

Controller isc4 at Base Address 0x01081000

Note: Dip Switches 3, 4, and 5 of SW1603, select bits A10, A11, and A12 of the controller base address. These are the only switches changed to configure multiple controllers.

Jumper JM2

PINS	SETTING	DESCRIPTION
1–2	In	Enable UART clock

501-1539 501-1855
ISP-80 IPI

Notes

1. The Sun 4400 CPU requires ISP-80 ≥501-1539-04 or 501-1855-xx.
2. The 911MB Disk requires minimum ISP-80 firmware 525-1023-05, 525-1024-07, and 525-1025-07.
3. ISP-80 501-1539-05 and 501-1855-01 contain the minimum firmware required by the 911MB Disk.
4. The Prestoserve requires minimum ISP-80 firmware 525-1023-05, 525-1024-08, and 525-1025-08. Lower revisions of firmware may cause SunDiag to hang when the ISP-80 is used with the Prestoserve and 32MB of memory. Systems with more than 32MB are not affected.
5. ISP-80 501-1539-08 and 501-1855-02 contain the minimum firmware required by the Prestoserve.
6. The 1.3GB Disk requires minimum ISP-80 firmware 525-1023-05, 525-1024-09, and 525-1025-09.
7. ISP-80 501-1539-09 and 501-1855-03 contain the minimum firmware required by the 1.3GB Disk.
8. Upgrade lower revision ISP-80 Controller boards with Option X2080A.

References

1. *ISP-80 Disk Controller Configuration Procedures*, 813-2065-10.
2. *ISP-80 Disk Controller Installation and Configuration Procedures for the Sun 12-Slot Office Pedestal*, 813-1103-10.
3. *ISP-80 Disk Controller Installation and Configuration Procedures*, 813-1050-11.
4. *ISP-80 Disk Controller PROM Upgrade Manual*, 813-6089-11.

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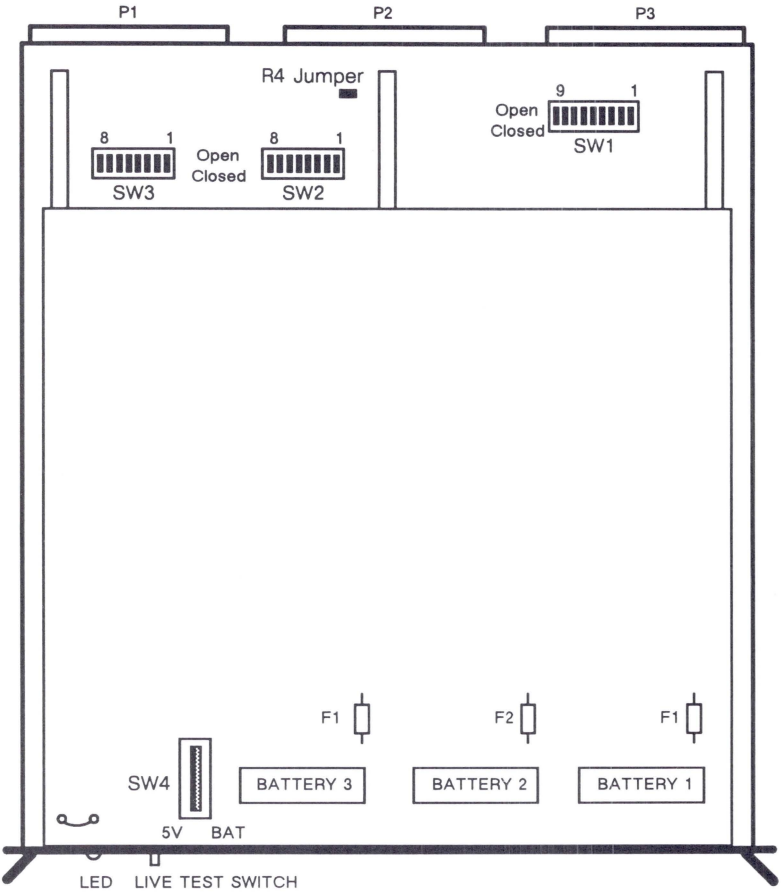
Prestoserve NFS Accelerator

Sun–4/470/490

501–1847



Switches SW1, SW2, and SW3

DIP	SWITCH	DESCRIPTION
SW1	1	Enable vme24d32 (closed)
SW1	1	Enable vme32d32 (open)
SW1	2–9	A24–A31
SW2	1–8	A16–A23 starting address
SW3	1–8	A16–A23 ending address

Power: 2.1 Amps @ +5Vdc
10.5 Watts

501–1847
Switch & Jumper Settings

Default Setting

Controller pr0 at vme24d32 Address 0x800000

Alternate Setting*

Controller pr0 at vme24d32 Address 0xc00000

* Use the alternate setting if a fifth NC400 board is installed.

Switch SW4

SETTING	DESCRIPTION
BAT	Enables battery backup mode
5V	Disables battery backup mode

Jumper at Resistor R4

PINS	SETTING	DESCRIPTION
1–2	Out	Not used

Live Test LED

Press the Live Test Switch to determine the cache data state.

LED On	Cached data in memory
LED Off	No cached data in memory

501–1847
Prestoserve NFS Accelerator

Notes

1. Set SW4 to BAT when the board is installed. Software will not initialize Prestoserve unless battery backup is enabled.
2. Set SW4 to 5V when the board is removed and cached data does not need to be preserved.
3. Cached data is cleared from memory when SW4 is set to 5V for more than five minutes.
4. The Prestoserve requires minimum ISP–80 firmware 525–1023–05, 525–1024–08, and 525–1025–08. Lower revisions of firmware may cause SunDiag to hang when the ISP–80 is used with the Prestoserve and 32MB of memory. Systems with more than 32MB are not affected.
5. ISP–80 501–1539–08 and 501–1855–02 contain the minimum firmware required by the Prestoserve.
6. Upgrade lower revision ISP–80 Controller boards with Option X2080A.
7. The batteries are not field replaceable.
8. The minimum operating system is SunOS 4.1 PSR A.
9. The VME address space of the Prestoserve and the fifth NC400 board is at 0x800000. If both Prestoserve (*pr0*) and a fifth NC400 (*ne4*) are installed, change the address of *pr0* to 0xc00000 on the Prestoserve board and in the kernel.

   When the Prestoserve is set to 0xc00000, the alternate 24–bit settings for the NC400 at 0xc00000 – 0xc7ffff and 0xc80000 – 0xcfffff cannot be used.

   When the Prestoserve is set to 0xc00000, the address space, 0xc00000 – 0xcfffff, reserved for large OEM/user devices is used.

References

Sun Prestoserve Installation Manual, 813–1112.
Writing Device Drivers, 800–3851–10.

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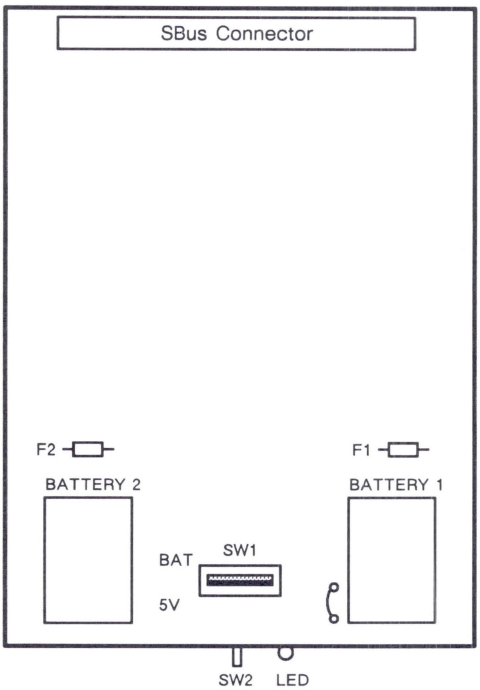
SBus Prestoserve
Sun–4/50/75
370–1401



Switch SW1

SETTING	DESCRIPTION
BAT	Enables battery backup mode
5V	Disables battery backup mode

Switch SW2

Press SW2 to determine the cache data state.

LED On	Cached data in memory
LED Off	No cached data in memory

Power: 0.8 Amps @ +5Vdc
4.2 Watts

370–1401

Notes

1. Set SW1 to BAT when the board is installed. Software will not initialize Prestoserve unless battery backup is enabled.
2. Set SW1 to 5V when the board is removed and cached data does not need to be saved.
3. Cached data is cleared from memory when SW1 is set to 5V for more than five minutes.
4. The batteries are not field replaceable.
5. The minimum operating system is SunOS 4.1.1.

Reference

SBus Prestoserve User's Manual, 800-6396-11.

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TAPE

TAPE

Tape

TAPE DRIVES

CONTROLLERS

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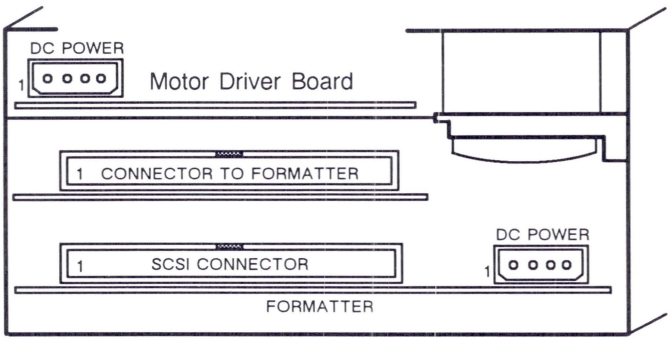
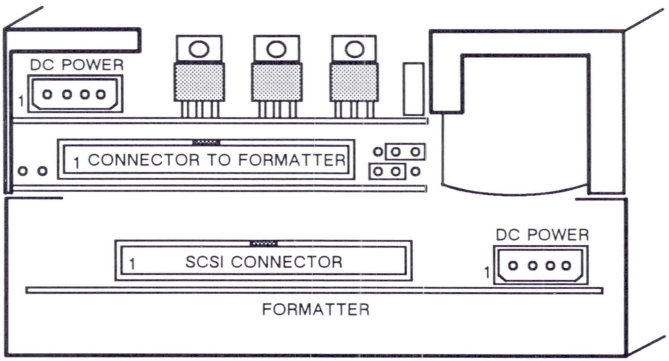
60MB 1/4" Tape Drive
with Formatter
Sun–3/160
Option 56

370–1037	370–1104	370–1112
Wangtech 5099EG11	Wangtech 5099EG11	Wangtech 5099EG11 Archive 5945L–2

End View



Wangtech Model 5099EG11



Archive Model 5945L–2

Note: This tape drive is used with the Sysgen SC4000.

Power: 3.0 Amps @ +5Vdc
1.9 Amps @ +12Vdc
37.8 Watts

60MB 1/4" Tape Drive

Sun–3/160/180/260/280/460/480

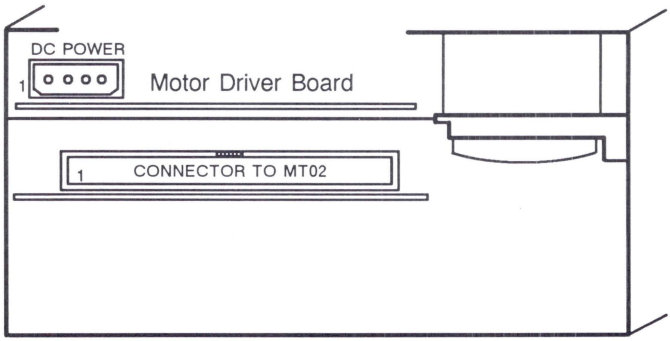
Sun–4/260/280/360/380

Options 511 514 516

370–1076 370–1103

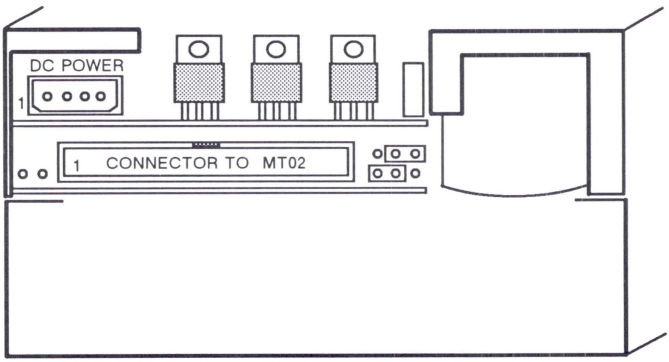
370–1076	370–1103
Wangtech 5099EN24	Wangtech 5099EN24 Archive 5945C

End View



Wangtech Model 5099EN24

End View



Archive Model 5945C

Note: This tape drive is used with the Emulex MT02.

Power: 1.0 Amps @ +5Vdc
1.9 Amps @ +12Vdc
27.8 Watts

60MB 1/4" Tape Drive

with Emulex MT02 Tape Controller

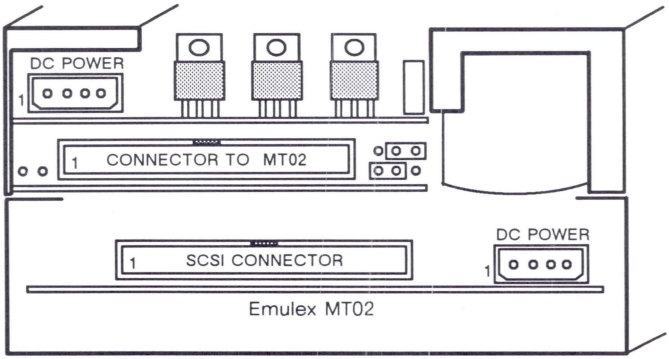
Sun386i/150/250 Sun-3/470 Sun-4/370

Option RR128 RR129 RREXP RREXP-P7

370-1247 370-1179

370-1247	370-1179
Archive 5945S	Archive 5945S
Full-Height	Full-Height
Black Bezel	Lt. Grey Bezel

End View



Emulex MT02 Tape Controller Switch Settings

DIP SWITCH	SWITCH	SETTING	DESCRIPTION
SW1	1 & 2	Off	SCSI Target 4
	3	On	SCSI Target 4
	1 & 3	On	SCSI Target 5
	2	Off	SCSI Target 5
	4	Off	Not used
	5	On	Archive Tape Drive
	6	Off	Archive Tape Drive
	7	Off	Drive type
	8	On	Parity Check On for 370-1179
	8	Off	Parity Check Off for 370-1247

Reference
60MB Streaming Tape Drive with SCSI Controller Configuration Procedures, 814-1019.

EXABYTE EXB-8200 8mm 2.3GB

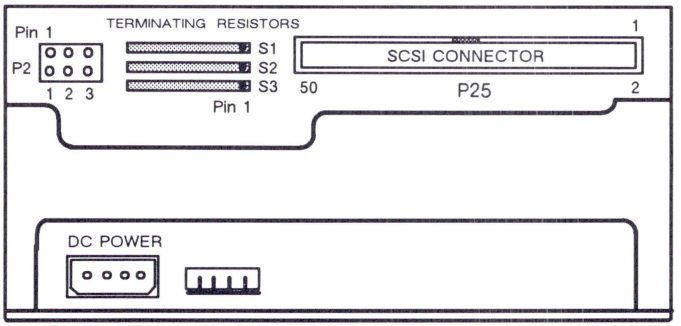
Sun-4/370/390/470/490

Options 566 804

370-1297 370-1405

Black Bezel Grey Bezel

End View



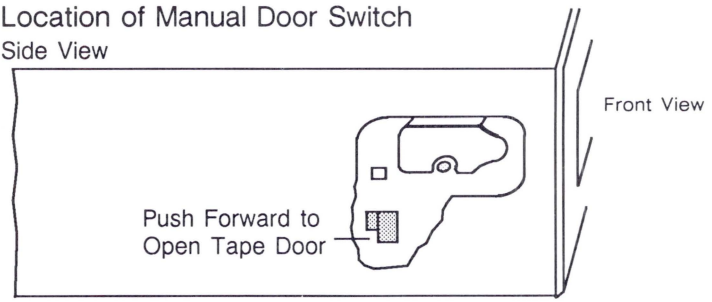
Address Select Switch Cable

In the External Storage Module, orient Pin-1 of Address Select Switch Cable 530-1659 with Pin 1 of jumper P2.

In the External Storage Module, orient Pin-1 of Address Select Switch Cable 530-1790 with Pin 1 of jumper P2.

Location of Manual Door Switch

Side View



Power: 4.0 Amps @ +5Vdc
1.2 Amps @ +12Vdc
34.4 Watts

370–1297
Jumper Settings

Jumper P2

SCSI ID	UNIX ID	(MSB) 1	2	(LSB) 3
4	st0, st2, st4	In	Out	Out
5	st1, st3, st5	In	Out	In
3	st2, st6	Out	In	In
2	st3, st7	Out	In	Out

Notes
1. Sun 8mm Cartridge Tape is part number 370–1298–01.
2. The Terminating Resistor part number is 120–1206–01.
3. The Cleaning Kit part number is 370–1318–01.

Reference
Sun 2.3–Gbyte 8mm Tape Drive Configuration Procedures for 56–Inch Data Center Cabinets, 813–2081.

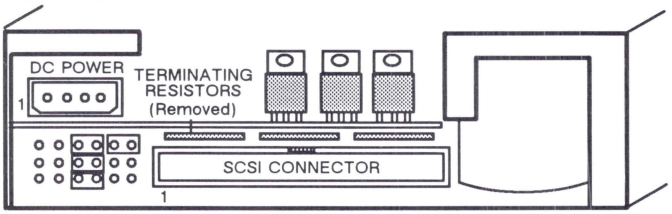
150MB 1/4" Tape Drive

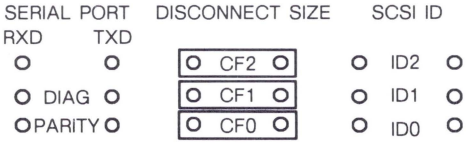
Sun–3/470 & Sun–4/330/370/390/470/490

Options 539 565 660

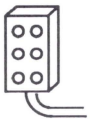
370–1205	370–1206	370–1218	370–1246	370–1293
Archive 2150S	Archive 2150S	Archive 2150S	Archive 2150S	Archive 2150S
Half–Height	Full–Height	Half–Height	Full–Height	Half–Height
Black Bezel	Black Bezel	Custom Bezel	Lt. Grey Bezel	Lt. Grey Bezel

End View





Flex Cable



To install Tape Drive 370–1218 in the Desktop Tape Pack, remove the SCSI ID jumper. Orient Flex Cable 530–1454 as shown, and plug it into the SCSI ID jumper block on the Tape Drive.

Address Select Switch Cable

In the External Storage Module, orient Pin–1 of Address Select Switch Cable 530–1659 with ID2 of the SCSI ID jumper block.

Power: 0.7 Amps @ +5Vdc
1.5 Amps @ +12Vdc
21.5 Watts

370–1205 370–1206 370–1218 370–1246 370–1293

JUMPER	SETTING	DESCRIPTION	USAGE
RXD/TXD	Out	Serial Port	Not used
DIAG	Out	Normal/Diag	Not used
Parity	Out*	Parity check	Not used
CF2,CF1,CF0	In	Disconnect Transfer Size	Size = 32K

JUMPER	TARGET 2	TARGET 3	TARGET 4	TARGET 5
ID2	Out	Out	In	In
ID1	In	In	Out	Out
ID0	Out	In	Out	In
1st SCSI	st3	st2	st0	st1
2nd SCSI	st7	st6	st2, st4	st3, st5

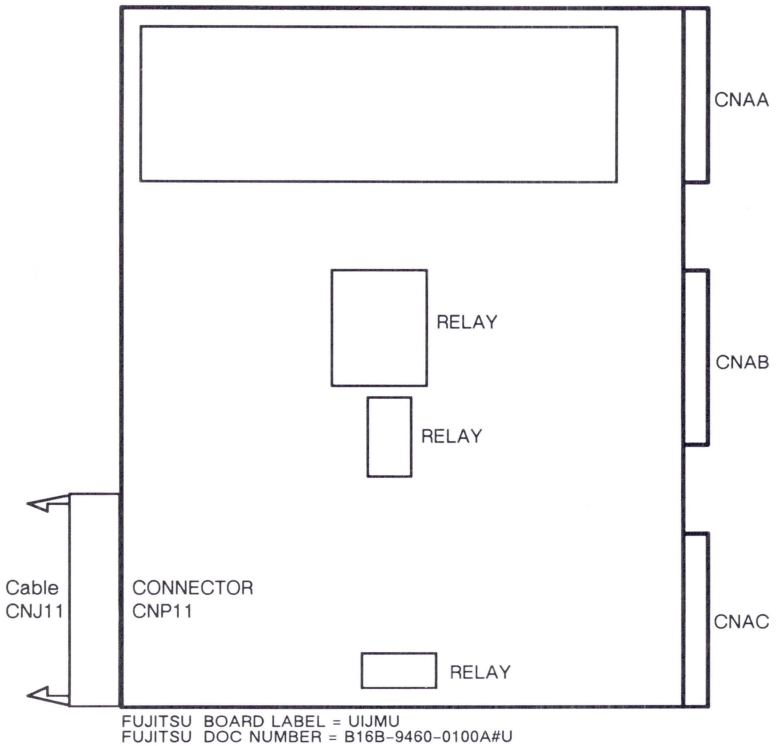
*IN for 370–1246 and 370–1293 drives.

Reference
150MB 1/4–Inch Cartridge Tape Drive Configuration Manual for the 56–Inch Data Center Cabinet, 813–2076.

Fujitsu M2444AC 1/2" Tape Drive

Servo Amplifier (SVA)

811–1050



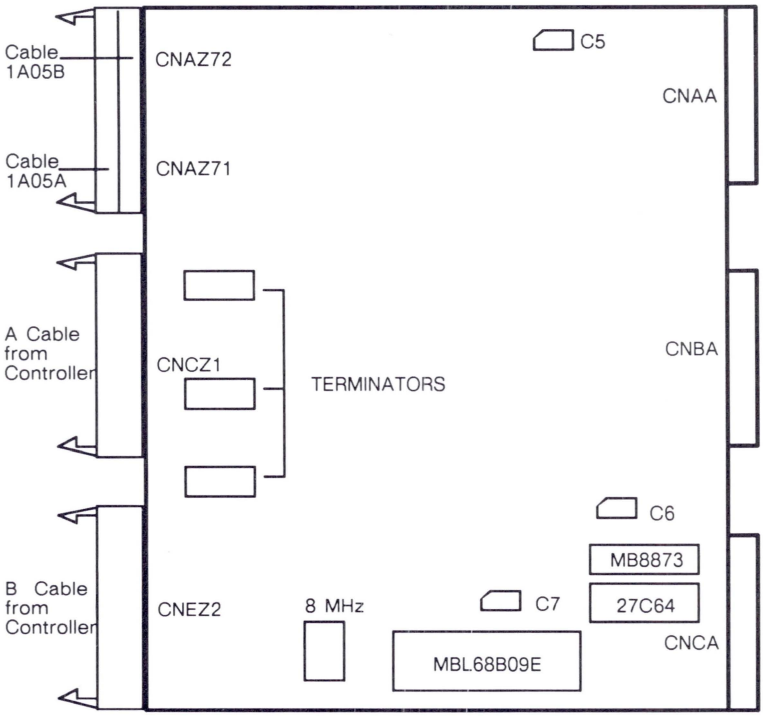
Slots 1 & 2

Note: The SVA requires adjustment upon replacement (Test 90). See REP 1150 and 2310 in the *Fujitsu M244X CE Manual*, 800–1409–01.

Fujitsu M2444AC 1/2" Tape Drive

Buffer Option (BUF)

811-1051



FUJITSU BOARD LABEL = B17B-0160-0010A 10F
FUJITSU DOC NUMBER = B17B-0160-0010A#U

Slot 4 & 5

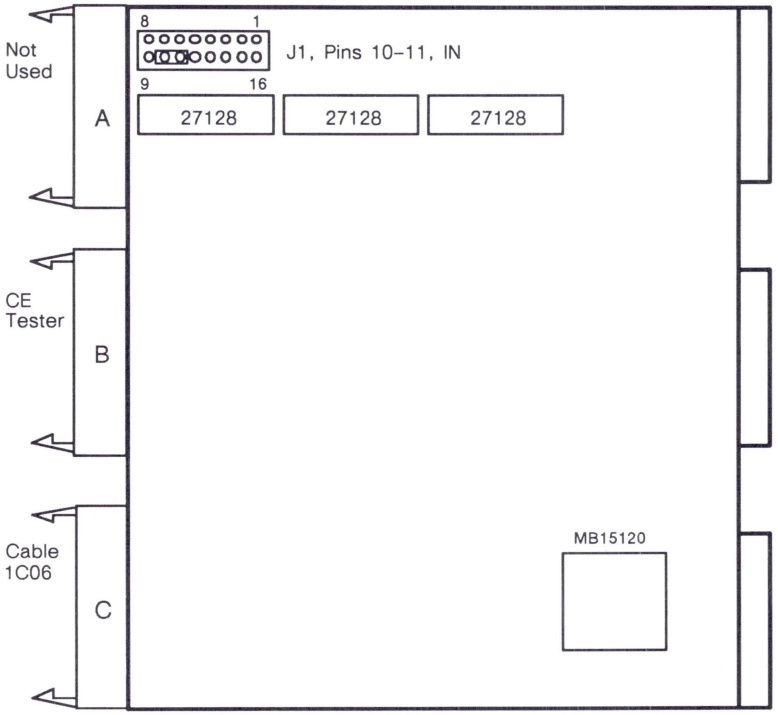
Notes

1. The BUF requires no adjustment upon replacement.
2. Premature failure of the BUF may occur if capacitors C5, C6, and C7 are not installed correctly. This may occur on board revisions below Rev. L.

Fujitsu M2444AC 1/2" Tape Drive

Microprocessor Unit (MPU)

811-1054



FUJITSU BOARD LABEL = 532705U
FUJITSU DOC NUMBER = C16B-5327-0050#U

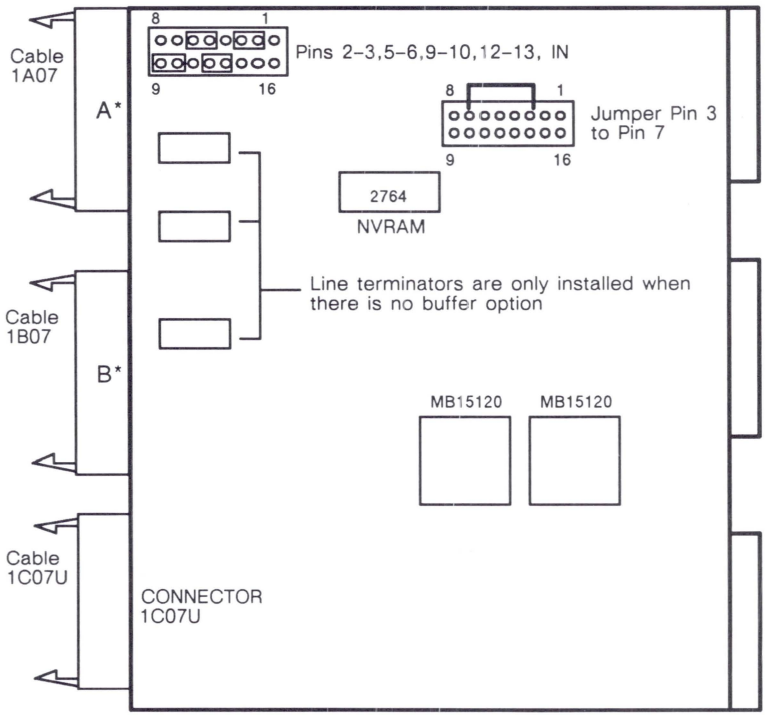
Slot 6

Note: The MPU requires adjustment upon replacement (Test 92).
See REP 2330 in the *Fujitsu M244X CE Manual*, 800-1409-01.

Fujitsu M2444AC 1/2" Tape Drive

Interface Controller (IFC)

811-1055



FUJITSU BOARD LABEL = 532706U
FUJITSU DOC NUMBER = C16B-5327-0060#U

Slot 7

Note: The IFC requires adjustment upon replacement (Tests 90, 92, 93, and 97). See REP 1130, 2310, 2320, and 2330 in the *Fujitsu M244X CE Manual,* 800-1409-01.

Fujitsu M2444AC 1/2" Tape Drive
IFC NVRAM Configuration Procedures

Test 93 – Drive Parameters

1. Press and hold TEST.
2. Press START.
3. Release TEST.
4. 00 is displayed.
5. Press START until 93 is displayed.
6. Press and hold TEST.
7. Press DENSITY SELECT.
8. Release TEST.
9. DT is displayed.
10. Press RESET to display parameter of Device Type.
11. Press START or UNLOAD to change the Device Type.
12. Press TEST.
13. EL is displayed.
14. Press RESET to display parameter of EC Level.
15. Press START or UNLOAD to change the EC Level.
16. Press TEST.
17. BG is displayed.
18. Press RESET to display parameter of BOT Gain.
19. Press START or UNLOAD to change the BOT Gain.
20. Press TEST.
21. EG is displayed.
22. Press TEST to display P5 in the LED.
23. Press RESET to display parameter of EOT Gain.
24. Press TEST.
25. Press RESET to exit the test mode.
26. Use test 94 to store the new value.

Drives Shipped Prior to September 1987

Device Type = 80
EC Level = 13
BOT Gain = Use test 90 to set value between 0xb0 and 0xcf
EOT Gain = Use test 90 to set value between 0xb0 and 0xcf

Drives Shipped After September 1987

Device Type = C0
EC Level = 13
BOT Gain = Use test 90 to set value between 0xb0 and 0xcf
EOT Gain = Use test 90 to set value between 0xb0 and 0xcf

Drives Shipped After September 1987

The High Speed Bit is set to ON. Refer to REP 2320-1 in the Fujitsu M244X CE Manual, 800-1409-01.

Fujitsu M244AC 1/2" Tape Drive
IFC NVRAM Configuration Procedures

Test 97 – Buffer Parameters

1. Press and hold TEST.
2. Press START.
3. Release TEST.
4. Press UNLOAD to decrement the LED display to 97.
5. Press and hold TEST.
6. Press DENSITY SELECT to display P0 in the LED.
7. Release TEST.
8. Press RESET button to display the contents of P0.
9. Press START or UNLOAD to change P0 to 04
10. Press TEST to display P1 in the LED.
11. Press RESET to display the contents of P1.
12. Press START or UNLOAD to change P1 to 00.
13. Press TEST to display P2 in the LED.
14. Press START or UNLOAD to change P2 to 02.
15 Press RESET to display the contents of P2.
16. Press TEST to display P3 in the LED.
17. Press RESET to display the contents of P3.
18. Press START or UNLOAD to change P3 to 02.
19 Press TEST to display P4 in the LED
20. Press RESET to display the contents of P4.
21 Press START or UNLOAD to change P4 to 00.
22. Press TEST to display P5 in the LED.
23. Press RESET to display the contents of P5
24 Press START or UNLOAD button to change P5 to 00.
25 Press TEST to display P6 in the LED.
26. Press RESET to display the contents of P6.
27. Press START or UNLOAD to change P6 to 00.
28. Press TEST to display P7 in the LED.
29. Press RESET to display the contents of P7.
30. Press START or UNLOAD to change P7 to 00.
31. Press TEST to exit test 97.
32. Press RESET to exit the test mode.

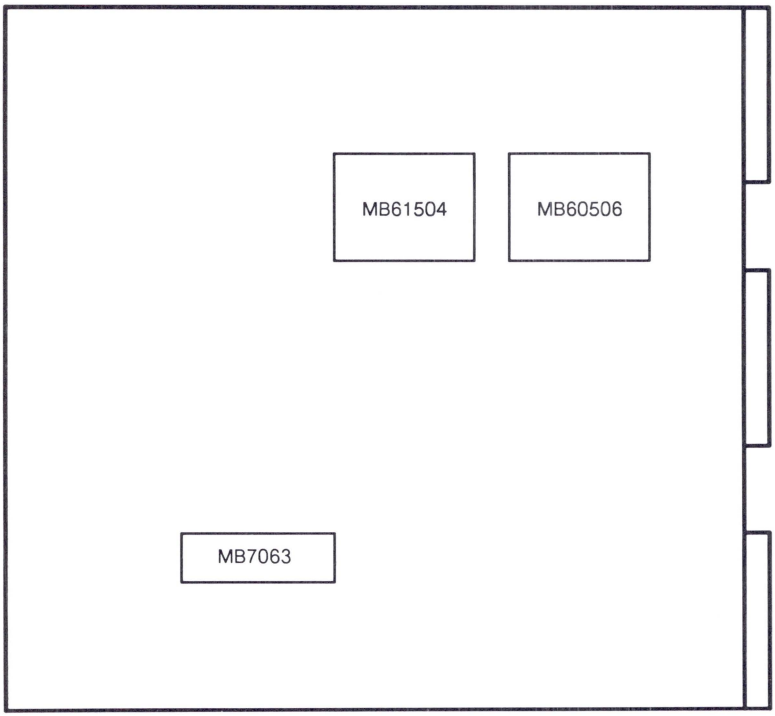
Test 94 – Set New Parameters into NVRAM

1. Press and hold TEST.
2. Press START.
3. Release TEST.
4. Press UNLOAD to decrement the LED display to 94.
5. Press and hold TEST.
6. Press DENSITY SELECT and release TEST.
7. Press RESET to exit the test mode.

Fujitsu M2444AC 1/2" Tape Drive

Write Formatter (WFM)

811-1052



FUJITSU BOARD LABEL = 512186U
FUJITSU DOC NUMBER = C16B-5121-0860#U

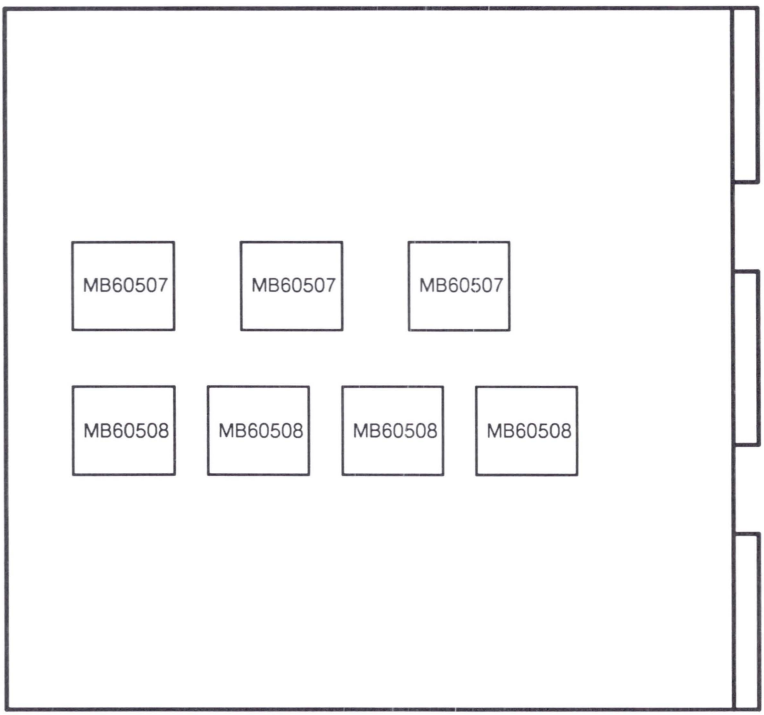
Slot 8

Note: The WFM requires no adjustment upon replacement.

Fujitsu M2444AC 1/2" Tape Drive

Read Formatter (RFM)

811-1053



FUJITSU BOARD LABEL = 512188U
FUJITSU DOC NUMBER = C16B-5121-0880-#U

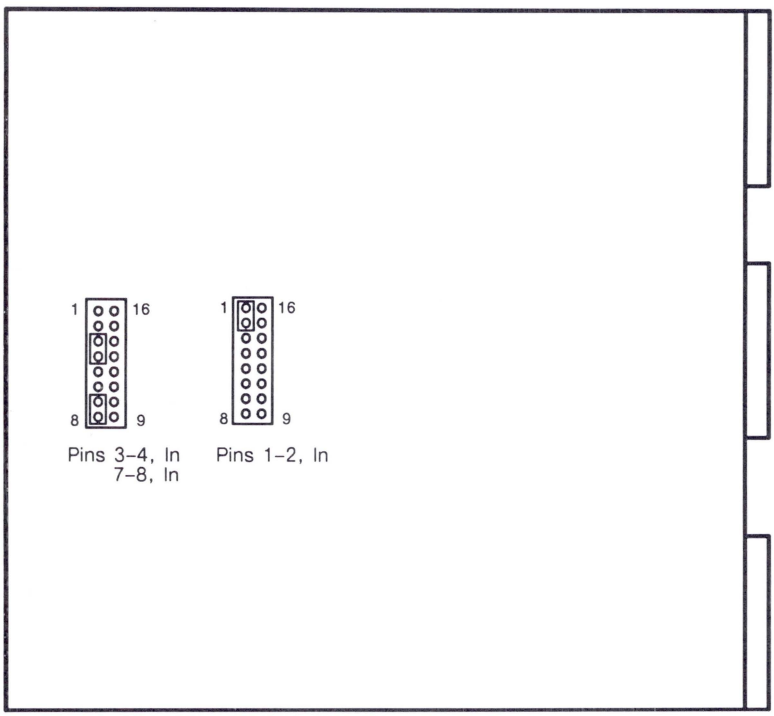
Slot 9

Note: The RFM requires no adjustment upon replacement.

Fujitsu M2444AC 1/2" Tape Drive

Variable Frequency Oscillator (VFO)

811-1057



FUJITSU BOARD LABEL = 550194U C320-5501-T274/03 FJ-A
FUJITSU DOC NUMBER = C16B-54501-0940#U

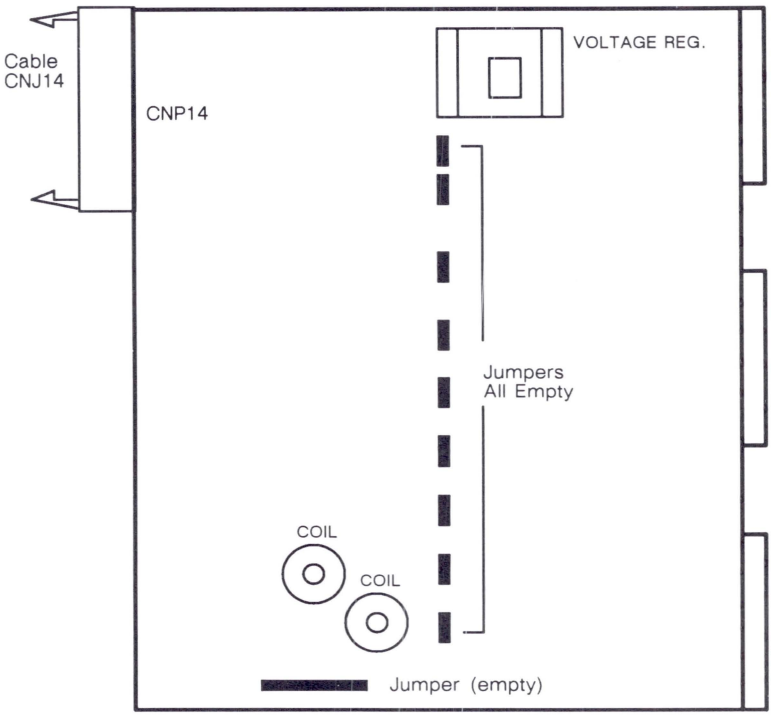
Slot 10

Note: The VFO requires no adjustment upon replacement.

Fujitsu M2444AC 1/2" Tape Drive

Read Amplifier Card (RDA)

811-1056



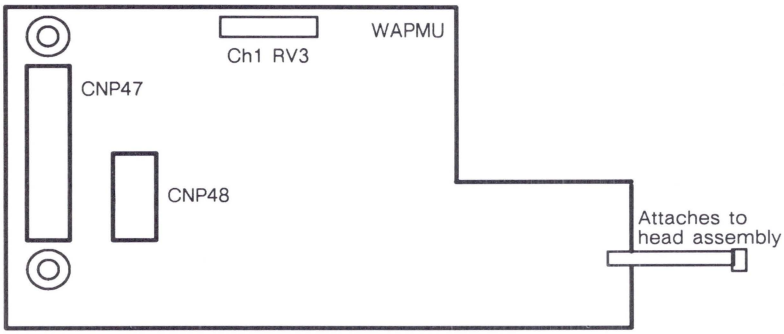
FUJITSU BOARD LABEL = RKEMU B350-8930-T016A02 FJ-A
FUJITSU DOC NUMBER = B16B-9920-0010A#U

Slots 11 & 12

Note: The RDA requires adjustment upon replacement (Test 92). See REP 1140 and 2330 in the *Fujitsu M244X CE Manual*, 800-1400-01.

Fujitsu 1/2" Tape Drive

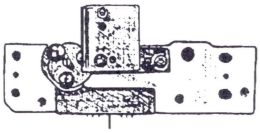
Write Amplifier (WTA)
811–1049



FUJITSU BOARD LABEL = WAPMU
FUJITSU DOC NUMBER = B16B-9470-0100A#U(WAPMU)

Note: The WTA requires adjustment upon replacement (Tests 91, 92, and skew tape). See REP 1120, 2110, and 2330 in the Fujitsu M244X CE Manual, 800–1409–01.

Read/Write Head
811–1042

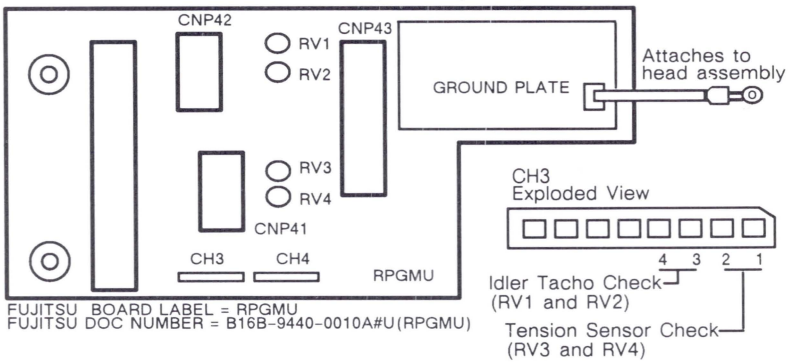


Note: The Read/Write Head requires adjustment upon replacement (skew tape). See REP 1240, 2110, and 2330 in the Fujitsu M244X CE Manual, 800–1409–01.

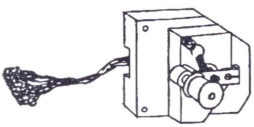
Fujitsu M2444AC 1/2" Tape Drive
555–1055

The RPA, Tension Sensor, and Idler Tachometer are kitted as FRU 555–1055.

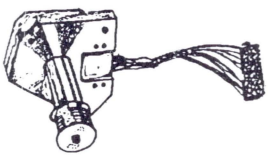
Read Pre–Amplifier (RPA)



Tension Sensor



Idler Tachometer *



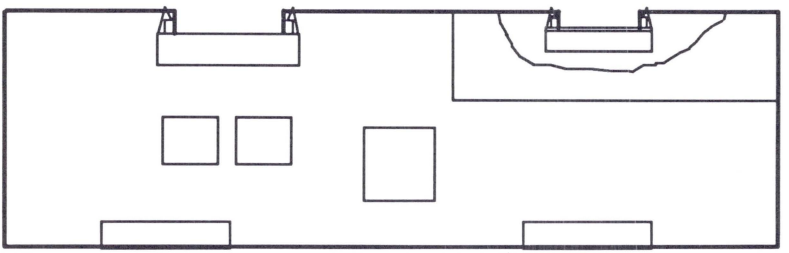
* Idler Tachometer, part number B90L–1650f–0001A, does NOT require adjustment. Variable Resistor RV1 and RV2 do not effect the signal output at CH3, pins 3 and 4.

Note: Assembly 555–1055 requires adjustment upon replacement (tests 91, 92, skew tape). See REP 1110, 1410, 1420, 2110, and 2330 in the *Fujitsu M244X CE Manual*, 800–1409–01. Adjustments under REP 2210 and 2220 have been performed at the repair depot to create the matched set.

HP 88780 Front Load Tape Drive

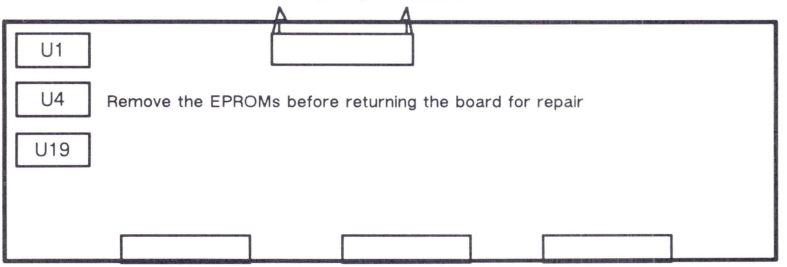
Options 680 682 683 684

Read/Write/Format Board
370–1276



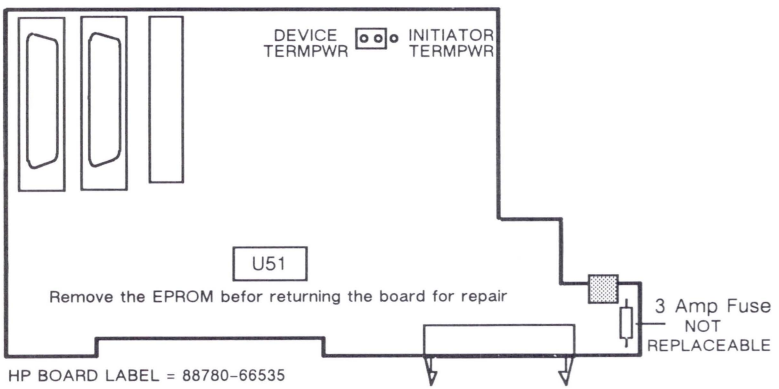
HP BOARD LABEL = 07980-66531

Drive Controller Board
370–1277



HP BOARD LABEL = 07980-66503

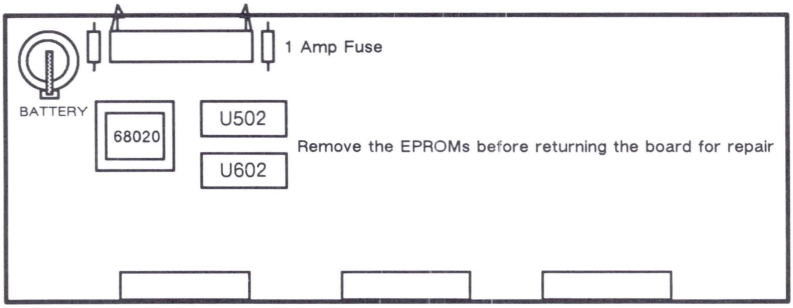
Single Ended I/O Board
811–1241



HP BOARD LABEL = 88780-66535

HP 88780 Front Load Tape Drive

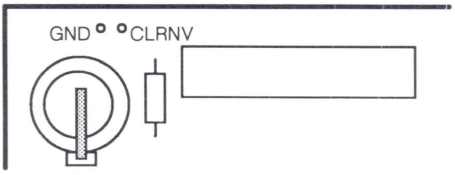
Data Buffer Board
370–1279



HP BOARD LABEL = 07980-66514

Reset the NVRAM when the Data Buffer Board is replaced or if the EPROMs are upgraded.

1. Load a scratch tape.
2. Run TEST 150 to write a GCR ID to the scratch tape.
3. Run TEST 128 to store the NVRAM contents to the scratch tape.
4. Remove Power.
5. Install the new Data Buffer Board or new EPROMs.
6. Connect a jumper between locations GND and CLRNV.

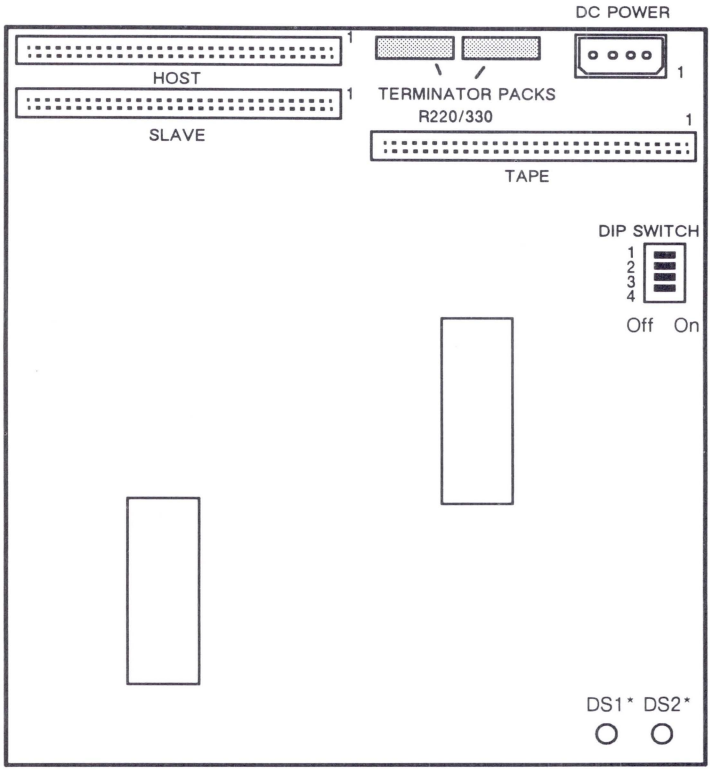


7. Apply power. FAIL--0 is displayed when selftest is complete.
8. Remove Power.
9. Remove the jumper.
10. Apply Power.
11. Load the scratch tape.
12. Run TEST 129 to load NVRAM with the contents stored on tape.
13. Run TEST 99 to calibrate the read channel gain values.

Note: The battery part number is 150-1204-01 or 811-1232-01.

Reference
Sun Front-Load 1/2-Inch Tape Drive Field Service Manual, 800-3447.

Sysgen SC4000
Sun–3/160
Options 56 511
370–1011



*DS1, On, indicates an error
DS2, On, indicates Sysgen is busy

Dip Switch Settings

DIP	SETTING	DESCRIPTION
1	Off	Base address select (bit 0)
2	Off	Base address select (bit 1)
3	On	Base address select (bit 2)
4	Off	Base address select (bit 3)

Power: 2.0 Amps @ +5Vdc
10.0 Watts

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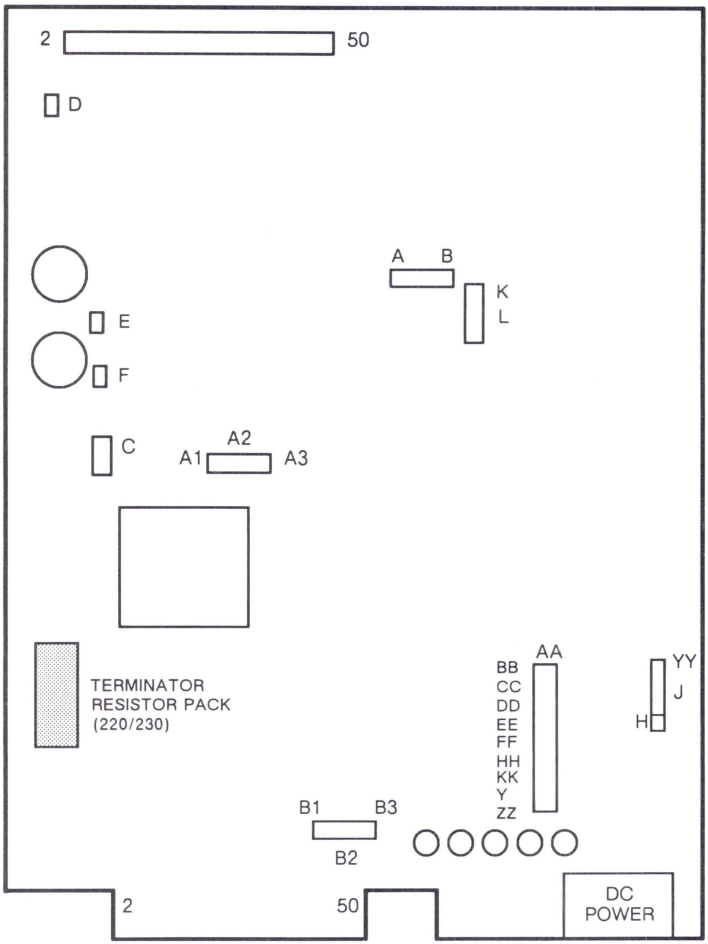
Archive Stand Alone Controller

Options 61 73

370–1026



370–1026
Jumper Settings

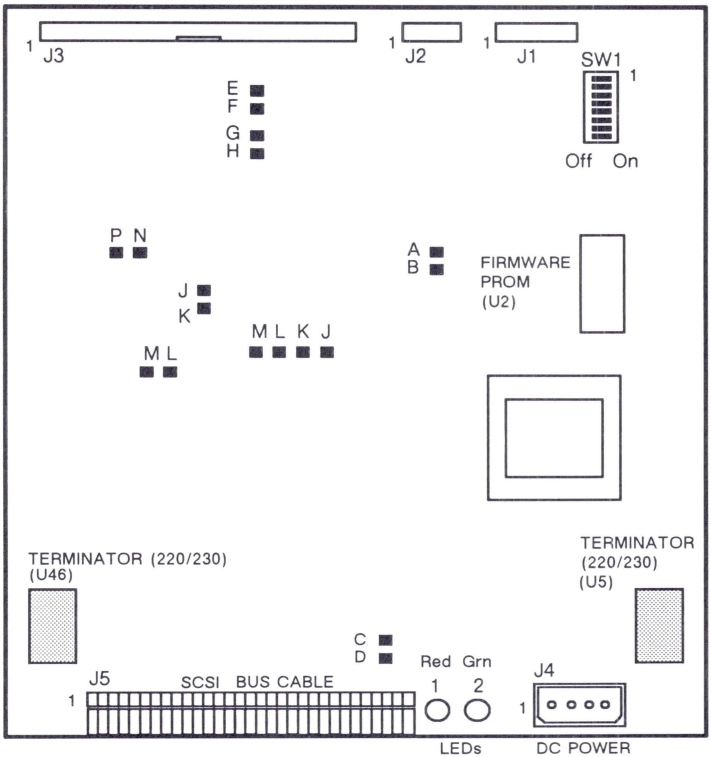
JUMPER	SETTING	DESCRIPTION
AA	Off	
BB	Off	
CC*	Off/On	Format Selection QIC–11/24
DD	Off	
EE	Off	
FF	Off	
HH	Off	
KK	Off	Power on clear
Y	Off	Sun–2/120/170
	On	Sun–2 Shoebox
ZZ	On	
A B	B On	
A1 A2 A3	A1–A2 On	
B1 B2 B3	B1–B2 On	
YY J	Off	
K L	L On	
C	Off	
D	Off	
E	Off	
F	Off	

*Add a jumper at CC for SunOS distribution tapes in QIC–24 format.

Note: This board is used with the Archive Basic Drive part numbers 370–1024 and 370–1043.

Emulex MT02

Sun–3/160/180/260/280/460/480
Sun–4/260/280/360/380
Options 511 514 516
370–1061 370–1235



KEY	LED 1 (Green)	LED 2 (Red)	STATE
0 = Off	0	0	Power up reset clear
1 = On	1	1	Power up self–test passed

LED 1. Blinking, MT02 operating normally.
LED 2, On, Do not remove cartridge.

Power: 1.5 Amps @ +5Vdc
0.04 Amps @ +12Vdc
8.0 Watts

370-1061 370-1025
Switch and Jumper Settings

DIP SWITCH	SWITCH	SETTING	DESCRIPTION
SW1	1	Off	Bit 0
	2	Off	Bit 1
	3	On	Bit 2-SCSI device address 04
	4	Off	Not Used
	5	On	Archive Drive
	6	Off	(Scorpion)
	5	On	Wangtek Drive
	6	On	(5000E)
	7	Off	Drive type
	8*	Off	SCSI bus parity check

* The Sun386i Tape assembly, 370-1179, includes the MT02 Controller and the Tape Drive. SW1, Switch 8, is ON for this application.

JUMPER	SETTING	DESCRIPTION
A-B *	In	EPROM Memory size select
C-D *	Out	
E-F *	In	Hi/Lo write current (Archive Drive)
	Out	Hi/Lo write current (Wangtek Drive)
G-H	Out	
J-K †	Out	
L-M †	Out	

* Jumpers A-B, C-D, and E-F are on the Emulex Rev. MW0210402 board. They are not on Rev. MT0210403 and MT0210103 boards. SW1, Switch 5 and Switch 6, control drive selection on the MT0210403 and MT0210203 boards.

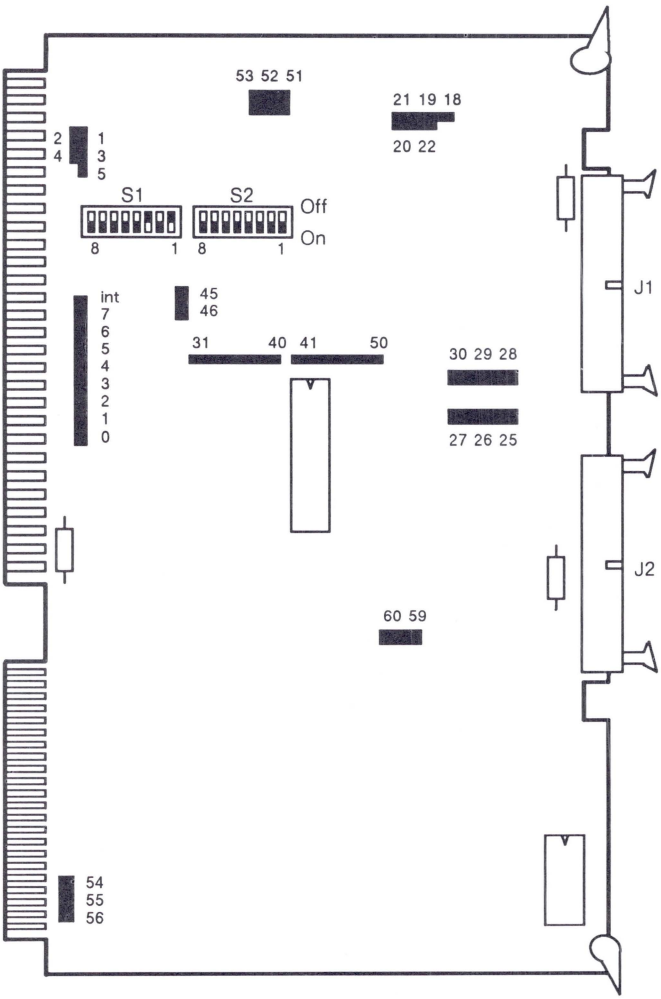
† Jumpers J-K and L-M are in one of the locations shown on the board layout drawing.

Note: Terminators U5 and U46 must be installed for Sun-3/160 and Sun-3/180 plus configurations. Remove these terminators when the board is used with all other Sun-3 and Sun-4 Mass Storage Subsystems.

References

1. *Sun-3 Emulex MT02 Controller Configuration Procedures*, 813-2011.
2. *60 Mbyte Streaming Tape Drive with SCSI Controller Configuration Procedures*, 814-1019.

Ciprico Tapemaster
Sun–3/160/180/260/280/460/470/480
370–0502



Power: 5.0 Amps @ +5Vdc
25.0 Watts

370–0502
Switch Settings

DIP SWITCH	SWITCH	SETTING	DESCRIPTION
S1	1	Off	Address Bit A7
	2	On	Address Bit A6
	3	Off	Address Bit A5
	4	On	Address Bit A4
	5	On	Address Bit A3
	6	On	Address Bit A2
	7	*	Address Bit A1
	8	On	Data Bus selection (16Bit/8Bit)
S2	1	On	Address Bit A15
	2	On	Address Bit A14
	3	On	Address Bit A13
	4	On	Address Bit A12
	5	On	Address Bit A11
	6	On	Address Bit A10
	7	On	Address Bit A9
	8	On	Address Bit A8

* Switch 7 On for tmc0 @ 0xa0
Switch 7 Off for tmc1 @ 0xa2

Note: Support for the Tapemaster Controller was removed from the Sun 3200 CPU EPROM 3.0 in July 1989. The 1600 BPI Tape Drive can only be used as a backup device.

