Field Engineer Handbook

Technical Volume I

Sun Microsystems, Inc.

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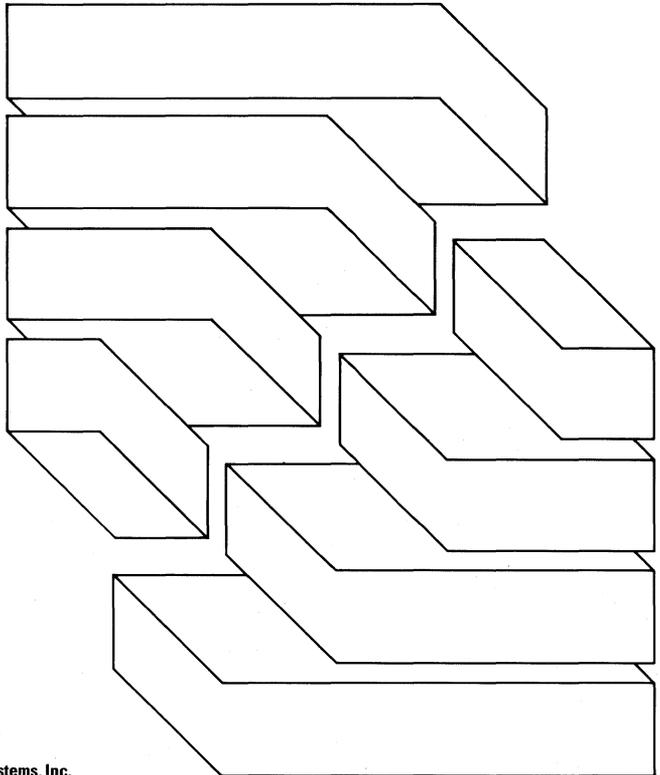
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Preface

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 an 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 miscel-laneous hardware information.

- Troubleshooting. This section contains error code charts for CPUs, disks, tapes, and communications.

- Operating Systems. Contains selected software charts.

- 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

READER COMMENT CARD

Dear Reader:

Sun Microsystems wishes to provide the best possible documentation for our products and service. Your input is critical to the quality and accuracy of the Field Engineer Handbook.

Please use the Reader Comment Card to send us your suggestions on the following:

Content	Please indicate information you think should be added or deleted. Comment on any material that is missing.
Layout/Style	Is the organization of this handbook useful? If not, how would you rearrange things? What would you like to see different?
Technical Errors	Note any errors in technical accuracy by page.
Typographical Errors	Note typographical errors by page number.

Thank you! Your feedback is appreciated.

Customer Service Division
Sun Microsystems, Incorporated

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 configura-
tion 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   Slide–type
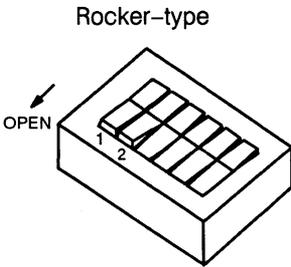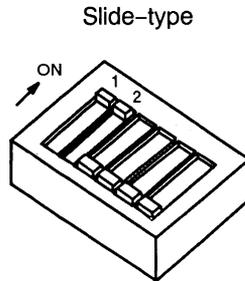
SWITCH TYPE A   SWITCH TYPE C
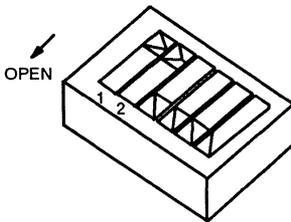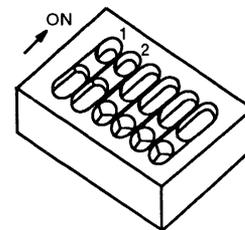
SWITCH TYPE B   SWITCH TYPE D

CONFIGURATIONS

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 will fall into PROM monitor
12 = Watchdog Reset will cause a Power On Reset
      (default)

Location 0x18 [Operating System Boot Device]

00 = poll devices (default)
12 = use EEPROM/NVRAM specified boot device

Common EEPROM or NVRAM Parameters

Location 0x19 – 0x1a [OS 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 0x1d [Controller,Unit,Partition]

default   00   00   00 (default)

Location 0x1f [Primary Terminal]

00 = Monochrome Monitor
10 = Serial Port A
11 = Serial Port B
12 = Color Monitor and 3/60 plug–in Color Frame Buffer
20 = P4 Color Frame Buffer (Sun–3 and Sun–4)

Location 0x20 [Power–Up Banner]

00 = Sun
12 = Custom

Location 0x21 [Keyboard Click]

00 = turn click off
12 = turn 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 0x26 [Controller,Unit,Partition]

default   00   00   00 (normal setting)

Location 0x28 – 0x4f [Diagnostic Boot Path]

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

Location 0x50 [Hi Res # Columns]

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

Common EEPROM or NVRAM Parameters

Location 0x51 [Hi Res # Rows]

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

Location 0x58 [Port A Default Baud Rate]

00 = use default 9600 baud (default)
12 = use EEPROM/NVRAM defined baud rate

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

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

Location 0x5b [Port A DTR/RTS]

00 = assert DTR and RTS signals
12 = do NOT assert DTR and RTS signals

Location 0x60 [Port B Default Baud Rate]

00 = use default 9600 baud (default)
12 = use EEPROM/NVRAM defined baud rate

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

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

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

Location 0x63 [Port B DTR/RTS]

00 = assert DTR and RTS signals
02 = do NOT assert DTR and RTS signals

Location 0x111 [CPU Board Artwork Rev. Level] Sun386i only

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 [CPU Board Revision Level] Sun386i only

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 [SCSI Spin Up Delay] Sun386i only
Boot PROM ≥4.5

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

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

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

Location 0x163 – 0x16A [Password] Sun386i only
Boot PROM ≥4.5

8 bytes of password in ASCII

Location 0x18f [LogoType]

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

Location 0x492 [Power–On Mode] Sun386i only

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

Location 0x494 [Auto Config Message Flag] Sun386i only

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

Common EEPROM or NVRAM Parameters

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

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

Location 0x493-0x49A [Password Bytes]
Boot PROM ≥2.7.1 (Sun-3 & Sun-4)

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 equivalent of the letters can also be used to enter the password.

Location 0x70B [Power-On Mode] (Sun-3/80 only)
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

Parameters are set by name and may vary between system types. Examples in this section are from the Sun–4/40 Boot EPROM 1.6 Version 151, part number 525–1085–03.

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	1
oem-logo		
oem-logo?	false	false
oem-banner		
oem-banner?	false	false
ttyb-mode	9600,8,n,1,-	9600,8,n,1,-
ttya-mode	9600,8,n,1,-	9600,8,n,1,-
sbus-probe-list	0123	0123
fcode-debug?	false	false
screen-#columns	80	80
screen-#rows	34	34
use-nvramrc?	false	false
nvramrc		
boot-from-diag	le()vmunix	le()vmunix
boot-from	vmunix	vmunix
auto-boot?	true	true
watchdog-reboot?	false	false
input-device	keyboard	keyboard
output-device	screen	screen
keyboard-click?	false	false
sunmon-compat?	true	true
security-mode	none	none
security-password		
security-#badlogins	0	0
sd-targets	31204567	31204567
st-targets	45670123	45670123
scsi-initiator-id	7	7
ttyb-rts-dtr-off	false	false
ttyb-ignore-cd	true	true
ttya-rts-dtr-off	false	false
ttya-ignore-cd	true	true
hardware-revision		
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.

NVRAM Programming Using the Open PROM Toolkit

The use–nvramrc? Parameter
For normal operation, set the **use–nvramrc?** parameter to false. The system will not complete selftest if **use–nvramrc?** is true and there are no entries in **nvramrc**. The **nvramrc** parameter is a series of Forth commands used for system initialization. The **nvramrc** parameter is normally empty. There is no documentation available on how to use this feature.

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.

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	523-2127-01	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	2300xxxx	C xxxx	IDPROM	523-2136-01	U2202
4/3xx	None	None	NVRAM	100-1628-01	U2200
4/470/490	2400xxxx		IDPROM	525-1100-01	U1404
4/470/490	None	None	NVRAM	100-1628-01	U3505
4/60	5100xxxx	None	NVRAM	525-1032-01	U089
4/40	5200xxxx	None	NVRAM	525-1084-01	U0901
4/65	5300xxxx	None	NVRAM	525-1109-01	U089
4/20	5400xxxx	None	NVRAM	520-2749-01	U1011
4/75	5800xxxx	None	NVRAM	525-1107-01	U0512
4E	6100xxxx	None	NVRAM	523-8151-01	U1101
Sun386i	3100xxxx	xxxx	IDPROM	520-1811-01	U601
Sun386i	None	None	NVRAM	100-1628-01	U603

Serial # in hexadecimal

Machine-type

Disk Controller Base Addresses

Sun-2

Host Adapter	UNIX Device	Multibus Address 1st	2nd	VMEbus Address 1st
Sun2 SCSI	sc	80000	84000	200000*

Host Adapter	UNIX Device	Multibus Address 1st	2nd	VMEbus Address 1st	2nd
Xylogics 450	xy	ee40	ee48	ee40	ee48
Xylogics 451	xy	n/a	n/a	ee40	ee48

* SunOS revisions below 3.x use ee2800 as the SCSI base address.

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		M2312
1	CDC-9720-368	Hitachi-DK815-10	
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

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

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

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 Internal Tape	4	st0	st(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	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–4/75

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-2 Multibus
Sun-2/100U/120/150U/170
501-1007

J700
J701
J702
J703

J20

SERIAL
PORTS
A & B

68010

LEDs

0

7

J801

ID PROM
U411 (D8)

KEYBOARD
MOUSE
PORT

U406
(B10)

PROM
0

J400
4   3

2   1

U407
(B11)

PROM
8

Battery
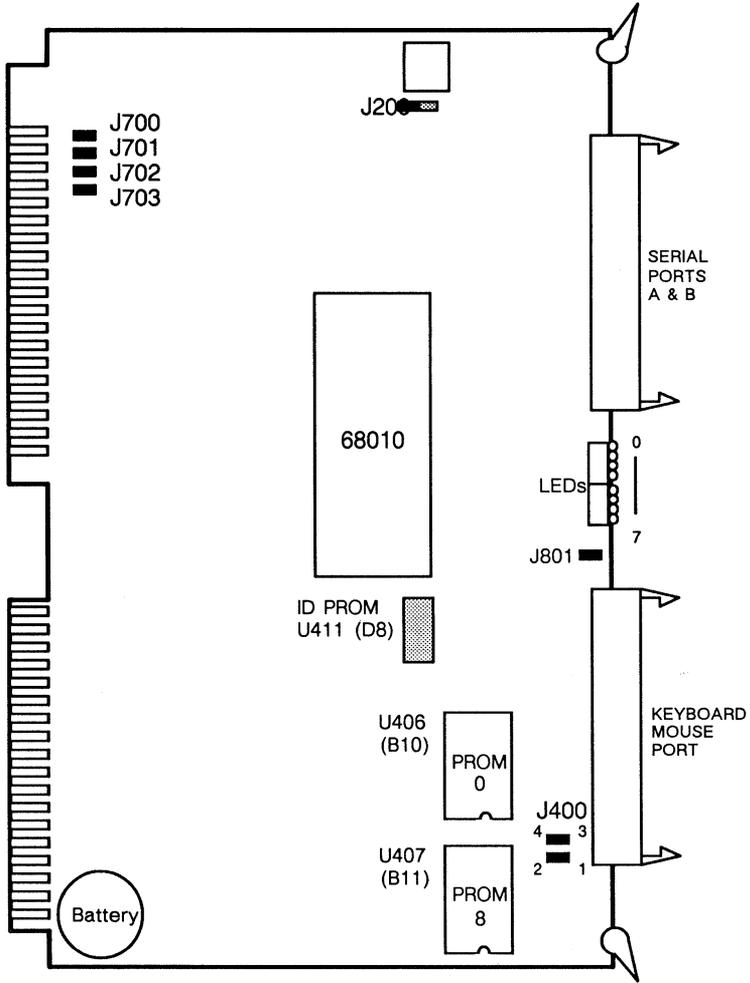
Power: 6.0 Amps @ +5Vdc
        30.0 Watts

501–1007
Jumper Settings

JUMPER	PINS	SETTING	DESCRIPTION
J200	1–2	In	Crystal Shunt
J400/ J401	1–2 3–4	In Out	Select 27128 EPROMs Select 27256 EPROMs
J700	1–2	Out * In	Priority on serial arbiter For Sun–2/100U BPRO
J701	1–2	Out * In	Common bus request arbiter BPRN For Sun–2/100U CBRQ
J702	1–2	In	CPU drives P1.CCLK
J703	1–2	In	CPU drives P1.BCLK
J801	1–2	In	100U/150U only, remainder not used (Mouse) VCC

*May cause problems with Tapemaster Controller settings.

Notes
1. SunOS 2.0 and above requires Revision N or greater EPROMs.
2. CPU boards with EPROM Revision N or below may require the
   addition of shunts at J1600 on the 501–1052–01/02 video board to
   operate properly with SunOS 3.0 and greater.
3. The 501–1007 CPU has a RasterOP function. The 501–1051 CPU does
   not have a RasterOP function.
4. Change J400, Pins 1–2, Out and Pins 3–4, In, for 1.1.2 Boot EPROM
   for Sun–2/120 or Sun–2/170.
5. J701 must be installed for SunOS 4.0, unless the kernel has been
   patched.
6. The Sun–2/100U/150U CPU requires Boot EPROM Rev Q, part num-
   bers 520–1103–02 and 520–1104–02, for the VT100 keyboard.
7. The last software release for 68010 systems is SunOS 4.0.3.

References
1. *Hardware Installation Manual for the Sun–2/120, 800–1170.*
2 *Hardware Installation Manual for the Sun–2/170, 800–1171.*

Sun-2 Multibus Prime
Sun-2/120/170
501-1051

J700

J701

J100

U407 (C6)   U406 (B6)

PROM 8   PROM 0

J400

68010

ID PROM
U411
(C11)

J200

SERIAL
PORTS
A & B

J102

LEDs

J801

KEYBOARD
MOUSE
PORT

Battery
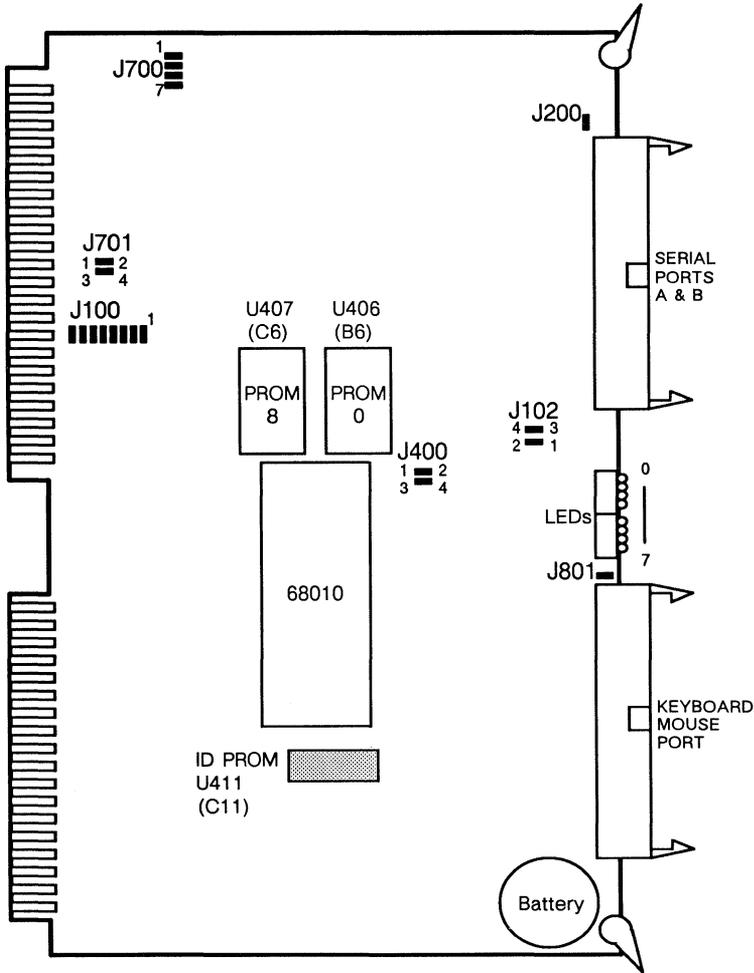
Notes
1. CPU boards with EPROM revision N or below may require the addition of shunts at J1600, Pins 1-8, on the 501-1052-01/02 video board to operate properly with SunOS 3.0 or greater.
2. Change J400, Pins 1-2, OUT, and Pins 3-4, IN, for 1.1.2 EPROM.

501-1051
Jumper Settings

JUMPER	PINS	SETTING	DESCRIPTION
J100	1–2	*	P1.INT0
	3–4	*	P1.INT1
	5–6	*	P1.INT2
	7–8	*	P1.INT3
	9–10	*	P1.INT4
	11–12	*	P1.INT5
	13–14	*	P1.INT6
	15–16	*	P1.INT7
J102	1–2	*	Connection to P1=–5V
	3–4	Out	Connection to P1=–5Reg.
J200	1–2	In	Crystal shunt
J400	1–2	In	Select 27128 EPROMs
	3–4	Out	Select 27256 EPROMs
J700	1–2	In	CPU drives P1 reset
	3–4	Out	P1.INT drives CPU reset
	5–6	Out	Serial arbiter enable
	7–8	Out	Arbiter bus configuration select
J701	1–2	In	CPU drives P1.BCLK
	3–4	In	CPU drives P1.CCKL
J801	1–2	Out	Not used

* Hardwired

Notes
1. The 501-1007 CPU has a RasterOP function. The 501-1051 CPU does not have a RasterOP function.
2. The last software release for 68010 systems is SunOS 4.0.3.

References
1. *Hardware Installation Manual for the Sun-2/120*, 800-1170.
2. *Hardware Installation Manual for the Sun-2/170*, 800-1171.

Sun 2050 CPU
Sun–2/50
501–1141   501–1142   501–1143
1MB   2MB   4MB
Sun–2/130/160
501–1144   501–1145   501–1146
1MB   2MB   4MB

P1   P2   P3

J900   2   16   2   16
       1   15   1   J800

J1201 2   16
       1   15

68010

ID PROM
U510 (A19)

J500   U501
       (A16)   2   16   J1600
1   2   1   15
7   8   PROM
        8

U500
(A12)

PROM   2   16
0   1   15   J200

J1801

J702 J704 (J5)

LEDs   KEYBOARD/   SIO – A   SIO – B   ETHERNET   VIDEO
0 —— 7   MOUSE
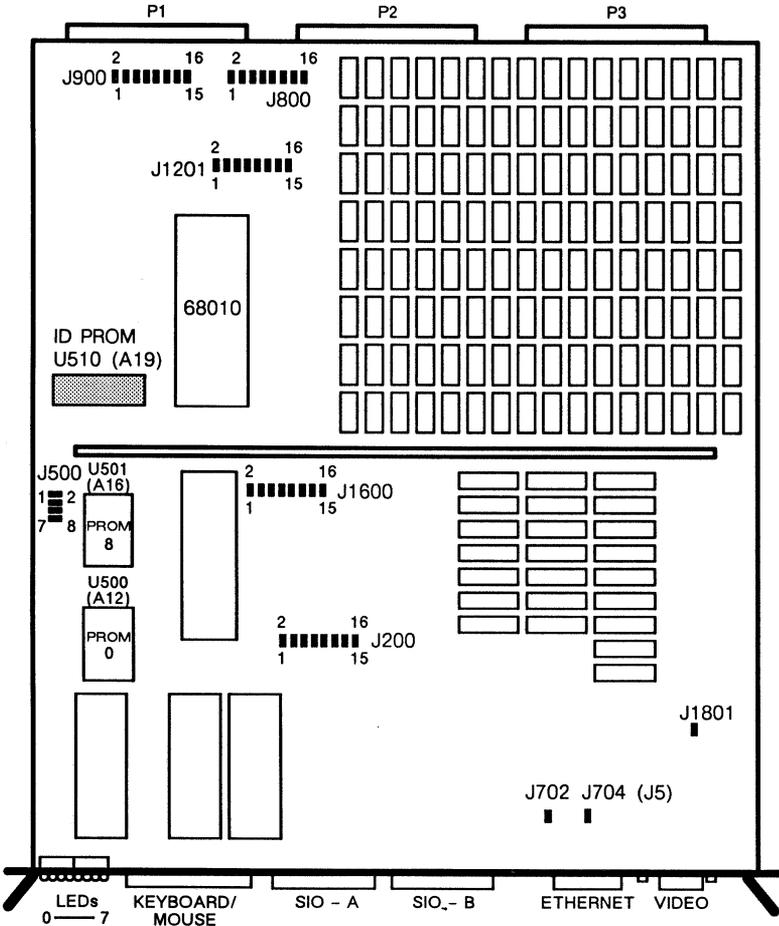
Power: 12.0 Amps @ +5Vdc
        1.0 Amps @ +12Vdc
        0.5 Amps @ –12Vdc
       78.0 Watts

501–1141   501–1142   501–1143
501–1144   501–1145   501–1146

Jumper Settings

JUMPER	PINS	SETTING	DESCRIPTION
J200	1–2	In	UART clock
	3–4	In	10/12 MHz CPU operation
	5–6	Out	12/10 MHz CPU operation
	7–8	Out	Reserved
	9–10	Out	Reserved
	11–12	In	Ethernet clock
	13–14	In	Memory refresh
	15–16	In	Time outs
J500*	1–2	In	PROM type=27128
	3–4	Out	PROM type=27256 or 27512
	5–6	In	PROM type=27128 or 27256
	7–8	Out	PROM type=27512
J702	1–2	Out	5V to Ethernet, Pin 7
J704	1–2	In	Level 1 Ethernet transceiver
		Out	Level 2 Ethernet transceiver
J800	1–2	In	VME interrupt level 1
	3–4	In	VME interrupt level 2
	5–6	In	VME interrupt level 3
	7–8	In	VME interrupt level 4
	9–10	In	VME interrupt level 5
	11–12	In	VME interrupt level 6
	13–14	In	VME interrupt level 7
	15–16	Out	Not used

*Change J500, Pins 3–4, 7–8, In, and Pins 1–2, 5–6, Out, for 1.1.2 EPROM.

Note: The last software release for 68010 systems is SunOS 4.0.3.

References
1. *Hardware Installation Manual for the Sun–2/50,* 800–1143.
2. *Hardware Installation Manual for the Sun–2/130 and Sun–2/160,* 800–1144.