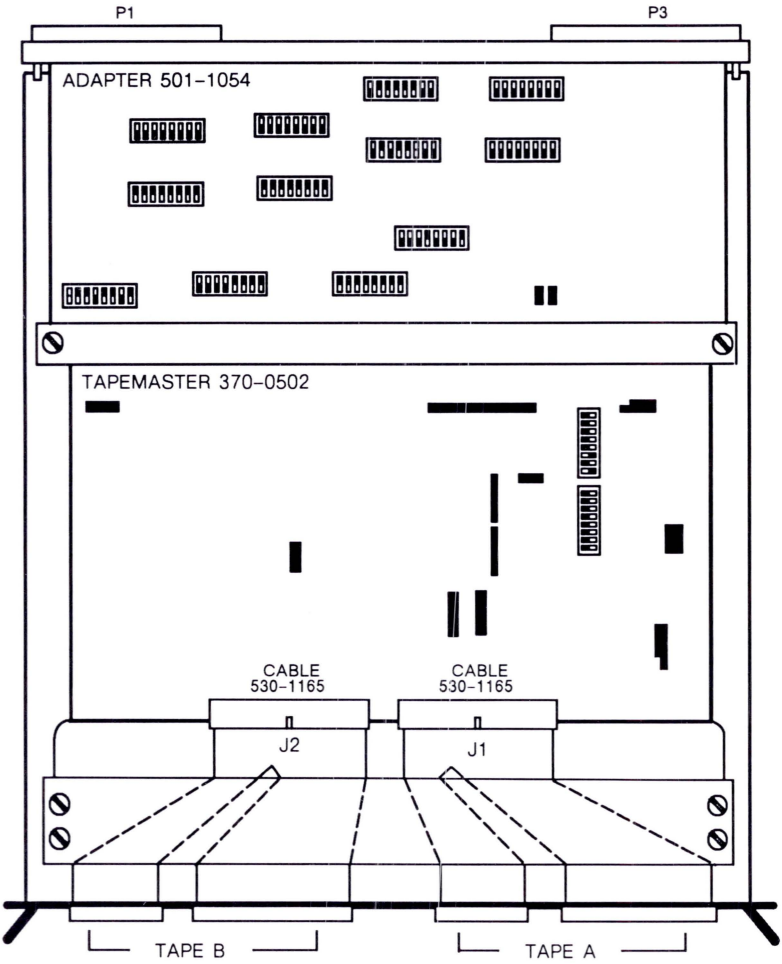
370-0502
Jumper Settings

PINS	SETTING	DESCRIPTION	
1,2	Out	Parallel arbitration (BPRO)	
3-4 5	In Out	Enable CBRQ	
15-16	Hardwired	Select 16-bit address mode	
18-19 20-21 22	Hardwired Hardwired Out	Non-maintenance mode (Normal mode)	
25-26 27	Hardwired Out	Check odd parity	
28-29 30	Hardwired Out	Generate odd parity	
31 to 32,33,34,35	Hardwired	A4-A7 (Low)	
36-40	Hardwired	A8 (High)	Address (A4-A19) 0x01106
31 to 37,38,39	Hardwired	A9-A11 (Low)	
42-50	Hardwired	A12 (High)	
41 to 43,44,45	Hardwired	A13-A15 (Low)	
41 to 46,47,48,49	Hardwired	A16-A15 (Low)	
51-52 53	Hardwired Out	Enable ANYQRST high	
54-55 56	Hardwired Out	Select 2732-based firmware	
57-58	Hardwired	Enable system bus time-out	
59,60	Out	(Normal mode) Disable Diagnostics	
INT-3	Hardwired	Level 3 interrupt	

VMEbus to Multibus Adapter with Ciprico Tapemaster

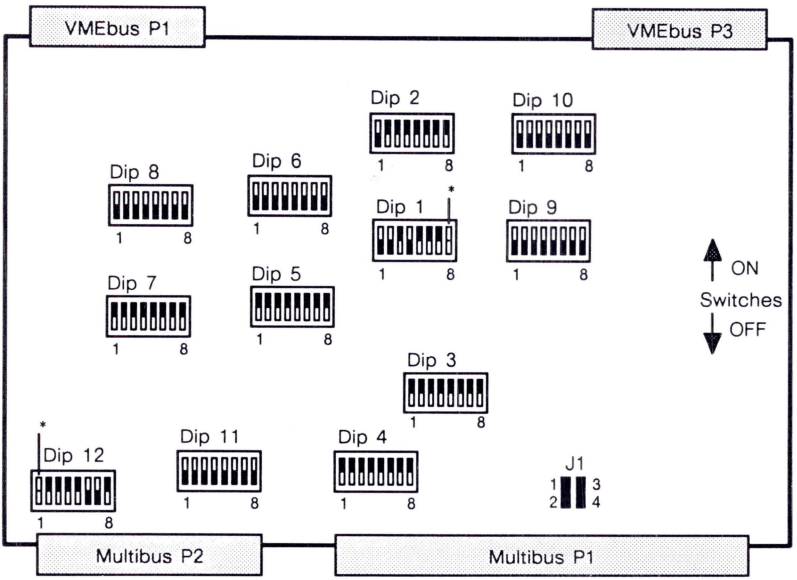
Sun–3/160/180/260/280/460/470/480

501–1156



Power: 6.0 Amps @ +5Vdc
30.0 Watts

VMEbus to Multibus Adapter with Ciprico Tapemaster
501-1156



SWITCH	1	2	3	4	5	6	7	8	DESCRIPTION
U1	N/C	OFF	ON	OFF	ON	ON	ON	*	I-O Address
U2	N/C	ON	ON	ON	ON	ON	ON	ON	I-O Space = 2
U3	ON	ON	ON	ON	ON	ON	ON	ON	I-O Address = 0x00
U4	ON	ON	ON	ON	ON	ON	ON	ON	VME I-O Space
U5	ON	ON	ON	ON	ON	ON	ON	ON	24-Bit Memory Address Space
U6	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	24-Bit Memory Block Size
U7	ON	ON	ON	ON	ON	ON	ON	ON	24-Bit Memory Address Space
U8	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	24-Bit Memory Block Size
U9	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	No Connection
U10	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	No Connection
U11	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	Sets Address Bits A23 Thru A20
U12	*	ON	ON	ON	ON	OFF	OFF	ON	Interrupt Vector
J1	PINS 1-2	IN	If BCLK is desired						
	PINS 3-4	IN	If CCLK is desired						

*tm0 = ON (I-O Address = 0x00A0, Interrupt Vector = 0x60)
tm1 = OFF (I-O Address = 0x00A2, Interrupt Vector = 0x61)

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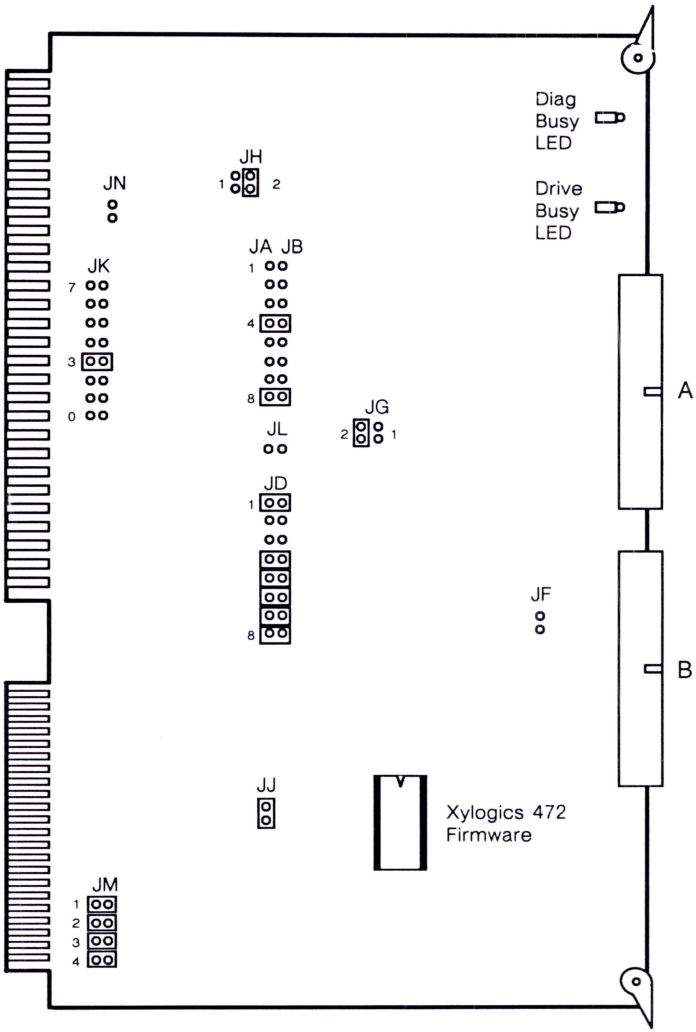
Xylogics 472

Sun–3/160/180/260/280/460/470/480
Sun–4/260/280/360/380
370–1067



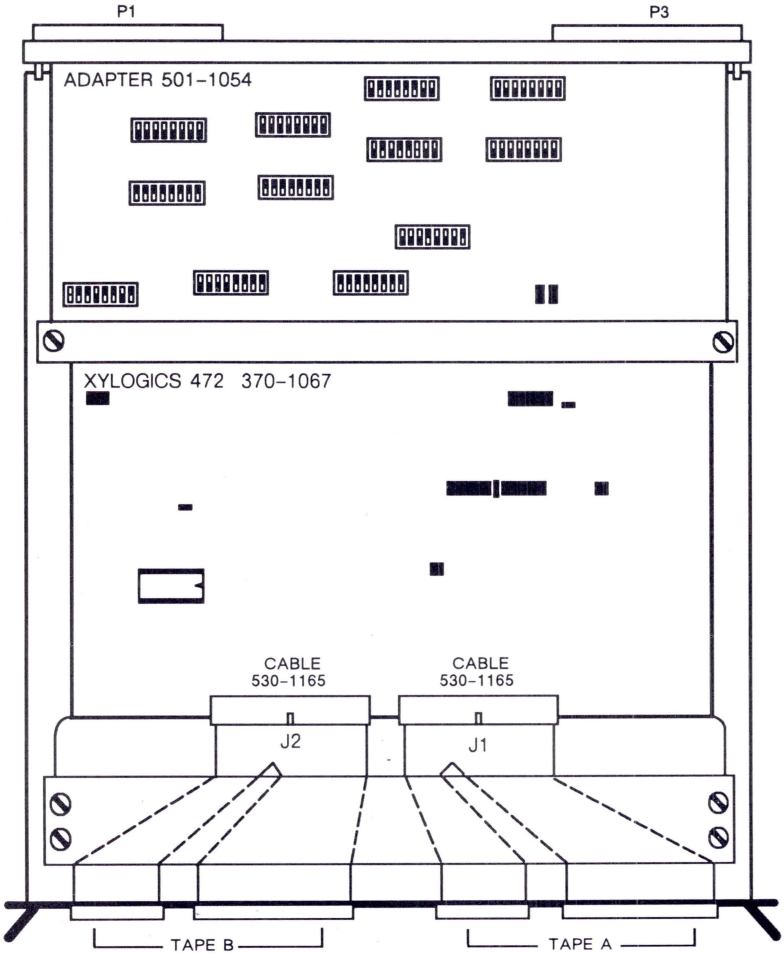
370–1067
Jumper Settings

JUMPER	PINS	SETTING	DESCRIPTION	
JF	N/A	In	Enable 24-bit Addressing	
JM	1	In	Address Bit A23	
	2	In	Address Bit A22	
	3	In	Address Bit A21	
	4	In	Address Bit A20	
JG	1	Out	2KB On-Board FIFO	
	2	In	Select 8KB On-Board FIFO	
JJ	N/A	In	Select 8KB On-Board FIFO	
JH	1	Out		
	2	In	Select 10MHz On-Board Sequencer Clock	
JK	0	Out	Interrupt Request Level 0	
	1	Out	Interrupt Request Level 1	
	2	Out	Interrupt Request Level 2	
	3	In	Interrupt Request Level 3	
	4	Out	Interrupt Request Level 4	
	5	Out	Interrupt Request Level 5	
	6	Out	Interrupt Request Level 6	
	7	Out	Interrupt Request Level 7	
JL	N/A	Out	Select 16-Bit I-O Address	
JN	N/A	Out	Select Parallel DMA Priority	
JA–JB	1 to 1	Out	Address Bit A15	Sets A15–A8 to 0xee
	2 to 2	Out	Address Bit A14	
	3 to 3	Out	Address Bit A13	
	4 to 4	In	Address Bit A12	
	5 to 5	Out	Address Bit A11	
	6 to 6	Out	Address Bit A10	
	7 to 7	Out	Address Bit A9	
	8 to 8	In	Address Bit A8	
JD	1 to 1	In	Address Bit A7	Sets xtc0 A7–A0 to 0x60
	2 to 2	Out	Address Bit A6	
	3 to 3	Out	Address Bit A5	
	4 to 4	In	Address Bit A4	
	5 to 5	In	Address Bit A3*	
	6 to 6	In	Address Bit A2	
	7 to 7	In	Address Bit A1	
	8 to 8	In	Address Bit A0	

* Remove to set xtc1 A7–A0 to 0x68.

VMEbus to Multibus Adapter with Xylogics 472

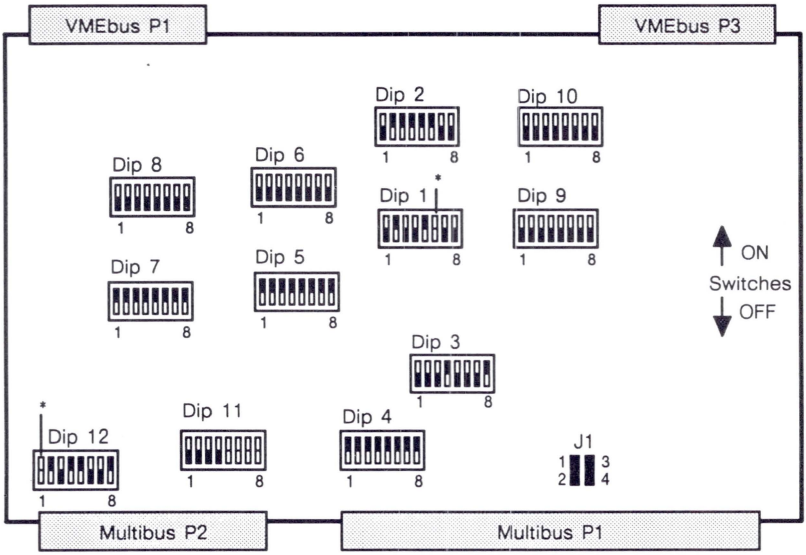
Sun–3/160/180/260/280/460/470/480
Sun–4/260/280/360/380
501–1155



Power: 6.0 Amps @ +5Vdc
30.0 Watts

VMEbus to Multibus Adapter with Xylogics 472

501-1155



SWITCH	1	2	3	4	5	6	7	8	DESCRIPTION
U1	N/C	ON	OFF	OFF	ON	*	OFF	OFF	I-O Address
U2	N/C	ON	ON	ON	ON	ON	OFF	OFF	I-O Space = 8
U3	OFF	OFF	OFF	ON	OFF	OFF	OFF	ON	I-O Address = 0xEE
U4	ON	ON	ON	ON	ON	ON	ON	ON	VME I-O Space
U5	ON	ON	ON	ON	ON	ON	ON	ON	24-Bit Memory Address Space
U6	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	24-Bit Memory Block Size
U7	ON	ON	ON	ON	ON	ON	ON	ON	24-Bit Memory Address Space
U8	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	24-Bit Memory Block Size
U9	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	No connection
U10	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	No connection
U11	OFF	OFF	OFF	OFF	ON	ON	ON	ON	Sets Address Bits A23 - A20
U12	*	ON	OFF	ON	ON	OFF	OFF	ON	Interrupt Vector
J1	PINS 1-2		IN	If BCLK is desired					
	PINS 3-4		IN	If CCLK is desired					

*xtc0 = ON (I-O Address = 0xEE60, Interrupt Vector = 0x64)
xtc1 = OFF (I-O Address = 0xEE68, Interrupt Vector = 0x65)

Note: Sun-3/160/180/260/280 and Sun-4/260/280 CPU boards with EPROM revisions below 3.0 fail to boot from tape and fail the boot path diagnostic [b*xt()] if the Xylogics 472 or the VME-Multibus Adapter is set to 24-bit.

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COMMUNICATIONS

COMMUNICATIONS

Communication

MULTIBUS

VMEbus

AT, XT, and MICROCHANNEL

SBus

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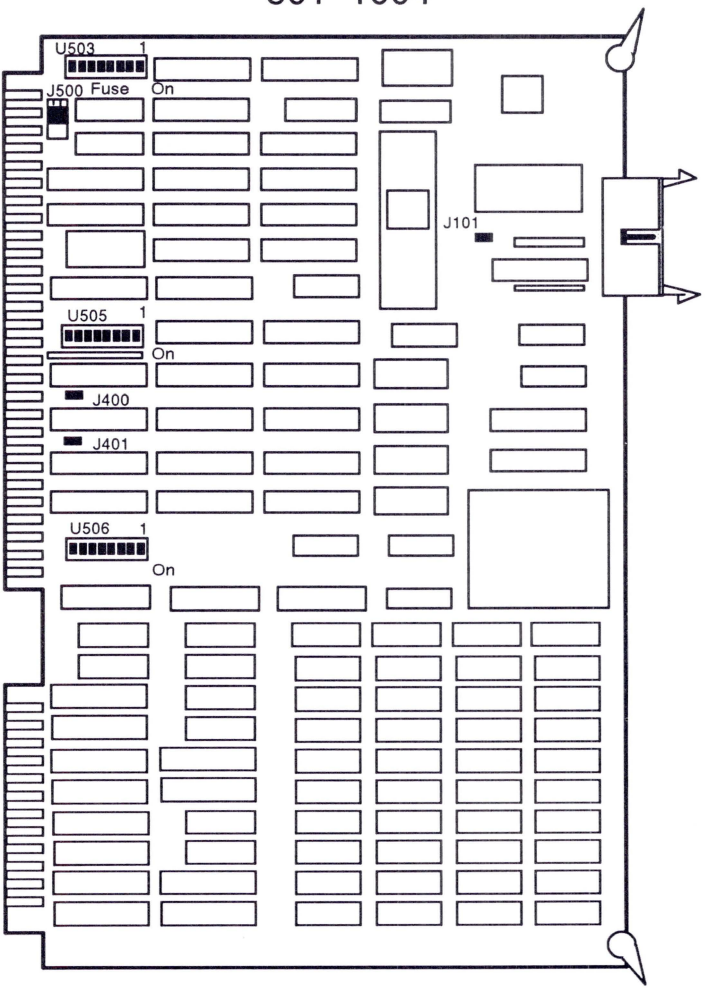
Sun–2 Ethernet Controller

Sun–3/110/140/150/160/180
Sun–3/260/280/460/470/480
Sun–4/110/150/260/280
Sun–4/310/330/350/360/370/380/390
501–1004



Power: 6.0 Amps @ +5Vdc
0.5 Amps @ +12VdcVdc
36.0 Watts

501–1004
Jumper & Switch Settings

JUMPER	PINS	SETTING	DESCRIPTION
J101	1–2	In	Level 1 Ethernet
	1–2	Out	Level 2 Ethernet
J400	1–2	Out	M.BIG select
J401	1–2	Out	M.EXP select
J500	1–2	Out	Ethernet interrupt level 0
	3–4	Out	Ethernet interrupt level 1
	5–6	Out	Ethernet interrupt level 2
	7–8	Hardwired	Ethernet interrupt level 3
	9–10	Out	Ethernet interrupt level 4
	11–12	Out	Ethernet interrupt level 5
	13–14	Out	Ethernet interrupt level 6
	15–16	Out	Ethernet interrupt level 7

First controller in a Multibus system, second in a VME system.

U503

	1	2	3	4	5	6	7	8
ON				X				X
OFF	X	X	X		X	X	X	

U505

	1	2	3	4	5	6	7	8
ON			X					
OFF	X	X		X	X	X	X	X

U506

	1	2	3	4	5	6	7	8
ON		X	X			X	X	
OFF	X			X	X			X

Second controller in a Multibus system.

U503

	1	2	3	4	5	6	7	8
ON			X	X				X
OFF	X	X			X	X	X	

U505

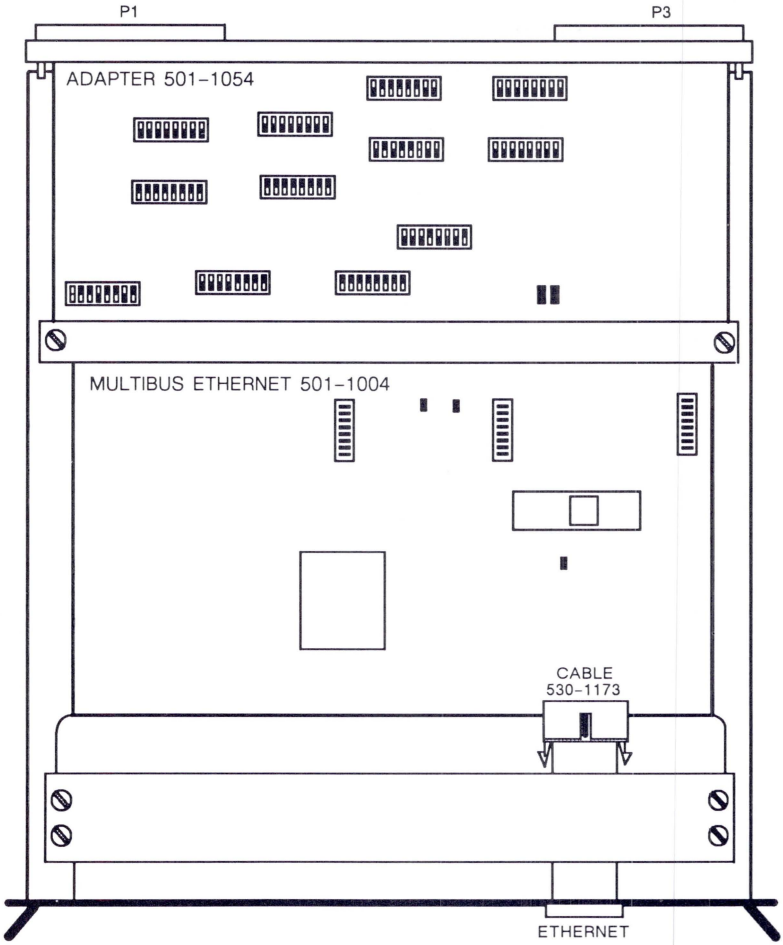
	1	2	3	4	5	6	7	8
ON		X		X				
OFF	X		X		X	X	X	X

U506

	1	2	3	4	5	6	7	8
ON	X			X	X			X
OFF		X	X			X	X	

VMEbus to Multibus Adapter with Sun-2 Ethernet

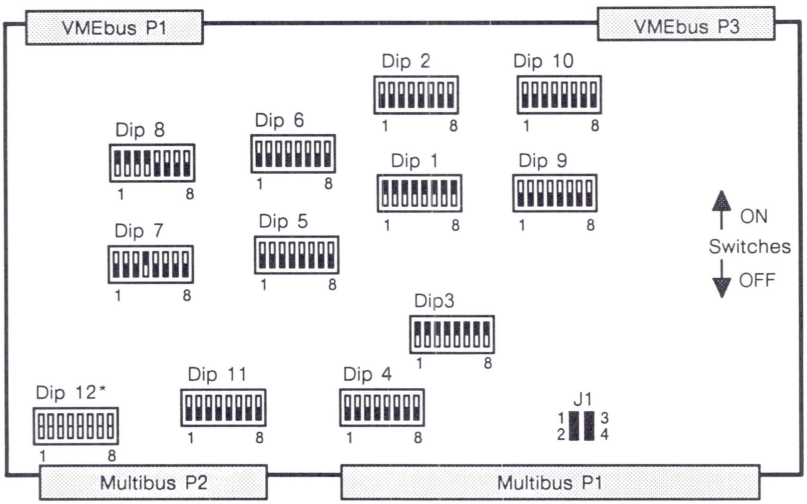
Sun-3/110/140/150/160
Sun-3/180/260/280/460/470/480
Sun-4/110/150/260/280/310/330/350/360
Sun-4/370/380/390
501-1153



Power: 5.8 Amps @ +5Vdc
29.0 Watts

VMEbus to Multibus Adapter with Sun-2 Ethernet

Sun-3/110/140/150/160/180/260/280/460/470/480
Sun-4/110/150/260/280/310/330/350
Sun-4/360/370/380/390
501-1153



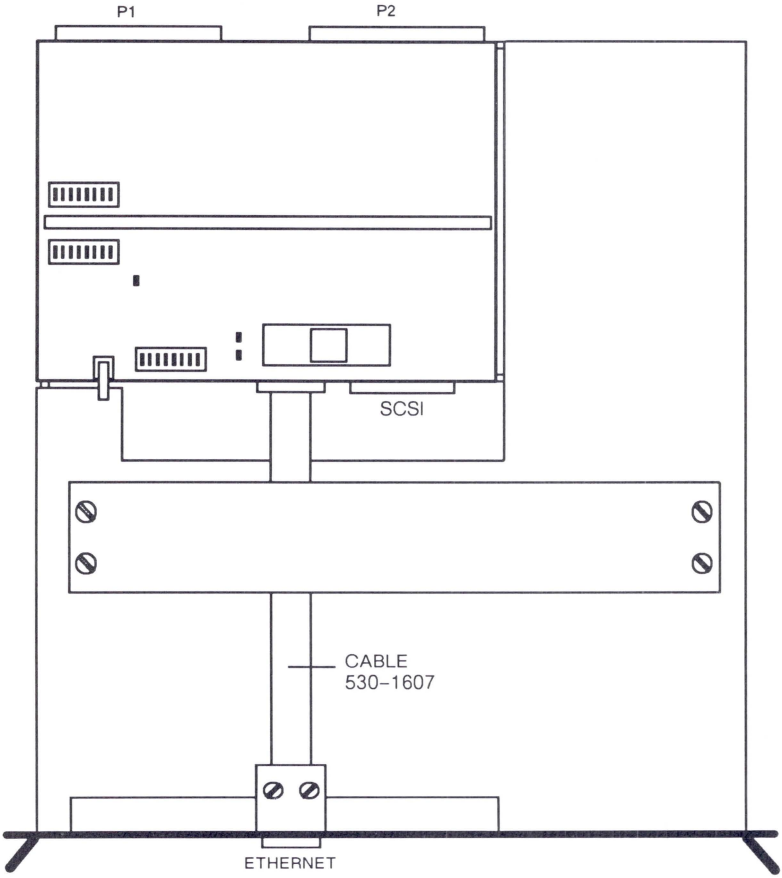
VME TO MULTIBUS ADAPTER BOARD SWITCH SETTINGS									
SWITCH	1	2	3	4	5	6	7	8	DESCRIPTION
U1	N/C	ON	ON	ON	ON	ON	ON	ON	I-O Address = 0x00
U2	N/C	OFF	OFF	OFF	OFF	OFF	OFF	OFF	I-O Space = No response
U3	ON	ON	ON	ON	ON	ON	ON	ON	I-O Address = 0x00
U4	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	VME I-O Space = No response
U5	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	24-Bit Memory Address Space
U6	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	24-Bit Memory Block Size
U7	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF	24-Bit Memory Address Space
U8	ON	ON	ON	ON	OFF	OFF	OFF	OFF	24-Bit Memory Block Size
U9	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	No connection
U10	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	No connection
U11	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	Sets Address Bits A23 - A20
U12*	OFF	ON	OFF	ON	OFF	OFF	OFF	ON	Interrupt Vector = 0x75
	OFF	OFF	ON	OFF	OFF	ON	ON	ON	Interrupt Vector = 0x1B
J1	PINS 1-2		IN	If BCLK is desired					
	PINS 3-4		IN	If CCLK is desired					

* For SunOS 3.0 and above, use 0x75. For SunOS below 3.0, use 0x1B.

Sun-3/E Ethernet Assembly

Sun-4/390/470/490

501-1584



Power: 4.1 Amps @ +5Vdc
20.5 Watts

Notes

1. Board revision 501-8027-06 or 501-1584-01 is required for use in any SPARC CPU based system.
2. This board is designed for use with Level 2 transceivers only
3. When used with the Sun-4400 CPU, 501-1381, the board revision must be ≥501-8027-07 or the assembly must be ≥501-1584-02.
4. SCSI TERMPWR is provided on boards ≥501-8027-07 or ≥501-1584-02.

501-1584
Switch & Jumper Settings

DIP SWITCH	SWITCH	SETTING	DESCRIPTION
SW0601	1-7	On	Not Supported
SW0601	1-7	Off	Enable Ethernet*

DIP SWITCH	SWITCH	SETTING	DESCRIPTION
SW0201	1	Off	24/32-bit addressing
SW0201	2	Off/On	N/C
SW0201	3	*	A18 address decode
SW0201	4	*	A19 address decode
SW0201	5	*	A20 address decode
SW0201	6	Off	A21 address decode
SW0201	7	On	A22 address decode
SW0201	8	On	A23 address decode

*DIP Switch SW0201 settings for ie2, ie3, and ie4

SW0201	SWITCH 3	SWITCH 4	SWITCH 5	ADDRESS
1st Board	On	On	Off	31ff02
2nd Board	Off	On	Off	35ff02
3rd Board	Off	Off	On	2dff02

DIP SWITCH	SWITCH	SETTING	DESCRIPTION
SW0202	1	On	A24 address decode
SW0202	2	On	A25 address decode
SW0202	3	On	A26 address decode
SW0202	4	On	A27 address decode
SW0202	5	On	A28 address decode
SW0202	6	On	A29 address decode
SW0202	7	On	A30 address decode
SW0202	8	On	A31 address decode

JUMPER	PINS	SETTING	DESCRIPTION
J0201	1-2	In	Clock enable

Reference
Sun SunNet Ethernet/VME Controller Installation Manual for 56-Inch Data Center Cabinets, 813-1068.

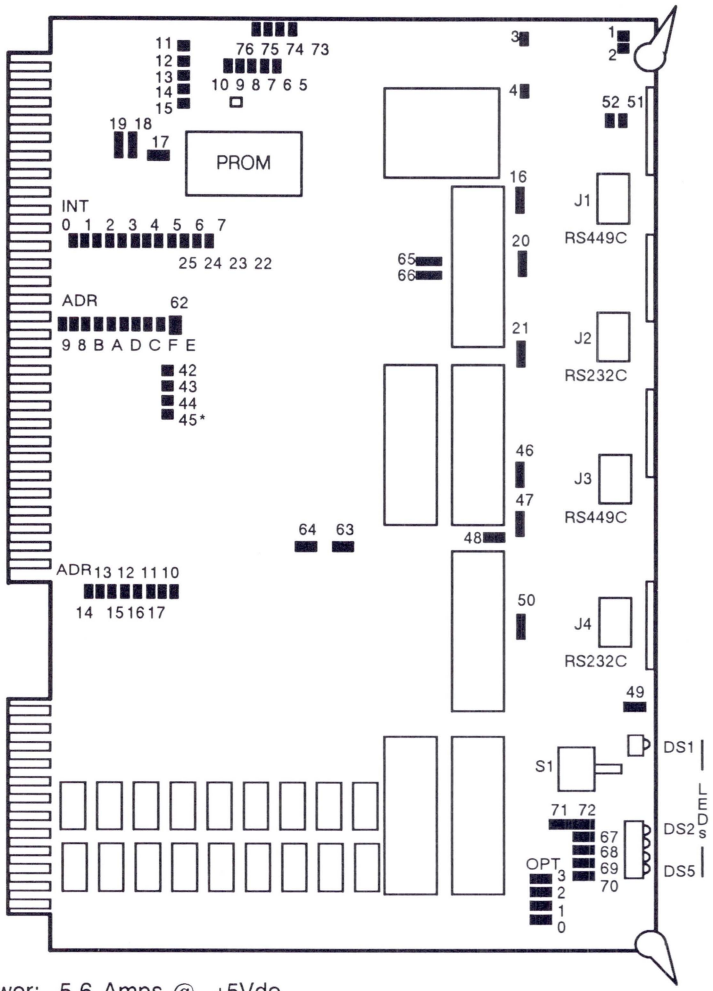
Systech DCP-8804

SunLink Communications Processor (SCP)

Sun-3/110/140/150/160/180

Sun-3/260/280/460/470/480

370-1049



Power: 5.6 Amps @ +5Vdc
0.2 Amps @ +12VdcVdc
0.1 Amps @ -12
31.6 Watts

370–1049
Jumper Settings

JUMPER	SETTING	DESCRIPTION
1	Out	Serial I/F ground, channel A
2	Out	Serial I/F multifunction, channel A
3	Out	RS–232 ground, channel A
4	In	RS–449 ground, channel A
5	Out	EPROM size select
6	In	EPROM size select
7	In	RAM size select
8	In	Bus timeout enable
9	Out	Byte swapping
10	In	Disable Multibus memory address
11	In/Out	ADR–F bit compare
12	In/Out	ADR–E bit compare
13	In	Byte swapping
14	In	BPRO enable
15	In	Byte swapping
16	In	RS–232 ground, channel B
17	In	Enable BPRN in
18	Out	BPRN in disable
19	Out	8289 any request
20	Out	RS–449 ground, channel B
21	Out	RS–232 ground, channel C
22	Out	EPROM size select
23	In	EPROM size select
24	Out	8289 CBRQ ground
25	In	Enable CBRQ out

Note: LED DS5 is the least significant bit (bit 0). LED DS2 is the most significant bit (bit 3).

Reference
SunLink Communication Processor Installation and Configuration Guide, 800–1398.

370–1049
Jumper Settings – Continued

JUMPER	SETTING	DESCRIPTION
42	Out	I/O A–7 compare
43	Out	I/O A–6 compare
44	Out	I/O A–5 compare
45	Out*	I/O A–4 compare
46	In	RS–449 ground, channel C
47	In	RS–232 ground, channel D
48	Out	Serial I/F ground, channel D
49	Out	Serial I/F ground, channel C
50	Out	Serial I/F ground, channel D
51	Out	Serial I/F ground, channel B
52	Out	Serial I/F ground, channel B
62	Out	Enables I/O space addressing
63	Out	RS–449 tri–state, channel C
64	Out	RS–449 tri–state, channel D
65	Out	RS–449 tri–state, channel A
66	Out	RS–449 tri–state, channel B
67	Out	TX clock from DCE, channel A
68	In	TX clock from DCE, channel B
69	In	TX clock from DCE, channel C
70	Out	TX clock from DCE, channel D
71	In	64K DMA range
72	Out	64K DMA range
73	Out	64K DMA range
74	In	64K DMA range
75	Out	64K DMA range
76	In	64K DMA range

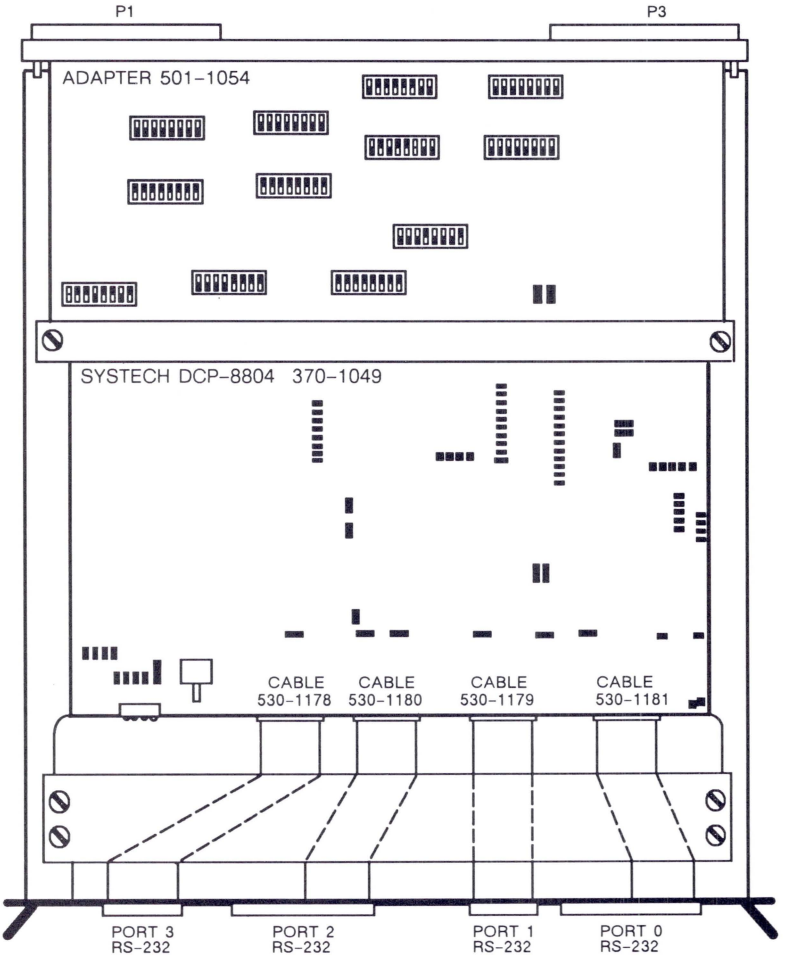
*Jumper 45 is OUT for the DCP0 board at address 800 and IN for the DCP1 board at address 810.

370–1049
Jumper Settings – Continued

JUMPER	SETTING	DESCRIPTION
ADR10	In/Out	Address compare
11	In/Out	Address compare
12	In/Out	Address compare
13	In/Out	Address compare
14	In/Out	Address compare
15	In/Out	Address compare
16	In/Out	Address compare
17	In/Out	Address compare
I/OADR8	Out	I/O address compare
9	Out	I/O address compare
A	Out	I/O address compare
B	In	I/O address compare
C	Out	I/O address compare
D	Out	I/O address compare
E	Out	I/O address compare
F	Out	I/O address compare
INT0	Out	Interrupt level 0
1	Out	Interrupt level 1
2	Out	Interrupt level 2
3	In	Interrupt level 3
4	Out	Interrupt level 4
5	Out	Interrupt level 5
6	Out	Interrupt level 6
7	Out	Interrupt level 7
OPT0	In	Short self–test
1	Out	Reserved
2	Out	Reserved
3	Out	Reserved

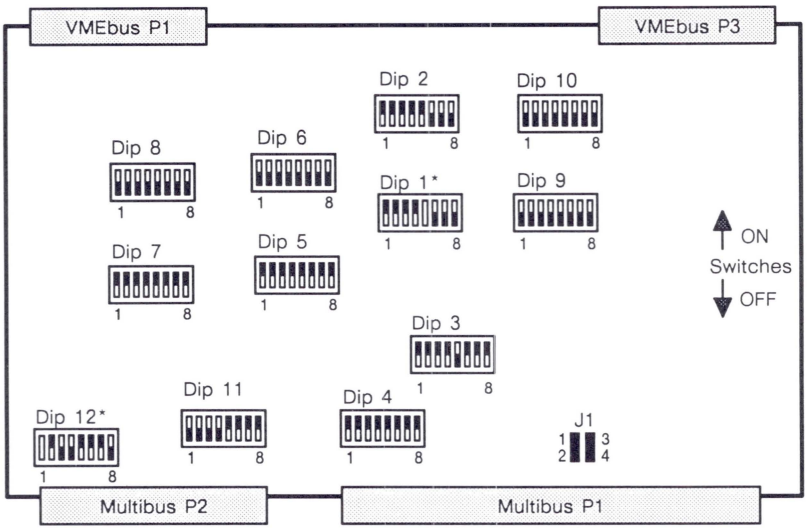
VMEbus to Multibus Adapter with Systech DCP–8804

Sun–3/110/140/150/160/180
Sun–3/260/280/460/470/480
501–1158



Power: 5.6 Amps @ +5Vdc
0.2 Amps @ +12Vdc
0.1 Amps @ –12Vdc
31.6 Watts

VMEbus to Multibus Adapter with Systech DCP-8804
501-1158



VME TO MULTIBUS ADAPTER BOARD SWITCH SETTINGS									
SWITCH	1	2	3	4	5	6	7	8	Description
U1	N/C	ON	ON	ON	*	OFF	OFF	OFF	I-O Address = 0x800
U2	N/C	ON	ON	ON	ON	OFF	OFF	OFF	I-O Space = 16
U3	ON	ON	ON	ON	OFF	ON	ON	ON	I-O Address = 0x0800
U4	ON	ON	ON	ON	ON	ON	ON	ON	VME I-O Space
U5	ON	ON	ON	ON	ON	ON	ON	ON	24-Bit Memory Address Space
U6	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	24-Bit Memory Block Size
U7	ON	ON	ON	ON	ON	ON	ON	ON	24-Bit Memory Address Space
U8	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	24-Bit Memory Block Size
U9	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	No connection
U10	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	No connection
U11	OFF	OFF	OFF	OFF	ON	ON	ON	ON	Sets Address Bits A23 Thru A20
U12	*	ON	OFF	OFF	ON	ON	ON	OFF	Interrupt Vector = 0x8C
J1	PINS 1-2		IN	If BCLK is desired					
	PINS 3-4		IN	If CCLK is desired					

* DCP0, U1, 5, ON and U12, 1, ON.
DCP1, U1, 5 OFF and U12, 1, OFF

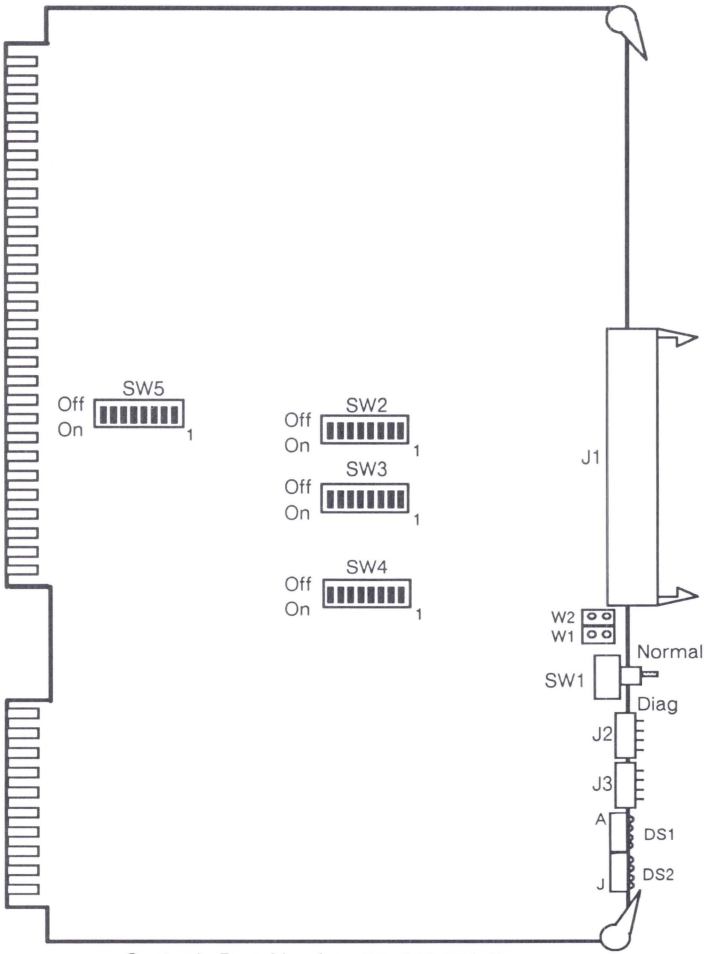
Systech MTI-800/1600 Controller

Asychronous Line Multiplexer 1 (ALM-1)

Sun-3/150/160/180/260/280/460/470/480

Sun-4/260/280

370-1047



Systech Part Number 65-200004-7

370–1047
Switch Settings

mti0 Defaults

DIP	SWITCH	SETTING	DESCRIPTION
SW2	1	Off	Address select A15
	2	Off	Address select A14
	3	Off	Address select A13
	4	Off	Address select A12
	5	Off	Address select A11
	6	On	Address select A10
	7	On	Address select A9
	8	Off	Address select A8
SW3	1	Off	Address select A7
	2*	Off	Address select A6
	3*	On	Address select A5
	4	Off	Address select A4
	5	Off	Address select A3
	6	Off	Select 16–bit addresses
	7	Off	One stop bit
	8	On	One stop bit
SW4	1	Off	Odd parity
	2	Off	No parity
	3	On	8–bit characters
	4	On	8–bit characters
	5	On	|
	6	On	9600 baud
	7	On	
	8	Off	|
SW5	1	Off	Interrupt level 0
	2	Off	Interrupt level 1
	3	Off	Interrupt level 2
	4	Off	Interrupt level 3
	5	On	Interrupt level 4
	6	Off	Interrupt level 5
	7	Off	Interrupt level 6
	8	Off	Interrupt level 7

* Mti0 at 0x0620, Dip SW3, Switch–2, ON, Switch–3, ON
Mti1 at 0x0640, Dip SW3, Switch–2, ON, Switch–3, OFF
Mti2 at 0x0660, Dip SW3, Switch–2, ON, Switch–3, ON

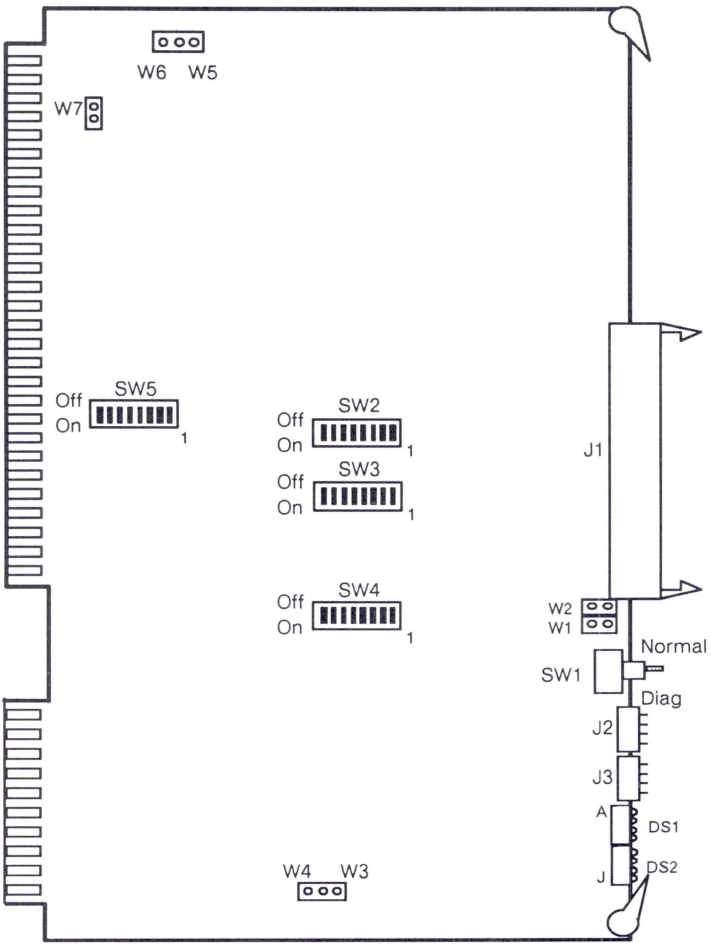
Systech MTI-850/1650 Controller

Asychronous Line Multiplexer 1 (ALM-1)

Sun-3/150/160/180/260/280/460/470/480

Sun-4/260/280

370-1099



Systech Part Number 65-201004-8

370–1099
Switch Settings

mti0 Defaults

DIP	SWITCH	SETTING	DESCRIPTION
SW2	1	Off	Address select A15
	2	Off	Address select A14
	3	Off	Address select A13
	4	Off	Address select A12
	5	Off	Address select A11
	6	On	Address select A10
	7	On	Address select A9
	8	Off	Address select A8
SW3	1	Off	Address select A7
	2*	Off	Address select A6
	3*	On	Address select A5
	4	Off	Address select A4
	5	Off	Address select A3
	6	Off	Select 16–bit addresses
	7	Off	One stop bit
	8	On	One stop bit
SW4	1	Off	Odd parity
	2	Off	No parity
	3	On	8–bit characters
	4	On	8–bit characters
	5	On	|
	6	On	9600 baud
	7	On	
	8	Off	|
SW5	1	Off	Interrupt level 0
	2	Off	Interrupt level 1
	3	Off	Interrupt level 2
	4	Off	Interrupt level 3
	5	On	Interrupt level 4
	6	Off	Interrupt level 5
	7	Off	Interrupt level 6
	8	Off	Interrupt level 7

* Mti0 at 0x0620, Dip SW3, Switch–2, ON, Switch–3, ON
Mti1 at 0x0640, Dip SW3, Switch–2, ON, Switch–3, OFF
Mti2 at 0x0660, Dip SW3, Switch–2, ON, Switch–3, ON

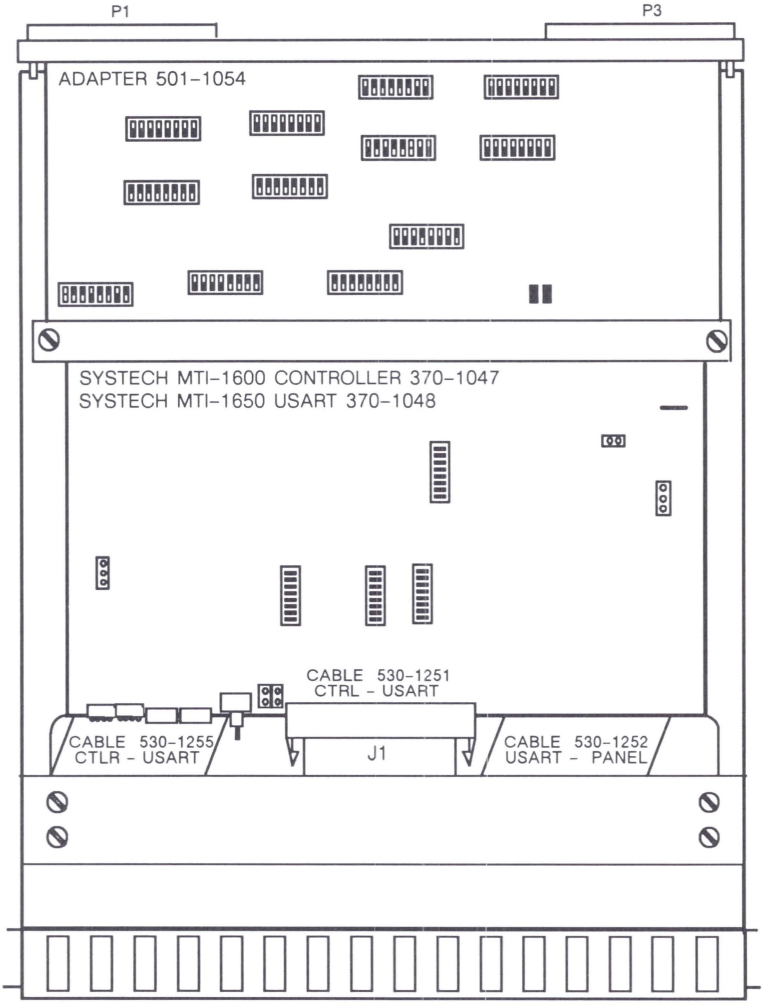
370–1099
Switch Settings – Continued

SHUNTS	SETTINGS	DESCRIPTION
W1	Out	+12Vdc routing to data cable disabled
W2	Out	–12Vdc routing to data cable disabled
W3	In	Normal transfer acknowledge delay
W4	Out	Extra 100 nsec delay during transfer acknowledge
W5	Out	Byte swap enable
W6	In	Byte swap disable
W7	In	Enable BPRO

References
1. *Sun–3/180 16–Channel Asynchronous Line Multiplexer Configuration Procedures*, 813–2008.
2. *Asynchronous Line Multiplexer Configuration Procedures*, 813–2003.

VMEbus to Multibus Adapter with Systech MTI–1600

Sun–3/150/160/260/460/470 & Sun–4/260/360
501–1157–01

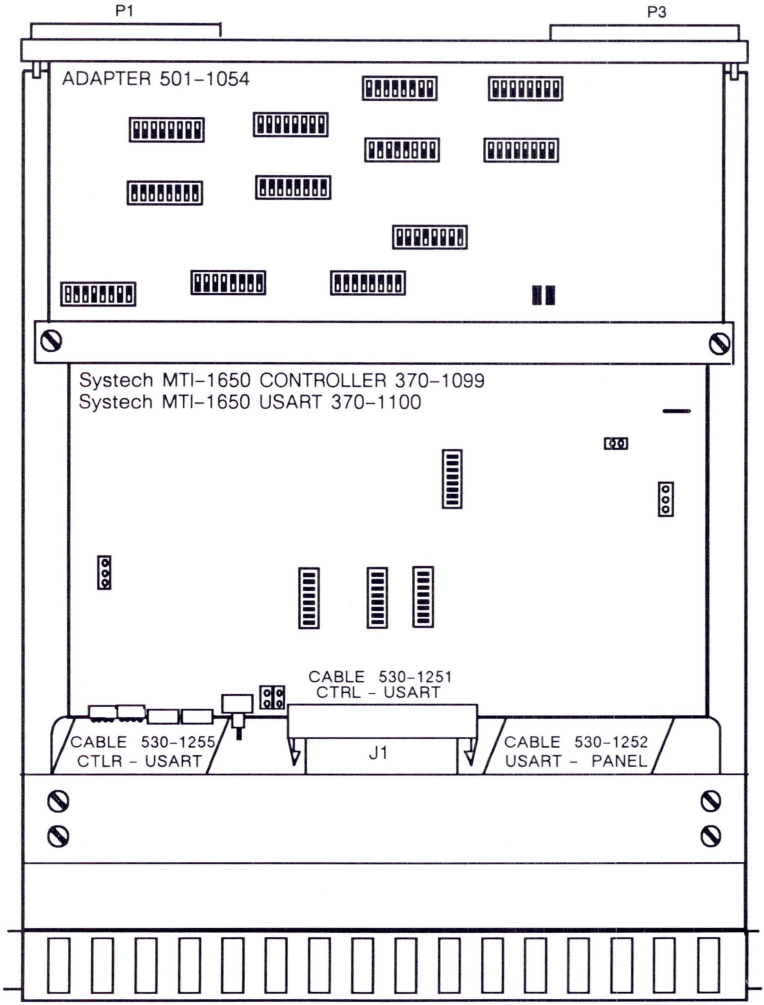


Power: 7.1 Amps @ +5Vdc
0.6 Amps @ +12Vdc
0.4 Amps @ –12Vdc
47.5 Watts

VMEbus to Multibus Adapter with Systech MTI–1650

Sun–3/150/160/260/460/470 & Sun–4/260/360

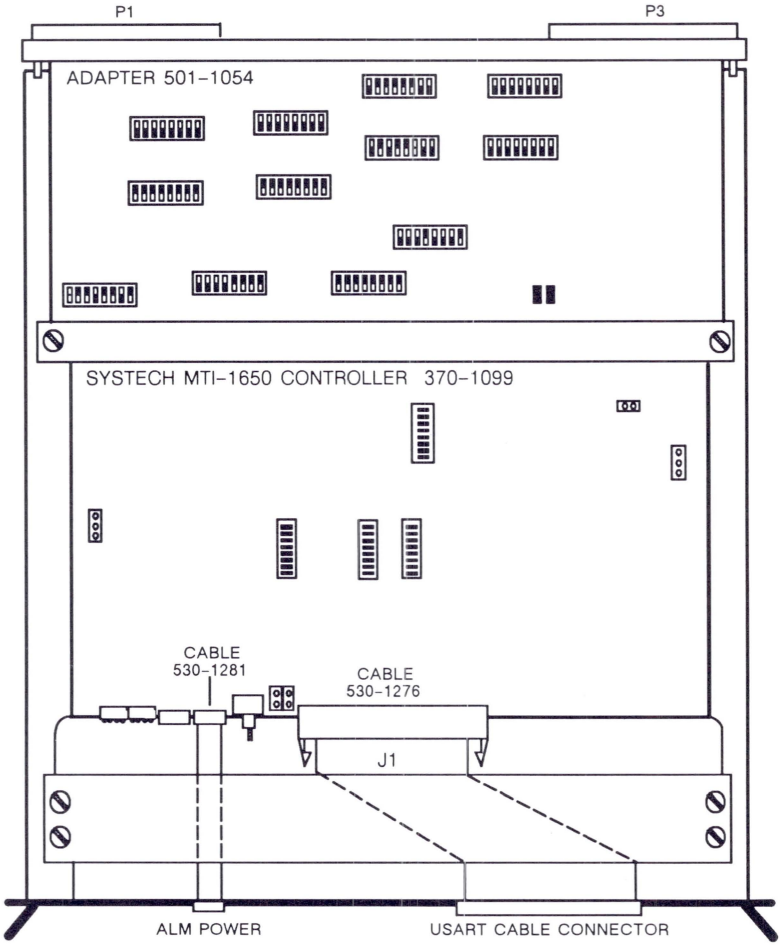
501–1157–02



Power: 7.1 Amps @ +5Vdc
0.6 Amps @ +12Vdc
0.4 Amps @ –12Vdc
47.5 Watts

VMEbus to Multibus Adapter with Systech MTI-1650A

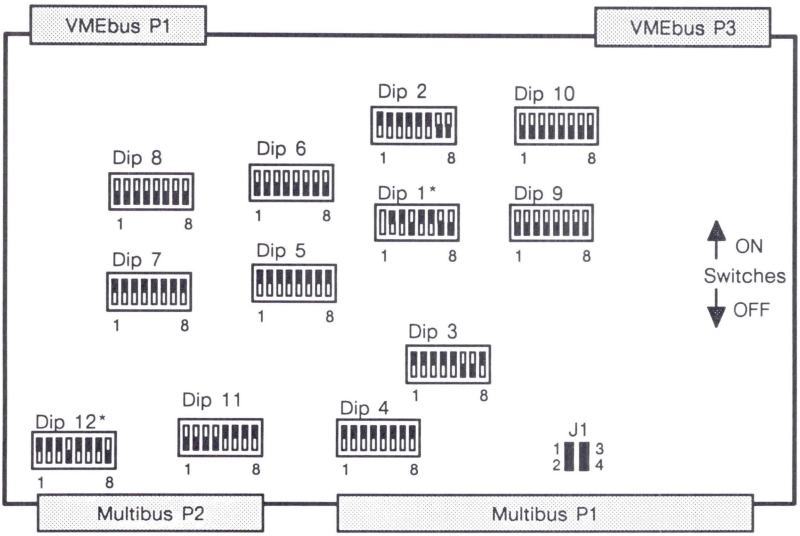
Sun-3/160/180/260/280/460/470/480
Sun-4/260/280/360/380
501-1165



Power: 7.1 Amps @ +5Vdc
0.6 Amps @ +12Vdc
0.4 Amps @ -12Vdc
47.5 Watts

VMEbus to Multibus Adapter with Systech MTI-1650A

501-1157 501-1165



VME TO MULTIBUS ADAPTER BOARD SWITCH SETTINGS									
SWITCH	1	2	3	4	5	6	7	8	DESCRIPTION
U1*	N/C	ON	ON	OFF	ON	ON	OFF	OFF	I-O Address
U2	N/C	ON	ON	ON	ON	ON	OFF	OFF	I-O Space = 2
U3	ON	ON	ON	ON	ON	OFF	OFF	ON	I-O Address = 0xEE
U4	ON	ON	ON	ON	ON	OFF	OFF	ON	VME I-O Space
U5	ON	ON	ON	ON	ON	ON	ON	ON	24-Bit Memory Address Space
U6	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	24-Bit Memory Block Size
U7	ON	ON	ON	ON	ON	ON	ON	ON	24-Bit Memory Address Space
U8	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	24-Bit Memory Block Size
U9	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	No connection
U10	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	No connection
U11	OFF	OFF	OFF	OFF	ON	ON	ON	ON	Sets Address Bits A23 Thru A20
U12*	ON	ON	ON	OFF	ON	ON	ON	OFF	Interrupt Vector
J1	PINS 1-2		IN	If BCLK is desired					
	PINS 3-4		IN	If CCLK is desired					

* For mti1 (second board): U1, 2,4,5,& 6 are ON; U12, 2,3,5,6 & 7 are ON.
For mti2 (third board): U1, 2,5, & 6 are ON; U12 1,3,5,6, & 7 are ON.

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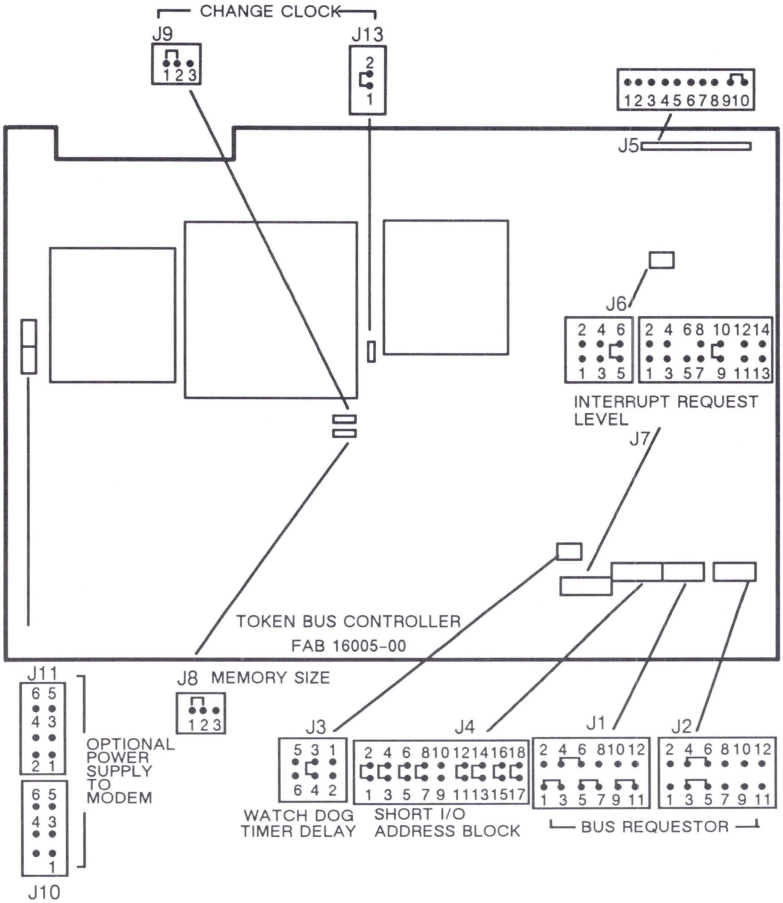
MAPKIT

Sun–3/110/140/150/160/180/260/280/460/470/480
Sun–4/260/280/390
501–1202*



*Sun supplies the adapter board, 501–1202, required for MAPKIT installation. The INI Token Bus Controller and Modem boards are not supplied by Sun.

Note: Install the INI Token Bus Controller in the left slot of the adapter board. Install the INI Token Bus Modem in the right slot of the adapter board.

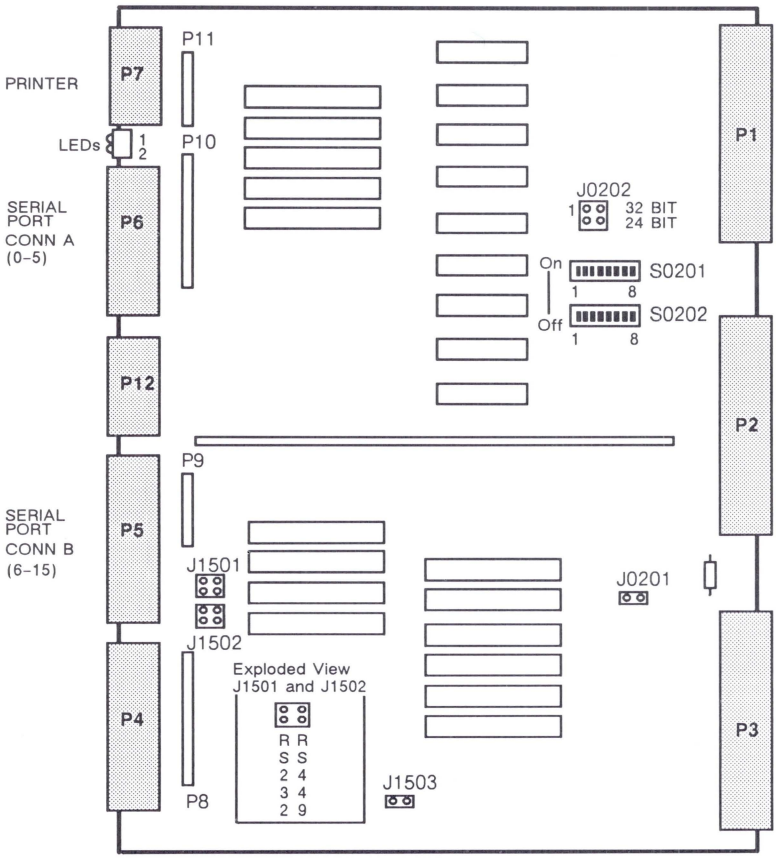
501–1202
Jumper Settings

JUMPER	PINS	VALUE	DESCRIPTION
J1	1–3 4–6 5–7 9–11	3	Bus request level
J2	3–5 4–6	3	Bus request level
J3	3–4	16 sec	Watchdog timer
J4	1–2 3–4 5–6 7–8 11–12 13–14	0X900	Short I/O address
J5	9–10	Bus Boot	Boot configuration
J6	5–6	3	VME host interrupt
J7	9–10	3	VME host interrupt
J8	1–2	512K	Memory size
J9	2–1	Normal	Clock parameters
J13	1–2	Normal	Clock parameters

Power: 4.9 Amps @ +5Vdc
0.3 Amps @ +12Vdc
0.1 Amps @ –12Vdc
29.3 Watts

Reference: Sun MAPkit Board Configuration Procedures, 813–2029.

Asynchronous Line Multiplexor–2
(ALM–2)
Sun–3/110/140/150/160/180/260/280/460/470/480
Sun–4/110/150/260/280/310/330/350/360/370/380
Sun–4/390/470/490
501–1203



Power: 7.0 Amps @ +5Vdc
0.2 Amps @ –5Vdc
36.0 Watts

Note: An addressing conflict can occur between the ALM–2 and the MCP and ALM–1. Refer to the VME Installation Notes in the Slot Assignment Section.

501-1203
Jumper & Switch Settings

JUMPER	PINS	SETTING	DESCRIPTION
J0201	1-2	In	Test jumper for oscillator
J0202	32 Bit 24 Bit	In Out	VME address bus size
J1501	RS-232 RS-449	In Out	Enables RS-232 for ALM-2 Not used for ALM-2
J1502	RS-232 RS-449	In Out	Enables RS-232 for ALM-2 Not used for ALM-2
J1503	1-2	In	Test jumper for oscillator

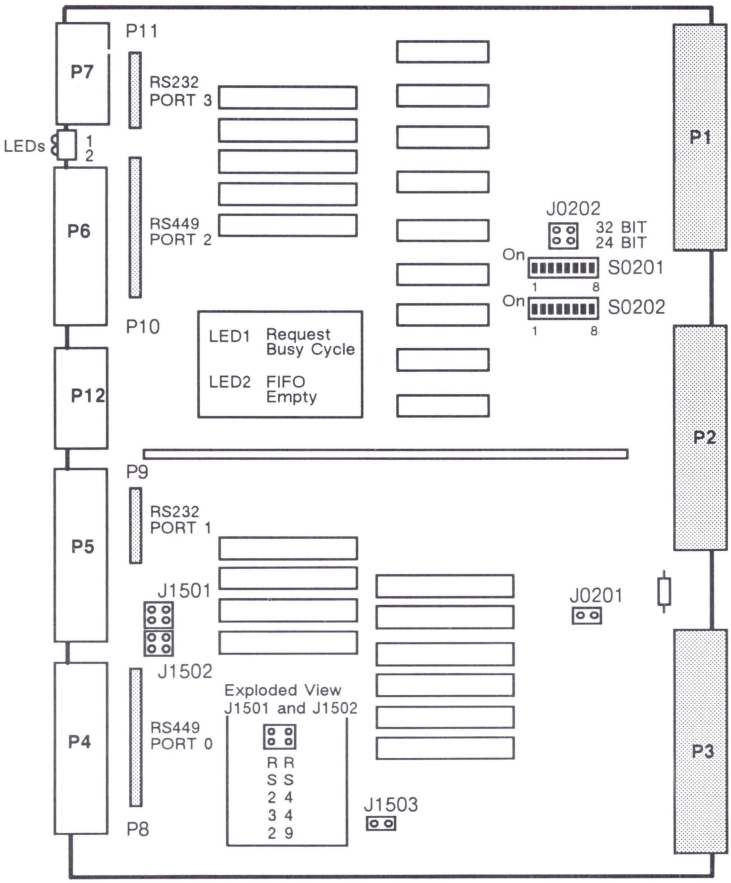
DIP SWITCH	SWITCH	SETTING	ADDRESS BIT	DESCRIPTION
S0201 S0202	3-8 3-8	On On	A18-A23 A26-A31	mcp0-mcp7 mcp0-mcp7
S0202 S0202	1 2	Off On	A24 A25	mcp0-mcp3 mcp0-mcp3
S0202 S0202	1 2	On Off	A24 A25	mcp4-mcp7 mcp4-mcp7
S0201 S0201	1 2	On On	A16 A17	mcp0 (0x01000000) & mcp4 (0x02000000) mcp0 (0x01000000) & mcp4 (0x02000000)
S0201 S0201	1 2	Off On	A16 A17	mcp1 (0x01010000) & mcp5 (0x02010000) mcp1 (0x01010000) & mcp5 (0x02010000)
S0201 S0201	1 2	On Off	A16 A17	mcp2 (0x01020000) & mcp6 (0x02020000) mcp2 (0x01020000) & mcp6 (0x02020000)
S0201 S0201	1 2	Off Off	A16 A17	mcp3 (0x01030000) & mcp7 (0x02030000) mcp3 (0x01030000) & mcp7 (0x02030000)

Notes
1. The Sun-3/110 and Sun 3004 CPU must be 501-1134-06, 501-1163-09, 501-1164-09, or greater. All 501-1208 and 501-1209 revisions are useable.
2. When four or more ALM-2 boards are installed in a system, the part number must be ≥501-1203-05 because of the mechanical fit of the data cables.

Reference
16-Channel Asynchronous Line Multiplexor-2 Configuration Procedures, 813-2042.

Multiprotocol Communication Processor (MCP)

Sun–3/110/140/150/160/180/260/280/460/470/480
Sun–4/110/150/260/280/310/330/350/360/370/380
Sun–4/390/470/490
501–1221



Power: 7.0 Amps @ +5Vdc
0.2 Amps @ –5Vdc
36.0 Watts

Note: An addressing conflict can occur between the MCP and the ALM–1 and ALM–2. Refer to the VME Installation Notes in the Slot Assignment Section.

501-1221
Jumper & Switch Settings

JUMPER	PINS	SETTING	DESCRIPTION
J0201	1-2	In	Test jumper for oscillator
J0202	32 Bit 24 Bit	In Out	VME address bus size
J1501	RS-232 RS-449	Out In	Not used for MCP Enables RS-449 Port 0
J1502	RS-232 RS-449	Out In	Not used for MCP Enables RS-449 Port 1
J1503	1-2	In	Test jumper for oscillator

Address Select Switches

DIP SWITCH	SWITCH	SETTING	DESCRIPTION
S0202	1 2-8	Off On	VME address A24-A31
S0201 S0201	1 2	On On	Board 0 VME address A16-A17 (0x1000000)
S0201 S0201	1 2	Off On	Board 1 VME address A16-A17 (0x1010000)
S0201 S0201	1 2	On Off	Board 2 VME address A16-A17 (0x1020000)
S0201 S0201	1 2	Off Off	Board 3 VME address A16-A17 (0x1030000)
S0201	3-8	On	VME address A18-A23

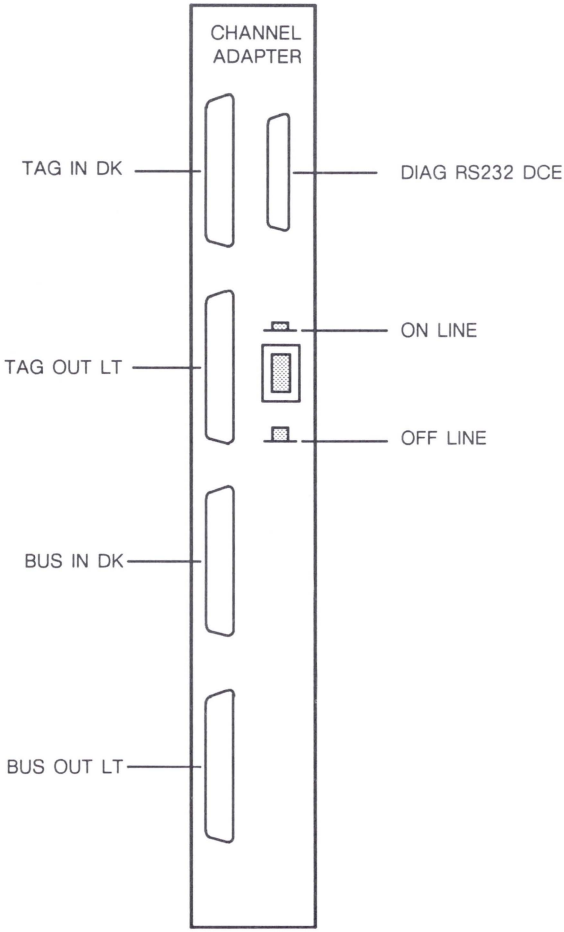
Note: The Sun-3/110 and Sun 3004 CPU must be 501-1134-06, 501-1163-09, 501-1164-09, or greater. All 501-1208 and 501-1209 revisions are usable.

Reference
SunLink Multiprotocol Communication Processor Configuration Procedures, 813-2032.

SunLink Channel Adapter

Board Set

Sun–3/150/160/180/260/280/460/470/480
Sun–4/260/280/350/360/370/380/390/470/490
370–1128 501–1460



Power: 8.6 Amps @ +5Vdc
43.0 Watts

370–1128 501–1460

Notes

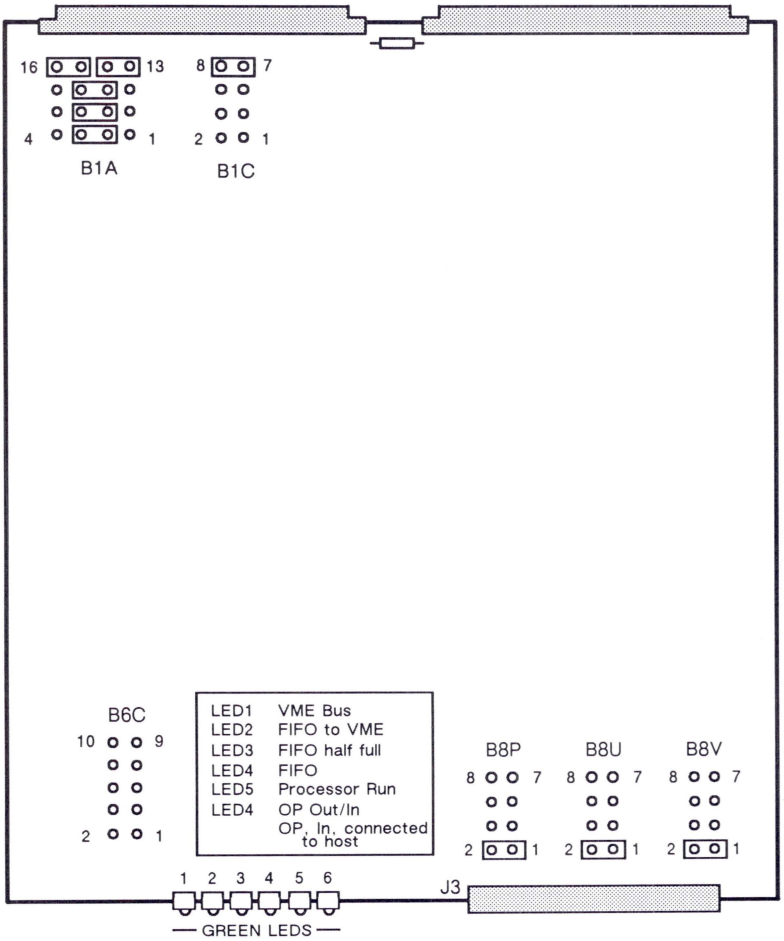
1. Replace 370–1128 with 501–1460. Refer to FCO A0003–1.
2. The Sun–3/110 and Sun 3004 CPU must be 501–1134–06, 501–1163–09, 501–1164–09, or greater. All 501–1208 and 501–1209 revisions are usable.
3. In Sun–3/2XX systems with multiple SCA boards, the CPU must be 501–1100–08, 501–1206–06, or greater.
4. The SunLink Channel Adapter must be ≥501–1460–02 for use with the Sun 3400 CPU.
5. The Sun FDDI Board must be ≥501–1276–02 for use with the SunLink Channel Adapter.
6. SunLink Release 7.0 Channel Gateway is required for use with the Sun 3400 CPU.
7. The Sun 3400 CPU must be ≥501–1550–10 for use with the SunLink Channel Adapter.
8. The Sun 4200 CPU, 501–1274 must be ≥501–1274–13 for use with the SunLink Channel Adapter.

Reference

SunLink Channel Adapter Configuration Procedures, 813–2040.

SunLink Channel Adapter

IBD Board

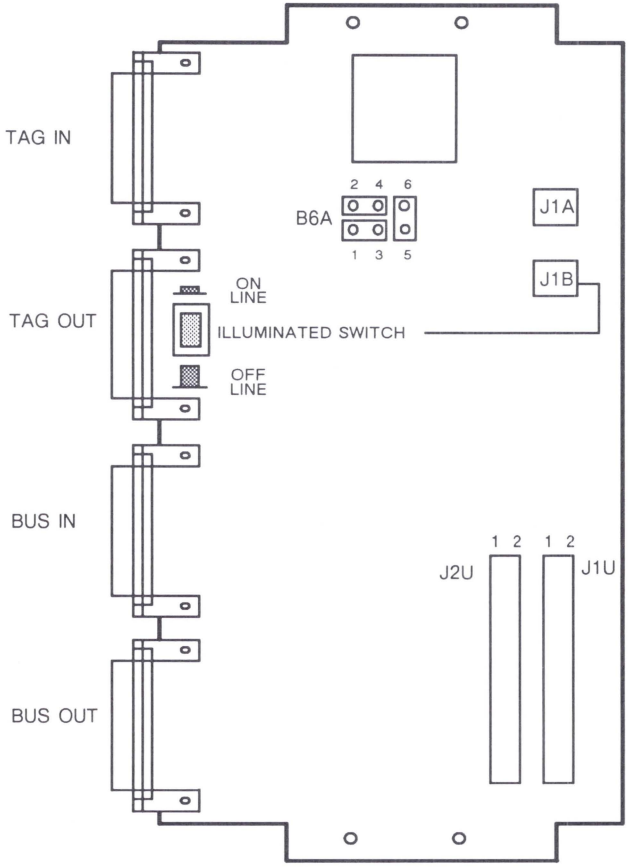


IBD Board
Jumper Settings

JUMPER	PINS	SETTINGS	DESCRIPTION
B1C	7–8 Others	In Out	VME bus request level BR gives level 3
B1A	2–3 6–7 10–11 13–14 15–16	In In In In In	Bus grant In/Out BG0/BG3 gives level 3
B6C	All	Out	VME bus data transfer timeout
B8P	1–2 3–4 5–6 7–8	In Out Out Out	Local processor external bus page selection BS gives page 0
B8U	1–2 3–4 5–6 7–8	In Out Out Out	Interrupt acknowledge page selection IACK gives page 0
B8V	1–2 3–4 5–6 7–8	In Out Out Out	Interrupt request page selection IREQ gives page 0 and must be the same as IACK

SunLink Channel Adapter

CIO Board

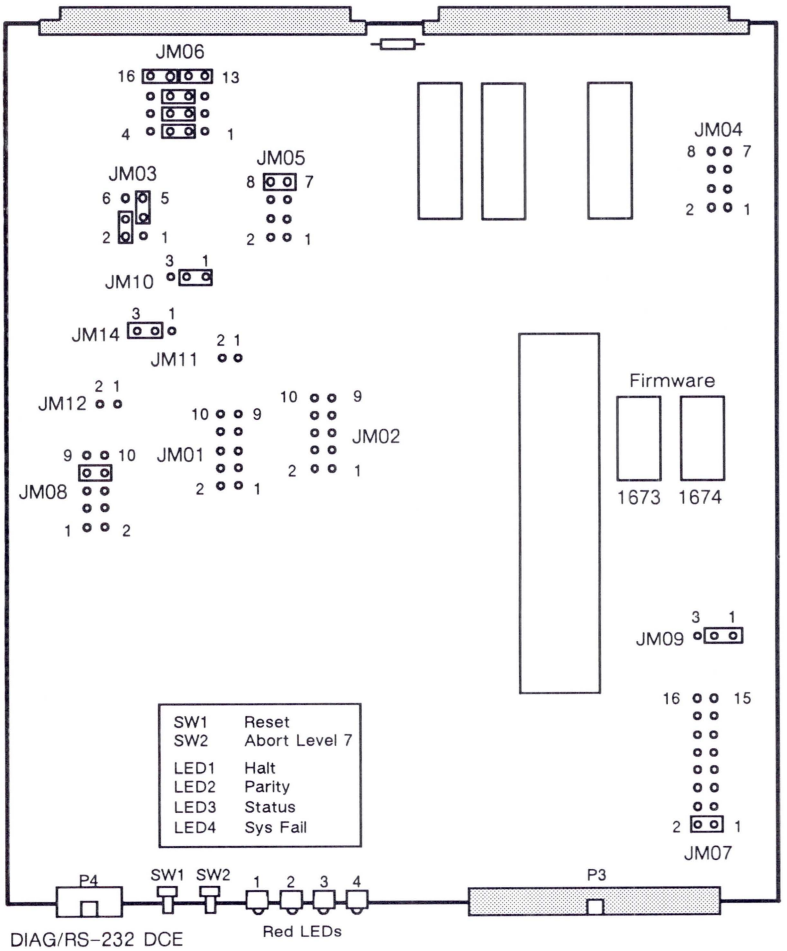


CIO Board
Jumper Settings

JUMPER	PINS	SETTINGS	DESCRIPTION
B6A	1–3 2–4 5–6	2 4 6 1 3 5	Channel to mainframe priority select Out/In (gives Select–Out) Factory setting
B6A	1–2 3–5 4–6	2 4 6 1 3 5	Channel to mainframe priority select (gives Select–In)

SunLink Channel Adapter

LCP Board

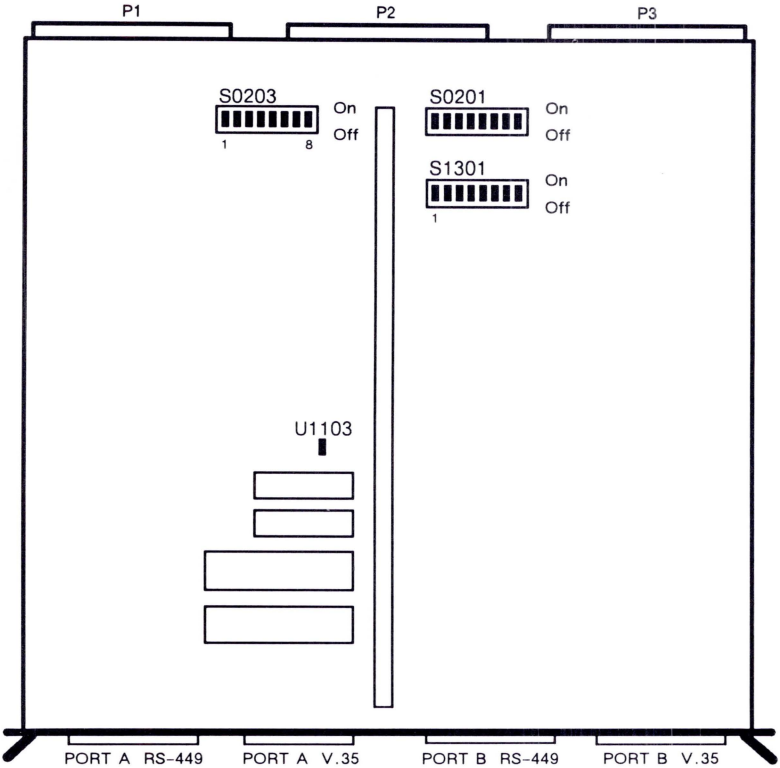


LCP Board
Jumper Settings

JUMPER	PINS	SETTING	DESCRIPTION
JM01	All	Out	VME BERR timeout 67.1 seconds
JM02	All	Out	VME LBERR timeout 107.4 seconds
JM03	2-4 3-5	In In	SYSRESET out disabled SYSRESET in disabled
JM04	1-2* 3-4 5-6 7-8	Out* Out Out Out	1-2, Out, for 1st board (chat0) 1-2, In, for 2nd board (chat1)
JM05	1-2 3-4 5-6 7-8	Out Out Out In	Bus Request level 0 Bus Request level 1 Bus Request level 2 Bus Request level 3
JM06	2-3 6-7 10-11 13-14 15-16	In In In In In	Select Bus Grant 3
JM07	1-2	In	Local DTACK delay 100ns
JM08	1-2 3-4 5-6 7-8 9-10	Out Out Out In Out	Unclaimed grant timeout 262ms
JM09	1-2 2-3	In Out	EPROM size 128KB
JM10	1-2 2-3	In Out	Arbitration - release when done
JM11	1-2	Out	System controller function enabled
JM12	1-2	Out	VMEbus priority arbitration
JM14	1-2 2-3	Out In	Minimum Address Strobe 60ns

High-speed Serial Interface (HSI)

Sun-3/110/140/150/180/260/280/460/470/480
Sun-4/110/150/260/280/330/350/390/470/490
501-1338



Power: 5.3 Amps @ +5Vdc
0.3 Amps @ -5Vdc
28.1 Watts

Notes
1. SCSI-3 Host Adapter must be ≥501-1120-07, ≥501-1170-07, ≥501-1217-04, or ≥501-1236-03.
2. Sun-3/110 CPU must be ≥501-1134-06.
3. Sun-3/140/150/160/180 CPU must be ≥501-1074-22, ≥501-1094-22, ≥501-1163-09, ≥501-1164-09, or any revision of 501-1208.
4. The minimum operating system is SunOS 4.0.

Reference
SunLink High-speed Serial Interface Board Installation/Service Manual, 813-1046-10.

501–1338
Switch & Jumper Settings

DIP SWITCH	SWITCH	SETTING	DESCRIPTION
SW020*	1	Off	Base address select A24
	2	On	Base address select A25
	3	On	Base address select A26
	4	On	Base address select A27
	5	On	Base address select A28
	6	On	Base address select A29
	7	On	Base address select A30
	8	On	Base address select A31
SW0203*	1	On	Base address select A16
	2	On	Base address select A17
	3	On	Base address select A18
	4	On	Base address select A19
	5	On	Base address select A20
	6	Off	Base address select A21 †
	7	On	Base address select A22 †
	8	On	Base address select A23
SW1301	1	On	Interrupt level 1
	2	On	Interrupt level 2
	3	Off	Interrupt level 3
	4	On	Interrupt level 4
	5	On	Interrupt level 5
	6	On	Interrupt level 6
	7	On	Interrupt level 7
	8	On	Not used

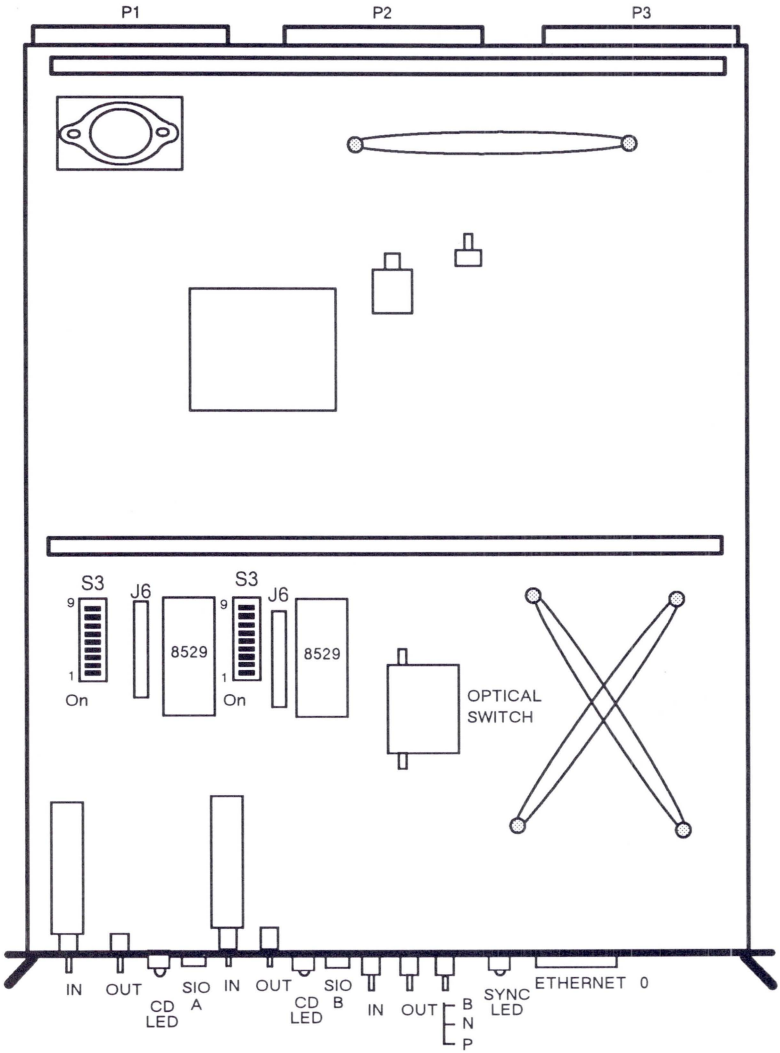
* The first HSI address is 0x01200000.
* The second HSI address is 0x01400000.
† SW–6 is On and SW–7 is Off for a second HSI.

Jumper U1103

PINS	SETTING	DESCRIPTION
1–2	In	Clock enable

Fiber Optic Ethernet Controller

Fibercom 027–100G6
Sun–3/160T
370–8012–01 370–8012–02



Reference
Fiber Optic Ethernet Transceiver Installation Guide for the Sun–3/160T Workstation, 800–8006.

370–8012
Switch Settings

Dip Switch 3

RTS Setting

DIP SWITCH	SETTING	DESCRIPTION
1	On* Off	RTS continuous RTS switched

Transmit Carrier Control

DIP SWITCH	SETTING	DESCRIPTION
2 3	Off* Off*	Continuous carrier
2 3	On On	Switched by RTS & DTR
2 3	Off Off	Switched by DTR
2 3	Off On	Switched by RTS

Clear To Send Delay

DIP SWITCH	SETTING	DESCRIPTION
4 5	Off* Off*	0 msec
4 5	Off On	8 msec
4 5	On Off	50 msec
4 5	On On	150 msec

* Factory Setting

370–8012
Switch Settings – Continued

Transmit Timing Source

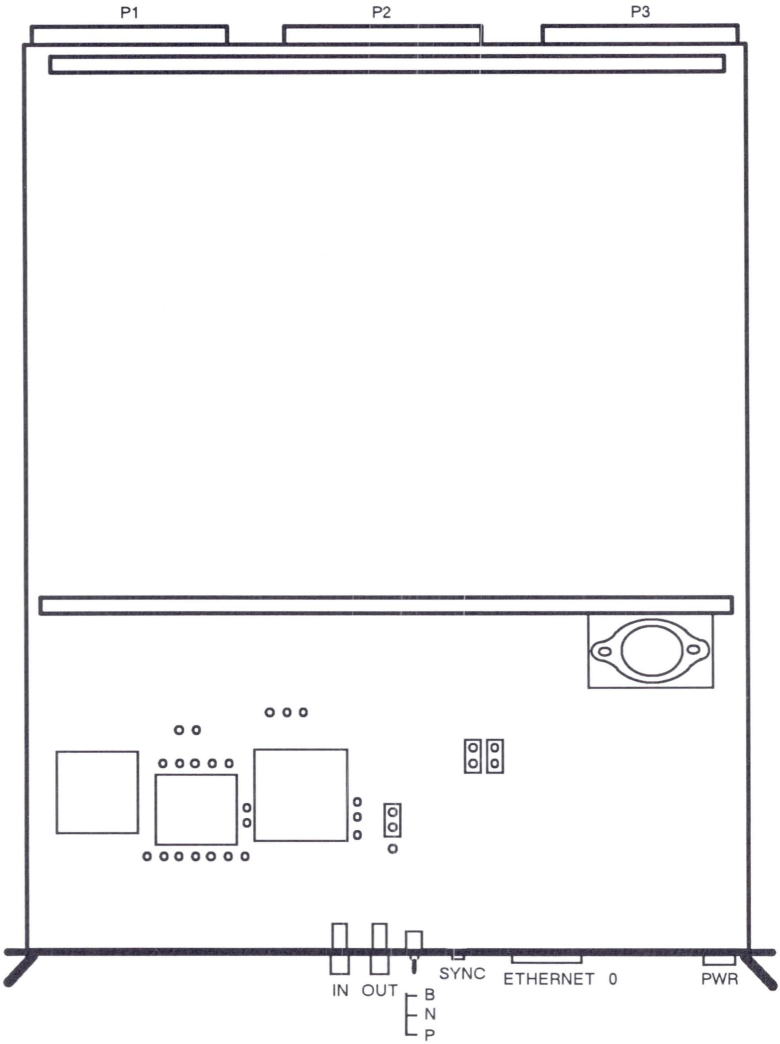
DIP	SETTING	DESCRIPTION
6	On*	Async
7	Off*	
8	Off*	
9	Off*	
6	On	External
7	Off	
8	Off	
9	On	
6	Off	Received
7	Off	
8	Off	
9	Off	
6	Off	300 Hz
7	Off	
8	Off	
9	Off	
6	Off	600 Hz
7	On	
8	Off	
9	Off	

DIP	SETTING	DESCRIPTION
6	Off	1200 Hz
7	Off	
8	On	
9	Off	
6	Off	2400 Hz
7	Off	
8	On	
9	On	
6	Off	4800 Hz
7	On	
8	Off	
9	Off	
6	Off	9600 Hz
7	On	
8	Off	
9	On	
6	Off	19200 Hz
7	On	
8	On	
9	Off	

* Factory Setting

Fiber Optic Ethernet Controller

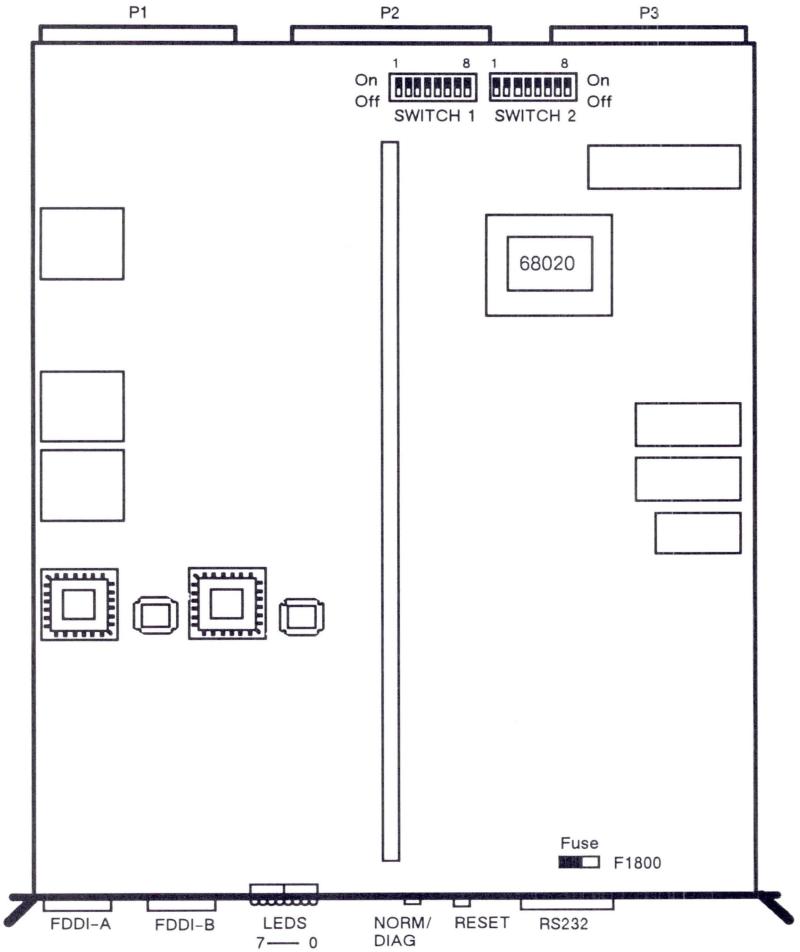
Fibercom 7501-01
Sun-3/160T
370-8012-03



Power: 0.6 Amps @ +12Vdc
7.2 Watts

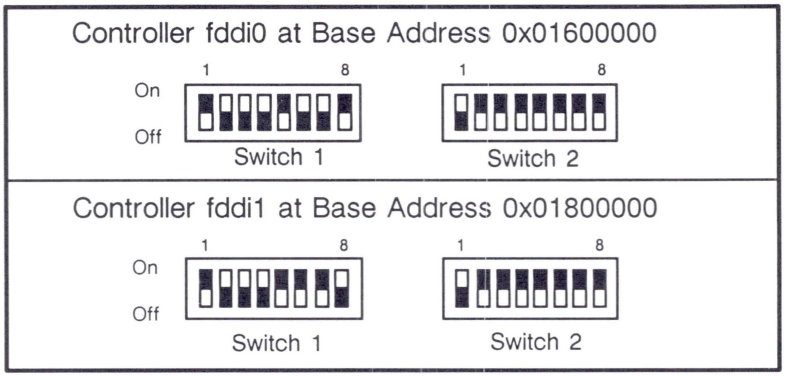
FDDI

Sun–3/150/180/260/280/460/470/480
Sun–4/110/150/260/280/330/350/390/470/490
501–1276



Power: 11.2 Amps @ +5Vdc
0.1 Amps @ –5Vdc
1.9 Amps @ +12Vdc
0.7 Amps @ –12Vdc
87.7 Watts

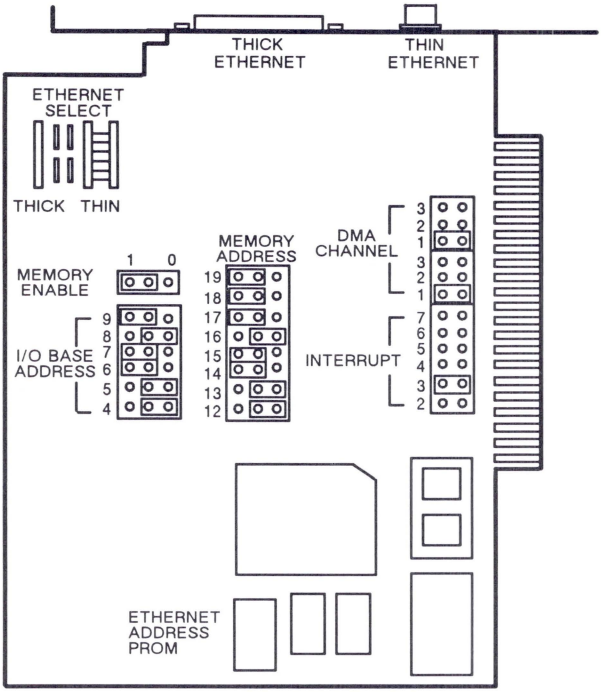
501–1276
Switch Settings



Notes
1. Diskless booting requires CPU EPROM 3.0 or greater.
2. The minimum operating system is SunOS 4.0.3.
3. The FDDI uses a 2A subminature fuse, 150–1174.
4. The Sun 3004 CPU must be 501–1163–09, 501–1164–09 or greater. All 501–1208 revisions are useable.
5. 501–1276–02 or greater is required for use with the SunLink Channel Adapter board.
6. The Sun–4/330 requires Power Supply 300–1072.
7. Set the FDDI controller Switch 1, Dip 1, to ON if the DMA uses 32–bit addresses. All Sun systems use 32–bit DMA.
8. Set the FDDI controller Switch 1, Dip 1, to OFF if the DMA uses 24–bit addresses.
9. Remove the BG3 and IACK jumpers from the backplane.

Reference
SunLight FDDI Dual–Attach Controller Card Configuration and Installation Manual, 813–1053.

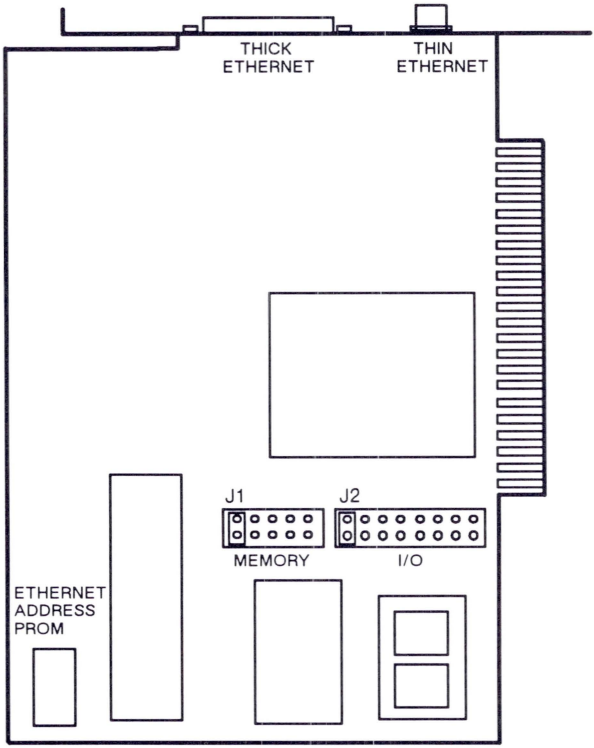
Etherlink I
3COM 3C501
370–1111



JUMPER	SETTING	DESCRIPTION
Memory Enable	1	EtherStart ROM installed
I/O Base Address	4–9	I/O base address (000H–3F0H) Address bits 4–9
Memory Address	12–19	Memory base address (00000H – FF000H) Address bits 12–19
DMA Channel	1–3	DMA channel select
Interrupt	2–7	Interrupt channel

Reference: *Etherlink I Installation Guide*, 814–5000.

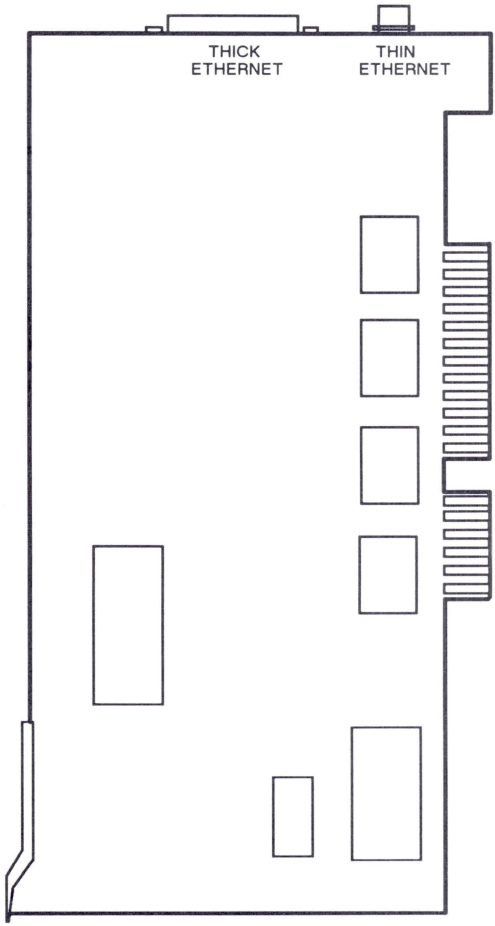
Etherlink I I
3COM 3C503
370–1180



JUMPER	SETTING	DESCRIPTION
J1	DC000H D8000H CC000H C8000H	Memory select/ Base address
J2	300H 310H 330H 350H 280H 2A0H 2E0H	I/O base address

Reference: *Etherlink II Installation Guide*, 814–5005.

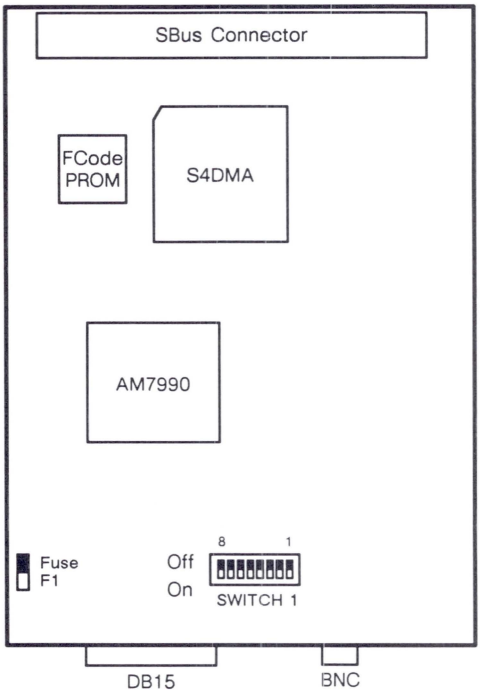
Etherlink/MC
3COM 3C523
370–1181



Note: There are no user selectable switches/jumpers on this board. Configuration parameters are set in the software file ETH523SYS.

Reference: *Etherlink/MC Installation Guide*, 814–5006.

Ethernet Controller
Sun–4/40/50/60/65/75
501–1450



Dip Switch 1

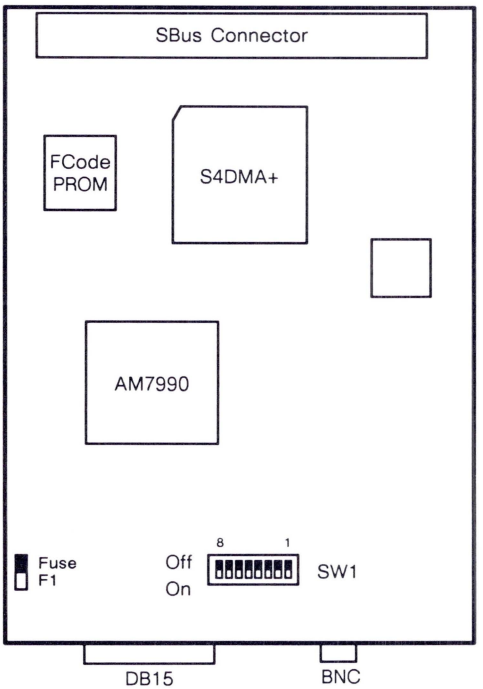
SWITCH	SETTING	DESCRIPTION
1–8	Off	Ethernet
1–8	On	Thin Ethernet

Power: 1.0 Amps @ +5Vdc
5.0 Watts not including MAU +12Vdc power requirements

Notes
1. Fuse F1 is a 2A subminiature fuse, part number 150–1174.
2. The Sun–4/60/65/75 supports one internal disk drive if the Ethernet MAU draws current from the +12Vdc output to Pin–13.

Reference: *Installing the SBus Ethernet Card*, 800–5161–10.

Ethernet Controller
Sun–4/40/50/60/65/75
501–1881



SW1

SWITCH	SETTING	DESCRIPTION
1–6	Off	Ethernet
1–6	On	Thin Ethernet
7–8	On	+12Vdc output on
7–8	Off	+12Vdc output off

Power: 1.0 Amps @ +5Vdc
5.0 Watts not including MAU +12Vdc power requirements

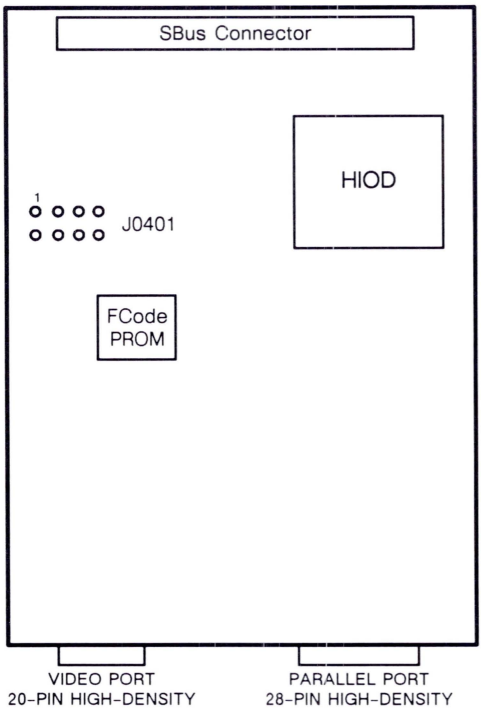
Notes
1. Fuse F1 is a 2A subminiature fuse, part number 150–1174.
2. The Sun–4/60/65/75 supports one internal disk drive if the Ethernet MAU draws current from the +12Vdc output to Pin–13.

Reference: *Installing the SBus Ethernet Card*, 800–6682–10.

SBus Printer

Sun–4/40/50/60/65/75

501–1540 501–1910



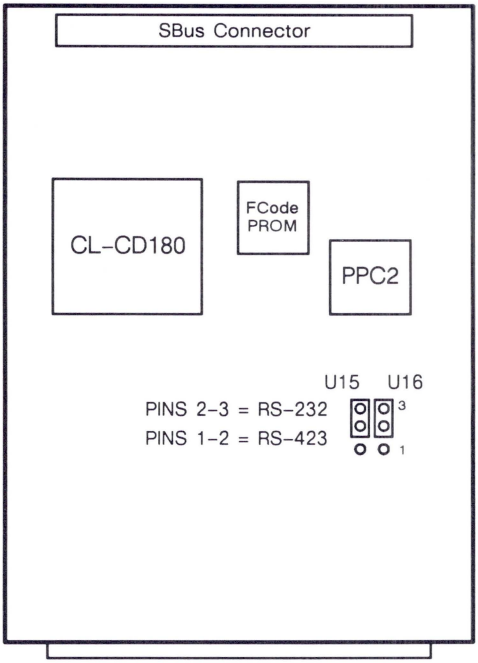
Power: 0.9 Amps @ +5Vdc
4.5 Watts

Notes
1. The minimum operating system requirement is SunOS 4.1.
2. The Sun–4/60 requires CPU EPROM 1.3 Version 3.
3. All J0401 pins are ground points.

Reference: *SBus Printer Card Installation Guide*, 800–4786.

Serial Parallel Controller

Sun–4/40/50/60/65/75
501–1511



U15 and U16 Jumper Settings

PINS	SETTING	DESCRIPTION
1–2	In	Select RS–423 (5Vdc)
2–3	In	Select RS–232 (12Vdc)

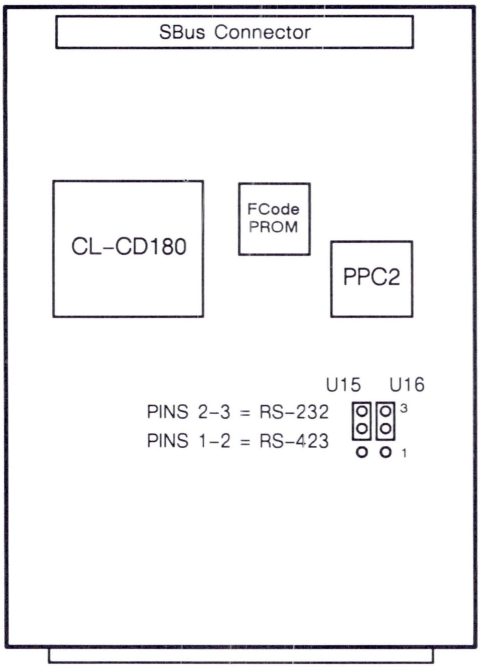
Power: 1.1 Amps @ +5Vdc
5.5 Watts

Note: The minimum operating system is SunOS 4.0.3c.

Reference: *Serial Parallel Controller Installation Guide*, 800–5246.

Serial Parallel Controller

Sun–4/40/50/60/65/75
501–1931



U15 and U16 Jumper Settings

PINS	SETTING	DESCRIPTION
1–2	In	Select RS–423 (5Vdc)
2–3	In	Select RS–232 (12Vdc)

Power: 1.1 Amps @ +5Vdc
5.5 Watts

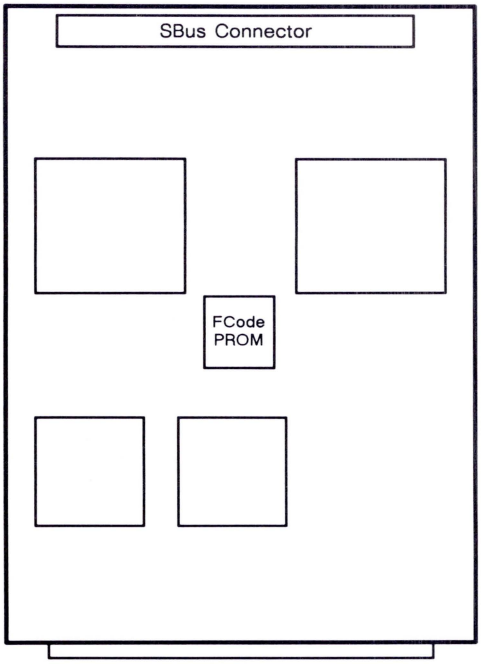
Notes
1. The minimum operating system is SunOS 4.0.3c.
2. The 501–1931 SPC/S card does not operate with SPC 1.0.

Reference: *Serial Parallel Controller Installation Guide*, 800–5246.

High Speed Serial Interface

Sun–4/40/50/60/65/75

501–1725



Power: 1.5 Amps @ +5Vdc
7.6 Watts

Note: The minimum operating system is SunOS 4.1.

Reference
High Speed Interface/SBus (HSI/S) Installation and Administration Guide, 800–5332.

SCSI

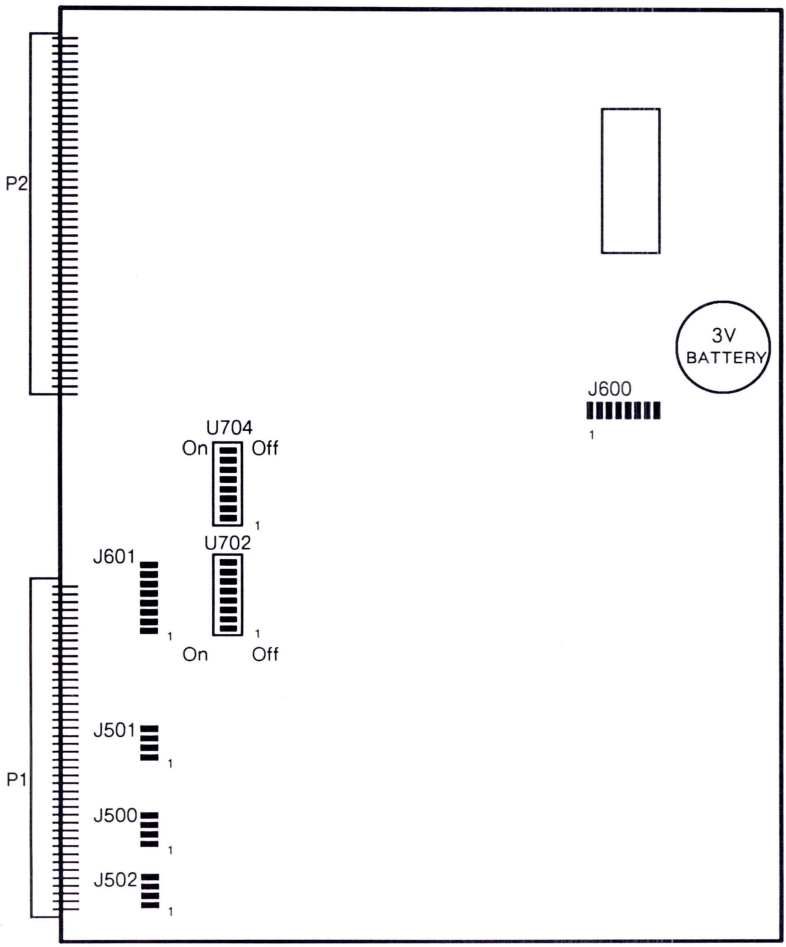
SCSI

SCSI

SCSI HOST ADAPTERS

Sun–2 SCSI Host Adapter

Sun–3/75/140/150/160/180/260/280
Sun–4/260/280
501–1045



Power: 2.8 Amps @ +5 Vdc
14.0 Watts

501–1045
Jumper & Switch Settings

JUMPER	PINS	SETTING	DESCRIPTION
J500	1–2	Out	Bus grant 0 In
	3–4	Out	Bus grant 1 In
	5–6	Out	Bus grant 2 In
	7–8	In	Bus grant 3 In
J501	1–2	Out	Bus request 0
	3–4	Out	Bus request 1
	5–6	Out	Bus request 2
	7–8	In	Bus request 3
J502	1–2	Out	Bus grant 0 Out
	3–4	Out	Bus grant 1 Out
	5–6	Out	Bus grant 2 Out
	7–8	In	Bus grant 3 Out
J600	1–2	Out	Interrupt level 0
	3–4	Out	Interrupt level 1
	5–6	In	Interrupt level 2
	7–8	Out	Interrupt level 3
	9–10	Out	Interrupt level 4
	11–12	Out	Interrupt level 5
	13–14	Out	Interrupt level 6
	15–16	Out	Interrupt level 7
J601	1–2	Out	Interrupt level 0
	3–4	Out	Interrupt level 1
	5–6	In	Interrupt level 2
	7–8	Out	Interrupt level 3
	9–10	Out	Interrupt level 4
	11–12	Out	Interrupt level 5
	13–14	Out	Interrupt level 6
	15–16	Out	Interrupt level 7

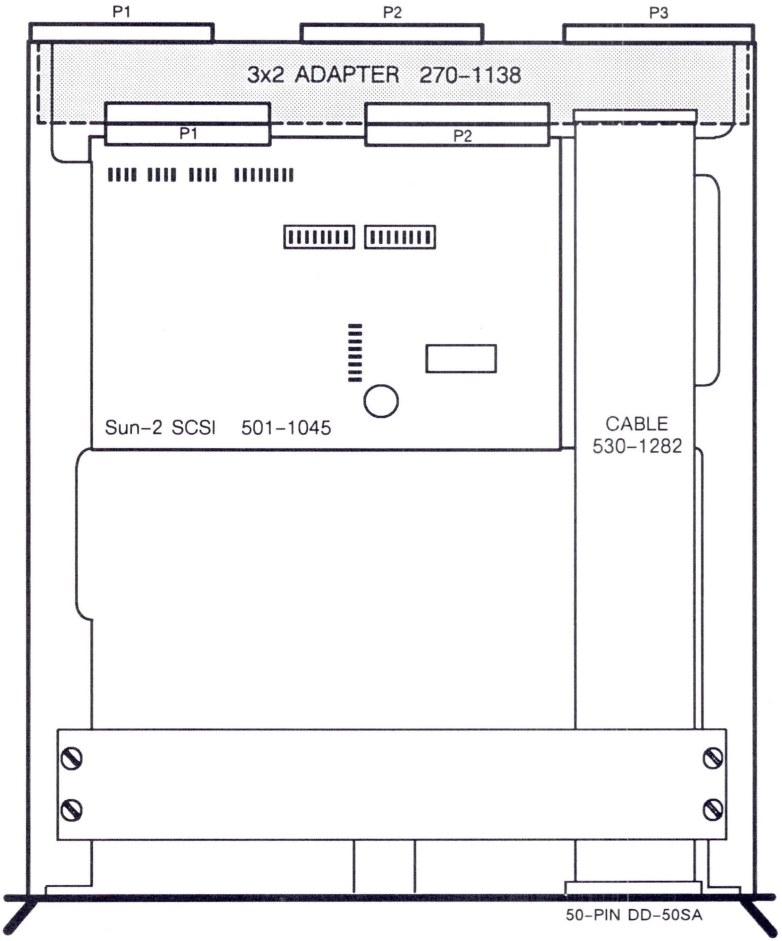
DIP SWITCH	SWITCH	SETTING	DESCRIPTION
U702*	1–4	On/Off	Not connected
	5–8	On	Address A12–A15
U704*	1–5	On	Address A16–A23
	6	Off	
	7–8	On	

*U702 and U704 set the base address to 0x200000 for the first SCSI.