501–1141   501–1142   501–1143
501–1144   501–1145   501–1146

Jumper Settings – Continued

JUMPER	PINS	SETTING	DESCRIPTION
J900	1–2	In	DVMA address comparator A20=0/1
	3–4	In	DVMA address comparator A21=0/1
	5–6	In	DVMA address comparator A22=0/1
	7–8	In	DVMA address comparator A23=0/1
	9–10	In	VME arbiter
	11–12	In	VME reset master
	13–14	Out	Reset slave
	15–16	In	VME system clock

J1201	1MB (64K Rams)		3MB (256K Rams)	
	5–6	In	1–2	In
	9–10	In	3–4	In
	13–14	In	7–8	In
			11–12	In
			15–16	In
	2MB (256K Rams)		4MB (256K Rams)	
	1–2	In	1–2	In
	7–8	In	3–4	In
	11–12	In	7–8	In
	15–16	In	11–12	In
			15–16	In

J1600	1–2	In	Video register sense bit 0
	3–4	In	Video register sense bit 1 *
	5–6	In	Video register sense bit 2
	7–8	In	Video register sense bit 3
	9–10	Out	Reserved
	11–12	Out	Reserved
	13–14	In	10/12 MHz CPU operation
	15–16	Out	12/10 MHz CPU operation
J1801	1–2	In	Enable/disable 100MHz video CLK

*J1600, Pins 3–4, must be OUT if a color PCB is installed.

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Sun-3/50
501-1075 501-1133 501-1162 501-1207
└─────── w/o FPP ───────┘   w FPP

P3

7 1
▌▌▌▌ J0123
7 1
▌▌▌▌ J0108

4MB
MEMORY

ID PROM
U0204 (N21)

Battery

68881
FPP

68020

J1500

U0701 (N9)

BOOT
PROM

3 1
▌▌ J0702
4 2

0618

8
■ J0642
(K4)

On   1

F1

F2

Keyboard
Fuse
(F4)

Ethernet
Fuse
(E4)

KEYBOARD/   LEDs   BNC
MOUSE   0 ─── 7 D/N ETHERNET
              SW

SIO-A   SIO-B   SCSI   VIDEO
                        50-Pin DD-50SA
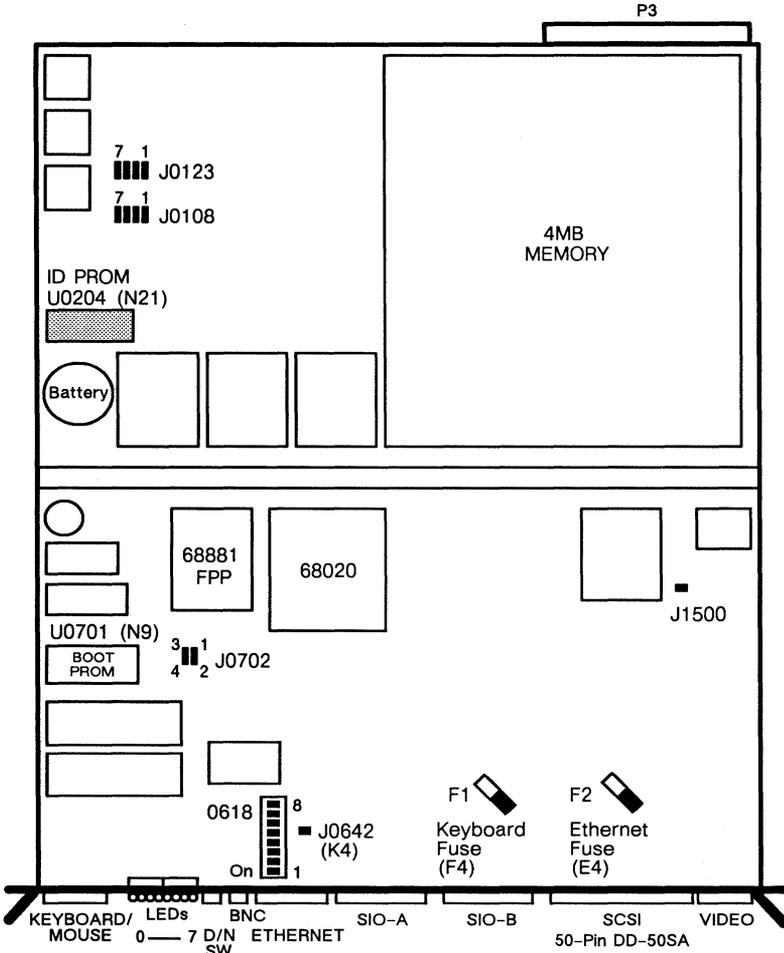
Power: 13.5 Amps @ +5Vdc
         0.8 Amps @ -5Vdc
         0.5 Amps @ +12Vdc
   100.0 Watts

Notes
1. CPU EPROM 1.8 or greater is required to load SunOS 1/4"
   distibution tapes in QIC-24 format.
2. CPU EPROM 2.5 or greater is required to load SunOS 1/4"
   distribution tapes in QIC-24 format from a Sun-2 Shoebox.

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

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

DIP SWITCH	SWITCH	SETTING	DESCRIPTION
0618	1-8	Off	Set for Ethernet
	1-8	On*	Set for Thin Ethernet

*Factory Setting

Notes
1. For SunOS 3.3 and greater, this CPU may fail with revisions lower than 501-1075-10, 501-1162-08, and 501-1133-10.
2. For SunOS 3.3, the Sysgen 1/4" tape controller, 370-1011, will not work with this board.
3. A bus error may occur when large executables are run during a prefetch across the page boundary with board revisions lower than 501-1162-11 or 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

P3

| 3V Battery | | | | | | | |

Ethernet Fuse (J39)

23

| 24MB |
| 20MB |
| 16MB |
| 12MB |
| 8MB |
| 4MB |

S
I
M
M

N
U
M
B
E
R

0

J800
1   15

SIMM Configuration

ID PROM
U224 (I20)

P4B

P4A

U300 (K8)

BOOT
PROM

68020   68881

8530

Exploded View
of J800
- 4MB
- 8MB
- 12MB
- 16MB
- 20MB
- 24MB
- EXTXVR
- HIGHRES

8530

Keyboard
Fuse (K1)

KEYBOARD/   ETHERNET   SIO-B   SIO-A   SCSI   VIDEO
MOUSE   LEDs N/D BNC   50-Pin DD-50SA
         7— 0
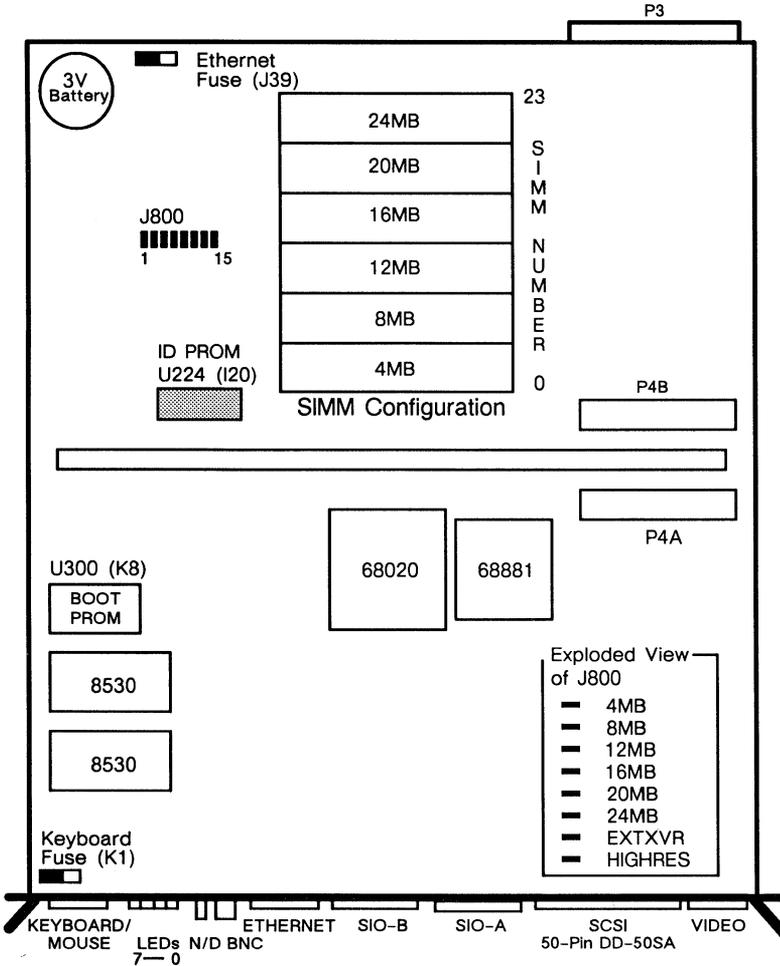
Note: CPU EPROM 1.6 or greater is required to load SunOS 1/4"
      distribution tapes in QIC-24 format.

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.

Power
501-1205   10.1 Amps @ +5Vdc
            0.7 Amps @ –5Vdc
           44.1 Watts
501-1322   8.9 Amps @ +5Vdc
            0.3 Amps @ –5Vdc
           48.1 Watts

Notes
1. This board uses 1MB SIMM module, 501-1239.
2. On CPU boards with part numbers $\leq$501-1205-09, 501-1322-01,
   501-1334-01, and 501-1345-01, SCSI Bus Pin 26 (TERMPWR) is
   connected to ground.

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

Sun-3/60LE
501-1378
4MB w/o Mono

P3

3V Battery

Ethernet
Fuse (J39)

23

12MB (1MB SIMMS)

8MB (1MB SIMMS)

S
I
M
M

4MB (256KB SIMMS)

N
U
M
B
E
R

3MB (256KB SIMMS)

2MB (256KB SIMMS)

1MB (256KB SIMMS)

0

J800

1   15

ID PROM
U224 (I20)

SIMM Configuration

U300 (K8)

BOOT
PROM

68020   68881

P4A

8530

8530

Keyboard
Fuse (K1)

Exploded View
of J800

1   4MB
     12MB

EXTXVR

KEYBOARD/   ETHERNET   SIO-B   SIO-A   SCSI
MOUSE   LEDs N/D BNC   50-Pin DD-50SA
         7— 0
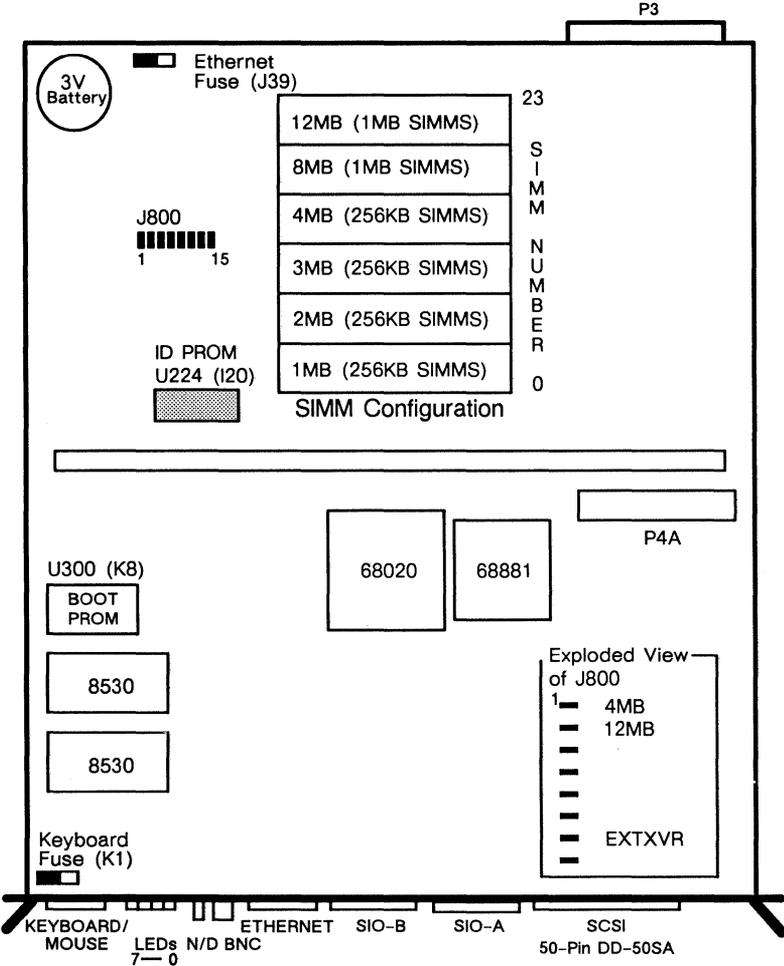
501–1378
Jumper Settings

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/VCCI-1   FCC-A/VCCI-1

```
┌──────────────────────────────────────────────────────────────────┐
│  �┐                    �

│  ┌─┐  ┌─┐ ┌──────────────┐  ┌──────┐  ┌──────────────┐  ┌──────┐  │
│  │1│  │○│1│            1 │  │●●●●│  │            1 │  │●●●●│  │
│  └─┘  │○│                                                          │
│ FLOPPY│○│ LED/  DISK      DISK PWR      DISK       DISK PWR        │
│  ┌────┐│   SPEAKER              ┌────────────────────┐              │
│  │○○○○│   FLOPPY                │    P4 CONNECTOR    │              │
│  └────┘   POWER                └────────────────────┘              │
│ POWER                                                              │
│ SUPPLY    BANK    DATA    BANK    DATA                              │
│  U0900 │  3      7-0 │  3    23-16 │ U0902                          │
```

	BANK	DATA		BANK	DATA	
U0900	3	7-0		3	23-16	U0902
U0700	1	7-0		1	23-16	U0702
U0803	2	7-0		2	23-16	U0805
U0603	0	7-0		0	23-16	U0605
U0901	3	15-8		3	31-24	U0903
U0701	1	15-8		1	31-24	U0703
U0804	2	15-8		2	31-24	U0806
U0604	0	15-8		0	31-24	U0606

68882

68030   J020
         1 3

Sun DVMA   J1000 ▌1
                       2

U0204   BOOT PROM
(J3 C0)

U0205   ID/NVRAM
(J7 B3)

Fuses   Keyboard
                      J043 J044   Fuse
SCSI   ▌ Ethernet   3 ▌ 1 RS232   (F0400)
(F1400) (F1500)   1 ▌ 3 RS423
▦▦▦▦ J1804   J045 ▌1
                                               3

50-Pin SCSI-2   ETHERNET   PORT B   PORT A   PARALLEL PORT
                                                    KEYBOARD/
                                                    MOUSE

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

*Factory Setting

Sun 3004 CPU
Sun-3/75/140/150/160/180
501-1074 501-1094 501-1163 501-1164
2MB   4MB   2MB   4MB
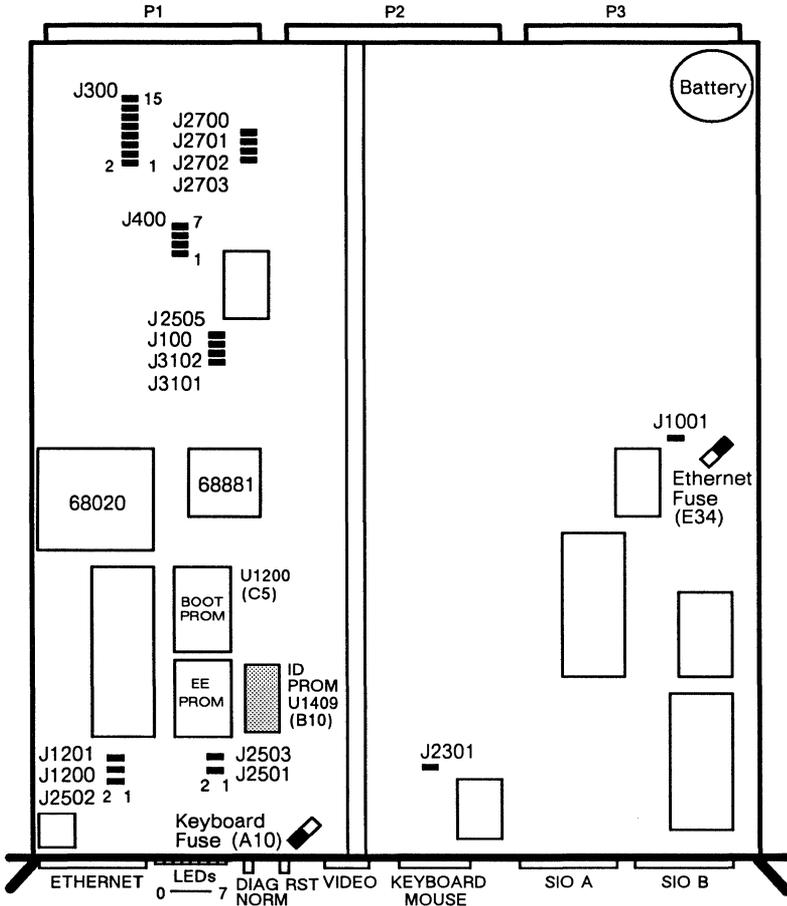
```
        P1              P2            P3

  J300 ■ 15
          J2700 ■
          J2701 ■
    2 ■ 1 J2702 ■
          J2703
                                              Battery
    J400 ■ 7
         ■
         1

    J2505
    J100 ■
    J3102 ■
    J3101
                                      J1001 ■
                                      ◆
                                      Ethernet
                                      Fuse
         68881                        (E34)
  68020

              U1200
       BOOT   (C5)
       PROM

       EE     ID
       PROM   PROM
              U1409
              (B10)
  J1201 ■            ■ J2503    J2301
  J1200 ■          ■ J2501     ■
  J2502 2  1      2  1
              Keyboard ◆
              Fuse (A10)

  ETHERNET  LEDs  DIAG RST VIDEO KEYBOARD  SIO A    SIO B
            0 — 7 NORM           MOUSE
```

Notes
1. CPU EPROM 1.8 or greater is required to load SunO 1/4"
   distribution tapes in QIC-24 format.
2. CPU EPROM 2.6 or greater is required to load SunO 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
   controller.
4. To install with a VME 32-bit data device (MCP, ALM-2, SCA, HSI,
   Xylogics 7053, SCSI-3, or TAAC-1), the CPU revision must be
   501-1094-22, 501-1074-22, 501-1163-09, 501-1164-09, or
   greater.

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

Power

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

4MB   15.2 Amps @ +5Vdc
    0.8 Amps @ –5Vdc
    80.2 Watts

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

Sun 3004 CPU
Sun–3/140/150/160/180
501–1208

4MB
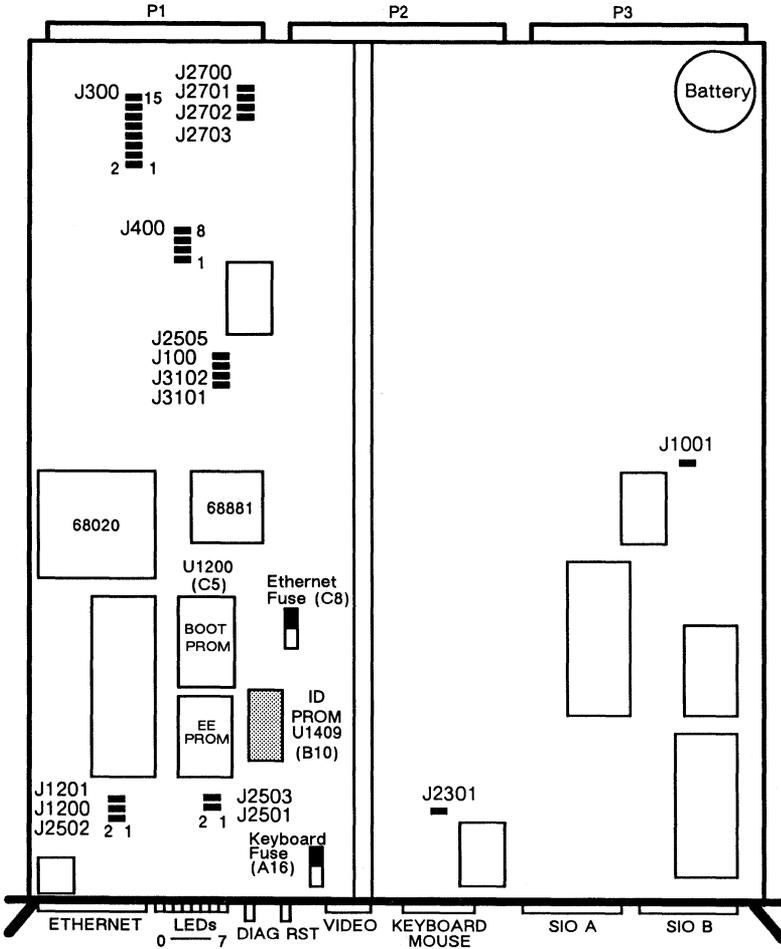
Notes
1. CPU EPROM 1.8 or greater is required to load SunO 1/4"
   distribution tapes in QIC–24 format.
2. CPU EPROM 2.6 or greater is required to load SunO 1/4"
   distribution tapes in QIC–24 format from a Sun–2 Shoebox.
3. CPU EPROM 2.6 or greater is required for the Xylogics 7053 disk
   controller.