Sun-2 SCSI Host Adapter Assembly

Sun-3/110/140/150/180/280/470/480
Sun-4/280
501-1138

without P2A & P2C



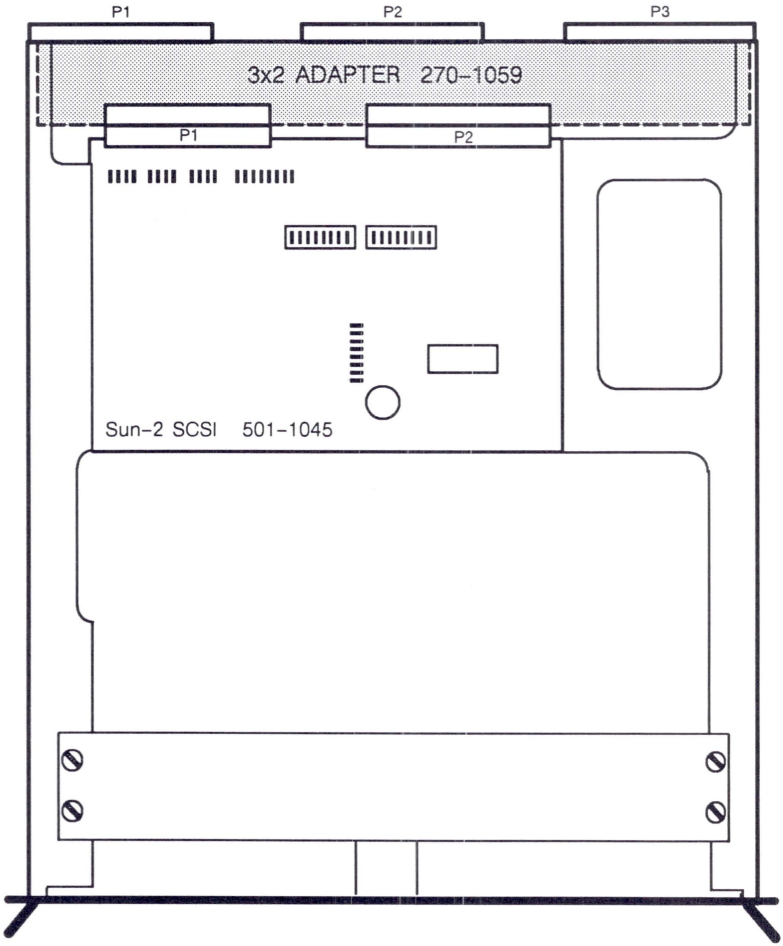
Power: 2.7 Amps @ +5 Vdc
13.5 Watts

Sun-2 SCSI Host Adapter Assembly

Sun-3/160/260/460 & Sun-4/260

501-1149

with P2A & P2C



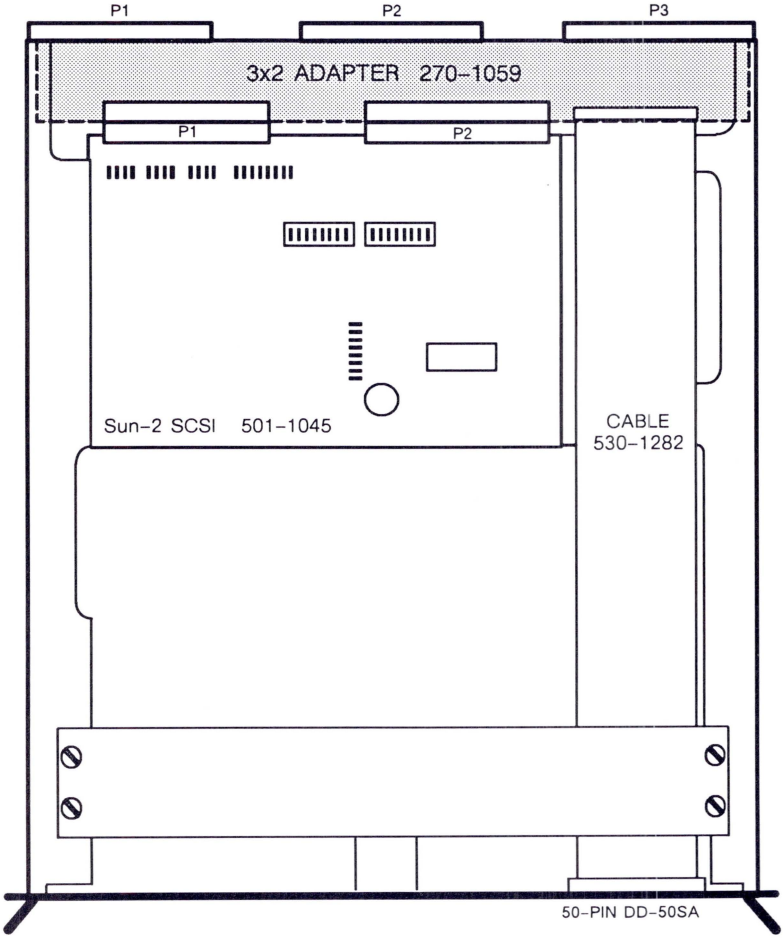
Power: 2.7 Amps @ +5 Vdc
13.5 Watts

Sun–2 SCSI Host Adapter Assembly

Sun–3/180/280 & Sun–4/280

501–1167

with P2A & P2C



Power: 2.7 Amps @ +5 Vdc
13.5 Watts

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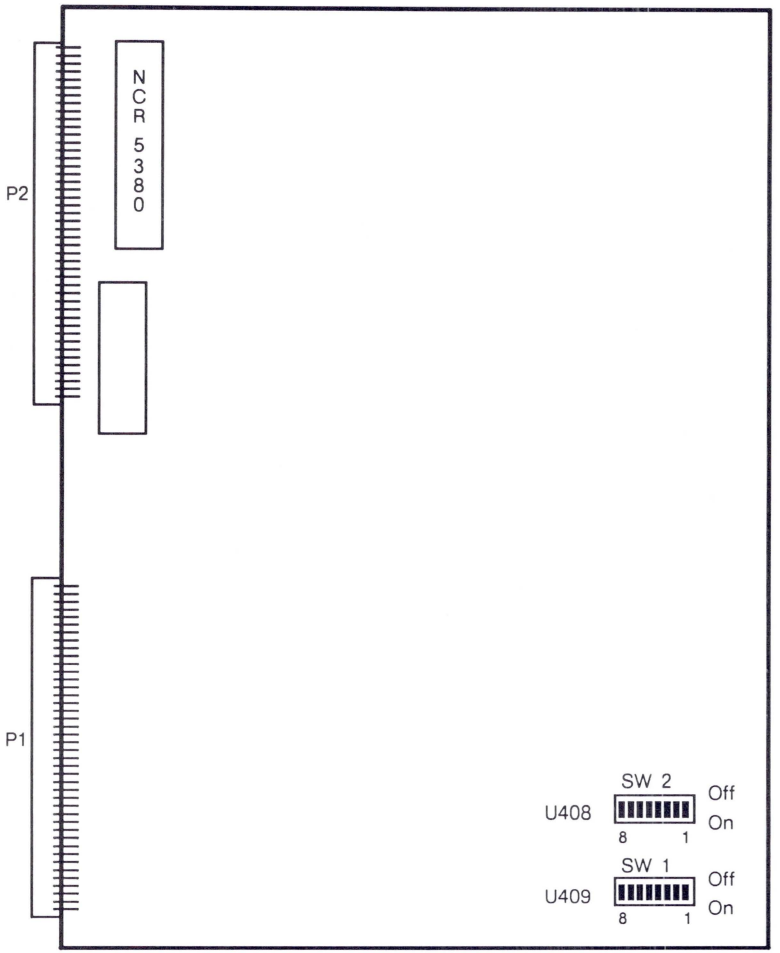
Sun–3 SCSI Host Adapter

Sun–3/110/140/150/160/180/260/280/460/470/480
Sun–4/260/280/330/370/380/390/490
501–1236



Power: 4.8 Amps @ +5 Vdc
24.0 Watts

501–1236
Switch Settings

DIP SWITCH	SWITCH	SETTING	DESCRIPTION	
SW1* U409	1	On	Address	A23
	2	On		A22
	3	Off		A21
	4	On		A20
	5	On		A19
	6	On		A18
	7	On		A17
	8	On		A16
SW2* U408	1	On	Address	A15
	2	On †		A14
	3	On		A13
	4	On		A12
	5	On		A11
	6	On/Off	Not connected	
	7	On/Off	Not connected	
	8	On/Off	Not connected	

* SW1 and SW2 set the address to 0X200000 for the first SCSI.
† SW2, Switch 2, OFF, sets the address to 0x204000 for the second SCSI.

1. Do not use the original release of this board, 501–1120–xx.
2. The Sun–3/1xx CPU must be 501–1074–22, 501–1094–22, 501–1134–06, 501–1163–09, 501–1164–09, or greater.
3. The Sun–3 SCSI must be ≥501–1236–02, ≥501–1170–06, or ≥501–1217–03 when used with a SunLink Channel Adapter.
4. Set the base address as a 2nd SCSI in Sun–4300 systems. The first SCSI Host Adapter is on the Sun 4300 CPU.
5. The Sun–3 SCSI must be ≥501–1236–08 or ≥501–1217–09 when used with the Sun–4400 CPU.
6. SCSI TERMPWR is provided on boards ≥501–1236–08 and ≥501–1217–09.

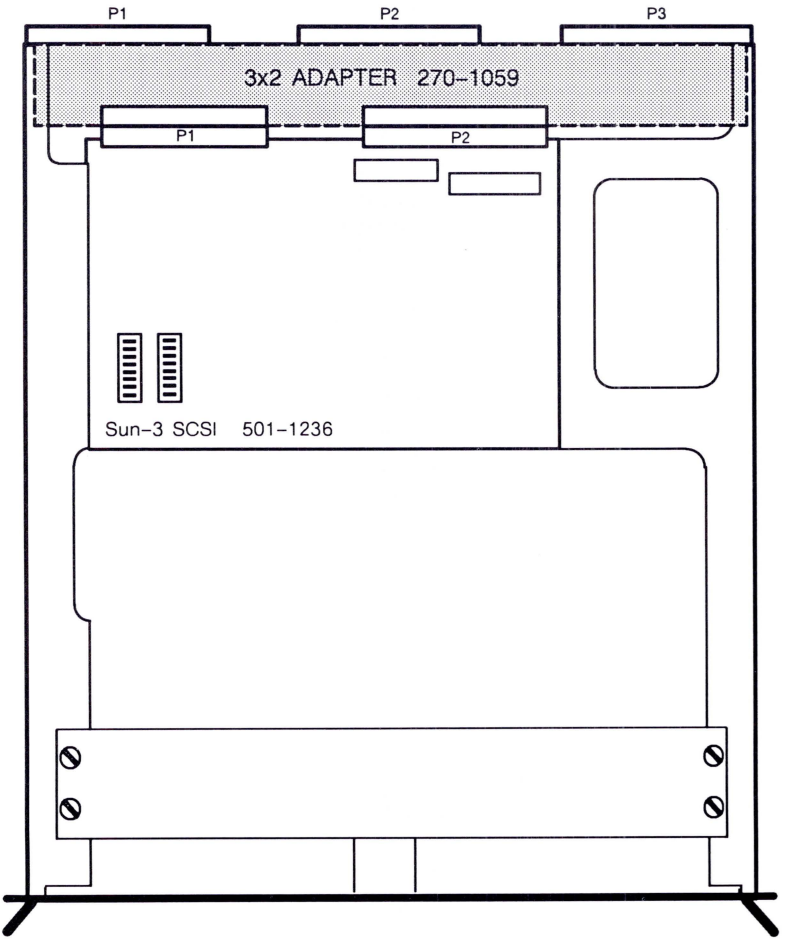
Reference
Sun–3 Small Computer Systems Interface Configuration Procedures, 813–2007.

Sun–3 SCSI Host Adapter Assembly

Sun–3/160/260/460 & Sun–4/260

501–1170

with P2A & P2C



Power: 4.8 Amps @ +5 Vdc
24.0 Watts

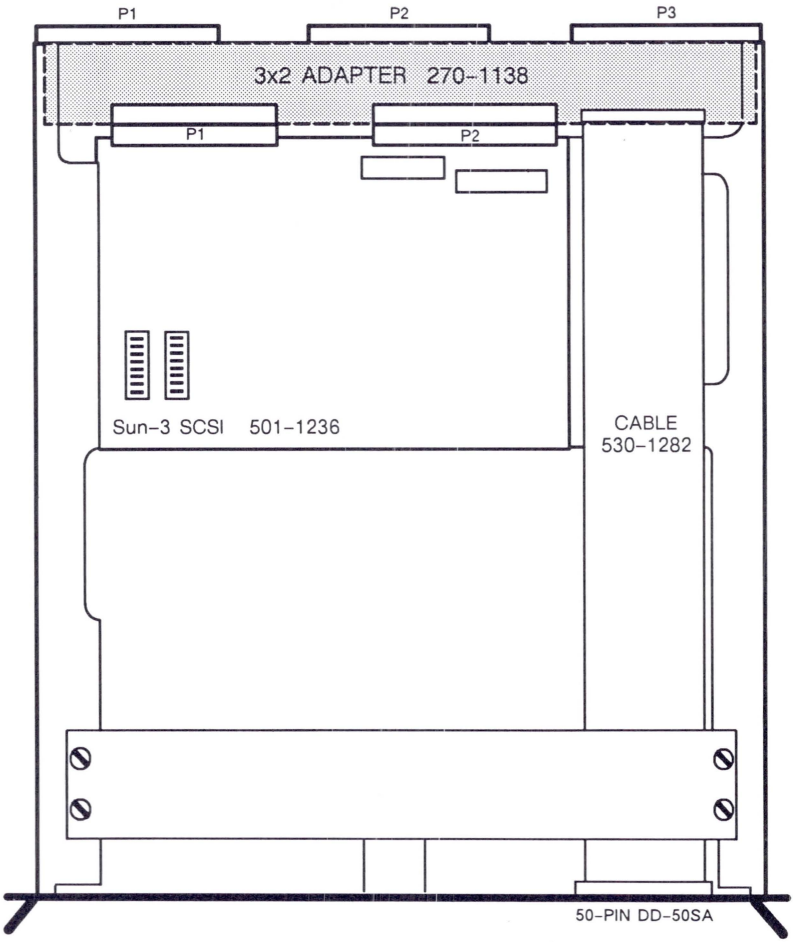
Sun-3 SCSI Host Adapter Assembly

Sun-3/110/140/150/160/180/260/280/470/480

Sun-4/280/330/370/390/470/490

501-1217

without P2A & P2C

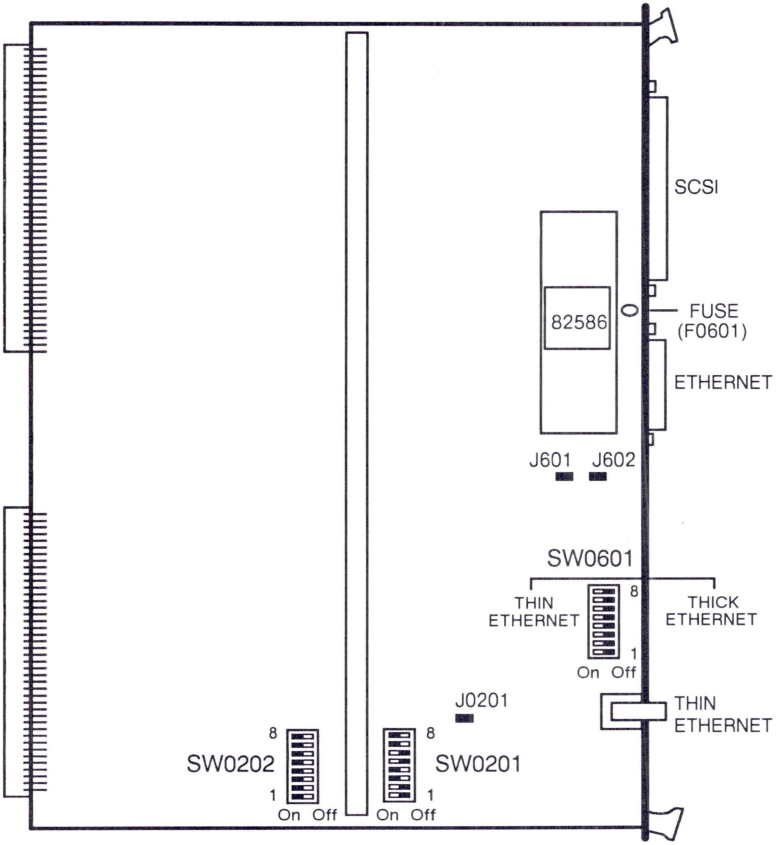


Power: 4.8 Amps @ +5 Vdc
24.0 Watts

Sun-3/E SCSI/Ethernet

501-8027 501-1584

9U Assembly



Power: 4.1 Amps @ +5 Vdc
20.5 Watts

Notes

1. Board revision 501-8027-06 or 501-1584-01 is required for use in any SPARC CPU based system.
2. The fuse is not replaceable.
3. When used with the Sun-4400 CPU, 501-1381, the board revision must be ≥501-8027-07 or the assembly must be ≥501-1584-02.
4. SCSI TERMPWR is provided on boards ≥501-8027-07.

Reference

Sun SunNet Ethernet/VME Controller Installation Manual for 56-Inch Data Center Cabinets, 813-1068.

501-8027
Switch & Jumper Settings

DIP SWITCH	SWITCH	SETTING	DESCRIPTION
SW0601	1-7	On	Enable thin Ethernet
SW0601	1-7	Off	Enable Ethernet*

DIP SWITCH	SWITCH	SETTING	DESCRIPTION
SW0201	1	Off	24/32-bit addressing
SW0201	2	Off/On	N/C
SW0201	3	*	A18 address decode
SW0201	4	*	A19 address decode
SW0201	5	*	A20 address decode
SW0201	6	Off	A21 address decode
SW0201	7	On	A22 address decode
SW0201	8	On	A23 address decode

*DIP Switch SW0201 settings for ie2, ie3, and ie4

SW0201	SWITCH 3	SWITCH 4	SWITCH 5	ADDRESS
1st Board	On	On	Off	31ff02
2nd Board	Off	On	Off	35ff02
3rd Board	Off	Off	On	2dff02

DIP SWITCH	SWITCH	SETTING	DESCRIPTION
SW0202	1	On	A24 address decode
SW0202	2	On	A25 address decode
SW0202	3	On	A26 address decode
SW0202	4	On	A27 address decode
SW0202	5	On	A28 address decode
SW0202	6	On	A29 address decode
SW0202	7	On	A30 address decode
SW0202	8	On	A31 address decode

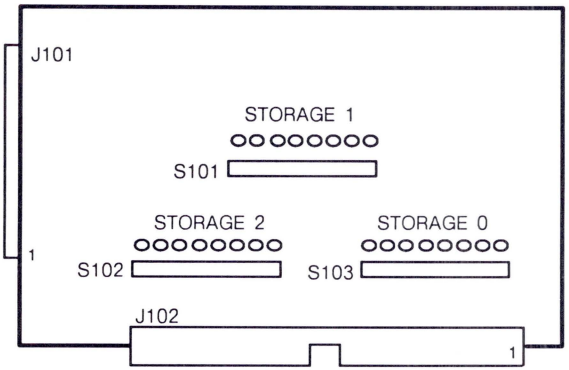
JUMPER	PINS	SETTING	DESCRIPTION
J0201	1-2	In	Clock enable

Notes
1. This board is designed for use with Level 2 transceivers only.
2. Use 31000 as the SCSI base address under SunOS 3.5 diag.

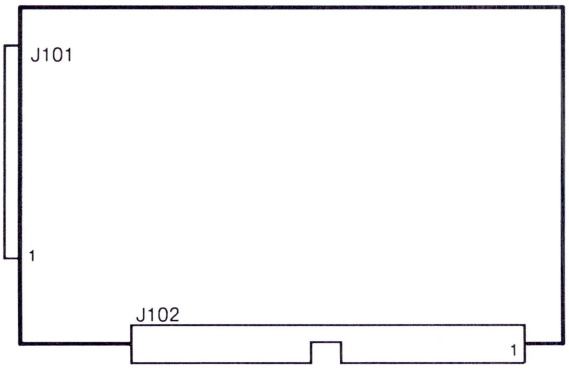
Sun-4/330 Terminator Boards

Sun-4/330

SCSI-OUT Terminator Board
501-1416



SCSI-IN Terminator Board
501-1432



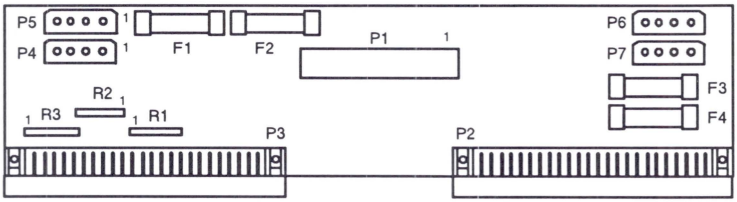
Notes

1. The 4/330 Terminator Board uses three 221/331 terminators, 120-1608.
2. Move Terminators to the Storage position to connect an external peripheral subsystem.
3. There are no components on the SCSI-IN Terminator board, 501-1432.

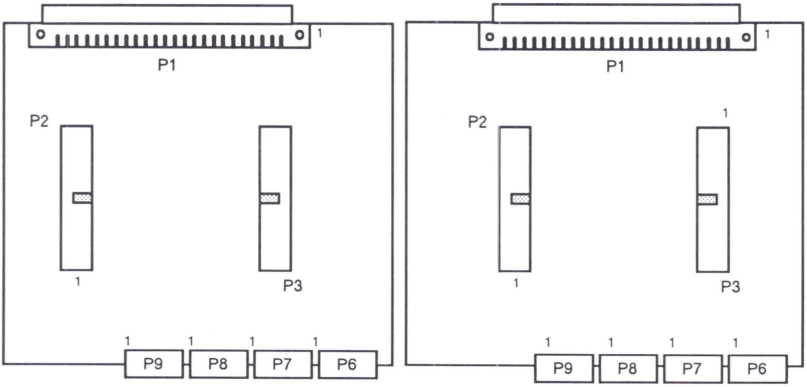
SCSI Interface Boards

Sun–3/470
Sun–4/370/470

501–1493



501–1406



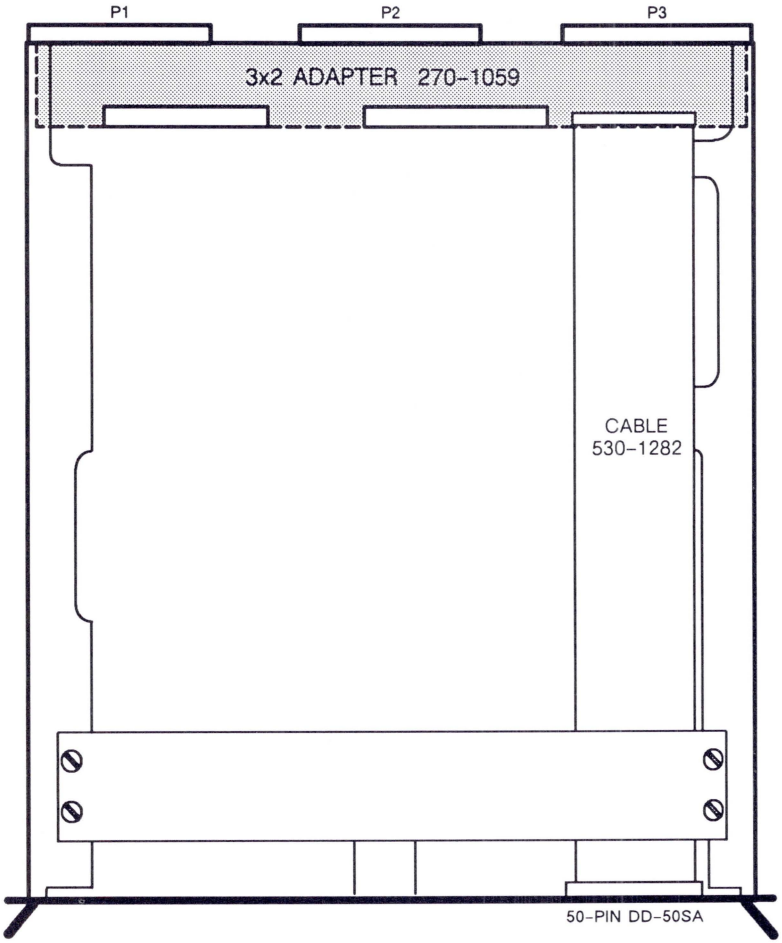
Notes
1. The 15A fuses on the 501–1493 board are part number 140–1019.
2. The left-side SCSI tray must be installed to terminate the SCSI bus.
3. A cable must be installed from P2 to P3 on the 501–1406 board to complete the SCSI bus data path.

SCSI Adapter Assembly

Sun–4/360

501–1666

with P2A & P2C

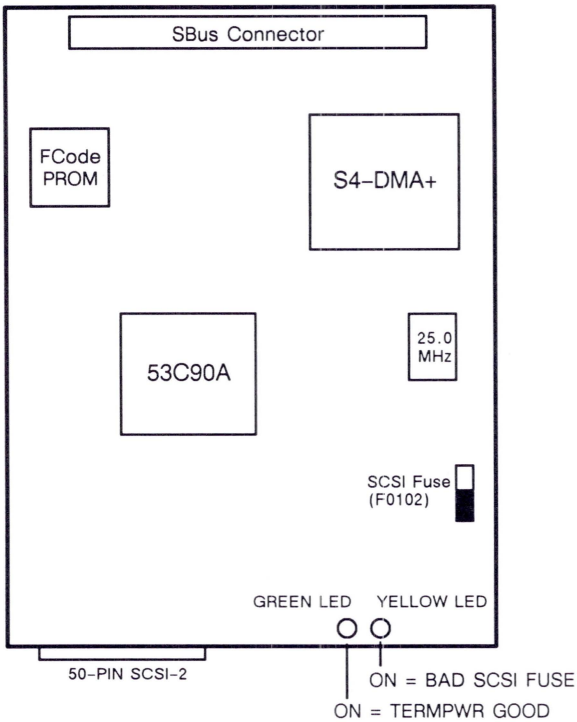


SCSI Host Adapter

Sun-4/40/50/60/65/75

501-1759 501-1850

FCC-A/VCCI-1 FCC-B/VCCI-2



Power: 0.6 Amps @ +5vdc
3.0 Watts

Notes
1. The Sun-4/60 CPU requires Boot EPROM 1.3 Version 3.
2. SCSI port, Pin 38, is fused with 2A Fuse, 150-1174.
3. The component layout is different on the 501-1759 and the 501-1850 boards. The 501-1850 is illustrated on this page.

Reference
SBus SCSI Host Adapter Installation Guide for SPARCstations, 800-5385-10.

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BACKPLANE

BACKPLANE

Backplane

Backplane Information

This section contains bus signal charts and backplane layout illustrations.

VMEbus Backplane

Cardcage slot numbers are stamped, printed, or labeled on the sheet metal near the card ejectors. VMEbus backplane jumpers are silk-screened on the cardcage as Px00, Px01, Px02, Px03, and Px04 or Jx00, Jx01, Jx02, Jx03, and Jx04; where x represents the card slot number.

These jumpers control VMEbus signals BUS GRANT 0-3 IN (BG0-3IN) to BUS GRANT 0-3 OUT (BG0-3 OUT), and INTERRUPT ACKNOWLEDGE IN (IACKIN) to INTERRUPT ACKNOWLEDGE OUT (IACKOUT). The VMEbus signals are referred to as BG0, BG1, BG2, BG3, and IACK in this section.

SILKSCREEN LABEL		SIGNAL NAME	VMEBUS MNEMONIC
Jxx0	Pxx0	BUS GRANT 0	BG0
Jxx1	Pxx1	BUS GRANT 1	BG1
Jxx2	Pxx2	BUS GRANT 2	BG2
Jxx3	Pxx3	BUS GRANT 3	BG3
Jxx4	Pxx4	INTERRUPT ACKNOWLEDGE	IACK

VMEbus

The VMEbus connector name, the common Sun name for the connector, and the corresponding pins are shown in the chart below.

CONNECTOR		
VME	SUN	PINS
J1/P1 Row A	P1 Row A	1–32
J1/P1 Row B	P1 Row B	33–64
J1/P1 Row C	P1 Row C	65–96
J2/P2 Row B	P2 Row B	33–64

P2 Bus

The VMEbus connector name, the common Sun name for signals on the Sun P2 or private bus, and the corresponding pins are shown below.

CONNECTOR		
VME	SUN	PINS
J2/P2 Row A	P2 Row A	1–32
J2/P2 Row C	P2 Row C	65–96
N/A	P3 Row B	33–64

Power and Ground

The power and ground connectors and pins are shown below.

CONNECTOR		
VME	SUN	PINS
N/A	P3 Row A	1–32
N/A	P3 Row C	65–96

501–1354 5–Slot Backplane

Memory board options plug into connector J3, Slots 4 and 5, on the 501–1354 backplane. The Sun P2 bus connects slots 1, 4, and 5 as shown below.

J102 Row A	Connects to J403 Row A and J503 Row A
J102 Row C	Connects to J403 Row C and J503 Row C
J103 Row B	Connects to J403 Row B and J503 Row B

Cardcage slots 4 and 5 share a private bus that connects signals between J2/P2, Row A and J2/P2, Row C. These slots are used with 6U VMEbus boards.

The function of the 501–1354 backplane jumpers is shown below.

JUMPER	CONNECTS
J2xx	BG0–3IN to BG0–3Out and IACKIN to IACKOUT on slot 2
J3xx	BG0–3IN to BG0–3Out and IACKIN to IACKOUT on slot 3
J4xx	BG0–3IN to BG0–3Out and IACKIN to IACKOUT on slot 4

501-1439, 501-1598, and 501-1832 12-Slot Backplanes

The Sun P2 bus connects cardcage slots 1 through 7 to each other, and cardcage slots 10, 11, and 12 to each other.

In addition to the Sun P2 bus and the VMEbus, the 12-slot backplane has a private Internal bus that connects slots 1, 2, and 3 as shown below.

J101 Row A	Connects to J201 Row A and J301 Row A
J101 Row B	Connects to J201 Row B and J301 Row B
J101 Row C	Connects to J201 Row C and J301 Row C
J102 Row B	Connects to J202 Row B and J302 Row B

J1/P1, Rows A, B, and C, on slots 1, 2, and 3 are not connected to the VMEbus. Boards that use the VMEbus cannot be used in slots 1, 2, or 3. J2/P2, Row B is connected between slots 1 through 7.

The Sun 4400 CPU is not supported in the 501-1439 backplane.

The function of the backplane jumpers is shown below.

JUMPER	CONNECTS
J4xx	BG0-3IN to BG0-3Out and IACKIN to IACKOUT on slot 4
J5xx	BG0-3IN to BG0-3Out and IACKIN to IACKOUT on slot 5
J6xx	BG0-3IN to BG0-3Out and IACKIN to IACKOUT on slot 6
J7xx	BG0-3IN to BG0-3Out and IACKIN to IACKOUT on slot 7
J8xx	BG0-3IN to BG0-3Out and IACKIN to IACKOUT on slot 8
J9xx	BG0-3IN to BG0-3Out and IACKIN to IACKOUT on slot 9
J10xx	BG0-3IN to BG0-3Out and IACKIN to IACKOUT on slot 10
J11xx	BG0-3IN to BG0-3Out and IACKIN to IACKOUT on slot 11
J12xx	BG0-3IN to BG0-3Out and IACKIN to IACKOUT on slot 12

501-1498 and 501-1597 16-Slot Backplanes

The Sun P2 bus connects cardcage slots 1 through 7 to each other, cardcage slots 11, and 12 to each other, and cardcage slots 13, 14, and 15 to each other.

In addition to the Sun P2 bus and the VMEbus, the 16-slot backplane private internal bus connects slots 1, 2, and 3 as shown below.

J101 Row A	Connects to J201 Row A and J301 Row A
J101 Row B	Connects to J201 Row B and J301 Row B
J101 Row C	Connects to J201 Row C and J301 Row C
J102 Row B	Connects to J202 Row B and J302 Row B

J1/P1 Rows A, B, and C on slots 1, 2, and 3 are not connected to the VMEbus. Boards that use the VMEbus cannot be used in slots 1, 2, or 3. J2/P2, Row B is connected between slots 1 through 7.

The 501-1498 backplane must be 501-1498-02 or greater when used with the Sun 4400 CPU.

The function of the backplane jumpers is shown below.

JUMPER	CONNECTS
J2xx	BG0-3IN to BG0-3Out and IACKIN to IACKOUT on slot 2
J3xx	BG0-3IN to BG0-3Out and IACKIN to IACKOUT on slot 3
J4xx	BG0-3IN to BG0-3Out and IACKIN to IACKOUT on slot 4
J5xx	BG0-3IN to BG0-3Out and IACKIN to IACKOUT on slot 5
J6xx	BG0-3IN to BG0-3Out and IACKIN to IACKOUT on slot 6
J7xx	BG0-3IN to BG0-3Out and IACKIN to IACKOUT on slot 7
J8xx	BG0-3IN to BG0-3Out and IACKIN to IACKOUT on slot 8
J9xx	BG0-3IN to BG0-3Out and IACKIN to IACKOUT on slot 9
J10xx	BG0-3IN to BG0-3Out and IACKIN to IACKOUT on slot 10
J11xx	BG0-3IN to BG0-3Out and IACKIN to IACKOUT on slot 11
J12xx	BG0-3IN to BG0-3Out and IACKIN to IACKOUT on slot 12
J13xx	BG0-3IN to BG0-3Out and IACKIN to IACKOUT on slot 13
J14xx	BG0-3IN to BG0-3Out and IACKIN to IACKOUT on slot 14
J15xx	BG0-3IN to BG0-3Out and IACKIN to IACKOUT on slot 15
J16xx	BG0-3IN to BG0-3Out and IACKIN to IACKOUT on slot 16

Backplane Sun P2 or Private Bus Connections

Backplane slot that share an adjacent P2 bus are marked with the same letter in the charts below.

3–Slot VMEbus Backplane, 501–1127

Slot	1	2	3
P2 Bus	A	A	A

5–Slot VMEbus Backplane, 501–1354

Slot	1	2	3	4	5	6	7
P2 Bus	A	B	B	C	D	A	A

6–Slot VMEbus Backplane, 501–1128

Slot	1	2	3	4	5	6
P2 Bus	A	A	A	A	B	B

12–Slot VMEbus Backplane, 501–1092 & 501–1117

Slot	1	2	3	4	5	6	7	8	9	10	11	12
P2 Bus	A	A	A	A	A	A	B	C	D	E	E	E

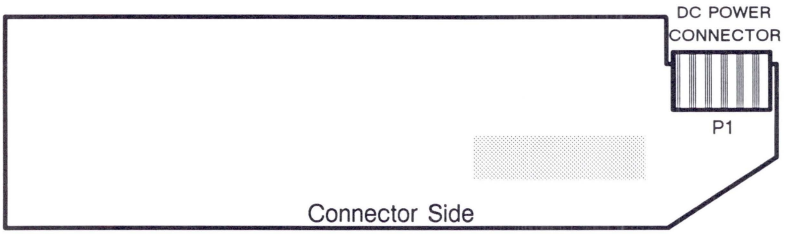
12–Slot VMEbus Backplane, 501–1439, 501–1598, & 501–1832

Slot	1	2	3	4	5	6	7	8	9	10	11	12
P2 Bus	A	A	A	A	A	A	A	B	C	D	D	D

16–Slot VMEbus Backplane, 501–1498 & 501–1597

Slot	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
P2 Bus	A	A	A	A	A	A	A	B	C	D	E	E	F	F	F	G

Sun-3/50
501-1109

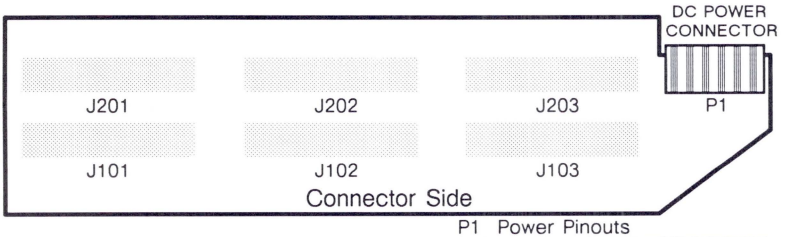


Power: 0.5 Amps @ -5Vdc
2.7 Watts

P1 Power Pinouts

1	2	3	4-8	9-12
-5	-12	+12	GND	+5

Sun-3/75
501-1093



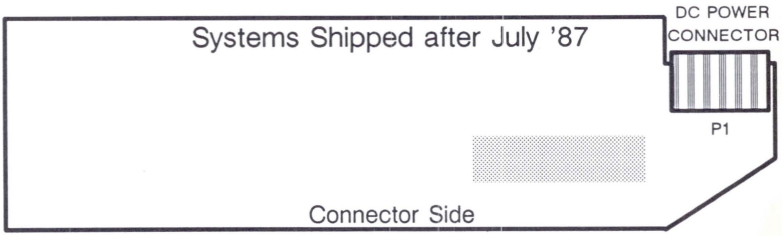
Power: 1.4 Amps @ +5Vdc
7.0 Watts

P1 Power Pinouts

1	2	3	4-8	9-12
-5	PFail	+12	GND	+5

Sun–3/50 & 3/60

501–1277



Power: 0.5 Amps @ –5Vdc
2.4 Watts

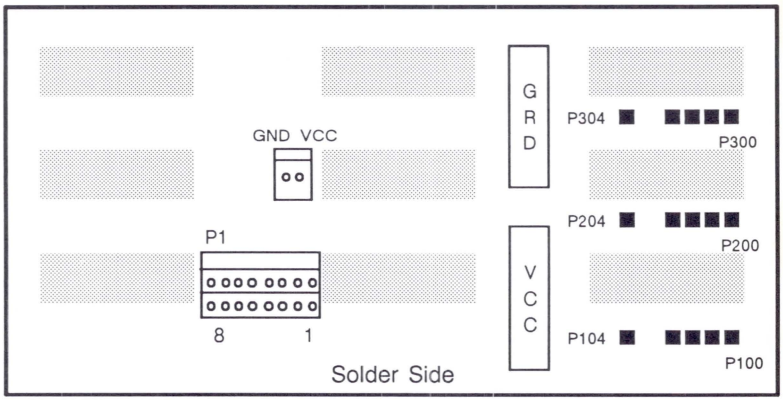
P1 Power Pinouts

1	2	3	4–8	9–12
–5	–12	+12	GND	+5

Sun–3/110/140 & Sun 4/110/310

501–1127

Pressfit



Power: 1.3 Amps @ +5Vdc
6.5 Watts

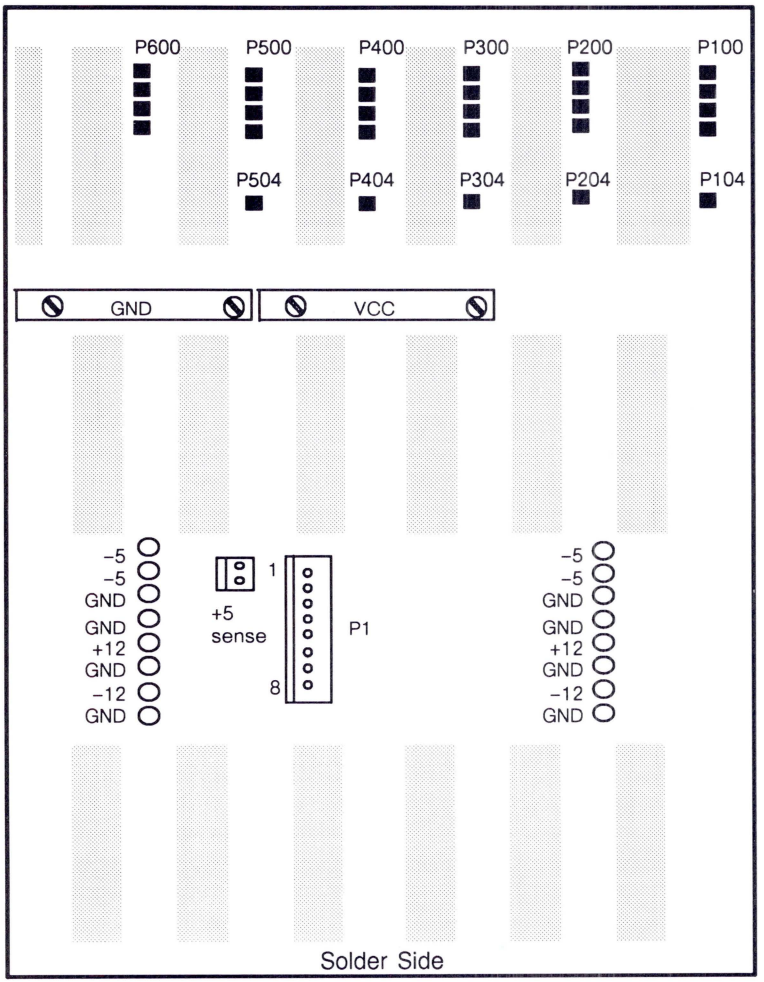
P1 Power Pinouts

1–2	3–4	5	6	7	8
–5	GND	+12	GND	–12	GND

Sun-3/150 & 4/150/350

501-1128

Pressfit

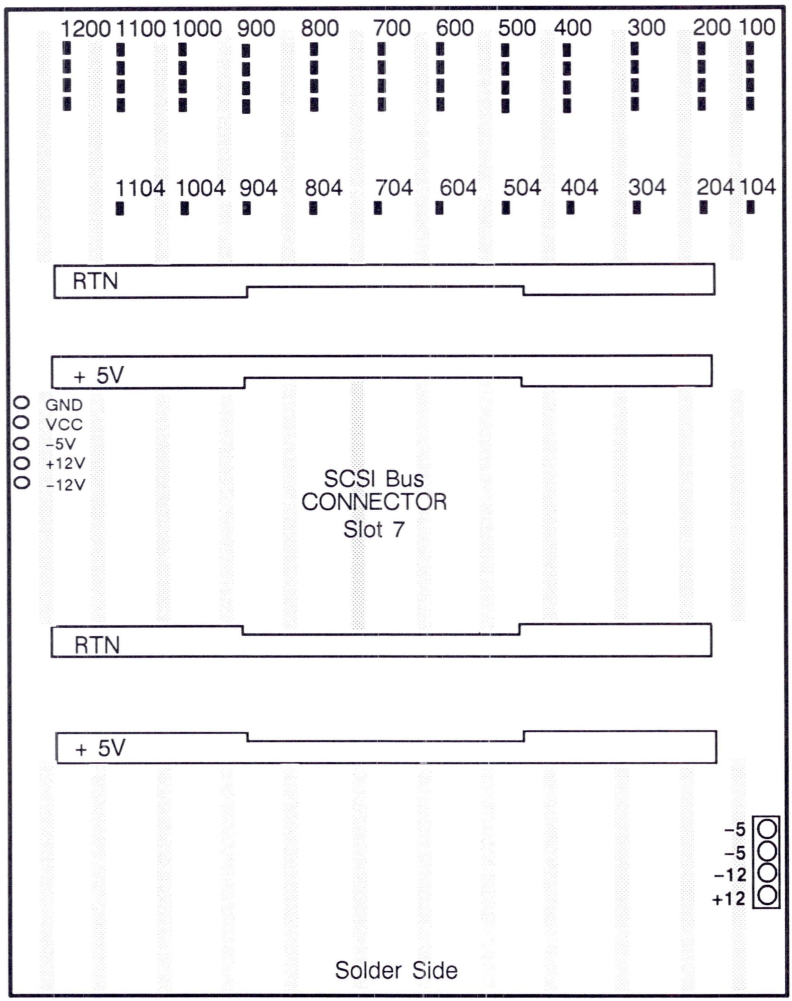


Power: 1.3 Amps @ +5Vdc
6.5 Watts

P1 Power Pinouts

1-2	3-4	5	6	7	8
-5	GND	+12	GND	-12	GND

Sun-3/160/180/260/280/460/480
Sun-4/260/280/360/380
501-1092 501-1117
Pressfit

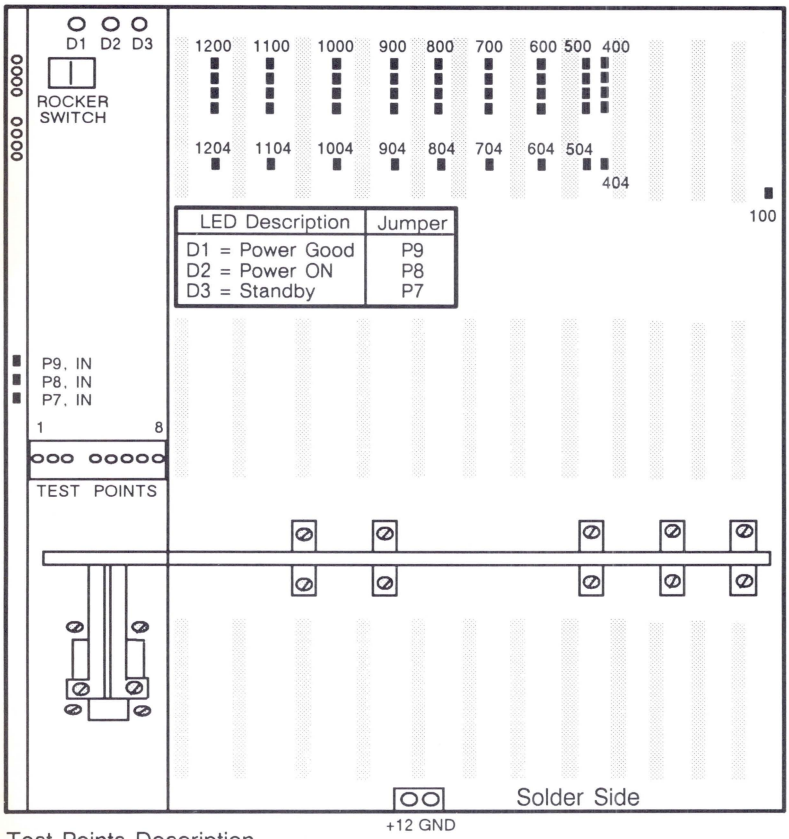


Power: 1.3 Amps @ +5Vdc
6.5 Watts

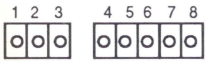
Sun-3/470 & Sun-4/370

501-1439

Pressfit



Test Points Description



TEST POINT	DESCRIPTION	TEST POINT	DESCRIPTION
1	+5	5	+12
2	GND	6	-5.2
3	+12 Motor	7	Chassis ground
4	-12	8	Ground

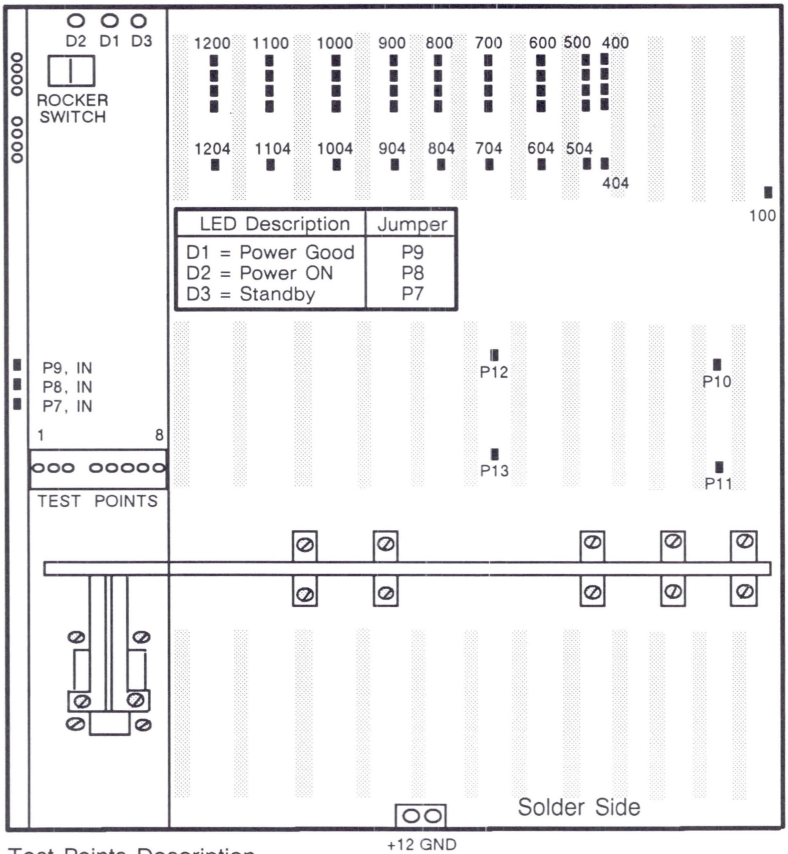
Power: 2.1 Amps @ +5Vdc
10.5 Watts

Note: The LED positions on the backplane and the descriptions molded into the front cover do not match.

Sun-3/470 & Sun-4/370/470

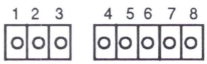
501-1598

Pressfit



LED Description	Jumper
D1 = Power Good	P9
D2 = Power ON	P8
D3 = Standby	P7

Test Points Description



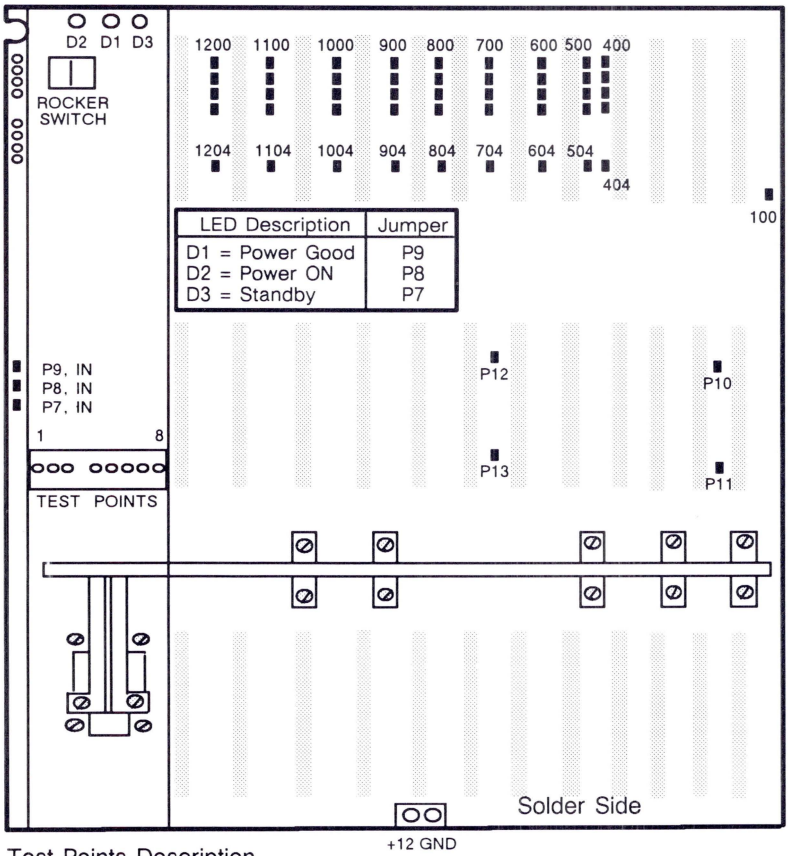
TEST POINT	DESCRIPTION	TEST POINT	DESCRIPTION
1	+5	5	+12
2	GND	6	-5.2
3	+12 Motor	7	Chassis ground
4	-12	8	Ground

Power: 2.1 Amps @ +5Vdc
10.5 Watts

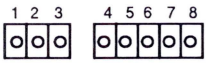
Sun-3/470 & Sun-4/370/470

501-1832

Pressfit



Test Points Description



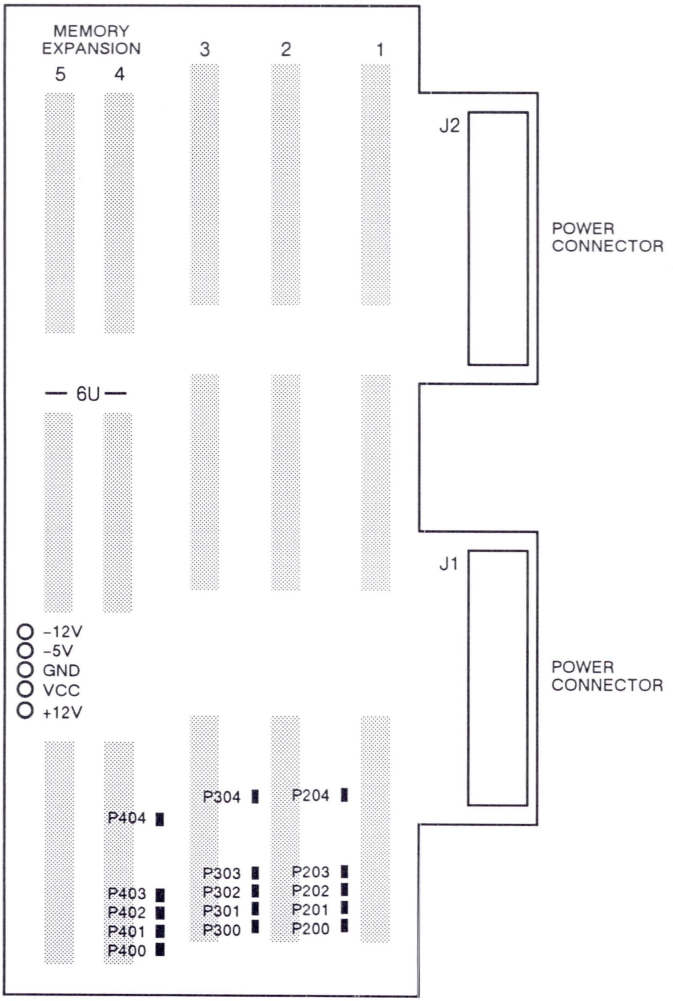
TEST POINT	DESCRIPTION	TEST POINT	DESCRIPTION
1	+5	5	+12
2	GND	6	-5.2
3	+12 Motor	7	Chassis ground
4	-12	8	Ground

Power: 2.1 Amps @ +5Vdc
10.5 Watts

Sun-4/330

501-1354

Pressfit

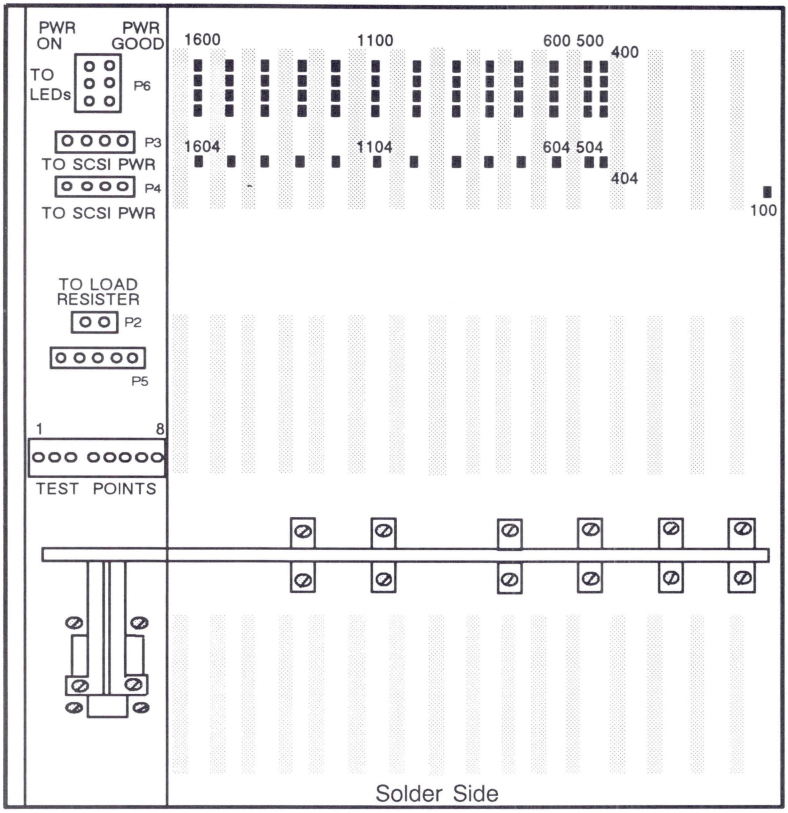


Power: 2.0 Amps @ +5Vdc
10.0 Watts

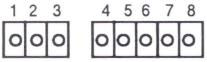
Sun–4/390/490

501–1498

Pressfit



Test Points Description



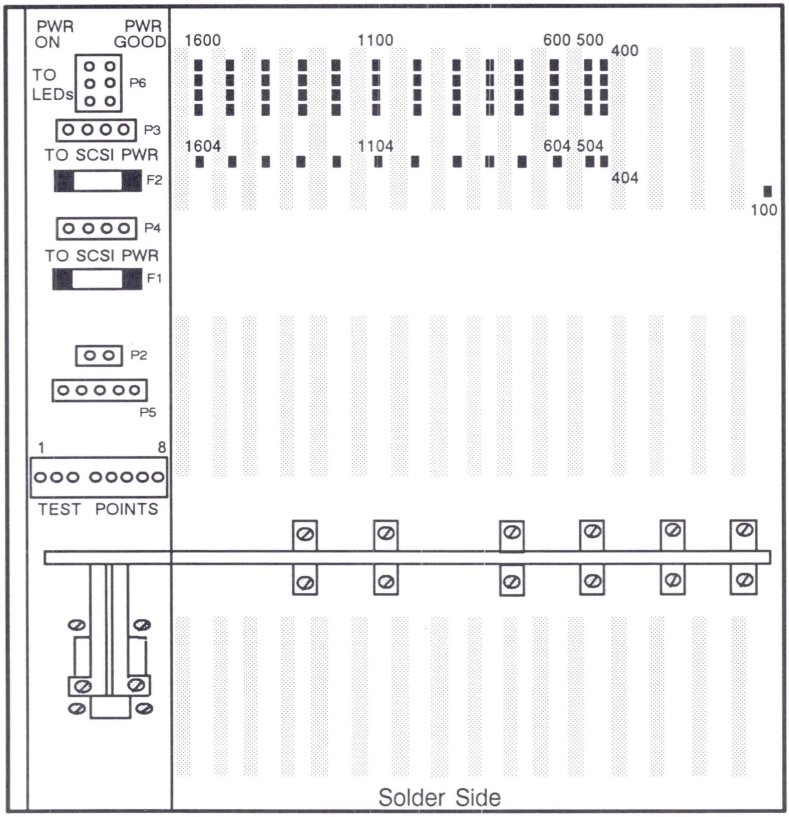
TEST POINT	DESCRIPTION	TEST POINT	DESCRIPTION
1	+5	5	+12
2	GND	6	–5.2
3	+12 Motor	7	Chassis ground
4	–12	8	Ground

Power: 2.1 Amps @ +5Vdc
10.5 Watts

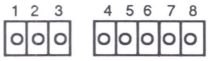
Sun-4/390/490

501-1597

Pressfit



Test Points Description



Fuses: F1 and F2
15 Amp @ 250V
P/N 140-1019
140-1019

TEST POINT	DESCRIPTION	TEST POINT	DESCRIPTION
1	+5	5	+12
2	GND	6	-5.2
3	+12 Motor	7	Chassis ground
4	-12	8	Ground

Power: 2.1 Amps @ +5Vdc
10.5 Watts

Note: The Load Resistor Assembly is only used with the 925W power supply.

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SLOT ASSIGNMENT

SLOT ASSIGNMENT

Slot Assignment

Slot Assignment – Continued

Board Installation Notes

Backplane Slot Assignment Charts

Each system chart lists the PCB slot assignments in order of descending priority. In the charts **A,B,C...** indicates the preferred location for a specific board. An **A** is the most preferred location. An **a** indicates that a board requires more than one slot if Memory, Frame Buffer, or other options are installed. Multiple capital letters (**AA**, **BBB...**) indicate a board requires more than one slot. Boards with multiple part numbers are shown with a footnote (Sun 3004 CPU [1]) and are listed in tables after each grouping of slot assignment charts.

Installing VMEbus Boards

1. Refer to the Backplane Slot Assignment Charts to determine where to install additional boards.
2. Move boards in the cardcage as required.
3. Configure backplane jumpers for BG3 and IACK. The IACK jumper for the last slot is not present on some backplanes. It is not needed.

Removing VMEbus Boards

1. Refer to the Backplane Slot Assignment Charts to determine if other boards in the cardcage require repositioning.
2. Configure backplane jumpers for BG3 and IACK.
3. Install an air restrictor and the external filler panel in any unused slot.

Sun-3/160

1. Sun-3/160 systems using the Pioneer or ETA Power Supply require FCO 807-0068 to upgrade to a Sun-3/260, Sun-3/460, Sun-4/260, or Sun-4/360.
2. Sun-3/160 systems manufactured prior to July 1987 (serial number 724E2223) require FCO 808-0067 to upgrade to a Sun-3/260, Sun-3/460, Sun-4/260, or Sun-4/360.

Sun-3/180, Sun-3/280, and Sun-4/280

Sun-3/180, Sun-3/280, and Sun-4/280 systems manufactured prior to November 1988 require FCO 807-0073 to upgrade to a Sun-3/480 or a Sun-4/380.

Sun-3/260 and Sun-4/260

1. Do not install an air restrictor in slot 2.
2. Do not install non-memory board options in slots 2 through 5 using the standard left to right sequence. If possible, leave Slot 2 empty for system cooling.

Sun-3/470

1. Remove jumpers P10, P11, P12, and P13 from the 501-1598 Backplane when the Sun 3400 board set is installed.
2. Remove jumpers P10, P11, P12, and P13 from the 501-1832 Backplane when the Sun 3400 board set is installed.

Sun 4/40 CPU

SBus Slots 1 and 2 are DVMA masters. SBus cards can be installed in any SBus Slot.

Sun 4/60 and Sun-4/65 CPUs

SBus Slots 1 and 2 are DVMA masters. SBus Slot 3 is Slave only. SBus cards capable of becoming DVMA masters (Printer Card, Serial Parallel Interface, SCSI Host Adapter, ...) cannot be installed in SBus Slot 3. SBus cards not capable of becoming DVMA masters can be installed in any SBus Slot.

Sun-4/75 CPU

SBus Slots 1, 2, and 3 are DVMA masters. SBus cards can be installed in any SBus Slot.

Sun 4100 CPU

1. The Sun 4100 CPU does not have a VMEbus slave interface. VMEbus boards requiring a slave interface on the processor do not function with the Sun 4100 CPU (eg. Xylogics 451, Xylogics 472, Xylogics 7053).
2. The Sun 4100 CPU has 28 bits of physical address space. Bit 27 is replicated out to bit 31 in A32D32 space.

Sun 4400 CPU

1. The Sun 4400 CPU requires 12-slot Backplane 501-1598 or 501-1382. The Sun 4400 CPU is not supported in the 501-1439 12-slot Backplane.
2. The Sun 4400 CPU requires 16-slot Backplane 501-1498-02 or 501-1597.

Sun-4/40/60/65/75 SBus Slot Priority

The default NVRAM setting for the *sbus-probe-list* parameter is Slot 0, Slot 1, Slot 2, and Slot 3. SBus Slot 0 is reserved for CPU space and must be the first entry. SBus slot placement affects the UNIX major and minor device numbers.

SBus Slot Priority - Example 1

When a Serial Parallel Controller is installed in Slot 3, it is recognized as card 0. If a second SPC is installed in Slots 1 or 2, the second SPC becomes card 0 and the SPC in Slot 3 becomes card 1. Peripheral devices attached to the SPC in Slot 3 must be redefined in the software or in the NVRAM *sbus-probe-list* parameter.

One SPC installed with *sbus-probe-list* = 0123

Slot 1	Slot 2	Slot 3
Empty	Empty	ttyy0 - 7
Empty	Empty	ttyz0 - 7

Second SPC installed with *sbus-probe-list* = 0123

Slot 1	Slot 2	Slot 3
Empty	ttyy0 - 7	ttyy8 - f
Empty	ttyz0 - 7	ttyz8 - f
ttyy0 - 7	Empty	ttyy8 - f
ttyz0 - 7	Empty	ttyz8 - f

Second SPC installed with *sbus-probe-list* = 0312

Slot 1	Slot 2	Slot 3
Empty	ttyy8 - f	ttyy0 - 7
Empty	ttyz8 - f	ttyz0 - 7
ttyy8 - f	Empty	ttyy0 - 7
ttyz8 - f	Empty	ttyz0 - 7

SBus Slot Priority – Example 2

When two Printer Cards are installed and one is removed, the remaining card becomes card 0. Peripheral devices attached to the remaining card must be redefined in the software. A single card is always recognized as card 0 and cannot be changed in the NVRAM *sbus–probe–list* parameter.

Two Printer cards installed with *sbus–probe–list* = 0123

Slot 1	Slot 2	Slot 3
stc0 stclp0	stc1 stclp1	Empty Empty

One Printer card removed with *sbus–probe–list* = 0123

Slot 1	Slot 2	Slot 3
stc0 stclp0	Removed Removed	Empty Empty
Removed Removed	stc0 stclp0	Empty Empty

SBus Slot Priority – Example 3

When three SPC Cards are installed and one card is removed, the remaining cards become cards 0 and 1. Peripheral devices attached to the remaining cards must be redefined in the software.

Three SPCs installed with *sbus–probe–list* = 0123

Slot 1	Slot 2	Slot 3
ttyy0 – 7 ttyz0 – 7	ttyy8 – f ttyz8 – f	ttyy10 – 17 ttyz10 – 17

One SPC removed with *sbus–probe–list* = 0123

Slot 1	Slot 2	Slot 3
Removed Removed	ttyy0 – 7 ttyz0 – 7	ttyy8 – f ttyz8 – f
ttyy0 – 7 ttyz0 – 7	Removed Removed	ttyy8 – f ttyz8 – f
ttyy0 – 7 ttyz0 – 7	ttyy8 – f ttyz8 – f	Removed Removed

Sun 3200, 3400, and 4200 ECC Memory

1. **501-1092 or 501-1117 Backplanes.** Install the first Memory board in slot 6. Install 220/270 Terminating Resistor part number 120-1613-01, at location F-34 or F-54 on the Memory board.

   Remove the Terminating Resistor from location F-34 or F-54 on Memory boards installed in slots 2, 3, 4, and 5.

2. **501-1439, 501-1598, or 501-1832 Backplanes.** Install the first Memory board in slot 1. Install 220/270 Terminating Resistor part number 120-1613-01 at location F-34 or F-54 on the Memory board.

   If placement results in Memory boards on both sides of the Sun 3400 CPU, remove the Terminating Resistor at location O-23 (U1411) on the CPU. Install Terminating Resistors on Memory boards in slot 1 and slot 7.

3. Remove jumpers P10, P11, P12, and P13 from the 501-1598 Backplane when the Sun 3400 board set is installed.

4. Remove jumpers P10, P11, P12, and P13 from the 501-1832 Backplane when the Sun 3400 board set is installed.

GP2

The GP2 does not function with the Sun-2 Color Board, Sun-3 Color Board, or the Graphics Buffer.

CG5 with GP+ or GP

1. The CG5 P2 bus must be disabled (SW3300-5, OFF).
2. The CG5 must be installed in slots that do not share the P2 bus with the GP or GP+. Signals provided by the CG5, but not used by the GP or GP+, may cause contention.

CG5 with GP2

1. The CG5 P2 bus must be enabled (SW3300-5, ON).
2. The CG5 must be installed in cardcage slots that share the P2 bus with the GP2.

CG5 without GP2

The CG5 P2 bus must be disabled (SW3300-5, OFF).

CG9 with GP2

1. The CG9 P2 bus must be enabled (SW3-1, OFF).
2. The CG9 must be installed in cardcage slots that share the P2 bus with the GP2.
3. This configuration is not supported with the TAAC-1.
4. The CG9 is not supported without the GP2.

TAAC-1

1. The TAAC-1 requires 3 slots. Install backplane jumpers BG3 and IACK in all three slots.
2. Sun-3/160 systems require FCO 807-0071 if the TAAC-1 is installed.
3. The TAAC-1 is not supported with the CG9 and GP2 GXP Graphics Option.

ALM-1, ALM-2, and MCP

1. The ALM-2 and MCP share the same base address and interrupt vector.
2. The ALM-1 shares the same interrupt vector as the ALM-2 and MCP.
3. Because of the conflict with the interrupt vector, no more than four ALM-1, ALM-2, or MCP boards can be installed at the same time.
4. The ALM-1, ALM-2, or MCP boards must be installed in sequential address order or a conflict with the interrupt vector may result.
5. The maximum combination of ALM-2 and MCP boards allowed is eight. When mixing ALM-2 and MCP, the MCP must be addressed as boards 1, 2, 3, and 4.
6. The maximum number of MCP boards is four.
7. The maximum number of ALM-2 boards is eight.

BOARD	ALM-1 VECTOR	ALM-2 & MCP VECTOR
1	0x88	0x8b
2	0x89	0x8a
3	0x8a	0x89
4	0x8b	0x88
5	-	0xa0
6	-	0xa1
7	-	0xa2
8	-	0xa3

ALM-1, 501-1157 (Pedestal Systems)

The ALM-1 must be installed in slots 11 and 12. Install backplane jumpers BG3 and IACK in slot 11. Remove backplane jumper BG3 from slot 12.

MAPkit

1. The MAPkit requires two slots. Remove backplane jumpers BG3 and IACK from the slot that contains the MAPkit board nearest to slot 1. Install backplane jumpers BG3 and IACK in the second slot.
2. The MAPkit data throughput rate may be affected if a Tape Controller or a Disk Controller is installed in an unused slot between the CPU and the MAPkit .

SunLink Channel Adapter

1. The SCA requires 2 slots. Remove backplane jumpers BG3 and IACK from both slots.
2. Installing a 1/2" Tape Controller or an SMD Controller in an unused slot between the CPU and the SCA option may affect the SCA data throughput rate.

Systech MTI-800, MTI-850, MTI-1600, and MTI-1650

Tables A and B provide reference information for Systech boards packaged in kits.

Table A identifies the ALM boards in a Sun PCB kit. Columns 2, 3, and 4 provide the Sun PCB part number, a board description, and the Systech part number for individual boards within each set.

Table A

SUN PCB KIT P/N	SUN PCB P/N	DESCRIPTION	SYSTECH P/N
370-1039	370-1046	MTI-800 : 8-Channel USART PCB	65-201616-7
	370-1047	MTI-800/1600 Multiplex Controller PCB	65-200004-7
370-1040	370-1048	MTI-1600 : 16-Channel USART PCB	65-201516-6
	370-1047	MTI-800/1600 Multiplex Controller PCB	65-200004-7
370-1098	370-1102	MTI-850B : 8-Channel USART PCB	65-201606-6
	370-1099	MTI-850/1650 Multiple Controller PCB	65-201004-8
370-1097	370-1100	MTI-1650B : 16-Channel USART PCB	65-201506-5
	370-1099	MTI-850/1650 Multiple Controller PCB	65-201004-8
370-1096	811-1100	MTI-1650A : 16-Channel USART Rack-Mount Box	65-701005-4
	370-1099	MTI-850/1650 Multiple Controller PCB	65-201004-8

Table B describes the boards in a Sun VME assembly kit. This assembly contains an ALM board set, a VME-Multibus Adapter PCB, and frame. Column 1 lists the Sun VME assembly part number. Columns 2 and 3 provide the part numbers and a description of the ALM channel and the VME-Multibus Adapter PCB in the Sun VME assembly kit. Only three of the PCB kits from Chart A are used as VME options. Systech discontinued the 800/1600 series when the 850-1650 series was introduced. Replace the entire VME assembly upon failure of any component in these VME options.

Table B

SUN VME KIT P/N	SUN PCB KIT P/N	DESCRIPTION
501-1157-01	370-1040	MTI-1600 : 16-Channel ALM for VME systems (replaced by 370-1097)
	501-1054	VME-Multibus Adapter PCB
501-1157-02	370-1097	MTI-1650B : 16-Channel ALM for Desk-side systems
	501-1054	VME-Multibus Adapter PCB
501-1165	370-1096	MTI-1650A Controller
	501-1054	VME-Multibus Adapter PCB

Xylogics 450 Disk Controller

1. Do not mix the Xylogics 450 with the Xylogics 7053.
2. Xylogics 450 is not supported with the 900MB Disk Drive, and cannot be mixed with the Xylogics 451 in any 900MB Disk Drive configuration.

Xylogics 7053 Disk Controller

1. Do not mix the Xylogics 7053 with the Xylogics 450.
2. Systems with Sun-2 SCSI, 501-1138, or Sun-3 SCSI, 501-1217 may mix a maximum of one Xylogics 451 and two Xylogics 7053s.
3. Systems with Sun-2 SCSI, 501-1167, may mix a maximum of one 451 and two 7053s.
4. Systems with Sun-2 SCSI, 501-1149, or Sun-3 SCSI, 501-1170 may mix a maximum of one Xylogics 451 and one Xylogics 7053.
5. The Sun-4/470 and Sun-4/490 may mix a maximum of one Xylogics 7053 and one ISP-80 IPI-2 controller.

Tapemaster Tape Controller

1. The Tapemaster controller is not supported in any Sun-3x or Sun-4 system.
2. Support for the Tapemaster controller was removed from the Sun 3200 CPU Boot EPROM revision 3.0.

VME to Multibus Adapter Board

Use adapter board subassembly 501-1054-04 Rev. A or greater to avoid signal contention on the "P2" bus. This change was effective in September 1985 (ECO 1850).

VME to Multibus Adapter Board

Use adapter board subassembly 501-1054-04 Rev. A or greater to avoid signal contention on the "P2" bus. This change was effective in September 1985 (ECO 1850).

12-Slot Office Pedestal Backplane 501-1382

A cutout in the upper left corner of the 501-1382 Backplane allows the DC Wire Harness to be routed from the rear of the Backplane to the front of the Peripheral Tray.

SCSI Host Adapter Assemblies

1. Use the slot assignment charts for systems with the 501–1138 or 501–1217 SCSI Assembly if there is no SCSI Host Adapter installed in a Sun–3/180, Sun–3/280, or Sun–4/280.
2. Sun 3x2 Adapter 501–1269, Option 160A, is connected to J2 Rows A and C. There is no external connector.
3. Sun 3x2 Adapter 501–1191, Option 160B, is not connected to J2 Rows A and C. There is no external connector.
4. Sun 3x2 Adapter 501–1220 has no connection to J2 Rows A and C and has an external 50–pin connector.
5. Sun 3x2 Adapter 501–1666 is connected to J2 Rows A and C and has an external 50–pin connector. This adapter is used to to connect the Sun 4300 CPU to the internal SCSI subsystem of the Sun–4/360.
6. Sun–2 SCSI Host Adapter 501–1167 has P2 bus connec tions and an external cable assembly. Do not substitute a 501–1236 Sun–3 SCSI for a 501–1045 Sun–2 SCSI in this adapter assembly.
7. Sun–3 SCSI Host Adapter 501–1217 SCSI does not function with the SCSI subsystem in the Sun–3/160, Sun–3/260, or Sun–4/260. The SCSI subsystem interfaces through J2 Rows A and B of the VMEbus connector. These signals are not connected on the 501–1217 assembly.

Sun VME 3x2 SCSI Host Adapter Assemblies

ASSY # w SCSI	INCLUDES SCSI #	INCLUDES BLANK ASSY #	P2 ROWS A + C	SCSI CONNECTION
501-1138	501-1045	500-1220	No	External
501-1149	501-1045	500-1269	Yes	Internal
501-1167	501-1045	500-1059	Yes	External
501-1170	501-1236	500-1269	Yes	Internal
501-1217	501-1236	500-1220	No	External

Sun 3x2 Adapter Assemblies

OPTION #	TESTED ASSY #	ADAPTER FAB #	P2 ROWS A + C	EXTERNAL CONNECTION
160A	501-1269	270-1059	Yes	No
160B	501-1191	270-1138	No	No
None	501-1220	270-1138	No	Yes
None	501-1666	270-1059	Yes	Yes

Memory Boards With SCSI

ASSY #	MEMORY BD #	DESCRIPTION	SCSI HOST
501-1147	501-1079	2/50 0MB	501-1045
501-1172	501-1121	3/75 0MB	501-1045

Memory Boards That Can Use A 501-1045 SCSI

MEMORY BD #	DESCRIPTION
501-1020	2/50 1MB
501-1046	2/50 2MB
501-1047	2/50 4MB
501-1067	2/50 3MB
501-1079	2/50 0MB
501-1111	3/75 2MB
501-1121	3/75 0MB
501-1122	3/75 4MB

VMEbus BusGrant and Interrupt Acknowledge

This chart shows how the Bus Grant In/Out and Interrupt Acknowledge In/Out signals are connected on the board. Wired signals are not used. Open signals are selected with backplane jumpers. Option signals are enabled on the board and on the backplane.

DESCRIPTION	BG0IN to BG0OUT	BG1IN to BG1OUT	BG2IN to BG2OUT	BG3IN to BG3OUT	IACKIN to IACKOUT
3/110 CPU	Wired	Wired	Wired	Open	Wired
3004 CPU	Wired	Wired	Wired	Open	Wired
3200 CPU	Wired	Wired	Wired	Open	Wired
3400 CPU	Wired	Wired	Wired	Open	Open
4100 CPU	Wired	Wired	Wired	Open	Wired
4200 CPU	Wired	Wired	Wired	Open	Wired
4300 CPU	Wired	Wired	Wired	Open	Open
4400 CPU	Wired	Wired	Wired	Open	Wired
CG2 Color	Wired	Wired	Wired	Wired	Open
CG3 Color	Wired	Wired	Wired	Wired	Open
CG5 Color	Wired	Wired	Wired	Wired	Open
CG9 Color	Wired	Wired	Wired	Wired	Open
GB	Wired	Wired	Wired	Wired	Wired
GP & GP+	Wired	Wired	Wired	Open	Open
GP2	Wired	Wired	Wired	Wired	Wired
TAAC-1	Wired	Wired	Wired	Wired	Open
VX	Open	Open	Open	Open	Open
MVX	Wired	Wired	Wired	Open	Open
3/E Mono	Wired	Wired	Wired	Wired	Wired
3/E Color	Wired	Wired	Wired	Wired	Wired
VME-Multibus	Wired	Wired	Wired	Open	Open
Xylogics 7053	Option	Option	Option	Option	Open
ISP-80 IPI-2	Open	Open	Open	Open	Open
Prestoserve	Wired	Wired	Wired	Wired	Wired
ALM-2	Wired	Wired	Wired	Wired	Open
MCP	Wired	Wired	Wired	Wired	Open
HSI	Wired	Wired	Wired	Wired	Open
Channel Adapter	Option	Option	Option	Option	
FDDI	Wired	Open	Open	Open	Open
SCSI-2	Option	Option	Option	Option	Open
SCSI-3	Wired	Wired	Wired	Open	Open
3/E SCSI	Wired	Wired	Wired	Wired	Open
IPC	Open	Open	Open	Open	Open
FPA	Wired	Wired	Wired	Wired	Wired

Sun-3/50

PART#	DESCRIPTION
501-1074	2MB CPU w/o 68881
501-1075	4MB CPU w/o 68881
501-1133	4MB CPU w/o 68881
501-1162	4MB CPU w/o 68881
501-1207	4MB CPU w/68881

Sun-3/60

PART#	DESCRIPTION
501-1205	4MB CPU Monochrome
501-1322	4MB CPU Monoless
501-1334	0MB CPU Monochrome
501-1345	0MB CPU Monoless
501-1210	CG4 Frame Buffer
501-1239	1MB SIMM Module
501-1247	MG3 Mono Frame Buffer
501-1248	CG4 Color Frame Buffer
501-1210	CG4 Color Frame Buffer
501-1443	CG4 Color Frame Buffer
501-1374	CG6 Color Frame Buffer
501-1532	CG6 Color Frame Buffer
501-1505	CG6 Color Frame Buffer

Sun-3/75

PART#	DESCRIPTION
501-1074	2MB Sun 3100 CPU
501-1094	4MB Sun 3100 CPU
501-1163	2MB Sun 3100 CPU
501-1164	4MB Sun 3100 CPU
501-1121	0MB Memory
501-1111	2MB Memory
501-1122	4MB Memory
501-1172	0MB Memory with Sun-2 VME SCSI
501-1045	Sun-2 VME SCSI

Note: The 501-1236 SCSI, is not supported in the Sun-3/75.

Sun-3/80

PART#	DESCRIPTION
501-1401	Sun-3/80 CPU
501-1650	Sun-3/80 CPU
501-1408	1MB SIMM
501-1443	CG4 Color Frame Buffer
501-1374	CG6 Color Frame Buffer
501-1532	CG6 Color Frame Buffer
501-1505	CG6 Color Frame Buffer
501-1402	MG3 Mono Frame Buffer
501-1518	CG8 Color Frame Buffer
501-1577	CG8 Color Frame Buffer
150-1424	CPU SCSI Terminator
150-1537	CPU SCSI Terminator, Keyed

Sun386i/150/250

PART #	DESCRIPTION	P2Bus Slot 1	2	3	4
501-1241	Sun386i/150 20Mhz CPU	–	–	–	–
501-1414	Sun386i/150 20Mhz CPU	–	–	–	–
501-1324	Sun386i/250 25Mhz CPU	–	–	–	–
501-1413	Sun386i/250 25Mhz CPU	–	–	–	–
501-1298	8MB XP Cache Memory		B	A	–
501-1325	4MB XP Cache Memory		B	A	–
501-1482	0MB XP Cache Memory		B	A	–
501-1375	•1MB SIMM	–	–	–	–
501-1424	•1MB SIMM	–	–	–	–
501-1510	•1MB SIMM	–	–	–	–
555-1054	0MB XP Cache Memory		B	A	–
501-1375	•1MB SIMM	–	–	–	–
501-1424	•1MB SIMM	–	–	–	–
501-1394	4MB Dynamic Memory		B	A	–
501-1441	8MB Dynamic Memory		B	A	–
501-1423	0MB Dynamic Memory		B	A	–
501-1424	•1MB SIMM	–	–	–	–
501-1243	1152x900 Color FB	–	–	–	A
501-1286	1024x768 Color FB	–	–	–	A
501-1433	1024x768 Mono FB	–	–	–	A
501-1568	1024x768 Mono FB	–	–	–	A
501-1244	1152x900 Mono FB	–	–	–	A
501-1567	1152x900 Mono FB	–	–	–	A

Sun-3/110

SHUNTS		BOARD	SLOT POSITION		
BG3	IACK		1	2	3
Out	Out	Sun 3100 CPU [1]	A		
In	In	1st Memory [2]		A	
In	In	2nd Memory [2]			A
In	In	FPA	A	B	
Out	Out	1st SCP		A	B
Out	Out	2nd SCP			A
In	Out	1st MCP		A	B
In	Out	2nd MCP			A
In	Out	1st ALM-2		A	B
In	Out	2nd ALM-2			A
Out	Out	MAPkit		A	A
Out	Out	SCSI [3]		B	A
In	Out	HSI		A	B
Out	Out	Ethernet		B	A
In	Out	1st IPC [4]		B	A
In	Out	2nd IPC [4]		A	

Reference
Sun Systems Cardcage Slot Assignments and Backplane Configuration Procedures, 813-2004-16.

Sun-3/140

SHUNTS		BOARD	SLOT POSITION		
BG3	IACK		1	2	3
Out	Out	Sun 3100 CPU [5]	A		
In	In	1st Memory [2]		A	
In	In	2nd Memory [2]			A
In	In	FPA		A	B
Out	Out	1st SCP		A	B
Out	Out	2nd SCP			A
In	Out	1st MCP		A	B
In	Out	2nd MCP			A
In	Out	1st ALM-2		A	B
In	Out	2nd ALM-2			A
Out	Out	MAPkit		A	A
Out	Out	SCSI [3]		B	A
In	Out	HSI		A	B
Out	Out	Ethernet		B	A
In	Out	1st IPC [4]		B	A
In	Out	2nd IPC [4]		A	

References

1. *Sun Systems Cardcage Slot Assignments and Backplane Configuration Procedures*, 813-2004-16.
2. *Cardcage Slot Assignments and Backplane Configuration Procedures for the Sun 3/140*, 813-2025-05.

Sun-3/150

SHUNTS		BOARD	SLOT POSITION					
BG3	IACK		1	2	3	4	5	6
Out	Out	Sun 3004 CPU [5]	A					
In	In	1st Memory [2]		A				
In	In	FPA				A		
In	In	2nd Memory [2]			A			
In	In	3rd Memory [2]				A		
Out	Out	GP [6]					A	
In	In	GB						A
Out	N/A	ALM-1					A	A
Out	Out	1st SCP		A	B	C	D	E
Out	Out	2nd SCP			A	B	C	D
In	Out	1st MCP		A	B	C	D	E
In	Out	2nd MCP			A	B	C	D
In	Out	3rd MCP				A	B	C
In	Out	4th MCP					A	B
In	Out	1st ALM-2		A	B	C	D	E
In	Out	2nd ALM-2			A	B	C	D
In	Out	3rd ALM-2				A	B	C
In	Out	4th ALM-2					A	B
Out	Out	SunLink Channel		A	A	C	C	
–	–	Adapter			B	B	D	D
Out	Out	1st MAPkit		A	A	C	C	
–	–				B	B	D	D
Out	Out	2nd MAPkit				A	A	
–	–						B	B
Out	Out	SCSI [3]		A	B	C	D	E
In	Out	Color [7]		A	B	C	D	E
In	Out	CG5 with GP/GP+		A	B	C		
In	Out	CG5 with GP2						A
In	Out	HSI		A	B	C	D	E
Out	Out	Ethernet		A	B	C	D	E
Out	Out	FDDI		A	B	C	D	E
In	Out	1st IPC [4]		A	B	C	D	E
In	Out	2nd IPC [4]			A	B	C	D

References

1. *Sun Systems Cardcage Slot Assignments and Backplane Configuration Procedures*, 813-2004-16.
2. *Cardcage Slot Assignments and Backplane Configuration Procedures* for the Sun 3/150, 813-2038-05.

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Sun-3/160

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	Sun 3004 CPU 5	A											
In	In	1st Memory 2					A							
In	In	2nd Memory 2				A								
In	In	3rd Memory 2			A									
In	In	FPA						A						
Out	Out	GP 6										A		
In	In	GB											A	
In –	In –	TAAC-1 8		C	C D	C D	D		B	B	B	A	A	A
Out	N/A	ALM-1											A	A
Out	Out	SCSI 9							A					
Out	Out	1st SCP		E	A	B	C	D						
Out	Out	2nd SCP		D		A	B	C	E	F				
In	Out	1st MCP		E	A	B	C	D	F	G	H			
In	Out	2nd MCP		D		A	B	C	E	F	G	H	I	J
In	Out	3rd MCP		C			A	B	C	E	F	G	H	I
In	Out	4th MCP		B				A	B	C	E	F	G	H
in	Out	1st ALM-2		E	A	B	C	D	F	G	H	I	J	K
In	Out	2nd ALM-2		D		A	B	C	E	F	G	H	I	J
In	Out	3rd ALM-2		C			A	B	C	E	F	G	H	I
In	Out	4th ALM-2		B				A	B	C	E	F	G	H
Out –	Out –	1st SunLink Channel Adapter		A	A B	C B	C D	E D	E F	G F	G H	I H	I J	J
Out –	Out –	2nd SunLink Channel Adapter				A	A B	C B	C D	E D	E F	G F	G H	H
Out –	Out –	1st MAPkit		A	A B	C B	C D	E D	E F	G F	G H	I H	I J	J
Out –	Out –	2nd MAPkit				A	A B	C B	C D	E D	E F	G F	G H	H
In	Out	HSI		E	A	B	C	D	F	G	H	I	J	K
Out	Out	Ethernet		E	A	B	C	D	F	G	H	I	J	K

Sun-3/160 - Continued

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
In	Out	1st IPC 4		E	A	B	C	D	F	G	H	I	J	K
In	Out	2nd IPC 4		D		A	B	C	E	F	G	H	I	J
In	Out	3rd IPC 4		C			A	B	D	E	F	G	H	I
In	Out	4th IPC 4		B				A	C	D	E	F	G	H
Out	Out	1st Tape Ctlr 10							A	B	C	D	E	F
Out	Out	2nd Tape Ctlr 10								A	B	C	D	E
Out	Out	1st Disk Ctlr 11							A	B	C	D	E	F
Out	Out	2nd Disk Ctlr 11								A	B	C	D	E
In	Out	Color 12		K	A	B	C	D	E	F	G	H	I	J
In	Out	CG5 with GP/GP+		H	A	B	C	D	E	F	G			
In	Out	CG5 with GP2											A	B
Out	Out	1st Ext SCSI 13							A	B	C	D	E	F
Out	Out	2nd Ext SCSI 13								A	B	C	D	E

Note: For systems without a SCSI Host Adapter, use charts for the Sun-3/180 with 501-1138 or 501-1217 SCSI Host Adapter.

Reference
Sun Systems Cardcage Slot Assignments and Backplane Configuration Procedures, 813-2004-16.

Sun-3/180

with 501-1167 SCSI Host Adapter

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	Sun 3004 CPU 5	A											
In	In	1st Memory 2		A										
In	In	2nd Memory 2			A									
In	In	3rd Memory 2				A								
In	In	FPA						A						
Out	Out	GP 6										A		
In	In	GB											A	
In – –	In – –	TAAC-1 8		C	C D	C D E	D E	E	B	B	B	A	A	A
Out	N/A	1st ALM-1												A
Out	N/A	2nd ALM-1											A	
Out	N/A	3rd ALM-1										A		
Out	Out	SCSI 3							A					
Out	Out	1st SCP		A	B	C	D							
Out	Out	2nd SCP			A	B	C	D		E				
In	Out	1st MCP		A	B	C	D	E		F	G			
In	Out	2nd MCP			A	B	C	D		E	F	G	H	I
In	Out	3rd MCP				A	B	C		D	E	F	G	H
In	Out	4th MCP					A	B		C	D	E	F	G
In	Out	1st ALM-2		A	B	C	D	E		F	G			
In	Out	2nd ALM-2			A	B	C	D		E	F	G	H	I
In	Out	3rd ALM-2				A	B	C		D	E	F	G	H
In	Out	4th ALM-2					A	B		C	D	E	F	G
Out –	Out –	1st SunLink Channel Adapter		A	A B	C B	C D	D		E	E F	G F	G H	H
Out –	Out –	2nd SunLink Channel Adapter				A	A B	B		C	C D	E D	E F	F
Out –	Out –	1st MAPkit		A	A B	C B	C D	D		E	E F	G F	G H	H
Out –	Out –	2nd MAPkit				A	A B	B		C	C D	E D	E F	F

Sun-3/180 - Continued

with 501-1167 SCSI Host Adapter

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
In	Out	Color 12		A	B	C	D	E		F	G	H	I	J
In	Out	CG5 with GP/GP+		A	B	C	D	E		F	G			
In	Out	CG5 with GP2											A	B
In	Out	HSI		A	B	C	D	E		F	G	H	I	J
Out	Out	FDDI		A	B	C	D	E		F	G	H	I	J
In	Out	1st IPC 4		A	B	C	D	E		F	G	H	I	J
In	Out	2nd IPC 4			A	B	C	D		E	F	G	H	I
In	Out	3rd IPC 4				A	B	C		D	E	F	G	H
In	Out	4th IPC 4					A	B		C	D	E	F	G
Out	Out	1st Tape Ctlr 10								A	B	C	D	E
Out	Out	2nd Tape Ctlr 10									A	B	C	D
Out	Out	1st SMD Ctlr 11								A	B	C	D	E
Out	Out	2nd SMD Ctlr 11									A	B	C	D
Out	Out	3rd SMD Ctlr 14										A	B	C
Out	Out	4th SMD Ctlr 14											A	B

Note: For systems without a SCSI Host Adapter, use charts for the Sun-3/180 with 501-1138 or 501-1217 SCSI Host Adapter.

Reference
Sun Systems Cardcage Slot Assignments and Backplane Configuration Procedures, 813-2004-16.

Sun-3/180

with 501-1138 or 501-1217 SCSI Host Adapter

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	Sun 3004 CPU 5	A											
In	In	1st Memory 2		A										
In	In	2nd Memory 2			A									
In	In	3rd Memory 2				A								
In	In	FPA						A						
Out	Out	GP 6										A		
In	In	GB											A	
In ---	In - -	TAAC-1 8		C	C D	C D E	D E	E	B	B	B	A	A	A
Out	N/A	1st ALM-1												A
Out	N/A	2nd ALM-1											A	
Out	N/A	3rd ALM-1										A		
Out	Out	1st SCP		A	B	C	D							
Out	Out	2nd SCP			A	B	C	D	E					
In	Out	1st MCP		A	B	C	D	E	F	G				
In	Out	2nd MCP			A	B	C	D	E	F	G			
In	Out	3rd MCP				A	B	C	D	E	F	G	H	I
In	Out	4th MCP					A	B	C	D	E	F	G	H
In	Out	1st ALM-2		A	B	C	D	E	F	G	H	I	J	K
In	Out	2nd ALM-2			A	B	C	D	E	F	G	H	I	J
In	Out	3rd ALM-2				A	B	C	D	E	F	G	H	I
In	Out	4th ALM-2					A	B	C	D	E	F	G	H
Out -	Out -	1st SunLink Channel Adapter		A	A B	C B	C D	E D	E F	G F	G H	I H	I J	J
Out -	Out -	2nd SunLink Channel Adapter				A	A B	C B	C D	E D	E F	G F	G H	H
Out -	Out -	1st MAPkit		A	A B	C B	C D	E D	E F	G F	G H	I H	I J	J
Out -	Out -	2nd MAPkit				A	A B	C B	C D	E D	E F	G F	G H	H

Sun–3/180 – Continued

with 501–1138 or 501–1217 SCSI

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	SCSI		A	B	C	D	E	F	G	H	I	J	K
In	Out	Color [12]		A	B	C	D	E	F	G	H	I	J	K
In	Out	CG5 with GP/GP+		A	B	C	D	E	F	G	H			
In	Out	CG5 with GP2											A	B
In	Out	HSI		A	B	C	D	E	F	G	H	I	J	K
Out	Out	Ethernet		A	B	C	D	E	F	G	H	I	J	K
Out	Out	FDDI		A	B	C	D	E	F	G	H	I	J	K
In	Out	1st IPC [4]		A	B	C	D	E	F	G	H	I	J	K
In	Out	2nd IPC [4]			A	B	C	D	E	F	G	H	I	J
In	Out	3rd IPC [4]				A	B	C	D	E	F	G	H	I
In	Out	4th IPC [4]					A	B	C	D	E	F	G	H
In	Out	1st Tape Ctlr [10]		A	B	C	D	E	F	G	H	I	J	K
In	Out	2nd Tape Ctlr [10]			A	B	C	D	E	F	G	H	I	J
Out	Out	1st SMD Ctlr [11]		A	B	C	D	E	F	G	H	I	J	K
Out	Out	2nd SMD Ctlr [11]			A	B	C	D	E	F	G	H	I	J
Out	Out	3rd SMD Ctlr [14]				A	B	C	D	E	F	G	H	I
Out	Out	4th SMD Ctlr [14]					A	B	C	D	E	F	G	H

Reference
Sun Systems Cardcage Slot Assignments and Backplane Configuration Procedures, 813–2004–16.

Sun-3/180

with 501-1138 or 501-1217 SCSI Host Adapter

Slots 7,8,9 reserved for non-Sun boards that use P2

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	Sun 3004 CPU [5]	A											
In	In	1st Memory [2]		A										
In	In	2nd Memory [2]			A									
In	In	3rd Memory [2]				A								
In	In	FPA						A						
Out	Out	GP [6]										A		
In	In	GB											A	
In – –	In – –	TAAC-1 [8]		B	B C	B C D	C D	D				A	A	A
Out	N/A	1st ALM-1												A
Out	N/A	2nd ALM-1											A	
Out	N/A	3rd ALM-1										A		
Out	Out	1st SCP		A	B	C	D							
Out	Out	2nd SCP			A	B	C	D				E	F	G
In	Out	1st MCP		A	B	C	D	E				F	G	H
In	Out	2nd MCP			A	B	C	D				E	F	G
In	Out	3rd MCP				A	B	C				D	E	F
In	Out	4th MCP					A	B				C	D	E
In	Out	1st ALM-2		A	B	C	D	E				F	G	H
In	Out	2nd ALM-2			A	B	C	D				E	F	G
In	Out	3rd ALM-2				A	B	C				D	E	F
In	Out	4th ALM-2					A	B					C	D
Out –	Out –	1st SunLink Channel Adapter		A	A B	C B	C D	D				E	E F	F
Out –	Out –	2nd SunLink Channel Adapter				A	A B	B				C	C D	D
Out –	Out –	1st MAPkit		A	A B	C B	C D	D				E	E F	F
Out –	Out –	2nd MAPkit				A	A B	B				C	C D	D

Sun-3/180 - Continued

with 501-1138 or 501-1217 SCSI Host Adapter

Slots 7,8,9 reserved for non-Sun boards that use P2

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	SCSI 3		A	B	C	D	E				F	G	H
In	Out	Color 12		A	B	C	D	E				F	G	H
In	Out	CG5 with GP/GP+		A	B	C	D	E						
In	Out	CG5 with GP2											A	B
In	Out	HSI		A	B	C	D	E				F	G	H
Out	Out	Ethernet		A	B	C	D	E				F	G	H
Out	Out	FDDI		A	B	C	D	E				F	G	H
In	Out	1st IPC 4		A	B	C	D	E				F	G	H
In	Out	2nd IPC 4			A	B	C	D				E	F	G
In	Out	3rd IPC 4				A	B	C				D	E	F
In	Out	4th IPC 4					A	B				C	D	E
In	Out	1st Tape Ctlr 10		A	B	C	D	E				F	G	H
In	Out	2nd Tape Ctlr 10			A	B	C	D				E	F	G
Out	Out	1st Disk Ctlr 11		A	B	C	D	E				F	G	H
Out	Out	2nd Disk Ctlr 11			A	B	C	D				E	F	G
Out	Out	3rd Disk Ctlr 14				A	B	C				D	E	F
Out	Out	4th Disk Ctlr 14					A	B				C	D	E

Reference
Sun Systems Cardcage Slot Assignments and Backplane Configuration Procedures, 813-2004-16.

Sun-3/110/140/150/160/180

NOTE #	PART#	BOARD
1	501-1134 501-1209	Sun-3/110 CPU Sun-3/110 CPU
2	501-1131 501-1132	2MB Memory 4MB Memory The 501-1131 is NOT supported in the Sun-3/110 or the Sun-3/150.
3	501-1138 501-1217	Sun-2 SCSI Host Adapter Assembly Sun-3 SCSI Host Adapter Assembly
4	501-1125 501-1214	SunIPC without 80287 SunIPC with 80287
5	501-1074 501-1094 501-1163 501-1164 501-1208	2MB Sun 3004 CPU 4MB Sun 3004 CPU 2MB Sun 3004 CPU 4MB Sun 3004 CPU 4MB Sun 3004 CPU
6	501-1055 501-1139 501-1268	Graphics Processor Graphics Processor + Graphics Processor 2
7	501-1116 501-1267	Sun-3 Color Frame Buffer CG5 Color Frame Buffer
8	501-1383 501-1447	TAAC-1 Application Accelerator TAAC-1 Application Accelerator
9	501-1149 501-1170	Sun-2 SCSI Host Adapter Assembly Sun-3 SCSI Host Adapter Assembly
10	501-1155 501-1156	Xylogics 472 Tape Controller Assembly Tapemaster Tape Controller Assembly
11	501-1154 501-1166 501-1249	Xylogics 450 Disk Controller Assembly Xylogics 451 Disk Controller Assembly Xylogics 7053 Disk Controller

Sun-3/110/140/150/160/180
Continued

NOTE #	PART#	BOARD
12	501-1014 501-1116 501-1267	Sun-2 Color Frame Buffer Sun-3 Color Frame Buffer CG5 Color Frame Buffer
13	501-1217	Sun-3 SCSI Host Adapter Assy
14	501-1249	Xylogics 7053 Disk Controller

Sun-3/260

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	Sun 3200 CPU 1	A											
In	In	1st Memory 2						A						
In	In	2nd Memory 2				A								
In	In	3rd Memory 2			A									
In	In	4th Memory 2		A										
In	In	FPA					A							
Out	Out	GP 3										A		
In	In	GB											A	
In – –	In – –	TAAC-1 4		C	C D	C D E	D E	E	B	B	B	A	A	A
Out	N/A	ALM-1											A	A
Out	Out	SCSI 5							A					
Out	Out	1st SCP		D	A	B	C		E	F				
Out	Out	2nd SCP		C		A	B		D	E	F			
In	Out	1st MCP		D	A	B	C		E	F	G	H	I	J
In	Out	2nd MCP		C		A	B		D	E	F	G	H	I
In	Out	3rd MCP		B			A		C	D	E	F	G	H
In	Out	4th MCP		A					B	C	D	E	F	G
In	Out	1st ALM-2		D	A	B	C		E	F	G	H	I	J
In	Out	2nd ALM-2		C		A	B		D	E	F	G	H	I
In	Out	3rd ALM-2		B			A		C	D	E	F	G	H
In	Out	4th ALM-2		A					B	C	D	E	F	G
Out –	Out –	1st SunLink Channel Adapter		A	A B	C B	C		D	D E	F E	F G	H G	H
Out –	Out –	2nd SunLink Channel Adapter				A	A		B	B C	D C	D E	F E	F
Out –	Out –	1st MAPkit		A	A B	C B	C		D	D E	F E	F G	H G	H
Out –	Out –	2nd MAPkit				A	A		B	B C	D C	D E	F E	F
In	Out	HSI		D	A	B	C		E	F	G	H	I	J
Out	Out	Ethernet		D	A	B	C		E	F	G	H	I	J

Sun-3/260 - Continued

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	1st FDDI		D	A	B	C		E	F	G	H	I	J
Out	Out	2nd FDDI		C		A	B		D	E	F	G	H	I
In	Out	1st IPC 6		D	A	B	C		E	F	G	H	I	J
In	Out	2nd IPC 6		C		A	B		D	E	F	G	H	I
In	Out	3rd IPC 6		B			A		C	D	E	F	G	H
In	Out	4th IPC 6		A					B	C	D	E	F	G
Out	Out	1st Tape Ctlr 7							A	B	C	D	E	F
Out	Out	2nd Tape Ctlr 7								A	B	C	D	E
Out	Out	1st SMD Ctlr 8							A	B	C	D	E	F
Out	Out	2nd SMD Ctlr 8								A	B	C	D	E
In	Out	Color 9		J	A	B	C		D	E	F	G	H	I
In	Out	CG5 with GP/GP+		G	A	B	C		D	E	F			
In	Out	CG5 with GP2											A	B
In	Out	CG9											A	B
Out	Out	1st Ext SCSI 10							A	B	C	D	E	F
Out	Out	2nd Ext SCSI 10								A	B	C	D	E

Note: For systems without a SCSI Host Adapter, use charts for the Sun-3/280 with 501-1138 or 501-1217 SCSI Host Adapter.

Reference
Sun Systems Cardcage Slot Assignments and Backplane Configuration Procedures, 813-2004-16.

Sun-3/280

with 501-1167 SCSI Host Adapter

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	Sun 3200 CPU 1	A											
In	In	1st Memory 2						A						
In	In	2nd Memory 2		A										
In	In	3rd Memory 2			A									
In	In	4th Memory 2				A								
In	In	FPA					A							
Out	Out	GP 3										A		
In	In	GB											A	
In – –	In – –	TAAC-1 4		C	C D	C D E	D E	E	B	B	B	A	A	A
Out	N/A	1st ALM-1												A
Out	Out	2nd ALM-1											A	
Out	Out	3rd ALM-1										A		
Out	Out	SCSI 11							A					
Out	Out	1st SCP		A	B	C	D			E				
Out	Out	2nd SCP			A	B	C			D	E			
In	Out	1st MCP		A	B	C	D			E	F	G	H	I
In	Out	2nd MCP			A	B	C			D	E	F	G	H
In	Out	3rd MCP				A	B			C	D	E	F	G
In	Out	4th MCP					A			B	C	D	E	F
In	Out	1st ALM-2		A	B	C	D			E	F	G	H	I
In	Out	2nd ALM-2			A	B	C			D	E	F	G	H
In	Out	3rd ALM-2				A	B			C	D	E	F	G
In	Out	4th ALM-2					A			B	C	D	E	F
Out –	Out –	1st SunLink Channel Adapter		A	A B	C B	C			D	D E	F E	F G	G
Out –	Out –	2nd SunLink Channel Adapter				A	A			B	B C	D C	D E	E
Out –	Out –	1st MAPkit		A	A B	C B	C		E	D E	D D	F D	F	
Out –	Out –	2nd MAPkit				A	A			B	B C	D C	D E	E

Sun-3/280 - Continued

with 501-1167 SCSI Host Adapter

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
In	Out	Color 9		A	B	C	D			E	F	G	H	I
In	Out	CG5 with GP/GP+		A	B	C	D			E	F			
In	Out	CG5 with GP2											A	B
In	Out	1st HSI		A	B	C	D			E	F	G	H	I
In	Out	2nd HSI			A	B	C			D	E	F	G	H
Out	Out	1st FDDI		A	B	C	D			E	F	G	H	I
Out	Out	2nd FDDI			A	B	C			D	E	F	G	H
Out	Out	Ethernet		A	B	C	D			E	F	G	H	I
In	Out	1st IPC 6		A	B	C	D			E	F	G	H	I
In	Out	2nd IPC 6			A	B	C			D	E	F	G	H
In	Out	3rd IPC 6				A	B			C	D	E	F	G
In	Out	4th IPC 6					A			B	C	D	E	F
Out	Out	1st Tape Ctlr 7								A	B	C	D	E
Out	Out	2nd Tape Ctlr 7									A	B	C	D
Out	Out	1st Disk Ctlr 8								A	B	C	D	E
Out	Out	2nd Disk Ctlr 8									A	B	C	D
Out	Out	3rd Disk Ctlr 12										A	B	C
Out	Out	4th Disk Ctlr 12											A	B

Reference
Sun Systems Cardcage Slot Assignments and Backplane Configuration Procedures, 813-2004-16.

Sun-3/280

with 501-1138 or 501-1217 SCSI Host Adapter

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	Sun 3200 CPU 1	A											
In	In	1st Memory 2						A						
In	In	2nd Memory 2		A										
In	In	3rd Memory 2			A									
In	In	4th Memory 2				A								
In	In	FPA					A							
Out	Out	GP 3										A		
In	In	GB											A	
In – –	In – –	TAAC-1 4		C	C D	C D E	D E	E	B	B	B	A	A	A
Out	N/A	1st ALM-1												A
Out	Out	2nd ALM-1											A	
Out	Out	3rd ALM-1										A		
Out	Out	1st SCP		A	B	C	D			E				
Out	Out	2nd SCP			A	B	C			D	E			
In	Out	1st MCP		A	B	C	D		E	F	G			
In	Out	2nd MCP			A	B	C		D	E	F	G	H	I
In	Out	3rd MCP				A	B		C	D	E	F	G	H
In	Out	4th MCP					A		B	C	D	E	F	G
In	Out	1st ALM-2		A	B	C	D		E	F	G	H	I	J
In	Out	2nd ALM-2			A	B	C		D	E	F	G	H	I
In	Out	3rd ALM-2				A	B		C	D	E	F	G	H
In	Out	4th ALM-2					A		B	C	D	E	F	G
Out	Out --	1st SunLink Channel Adapter		A	A B	C B	C		D	D E	F E	F G	H G	H
Out –	Out –	2nd SunLink Channel Adapter				A	A		B	B C	D C	D E	F E	F
Out –	Out –	1st MAPkit		A	A B	C B	C		D	D E	F E	F	G	G
Out –	Out –	2nd MAPkit				A	A		B	B C	D C	D E	F E	F

Sun-3/280 - Continued

with 501-1138 or 501-1217 SCSI Host Adapter

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	SCSI 10		A	B	C	D		E	F	G	H	I	J
In	Out	Color 9		A	B	C	D		E	F	G	H	I	J
In	Out	CG5 with GP/GP+		A	B	C	D		E	F	G			
In	Out	CG5 with GP2											A	B
In	Out	1st HSI		A	B	C	D		E	F	G	H	I	J
In	Out	2nd HSI			A	B	C		D	E	F	G	H	I
Out	Out	Ethernet		A	B	C	D		E	F	G	H	I	J
Out	Out	1st FDDI		A	B	C	D		E	F	G	H	I	J
Out	Out	2nd FDDI			A	B	C		D	E	F	G	H	I
In	Out	1st IPC 6		A	B	C	D		E	F	G	H	I	J
In	Out	2nd IPC 6			A	B	C		D	E	F	G	H	I
In	Out	3rd IPC 6				A	B		C	D	E	F	G	H
In	Out	4th IPC 6					A		B	C	D	E	F	G
Out	Out	1st Tape Ctlr 7		A	B	C	D		E	F	G	H	I	J
Out	Out	2nd Tape Ctlr 7			A	B	C		D	E	F	G	H	I
Out	Out	1st Disk Ctlr 8		A	B	C	D		E	F	G	H	I	J
Out	Out	2nd Disk Ctlr 8			A	B	C		D	D	F	G	H	I
Out	Out	3rd Disk Ctlr 12				A	B		C	D	E	F	G	H
Out	Out	4th Disk Ctlr 12					A		B	C	D	E	F	G

Reference
Sun Systems Cardcage Slot Assignments and Backplane Configuration Procedures, 813-2004-16.

Sun-3/280

with 501-1138 or 501-1217 SCSI Host Adapter

Slots 7,8,9 reserved for non-Sun boards that use P2

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	Sun 3200 CPU 1	A											
In	In	1st Memory 2						A						
In	In	2nd Memory 2		A										
In	In	3rd Memory 2				A								
In	In	4th Memory 2					A							
In	In	FPA						A						
Out	Out	GP 3										A		
In	In	GB											A	
In – –	In – –	TAAC-1 4		B	B C	B C D	 C D	 D				A	A	A
Out	N/A	1st ALM-1												A
Out	Out	2nd ALM-1											A	
Out	Out	3rd ALM-1										A		
Out	Out	1st SCP		A	B	C	D					E	F	G
Out	Out	2nd SCP			A	B	C					D	E	F
In	Out	1st MCP		A	B	C	D					E	F	G
In	Out	2nd MCP			A	B	C					D	E	F
In	Out	3rd MCP				A	B					C	D	E
In	Out	4th MCP					A					B	C	D
In	Out	1st ALM-2		A	B	C	D					E	F	G
In	Out	2nd ALM-2			A	B	C					D	E	F
In	Out	3rd ALM-2				A	B					C	D	E
In	Out	4th ALM-2					A					B	C	D
Out –	Out –	1st SunLink Channel Adapter		A	A B	C B	C D	 D				E	E F	 F
Out –	Out –	2nd SunLink Channel Adapter				A	A B	 B				C	C D	 D
Out –	Out –	1st MAPkit		A	A B	C B	C D	 D				E	E F	 F
Out –	Out –	2nd MAPkit				A	A B	 B				C	C D	 D

Sun-3/280 - Continued

with 501-1138 or 501-1217 SCSI

Slots 7,8,9 reserved for non-Sun boards that use P2

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	SCSI 10		A	B	C	D					E	F	G
In	Out	Color 9		A	B	C	D					E	F	G
In	Out	CG5 with GP/GP+		A	B	C	D							
In	Out	CG5 with GP2											A	B
In	Out	1st HSI		A	B	C	D					E	F	G
In	Out	2nd HSI			A	B	C					D	E	F
Out	Out	Ethernet		A	B	C	D					E	F	G
Out	Out	1st FDDI		A	B	C	D					E	F	G
Out	Out	2nd FDDI			A	B	C					D	E	F
In	Out	1st IPC 6		A	B	C	D					E	F	G
In	Out	2nd IPC 6			A	B	C					D	E	F
In	Out	3rd IPC 6				A	B					C	D	E
In	Out	4th IPC 6					A					B	C	D
Out	Out	1st Tape Ctlr 7		A	B	C	D					E	F	G
Out	Out	2nd Tape Ctlr 7			A	B	C					D	E	F
Out	Out	1st Disk Ctlr 8		A	B	C	D					E	F	G
Out	Out	2nd Disk Ctlr 8			A	B	C					D	E	F
Out	Out	3rd Disk Ctlr 12				A	B					C	D	E
Out	Out	4th Disk Ctlr 12					A					B	C	D

Reference
Sun Systems Cardcage Slot Assignments and Backplane Configuration Procedures, 813-2004-16.

Sun-3/260/280

NOTE #	PART#	BOARD
1	501-1100 501-1206	Sun 3200 CPU Sun 3200 CPU
2	501-1102 501-1576	8MB Memory 16MB Memory
3	501-1055 501-1139 501-1268	Graphics Processor Graphics Processor + Graphics Processor 2
4	501-1383 501-1447	TAAC-1 Application Accelerator TAAC-1 Application Accelerator
5	501-1149 501-1170	Sun-2 SCSI Host Adapter Assembly Sun-3 SCSI Host Adapter Assembly
6	501-1125 501-1214	SunIPC without 80287 SunIPC with 80287
7	501-1155 501-1156	Xylogics 472 Tape Controller Assy Tapemaster Tape Controller Assy
8	501-1154 501-1166	Xylogics 450 Disk Controller Assy Xylogics 451 Disk Controller Assy
9	501-1014 501-1116 501-1267	Sun-2 Color Frame Buffer Sun-3 Color Frame Buffer CG5 Color Frame Buffer
10	501-1138 501-1217	Sun-2 SCSI Host Adapter Assembly Sun-3 SCSI Host Adapter Assembly
11	501-1167	Sun-2 SCSI Host Adapter Assembly
12	501-1249	Xylogics 7053 Disk Controller

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Sun-3/460

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	Sun 3400 CPU	A	A										
In	In	1st Memory 1						A						
In	In	2nd Memory 1				B	A							
In	In	3rd Memory 1			B	A								
In	In	4th Memory 1			A									
In	In	FPA					A							
Out	Out	GP 2										A		
In	In	GB											A	
In – –	In – –	TAAC-1 3		C	C D	C D E	D E	E	B	B	B	A	A	A
Out	N/A	ALM-1											A	A
Out	Out	SCSI 4							A					
Out	Out	1st SCP			A	B	C		D	E	F	G	H	I
Out	Out	2nd SCP				A	B		C	D	E	F	G	H
In	Out	1st MCP			A	B	C		D	E	F	G	H	I
In	Out	2nd MCP				A	B		C	D	E	F	G	H
In	Out	3rd MCP					A		B	C	D	E	F	G
In	Out	4th MCP							A	B	C	D	E	F
In	Out	1st ALM-2			A	B	C		E	F	G	H	I	J
In	Out	2nd ALM-2				A	B		D	E	F	G	H	I
In	Out	3rd ALM-2					A		C	D	E	F	G	H
In	Out	4th ALM-2							B	C	D	E	F	G
Out –	Out –	1st SunLink Channel Adapter			A	A B	B		C	C F	E F	E D	G D	G
Out –	Out –	2nd SunLink Channel Adapter							A	A B	C B	C D	E D	E
Out –	Out –	1st MAPkit			A	A B	B		C	C F	E F	E D	G D	G
Out –	Out –	2nd MAPkit							A	A B	C B	C D	E D	E

Sun–3/460 – Continued

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
In	Out	Color [5]			A	B	C		D	E	F	G	H	I
In	Out	CG5 with GP/GP+			A	B	C		D	E	F			
In	Out	CG5 with GP2											A	B
In	Out	CG9 Color											A	B
In	Out	1st HSI			A	B	C		D	E	F	G	H	I
In	Out	2nd HSI				A	B		C	D	E	F	G	H
Out	Out	Ethernet			A	B	C		D	E	F	G	H	I
Out	Out	1st FDDI			A	B	C		D	E	F	G	H	I
Out	Out	2nd FDDI				A	B		C	D	E	F	G	H
In	Out	1st IPC [6]			A	B	C		D	E	F	G	H	I
In	Out	2nd IPC [6]				A	B		C	D	E	F	G	H
In	Out	3rd IPC [6]					A		B	C	D	E	F	G
In	Out	4th IPC [6]							A	B	C	D	E	F
Out	Out	1st Tape Ctlr [7]							A	B	C	D	E	F
Out	Out	2nd Tape Ctlr [7]								A	B	C	D	E
Out	Out	1st Disk Ctlr [8]							A	B	C	D	E	F
Out	Out	2nd Disk Ctlr [8]								A	B	C	D	E

References
1. *Sun Systems Cardcage Slot Assignments and Backplane Configuration Procedures*, 813–2004–16.
2. *Sun–3/460 and 3/480 Cardcage Slot Assignments and Backplane Configuration Procedures*, 813–2056–11.

Sun-3/470

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	Sun 3400 CPU				A	A							
In	In	1st Memory 1	A											
In	In	2nd Memory 1		A										
In	In	3rd Memory 1			A									
In	In	FPA						A						
In	In	4th Memory 1							A					
Out	Out	GP 2										A		
In	In	GB											A	
In	In	TAAC-1 3		C	C	C			B	B	B	A	A	A
Out	In	ALM-1										A	A	A
Out	Out	1st SCP						A	B	C	D	E	F	G
Out	Out	2nd SCP							A	B	C	D	E	F
In	Out	1st MCP						A	B	C	D	E	F	G
In	Out	2nd MCP							A	B	C	D	E	F
In	Out	3rd MCP								A	B	C	D	E
In	Out	4th MCP									A	B	C	D
In	Out	1st ALM-2						A	B	C	D	E	F	G
In	Out	2nd ALM-2							A	B	C	D	E	F
In	Out	3rd ALM-2								A	B	C	D	E
In	Out	4th ALM-2									A	B	C	D
Out	Out	1st SunLink						A	A	C	C	E	E	
--		Channel Adapter							B	B	D	D	F	F
Out	Out	2nd SunLink								A	A	C	C	
-	-	Channel Adapter									B	B	D	D
Out	Out	1st MAPkit						A	A	C	C	E	E	
-	-								B	B	D	D	F	F
Out	Out	2nd MAPkit								A	A	C	C	
-	-										B	B	D	D
Out	Out	SCSI 9						A	B	C	D	E	F	G
In	Out	Color 5						A	B	C	D	E	F	G
In	Out	CG5 with GP/GP+						A	B	C	D			
In	Out	CG5 with GP2											A	B
In	Out	CG9 Color											A	B

Sun-3/470 - Continued

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
In	Out	1st HSI						A	B	C	D	E	F	G
In	Out	2nd HSI							A	B	C	D	E	F
Out	Out	Ethernet						A	B	C	D	E	F	G
Out	Out	1st FDDI						A	B	C	D	E	F	G
Out	Out	2nd FDDI							A	B	C	D	E	F
In	Out	1st IPC 6						A	B	C	D	E	F	G
In	Out	2nd IPC 6							A	B	C	D	E	F
In	Out	3rd IPC 6								A	B	C	D	E
In	Out	4th IPC 6									A	B	C	D
Out	Out	1st Tape Ctlr 7						A	B	C	D	E	F	G
Out	Out	2nd Tape Ctlr 7							A	B	C	D	E	F
Out	Out	1st Disk Ctlr 8						A	B	C	D	E	F	G
Out	Out	2nd Disk Ctlr 8							A	B	C	D	E	F
Out	Out	3rd Disk Ctlr 10								A	B	C	D	E
Out	Out	4th Disk Ctlr 10									A	B	C	D

Notes
1. Remove jumpers P10, P11, P12, and P13 from the 501-1598 Backplane when the Sun 3400 board set is installed.
2. Remove jumpers P10, P11, P12, and P13 from the 501-1832 Backplane when the Sun 3400 board set is installed.