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

Power: 15.2 Amps @ +5Vdc
     0.8 Amps @ –5Vdc
    80.2 Watts

Note: This board 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 ────┘

P1   P2   P3

J2502 ■ 1
      15

J300   1   J2700
                   J2702
                   J2701
                   J2703
                   J100
                   J400

Battery

J3101

68020   68881   xtal
                    J1001

SCC   SCC
8530   8530

J1201 ■ 1
      1   U1200
J1200   (B6)

BOOT   EE
PROM   PROM

J2500   ID
                   PROM
                   U1409
                   (B12)

J2501 ■ 1 Ethernet   Keyboard
J2503 ■   Fuse (A6) Fuse (A12)

J1700

ETHERNET   KEYBOARD   SIO A   SIO B   RESET
        DIAG 0 LEDs 7 MOUSE   G B R S
        NORM
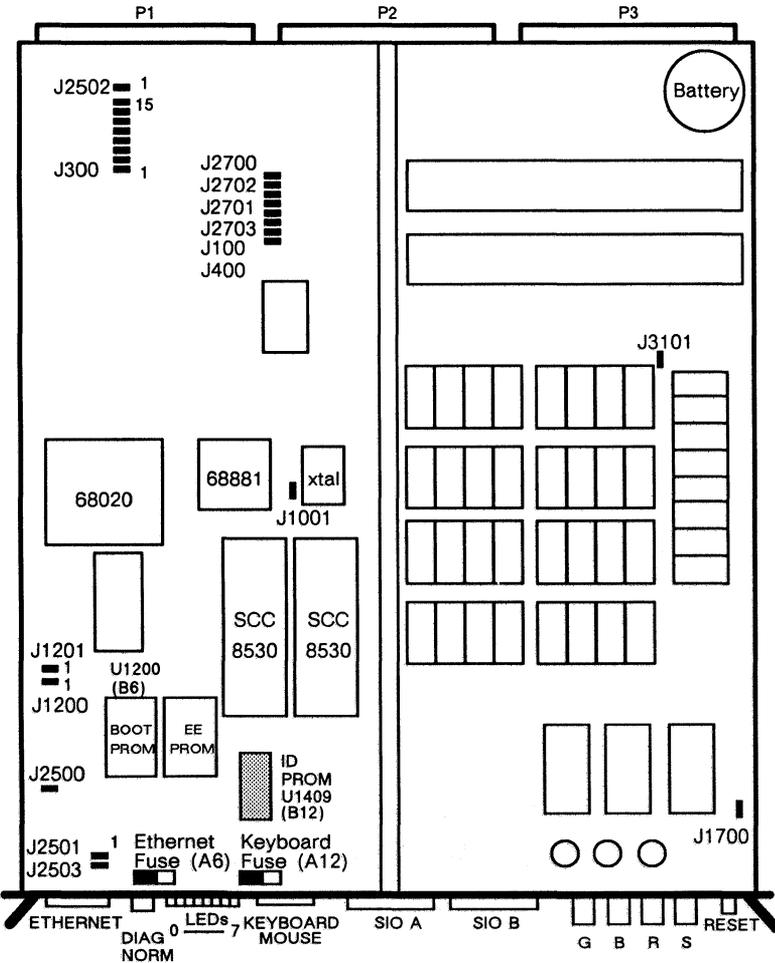
Power: 14.7 Amps @ +5Vdc
        4.1 Amps @ –5Vdc
        0.15 Amps @ +12Vdc
        96.6 Watts

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 501–1206
L———— 0MB ————J

P1   P2   P3

Battery

J2600 ▮   1
    J2500 ▐▐▐▐

68881

68020

J300   1 J100 1
▐▐▐▐▐▐▐▐▐ ▮ ▐▐▐▐
    J500   J200

1
▐▐
J2000   ID
         PROM
         U1907
         (E3)

U2008
(C1)

BOOT
PROM

J2401
▬▬
▬▬
1 ▬

Ethernet
Fuse (A12)   Keyboard
         Fuse (A17)

SIO A   SIO B   ETHERNET   KEYBOARD/   LEDs   VIDEO
                   RESET NORM   MOUSE   0 —— 7
                         DIAG/
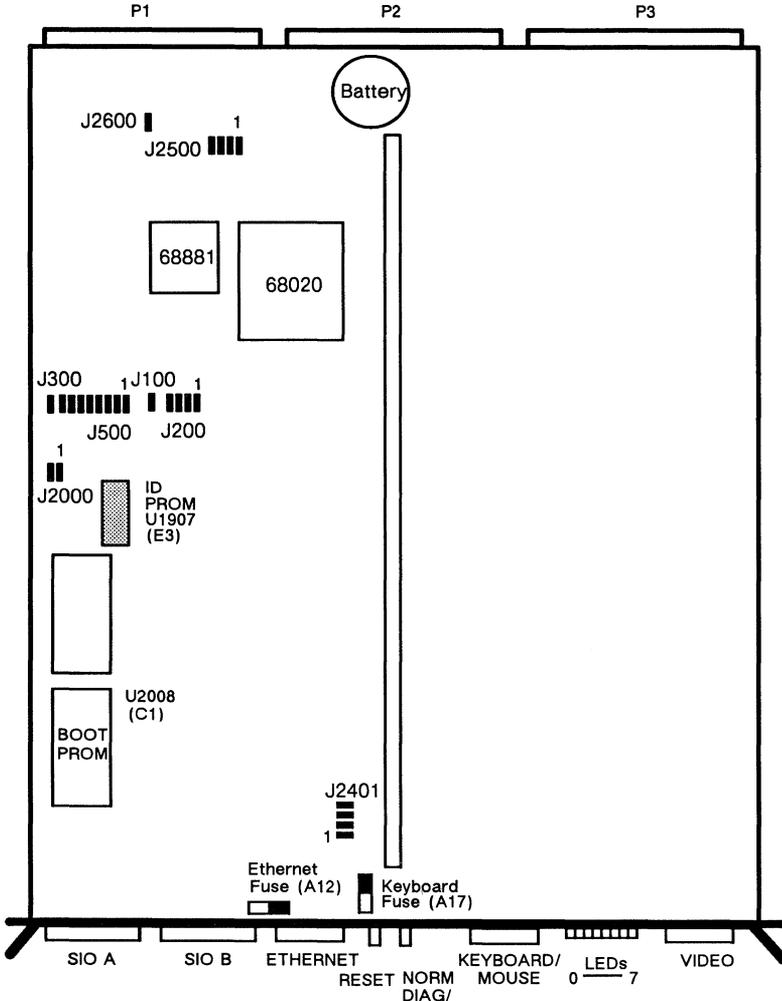
Power: 22.5 Amps @ +5Vdc
         0.6 Amps @ –5Vdc
       115.6 Watts

Note: CPU EPROM 2.6 or greater is required for the Xylogics 7053
      disk controller.

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 (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

*Null on 501–1100

Notes
1. Two control–Gs ring the keyboard bell with EPROM 2.1. The bell
   stays ON until the system is reset.
2. When this board is installed with an IPC, use 501–1100–08,
   501–1206–06, or greater.

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

Sun 3400 CPU
Sun-3/460/470/480
501-1299 501-1550
└──────── 0MB ────────┘

P1   P2   P3

P2 MEZZ

BATTERY
3V

J2100 ▰ 1

J2000 ▰
       ▰ 1

J100 ▰

68882

J400
▮▮▮▮▮▮▮
1

P4 Connector
1

68030   J200 ▰
                  1

U1713
(C34)

ID PROM
U1701   BOOT
(D33)   PROM

BOOT
PROM

Ethernet   Keybd/Mouse   U1712
Fuse   J2501   Fuse   (B34)
F2500 ▰▱ ▮▮▮▮   ▰▱ F1800
          1

LEDS   RESET   ETHERNET   SIO A   SIO B   KEYBRD/MOUSE
0 — 7   NORM/
         DIAG
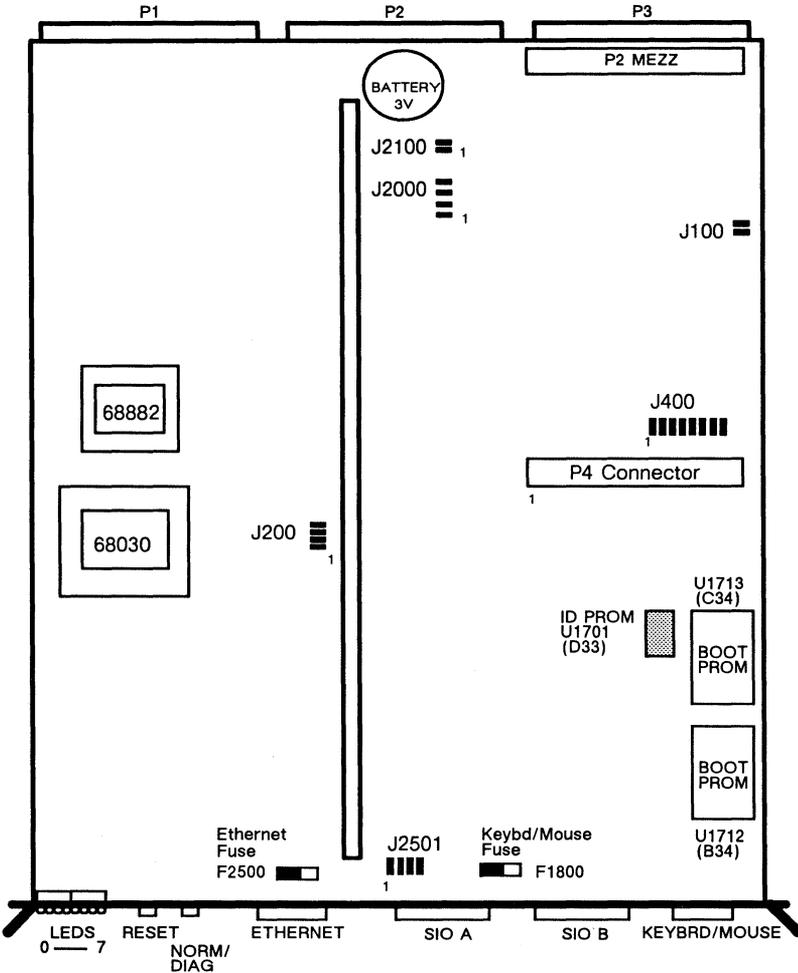
Notes
1. To use with the 8MB Memory board and the FPA board, or the
   FPA+ board, the memory board revision must be ≥ 501-1102-11.
2. This CPU is not compatible with the 501-1254 32MB Memory board.
3. The CPU must be ≥ 501-1550-10 to use with the SunLink Channel
   Adapter.

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
J2501	5–6	In	Select level 1 Ethernet
J2501	7–8	In/Out	Not Used

* Factory setting

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

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

Sun386i/150
501-1241 501-1414

VOLTAGE TEST POINTS
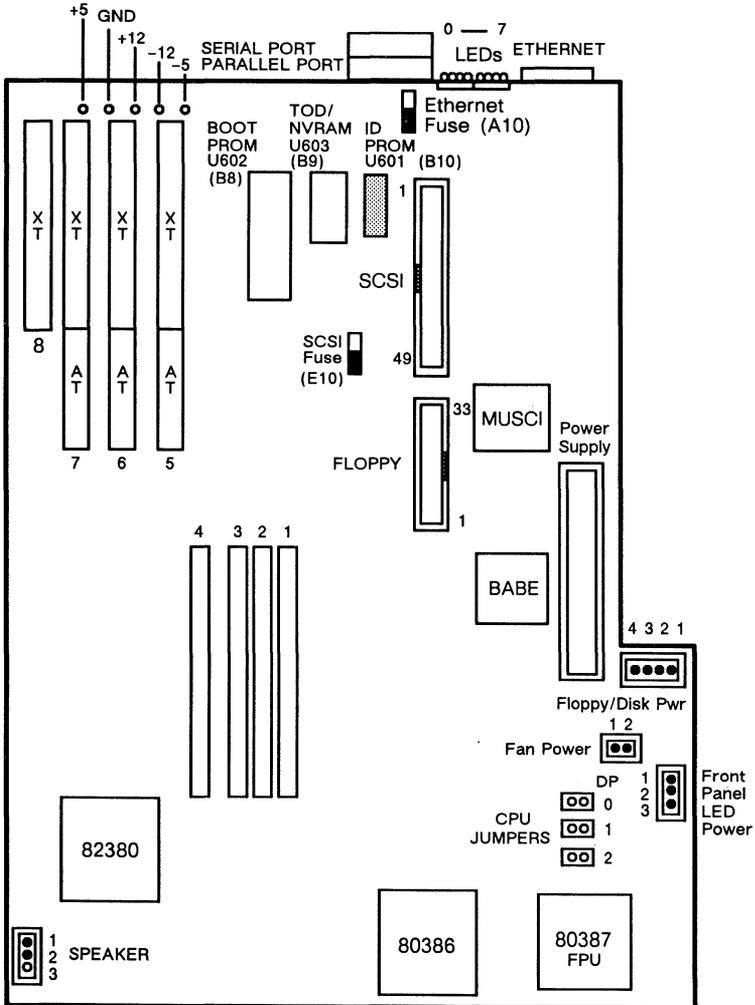
Note: CPU EPROM 4.4 or greater is required for use with the 501-1433
Low-Res Mono Frame Buffer board.

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.

Power: 5.8 Amps @ +5Vdc
        28.0 Watts

Notes
1. The serial port uses a male connector.
2. The Ethernet and SCSI fuses are 1 Amp subminiature fuses, Sun part number, 140-1027-01.
3. 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.
4. 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

VOLTAGE TEST POINTS
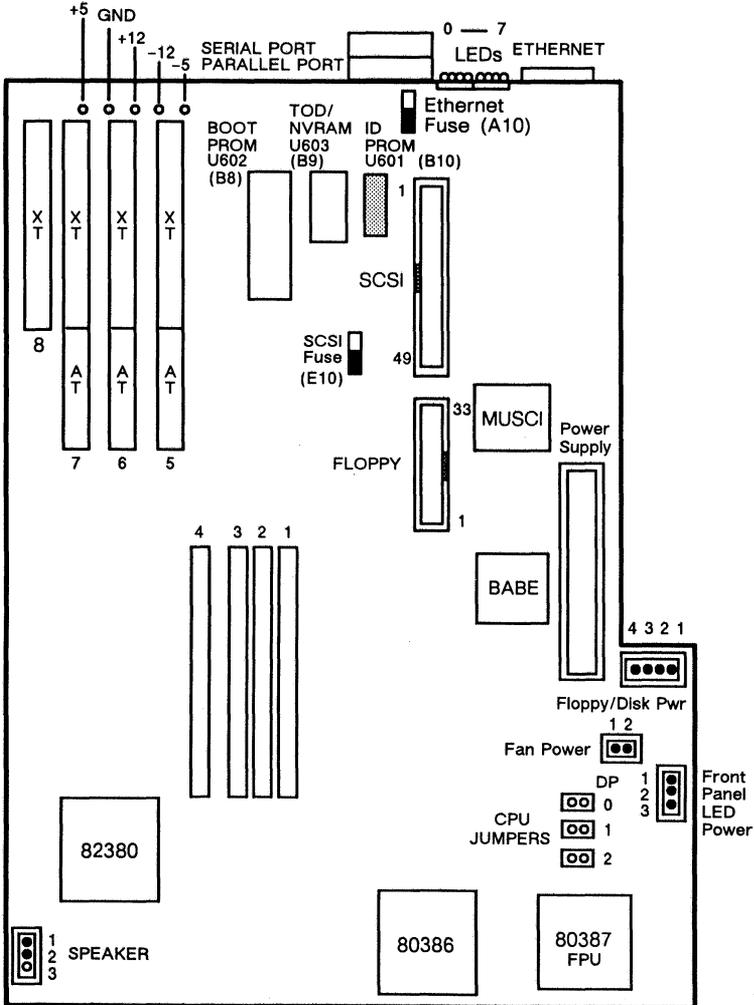
Note: CPU EPROM 4.4 or greater is required for use with the 501-1433
Low-Res Mono Frame Buffer board.

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.

Power: 5.8 Amps @ +5Vdc
        29.0 Watts

Notes
1. The serial port uses a male connector.
2. The Ethernet and SCSI fuses are 1 Amp subminiature fuses, Sun part number, 140–1027–01.
3. 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

RESET
DIAG/NORM
DIAG
NORM

68020

68881

SERIAL
PORT A

J100
J801
13
J300

1
3 1 J500
J501
3 1

7 1
J800

SERIAL
PORT B

ID PROM
U224
(A7)

Battery

KEYBOARD
MOUSE

FUSE

U300
(C1)

BOOT
PROM

0

7
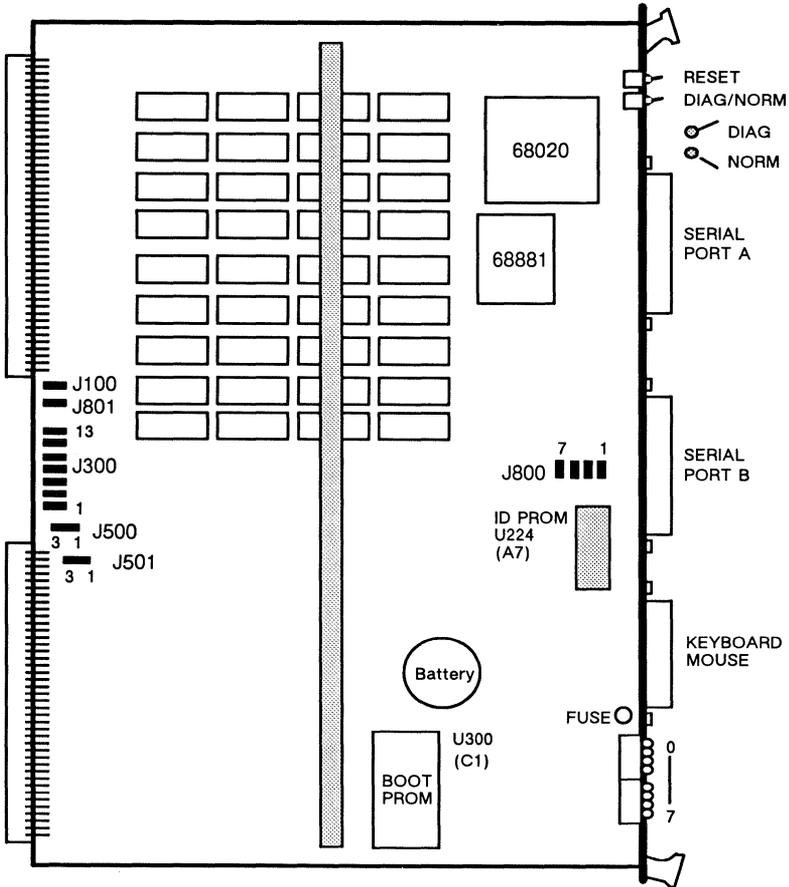
Power: 8.1 Amps @ +5 Vdc
        0.25 Amps @ +12 Vdc
        0.12 Amps @ −12 Vdc
        45.0 Watts

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 501–1680 501–1720
8MB   0MB   8MB

501–1748 501–1776 501–1777
0MB   8MB   0MB

SCSI Fuse
F0901

DMA

VIDEO

Ethernet Fuse
F1101

WEITEK

EPROM
(U1001)

NVRAM
(U1011)

0
LEDs
5

CACHE

BUFFER

MMU

U0601

U0602

U0501

U0502

I/O Board Connectors

AUDIO

SERIAL PORT A/B

SCSI

ETHERNET

KEYBOARD

50–Pin SCSI–2
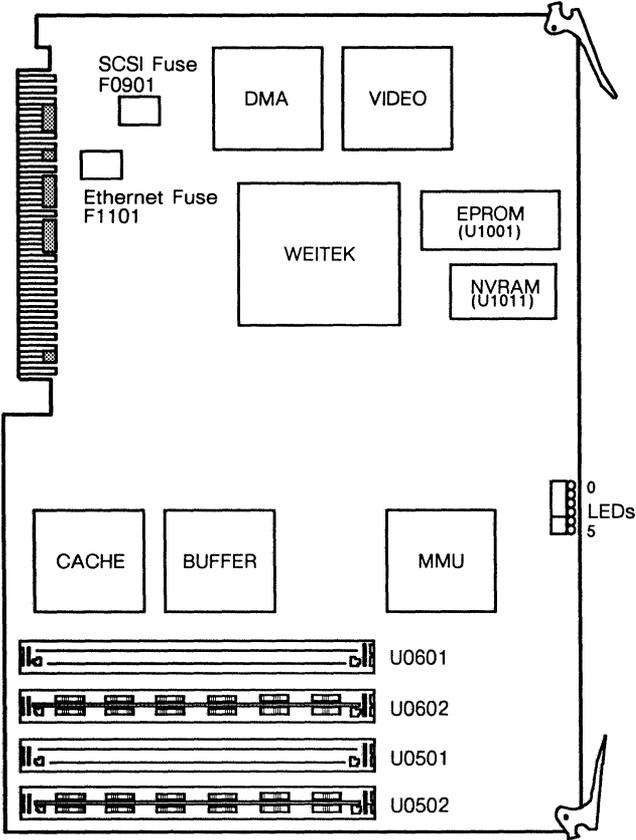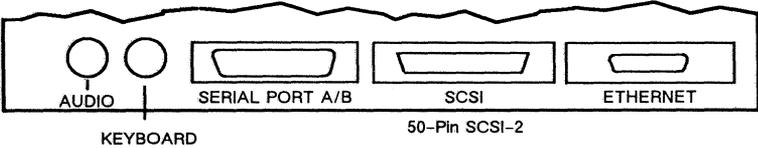
501-1627 501-1680 501-1720
501-1748 501-1776 501-1777
Notes

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.

Reference: *SPARCstation SLC Installation & Repair Guide*, 814-5039.

Sun-4/40

501-1689 501-1690 501-1835
8MB   0MB   8MB
FCC-B/VCCI-2

	BANK	BYTE	DATA			BANK	BYTE	DATA
U0588	0	0	31-24		U0584	1	0	31-24
U0587	0	1	23-16		U0591	1	1	23-16
U0586	0	2	15-8		U0590	1	2	15-8
U0585	0	3	7-0		U0589	1	3	7-0
					U0681	2	0	31-24
					U0682	2	1	23-16
					U0603	2	2	15-8
					U0600	2	3	7-0

POWER

FLOPPY   LED   SPEAKER   DISK

BOOT PROM
U0902 (GA)

NVRAM/TOD/ID
U0901 (FB)

SBus   Slot 1

SBus   Slot 2

J1004

CACHE   BUFFER

SAX

J0961 J0960
1 o o 1   RS423 1&2
  o o
3 o o 3   RS232 2&3

Ethernet Fuse
(F0802)

SCSI Fuse
(F0801)

Kbd/Mouse Fuse
(F0901)

IU   WEITEK

50-Pin SCSI-2 ETHERNET   PORT A PORT B   VIDEO   KEYBOARD/   AUDIO
                                                        MOUSE

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.

Reference: *SPARCstation IPC Field Service Manual*, 800–5038.

Sun–4/60

≤501–1382–12 ≥501–1382–13 ≥501–1382–14
4MB w/o FPU   8MB w FPU   8MB w FPU
                                             FCC–A/VCCI–1

501–1629 ≥501–1629–14
4MB w FPU   4MB w FPU
                    FCC–A/VCCI–1

FLOPPY   LED/ 1   DISK   DISK PWR   DISK   DISK PWR
          SPEAKER

FLOPPY
POWER

POWER
SUPPLY   BANK   BYTE   DATA   BANK   BYTE   DATA

	BANK	BYTE	DATA		BANK	BYTE	DATA
U0588	0	0	31–24	U0584	2	0	31–24
U0587	0	1	23–16	U0591	2	1	23–16
U0586	0	2	15–8	U0590	2	2	15–8
U0585	0	3	7–0	U0589	2	3	7–0
U0678	1	0	31–24	U0682	3	0	31–24
U0676	1	1	23–16	U0681	3	1	23–16
U0683	1	2	15–8	U0680	3	2	15–8
U0677	1	3	7–0	U0679	3	3	7–0

SBus Slot 1	SBus Slot 2	SBus Slot 3

Slave only   J4

NVRAM   BOOT
TOD/ID   PROM
U089 (CD)   U0837   SAX
              (CE)

              SPARC   FPU
              CPU

SCSI Fuse
(U2)

Ethernet Fuse   Kbd/Mouse Fuse
(F071)   (F082)

50-Pin SCSI-2 ETHERNET   PORT A   PORT B   KEYBOARD/   HEAD
                                     AUDIO   MOUSE   PHONE

Power: 8MB Board with 1MB SIMMs
        2.4 Amps @ +5Vdc
        16.1 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. All fuses are 2A part number, 150–1174.
4. The minimum operating system is SunOS 4.0.3c.
5. CPU 501–1382–08 or greater or 501–1629–10 or greater is required for use with Sun Common LISP, AutoCAD. Cobol, and SunOS 4.1.
6. SPARC IU 100–1808–02 or greater is required for use with Sun Common LISP, AutoCAD, Cobol, and SunOS 4.1.
7. Power on systems with CPU boards 501–1382–10 or lower, or 501–1629–10, before turning on external disk drive units.
8. A Load Board, 501–1667, must be installed in systems without a disk drive and SBus cards.

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

Sun–4/65
501–1632
8MB w FPU

FLOPPY	LED/ 1 SPEAKER	DISK	DISK PWR	DISK	DISK PWR

FLOPPY POWER

1   7

POWER SUPPLY

	BANK	BYTE	DATA		BANK	BYTE	DATA
U0588	0	0	31–24	U0584	2	0	31–24
U0587	0	1	23–16	U0591	2	1	23–16
U0586	0	2	15–8	U0590	2	2	15–8
U0585	0	3	7–0	U0589	2	3	7–0
U0678	1	0	31–24	U0682	3	0	31–24
U0676	1	1	23–16	U0681	3	1	23–16
U0683	1	2	15–8	U0680	3	2	15–8
U0677	1	3	7–0	U0679	3	3	7–0

SBus Slot 1	SBus Slot 2	SBus Slot 3

Slave only   J4

SAX

NVRAM
TOD/ID
U089 (CD)

BOOT
PROM
U0837
(CE)

SPARC
CPU

FPU

SCSI Fuse
(U2)

Ethernet Fuse
(F071)

Kbd/Mouse Fuse
(F082)

50-Pin SCSI-2	ETHERNET	PORT A	PORT B	KEYBOARD/ MOUSE	AUDIO

Power: 8MB Board with 1MB SIMMs
         2.4 Amps @ +5Vdc
         16.1 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. The minimum operating system is SunOS 4.0.3c.
4. All fuses are 2A part number, 150–1174.
5. Load Board, 501–1667, must be installed in systems without a disk drive and SBus cards.

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

Sun-4/75

501-1638 501-1744
16MB   0MB

	BANK	BYTE	DATA			BANK	BYTE	DATA
U0317	3	2	15-8	U0318	3	1	23-26
U0315	2	2	15-8	U0314	2	1	23-26
U0308	1	2	15-8	U0310	1	1	23-26
U0307	0	2	15-8	U0309	0	1	23-26
U0316	3	3	7-0	U0319	3	0	31-24
U0320	2	3	7-0	U0313	2	0	31-24
U0321	1	3	7-0	U0312	1	0	31-24
U0322	0	3	7-0	U0311	0	0	31-24

FLOPPY
POWER
SUPPLY

LED/
SPEAKER

DISK2 SCSI

DISK2
PWR

DISK1 SCSI

DISK1
PWR

FLOPPY
PWR

SBus Slot 1   SBus Slot 2   SBus Slot 3   GND1

J0705

SAX

GND2

NVRAM/TOD/ID
U0901 (FB)

BOOT PROM
U0902 (GA)

RS232

GND3

RS423

50-Pin SCSI-2   ETHERNET   PORT A   PORT B   AUDIO

KEYBOARD

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

Reference: *SPARCstation 2 Installation Guide*, 800-5035.

Sun 4100 CPU
Sun 4/110/150

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

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

P1　　　　　　P2　　　　　　　P3

BOOT PROMs
U604 U603 U602 U601

SIMMS

U1515　　　　U1615

J600

1654 (K29)　1653 (K29)　1652 (L29)　1651 (M29)

P2101

J400

J900

Battery

1 J1400

1 J1300

U1500　　　　U1600　　　J1900 J1901
1　1　　P4 Connector

J101 1 2
J100 1 2 / 3 4

VJMP4

TAG　VJMP3　IU　VJMP5
VJMP2　　　　J700
1
VJMP6　　VJMP8

J1000

ID PROM
U805
(M9)

Weitek
1165
(U202)

FPU　MONGO　SCSI

J1700

Weitek
1164
(U201)

VJMP9

VJMP7　J1701
J800
J1800

F1000
Keyboard Fuse (C2)

F1800
Ethernet Fuse (F2)

KEYBOARD/　7 LEDs 0　NORM　ETHERNET　SIO B　SIO A　SCSI　WD
MOUSE　　　　　　　DIAG　　　　　　　　　　　　　　　SW

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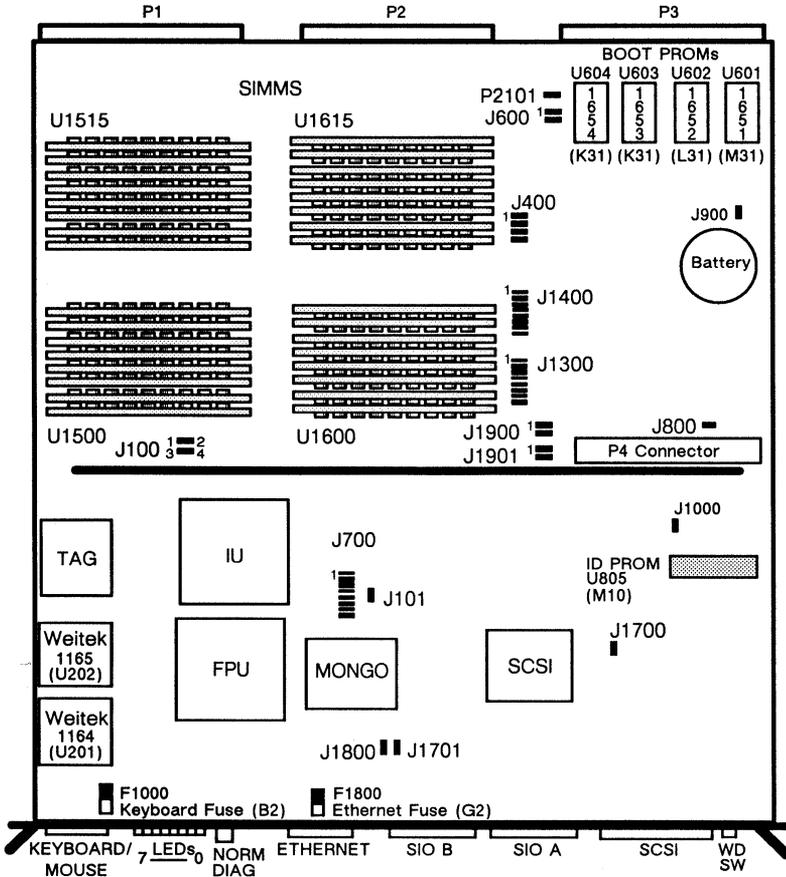
Power: with FPU
13.8 Amps @ +5Vdc
0.1 Amps @ –5Vdc
69.5 Watts

501-1199 501-1237 501-1462 501-1463
501-1465 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 $\geq$501–1199–11 and 501–1237 must be $\geq$501–1237–11 to use with the Type-4 keyboard.
2. The 501–1384 FPU2 is supported only on CPU boards 501–1512, 501–1514, 501–1516, 501–1656, 501–1658, and 501–1660.

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

501-1199 501-1237 501-1462 501-1463 501-1465 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 256K	16MB 1MB	20MB 1MB/256K	32MB 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 256K	16MB 1MB	20MB 1MB/256K	32MB 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

8MB

U1516	U1616
256 Kb	256 Kb

U1500	U1600
256 Kb	256 Kb

16MB

U1516	U1616
Empty	1MB

U1500	U1600
Empty	1MB

20MB

U1516	U1616
256 Kb	1MB

U1500	U1600
256 Kb	1MB

32MB

U1516	U1616
1MB	1MB
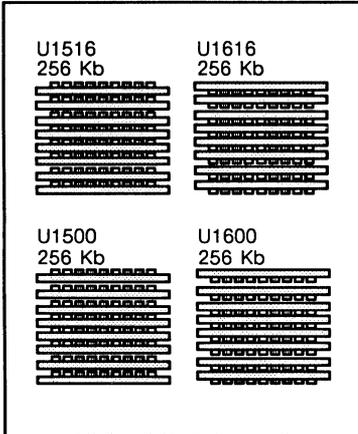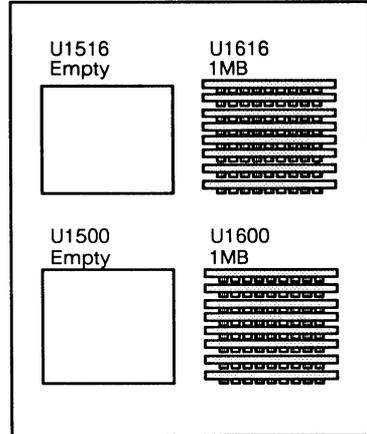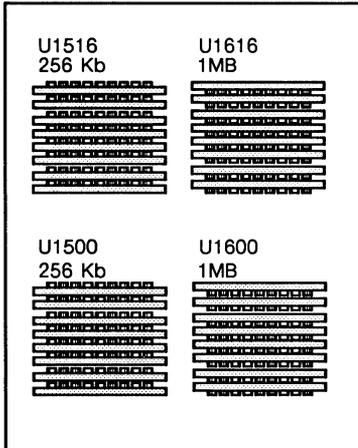
U1500	U1600
1MB	1MB
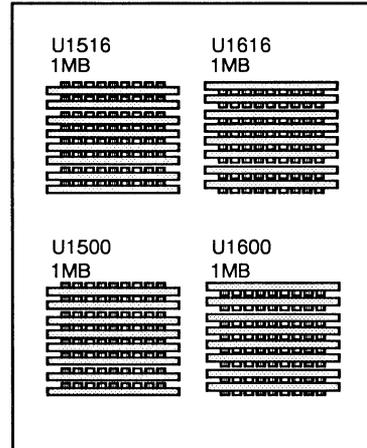
Notes
1. The Sun 4100 CPU uses 256KB SIMM, 501-1314.
2. The Sun 4100 CPU uses 1MB SIMM, 501-1466.

Sun 4200 CPU
Sun–4/260/280
501–1129*
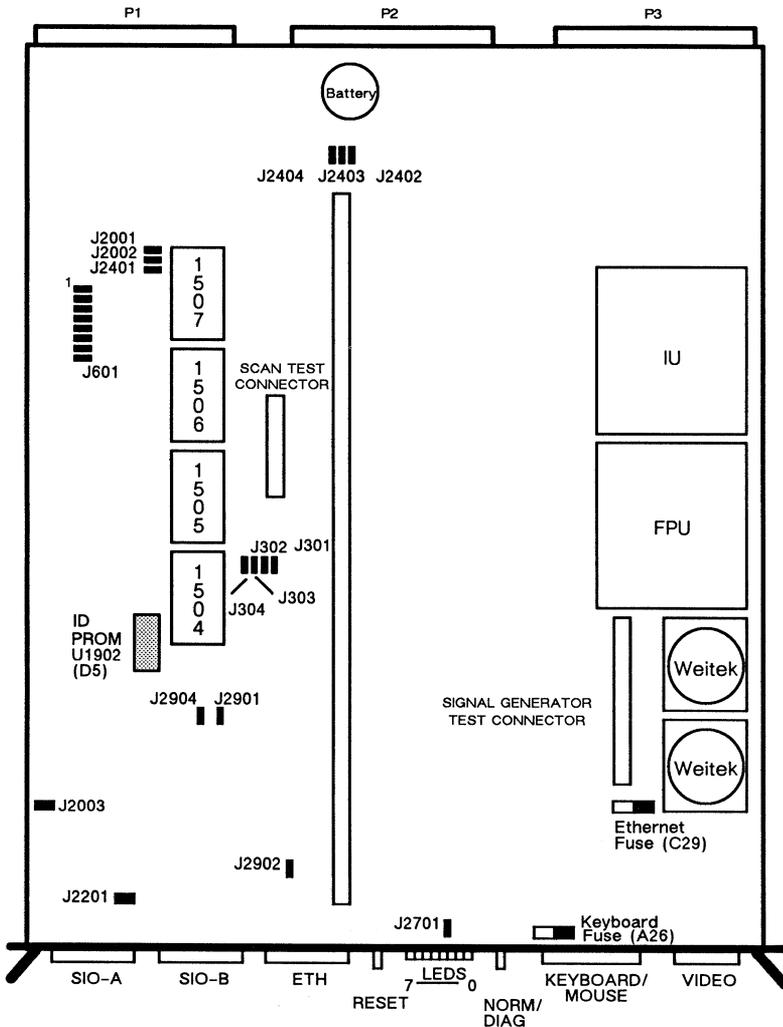
* Replaced with 501–1274. **Do NOT use this board.**

501–1129
Jumper Settings

| JUMPER	PINS	SETTING	DESCRIPTION
J2701	1–2	Out	Debug jumper
J2003	1–2	In	Connect 3V battery
J2201	1–2	In	UART clock enable
J2901	1–2	In	Enable Ethernet clock
J2902	1–2	Out	+5V to Ethernet tap
J2904	1–2	Out	Null
J304	1–2	In	Enable VME clock
J303	1–2	In	Enable 16Mhz clock
J302	1–2	In	Enable 46Mhz clock
J301	1–2	Out	Enable External clock
J601	1–2	In	Null
	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
J2001	1–2	In	Select 27512 PROM
J2002	1–2	Out	Select 27256 PROM
J2401	1–2	Out	CPU is VME requestor only
J2402	1–2	In	CPU is VME arb/req
J2403	1–2	Out	CPU is reset slave
J2404	1–2	In	CPU is reset master

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

Sun 4200 CPU
Sun–4/260/280

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

P1   P2   P3

J2404 J2403 J2402

J0401
J2001
J2002   1
J2401   5
           0   U2001
           7   (J10)
J2801

           1
           5
           0   U2002
           6   (H10)

BOOT
PROMS   1
           5
U2003   0   J0304
(F10)   5

           1
           5   J0303
U2004   0   J0302
(E10)   4   J0301

ID PROM
U1901
(D5)

IU

FPC

Weitek

J2902

Ethernet
Fuse (C29)   Weitek

J2003   J2201

Battery

J2701   Keyboard
              Fuse (A26)

SIO-A   SIO-B   ETHERNET   7 — LEDS — 0   KEYBOARD/   VIDEO
                              NORM   RESET   MOUSE
                              DIAG
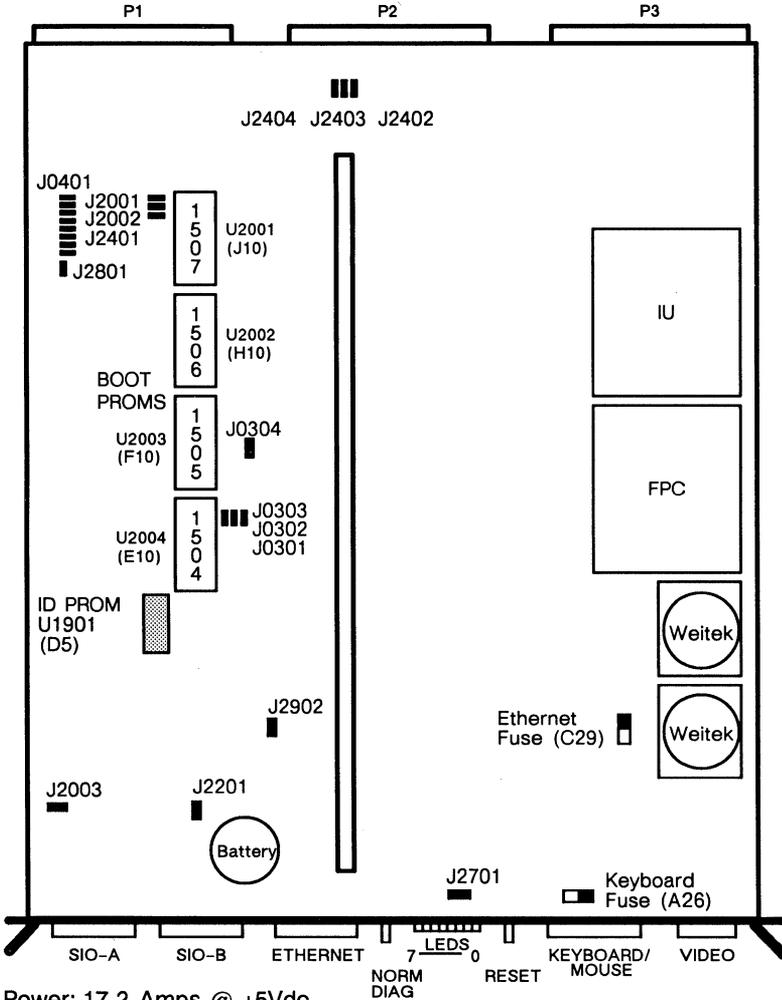
Power: 17.2 Amps @ +5Vdc
       1.3 Amps @ –5Vdc
       0.4 Amps @ +12Vdc
       98.0 Watts

Note: CPU EPROM 1.7 or greater is required for proper operation with
      the Xylogics 7053 disk controller.

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 $\geq$501–1274–12 to use with the Type–4 Keyboard.
2. 501–1274 must be $\geq$501–1274–13 to use with the Xylogics 7053.
3. 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   32MB
w 1MB SIMMS   w 4MB SIMMS

P1   P2   P3

- J2900
- J2800
- J2803
- J2701

J3001 ▌▌▌▌▌▌▌ ▌ J2801
1   15

J2000

J3101

DVMA

J3100

CACHE
CONTROLLER

NVRAM
TOD

	BANK	BYTE
U1307	1	3
U1306	1	2
U1305	1	1
U1304	1	0
U1303	0	3
U1302	0	2
U1301	0	1
U1300	0	0

J1900

P4 CONNECTOR

Boot PROMS

U2101 (F501)	U2101 (F5M1)
U2101 (E601)	U2101 (E6M1)

J2101 J2100

J0900 ▬   XTAL

IU   FPC   FPP
TI 8847

J2400 ▌   ID PROM
U2202
(A4A6)

S3400   J0200 ▌▌▌
1 5
KB/Mouse
Fuse
F0300

SCSI   Ethernet J2503 J2502   J2303 J2302   J2402
Fuse   Fuse   1 3   1 3   1 3   1 3   1 3
F3200 □   □ F3100

50-Pin SCSI-2   SIO D SIO C SIO B   SIO A   KEY-   DIAG
ETHERNET   BOARD/ LEDS NORM
MOUSE 0 — 7

Power: 17.5 Amps @ +5vdc
0.2 Amps @ +12vdc
0.2 Amps @ −12vdc
45.0 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. The Sun 4100 1MB SIMM, 501-1466, may be used in the Sun-4/310 and Sun-4/350 system upgrades.
4. F0300, F3100, and F3200 use 2 Amp Fuses, 150-1174.
5. CPU board is Set for Ethernet Level 2. Level 1 is not selectable.
6. CPU ≥501-1316-04 is required for use with the ISP-80 and FDDI controllers and with LISP software.
7. CPU ≥501-1316-03 is required for use with CG5.
8. CPU EPROM 3.0 or greater is required to boot from the 60MB 1/4" tape drive in the Mass Storage Subsystem.
9. CPU EPROM 3.0.1 or greater is required to boot from a tape drive on a second SCSI Host Adapter.
10. CPU EPROM 3.0.3 or greater is required with 4MB SIMM modules.
11. 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
0MB

P1   P2   P3

J4000   oo   oo J3100   J2301   J2600
                                  J4606
         J4607
              MIN   J0705
                      10   9   MIC
J3203   1
                       3   1

oo J2801
oo J2803
J2804   U U U U
J2802   3 3 3 3
         J4605   CACHE   5 5 5 5
                                 0 0 0 0
                                 1 2 3 4
                                 3 2 1 0
                                 Boot PROMs

         J4602   J4604
J3200   P4 CONNECTOR
J4609

    J3201 oo
                                               J1901
                        J0101   1
                    J0100   IU
                           1

    J3701   NVRAM   FPC

    Keybd/Mouse
    Fuse   Ethernet   ID PROM
    (F3701)   Fuse   (U1404)
J3604   1   (F3200)
         J4600   8
    J3603   J0300
         1   1   1
              J3703   J0201

SERIAL A   SERIAL B   KEYBD/   ETHERNET   NORMAL/DIAG LEDs   RESET
                      MOUSE   0 — 7
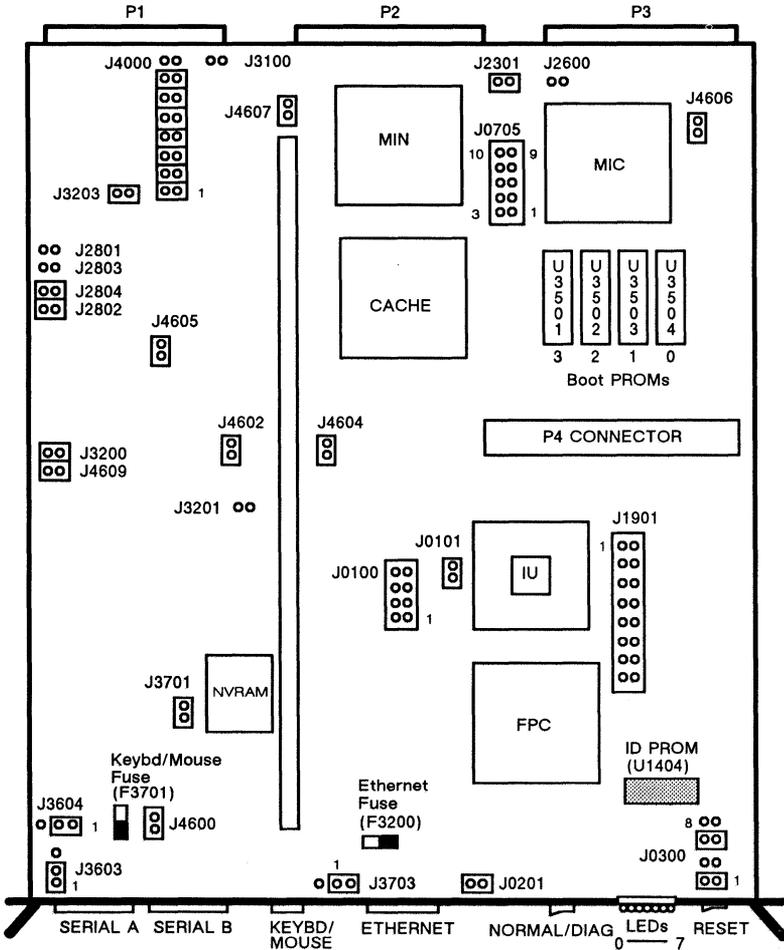
501-1381
Jumper Settings

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	Out	Keyboard set on transmit mouse
J3703	2–3	In	Pin 7 of keyboard/mouse to GND (default)

501-1381
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	

Note: 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.