References
1. *Sun Systems Cardcage Slot Assignments and Backplane Configuration Procedures*, 813-2004-16.
2. *Sun-3/470 Deskside Workstation Cardcage Slot Assignments and Backplane Configuration Procedures*, 813-2073-11.

Sun-3/480

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	Sun 3400 CPU	A	A										
In	In	1st Memory 1						A						
In	In	FPA					A							
In	In	2nd Memory 1		A										
In	In	3rd Memory 1			A									
In	In	4th Memory 1				A								
Out	Out	GP 2										A		
In	In	GB											A	
In –	In –	TAAC-1 3			C	C D	C D	 D	B	B	B	A	A	A
Out	In	1st ALM-1												A
Out	Out	2nd ALM-1											A	
Out	Out	3rd ALM-1										A		
Out	Out	1st SCP			A	B	C		D	E	F	G	H	I
Out	Out	2nd SCP				A	B		C	D	E	F	G	H
In	Out	1st MCP			A	B	C		D	E	F	G	H	I
In	Out	2nd MCP				A	B		C	D	E	F	G	H
In	Out	3rd MCP					A		B	C	D	E	F	G
In	Out	4th MCP							A	B	C	D	E	F
In	Out	1st ALM-2			A	B	C		D	E	F	G	H	I
In	Out	2nd ALM-2				A	B		C	D	E	F	G	H
In	Out	3rd ALM-2					A		B	C	D	E	F	G
In	Out	4th ALM-2							A	B	C	D	E	F
Out –	Out –	1st SunLink Channel Adapter			A	A B	 B		C	C D	E D	E F	G F	G
Out –	Out –	2nd SunLink Channel Adapter							A	A B	C B	C D	E D	E
Out –	Out –	1st MAPkit			A	A B	 B		C	C D	E D	E F	G F	G
Out –	Out –	2nd MAPkit							A	A B	C B	C D	E D	E
Out	Out	SCSI 9			A	B	C		D	E	F	G	H	I

Sun–3/480 – Continued

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
In	Out	Color 5			A	B	C		D	E	F	G	H	I
In	Out	CG5 with GP/GP+			A	B	C		D	E	F			
In	Out	CG5 with GP2											A	B
In	Out	CG9 Color											A	B
In	Out	1st HSI			A	B	C		D	E	F	G	H	I
In	Out	2nd HSI				A	B		C	D	E	F	G	H
Out	Out	Ethernet			A	B	C		D	E	F	G	H	I
Out	Out	1st FDDI			A	B	C		D	E	F	G	H	I
Out	Out	2nd FDDI				A	B		C	D	E	F	G	H
In	Out	1st IPC 6			A	B	C		D	E	F	G	H	I
In	Out	2nd IPC 6				A	B		C	D	E	F	G	H
In	Out	3rd IPC 6					A		B	C	D	E	F	G
In	Out	4th IPC 6							A	B	C	D	E	F
Out	Out	1st Tape Ctlr 7			A	B	C		D	E	F	G	H	I
Out	Out	2nd Tape Ctlr 7				A	B		C	D	E	F	G	H
Out	Out	1st Disk Ctlr 8			A	B	C		D	E	F	G	H	I
Out	Out	2nd Disk Ctlr 8				A	B		C	D	D	F	G	H
Out	Out	3rd Disk Ctlr 10					A		B	C	D	E	F	G
Out	Out	4th Disk Ctlr 10							A	B	C	D	E	F

References
1. *Sun Systems Cardcage Slot Assignments and Backplane Configuration Procedures*, 813–2004–16.
2. *Sun–3/460 and 3/480 Cardcage Slot Assignments and Backplane Configuration Procedures*, 813–2056–11.

Sun-3/480

Slots 7,8,9 reserved for non-Sun boards that use P2

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	Sun 3400 CPU	A	A										
In	In	1st Memory 1						A						
In	In	FPA					A							
In	In	2nd Memory 1			A									
In	In	3rd Memory 1				A								
In	In	4th Memory 1					A							
Out	Out	GP 2										A		
In	In	GB											A	
In –	In –	TAAC-1 3			B	B C	B C	 C				A	A	A
Out	Out	1st ALM-1												A
Out	Out	2nd ALM-1											A	
Out	Out	3rd ALM-1										A		
Out	Out	1st SCP			A	B	C					D	E	F
Out	Out	2nd SCP				A	B					C	D	E
In	Out	1st MCP			A	B	C					D	E	F
In	Out	2nd MCP				A	B					C	D	E
In	Out	3rd MCP					A					B	C	D
In	Out	4th MCP										A	B	C
In	Out	1st ALM-2			A	B	C					D	E	F
In	Out	2nd ALM-2				A	B					C	D	E
In	Out	3rd ALM-2					A					B	C	D
In	Out	4th ALM-2										A	B	C
Out –	Out –	1st SunLink Channel Adapter			A	A B	 B					C	C D	 D
Out –	Out –	2nd SunLink Channel Adapter										A	A B	 B
Out –	Out –	1st MAPkit			A	A B	 B					C	C D	 D
Out –	Out –	2nd MAPkit										A	A B	 B

Sun-3/480 - Continued

Slots 7,8,9 reserved for non-Sun boards that use P2

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	SCSI 9			A	B	C					D	E	F
In	Out	Color 5			A	B	C					D	E	F
In	Out	CG5 with GP/GP+			A	B	C							
In	Out	CG5 with GP2											A	B
In	Out	CG9 Color											A	B
In	Out	1st HSI			A	B	C					D	E	F
In	Out	2nd HSI				A	B					C	D	E
Out	Out	Ethernet			A	B	C					D	E	F
Out	Out	1st FDDI			A	B	C					D	E	F
Out	Out	2nd FDDI				A	B					C	D	E
In	Out	1st IPC 6			A	B	C					D	E	F
In	Out	2nd IPC 6				A	B					C	D	E
In	Out	3rd IPC 6					A					B	C	D
In	Out	4th IPC 6										A	B	C
Out	Out	1st Tape Ctlr 7			A	B	C					D	E	F
Out	Out	2nd Tape Ctlr 7				A	B					C	D	E
Out	Out	1st Disk Ctlr 8			A	B	C					D	E	F
Out	Out	2nd Disk Ctlr 8				A	B					C	D	D
Out	Out	3rd Disk Ctlr 10					A					B	C	D
Out	Out	4th Disk Ctlr 10										A	B	C

References
1. *Sun Systems Cardcage Slot Assignments and Backplane Configuration Procedures*, 813-2004-16.
2. *Sun-3/460 and 3/480 Cardcage Slot Assignments and Backplane Configuration Procedures*, 813-2056-11.

Sun-3/460/470/480

NOTE #	PART#	BOARD
	501-1532 501-1518 501-1371 501-1374 501-1248 501-1402 501-1446	CG6 Color Frame Buffer CG8 24-bit Color Frame Buffer CG8 24-bit Color Frame Buffer CG6 Color Frame Buffer CG4 Color Frame Buffer MG4 Mono Frame Buffer FPA+
1	501-1102 501-1451 501-1576	8MB Memory 32MB Memory 16MB Memory
2	501-1055 501-1139 501-1268	Graphics Processor (GP) Graphics Processor Plus (GP+) Graphics Processor 2 (GP2)
3	501-1383 501-1447	TAAC-1 Application Accelerator TAAC-1 Application Accelerator
4	501-1149 501-1170	Sun-2 VME SCSI Assembly Sun-3 VME SCSI Assembly
5	501-1014 501-1116 501-1267	Sun-2 Color Frame Buffer Sun-3 Color Frame Buffer CG5 Color Frame Buffer
6	501-1125 501-1214	SunIPC without 80287 SunIPC with 80287
7	501-1155 501-1156	Xylogics 472 Tape Controller Assy Tapemaster Tape Controller Assembly
8	501-1154 501-1166 501-1249	Xylogics 450 Disk Controller Assembly Xylogics 451 Disk Controller Assembly Xylogics 7053 Disk Controller
9	501-1138 501-1217	Sun-2 SCSI Host Adapter Assembly Sun-3 SCSI Host Adapter Assembly
10	501-1249	Xylogics 7053 Disk Controller

Sun-4/20

PART #	DESCRIPTION
501-1627	8MB Sun-4/20 CPU
501-1720	8MB Sun-4/20 CPU
501-1776	8MB Sun-4/20 CPU
501-1748	0MB Sun-4/20 CPU FRU
501-1680	0MB Sun-4/20 CPU FRU
501-1777	0MB Sun-4/20 CPU FRU
501-1676	4MB SIMM
501-1698	4MB SIMM

Sun-4/25

PART #	DESCRIPTION
501-1730	8MB Sun-4/25 CPU
501-1812	0MB Sun-4/25 CPU FRU
501-1812	4MB SIMM
501-1822	16MB SIMM

Sun-4/40

PART #	DESCRIPTION	SBus Slot 1	SBus Slot 2
501-1689	8MB Sun-4/40 CPU	-	-
501-1835	8MB Sun-4/40 CPU	-	-
501-1690	0MB Sun-4/40 CPU	-	-
501-1408	1MB SIMM	-	-
501-1625	4MB SIMM	-	-
501-1415	CG3 66hz Color	A	B
501-1718	CG3 66/76hz Color	A	B
501-1645	CG6 66hz Color	A	A
501-1672	CG6 66/76hz Color	A	B
501-1419	MG1 66hz ECL	A	B
501-1706	VideoPics	A	B
501-1450	SBus Ethernet	A	B
501-1881	SBus Ethernet	A	B
501-1540	SBus Printer	A	B
501-1910	SBus Printer	A	B
501-1511	SPC/S	A	B
501-1931	SPC/S	A	B
501-1725	HSI	A	B
501-1759	SCSI Host Adapter	A	B
501-1850	SCSI Host Adapter	A	B

Sun-4/50

PART #	DESCRIPTION	SBus Slot 1	SBus Slot 2
501-1780	8MB Sun-4/50 CPU	-	-
501-1810	0MB Sun-4/50 CPU	-	-
501-1812	4MB SIMM	-	-
501-1915	16MB SIMM	-	-
501-1822	16MB SIMM	-	-
501-1645	CG6 66hz Color	A	A
501-1672	CG6 66/76hz Color	A	B
501-1419	MG1 66hz ECL	A	B
501-1455	MG2 66hz Analog	A	B
501-1561	MG2 66/76hz Analog	A	B
501-1706	VideoPics	A	B
501-1450	SBus Ethernet	A	B
501-1881	SBus Ethernet	A	B
501-1540	SBus Printer	A	B
501-1910	SBus Printer	A	B
501-1511	SPC/S	A	B
501-1931	SPC/S	A	B
501-1725	HSI/S	A	B
501-1759	SCSI Host Adapter	A	B
501-1850	SCSI Host Adapter	A	B
370-1401	SBus Prestoserve	A	B

Sun-4/60

PART #	DESCRIPTION	SBus Slot 1	SBus Slot 2	SBus Slot 3
501-1382	Sun-4/60 CPU	-	-	-
501-1629	Sun-4/60 CPU	-	-	-
501-1408	1MB SIMM	-	-	-
501-1625	4MB SIMM	-	-	-
501-1415	CG3 66hz Color	C	B	A
501-1481	CG6 66Hz Color	B	A B	A
501-1645	CG6 66Hz Color	B	A B	A
370-1370	CG12 76Hz 24-bit Color	A	A	A
501-1419	MG1 66hz ECL	C	B	A
501-1455	MG2 66hz Analog	C	B	A
501-1450	SBus Ethernet	A	B	*
501-1881	SBus Ethernet	A	B	*
501-1454	TI FPU	-	-	-
501-1667	DC Load Board	-	-	-
501-1706	VideoPics	C	B	A
501-1540	SBus Printer	A	B	*
501-1910	SBus Printer	A	B	*
501-1511	SPC/S	A	B	C
501-1931	SPC/S	A	B	C
501-1725	HSI/S	A	B	C
501-1759	SCSI Host Adapter	A	B	*
501-1850	SCSI Host Adapter	A	B	*

* These cards do not function in SBus Slot 3.

Sun-4/65

PART #	DESCRIPTION	SBus Slot 1	SBus Slot 2	SBus Slot 3
501-1632	Sun-4/65 CPU	-	-	-
501-1408	1MB SIMM	-	-	-
501-1625	4MB SIMM	-	-	-
501-1697	4MB SIMM	-	-	-
501-1415	CG3 66Hz Color	C	B	A
501-1645	CG6 66Hz Color	B	A B	A
370-1370	CG12 76Hz 24-bit Color	A	A	A
501-1419	MG1 66Hz ECL	C	B	A
501-1455	MG2 66Hz Analog	C	B	A
501-1450	SBus Ethernet	A	B	*
501-1881	SBus Ethernet	A	B	*
501-1454	TI FPU	-	-	-
501-1667	DC Load Board	-	-	-
501-1706	VideoPics	C	B	A
501-1540	SBus Printer	A	B	*
501-1910	SBus Printer	A	B	*
501-1511	SPC/S	A	B	C
501-1931	SPC/S	A	B	C
501-1725	HSI/S	A	B	C
501-1759	SCSI Host Adapter	A	B	C
501-1850	SCSI Host Adapter	A	B	C

* These cards do not function in SBus Slot 3.

Sun-4/75

PART #	DESCRIPTION	SBus Slot 1	2	3
501-1638	16MB Sun-4/75 CPU	-	-	-
501-1744	0MB Sun-4/75 CPU	-	-	-
501-1858	16MB Sun-4/75 CPU	-	-	-
501-1859	0MB Sun-4/75 CPU	-	-	-
501-1912	32MB Sun-4/75 CPU	-	-	-
501-1739	4MB SIMM	-	-	-
501-1823	32MB Memory Primary	A	-	-
501-1824	32MB Memory Secondary	-	-	-
501-1415	CG3 66Hz Color	A	B	C
501-1718	CG3 66/76hz Color	A	B	C
501-1645	CG6 66Hz GX	B	A B	A
501-1672	CG6 66/76hz GX	A	B	C
501-1717	CG6 66/76hz GXplus	B	A B	A
370-1370	CG12 76Hz 24-bit Color		A	A
501-1693	GT SBus Adapter	A	B	C
501-1419	MG1 66Hz ECL	A	B	C
501-1455	MG2 66Hz Analog	A	B	C
501-1561	MG2 66/76hz Analog	A	B	C
501-1450	SBus Ethernet	A	B	C
501-1881	SBus Ethernet	A	B	C
501-1706	VideoPics	A	B	C
501-1540	SBus Printer	A	B	C
501-1910	SBus Printer	A	B	C
501-1511	SPC/S	A	B	C
501-1931	SPC/S	A	B	C
501-1725	HSI/S	A	B	C
501-1667	DC Load Board	-	-	-
501-1759	SCSI Host Adapter	A	B	C
501-1850	SCSI Host Adapter	A	B	C
370-1401	SBus Prestoserve	A	B	C

Sun-4/110

SHUNTS		BOARD	SLOT POSITION		
BG3	IACK		1	2	3
Out	Out	Sun 4100 CPU [1]	A	A	
In	Out	MCP			A
In	Out	ALM-2			A
In	Out	Color [2]			A
In	Out	HSI			A
Out	Out	Ethernet			A
Out	Out	FDDI			A
In	Out	IPC [3]			A

References
1. *Sun Systems Cardcage Slot Assignments and Backplane Configuration Procedures*, 813-2004-16.
2. *Cardcage Slot Assignments and Backplane Configuration Procedures for the Sun 4/110*, 813-2053-05.

Sun-4/150

SHUNTS		BOARD	SLOT POSITION					
BG3	IACK		1	2	3	4	5	6
Out	Out	Sun 4100 CPU [1]	A	A				
Out	Out	GP [4]					A	
In	In	GB						A
In –	In –	TAAC-1 [5]			A	A B	A B	 B
In	Out	1st MCP		A	B	C	D	E
In	Out	2nd MCP			A	B	C	D
In	Out	1st ALM-2		A	B	C	D	E
In	Out	2nd ALM-2			A	B	C	D
In	Out	Color [2]			A	B	C	D
In	Out	CG5 with GP/GP+			A	B		
In	Out	CG5 with GP2						A
In	Out	CG9 Color						A
In	Out	1st HSI			A	B		C
In	Out	2nd HSI				A		B
Out	Out	Ethernet			A	B		C
Out	Out	FDDI			A	B		C
In	Out	1st IPC [3]			A	B		C
In	Out	2nd IPC [3]				A		

References

1. *Sun Systems Cardcage Slot Assignments and Backplane Configuration Procedures*, 813-2004-16.
2. *Cardcage Slot Assignments and Backplane Configuration Procedures for the Sun 4/150 Systems*, 813-2054-01.

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Sun-4/260

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	Sun 4200 CPU	A											
In	In	1st Memory 6						A						
In	In	2nd Memory 6					A							
In	In	3rd Memory 6				A								
In	In	4th Memory 6			A									
Out	Out	GP 4										A		
In	In	GB											A	
In –	In –	TAAC-1 5		C	C D	C D	 D		B	B	B	A	A	A
Out	Out	ALM-1											A	A
Out	Out	SCSI 7							A					
In	Out	1st MCP		A	B	C	D		E	F	G	H	I	J
In	Out	2nd MCP			A	B	C		D	E	F	G	H	I
In	Out	3rd MCP				A	B		C	D	E	F	G	H
In	Out	4th MCP					A		B	C	D	E	F	G
In	Out	1st ALM-2		A	B	C	D		E	F	G	H	I	J
In	Out	2nd ALM-2			A	B	C		D	E	F	G	H	I
In	Out	3rd ALM-2				A	B		C	D	E	F	G	H
In	Out	4th ALM-2					A		B	C	D	E	F	G
Out –	Out –	1st SunLink Channel Adapter		A	A	C	C		D	D E	F E	F G	H G	H
Out –	Out –	2nd SunLink Channel Adapter				A	A		B	B C	D C	D E	F E	F
Out –	Out –	1st MAPkit		A	A	C	C		D	D E	F E	F G	H G	H
Out –	Out –	2nd MAPkit				A	A		B	B C	D C	D E	F E	F
In	Out	1st HSI		D	A	B	C		E	F	G	H	I	J
In	Out	2nd HSI		C		A	B		D	E	F	G	H	I
Out	Out	Ethernet		D	A	B	C		E	F	G	H	I	J

Sun-4/260 - Continued

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	1st FDDI		D	A	B	C		E	F	G	H	I	J
Out	Out	2nd FDDI		C		A	B		D	E	F	G	H	I
In	Out	1st IPC [3]		A	B	C	D		E	F	G	H	I	J
In	Out	2nd IPC [3]			A	B	C		D	E	F	G	H	I
In	Out	3rd IPC [3]				A	B		C	D	E	F	G	H
In	Out	4th IPC [3]					A		B	C	D	E	F	G
Out	Out	1st Tape Ctlr [8]							A	B	C	D	E	F
Out	Out	2nd Tape Ctlr [8]								A	B	C	D	E
Out	Out	1st Disk Ctlr [9]							A	B	C	D	E	F
Out	Out	2nd Disk Ctlr [9]								A	B	C	D	E
In	Out	Color [2]		J	A	B	C		D	E	F	G	H	I
In	Out	CG5 with GP/GP+		G	A	B	C		D	E	F			
In	Out	CG5 with GP2											A	B
In	Out	CG9 Color											A	B

References
1. *Sun Systems Cardcage Slot Assignments and Backplane Configuration Procedures*, 813-2004-16.
2. *Sun-4/200 Cardcage Slot Assignments and Backplane Configuration Procedures*, 813-2037-05.

Sun–4/260

with Double–Height Backpanel

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	Sun 4200 CPU	A	A										
In	In	1st Memory 6						A						
In	In	2nd Memory 6					A							
In	In	3rd Memory 6				A								
In	In	4th Memory 6			A									
Out	Out	GP 4										A		
In	In	GB											A	
In –	In –	TAAC–1 5			 C	 C	 C		B	B	B	A	A	A
Out	Out	ALM–1											A	A
Out	Out	SCSI 7							A					
In	Out	1st MCP			A	B	C		D	E	F	G	H	I
In	Out	2nd MCP				A	B		C	D	E	F	G	H
In	Out	3rd MCP					A		B	C	D	E	F	G
In	Out	4th MCP							A	B	C	D	E	F
In	Out	1st ALM–2			A	B	C		D	E	F	G	H	I
In	Out	2nd ALM–2				A	B		C	D	E	F	G	H
In	Out	3rd ALM–2					A		B	C	D	E	F	G
In	Out	4th ALM–2							A	B	C	D	E	F
Out –	Out –	1st SunLink Channel Adapter			A	A B	 B		C	C D	E D	E F	G F	G
Out –	Out –	2nd SunLink Channel Adapter							A	A B	C B	C D	E D	E
Out –	Out –	1st MAPkit			A	A B	 B		C	C D	E D	E F	G F	G
Out –	Out –	2nd MAPkit							A	A B	C B	C D	E D	E
In	Out	1st HSI			A	B	C		D	E	F	G	H	I
In	Out	2nd HSI				A	B		C	D	E	F	G	H
Out	Out	Ethernet			A	B	C		D	E	F	G	H	I

Sun–4/260 – Continued

with Double–Height Backpanel

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	1st FDDI			A	B	C		D	E	F	G	H	I
Out	Out	2nd FDDI				A	B		C	D	E	F	G	H
In	Out	1st IPC [3]			A	B	C		D	E	F	G	H	I
In	Out	2nd IPC [3]				A	B		C	D	E	F	G	H
In	Out	3rd IPC [3]					A		B	C	D	E	F	G
In	Out	4th IPC [3]							A	B	C	D	E	F
Out	Out	1st Tape Ctlr [8]							A	B	C	D	E	F
Out	Out	2nd Tape Ctlr [8]								A	B	C	D	E
Out	Out	1st Disk Ctlr [9]							A	B	C	D	E	F
Out	Out	2nd Disk Ctlr [9]								A	B	C	D	E
In	Out	Color [2]			A	B	C		D	E	F	G	H	I
In	Out	CG5 with GP/GP+			A	B	C		D	E	F			
In	Out	CG5 with GP2											A	B
In	Out	CG9 Color											A	B

References
1. *Sun Systems Cardcage Slot Assignments and Backplane Configuration Procedures*, 813–2004–16.
2. *Cardcage Slot Assignments and Backplane Configuration Procedures for Sun 4/200 Systems with Double–Height Backpanels*, 813–2071–05.

Sun–4/280

with 501–1167 SCSI Host Adapter

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	Sun 4200 CPU	A											
In	In	1st Memory 6						A						
In	In	2nd Memory 6		A										
In	In	3rd Memory 6			A									
In	In	4th Memory 6				A								
Out	Out	GP 4										A		
In	In	GB											A	
In –	In –	TAAC–1 5		C	C D	C D	 D		B	B	B	A	A	A
Out	Out	1st ALM–1												A
Out	Out	2nd ALM–1											A	
Out	Out	3rd ALM–1										A		
Out	Out	SCSI 11							A					
In	Out	1st MCP		A	B	C	D							
In	Out	2nd MCP			A	B	C			D				
In	Out	3rd MCP				A	B			C	D			
In	Out	4th MCP					A			B	C	D	E	F
In	Out	1st ALM–2		A	B	C	D			E	F	G	H	I
In	Out	2nd ALM–2			A	B	C			D	E	F	G	H
In	Out	3rd ALM–2				A	B			C	D	E	F	G
In	Out	4th ALM–2					A			B	C	D	E	F
Out –	Out –	1st SunLink Channel Adapter		A	A B	C B	C			D	D E	F E	F G	 G
Out –	Out –	2nd SunLink Channel Adapter				A	A			B	B	C	C D	 D
Out –	Out –	1st MAPkit		A B	A B	C	C			D E	D E	F G	F G	
Out –	Out –	2nd MAPkit				A	A			B	B	C	C D	 D

Sun-4/280 - Continued

with 501-1167 SCSI Host Adapter

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
In	Out	Color 2		A	B	C	D			E	F	G	H	I
In	Out	CG5 with GP/GP+		A	B	C	D			E	F			
In	Out	CG5 with GP2											A	B
In	Out	CG9 Color											A	B
In	Out	1st HSI		A	B	C	D			E	F	G	H	I
In	Out	2nd HSI			A	B	C			D	E	F	G	H
Out	Out	Ethernet		A	B	C	D			E	F	G	H	I
Out	Out	1st FDDI		A	B	C	D			E	F	G	H	I
Out	Out	2nd FDDI			A	B	C			D	E	F	G	H
In	Out	1st IPC 3		A	B	C	D			E	F	G	H	I
In	Out	2nd IPC 3			A	B	C			D	E	F	G	H
In	Out	3rd IPC 3				A	B			C	D	E	F	G
In	Out	4th IPC 3					A			B	C	D	E	F
Out	Out	1st Tape Ctlr 8								A	B	C	D	E
Out	Out	2nd Tape Ctlr 8									A	B	C	D
Out	Out	1st Disk Ctlr 9								A	B	C	D	E
Out	Out	2nd Disk Ctlr 9									A	B	C	D
Out	Out	3rd Disk Ctlr 10										A	B	C
Out	Out	4th Disk Ctlr 10											A	B

References
1. *Sun Systems Cardcage Slot Assignments and Backplane Configuration Procedures*, 813-2004-16.
2. *Sun-4/200 Cardcage Slot Assignments and Backplane Configuration Procedures*, 813-2037-05.

Sun–4/280

with Double–Height Backpanel with 501–1167 SCSI Host Adapter

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	Sun 4200 CPU	A	A										
In	In	1st Memory 6						A						
In	In	2nd Memory 6		A										
In	In	3rd Memory 6			A									
In	In	4th Memory 6				A								
Out	Out	GP 4										A		
In	In	GB											A	
In	In	TAAC–1 5			C	C	C		B	B	B	A	A	A
Out	Out	1st ALM–1												A
Out	Out	2nd ALM–1											A	
Out	Out	3rd ALM–1										A		
Out	Out	SCSI 11							A					
In	Out	1st MCP		A	B	C	D							
In	Out	2nd MCP			A	B	C			D				
In	Out	3rd MCP				A	B			C	D			
In	Out	4th MCP					A			B	C	D	E	F
In	Out	1st ALM–2		A	B	C	D			E	F	G	H	I
In	Out	2nd ALM–2			A	B	C			D	E	F	G	H
In	Out	3rd ALM–2				A	B			C	D	E	F	G
In	Out	4th ALM–2					A			B	C	D	E	F
Out –	Out –	1st SunLink Channel Adapter		A	A B	C B	C			D	D E	F E	F G	G
Out –	Out –	2nd SunLink Channel Adapter				A	A			B	B	C	C D	D
Out –	Out –	1st MAPkit		A B	A B	C	C			D E	D E	F G	F G	
Out –	Out –	2nd MAPkit				A	A			B	B	C	C D	D

Sun-4/280 - Continued

with Double-Height Backpanel with 501-1167 SCSI Host Adapter

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
In	Out	Color 2			A	B	C		D	E	F	G	H	I
In	Out	CG5 with GP/GP+			A	B	C		D	E	F			
In	Out	CG5 with GP2											A	B
In	Out	CG9 Color											A	B
In	Out	1st HSI			A	B	C			D	E	F	G	H
In	Out	2nd HSI				A	B			C	D	E	F	G
Out	Out	Ethernet			A	B	C		D	E	F	G	H	I
Out	Out	1st FDDI			A	B	C			D	E	F	G	H
Out	Out	2nd FDDI				A	B			C	D	E	F	G
In	Out	1st IPC 3			A	B	C		D	E	F	G	H	I
In	Out	2nd IPC 3				A	B		C	D	E	F	G	H
In	Out	3rd IPC 3					A		B	C	D	E	F	G
In	Out	4th IPC 3							A	B	C	D	E	F
Out	Out	1st Tape Ctlr 8							A	B	C	D	E	F
Out	Out	2nd Tape Ctlr 8								A	B	C	D	E
Out	Out	1st Disk Ctlr 9							A	B	C	D	E	F
Out	Out	2nd Disk Ctlr 9								A	B	C	D	E
Out	Out	3rd Disk Ctlr 10									A	B	C	D
Out	Out	4th Disk Ctlr 10										A	B	C

References
1. *Sun Systems Cardcage Slot Assignments and Backplane Configuration Procedures*, 813-2004-16.
2. *Cardcage Slot Assignments and Backplane Configuration Procedures for Sun 4/200 Systems with Double-Height Backpanels*, 813-2071-05.

Sun–4/280

with 501–1138 or 501–1217 SCSI

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	Sun 4200 CPU	A											
In	In	1st Memory 6						A						
In	In	2nd Memory 6		A										
In	In	3rd Memory 6			A									
In	In	4th Memory 6				A								
Out	Out	GP 4										A		
In	In	GB											A	
In –	In –	TAAC–1 5		C	C D	C D	 D		B	B	B	A	A	A
Out	Out	1st ALM–1												A
Out	Out	2nd ALM–1											A	
Out	Out	3rd ALM–1										A		
In	Out	1st MCP		A	B	C	D							
In	Out	2nd MCP			A	B	C		D					
In	Out	3rd MCP				A	B		C	D				
In	Out	4th MCP					A		B	C	D			
In	Out	1st ALM–2		A	B	C	D		E	F	G	H	I	J
In	Out	2nd ALM–2			A	B	C		D	E	F	G	H	I
In	Out	3rd ALM–2				A	B		C	D	E	F	G	H
In	Out	4th ALM–2					A		B	C	D	E	F	G
Out –	Out –	1st SunLink Channel Adapter		A	A B	C B	C		D	D E	F E	F	G	G
Out –	Out –	2nd SunLink Channel Adapter				A	A		B	B C	D C	D E	F E	F
Out –	Out –	1st MAPkit		A	A	C	C		D	D E	F E	F	H	H
Out –	Out –	2nd MAPkit				A	A		B	B C	D C	D E	F E	F
In	Out	1st HSI		D	A	B	C		E	F	G	H	I	J
In	Out	2nd HSI		C		A	B		D	E	F	G	H	I
Out	Out	Ethernet		D	A	B	C		E	F	G	H	I	J
Out	Out	SCSI 12		A	B	C	D		E	F	G	H	I	J

Sun–4/280 – Continued

with 501–1138 or 501–1217 SCSI

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
In	Out	Color [2]		A	B	C	D		E	F	G	H	I	J
In	Out	CG5 with GP/GP+		A	B	C	D		E	F	G			
In	Out	CG5 with GP2											A	B
In	Out	CG9 Color											A	B
In	Out	1st HSI		A	B	C	D		E	F	G	H	I	J
In	Out	2nd HSI			A	B	C		D	E	F	G	H	I
Out	Out	Ethernet		A	B	C	D		E	F	G	H	I	J
Out	Out	1st FDDI		A	B	C	D		E	F	G	H	I	J
Out	Out	2nd FDDI			A	B	C		D	E	F	G	H	I
In	Out	1st IPC [3]		A	B	C	D		E	F	G	H	I	J
In	Out	2nd IPC [3]			A	B	C		D	E	F	G	H	I
In	Out	3rd IPC [3]				A	B		C	D	E	F	G	H
In	Out	4th IPC [3]					A		B	C	D	E	F	G
Out	Out	1st Tape Ctlr [8]		A	B	C	D		E	F	G	H	I	J
Out	Out	2nd Tape Ctlr [8]			A	B	C		D	E	F	G	H	I
Out	Out	1st Disk Ctlr [9]		A	B	C	D		E	F	G	H	I	J
Out	Out	2nd Disk Ctlr [9]			A	B	C		D	E	F	G	H	I
Out	Out	3rd Disk Ctlr [10]				A	B		C	D	E	F	G	H
Out	Out	4th Disk Ctlr [10]					A		B	C	D	E	F	G

References
1. *Sun Systems Cardcage Slot Assignments and Backplane Configuration Procedures*, 813–2004–16.
2. *Sun–4/200 Cardcage Slot Assignments and Backplane Configuration Procedures*, 813–2037–05.

Sun–4/280
with Double–Height Backpanel
with 501–1138 or 501–1217 SCSI

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	Sun 4200 CPU	A	A										
In	In	1st Memory 6						A						
In	In	2nd Memory 6		A										
In	In	3rd Memory 6			A									
In	In	4th Memory 6				A								
Out	Out	GP 4										A		
In	In	GB											A	
In	In	TAAC–1 5			C	C	C		B	B	B	A	A	A
Out	Out	1st ALM–1												A
Out	Out	2nd ALM–1											A	
Out	Out	3rd ALM–1										A		
In	Out	1st MCP			A	B	C		D					
In	Out	2nd MCP				A	B		C	D				
In	Out	3rd MCP					A		B	C	D			
In	Out	4th MCP							A	B	C	D	E	F
In	Out	1st ALM–2			A	B	C		D	E	F	G	H	I
In	Out	2nd ALM–2				A	B		C	D	E	F	G	H
In	Out	3rd ALM–2					A		B	C	D	E	F	G
In	Out	4th ALM–2							A	B	C	D	E	F
Out –	Out –	1st SunLink Channel Adapter			A	A B	B		C	C D	E D	E F	G F	G
Out –	Out –	2nd SunLink Channel Adapter							A	A B	C B	C D	E D	E
Out –	Out –	1st MAPkit			A	A B	B		C	C D	E D	E F	G F	G
Out –	Out –	2nd MAPkit							A	A B	C B	C D	E D	E
Out	Out	SCSI 12			A	B	C		D	E	F	G	H	I
In	Out	Color 2			A	B	C		D	E	F	G	H	I
In	Out	CG5 with GP/GP+			A	B	C		D	E	F			
In	Out	CG5 with GP2											A	B
In	Out	CG9 Color											A	B

Sun-4/280 - Continued
with Double-Height Backpanel with 501-1138 or 501-1217 SCSI

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
In	Out	1st HSI			A	B	C		D	E	F	G	H	I
In	Out	2nd HSI				A	B		C	D	E	F	G	H
Out	Out	Ethernet			A	B	C		D	E	F	G	H	I
Out	Out	1st FDDI			A	B	C		D	E	F	G	H	I
Out	Out	2nd FDDI				A	B		C	D	E	F	G	H
In	Out	1st IPC 3			A	B	C		D	E	F	G	H	I
In	Out	2nd IPC 3				A	B		C	D	E	F	G	H
In	Out	3rd IPC 3					A		B	C	D	E	F	G
In	Out	4th IPC 3							A	B	C	D	E	F
Out	Out	1st Tape Ctlr 8			A	B	C		D	E	F	G	H	I
Out	Out	2nd Tape Ctlr 8				A	B		C	D	E	F	G	H
Out	Out	1st Disk Ctlr 9			A	B	C		D	E	F	G	H	I
Out	Out	2nd Disk Ctlr 9				A	B		C	D	E	F	G	H
Out	Out	3rd Disk Ctlr 10					A		B	C	D	E	F	G
Out	Out	4th Disk Ctlr 10							A	B	C	D	E	F

References
1. *Sun Systems Cardcage Slot Assignments and Backplane Configuration Procedures*, 813-2004-16.
2. *Cardcage Slot Assignments and Backplane Configuration Procedures for Sun 4/200 Systems with Double-Height Backpanels*, 813-2071-05.

Sun-4/280

with 501-1138 or 501-1217 SCSI

Slots 7,8,9 reserved for non-Sun boards that use P2

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	Sun 4200 CPU	A											
In	In	1st Memory 6						A						
In	In	2nd Memory 6		A										
In	In	3rd Memory 6			A									
In	In	4th Memory 6				A								
Out	Out	GP 4										A		
In	In	GB											A	
In –	In –	TAAC-1 5		B	B C	B C	 C					A	A	A
Out	Out	1st ALM-1												A
Out	Out	2nd ALM-1											A	
Out	Out	3rd ALM-1										A		
In	Out	1st MCP		A	B	C	D							
In	Out	2nd MCP			A	B	C					D	E	F
In	Out	3rd MCP				A	B					C	D	E
In	Out	4th MCP					A					B	C	D
In	Out	1st ALM-2		A	B	C	D					E	F	G
In	Out	2nd ALM-2			A	B	C					D	E	F
In	Out	3rd ALM-2				A	B					C	D	E
In	Out	4th ALM-2					A					B	C	D
Out –	Out –	1st SunLink Channel Adapter		A	A B	C B	C					D	D E	 E
Out –	Out –	2nd SunLink Channel Adapter				A	A					B	B C	 C
Out –	Out –	1st MAPkit		A	A B	C B	C					D	D E	 E
Out –	Out –	2nd MAPkit				A	A					B	B C	 C
Out	Out	SCSI 12		A	B	C	D					E	F	G

Sun-4/280 - Continued

with 501-1138 or 501-1217 SCSI

Slots 7,8,9 reserved for non-Sun boards that use P2

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
In	Out	Color 2		A	B	C	D					E	F	G
In	Out	CG5 with GP/GP+		A	B	C	D							
In	Out	CG5 with GP2											A	B
In	Out	CG9 Color											A	B
In	Out	1st HSI		A	B	C	D					E	F	G
In	Out	2nd HSI			A	B	C					D	E	F
Out	Out	Ethernet		A	B	C	D					E	F	G
Out	Out	1st FDDI		A	B	C	D					E	F	G
Out	Out	2nd FDDI			A	B	C					D	E	F
In	Out	1st IPC 3		A	B	C	D					E	F	G
In	Out	2nd IPC 3			A	B	C					D	E	F
In	Out	3rd IPC 3				A						C	D	E
In	Out	4th IPC 3					A					B	C	D
Out	Out	1st Tape Ctlr 8		A	B	C	D					E	F	G
Out	Out	2nd Tape Ctlr 8			A	B	C					D	E	F
Out	Out	1st Disk Ctlr 9		A	B	C	D					E	F	G
Out	Out	2nd Disk Ctlr 9			A	B	C					D	E	F
Out	Out	3rd Disk Ctlr 10				A	B					C	D	E
Out	Out	4th Disk Ctlr 10					A					B	C	D

References

1. *Sun Systems Cardcage Slot Assignments and Backplane Configuration Procedures*, 813-2004-16.
2. *Sun-4/200 Cardcage Slot Assignments and Backplane Configuration Procedures*, 813-2037-05.

Sun–4/280
with Double–Height Backpanel
with 501–1138 or 501–1217 SCSI
Slots 7,8,9 reserved for non–Sun boards that use P2

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	Sun 4200 CPU	A	A										
In	In	1st Memory 6						A						
In	In	2nd Memory 6			A									
In	In	3rd Memory 6				A								
In	In	4th Memory 6					A							
Out	Out	GP 2										A		
In	In	GB											A	
In	In	TAAC–1 5		B	B	B						A	A	A
Out	Out	1st ALM–1												A
Out	Out	2nd ALM–1											A	
Out	Out	3rd ALM–1										A		
In	Out	1st MCP			A	B	C					D	E	F
In	Out	2nd MCP				A	B					C	D	E
In	Out	3rd MCP					A					B	C	D
In	Out	4th MCP										A	B	C
In	Out	1st ALM–2			A	B	C					D	E	F
In	Out	2nd ALM–2				A	B					C	D	E
In	Out	3rd ALM–2					A					B	C	D
In	Out	4th ALM–2										A	B	C
Out	Out	1st SunLink		A	A	C	C					D	D	
–	–	Channel Adapter			B	B							E	E
Out	Out	2nd SunLink				A	A					B	B	
–	–	Channel Adapter											C	C
Out	Out	1st MAPkit			A	A						C	C	
–	–					B	B						D	D
Out	Out	2nd MAPkit										A	A	
–	–												B	B
Out	Out	SCSI 12			A	B	C					D	E	F
In	Out	Color 2			A	B	C					D	E	F
In	Out	CG5 with GP/GP+			A	B	C							
In	Out	CG5 with GP2											A	B
In	Out	CG9 Color											A	B

Sun-4/280 - Continued
with Double-Height Backpanel
with 501-1138 or 501-1217 SCSI
Slots 7,8,9 reserved for non-Sun boards that use P2

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
In	Out	1st HSI			A	B	C					D	E	F
In	Out	2nd HSI				A	B					C	D	E
Out	Out	Ethernet			A	B	C					D	E	F
Out	Out	1st FDDI			A	B	C					D	E	F
Out	Out	2nd FDDI				A	B					C	D	E
In	Out	1st IPC [3]			A	B	C					D	E	F
In	Out	2nd IPC [3]				A	B					C	D	E
In	Out	3rd IPC [3]					A					B	C	D
In	Out	4th IPC [3]										A	B	C
Out	Out	1st Tape Ctlr [8]			A	B	C					D	E	F
Out	Out	2nd Tape Ctlr [8]				A	B					C	D	E
Out	Out	1st Disk Ctlr [9]			A	B	C					D	E	F
Out	Out	2nd Disk Ctlr [9]				A	B					C	D	E
Out	Out	3rd Disk Ctlr [10]					A					B	C	D
Out	Out	4th Disk Ctlr [10]										A	B	C

References
1. *Sun Systems Cardcage Slot Assignments and Backplane Configuration Procedures*, 813-2004-16.
2. *Cardcage Slot Assignments and Backplane Configuration Procedures for Sun 4/200 Systems with Double-Height Backpanels*, 813-2071-05.

Sun-4/110/150/260/280

NOTE #	PART#	BOARD
1	501-1199	Sun 4100 CPU (-03 FAB) 8MB w/o FPU
	501-1237	Sun 4100 CPU (-03 FAB) 8MB w FPU
	501-1462	Sun 4100 CPU (-03 FAB) 16MB w/o FPU
	501-1463	Sun 4100 CPU (-03 FAB) 16MB w FPU
	501-1464	Sun 4100 CPU (-03 FAB) 32MB w/o FPU
	501-1465	Sun 4100 CPU (-03 FAB) 32MB w FPU
	501-1512	Sun 4100 CPU (-04 FAB) 8MB w/o FPU
	501-1513	Sun 4100 CPU (-04 FAB) 8MB w FPU
	501-1514	Sun 4100 CPU (-04 FAB) 16MB w/o FPU
	501-1515	Sun 4100 CPU (-04 FAB) 16MB w FPU
	501-1516	Sun 4100 CPU (-04 FAB) 32MB w/o FPU
	501-1517	Sun 4100 CPU (-04 FAB) 32MB w FPU
	501-1656	Sun 4100 CPU (-07 FAB) 8MB w/o FPU
	501-1657	Sun 4100 CPU (-07 FAB) 8MB w FPU
	501-1658	Sun 4100 CPU (-07 FAB) 16MB w/o FPU
	501-1659	Sun 4100 CPU (-07 FAB) 16MB w FPU
	501-1660	Sun 4100 CPU (-07 FAB) 32MB w/o FPU
	501-1661	Sun 4100 CPU (-07 FAB) 32MB w FPU
	501-1247	MG3 P4 Mono Frame Buffer
	501-1248	CG4 P4 Color Frame Buffer
	501-1371	CG8 P4 24-Bit Color Frame Buffer
	501-1374	CG6 P4 Color Frame Buffer
	501-1518	CG8 P4 24-Bit Color Frame Buffer
	501-1532	CG6 P4 Color Frame Buffer
	501-1314	256KB SIMM Module
	501-1466	1MB SIMM Module
2	501-1116	Sun-3 Color Frame Buffer
	501-1267	CG5 Color Frame Buffer
		The Sun-2 Color Board is not supported.
3	501-1125	SunIPC without 80287
	501-1214	SunIPC with 80287
4	501-1055	Graphics Processor
	501-1139	Graphics Processor +
	501-1268	Graphics Processor 2

Sun-4/110/150/260/280 - Continued

NOTE #	PART#	BOARD
5	501-1383 501-1447	TAAC-1 Application Accelerator TAAC-1 Application Accelerator
6	501-1102 501-1451 501-1254 501-1576	8MB Memory 32MB Memory 32MB Memory 16MB Memory
7	501-1149 501-1170	Sun-2 SCSI Host Adapter Assembly Sun-3 SCSI Host Adapter Assembly
8	501-1155	Xylogics 472 Tape Controller Assy The 501-1156, CPC Tapemaster Tape Ctlr Assembly is not supported.
9	501-1154 501-1166 501-1249	Xylogics 450 Disk Controller Assembly Xylogics 451 Disk Controller Assembly Xylogics 7053 Disk Controller
10	501-1249	Xylogics 7053 Disk Controller
11	501-1167	Sun-2 SCSI Host Adapter Assembly
12	501-1138 501-1217	Sun-2 SCSI Host Adapter Assembly Sun-3 SCSI Host Adapter Assembly

Sun-4/310

SHUNTS		BOARD	SLOT POSITION		
BG3	IACK		1	2	3
Out	Out	Sun 4300 CPU 1	A	A	
In	In	Memory 2		A	B
In	Out	Color 3		A	B
In	Out	1st MCP		A	B
In	Out	2nd MCP			A
In	Out	1st ALM-2		A	B
In	Out	2nd ALM-2			A
Out	Out	Ethernet 4		B	A
In	Out	1st IPC 5		B	A
In	Out	2nd IPC 5		A	

Reference
SPARCsystem 350 and 310 Cardcage Slot Assignments and Backplane Configuration Procedures, 800-5722-10.

Sun-4/330

SHUNTS		BOARD	SLOT POSITION						
			9U			6U		3U	
BG3	IACK		1	2	3	4A	5A	4B	5B
Out	Out	Sun 4300 CPU [8]	A	a					
In	Out	1st MCP		B	A				
In	Out	2nd MCP		B	A				
In	Out	1st ALM-2		B	A				
In	Out	2nd ALM-2		B	A				
Out	Out	VX		B	A				
Out	Out	MVX			A				
Out	Out	GP [6]		A					
In	Out	Color [3]		B	A				
In	Out	1st HSI		B	A				
In	Out	2nd HSI			A				
Out	Out	Ethernet [4]		B	A				
In	Out	IPC		B	A				
Out	Out	SCSI [9]		B	A				
–	–	1st Memory [10]						A	B
–	–	2nd Memory [11]							A

References

1. *Sun-5 Slot Office Pedestal Cardcage Slot Assignments and Backplane Configuration Procedures*, 813-2068-11.
2. *Sun-3 SCSI Host Adapter Installation Manual*, 813-1015-11.
3. *Cardcage Slot Assignments and Backplane Configuration Procedures for the VX and MVX Accelerators*, 800-5426-06.

Sun-4/350

SHUNTS		BOARD	SLOT POSITION					
BG3	IACK		1	2	3	4	5	6
Out	Out	Sun 4300 CPU [1]	A	A				
In	In	Memory [2]			A			
Out	Out	GP [6]					A	
Out	Out	CG9						A
In	In	TAAC-1 [7]			A	A	A	
–	–					B	B	B
In	Out	1st MCP		E	A	B	C	D
In	Out	2nd MCP		D		A	B	C
In	Out	1st ALM-2		E	A	B	C	D
In	Out	2nd ALM-2		D		A	B	C
Out	Out	SunLink			A	A		
–	–	Channel Adapter				B	B	
–	–						C	C
–	–			D	D			
Out	Out	1st Mapkit			A	A		
–	–					B	B	
–	–						C	C
–	–			D	D			
Out	Out	2nd Mapkit				A	A	
–	–						B	B
–	–			C	C			
In	Out	Color [3]		E	A	B	C	D
In	Out	CG5 with GP+		C	A	B		
In	Out	CG5 with GP2						A
Out	Out	Ethernet [4]		E	A	B	C	D
Out	Out	FDDI		E	A	B	C	D
In	Out	HSI		E	A	B	C	D
In	Out	1st IPC [5]		E	A	B	C	D
In	Out	2nd IPC [5]		D		A	B	C

Reference
SPARCsystem 350 and 310 Cardcage Slot Assignments and Backplane Configuration Procedures, 800-5722-10.

Sun-4/360

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	Sun 4300 CPU 1	A	A										
In	In	Memory 2			A	A								
Out	Out	GP 6										A		
In	Out	CG9											A	A
In	In	GB											A	
In	In	TAAC-1 7										A	A	A
Out	Out	ALM-1											A	A
In	In	SCSI Adapter 12							A					
In	Out	1st MCP		K	A	B	C	D	E	F	G	H	I	J
In	Out	2nd MCP		J		A	B	C	D	E	F	G	H	I
In	Out	3rd MCP		I			A	B	C	D	E	F	G	H
In	Out	4th MCP		H				A	B	C	D	E	F	G
In	Out	1st ALM-2		K	A	B	C	D	E	F	G	H	I	J
In	Out	2nd ALM-2		J		A	B	C	D	E	F	G	H	I
In	Out	3rd ALM-2		I			A	B	C	D	E	F	G	H
In	Out	4th ALM-2		H				A	B	C	D	E	F	G
Out	Out	1st SunLink				A	A	C	C	E	E	G	G	
–	–	Channel Adapter					B	B	D	D	F	F	J	J
Out	Out	2nd SunLink						A	A	C	C	E	E	
–	–	Channel Adapter							B	B	D	D	F	F
Out	Out	Ethernet 4		E	A	B	C	D	F	G	H	I	J	K
Out	Out	1st Tape Ctlr 13							A	B	C	D	E	F
Out	Out	2nd Tape Ctlr 13								A	B	C	D	E
Out	Out	1st Disk Ctlr 14							A	B	C	D	E	F
Out	Out	2nd Disk Ctlr 14								A	B	C	D	E
In	Out	Color 3		K	A	B	C	D	E	F	G	H	I	J
In	Out	CG5 with GP/GP+		H	A	B	C	D	E	F	G			
In	Out	CG5 with GP2											A	B

Reference
SPARCsystem 360 & SPARCserver 380 Cardcage Slot Assignments and Backplane Configuration Procedures, 813-2088-11.

Sun–4/370

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	Sun 4300 CPU 1				A	a							
In	In	Memory 2		A										
Out	Out	VX										A	B	C
Out	Out	MVX											A	B
In	Out	CG9											A	B
Out	Out	GP 6										A		
In	In	GB											A	
In – –	In – –	TAAC–1 7					A	A B	A B C	D B C	D E C	D E F	E F	F
In	Out	1st MCP					A	B	C	D	E	F	G	H
In	Out	2nd MCP						A	B	C	D	E	F	G
In	Out	3rd MCP							A	B	C	D	E	F
In	Out	4th MCP								A	B	C	D	E
In	Out	1st ALM–2					A	B	C	D	E	F	G	H
In	Out	2nd ALM–2						A	B	C	D	E	F	G
In	Out	3rd ALM–2							A	B	C	D	E	F
In	Out	4th ALM–2								A	B	C	D	E
Out –	Out –	1st SunLink Channel Adapter					A	A B	C B	C D	E D	E F	G F	G
Out –	Out –	2nd SunLink Channel Adapter							A	A B	C B	C D	E D	E
Out	Out	SCSI 9					A	B	C	D	E	F	G	H
Out	Out	Ethernet 8					A	B	C	D	E	F	G	H
Out	Out	1st Disk Ctlr 14					A	B	C	D	E	F	G	H
Out	Out	2nd Disk Ctlr 14						A	B	C	D	E	F	G
Out	Out	3rd Disk Ctlr 15							A	B	C	D	E	F
Out	Out	4th Disk Ctlr 15								A	B	C	D	E
In	Out	Color 3					A	B	C	D	E	F	G	H
In	Out	CG5 with GP2											A	B
In	Out	CG5 with GP/GP+					A	B	C	D	E			

References

1. *SPARCsystem 370 Cardcage Slot Assignments and Backplane Configuration Procedures*, 813–2079–11.
2. *Sun–3 SCSI Hosts Adapter Installation Manual*, 813–1015–11.
3. *Cardcage Slot Assignments and Backplane Configuration Procedures for the VX and MVX Accelerators*, 800–5426–06.

Sun-4/380

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	Sun 4300 CPU 1	A	a										
In	In	Memory 2		A	a									
Out	Out	GP 6										A		
In	Out	CG9											A	B
In	In	GB											A	
In	In	TAAC-1 7										A	A	A
Out	Out	1st ALM-1												A
Out	Out	2nd ALM-1											A	
Out	Out	3rd ALM-1										A		
In	Out	1st MCP		K	A	B	C	D	E	F	G	H	I	J
In	Out	2nd MCP		J		A	B	C	D	E	F	G	H	I
In	Out	3rd MCP		I			A	B	C	D	E	F	G	H
In	Out	4th MCP		H				A	B	C	D	E	F	G
In	Out	1st ALM-2		K	A	B	C	D	E	F	G	H	I	J
In	Out	2nd ALM-2		J		A	B	C	D	E	F	G	H	I
In	Out	3rd ALM-2		I			A	B	C	D	E	F	G	H
In	Out	4th ALM-2		H				A	B	C	D	E	F	G
Out	Out	1st SunLink				A	A	C	C	E	E	G	G	
–	–	Channel Adapter					B	B	D	D	F	F	J	J
Out	Out	2nd SunLink						A	A	C	C	E	E	
–	–	Channel Adapter							B	B	D	D	F	F
In	Out	Color 3		K	A	B	C	D	E	F	G	H	I	J
In	Out	CG5 with GP2											A	B
In	Out	CG5 with GP/GP+		H	A	B	C	D	E	F	G			
Out	Out	Ethernet 4		E	A	B	C	D	F	G	H	I	J	K
Out	Out	1st Tape Ctlr 13							A	B	C	D	E	F
Out	Out	2nd Tape Ctlr 13								A	B	C	D	E
Out	Out	1st Disk Ctlr 14							A	B	C	D	E	F
Out	Out	2nd Disk Ctlr 14								A	B	C	D	E
Out	Out	3rd Disk Ctlr 15									A	B	C	D
Out	Out	4th Disk Ctlr 15										A	B	C

References
SPARCsystem 360 & SPARCserver 380 Cardcage Slot Assignments and Backplane Configuration Procedures, 813-2088-11.

Sun-4/390

SHUNTS		BOARD	SLOT POSITION															
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Out	Out	4300 CPU 1				A	a											
In	In	Memory 2	A															
Out	Out	VX														A	B	C
Out	Out	MVX															A	B
Out	Out	GP2												B				
In	In	TAAC-1 7														A	A	A
In	Out	1st MCP						A	B	C	D	E	F	G	H	I	J	K
In	Out	2nd MCP							A	B	C	D	E	F	G	H	I	J
In	Out	3rd MCP								A	B	C	D	E	F	G	H	I
In	Out	4th MCP									A	B	C	D	E	F	G	H
In	Out	1st ALM-2						A	B	C	D	E	F	G	H	I	J	K
In	Out	2nd ALM-2							A	B	C	D	E	F	G	H	I	J
In	Out	3rd ALM-2								A	B	C	D	E	F	G	H	I
In	Out	4th ALM-2									A	B	C	D	E	F	G	H
In	Out	5th ALM-2										A	B	C	D	E	F	G
In	Out	6th ALM-2											A	B	C	D	E	F
In	Out	7th ALM-2												A	B	C	D	E
In	Out	8th ALM-2													A	B	C	D
Out	Out	1st Channel						A	A	C	C	E	E	G	G	I	I	
–	–	Adapter							B	B	D	D	F	F	H	H	J	J
Out	Out	2nd Channel								A	A	C	C	E	E	G	G	
–	–	Adapter									B	B	D	D	F	F	H	H
Out	Out	SCSI 9						A	B	C	D	E	F	G	H	I	J	K
In	Out	1st HSI						A	B	C	D	E	F	G	H	I	J	K
In	Out	2nd HSI							A	B	C	D	E	F	G	H	I	J
Out	Out	Ethernet 4						A	B	C	D	E	F	G	H	I	J	K
Out	Out	1st FDDI						A	B	C	D	E	F	G	H	I	J	K
Out	Out	2nd FDDI							A	B	C	D	E	F	G	H	I	J
In	Out	1st IPC 5						A	B	C	D	E	F	G	H	I	J	K
In	Out	2nd IPC 5							A	B	C	D	E	F	G	H	I	J
In	Out	3rd IPC 5								A	B	C	D	E	F	G	H	I
In	Out	4th IPC 5									A	B	C	D	E	F	G	H

Sun–4/390 – Continued

SHUNTS		BOARD	SLOT POSITION															
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Out	Out	1st IPI Ctlr 16						A	B	C	D	E	F	G	H	I	J	K
Out	Out	2nd IPI Ctlr 16							A	B	C	D	E	F	G	H	I	J
Out	Out	3rd IPI Ctlr 16								A	B	C	D	E	F	G	H	I
Out	Out	4th IPI Ctlr 16									A	B	C	D	E	F	G	H
In	Out	CG5						A	B	C	D	E	F	G	H	I	J	K
In	Out	CG5 w GP2													A	B		
In	Out	CG9													A	B		

References
1. *Sun SPARCserver 390 Card Cage Slot Assignments and Backplane Configuration Procedure*, 813–2067–10.
2. *Cardcage Slot Assignments and Backplane Configuration Procedures for the VX and MVX Accelerators*, 800–5426–06.

Sun-4/310/330/350/360/370/380/390

NOTE #	PART#	BOARD
	501-1247	MG3 P4 Mono Frame Buffer
	501-1374	CG6 P4 Color Frame Buffer
	501-1402	MG4 P4 Mono Frame Buffer
	501-1443	CG4 P4 Color Frame Buffer
	501-1532	CG6 P4 Color Frame Buffer
1	501-1316	8MB Sun 4300 CPU
	501-1408	1MB SIMM Module
	501-1466	1MB SIMM Module
	501-1544	1MB SIMM Module
	501-1565	1MB SIMM Module
	501-1742	32MB Sun 4300 CPU
	501-1682	4MB SIMM Module
2	501-1495	48MB Memory Board
	501-1563	24MB Memory Board
	501-1564	8MB Memory Board
	501-1408	1MB SIMM Module
	501-1466	1MB SIMM Module
	501-1544	1MB SIMM Module
	501-1565	1MB SIMM Module
	501-1703	32MB Memory Board
	501-1682	4MB SIMM Module
3	501-1116	Sun-3 Color Frame Buffer
	501-1267	CG5 Color Frame Buffer
4	501-1153	Multibus Ethernet Controller Assembly
5	501-1125	SunIPC w/o 80287
	501-1214	SunIPC w 80287
6	501-1268	GP2
	501-1139	GP+
7	501-1381	TAAC-1 Application Accelerator
	501-1447	TAAC-1 Application Accelerator

Sun-4/310/330/350/360/370/380/390
Continued

NOTE #	PART#	BOARD
8	501-1316 501-1408 501-1466 501-1544 501-1565	8MB Sun 4300 CPU 1MB SIMM Module 1MB SIMM Module 1MB SIMM Module 1MB SIMM Module 4MB SIMMs are not supported on the Sun-4/330 CPU board.
9	501-1217	Sun-3 SCSI Host Adapter Assembly
10	501-1436 501-1723 501-1317 501-1711 501-1408 501-1466 501-1544 501-1565	8MB Memory Board 8MB Memory Board 16MB Memory Board 16MB Memory Board 1MB SIMM Module 1MB SIMM Module 1MB SIMM Module 1MB SIMM Module
	501-1704 501-1755 501-1682	32MB Memory Board 32MB Memory Board 4MB SIMM Module
11	501-1436 501-1723 501-1317 501-1711 501-1408 501-1466 501-1544 501-1565	8MB Memory Board 8MB Memory Board 16MB Memory Board 16MB Memory Board 1MB SIMM Module 1MB SIMM Module 1MB SIMM Module 1MB SIMM Module
12	501-1666	Blank SCSI Adapter Assembly
13	501-1155	Xylogics 472 Tape Controller Assembly
14	501-1166 501-1249	Xylogics 451 Disk Controller Assembly Xylogics 7053 Disk Controller
15	501-1249	Xylogics 7053 Disk Controller
16	501-1539 501-1855	ISP-80 IPI Disk Controller ISP-80 IPI Disk Controller

Sun-4/470

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	Sun 4400 CPU				A	a							
In	In	1st Memory 1	A											
In	In	2nd Memory 1							A					
In	In	3rd Memory 1		A										
In	In	4th Memory 1						A						
In	In	5th Memory 1			A									
In	In	6th Memory 1					A							
Out	Out	VX										A	B	C
Out	Out	MVX											A	B
Out	Out	GP2										A	B	
In	In	TAAC-1 2										A	A	A
In	Out	1st MCP						A	B	C	D	E	F	G
In	Out	2nd MCP							A	B	C	D	E	F
In	Out	3rd MCP								A	B	C	D	E
In	Out	4th MCP									A	B	C	D
In	Out	1st ALM-2						A	B	C	D	E	F	G
In	Out	2nd ALM-2							A	B	C	D	E	F
In	Out	3rd ALM-2								A	B	C	D	E
In	Out	4th ALM-2									A	B	C	D
In	Out	5th ALM-2										A	B	C
In	Out	6th ALM-2											A	B
Out	Out	1st SunLink						A	A	C	C	E	E	
–	–	Channel Adapter							B	B	D	D	F	F
Out	Out	2nd SunLink							A	A	C	C	E	E
–	–	Channel Adapter								B	B	D	D	
Out	Out	1st SCSI 3						A	B	C	D	E	F	G
Out	Out	2nd SCSI 3							A	B	C	D	E	F
In	Out	1st HSI						A	B	C	D	E	F	G
In	Out	2nd HSI							A	B	C	D	E	F
Out	Out	1st Ethernet 4						A	B	C	D	E	F	G
Out	Out	2nd Ethernet 4							A	B	C	D	E	F
Out	Out	3rd Ethernet 4								A	B	C	D	E
Out	Out	1st FDDI						A	B	C	D	E	F	G
Out	Out	2nd FDDI							A	B	C	D	E	F

Sun–4/470 – Continued

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	1st NC400							A	B	C	D		
Out	Out	2nd NC400								A	B	C		
Out	Out	3rd NC400									A	B		
Out	Out	4th NC400										A		
Out	Out	1st SMD Ctlr 5									A	B	C	D
Out	Out	2nd SMD Ctlr 5										A	B	C
Out	Out	1st IPI Ctlr 6									A	B	C	D
Out	Out	2nd IPI Ctlr 6										A	B	C
Out	Out	3rd IPI Ctlr 6											A	B
Out	Out	4th IPI Ctlr 6												A
In	Out	CG5									A	B	C	D
In	Out	CG5 with GP2											A	B
In	Out	CG9											A	B
In	In	Prestoserve							A	B	C	D	E	F

References
1. *Sun SPARCsystem 470 Cardcage Slot Assignments and Backplane Configuration Procedures*, 813–2102–14.
2. *Cardcage Slot Assignments and Backplane Configuration Procedures for the VX and MVX Accelerators*, 800–5426–06.