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

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Sun–4/E
SPARCengine 1E
501–8058   501–8035
4MB   4MB
w/o Weitek   w Weitek

```
SBUS
CONNECTOR

                    BUFFER        WEITEK        SERIAL
                                                PORT A
                                           7    LEDs
                                                RESET

                    CACHE         IU          SERIAL
                                                PORT B

J1701                       J0301    F0901
[oo]                        [o]      Ethernet
                                     Fuse
                                                KEYBOARD
                                     F1101      MOUSE
J0801  [o] 1                         Keyboard
       [o]                           Fuse

                            DMA   BOOT  PROM    ETHERNET


VME
INTERFACE                   MMU   BOOT  PROM
                                                50–PIN SCSI–2

                                  F1001
                                  SCSI
                                  Fuse
```
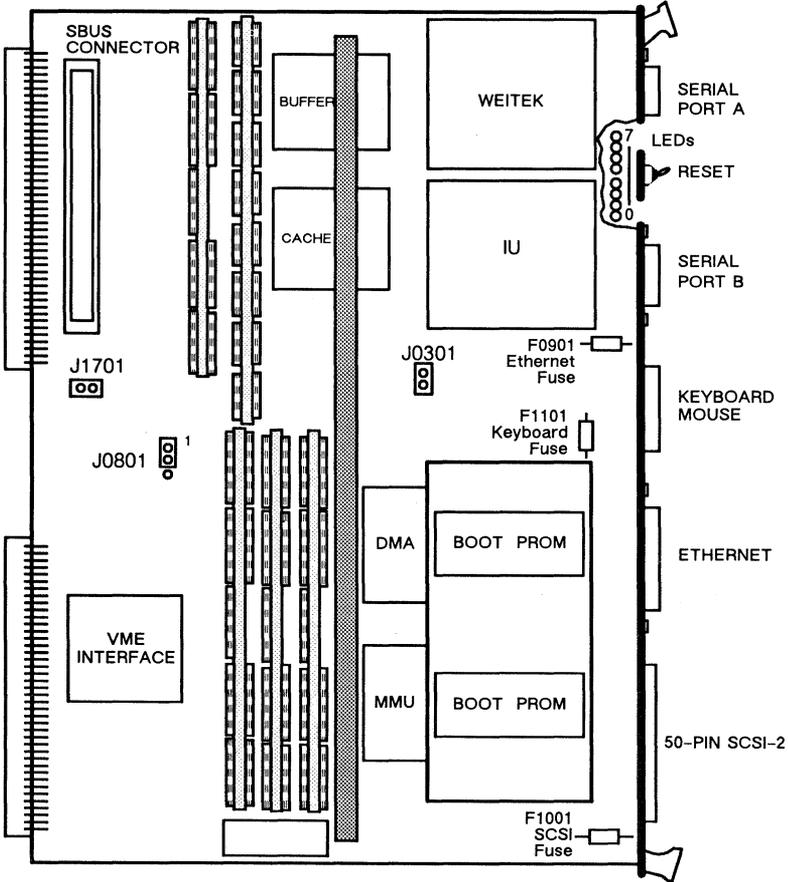
Power: 5.0 Amps @ +5vdc
        0.1 Amps @ +12vdc.
        0.1 Amps @ –12vdc.
        27.4 Watts

Note: The fuses are not field replaceable.

501–8058   501–8035
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 does not support SunOS 4.0.3e.

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

CONFIGURATIONS

MEMORY

Memory

SIMM Modules

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

		SYSTEMS										
		Sun-3			Sun386i		Sun-4						
SIZE	SIMM P/N	60	60 LE	80	150	250	20	40	60	65	75	110 150	330 370 390
256KB	501-1314											x	
256KB	501-1349		x										
1MB	501-1239	x											
1MB	501-1346		x										
1MB	501-1375					x							
1MB	501-1408			x					x	x			
1MB	501-1424				x	x							
1MB	501-1466											x	x*
1MB	501-1510					x							
1MB	501-1544												x
1MB	501-1565												x
1MB	501-1697						x						
4MB	501-1625						x	x	x				
4MB	501-1676						x						
4MB	501-1682												x†
4MB	501-1698						x						
4MB	501-1739										x		

* The 1MB SIMM, 501-1466, can be used in systems upgraded from Sun-4/110 to Sun-4/310 and Sun-4/150 to Sun-4/350.

† The 4MB SIMM, 501-1682, is NOT supported on the Sun-4/330 CPU board.

Sun–2 Multibus
Sun–2/100U/120/150U/170
501–1013
1MB

| MEMORY	DIP SWITCH U506							
SIZE	1	2	3	4	5	6	7	8
1st MB	On	Off	Off	Off	Off	Off	Off	Off
2nd MB	Off	On	Off	Off	Off	Off	Off	Off
3rd MB	Off	Off	On	Off	Off	Off	Off	Off
4th MB	Off	Off	Off	On	Off	Off	Off	Off
5th MB	Off	Off	Off	Off	On	Off	Off	Off
6th MB	Off	Off	Off	Off	Off	On	Off	Off

References
1. *Hardware Installation Manual for the Sun–2/120, 800–1170.*
2. *Hardware Installation Manual for the Sun–2/170, 800–1171.*

Sun-2 Multibus Prime
Sun-2/120/170
501-1048
1MB

U506 ... 1 Off / On

Power: 3.0 Amps @ +5Vdc
         15.0 Watts.

501–1048
Switch Settings

| MEMORY SIZE	DIP SWITCH U506							
	1	2	3	4	5	6	7	8
1st MB	On	Off	Off	Off	Off	Off	Off	Off
2nd MB	Off	On	Off	Off	Off	Off	Off	Off
3rd MB	Off	Off	On	Off	Off	Off	Off	Off
4th MB	Off	Off	Off	On	Off	Off	Off	Off
5th MB	Off	Off	Off	Off	On	Off	Off	Off
6th MB	Off	Off	Off	Off	Off	On	Off	Off

References
1. *Hardware Installation Manual for the Sun–2/120, 800–1170.*
2. *Hardware Installation Manual for the Sun–2/170, 800–1171.*

Sun–2 Multibus Prime
Sun–2/100U/120/150U/170
501–1232
4MB
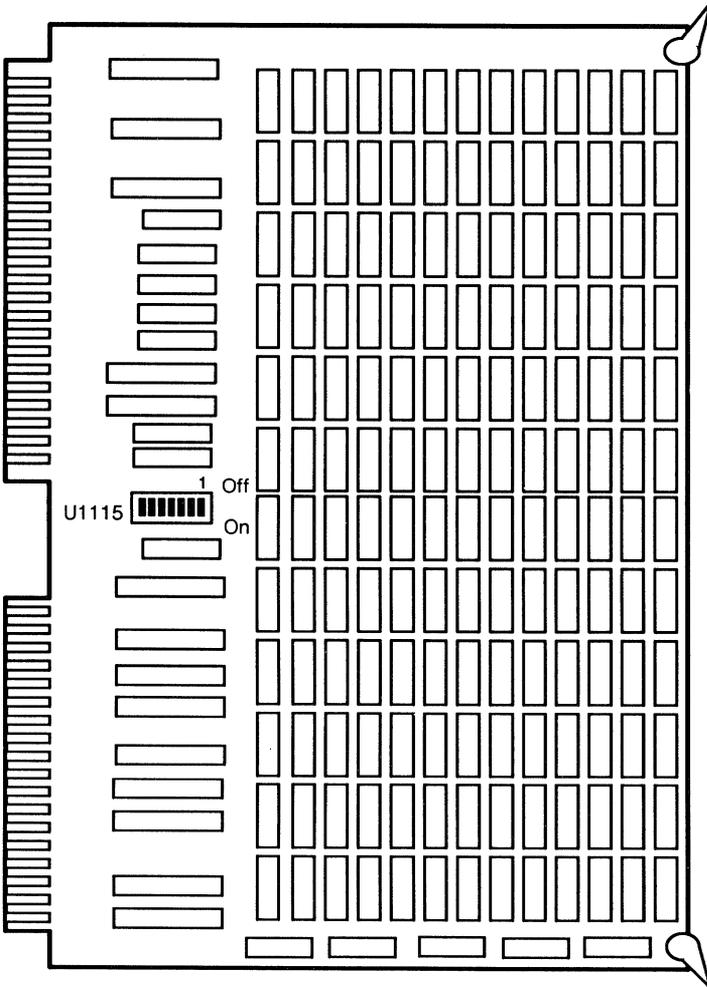
U1115   1 Off
         On

References
1. *Hardware Installation Manual for the Sun–2/120*, 800–1170.
2. *Hardware Installation Manual for the Sun–2/170*, 800–1171.

501-1232
Switch or Jumper Settings

MEMORY SIZE	SWITCH U1115						
	1	2	3	4	5	6	7
1-4MB	On	On	On	On	Off	Off	Off
5-7MB	Off	Off	Off	Off	On	On	On

MEMORY SIZE	JUMPER U1115						
	1	2	3	4	5	6	7
1-4MB	In	In	In	In	Out	Out	Out
5-7MB	Out	Out	Out	Out	In	In	In

Notes
1. Two boards may be used. The maximum supported configuration is 6MB.
2. The Sun-2 Multibus Prime board uses either a dip switch or a set of jumpers to configure the board. Configuration is the same in either case. Each jumper or switch selects a one megabyte range.

Sun 2051 Memory
## Sun–2/50
501–1029   501–1046   501–1047
1MB   2MB   4MB
501–1047   501–1079
3MB   0MB

Sun–2/130/160
501–1070   501–1071   501–1096   501–1097
1MB   3MB   2MB   4MB
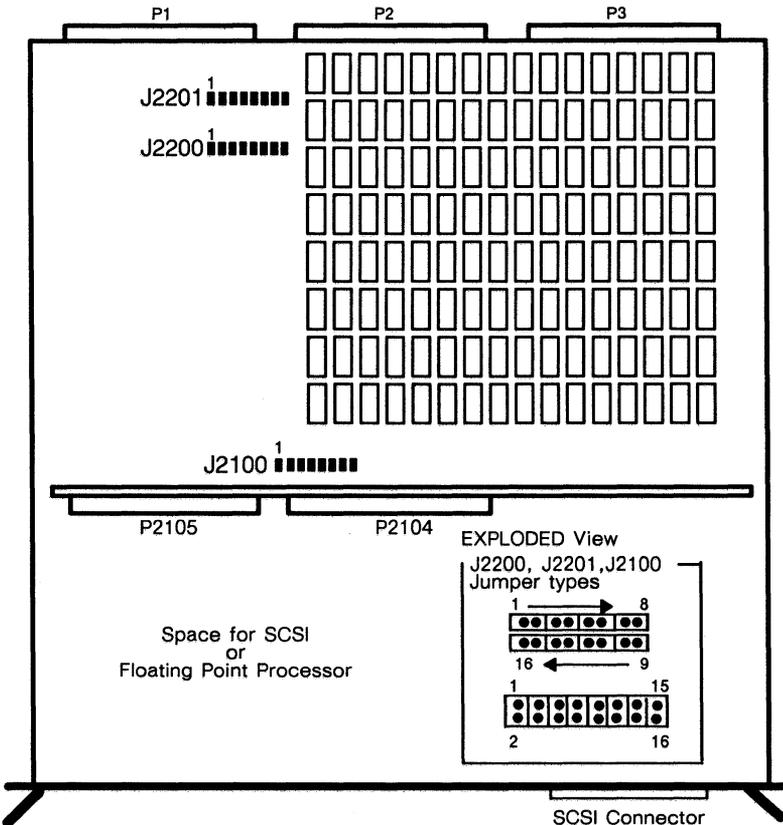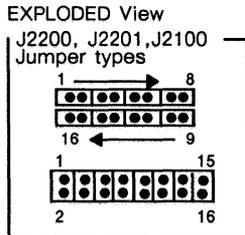
```
         P1              P2              P3

   J2201 ¹■■■■■■■   [grid of memory chips]
   J2200 ¹■■■■■■■

   J2100 ¹■■■■■■■

   P2105        P2104    EXPLODED View
                         J2200, J2201, J2100
                         Jumper types
                          1 ──────► 8
                          [●●|●●|●●|●●]
   Space for SCSI         [●●|●●|●●|●●]
        or                16 ◄────── 9
 Floating Point Processor  1              15
                          [●|●|●|●|●|●|●|●]
                           2              16

                         SCSI Connector
                         50–Pin DD–50SA
```

Power: 4.0 Amps @ +5Vdc
         20.0 Watts.

Note: The P2105 and P2104 connectors on the board, the space for
      the SCSI, and the SCSI connector are on 501–1020, 1046, 1047,
      1067, and 1079.

References
1. *Hardware Installation Manual for the Sun–2/50, 800–1143.*
2. *Hardware Installation Manual for the Sun–2/130 and Sun–2/160,*
   800–1144.

501-1029   501-1046   501-1047   501-1047
501-1079   501-1070   501-1071   501-1096
501-1097
Jumper Settings

JUMPER	PINS	SETTING	DESCRIPTION
J2100	1–2	Out	Bus Grant 0
J2100	3–4	Out	Bus Grant 1
J2100	5–6	Out	Bus Grant 2
J2100	7–8	Out	Bus Grant 3
J2100	15–16	Out	IACK Chain

|	SIZE	JUMPER	SETTING	PINS
1MB CPU Board	1MB	J2200	In	3–4
	1MB	J2201	In	5–6,9–10,13–14
	2MB	J2200	In	3–4,5–6
	2MB	J2201	In	3–4,7–8,11–12
	3MB	J2200	In	3–4,5–6,7–8,9–10
	3MB	J2201	In	7–8,11–12,15–16
	4MB	J2200	In	3–4,5–6,7–8,9–10
	4MB	J2201	In	7–8,11–12,15–16
2MB CPU Board	1MB	J2200	In	5–6
	1MB	J2201	In	5–6,9–10,13–14
	2MB	J2200	In	5–6,7–8
	2MB	J2201	In	3–4,7–8,11–12
	3MB	J2200	In	5–6,7–8,9–10
	3MB	J2201	In	7–8,11–12,15–16
	4MB	J2200	In	5–6,7–8,9–10,11–12
	4MB	J2201	In	7–8,11–12,15–16
4MB CPU Board	1MB	J2200	In	9–10
	1MB	J2201	In	5–6,9–10,13–14
	2MB	J2200	In	9–10,11–12
	2MB	J2201	In	3–4,7–8,11–12
	3MB	J2200	In	9–10,11–12,13–14
	3MB	J2201	In	7–8,11–12,15–16
	4MB	J2200	In	9–10,11–12,13–14,15–16
	4MB	J2201	In	7–8,11–12,15–16

Note: Not all CPU and Memory board combinations function.

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

```
        P1                    P2                    P3

            J3101 ▉
            J3102 ▉

U3118  [||||||||]  On
        1      8   Off

U3119  [||||||||]  On          EXPANSION MEMORY
        1      8   Off
```

Right Angle Connectors for SCSI Card
(Optional)

SCSI Connector
50–Pin DD–50SA
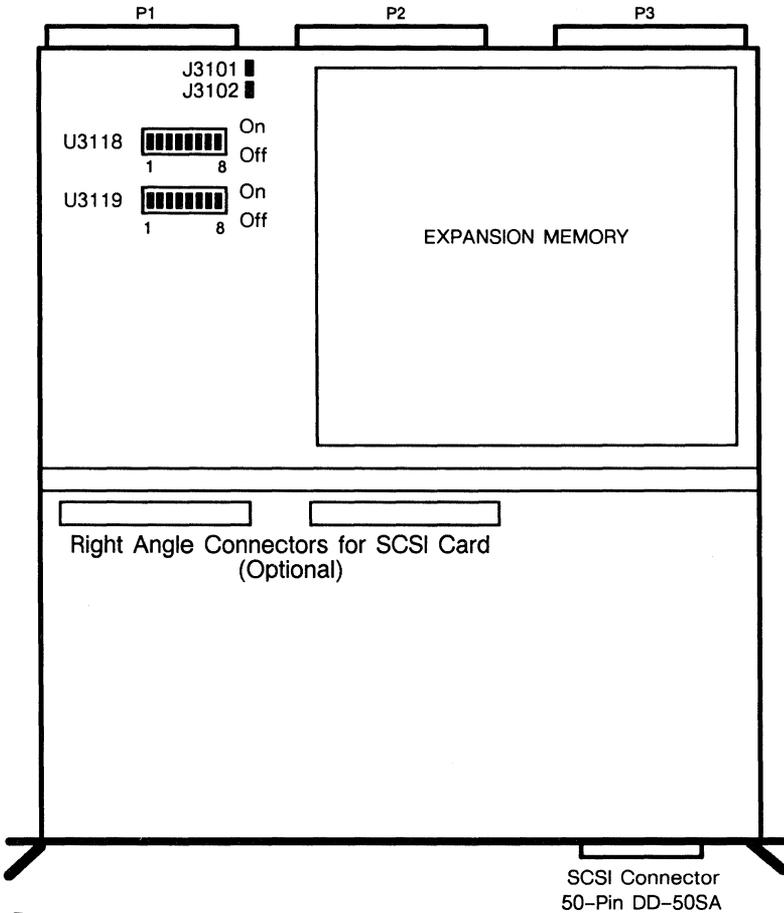
Power

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

Note: The SCSI connector is used on the Sun–3/75 memory boards.

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

```
          P1              P2              P3

                                      J0301

              TERMINATOR
              F34  U1203  E54
  J0101       8MB         32MB
  
  J1101


      3 2 1 0
      J0302
        RED  YEL  YEL  GRN  GRN
        UE   CE   DIS  CPU  REF
              LEDs
```
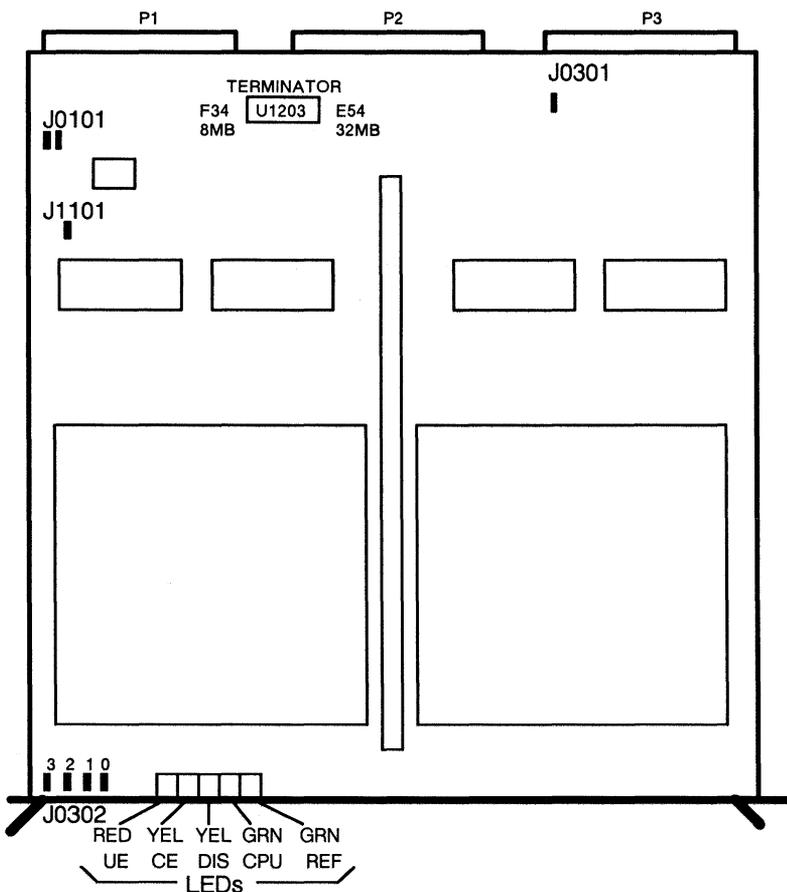
Note: The Sun 4200 CPU requires EPROM 3.0 or greater when more than two 16 MB ECC Memory boards are used.

501–1102 501–1254 501–1451 501–1576

Memory Board LEDs

		STATUS	
LED	COLOR	INTERPRET ON	INTERPRET OFF
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
REF	Grn	Refresh enabled	Refresh failure

Top ... Bottom

Jumper Settings

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

Notes
1. **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.
2. **501–1439 or 501–1498 Backplanes.** Install a 220/270 Terminator, 120–1613–01, at location U1203 on the memory board installed 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. Install a terminator on memory boards in slot 1 and slot 7.
3. When used with the Sun 3400 CPU, the FPA, and the FPA+, the 8MB Memory board must be $\geq$501–1102–11.
4. The 501–1451 32MB board must be $\geq$501–1451–03 when used with the 501–1576 16MB memory board.
5. 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
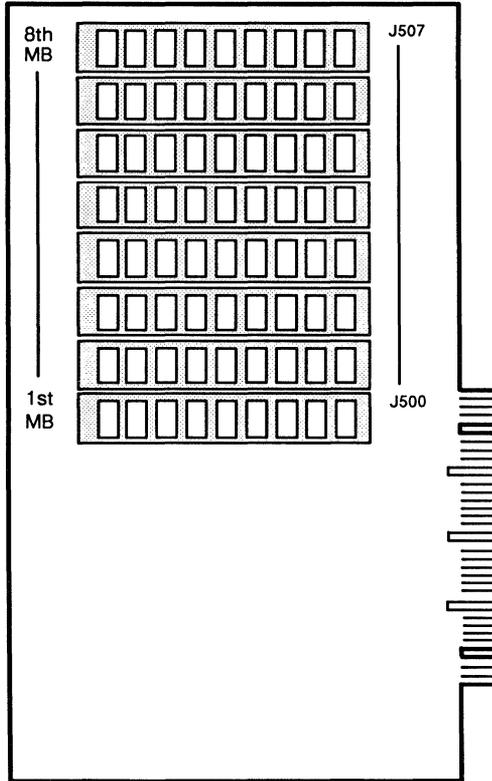
Notes
1. The Dynamic Memory board can be used with any revision of the 501–1414 CPU.
2. CPU revision 501–1241–02, Rev. 03, or greater is required for use with the Dynamic Memory board.
3. CPU revision 501–1241–04, Rev. 01, or greater is required for use with multiple Dynamic Memory boards.
4. The Dynamic Memory board uses the 1MB SIMM module 501–1424.

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

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Sun386i XP Cache Memory
386i/150/250

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

```
16th
MB U53

1st U38
MB

256K  1MEG

J1  ▮▮  J3
J0  ▮▮  J2

J4  ▮▮  J5
```
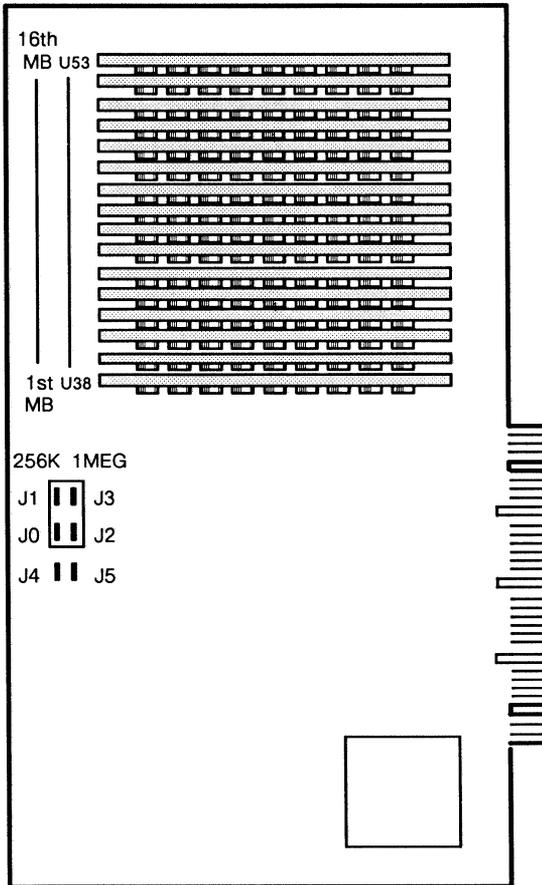
501-1298 501-1325 501-1482 555-1054
Jumper Settings

SIMM Size Jumpers*

JUMPER	256K SIMM	1MB SIMM
J0	In	Out
J1	In	Out
J2	Out	In
J3	Out	In

Memory Size Jumpers*

JUMPER	4MB	8MB	12MB	16MB
J4	In	In	Out	Out
J5	In	Out	In	Out

*The system is software configured. These jumpers are present only on FAB 270-1298-01. Jumper settings do not affect system operation.

Notes
1. 555-1054 uses 1MB SIMM module, 501-1424 or 501-1375.
2. 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

J100
7 ▬ 12-16MB
  ▬ 8-12MB
  ▬ 4-8MB
1 ▬ 0-4MB
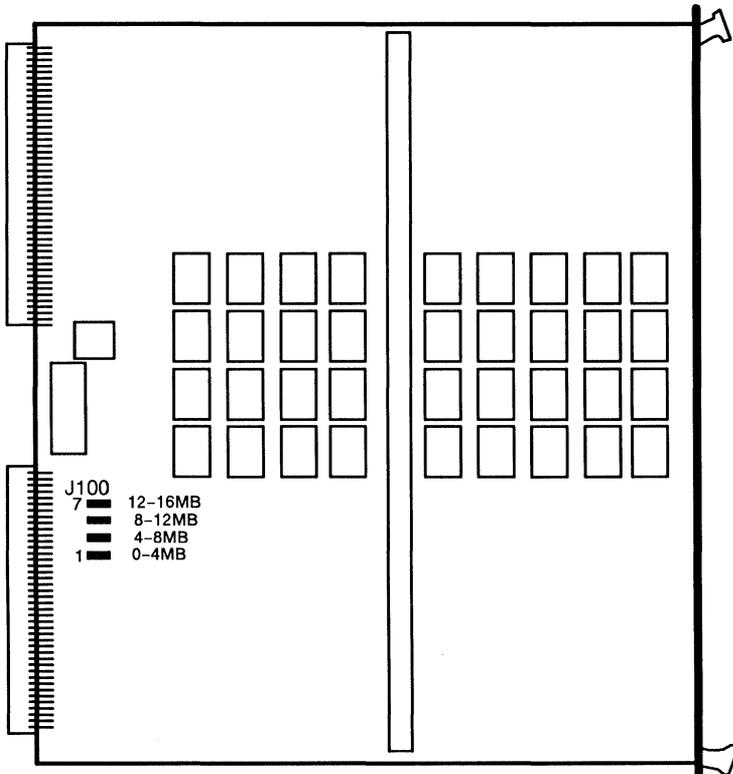
JUMPER	PINS	SETTING	DESCRIPTION
J100	0-4MB	N/A	No pins
J100	4-8MB	*	Selects 1st 4MB board
J100	8-12MB	*	Selects 2nd 4MB board
J100	12-16MB	*	Selects 3rd 4MB board

*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

J100
7 ■ 12–16MB
  ■ 8–12MB
  ■ 4–8MB
1 ▢ 0–4MB
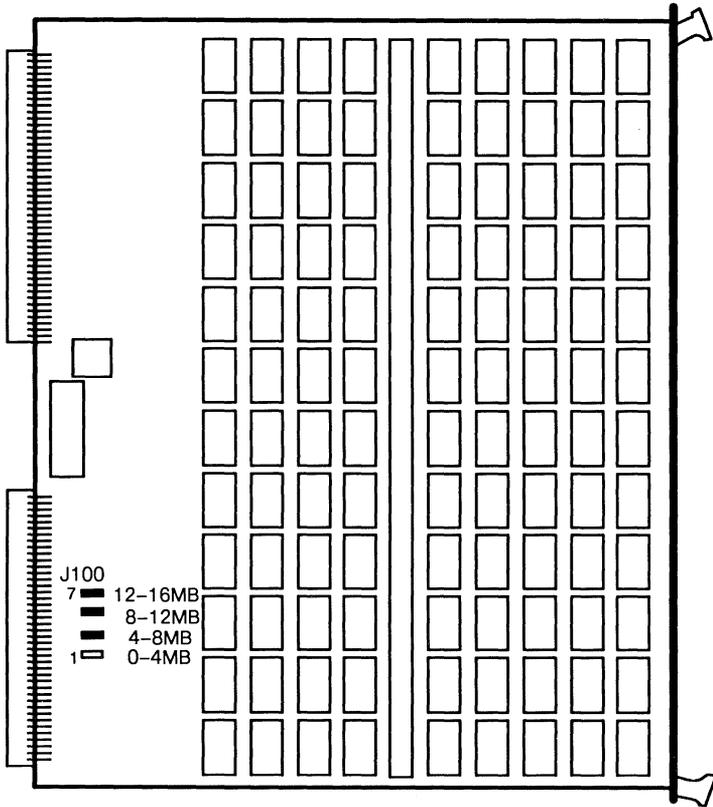
| JUMPER	PINS	SETTING	DESCRIPTION
J100	0–4MB	N/A	No pins
J100	4–8MB	*	Selects 1st 4MB bank
J100	8–12MB	*	Selects 2nd 4MB bank
J100	12–16MB	*	Selects 3rd 4MB bank

* 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   16MB   32MB
w 1MB SIMMS   w 1MB SIMMS   w 4MB SIMMS

J0902 ■
J0901 ■

	BANK	SIMM	DATA
U700	0	0	31–24
U701	0	1	23–16
U702	0	2	15–8
U703	0	3	7–0
U704	1	0	31–24
U705	1	1	23–16
U706	1	2	15–8
U707	1	3	7–0

	BANK	SIMM	DATA
U800	2	0	31–24
U801	2	1	23–16
U802	2	2	15–8
U803	2	3	7–0
U804	3	0	31–24
U805	3	1	23–16
U806	3	2	15–8
U807	3	3	7–0
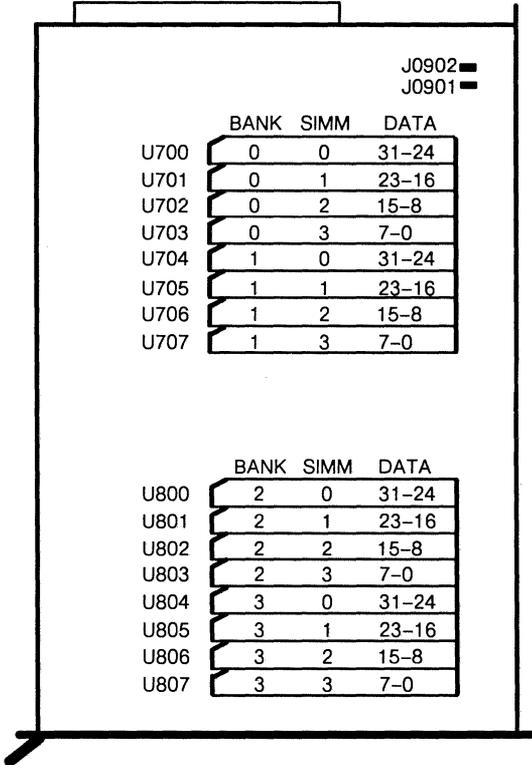
JUMPER	PINS	SETTING	DESCRIPTION
J0901	1–2	In	8 SIMMS installed
		Out	16 SIMMS installed
J902	1–2	In	1MB SIMM
	1–2	Out	4MB SIMM

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	8MB	48MB	32MB
w 1MB SIMMS	w 1MB SIMMS	w 1MB SIMMS	w 4MB SIMMS

P1   P2   P3

J2305
■ ■ ■ ■ J2307   ■ J2308
J2304 J2306

J2312 ■ CONF2
J2311 ■ CONF1
J2310 ■ CONF0
J2309 ■ 4MEG

U-socket	BANK	BYTE
U2000	4L	0
U2001	4L	1
U2002	4L	2
U2003	4L	3
U2004	4H	0
U2005	4H	1
U2006	4H	2
U2007	4H	3

U-socket	BANK	BYTE
U1800	2L	0
U1801	2L	1
U1802	2L	2
U1803	2L	3
U1804	2H	0
U1805	2H	1
U1806	2H	2
U1807	2H	3

U-socket	BANK	BYTE
U1600	0L	0
U1601	0L	1
U1602	0L	2
U1603	0L	3
U1604	0H	0
U1605	0H	1
U1606	0H	2
U1607	0H	3

U-socket	BANK	BYTE
U2100	5L	0
U2101	5L	1
U2102	5L	2
U2103	5L	3
U2104	5H	0
U2105	5H	1
U2106	5H	2
U2107	5H	3

U-socket	BANK	BYTE
U1900	3L	0
U1901	3L	1
U1902	3L	2
U1903	3L	3
U1904	3H	0
U1905	3H	1
U1906	3H	2
U1907	3H	3

U-socket	BANK	BYTE
U1700	1L	0
U1701	1L	1
U1702	1L	2
U1703	1L	3
U1704	1H	0
U1705	1H	1
U1706	1H	2
U1707	1H	3

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

<table>
<tr><td>8MB
32MB</td><td>J2312 [o o] CONF2
J2311 [o o] CONF1
J2310 [o o] CONF0</td><td>24MB
96MB</td><td>J2312 [o o] CONF2
J2311 o o CONF1
J2310 [o o] CONF0</td></tr>
</table>

U2000 U1800 U1600
U2100 U1900 U1700

U2000 U1800 U1600
U2100 U1900 U1700

48MB   J2312 o o   CONF2
192MB   J2311 [o o] CONF1
            J2310 o o   CONF0
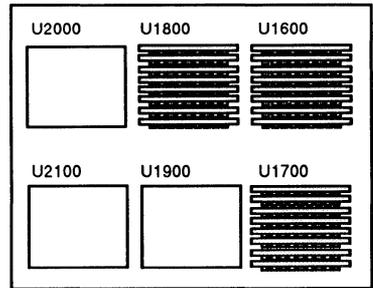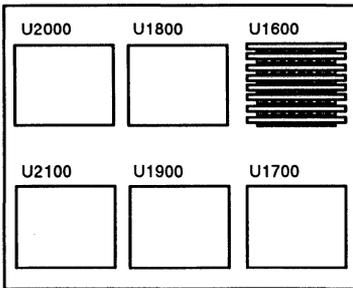
U2000 U1800 U1600
U2100 U1900 U1700
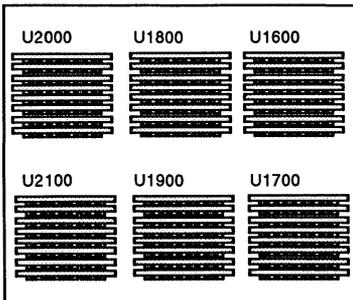
Power

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

RED YEL YEL GRN GRN
UE CE DIS CPU REF
———— LEDs ————
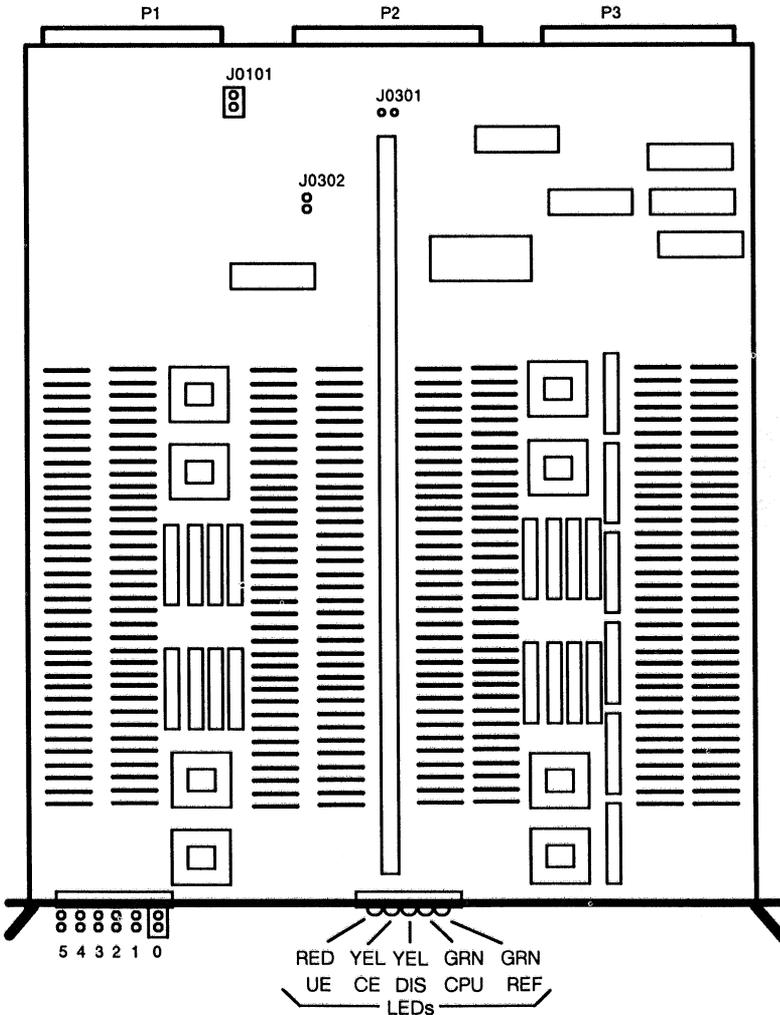
Power
32MB   15.6 Amps @ +5Vdc
       78.0 Watts
128MB 13.7 Amps @ +5Vdc
       68.5 Watts

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

J502 oo
J503 oo
J504 oo
J505 oo
J506 oo
J501 oo

505 □ UCERR
504 □ CERR
LEDs 503 □ REFRESH
502 □ ACCESS
501 □ DISABLED

BANK 0
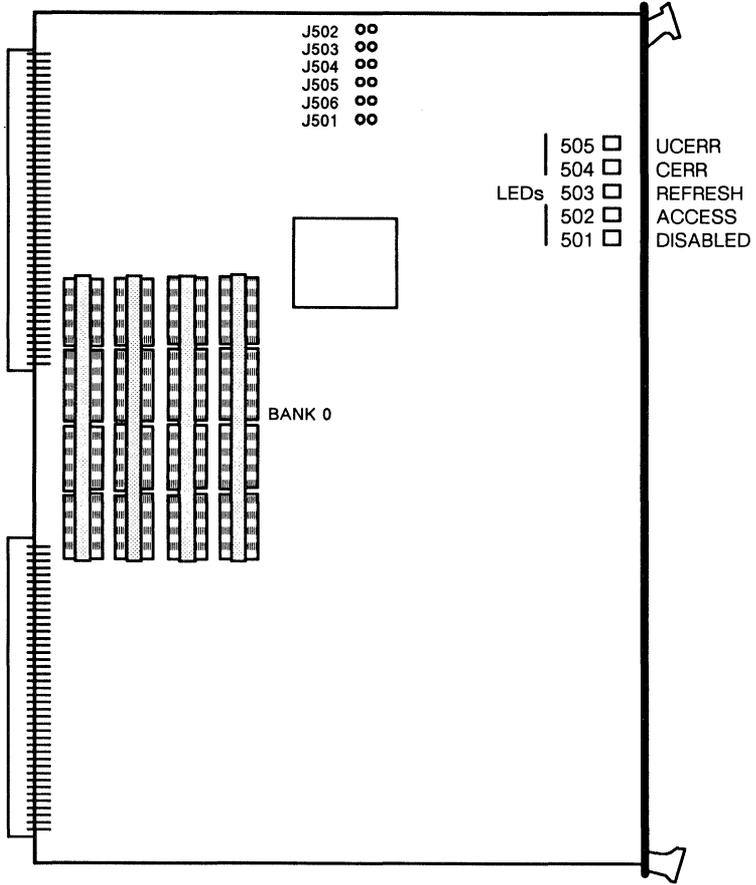
501–8042
Jumper Descriptions

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

J502 ○○
J503 ○○
J504 ○○
J505 ○○
J506 ○○
J501 ○○

505 □   UCERR
504 □   CERR
LEDs 503 □   REFRESH
502 □   ACCESS
501 □   DISABLED

BANK 0   BANK 2

BANK 1   BANK 3
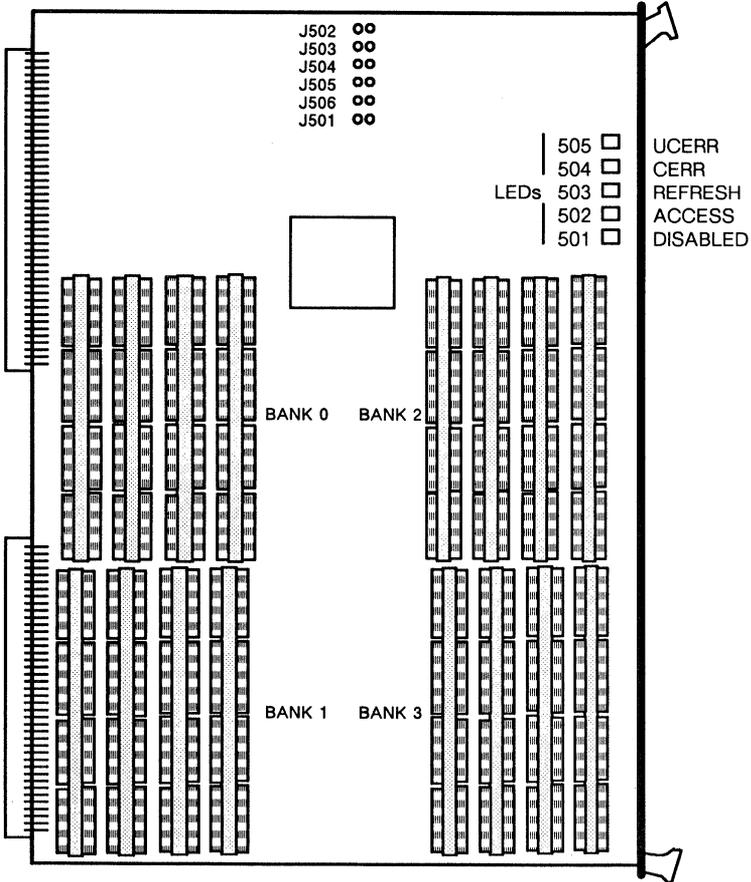
501-8036
Jumper Descriptions

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

```
          Byte0 Byte1 Byte2 Byte3 Byte0 Byte1 Byte2

SBus Slot 2                                      Byte3
Slave only


          U404  U406  U408  U5410 U504  U506  U508

          └── BANK 1 ──┘      └── BANK 3 ──  U510
          ┌── BANK 0 ──┐      ┌── BANK 2 ──
                                             U509
          U403  U405  U407  U409  U503  U505  U507

SBus Slot 1
Master/Slave


                                                 Byte3
          Byte0 Byte1 Byte2 Byte3 Byte0 Byte1 Byte2
```
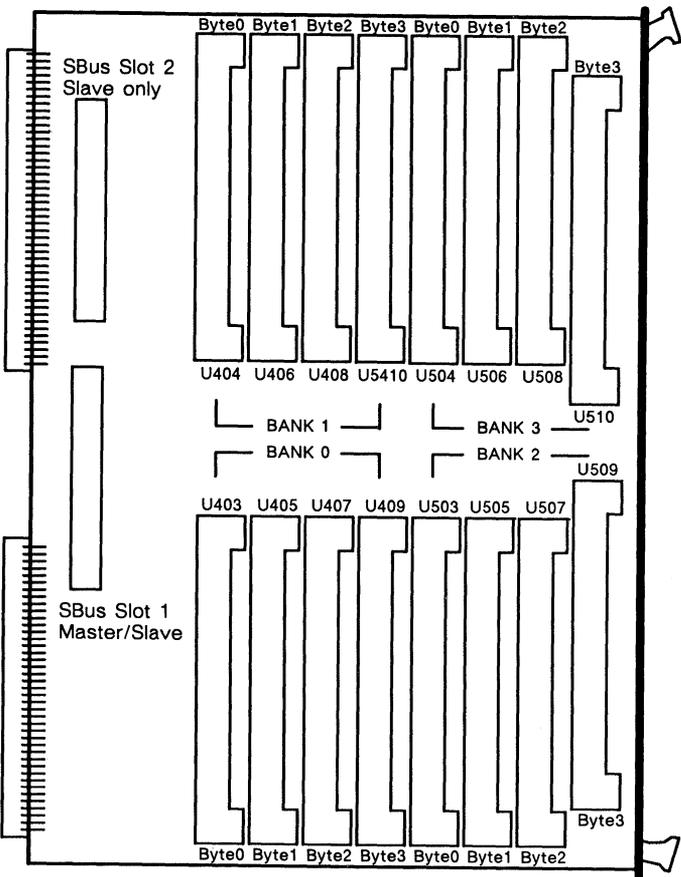
Note: SunOS 4.0.3e requires the *4.0.3e SRX Feature Tape* to support
the Combo Memory Card.