Sun-4/490

SHUNTS		BOARD	SLOT POSITION															
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Out	Out	Sun 4400 CPU				A	a											
In	In	1st Memory 1	A															
In	In	2nd Memory 1							A									
In	In	3rd Memory 1		A														
In	In	4th Memory 1						A										
In	In	5th Memory 1			A													
In	In	6th Memory 1					A											
Out	Out	VX														A	B	C
Out	Out	MVX															A	B
Out	Out	GP2													A	B		
In	In	TAAC-1 2														A	A	A
In	Out	1st MCP						A	B	C	D	E	F	G	H	I	J	K
In	Out	2nd MCP							A	B	C	D	E	F	G	H	I	J
In	Out	3rd MCP								A	B	C	D	E	F	G	H	I
In	Out	4th MCP									A	B	C	D	E	F	G	H
In	Out	1st ALM-2						A	B	C	D	E	F	G	H	I	J	K
In	Out	2nd ALM-2							A	B	C	D	E	F	G	H	I	J
In	Out	3rd ALM-2								A	B	C	D	E	F	G	H	I
In	Out	4th ALM-2									A	B	C	D	E	F	G	H
In	Out	5th ALM-2										A	B	C	D	E	F	G
In	Out	6th ALM-2											A	B	C	D	E	F
In	Out	7th ALM-2												A	B	C	D	E
In	Out	8th ALM-2													A	B	C	D
Out	Out	1st Channel						A	A	C	C	E	E	G	G	I	I	
–	–	Adapter							B	B	D	D	F	F	H	H	J	J
Out	Out	2nd Channel							A	A	C	C	E	E	G	G	I	I
–	–	Adapter								B	B	D	D	F	F	H	H	
Out	Out	1st SCSI 3						A	B	C	D	E	F	G	H	I	J	K
Out	Out	2nd SCSI 3							A	B	C	D	E	F	G	H	I	J
Out	Out	Tape Ctlr 7						A	B	C	D	E	F	G	H	I	J	K
In	Out	1st HSI						A	B	C	D	E	F	G	H	I	J	K
In	Out	2nd HSI							A	B	C	D	E	F	G	H	I	J
Out	Out	1st Ethernet 4						A	B	C	D	E	F	G	H	I	J	K
Out	Out	2nd Ethernet 4							A	B	C	D	E	F	G	H	I	J
Out	Out	3rd Ethernet 4								A	B	C	D	E	F	G	H	I

Sun–4/490 – Continued

SHUNTS		BOARD	SLOT POSITION															
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Out	Out	1st FDDI						A	B	C	D	E	F	G	H	I	J	K
Out	Out	2nd FDDI							A	B	C	D	E	F	G	H	I	J
Out	Out	1st NC400								A	B	C	D	E	F			
Out	Out	2nd NC400									A	B	C	D	E			
Out	Out	3rd NC400										A	B	C	D			
Out	Out	4th NC400											A	B	C			
Out	Out	5th NC400												A	B			
Out	Out	6th NC400													A			
Out	Out	1st IPI Ctlr 6									A	B	C	D	E	F	G	H
Out	Out	2nd IPI Ctlr 6										A	B	C	D	E	F	G
Out	Out	3rd IPI Ctlr 6											A	B	C	D	E	F
Out	Out	4th IPI Ctlr 6												A	B	C	D	E
Out	Out	5th IPI Ctlr 6													A	B	C	D
In	Out	CG5									A	B	C	D	E	F	G	H
In	Out	CG5 with GP2													A	B		
In	Out	CG9													A	B		
Out	Out	1st SMD Ctlr 5																A
Out	Out	2nd SMD Ctlr 5															B	A
Out	Out	3rd SMD Ctlr 5														C	B	A
Out	Out	4th SMD Ctlr 5													D	C	B	A
In	In	Prestoserve								A	B	C	D	E	F	G	H	I

References
1. *Sun SPARCserver 490 Cardcage Slot Assignments and Backplane Configuration Procedures*, 813–2087–14.
2. *Cardcage Slot Assignments and Backplane Configuration Procedures for the VX and MVX Accelerators*, 800–5426–06.

Sun-4/470/490

NOTE #	PART#	BOARD
	501-1402 501-1374 501-1532	MG4 P4 Mono Frame Buffer CG6 P4 Color Frame Buffer CG6 P4 Color Frame Buffer
1	501-1333 501-1721	32MB ECC Memory 128MB ECC Memory
2	501-1381 501-1447	TAAC-1 Application Accelerator TAAC-1 Application Accelerator
3	501-1217	Sun-3 SCSI Host Adapter Assembly
4	501-1584	Sun 3E Ethernet Controller Assembly
5	501-1249	Xylogics 7053
6	501-1539 501-1855	ISP-80 IPI Disk Controller ISP-80 IPI Disk Controller
7	501-1155	Xylogics 472 Tape Controller Assembly

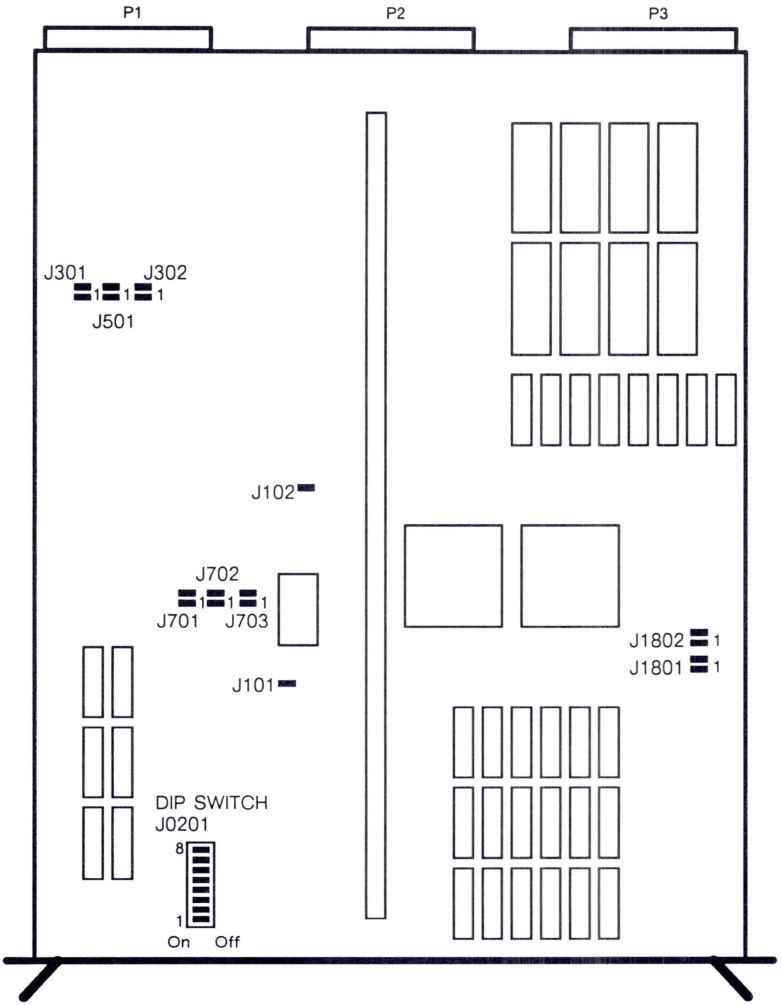
MISCELLANEOUS

Miscellaneous

Floating Point Accelerator (FPA)

Sun–3/110/140/150/160/180/260/280/460/470/480

501–1105



501–1105
Jumper & Switch Settings

JUMPER	PINS	SETTING	DESCRIPTION
J0101	1–2	In	50 MHz clock
J0102	1–2	Out	Clock enable (hardwired)
J0301	1–2 3–4	In* Out*	Shadow read ack/nack
J0302	1–2 3–4	In* Out*	FPA access pending
J0501	1–2 3–4	In* Out*	Asynch cntrl for 1st pipe stage
J0701	1–2 3–4	In Out	Version level 0
J0702	1–2 3–4	In Out	Version level 0
J0703	1–2 3–4	In Out	Version level 0
J1801	1–2 3–4	Out In	4 VDC for WTL1164 (Multiplier) 5 VDC for WTL1164 (Multiplier)
J1802	1–2 3–4	Out In	4 VDC for WTL1165 (ALU) 5 VDC for WTL1165 (ALU)

*Remove Pins 1–2 and jumper Pins 3–4, In, when used in a Sun–3/2XX. Jumper Pins 1–2 and remove Pins 3–4 when used in a Sun–3/1XX.

DIP SWITCH J0201 – Bus Time Out

1	2	3	4	5	6	7	8
ON	ON	OFF	ON	OFF	ON	ON	ON

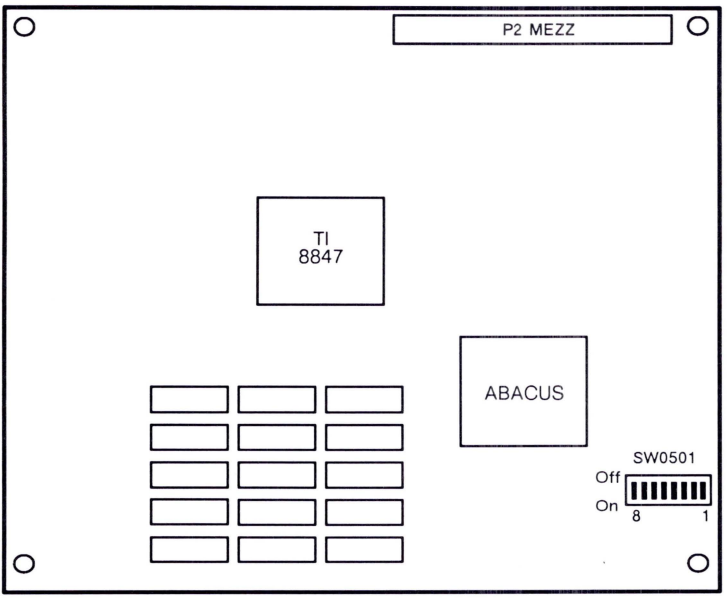
Note: Board revisions lower than 501–1105–07 may fail the stand–alone diagnostics Fpa3.diag or the Fpa3.exec.

Reference
Sun Floating Point Accelerator Board Configuration Procedures, 813–2012.

Floating Point Accelerator Plus (FPA+)

Sun–3/460/470/480

501–1446



SWITCH	SETTING	DESCRIPTION
1	On	
2	Off	Timeout Internal
3	On	= 4.8 MS
4	On	
5	Off	
6	Off	Retry = 256
7	Off	
8	Off	

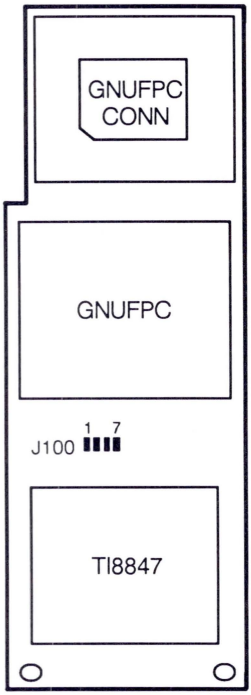
Power: 2.3 Amps @ +5Vdc
11.5 Watts

Note: A 1/4" Patch Tape Assy, 790–4004, or 1/2" Patch Tape Assy, 790–4005 is required for SunOS 4.0.3.

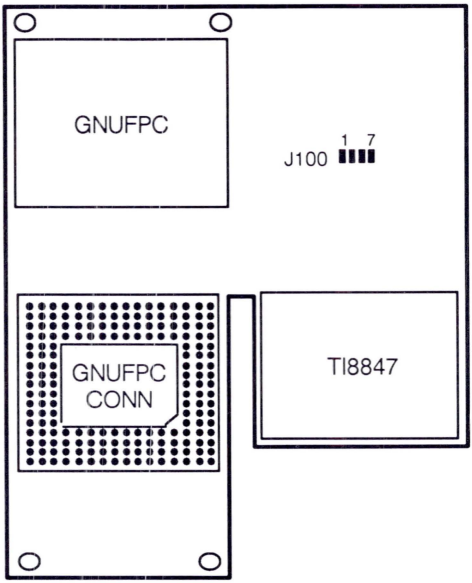
Reference
Sun FPA+ Board Installation and Configuration Manual, 800–3258.

Floating Point Unit-2 (FPU2)

501-1387 Sun-4/260/280



501-1384 Sun-4/110/150



4/110/150 Option Parts	
Front Bracket	340-1743
Rear Bracket	340-2163
4-40 Screw	240-1196

J100 Jumper Settings

PINS	SETTING	DESCRIPTION
1-2	In	TI chip on board
3-4	In	No Tristate on all output
5-6	In	TI8847/TI8837
7-8	Out	Enable chaining mode

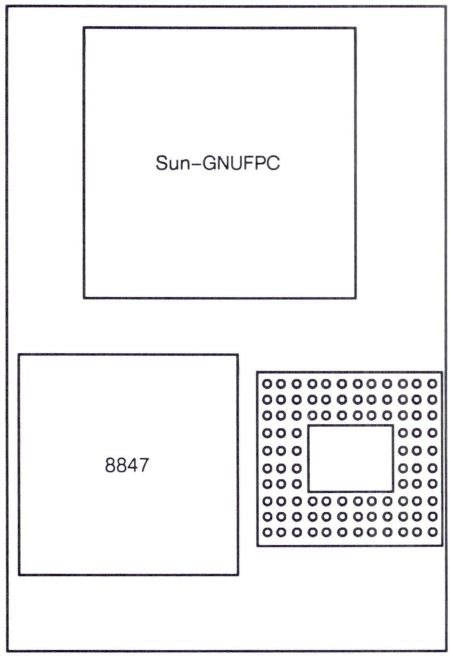
Notes
1. The 501-1384 FPU2 is supported only on CPU boards 501-1512, 501-1513, 501-1514, 501-1515, 501-1516, and 501-1517.
2. Remove the Weitek ALU (U202) and Multiplier (U201) from the 4/110/150 CPU to install the FPU2.
3. Diagnostics fpurel and fputest for SunOS 4.0 and 4.0.1 are on the 1.0 FPU2 Patch Tape.

Reference
FPU-2 Daughter Board Installation Manual for Sun-4/100 Systems, 800-3067.

Floating Point Unit (SBus)

Sun–4/60

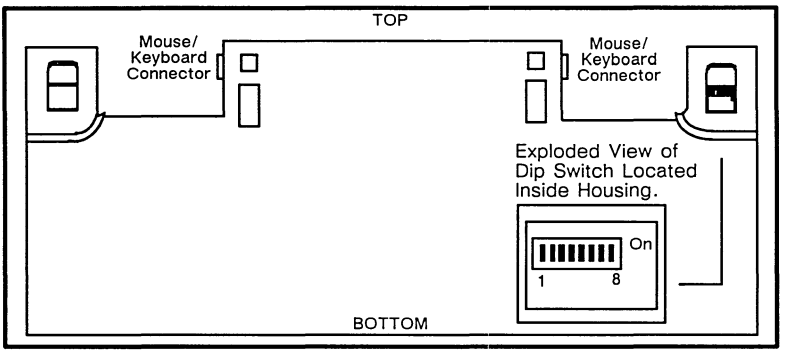
501–1454



Type–4 Keyboard

320–1005 United States	320–1006 German	320–1007 Swiss German	320–1008 Belgium French
320–1009 United Kingdom	320–1010 Swiss French	320–1011 Netherlands	320–1012 Sweden Denmark
320–1013 Denmark	320–1014 Norway	320–1015 Italy	320–1016 Spanish
	320–1017 Portugal	320–1018 French Canadian	

UNDERSIDE OF KEYBOARD



DESCRIPTION	DIP SWITCH 1	2	3	4	5	6	7	8	CODE
Sun–3/4 w ≥4.0 or 386i	Off	–	–	–	–	–	–	–	–
Sun–3 w ≤3.5	On	–	–	–	–	–	–	–	–
United States	–	–	–	–	–	–	–	–	00
Belgium French	–	–	–	–	–	–	On	–	02
French Canadian	–	–	–	–	–	–	On	On	03
Danish	–	–	–	–	–	On	–	–	04
German	–	–	–	–	–	On	–	On	05
Italian	–	–	–	–	–	On	On	–	06
Netherlands (Dutch)	–	–	–	–	–	On	On	On	07
Norwegian	–	–	–	–	On	–	–	–	08
Portuguese	–	–	–	–	On	–	–	On	09
Spanish	–	–	–	–	On	–	On	–	OA
Swedish/Finnish	–	–	–	–	On	–	On	On	OB
Swiss French	–	–	–	–	On	On	–	–	OC
Swiss German	–	–	–	–	On	On	–	On	OD
United Kingdom	–	–	–	–	On	On	On	–	OE

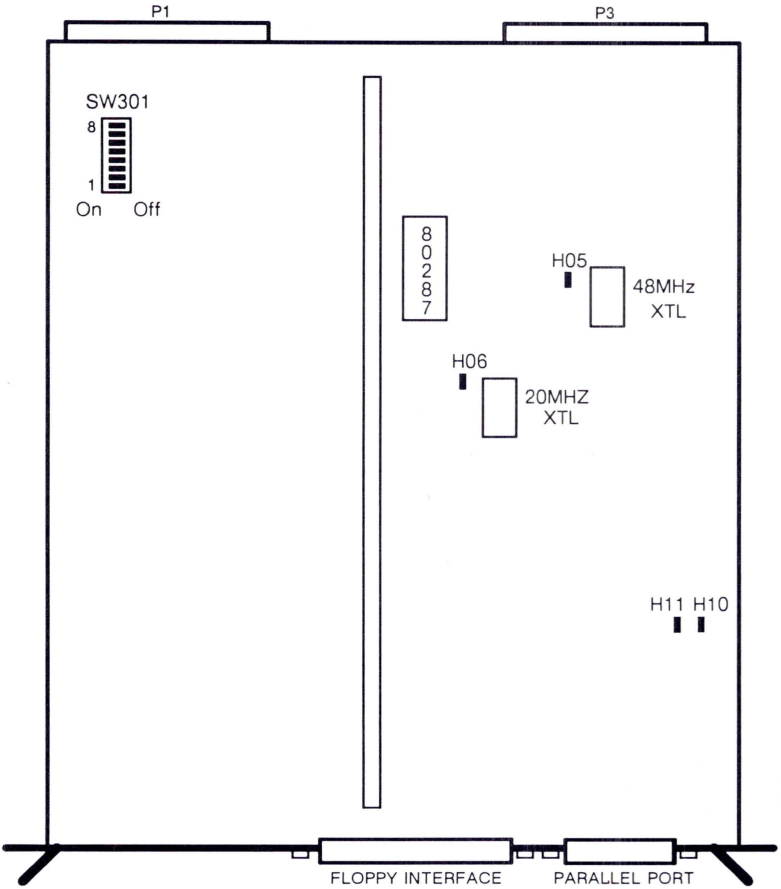
Power: 0.2 Amps @ +5Vdc
11.5 Watts

SunIPC

Sun–2/130/160
Sun–3/110/140/150/160/180/260/280/460/470/480
Sun–4/260/280/330/360/370/380/390

501–1125 501–1214

w/o 80287 w 80287



Power: 5.6 Amps @ +5Vdc
28.0 Watts

501-1125 & 501-1214
Jumper & Switch Settings

JUMPER	SETTING	DESCRIPTION
H05 1-2	In	Enable 48MHz XTAL
H06 1-2	In	Enable 20 MHz XTAL
H10 1-2	Out	For 501-1214 with 80287
	In	For 501-1125 without 80287
H11 1-2	Out	Enable XTAL1

VME Address 380000; device pc0

SWITCH	SETTING	DESCRIPTION
SW3-1	On	A23
SW3-2	On	A22
SW3-3	Off	A21
SW3-4	Off	A20
SW3-5	Off	A19
SW3-6	On	A18
SW3-7	On	A17
SW3-8	On	A16

VME Address 3C0000; device pc2

SWITCH	SETTING	DESCRIPTION
SW3-1	On	A23
SW3-2	On	A22
SW3-3	Off	A21
SW3-4	Off	A20
SW3-5	Off	A19
SW3-6	Off	A18
SW3-7	On	A17
SW3-8	On	A16

VME Address 3A0000; device pc1

SWITCH	SETTING	DESCRIPTION
SW3-1	On	A23
SW3-2	On	A22
SW3-3	Off	A21
SW3-4	Off	A20
SW3-5	Off	A19
SW3-6	On	A18
SW3-7	Off	A17
SW3-8	On	A16

VME Address 3E0000; device pc3

SWITCH	SETTING	DESCRIPTION
SW3-1	On	A23
SW3-2	On	A22
SW3-3	Off	A21
SW3-4	Off	A20
SW3-5	Off	A19
SW3-6	Off	A18
SW3-7	Off	A17
SW3-8	On	A16

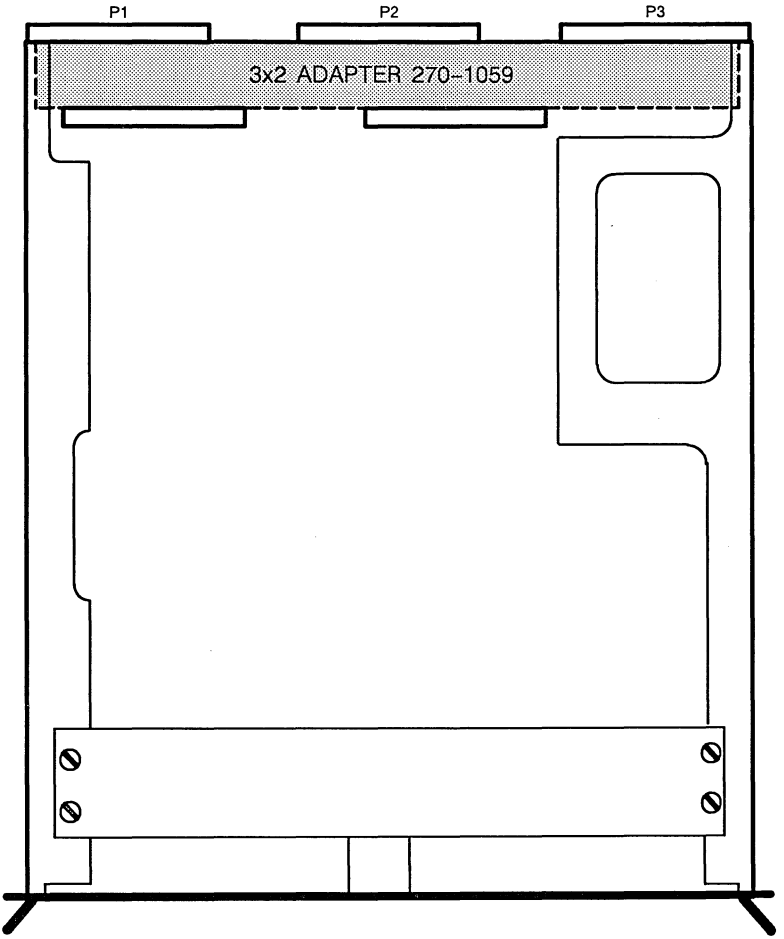
Notes
1. The Sun 3200 CPU must be ≥501-1100-08 or ≥501-1206-06.
2. Boards with Aeroscientific FAB date code 8639 may randomly exhibit "interrupt level 2" errors.

6U to 9U VMEbus Adapter

Option 160A

501–1269

with P2A & P2C

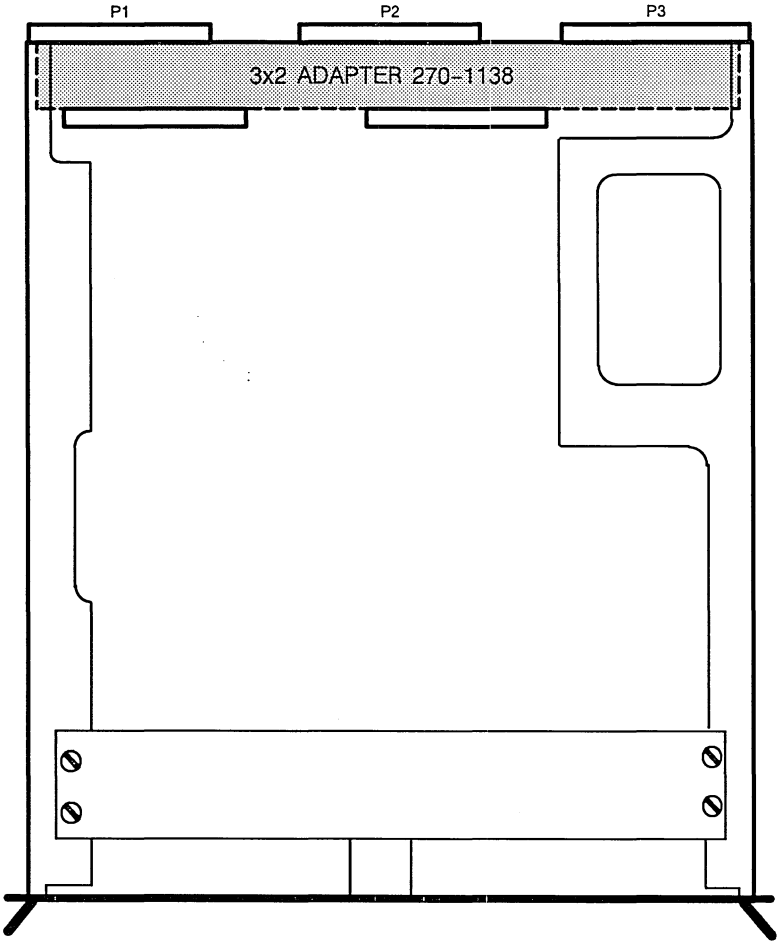


6U to 9U VMEbus Adapter

Option 160B

501–1191

without P2A & P2C



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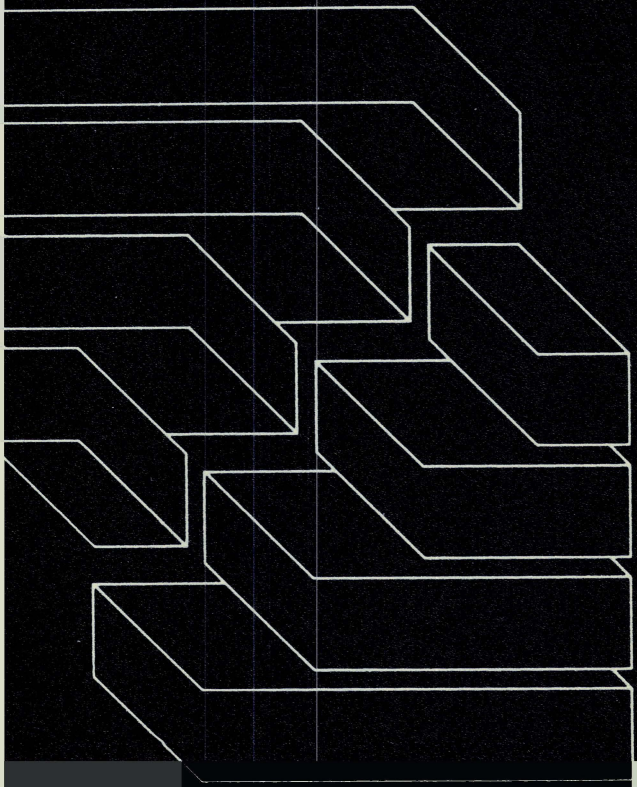
POWER SUPPLIES



POWER SUPPLIES

Power

This section contains information on power supplies, power power distribution units. Illustrations of power supplies and power distribution unit appear in order by Sun part number. The illustration titles include the Sun Microsystem part number, the manufacturer name and model number, the power rating, and the Sun product in which the power supply or distribution unit is used.

Fuses

The Fuse chart in the Parts Breakdown, Miscellaneous section, contains Sun and vendor part number information.

Wire Harness Color Coding

Typical Sun wire harness color coding is defined below.

DC Wire Harnesses

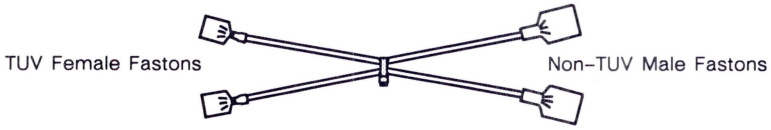
COLOR		DESCRIPTION
White	(Wht)	-5 vdc (2/100/150/120/170 only)
Yellow	(Yel)	-5.2 vdc
Blue	(Blu)	+24 vdc (Fatbox only)
Blue	(Blu)	+12 vdc (except Fatbox)
Brown	(Brn)	-12 vdc
Red	(Red)	+5 vdc
Orange	(Org)	+24 vdc
Orange	(Org)	+12 vdc (4/330)
Green	(Grn)	GND (1/100, 2/100 ONLY)

AC Wire Harnesses

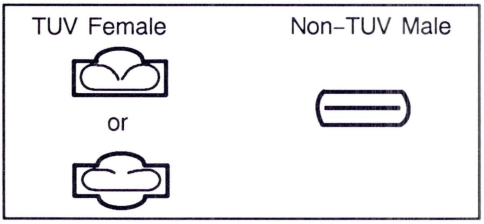
COLOR		DESCRIPTION
Green	(Grn)	AC Ground
White	(Wht)	AC Neutral
Black	(Blk)	AC Line (Hot)
Green/Yellow	(Grn/Yel)	AC Ground
Blue	(Blu)	AC Neutral
Brown	(Brn)	AC Line (Hot)

Adapter Harness

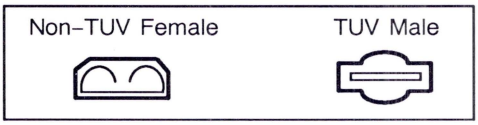
Adapter Harness 811-9015-01 connects non-TUV approved fastons on AC and DC wire harnesses to the TUV approved fastons cut into production in February 1987. One end of the adapter harness has TUV approved female fastons. The other end of the adapter harness has non-TUV male fastons. The adapter harness is illustrated below.



A TUV female faston attaches to a non-TUV male faston.



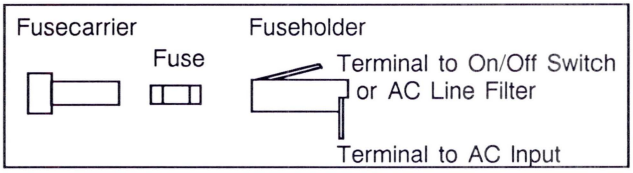
A non-TUV female faston does NOT attach to a TUV male faston. Use adapter harness 811-9015-01.



Fuseholder and Fusecarrier

Follow these instructions to avoid electrical hazard when wiring the type of fuseholder illustrated below.

1. Connect the AC Input to the Terminal on the end of the Fuseholder.
2. Connect the Terminal on the side of the Fuseholder to the AC Line Filter or AC Switch



Power

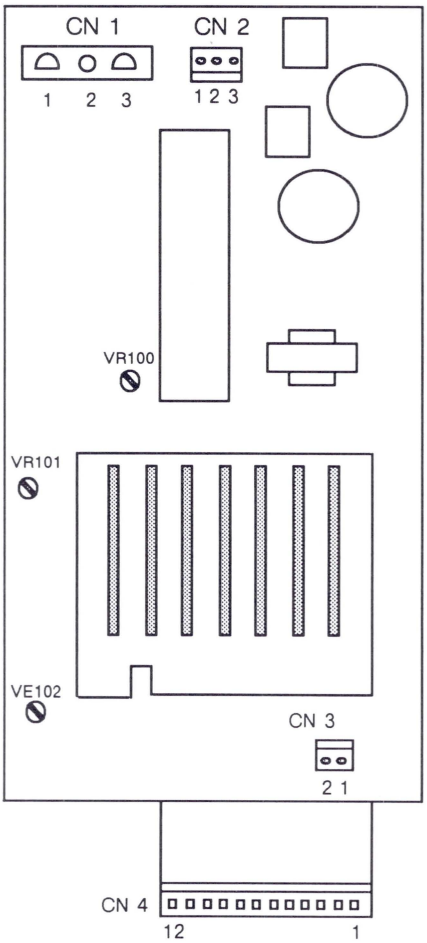
POWER SUPPLIES

Power – Continued

POWER SUPPLIES

POWER SEQUENCERS

Matsushita ETX–593C101M 100 Watts
Sun–3/50/60
300–1015



CN 1

1	2	3
Blk	Grn	Wht
LINE	GND	NEUT

CN 2

1	2	3
Blk	--	Blk
COM	N/C	VOLT SEL

CN 3

1	2
Red	Blk
+12	GND

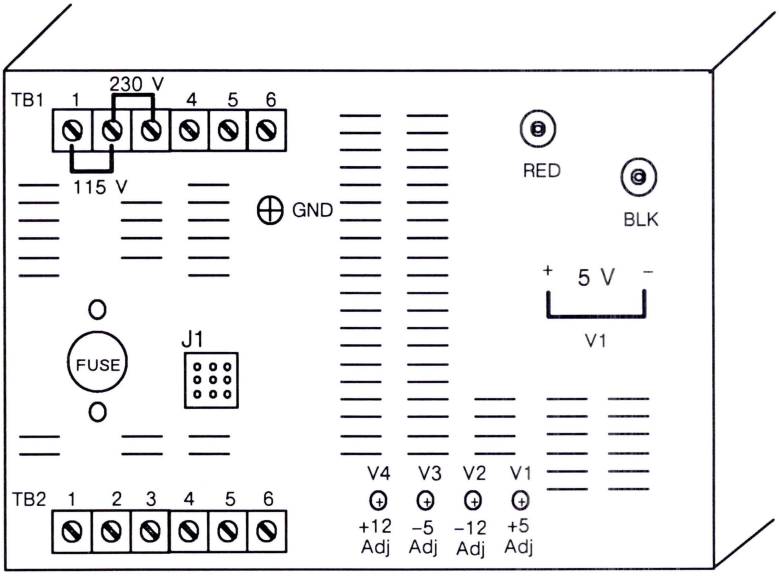
DC Current Output

+5V	-5V	+12V
15.0A	2.0A	1.3A

CN 4

1	2	3	4	5	6	7	8	9	10	11	12
Wht	Brn	Blu	Blk	Blk	Blk	Blk	Blk	Red	Red	Red	Red
-5.2 V	PWR OK	+12 V	GND	GND	GND	GND	GND	+5V	+5V	+5V	+5V

Fuji PEX391 850 Watts
Sun–3/160/180
300–1016



TB1

1	2	3	4	5	6
			Wht	Blk	
115 V STRAP	220 V STRAP		NEUT	LINE	NOT USED

TB2

1	2	3	4	5	6
Blu	Blk	Blk	Yel	Blk	Brn
+12 (+)	+12 (–)	–5 (+)	–5 (–)	–12 (+)	–12 (–)
V4		V3		V2	

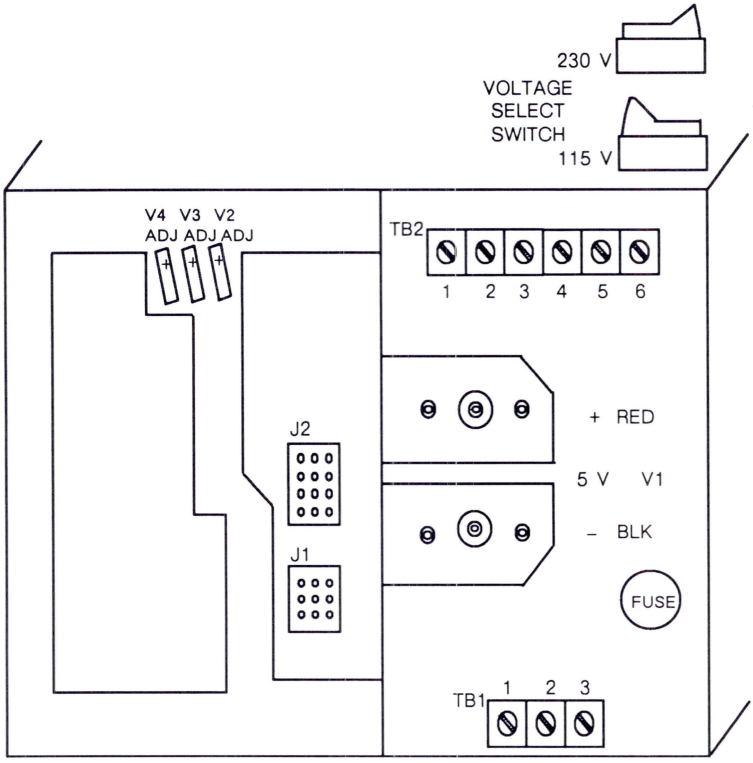
DC Current Output

+5V	–5V	+12V	–12V
120A	10.0A	15.0A	5.0A

Fuse: 30 Amps @ 250 Volts

Note: This vendor's power supply is the same as 300–1024.

Pioneer PM2975A-3-4 850 Watts
Sun-3/160/180
300-1016



TB1

1	2	3
Wht	Blk	Grn
NEUT	LINE	GND

TB2

1	2	3	4	5	6
Blk	Yel	Blk	Brn	Blu	Blk
-5V (+)	-5V (-)	-12V (+)	-12V (-)	+12V (+)	+12V (-)
V4		V3		V2	

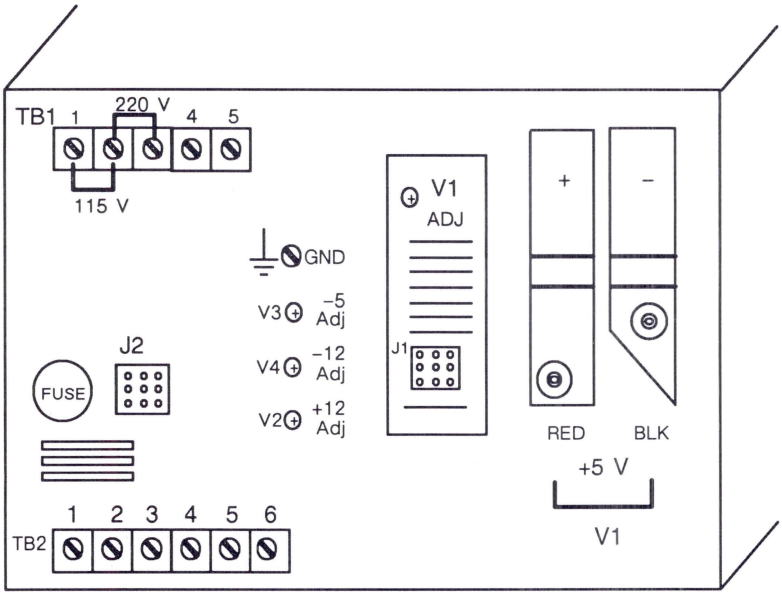
DC Current Output

CH 1	CH 2	CH 3	CH 4
+5V	+12V	-12V	-5V
120A	15.0A	5.0A	10.0A

Fuse: 20 Amps @ 250 Volts

Note: The PM2975A cannot be used with wire harness 530-1207-03 Rev 53 or greater (systems manufactured after 3/1/87).

ETA 804–1212AE 850 Watts
Sun–3/160/180
300–1016



TB1

1	2	3	4	5
			Wht	Blk
115 V STRAP	230 V STRAP		NEUT	LINE

TB2

1	2	3	4	5	6
Blu	Blk	Blk	Yel	Blk	Brn
+12 (+)	+12 (–)	–5 (+)	–5 (–)	–12 (+)	–12 (–)
V4		V3		V2	

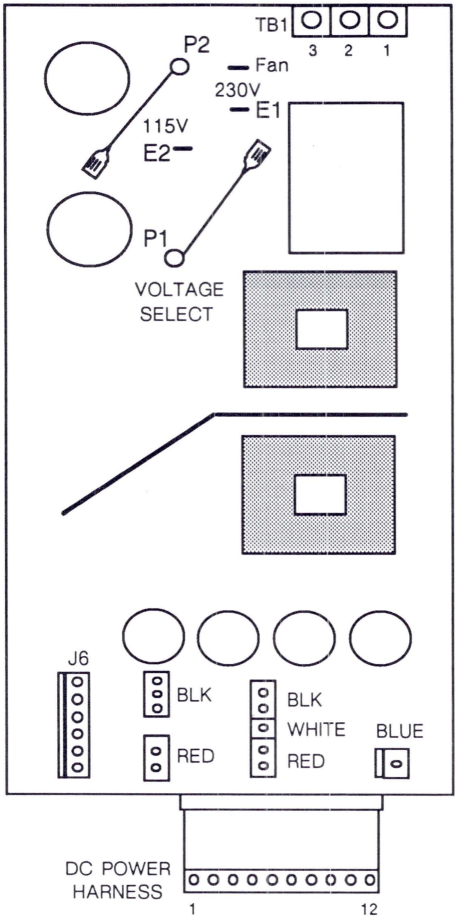
DC Current Output

+5V	–5V	+12V	–12V
120A	10.0A	15.0A	5.0A

Fuse: 30 Amps @ 250 Volts

Note: This power supply cannot be used in 180/280 12–slot rackmount systems manufactured after 11/1/88.

Power Systems PS1559 150 Watts
Sun–3/75
300–1017



TB1

1	2	3
Blk	Grn	Wht
LINE	GND	NEUT

J6 Test Points

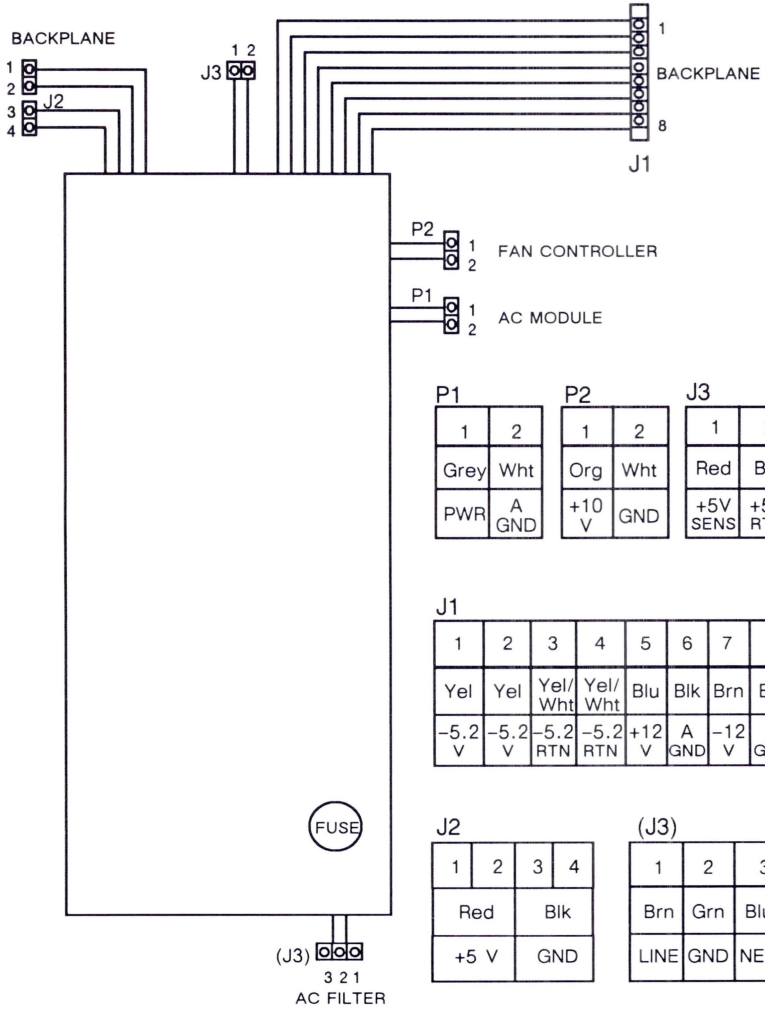
1 & 2	3	4 & 5	6
RTN	–12V	+5V	+12V

DC Current Output

+5V	–5V	+12V
25A	1.5A	1.5A
Red	White	Blue

Note: Connect wire P1 to E2 for 115 voltage or to E1 for 230 voltage.

Brown 300–1020 575 Watts
Sun–3/150 & Sun–4/150/350
300–1020



P1

1	2
Grey	Wht
PWR	A GND

P2

1	2
Org	Wht
+10 V	GND

J3

1	2
Red	Blk
+5V SENS	+5V RTN

J1

1	2	3	4	5	6	7	8
Yel	Yel	Yel/ Wht	Yel/ Wht	Blu	Blk	Brn	Blk
–5.2 V	–5.2 V	–5.2 RTN	–5.2 RTN	+12 V	A GND	–12 V	A GND

J2

1	2	3	4
Red		Blk	
+5 V		GND	

(J3)

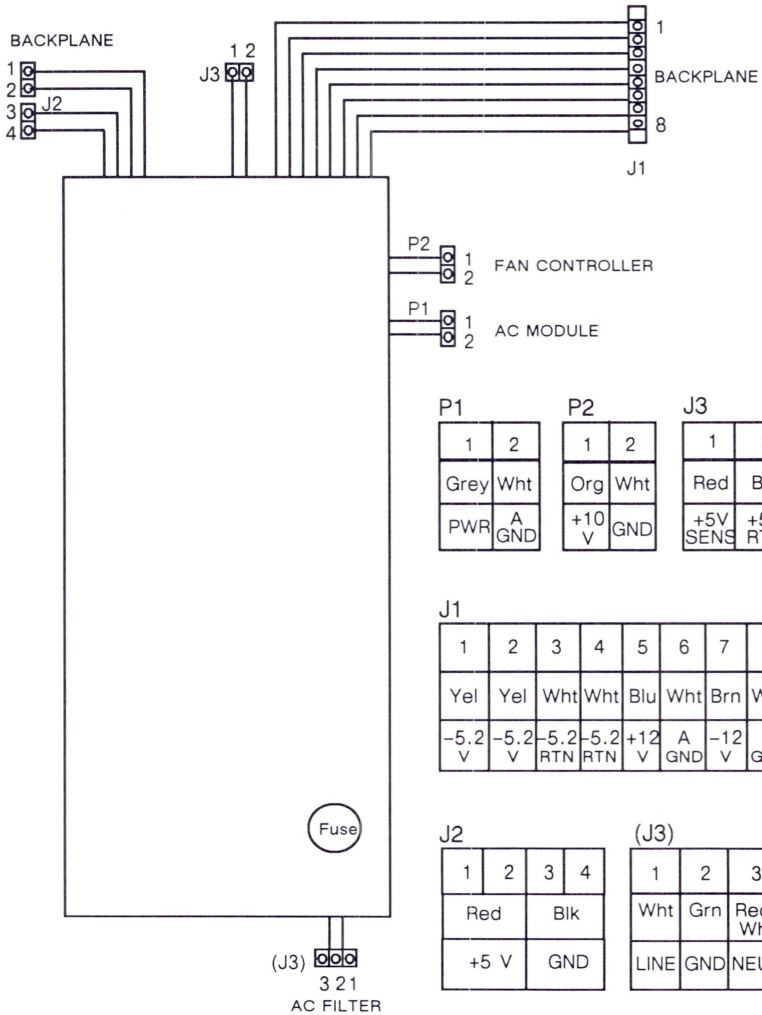
1	2	3
Brn	Grn	Blue
LINE	GND	NEUT

DC Current Output

+5V	–5V	+12V	–12V	+24V
100A	8.0A	3.0A	1.5A	1.5A

Fuse: 10 Amps @ 250 Volts

Fuji PE X445–30 575 Watts
Sun–3/150 & Sun–4/150/350
300–1020



P1

1	2
Grey	Wht
PWR	A GND

P2

1	2
Org	Wht
+10 V	GND

J3

1	2
Red	Blk
+5V SENS	+5V RTN

J1

1	2	3	4	5	6	7	8
Yel	Yel	Wht	Wht	Blu	Wht	Brn	Wht
-5.2 V	-5.2 V	-5.2 RTN	-5.2 RTN	+12 V	A GND	-12 V	A GND

J2

1	2	3	4
Red		Blk	
+5 V		GND	

(J3)

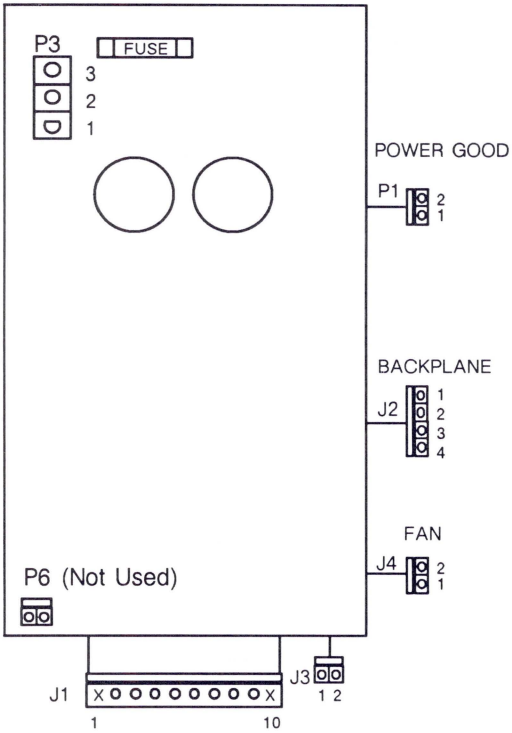
1	2	3
Wht	Grn	Red/ Wht
LINE	GND	NEUT

DC Current Output

+5V	-5V	+12V	-12V	+24V
100A	8.0A	3.0A	1.5A	1.5A

Fuse: 15 Amps @ 250 Volts

Summit CS0325–9001 325 Watts
Sun–3/110/140 & 4/110/310
300–1022



P3

1	2	3
Wht	Grn	Blk
NEUT	GND	GND

P1

1	2
Grey	Wht/ Blk
PWR	GND

J2

1	2	3	4
Red	Red	Blk	Blk
+5V	+5V	GND	GND

J4

1	2
Org	Wht/ Blk
PWR	GND

J3

1	2
Grey	Wht/ Blk
PWR	GND

J1

1	2	3	4	5	6	7	8	9	10
--	Yel	Yel	Wht/ Yel	Wht/ Yel	Blu	Wht/ Blk	Brn	Wht/ Blk	--
N/A	-5.2 V	-5.2 V	-5.2 RTN	-5.2 RTN	+12 V	GND	-12 V	GND	N/A

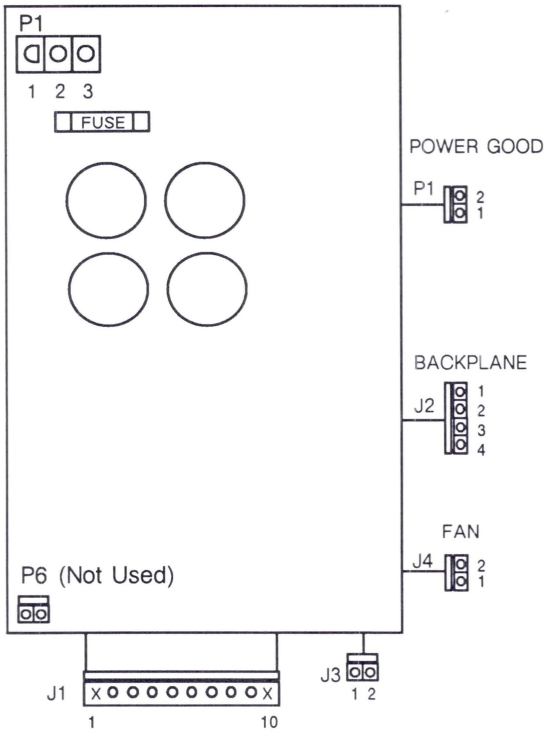
DC Current Output

+5V	-5V	+12V	-12V
60A	8.0A	3.0A	1.5A

Fuse: 7 Amps @ 250 Volts

Note: Wait at least two minutes after power down or power outage before turning power ON to allow the unit to reset.

Brown PS41 325 Watts
Sun–3/110/140 & 4/110/310
300–1022



P3

1	2	3
Wht	Grn	Blk
NEUT	GND	GND

P1

1	2
Grey	Wht/ Blk
PWR	GND

J2

1	2	3	4
Red	Red	Blk	Blk
+5V	+5V	GND	GND

J4

1	2
Org	Wht/ Blk
PWR	GND

J3

1	2
Grey	Wht/ Blk
PWR	GND

DC Current Output

+5V	–5V	+12V	–12V
60A	8.0A	3.0A	1.5A

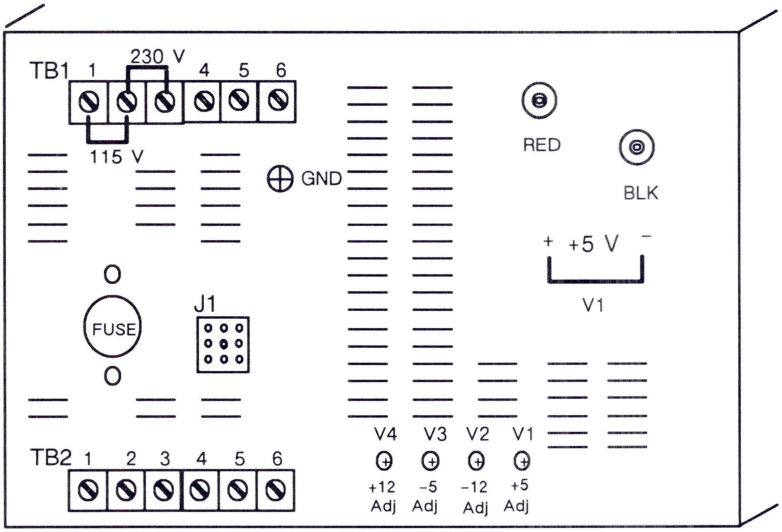
J1

1	2	3	4	5	6	7	8	9	10
--	Yel	Yel	Wht/ Yel	Wht/ Yel	Blu	Wht/ Blk	Brn	Wht/ Blk	--
N/A	–5.2 V	–5.2 V	–5.2 RTN	–5.2 RTN	+12 V	GND	–12 V	GND	N/A

Fuse: 7 Amps @ 250 Volts

Note: Wait at least two minutes after power down or power outage before turning power ON to allow the unit to reset.

Fuji PEX391 850 Watts
Sun–3/160/180/260/280/460/480
Sun–4/260/280/360/380
300–1024



TB1

1	2	3	4	5	6
			Wht	Blk	
115 V STRAP	220 V STRAP		NEUT	LINE	NOT USED

TB2

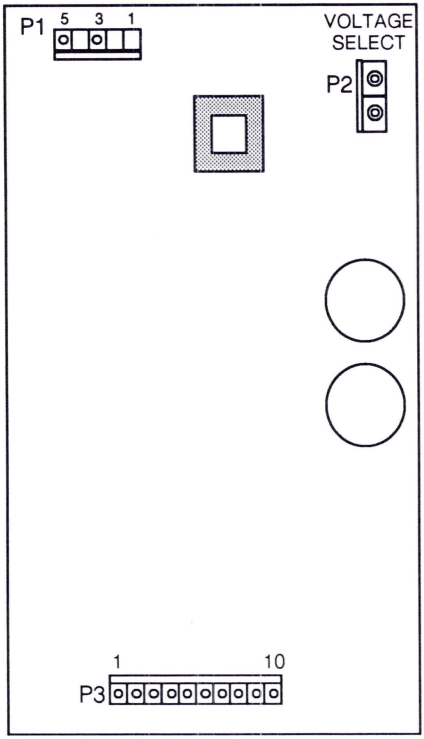
1	2	3	4	5	6
Blu	Blk	Blk	Yel	Blk	Brn
+12 (+)	+12 (–)	–5 (+)	–5 (–)	–12 (+)	–12 (–)
V4		V3		V2	

DC Current Output

+5V	–5V	+12V	–12V
120A	10A	15A	0.5A

Fuse: 30 Amps @ 250 Volts

Power General 4110–2–8968 100 Watts
Options 55 55EX 56
300–1025



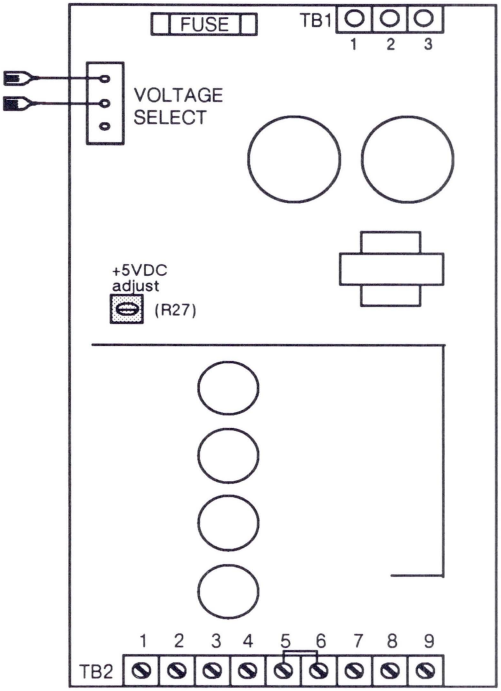
P1

1	3	5
Blu	Brn	--
NEUT	LINE	

P3

1	2	3	4	5	6	7	8	9	10
Blu	Blu	Blu	Grn	Grn	Org	Grn	Red	Grn	Wht
+5 V	+5 V	+5 V	+5 RTN	+5 RTN	-V	V RTN	+V	ISO RTN	ISO

Cal DC LR150–19 170 Watts
Options 501 503 504 505 506 507 509
Options 510 511 514 516
300–1028



TB1

1	2	3
Blk	Wht	Grn
LINE	NEUT	GND

TB2

1	2	3	4	5	6	7	8	9
Blk	Blk	Blu	Blu	Blk	Blk	Blk	Red	Red
RTN	RTN	+12 V	+12 V	SENS RTN	+5 V RTN	GND	+5 V	+5V SENS

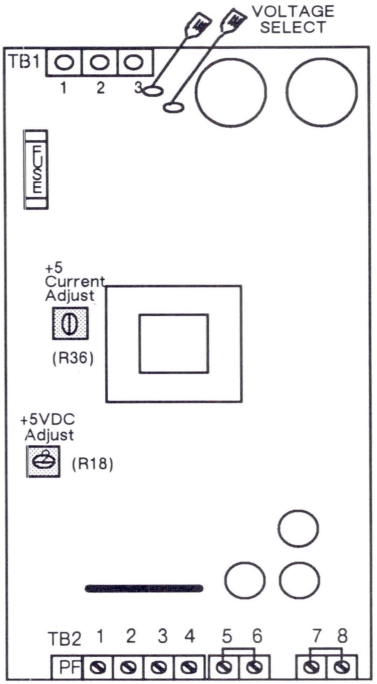
DC Current Output

+5V	+12V
10A	10.5A

Fuse: 5 Amps @ 250 Volts

Note: TB1 may be hardwired on some revisions of this power supply.