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

CONFIGURATIONS

VIDEO/GRAPHIC

Video/Graphic

Video/Graphic – Continued

SBus

Sun 1024 Monochrome Frame Buffer
800 x 1024 30KHz 77Hz
Sun–1/100 & Sun–2/100U/150U
501–0059
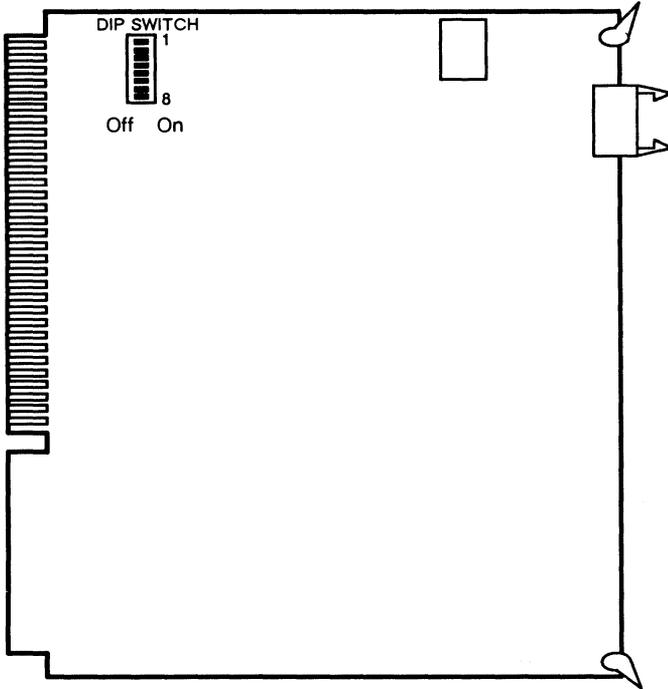
DIP SWITCH	SETTING	DESCRIPTION
1	Off	Address 0x00000
2	On	Address 0x20000
3	Off	Address 0x40000
4	Off	Address 0x60000
5	Off	Address 0x80000
6	Off	Address 0xA0000
7	Off	Address 0xC0000
8	Off	Address 0xE0000

UNIX ID: /dev/bwone0

Power: 5.0 Amps @ +5Vdc
        25.0 Watts

Color Frame Buffer
475 x 640 15.75KHz 60Hz
Sun–2/100U/120/150U/170
501–0461

J6

J3
15

J2
15

J1
9

1

1

1

Sync

Red

Blue

J4
3
1

Green

J5
11

← Note: J5 jumpers are not present on –03 fab.

1
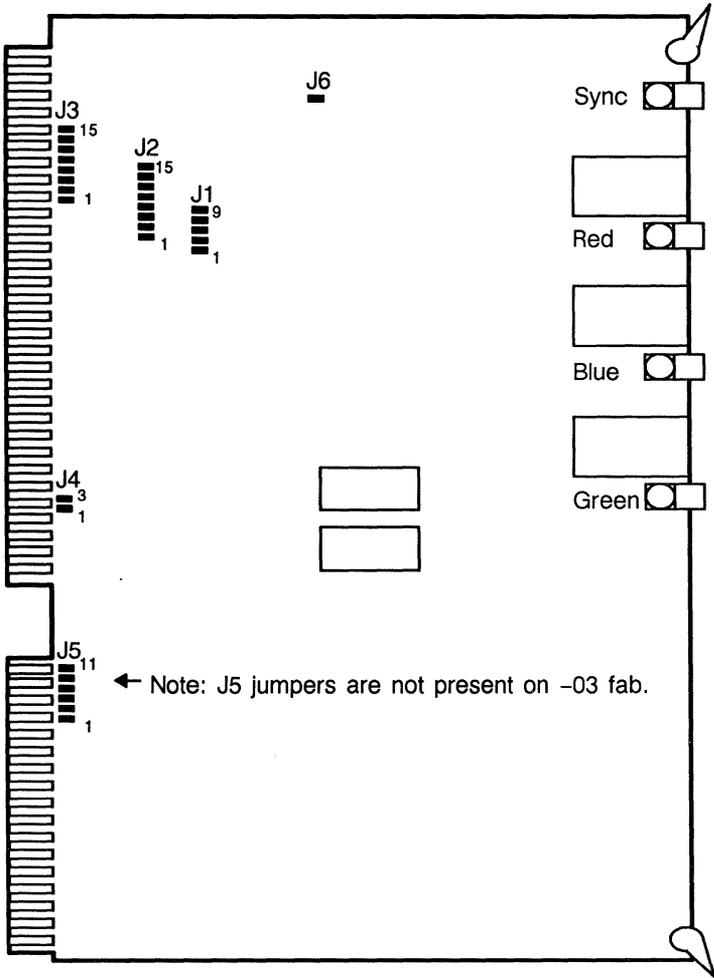
UNIX ID: /dev/cgtwo0

Power: 6.0 Amps @ +5Vdc
        1.2 Amps @ –5Vdc
        36.0 Watts

501–0461
Jumper Settings

JUMPER	PINS	SETTINGS	DESCRIPTION
J1	1–2	In	VODD
	3–4	In	VRESET
	5–6	In	SYSCP1
	7–8	In	HRESET
	9–10	In	STATE 11
J2*	1–2	In	Address bit A19
	3–4	In	Address bit A18
	5–6	In	Address bit A17
	7–8	Out	Address bit A16
	9–10	In	Address bit A15
	11–12	In	Address bit A14
	13–14	N/A	Not connected
	15–16	N/A	Not connected
J3	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
J4	1–2	In	Inverts BBUS.A0
	3–4	Out	
J5	1–2	In †	Grounds the P2 bus
	3–4	In †	
	5–6	In †	
	7–8	In †	
	9–10	In †	
	11–12	In †	
J6	1–2	In	Enable clock

* The default base address is 0x1EC00.

† Must be Out if board is in P2 slot shared by the CPU.

References
1. *Hardware Installation Manual for the Sun–2/120, 800–1170.*
2. *Hardware Installation Manual for the Sun–2/170, 800–1171.*

TTL Monochrome Frame Buffer
1152 x 900 62KHz 66Hz
Sun–2/120/170
501–1003

J1904
15 15
1   1
J1903

VIDEO

KEYBOARD

MOUSE

8   1 Off
U100
On
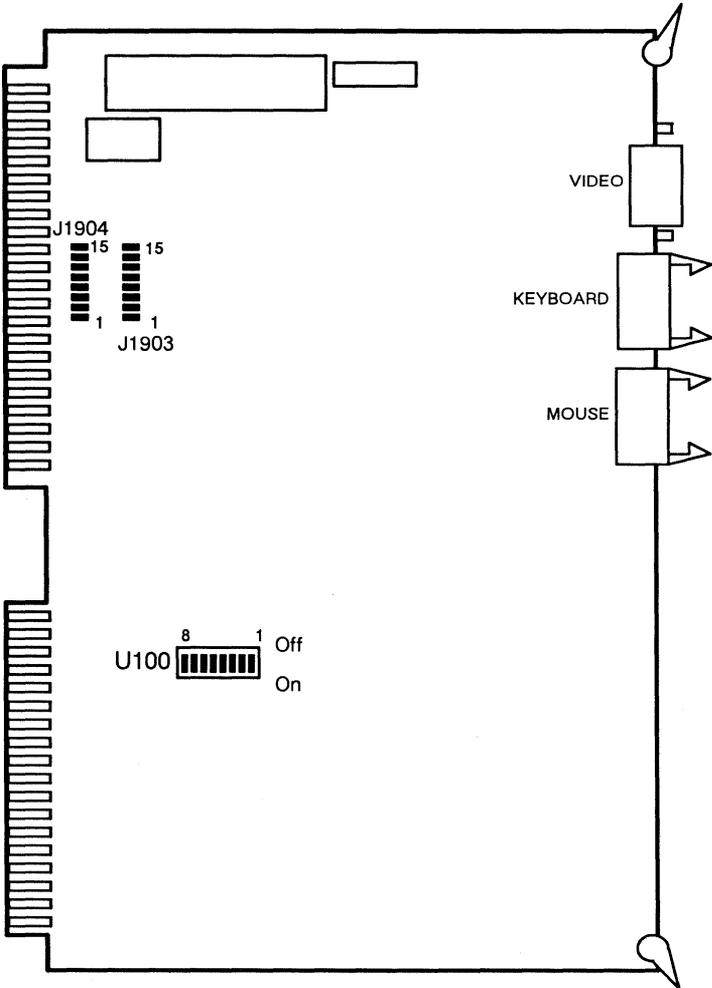
UNIX ID: /dev/bwone0

Power: 4.0 Amps @ +5Vdc
        20.0 Watts

501–1003
Jumper & Switch Settings

JUMPER	PINS	SETTING	DESCRIPTION
J1903	1–2	Out	Serial interrupt level select
	3–4	Out	
	5–6	Out	
	7–8	Out	
	9–10	Out	
	11–12	Out	
	13–14	In	
	15–16	Out	
J1904	1–2	Out	Video interrupt level select
	3–4	Out	
	5–6	Out	
	7–8	Out	
	9–10	In	Used for diagnostics*
	11–12	Out	
	13–14	Out	
	15–16	Out	

*Must be installed to run video tests under the Diagnostic Executive.

DIP SWITCH	SWITCH	SETTING	DESCRIPTION
U100	1–7	Off	Base address=0x700000
	8	On	

References
1. *Hardware Installation Manual for the Sun–2/120*, 800–1170.
2. *Hardware Installation Manual for the Sun–2/170*, 800–1171.

TTL/ECL Monochrome Frame Buffer
1152 x 900 62KHz 66Hz
Sun-2/120/170
501-1052
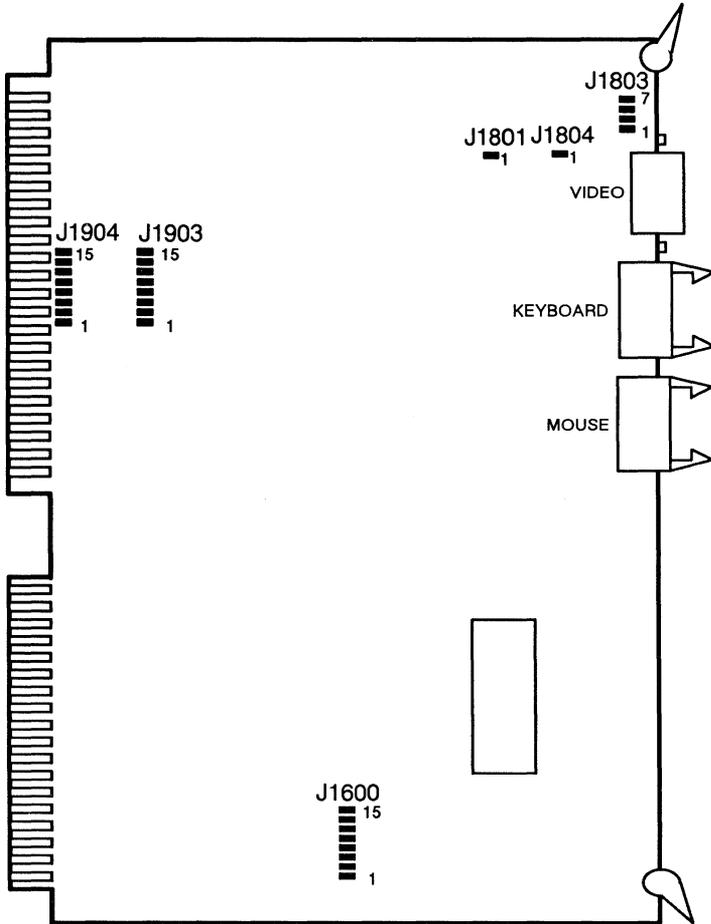
UNIX ID: /dev/bwone0

Power: 4.0 Amps @ +5Vdc
        20.0 Watts

References
1. *Hardware Installation Manual for the Sun-2/120, 800-1170.*
2. *Hardware Installation Manual for the Sun-2/170, 800-1171.*

501-1052
Jumper Settings

JUMPER	PINS	SETTING	DESCRIPTION
J1600	1-2	In	Sun standard video screen
	3-4	In	
	5-6	In	
	7-8	In	
	9-10	Out	Not used
	11-12	Out	
	13-14	Out	
	15-16	Out	
J1801	1-2	In	Crystal shunt
J1803	1-2	In for ECL or Out for TTL	
	3-4	In for TTL or Out for ECL	
	5-6	In for ECL or Out for TTL	
	7-8	In for TTL or Out for ECL	
J1804	1-2	Out	
J1903	1-2	Out	Serial interrupt level select
	3-4	Out	
	5-6	Out	
	7-8	Out	
	9-10	Out	
	11-12	Out	
	13-14	In	
	15-16	Out	
J1904	1-2	Out	Video interrupt level select
	3-4	Out	
	5-6	Out	
	7-8	Out	
	9-10	In	Used for diagnostics*
	11-12	Out	
	13-14	Out	
	15-16	Out	

*Must be installed to run video tests under the Diagnostic Executive.

Note: CPU boards with EPROM Revision N or below may require the addition of shunts at J1600 to operate properly with SunOS 3.0 and greater.

Sun 2160 Color Frame Buffer
1152 x 900 62KHz 66Hz
Sun–2/160 & 3/160/180/260/280/460/470/480
501–1014
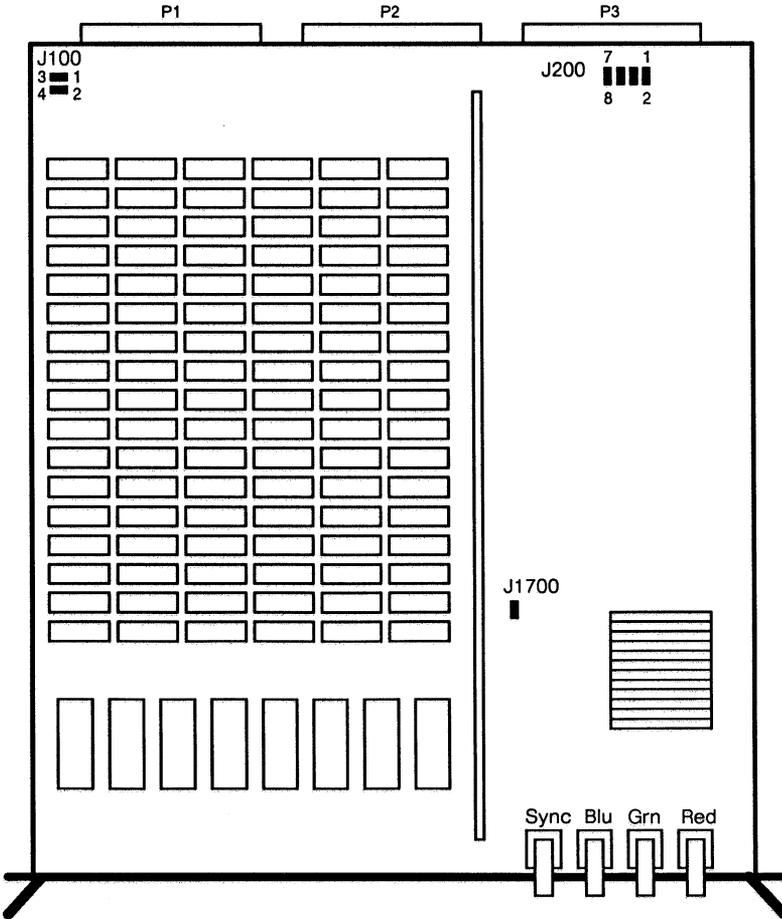
UNIX ID: /dev/cgtwo0

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–2/160
Sun–3/160/180/260/280/460/470/480
Sun–4/150/260/280/330/350/360/370/380

501–1055
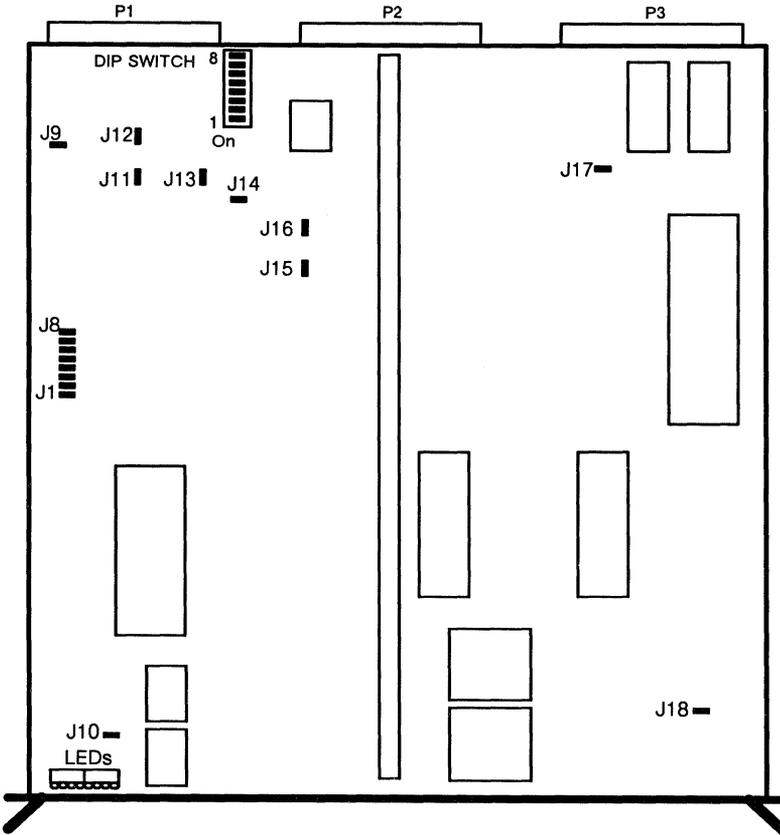
UNIX ID: /dev/gpone0a–d

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–2/160
Sun–3/160/180/260/280/460/470/480
Sun–4/150/260/280/330/350/360/370/380

501–1139

P1   P2   P3

DIP SWITCH 8

J9   J12   1
                 On

J11   J13   J14   J17

            J16

            J15

J8

J1

J10

LEDs
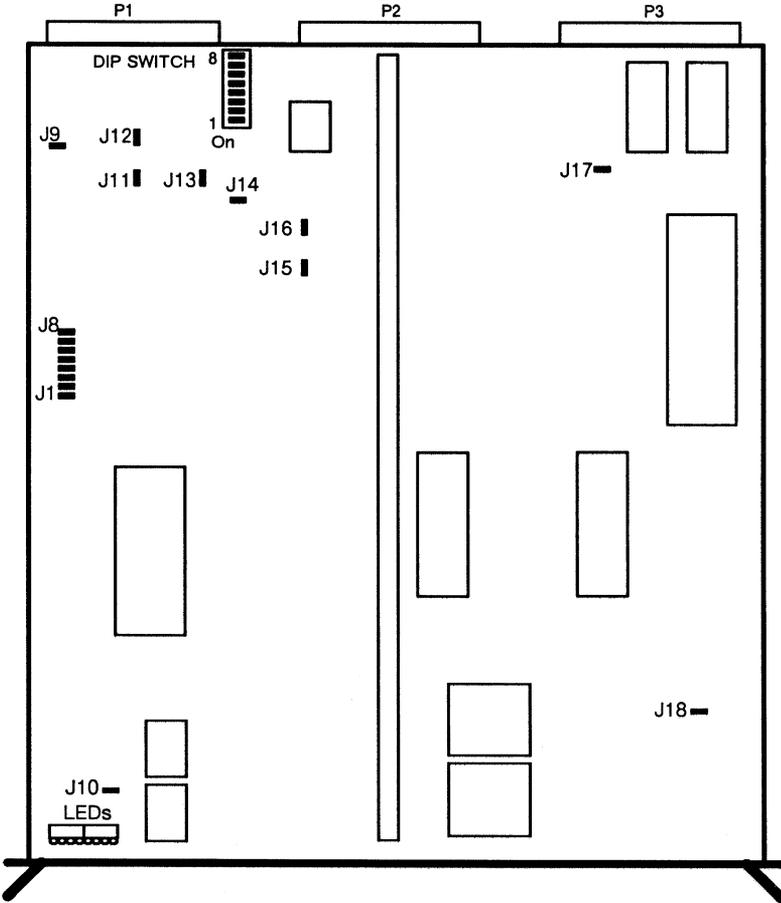
UNIX ID: /dev/gpone0a–d

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–2/160
Sun–3/160/180/260/280/460/470/480
Sun–4/150/260/280/360/370/380
501–1058

```
        P1                    P2                    P3

                                                   J10
                                                    ▬

      J2                              J8
       ▬                              J7 ▰
                                      J6 ▰
                                      J5

             J4
           3 ▰ 2
           4   1

             J3
              ▬

      J1                                            J9
       ▬                                             ▬
```
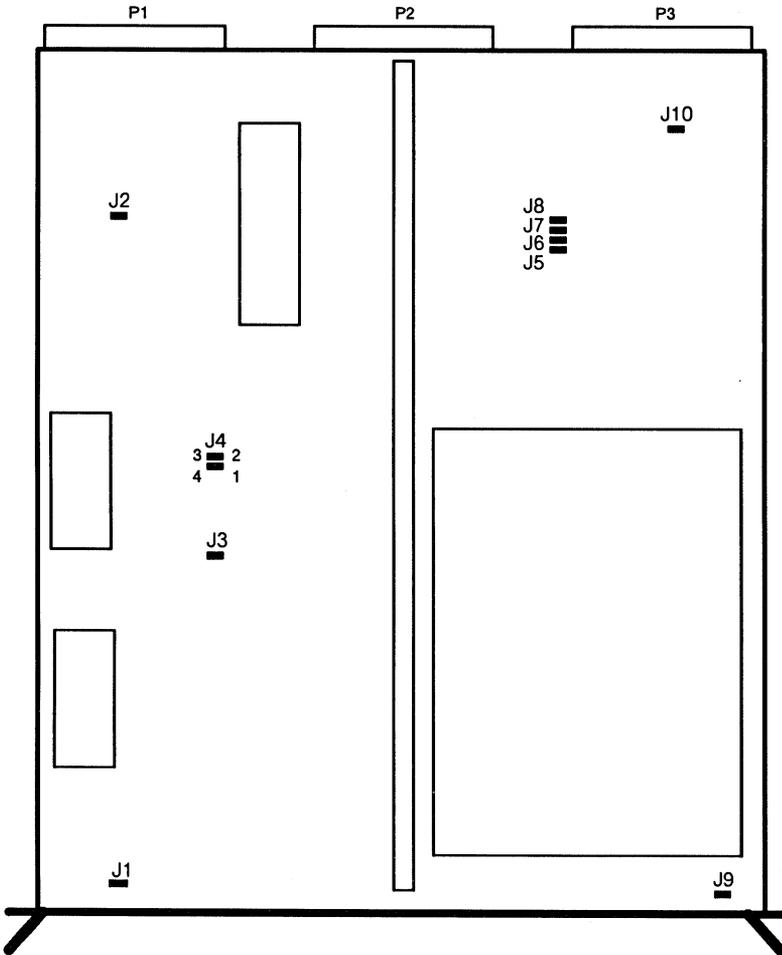
Power: 2.1 Amps @ +5Vdc
        10.5 Watts

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 62KHz 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

P1   P2   P3

J300

J302

J303
J301 16   4 2
1   15   3 1

J400
1   15

J102

J601

J100 J101 J600

24–Bit Sync Blu Grn Red
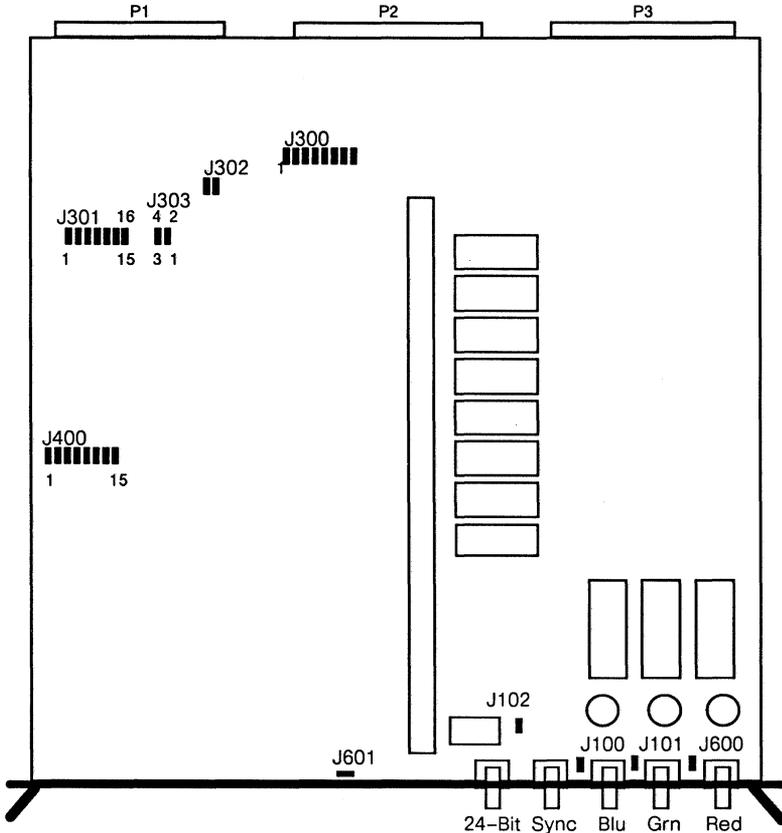
*Double buffering requires SunOS 3.5 (Sun–3) or SunOS 4.0 (Sun–4).