Todd Products MDT23–8945 170 Watts
Options 501 503 504 505 506 507 509
Options 510 511 514 516
300–1028



TB1

1	2	3
Blk	Wht	Grn
LINE	NEUT	GND

TB2

1	2	3	4	5	6	7	8
N/C	N/C	Blu	N/C	Blk	Blk	Red	Red
RTN	RTN	+12 V	+12 V	SENS RTN	+5V RTN	+5V	+5V SENS

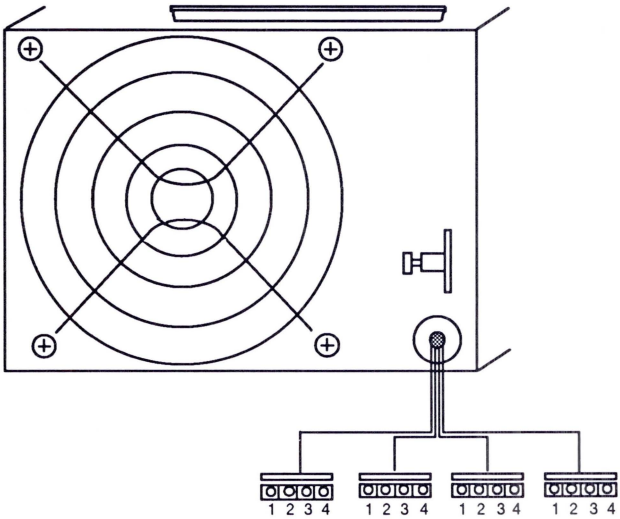
Fuses
7 Amps @ 250 Volts for 115 Volts
4 Amps @ 250 Volts for 230 Volts

DC Current Output

+5V	+12V
10A	10.5A

Note: AC harness, 530–1325–01, is required for this power supply.

Delta DPS–118AB 120 Watts
Options 526 527 530 539 561 563 565
Options 566 RR126 RR128 RR129 RREXP
300–1031



Connector Pinout

1	2	3	4
+12V	GND	GND	+5V

AC Current Input

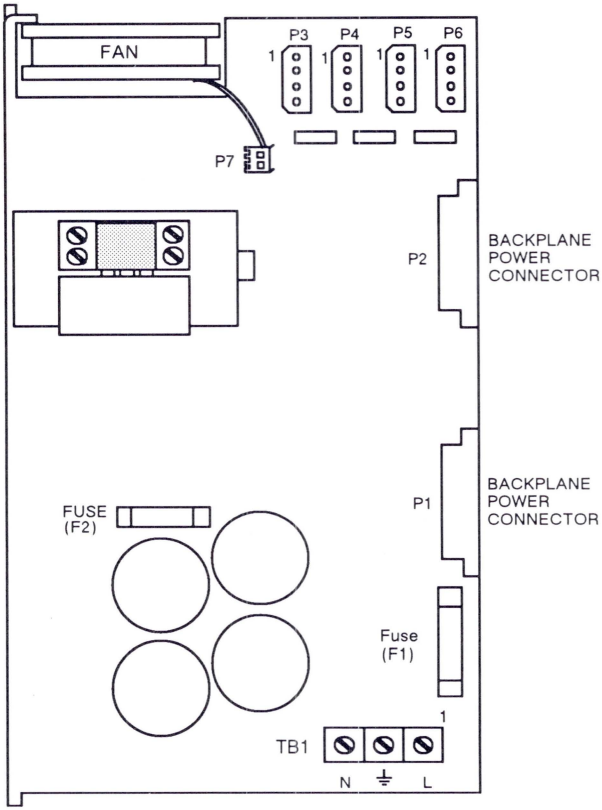
100–120V	200–240V
3.0A	1.5A

DC Current Output

+5V	+12V
8A	6.5A

Fuses
4 Amps @ 250 Volts
3 Amps @ 250 Volts

Boschert XL520–3625 520 Watts
Sun–4/330
300–1034



TB1

1	2	3
Brn	Grn	Wht
LINE	GND	NEUT

P3,P4,P5,P6

1	2	3	4
Red	Blk	Blk	Org
+5V	GND	GND	12V

DC Current Output

+5	–5.2	+12 Analog	–12	+12 Motor
70	4	1.5	0.5	10.5

Fuses
F1 = 20 Amps @ 250 Volts
F2 = 10 Amps @ 250 Volts

Sony 062-0412 35 Watts
Options 550 552 558 660
300-1037

TB1

1	2
Brn	Org
Blk	Org
GND	+5V

TB2

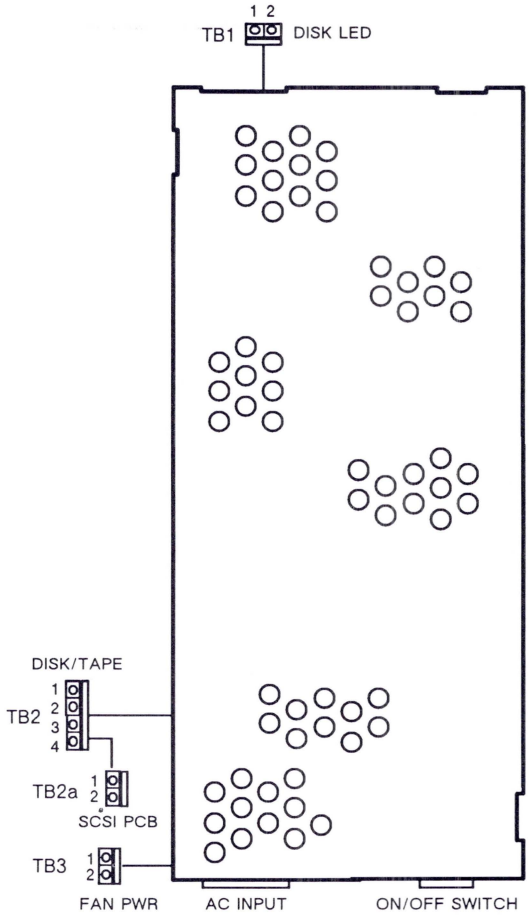
1	2	3	4
Red	Blk	Blk	Yel
Blu	Blk	Blk	Red
+12V	GND	GND	+5V

TB2a

1	2
Blk	Yel
Blk	Red
GND	+5V

TB3

1	2
Blk	Red
Blk	Blu
GND	12V

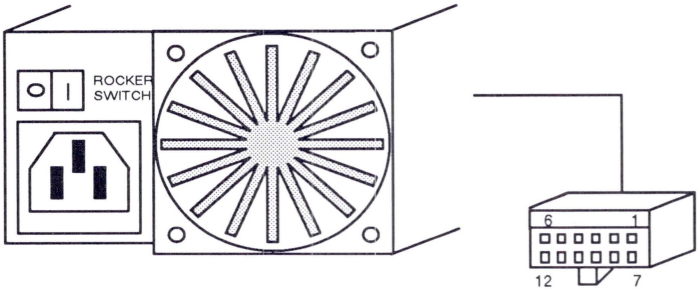


DC Current Output

+5V	+12V
2.0A	1.5A

Note: The Disk Drive LED harness is 530-1522.

Sony CR-81 85 Watts
Sun-3/80 & Sun-4/60/65/75
300-1038



J1

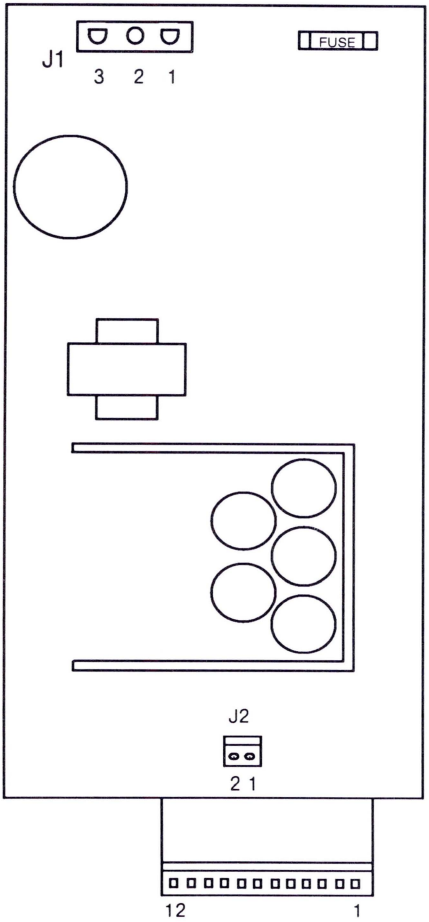
SERIAL #	1	2	3	4	5	6	7	8	9	10	11	12
≤4000	Red	Red	Blk	Blk	Yel	Org	Red	Red	Blk	Blk	Yel	Blu
≥4001	Red	Red	Blk	Blk	Blu	Gry	Red	Red	Blk	Blk	Blu	Brn
	+5 V	+5 V	GND	GND	+12 V	+5 (POR)	+5 V	+5 V	GND	GND	+12 V	−12 V

DC Current Output

+5V	+12V
12A	2.0A

Note: This power supply has automatic input voltage ranging.

Boschert NFS116–7630 116 Watts
Sun–3/50/60
300–1040



J1

1	2	3
Blu	Grn	Wht
LINE	GND	NEUT

J2

1	2
Blu	Red

DC Current Output

+5V	–5V	–12V
20A	1.0A	0.5A

J3

1	2	3	4	5	6	7	8	9	10	11	12
Wht	--	Blu	Blk	Blk	Blk	Blk	Blk	Red	Red	Red	Red
–5.2 V	N/C	+12 V	GND	GND	GND	GND	GND	+5.1 V	+5.1 V	+5.1 V	+5.1 V

Fuse: 5 Amps @ 250Volts

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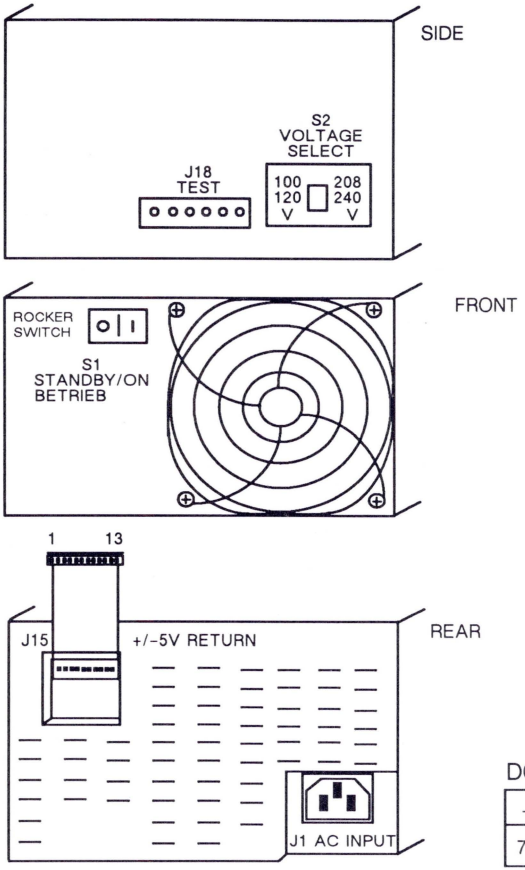
Seagate 45070622 205 Watts
Seagate 97209–12G Disk Drive
Options 706 707 709 710
300–1041



DC Current Output

+5V	-5.1V	-12V	+24V
7.0A	4.25A	0.35A	6.0A

J15

1	2	3	4	5	6	7	8	9	10	11	12	13
+5V	+5V	GND	GND	-5V	-5V	-12V	+PWR OK	NC	+24V RTN	+24V RTN	+24V	+24V

Fuse: Soldered at F100, 8 Amps @ 250 Volts

300-1041 300-1074

Notes

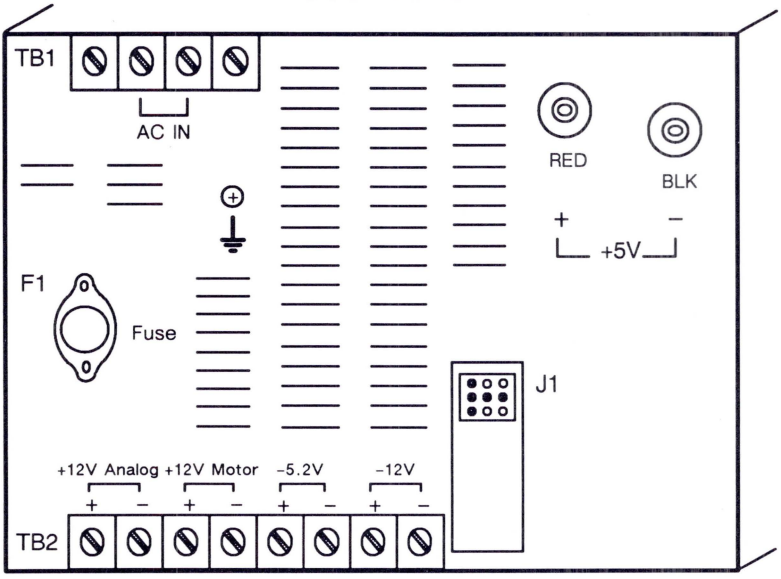
205 Watt Power Supply 300-1041

Supports one Seagate 97209-12G 3mb/Sec IPI Disk Drive.
Does NOT Support the Seagate 97229-11G 6mb/Sec IPI Disk Drive.

215 Watt Power Supply 300-1074

Supports one Seagate 97209-12G 3mb/Sec IPI Disk Drives.
Supports one Seagate 97229-11G 6mb/Sec IPI Disk Drives.

Fuji PEX479-30 925 Watts
Sun-3/160/180/260/280/460/480
Sun-4/260/280/360/380
300-1043



TB1

AC IN	
Blk	Wht
LINE	NEUT

Terminal Lugs

+5V (+)	+5V (−)
Red	Blk

TB2

+12 ANALOG		+12 MOTOR						WIRE HARNESS
+12V (+)	+12V (−)	+12V (+)	+12V (−)	-5.2 (+)	-5.2 (−)	-12V (+)	-12V (−)	Use 530-1578 and the wire harness listed below
Blu	Blk	Blu	Blk	Blk	Wht	Blk	Brn	
P8	P10	P9 P19	P11	P17	P7	P16 P20	P6	530-1581 160 Chassis
P9 P4	P5 P3	P16	P17 P7	P12	P10	P13	P8	530-1580 180 Chassis

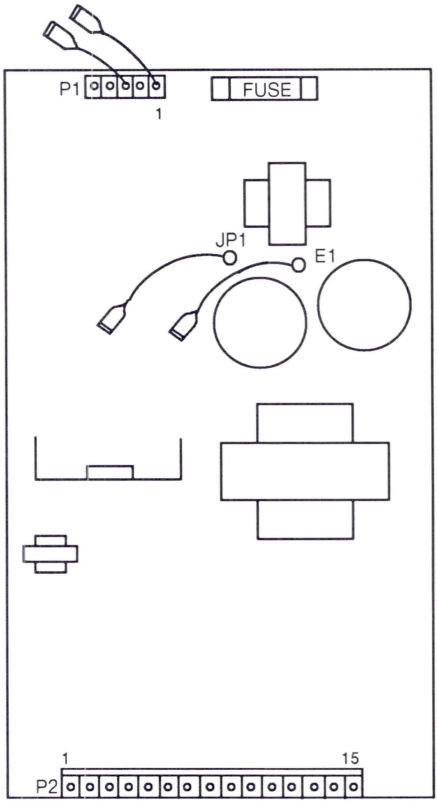
DC Current Output

+5	-5.2	+12 Analog	-12	+12 Motor
150A	15A	15A	10A	10A

Fuse: Littelfuse 30A 250V BLN 30

Note: Use wire harnesses 530-1578 and 530-1580 for the 180/280/380/480 chassis. Use wire harnesses 530-1578 and 530-1581 for the 160/260/360/460 chassis.

Boschert XL 121-3630 130 Watts
Options 501 503 504 505 506 507 509
Options 510 511 514 516
300-1045



DC Current Output

+5V	+12V
4.0	5.2A

P1

1	2	3	4	5
Brn	---	Blu	--	--
LINE	NEUT	GND		

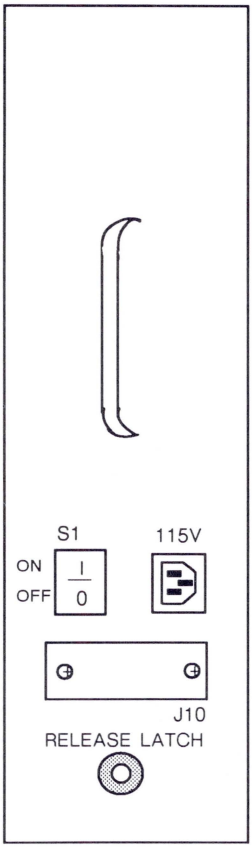
P2

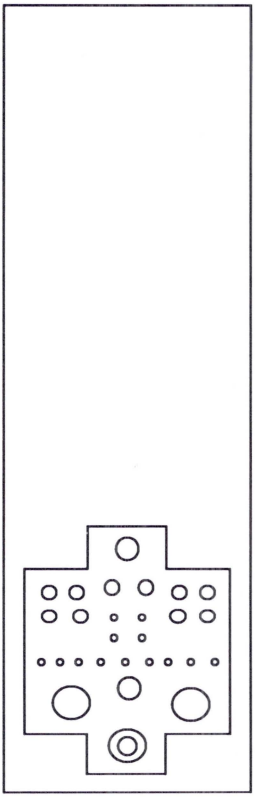
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Blk	Blu	Blu	Blu	Blu	Blk	Blk	Blk	Blk	Blk	Blk	--	Red	Red	Red
RTN	+12 V	+12 V	+12 V	+12 V	RTN	RTN	RTN	RTN	RTN	RTN	N/C	+5V	+5V	5V

Fuse: 5 Amps @ 250 Volts

Note: Use Power Harness, 530-1432-01, for this power supply.

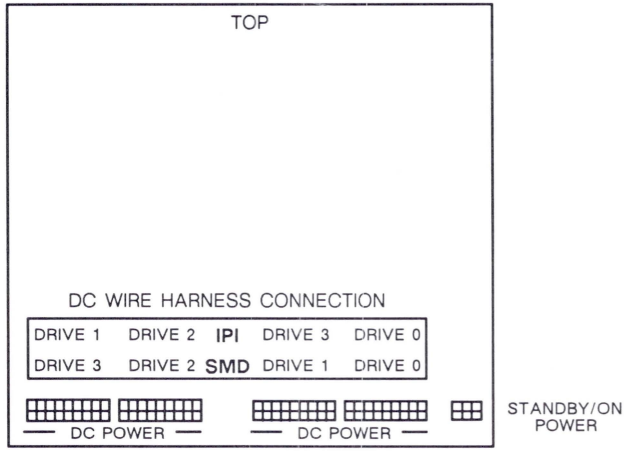
Zytec 22903110 925 Watts
Sun–3/470 & Sun–4/370/470
300–1047





DC OUTPUT	REGULATION	FULL LOAD
+5	150 Amps	145.0 Amps
–5.2	15 Amps	10.0 Amps
+12 analog	15 Amps	2.0 Amps
+12 motor	15 Amps	6.3 Amps
–12	10 Amps	4.0 Amps

Fuji PEX527-30 820 Watts
Options 733 734
300-1052



+5V	GND	GND	-5V		-12V	GND		
Red	Blk	Blk	Yel	NC	Brn	Blk	NC	NC
1	2	3	4	5	6	7	8	9
10	11	12	13	14	15	16	17	18
Red	NC	NC	Yel	NC		Blk	Org	Org
+5V			-5V			GND	+24	+24

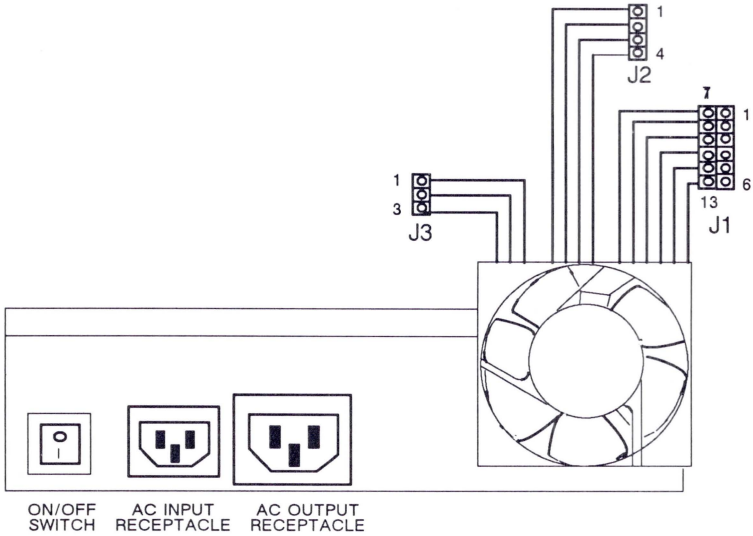
Gry	Wht/ Brn	Wht/ Red
1	2	3
4	5	6
Wht/ Org	Blk	Blk

DC Current Output

+5Vdc	-5.1Vdc	-12Vdc	+24Vdc
7.0A x 2	7.0A x 2	7.0A x 2	7.0A x 2

Fuse: 20 Amps @ 250 Volts

Mitsubishi MMF-06012DS 65 Watts
Sun-4/40/50
300-1055



J1

1	2	3	4	5	6	7	8	9	10	11	12
Red	Red	Blk	Blk	Blu	Gry	Red	Red	Blk	Blk	Blu	Brn
+5	+5	GND	GND	+12	SENS	+5	+5	GND	GND	+12	-12

J2

1	2	3	4
Blu	Blk	Blk	Red
+12	GND	GND	+5

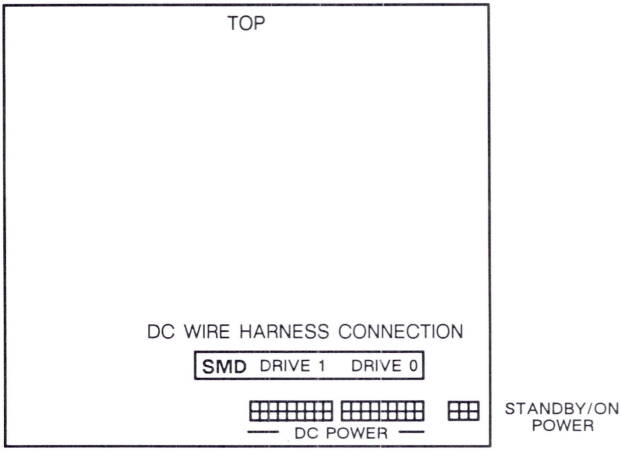
J3

1	2	3
Red	Blk	Blk
+5	GND	GND

DC Current Output

CONNECTOR	+5V	+12V	-12V
J1	7.8A	0.4A	0.1A
J2	0.7A	0.8A	---
J3	0.5A	---	---

Fuji PEX527-40 410 Watts
Options 731 732
300-1056



+5V	GND	GND	-5V		-12V	GND		
Red	Blk	Blk	Yel	NC	Brn	Blk	NC	NC
1	2	3	4	5	6	7	8	9
10	11	12	13	14	15	16	17	18
Red	NC	NC	Yel	NC		Blk	Org	Org
+12V			-5V			GND	+24	+24

Gry	Wht/ Brn	Wht/ Red
1	2	3
4	5	6
Wht/ Org	Blk	Blk

DC Current Output

+5Vdc	-5.1Vdc	-12Vdc	+24Vdc
7.0A	7.0A	7.0A	7.0A

Fuse: 20 Amps @ 250 Volts

300–1052 300–1056 300–1075

Notes

410 Watt Power Supply 300–1056–02

Supports two CDC 9720–688 Disk Drives.
Supports two Fujitsu M2372K Disk Drives.

410 Watt Power Supply 300–1056–03

Supports two CDC 9720–688 Disk Drives.
Does not support the Fujitsu M2372K Disk Drive.

410 Watt Power Supply 300–1056–04

Supports two CDC 9720–688 Disk Drives.
Does not support the Fujitsu M2372K Disk Drive.

410 Watt Power Supply 300–1056–05

Supports two CDC 9720–688 Disk Drives.
Supports two Fujitsu M2372K Disk Drives.

820 Watt Power Supply 300–1052–02

Supports four CDC 9720–688 Disk Drives.
Supports four Fujitsu M2372K Disk Drives.

820 Watt Power Supply 300–1052–03

Supports four CDC 9720–688 Disk Drives.
Does not support the Fujitsu M2372K Disk Drive.
Supports two Seagate 97209–12G 3mb/Sec IPI Disk Drives.
Does not Support Seagate 97229–11G 6mb/Sec IPI Disk Drives.

820 Watt Power Supply 300–1052–04

Supports four CDC 9720–688 Disk Drives.
Does not support the Fujitsu M2372K Disk Drive.
Supports four Seagate 97209–12G 3mb/Sec IPI Disk Drives.
Does not Support Seagate 97229–11G 6mb/Sec IPI Disk Drives.

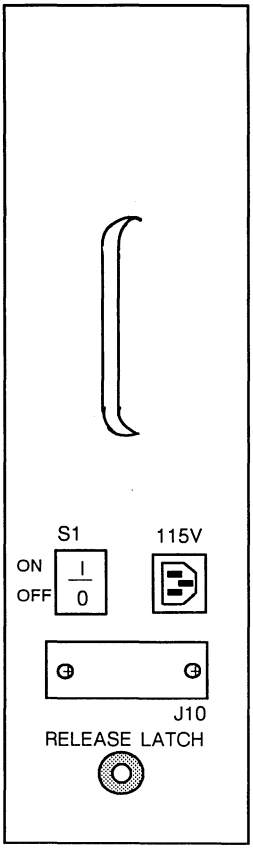
820 Watt Power Supply 300–1052–05

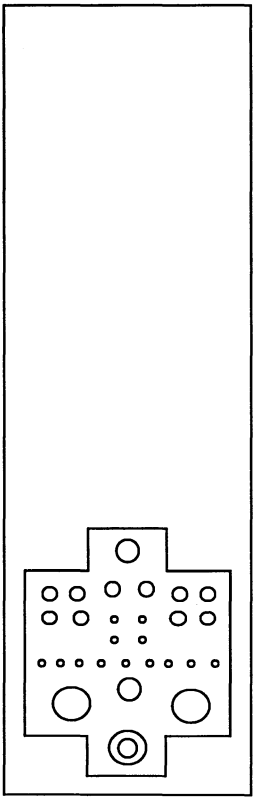
Supports four CDC 9720–688 Disk Drives.
Supports four Fujitsu M2372K Disk Drives.
Does not Support Seagate 97209–12G 3mb/Sec IPI Disk Drives.
Does not Support Seagate 97229–11G 6mb/Sec IPI Disk Drives.

840 Watt Power Supply 300–1075

Supports four Seagate 97209–12G 3mb/Sec IPI Disk Drives.
Supports four Seagate 97229–11G 6mb/Sec IPI Disk Drives.
Does not support Fujitsu M2372K Disk Drives.
Does not support CDC 9720–688 Disk Drives.

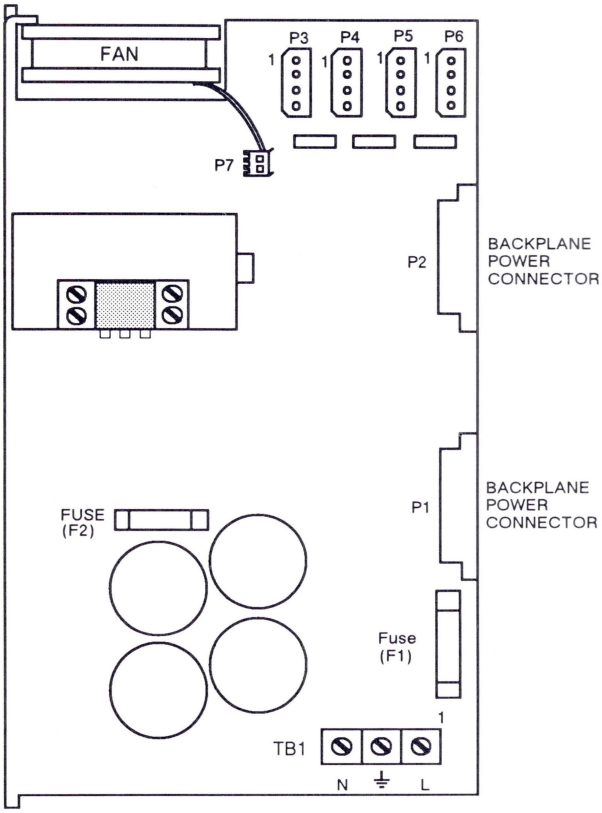
Zytec 22907400 1200 Watts
Sun–4/390/490
300–1065





DC OUTPUT	REGULATION	FULL LOAD
+5	10–200 Amps	200.0 Amps
–5.2	0.4–15 Amps	10.0 Amps
+12 analog	0–10 Amps	2.0 Amps
+12 motor	4–15 Amps	6.3 Amps
–12	0–5 Amps	4.0 Amps

Boschert XL520–3625 520 Watts
Sun–4/330
300–1072



TB1

1	2	3
Brn	Grn	Wht
LINE	GND	NEUT

P3,P4,P5,P6

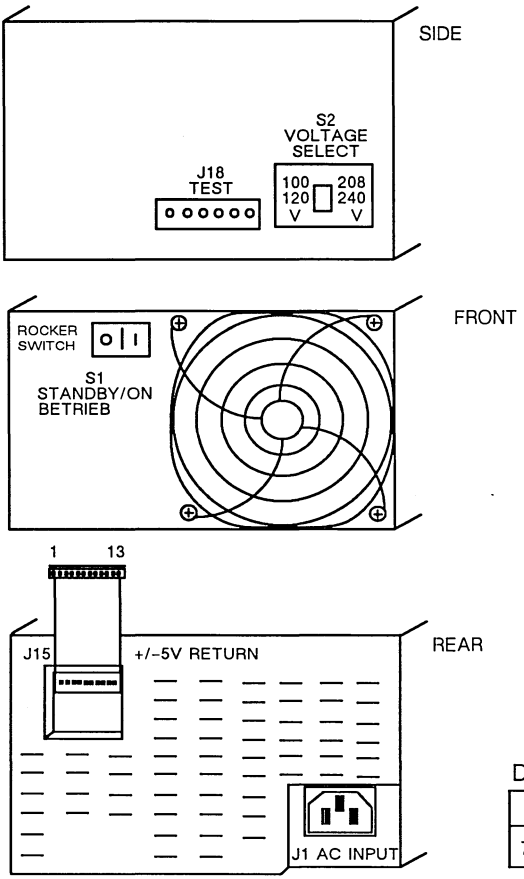
1	2	3	4
Red	Blk	Blk	Org
+5V	GND	GND	12V

DC Current Output

+5	-5.2	+12 Analog	-12	+12 Motor
62	4.5	3.0	2.0	10.5

Fuses
F1 = 20 Amps @ 250 Volts
F2 = 10 Amps @ 250 Volts

Seagate 45070625 215 Watts
Seagate 97209–12G & 97229–11G
Options 706 707 709 710 716 717 719 720
300–1074



DC Current Output

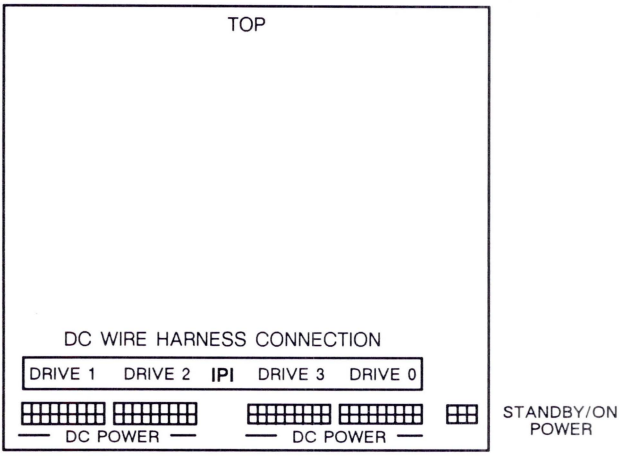
+5V	-5.1V	-12V	+24V
7.0A	6.25A	0.35A	6.0A

J15

1	2	3	4	5	6	7	8	9	10	11	12	13
+5V	+5V	GND	GND	-5V	-5V	-12V	+PWR OK	NC	+24V RTN	+24V RTN	+24V	+24V

Fuse: at F100, 8 Amps, 250 Volts, LittleFuse, 312-008

Fuji PEX527–31 840 Watts
Options 741A 742A 743A 744A
Options 741L 742L 743L 744L
300–1075



+5V	GND	GND	–5V		–12V	GND		
Red	Blk	Blk	Yel	NC	Brn	Blk	NC	NC
1	2	3	4	5	6	7	8	9
10	11	12	13	14	15	16	17	18
Red	NC	NC	Yel	NC		Blk	Org	Org
+12V			–5V			GND	+24	+24

Gry	Wht/ Brn	Wht/ Red
1	2	3
4	5	6
Wht/ Org	Blk	Blk

Current Output

+5V	–5.1V	–12V	+24V
28A	25A	1.4A	28A

Fuse: 20 Amps @ 250 Volts

Sony APS–28 60 Watts
Options 571 804
300–1080

P1

1	2	3	4
Blu	Blk	Blk	Red
+12V	GND	GND	+5V

P2

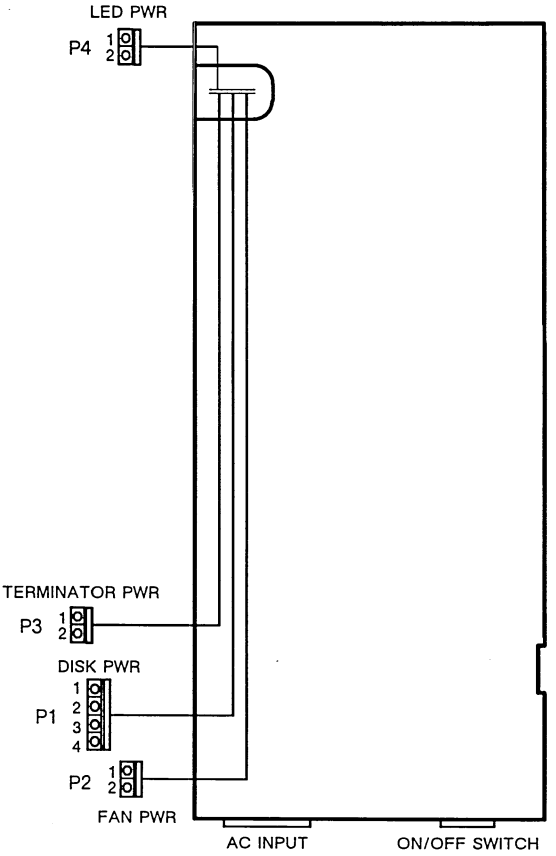
1	2
Blu	+12
Blk	Gnd

P3

1	2
Red	+5
Blk	Gnd

P4

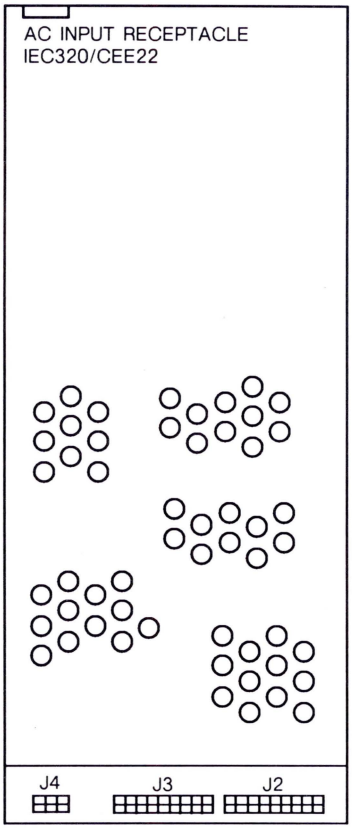
1	2
Red	+5
Blk	Gnd



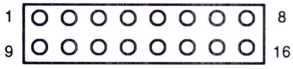
DC Current Output

+5V	+12V
3.5A	3.5A

Zytec 22914300 268 Watts
Options 726 727
300–1085

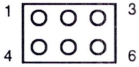


Connectors J2 and J3



PIN	COLOR	VOLTAGE
1	Red	+5
2	Red	+5
3	Blk	Gnd
4	Blk	Gnd
5	Blk	Gnd
6	Blk	Gnd
7	Blu	+12
8	Blu	+12
9	Red	+5
10	Red	+5
11	Blk	Gnd
12	Blk	Gnd
13	Blk	Gnd
14	Blk	Gnd
15	Blu	+12
16	Blu	+12

Connector J4



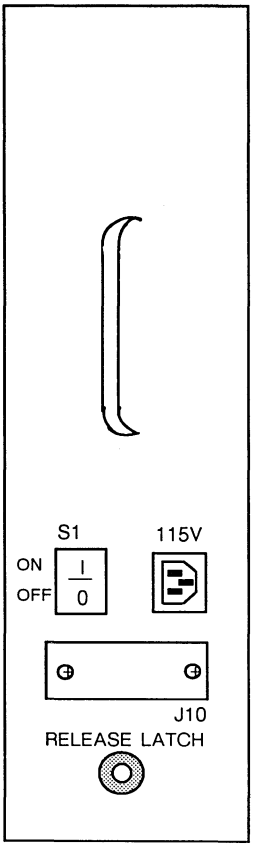
PIN	COLOR	VOLTAGE
1	Blu	+12
2	Blu	+12
3	Red	+5
4	Blk	Gnd
5	Blk	Gnd
6	Blk	Gnd

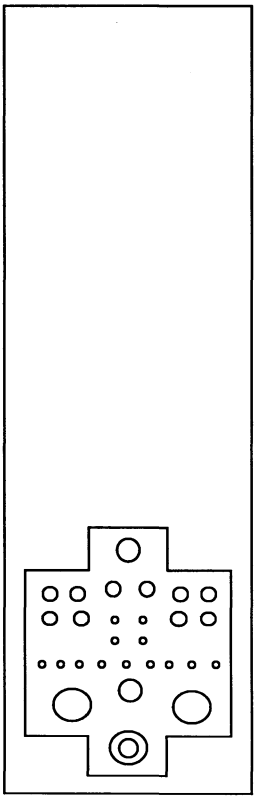
DC Current Output

+5.1Vdc	+12Vdc	+12Vdc
8.0A x 2	7.0A x 2	1.5A

Fuse: 10 Amps @ 250 Volts

Fuji PEX526-30 925 Watts
Sun-3/470 & Sun-4/370/470
300-1089





DC OUTPUT	REGULATION	FULL LOAD
+5	150 Amps	145.0 Amps
-5.2	15 Amps	10.0 Amps
+12 analog	15 Amps	2.0 Amps
+12 motor	15 Amps	6.3 Amps
-12	10 Amps	4.0 Amps

Sony 062–0412 35 Watts
Options 550 552 558 660
300–1090

TB1

1	2
Blk	Org
GND	+5V

TB2

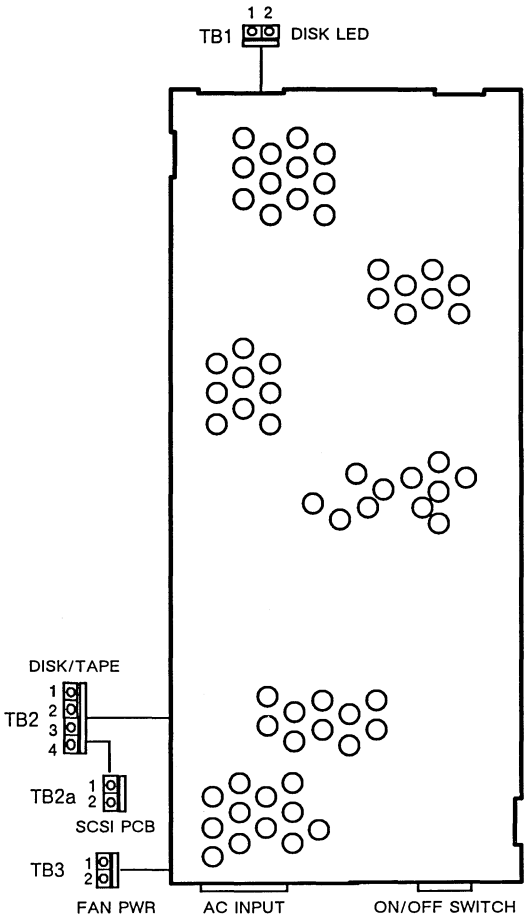
1	2	3	4
Blu	Blk	Blk	Red
+12V	GND	GND	+5V

TB2a

1	2
Blk	Red
GND	+5V

TB3

1	2
Blk	Blu
GND	12V



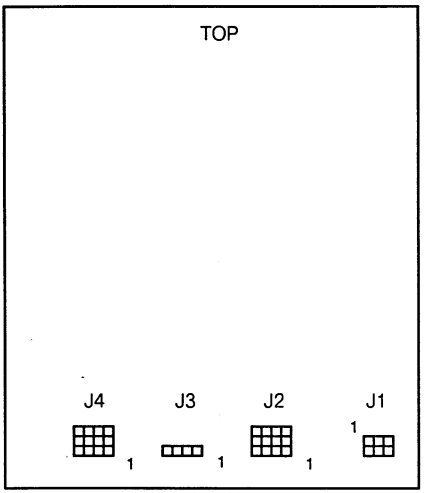
DC Current Output

+5V	+12V
2.0A	1.5A

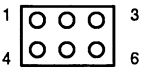
Notes

1. The Disk Drive LED harness is 530–1522.
2. This Power Supply cannot be installed in Desktop Storage Packs manufactured prior to March 1991.

Fuji PEX614-30 820 Watts
Options 2004 2006
300-1091

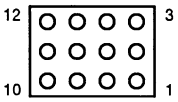


Connector J1
Switch Power



PIN	COLOR
1	Black
2	Black
3	White/Red
4	White/Orange
5	White/Brown
6	Grey

Connectors J2 and J4
Peripheral Tray Power



PIN	COLOR	VOLTAGE
1	Red	+5
2	Red	+5
3	Red	+5
4	Black	Gnd
5	Black	Gnd
6	Black	Gnd
7	Black	Gnd
8	Black	Gnd
9	Black	Gnd
10	Blue	+12
11	Blue	+12
12	Blue	+12

Fuse: Littelfuse BLN 20

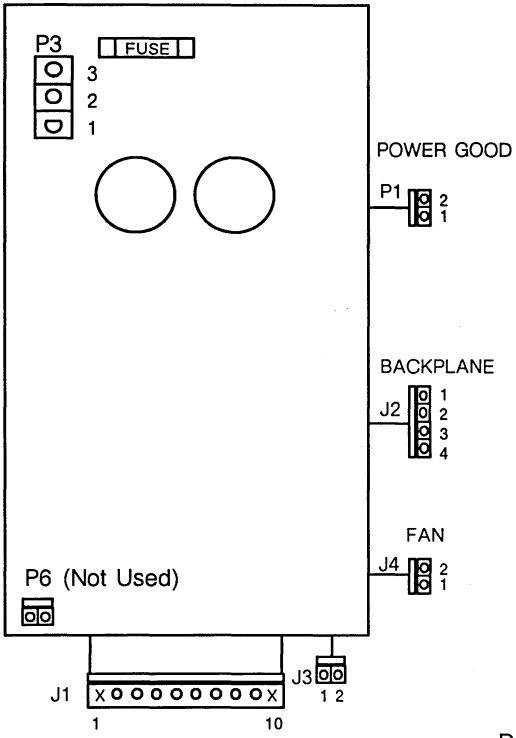
Connector J3
DC Fan Power

PIN	COLOR	VOLTAGE
1	Red	+12
2	Red	+12
3	Black	Gnd
4	Black	Gnd

DC Current Output

+5.1Vdc	+12.2Vdc	+12.2Vdc
15A x 2	15A x 2	1.65A

Summit CS0325–9001 325 Watts
GT Graphics Tower
300–1093



P3

1	2	3
Wht	Grn	Blk
NEUT	GND	GND

P1

1	2
Grey	Wht/ BLK
PWR	GND

J2

1	2	3	4
Red	Red	Blk	Blk
+5V	+5V	GND	GND

J4

1	2
Org	Wht/ BLK
PWR	GND

J3

1	2
Grey	Wht/ BLK
PWR	GND

DC Current Output

+5V	–5V	+12V	–12V
60A	8.0A	3.0A	1.5A

J1

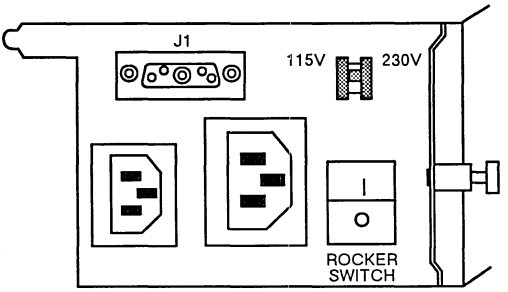
1	2	3	4	5	6	7	8	9	10
--	Yel	Yel	Wht/ Yel	Wht/ Yel	Blu	Wht/ Blk	Brn	Wht/ Blk	--
N/A	–5.2 V	–5.2 V	–5.2 RTN	–5.2 RTN	+12 V	GND	–12 V	GND	N/A

FUSE: 7 Amps @ 250 Volts (Not replaceable: soldered)

Note: Wait at least two minutes after power down or power outage before turning power ON to allow the unit to reset.

SPS265 265 Watts
Sun386i/150/250

555-1006	300-1032	300-1046
w Bracket w/o DC Output	w/o Bracket w DC Output	w/o Bracket w/o DC Output



Current Input

100-120V	200-240V
10A	5A

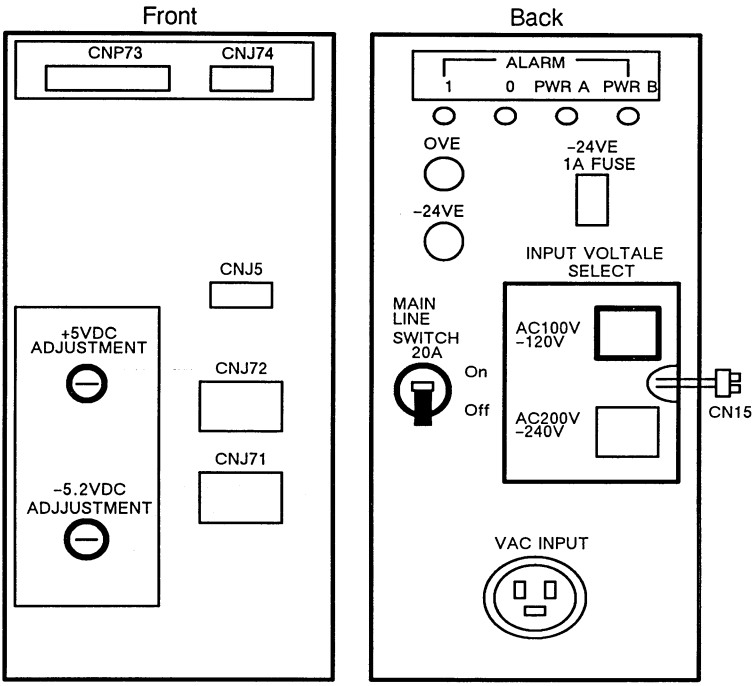
DC Current Output

+5V	-5.2V	+12V	-12V
38A	1.9A	5.6A	.05A

Fuse: 15 Amps @ 250 Volts

Note: Power Supply 300-1032 was discontinued in March 1989.

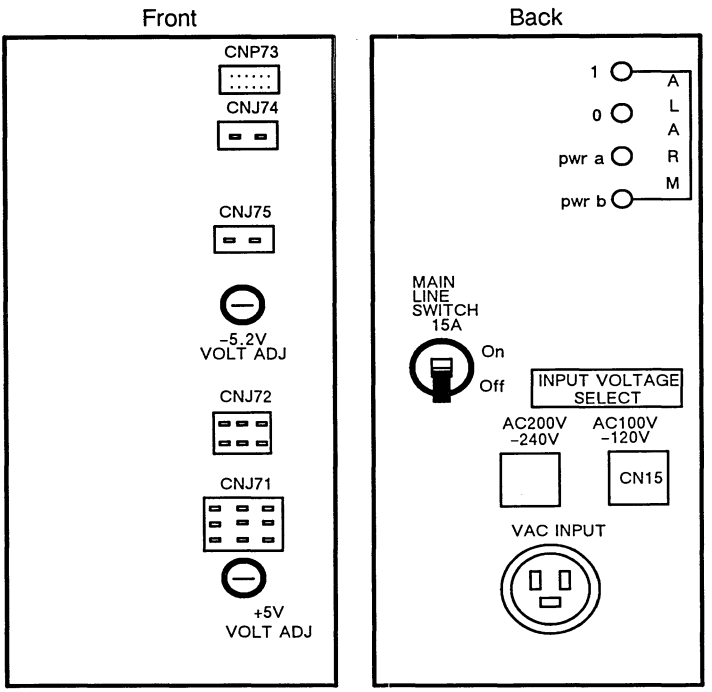
Fujitsu M2444AC Power Supply Module A–1
Options 78 675
811–1027



The abnormal conditions indicated by the alarm panel are described in the chart below.

ALARM LEDS				INDICATES
1	0	PWR	PWR	
*				Abnormal temp due to failing Fan 1 (away from PSU)
*	*			High temp in power amplifier of servo circuits
	*			Abnormal temp due to failing Fan 2 (near to PSU)
		*		Over–power/over current in +5, –6, +12 VDC circuit
			*	Over–power/over current in –5.2, +24, –24 VDC circuit

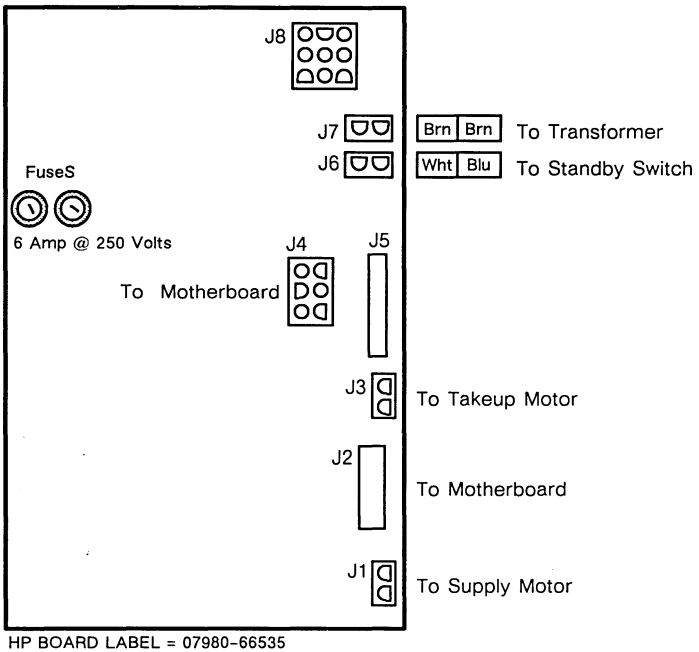
Fujitsu M2444AC Power Supply Module A–2
Options 78 675
811–1027



The abnormal conditions indicated by the alarm panel are described in the chart below.

ALARM LEDS				INDICATES
1	0	PWR	PWR	
*				Abnormal temp due to failing Fan 1 (away from PSU)
*	*			High temp in power amplifier of servo circuits
	*			Abnormal temp due to failing Fan 2 (near to PSU)
		*		Over–power/over current in +5, –6, +12 VDC circuit.
			*	Over–power/over current in –5.2, +24, –24 VDC circuit

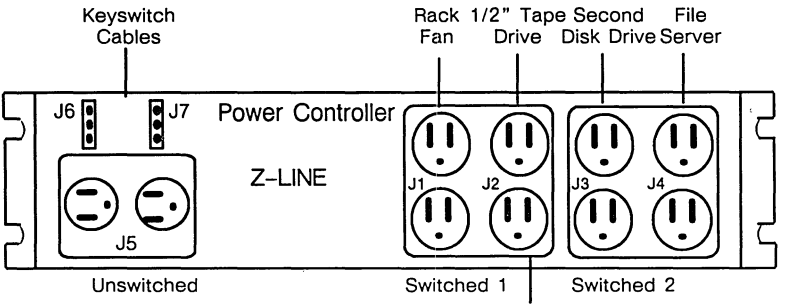
HP 88780 Power/Motor Drive Board
Options 680 682 683 684
811-1242



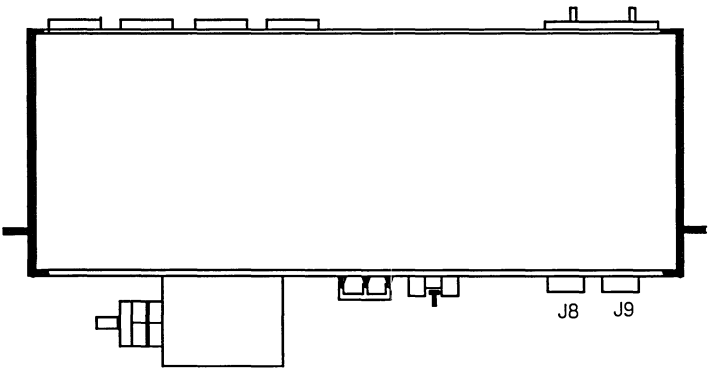
Note: The Sun part number for the 6 Amp fuse is 140-1021-01.

Pulizzi Engineering PC874D–472 115 Volt 300–1011

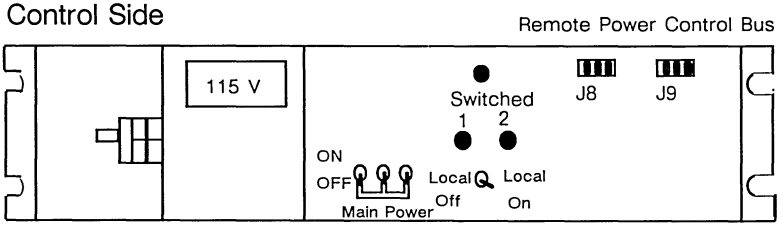
Outlet Side



Top View



Control Side



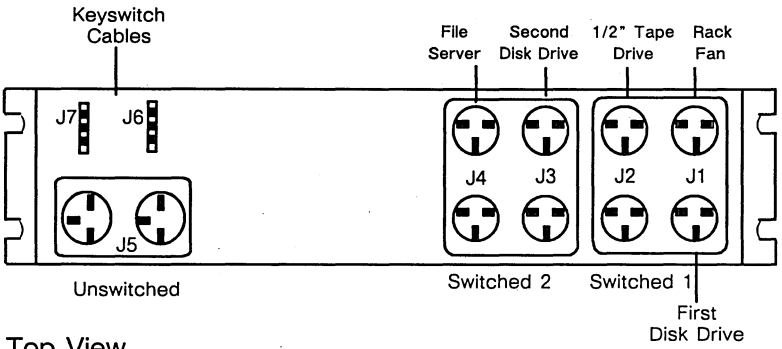
Note: Requires AC outlet NEMA L5–30R.

Pulizzi Engineering PC874E-583 230 Volt

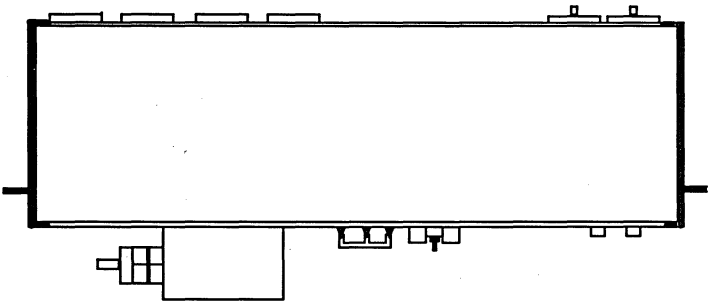
370-1155 370-1127

Obsolete

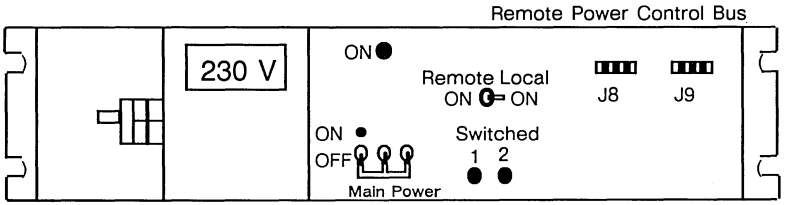
Outlet Side



Top View



Control Side



Notes

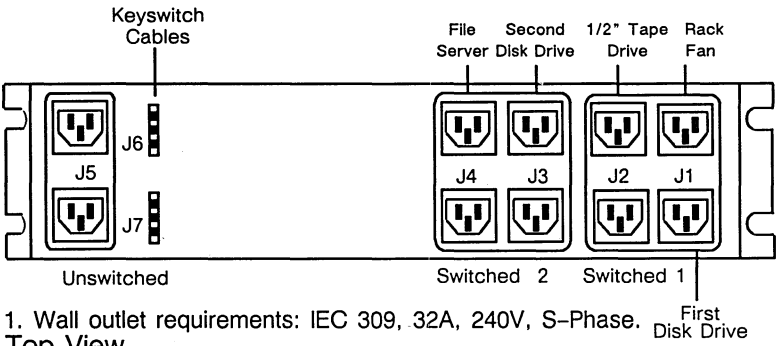
1. Requires AC outlet NEMA L6-30R.
2. When more than two disk drives are installed, distribute the power between the Switched 1 and Switched 2 outlets.

Pulizzi Engineering PC500 240 Volt

370–1156 370–1126

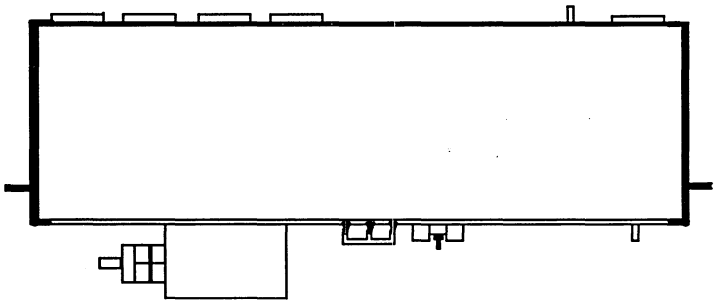
Obsolete

Outlet Side

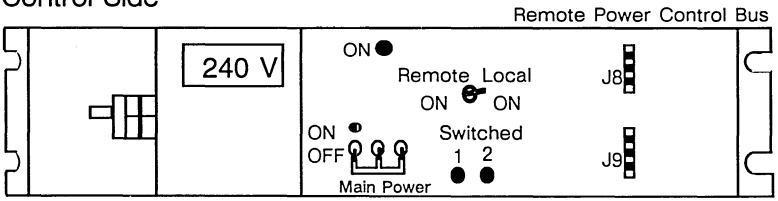


1. Wall outlet requirements: IEC 309, 32A, 240V, S-Phase.

Top View



Control Side



Notes

1. Requires AC outlet IEC 309, 32A, 240V.
2. When more than two disk drives are installed, distribute the power between the Switched 1 and Switched 2 outlets.

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