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 62KHz 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

P1   P2   P3

On [||||||||] SW300 (D37)   SW3300
On [||||||||] SW302 (D36)   (H34)
SW301   [||||||||] On
(B34)   1   8   Off
[||||||||] On   1   8
1   8 Off

SW400
(A20)
[||||||||] On
         Off
1   8

J601   J600
(F1)   (F1)
2 8   2 8
[||||] [||||]
1 7   1 7

Sync Blu Grn Red
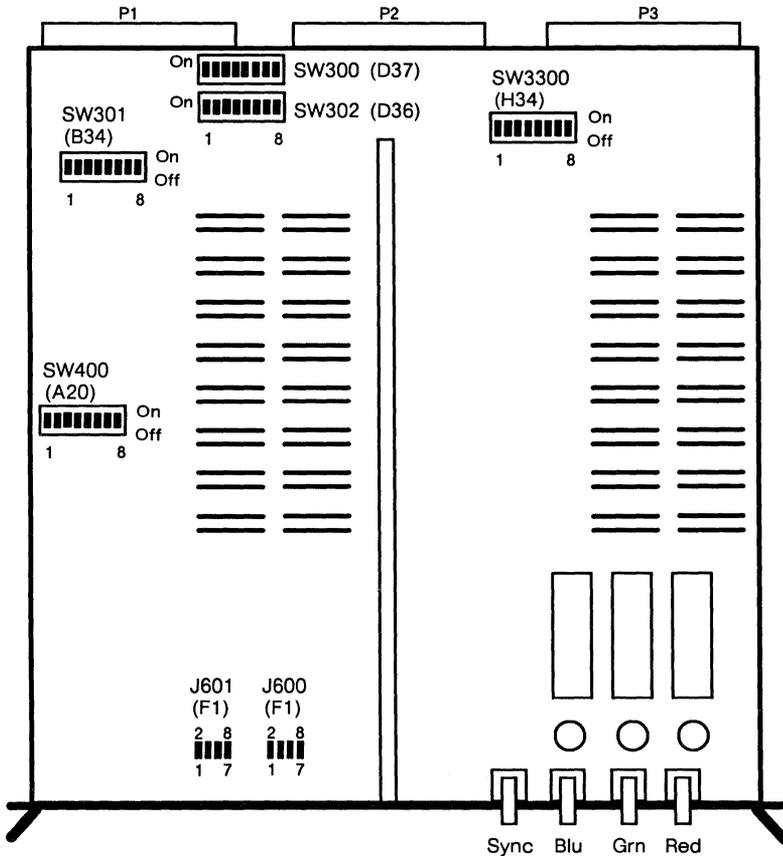
UNIX ID: /dev/cgtwo0

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

P1   P2   P3

U1601 (K3)

On ▮▮▮▮▮▮▮▮
Off 1   8

Weitek

Weitek

Weitek

Weitek   Weitek
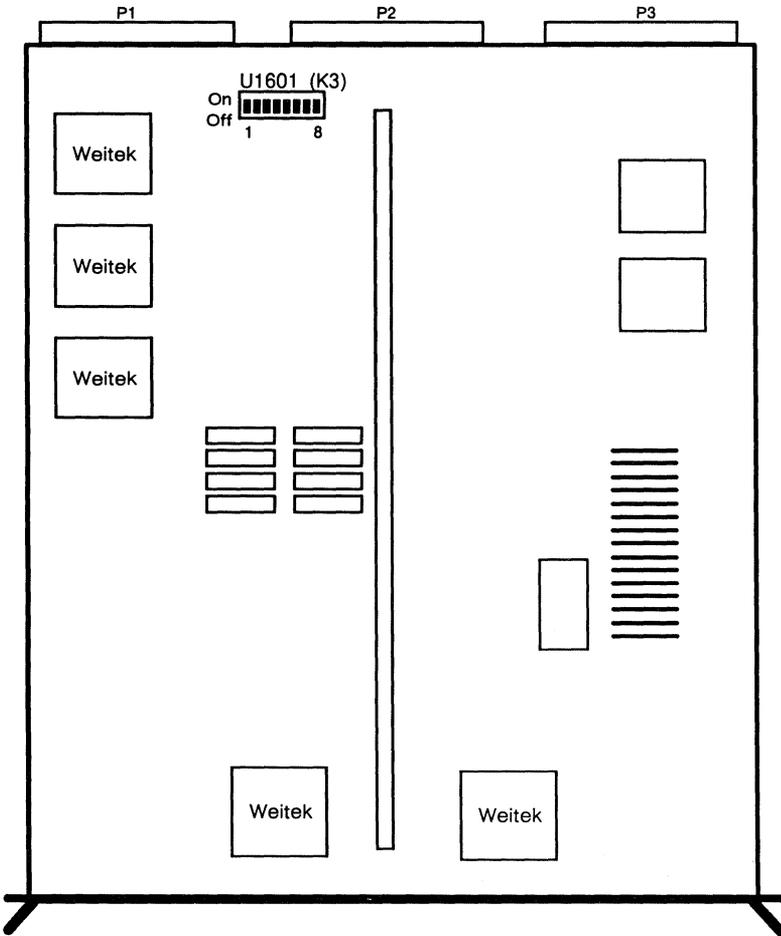
UNIX ID: /dev/gpone0a–d

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 $\geq$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 62KHz 66Hz
Sun-3/260/460/470/480
Sun-4/150/260/280/330/350/360/370/380
Sun-4/390/470/490
501-1434
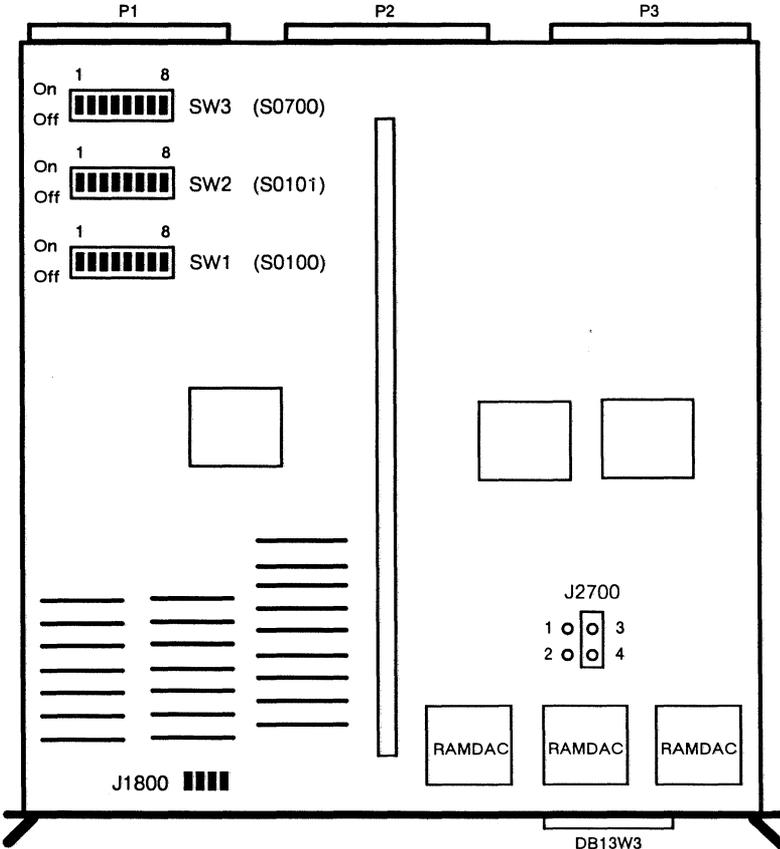
UNIX ID: /dev/cgnine0

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

P1   P2   P3

RESET

Sync Red Grn Blu ⏐ Sync Red Grn Blu

IN   OUT
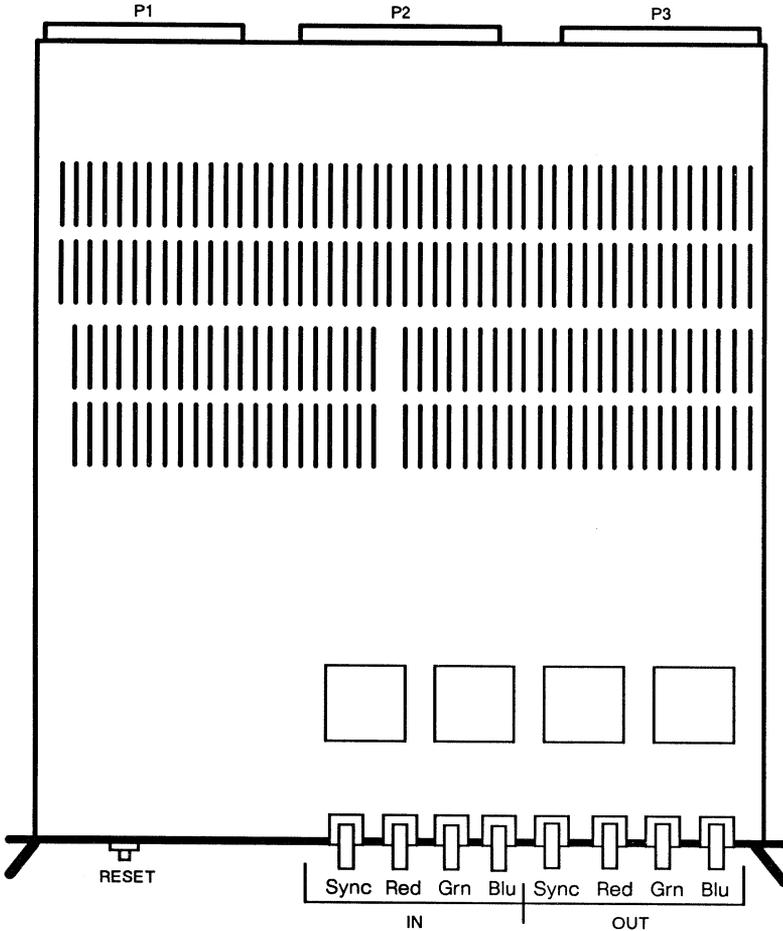
UNIX ID: /dev/taac0

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

TAAC–1 Application Accelerator
501–1383 501–1447

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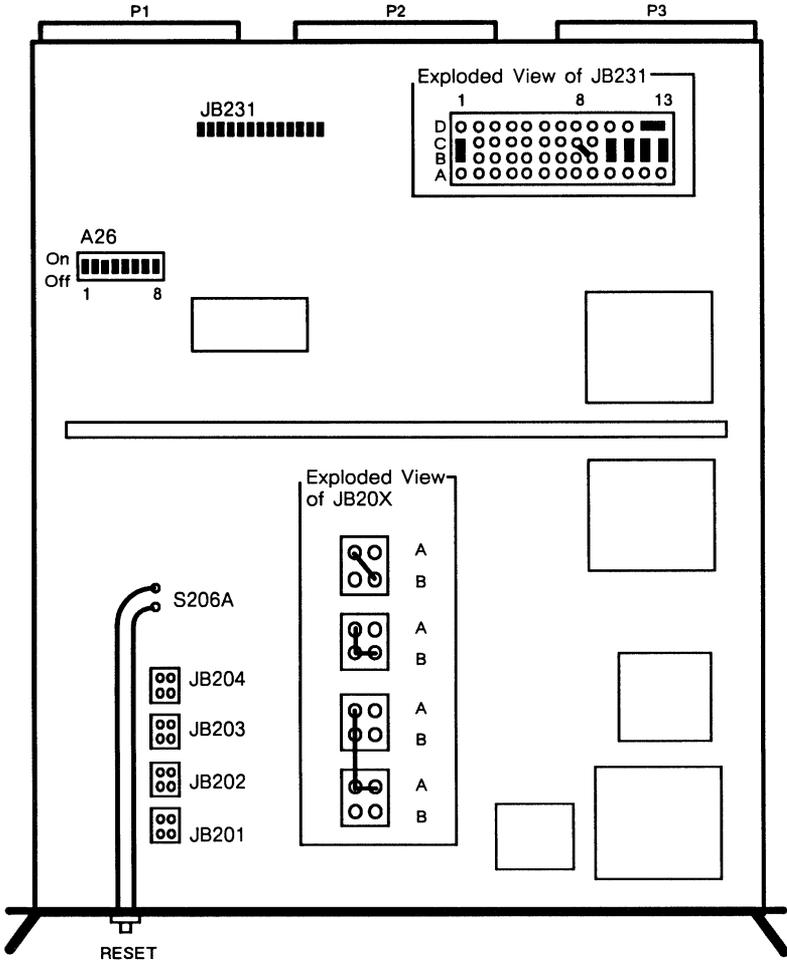
501-1383 501-1447
DFB Board
Jumper and Switch Settings

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 matched 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.
5. Reference the *Configuration Procedures for the TAAC-1
   Application Accelerator Board Set*, 813-2057.

Sun–3/E Monochrome Frame Buffer
1152 x 900 62KHz 66Hz
501–8020
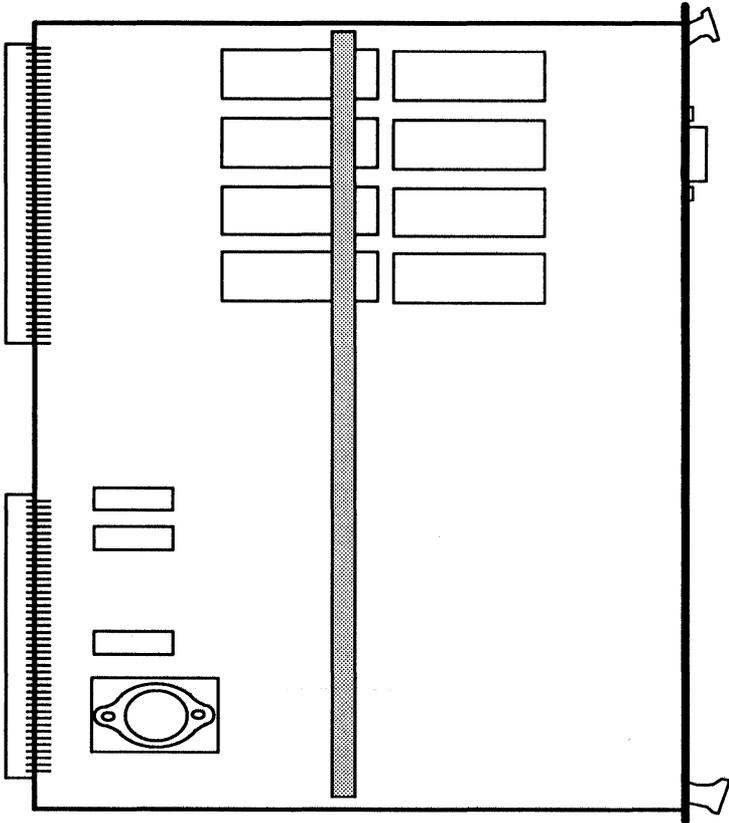
UNIX ID: /dev/bwtwo0

Power: 3.0 Amps @ +5Vdc
        15.0 Watts

Note: There are NO jumpers or switches on the 3/E Monochrome
      Frame Buffer.

Sun–3/E Color Frame Buffer
1152 x 900 62KHz 66Hz
501–8029
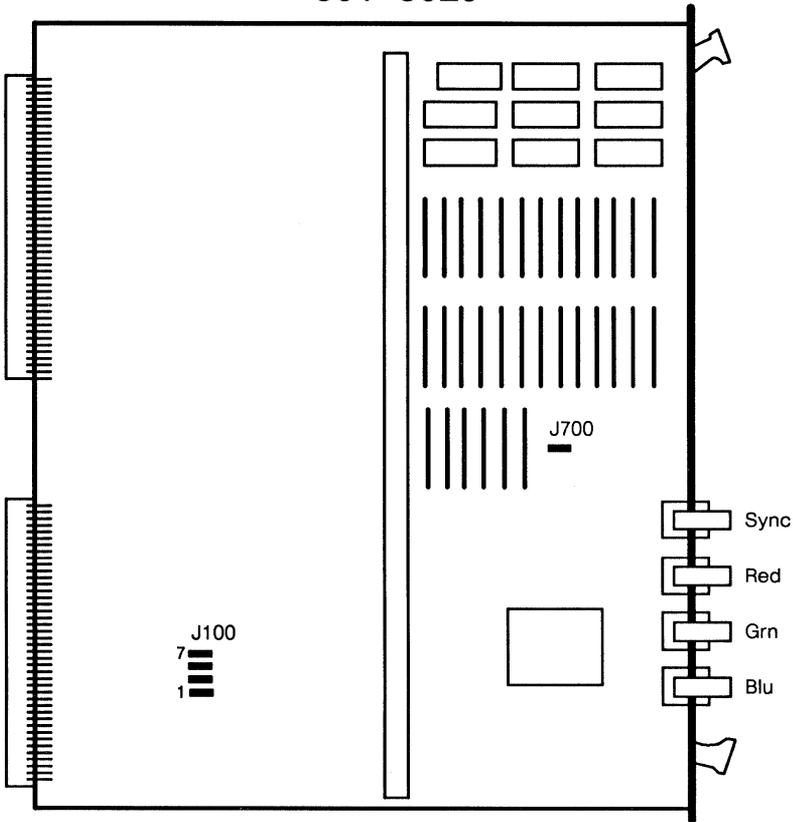
JUMPER	PINS	SETTING	DESCRIPTION
J100	1–2	In	Base address
J100	3–4	Out	=FF400000
J100	5–6	In	
J100	7–8	Out	
J700	1–2	In	Clock enable

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, or greater.
2. This board requires SunOS 3.5 or greater.

Sun-3/60 CG4 Color Frame Buffer
1152 x 900 62KHz 66Hz
Sun-3/60
501-1210
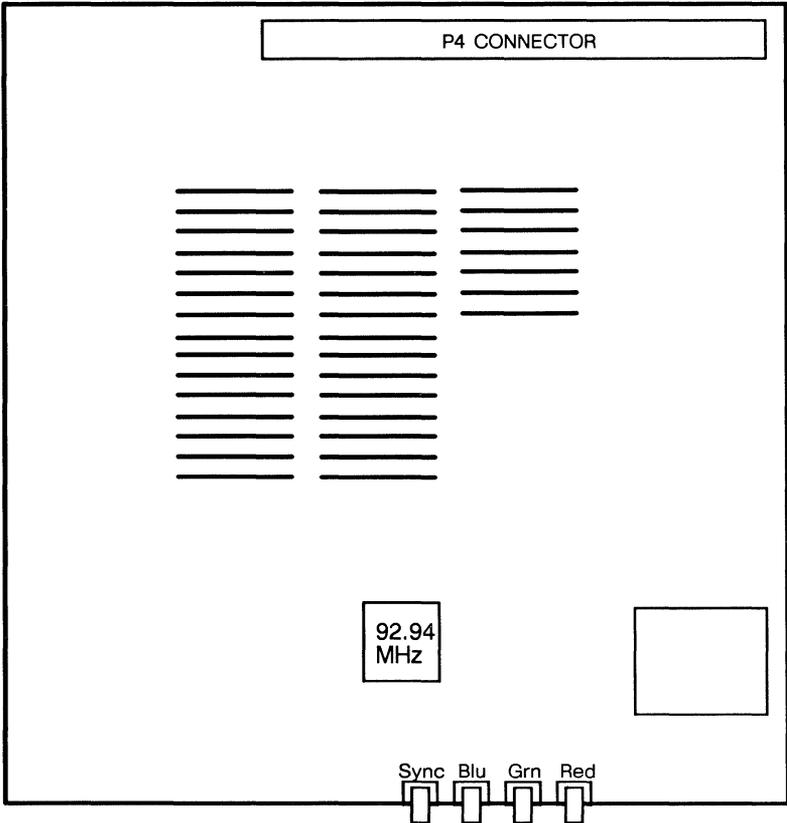
UNIX ID: /dev/cgfour0 and /dev/bwtwo1

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 62KHz 66Hz
Sun-3/60/80/460/470/480
Sun-4/110/150/310/350/370/390/470/490
501-1247   501-1637
w 3/80 Backpanel

```
┌─────────────────────────────────────────────────┐
│         ┌───────────────────────────────┐        │
│         │         P4 CONNECTOR           │        │
│         └───────────────────────────────┘        │
│                                                   │
│                                                   │
│   ┌─────────┐                                     │
│   │ 200 MHz │                                     │
│   └─────────┘                                     │
│                                                   │
│                              ┌───────────┐        │
│                              └───────────┘        │
│                              ┌───────────┐        │
│            J5401 ■           └───────────┘        │
│                              ┌───────────┐        │
│                              └───────────┘        │
└─────────────────────────────────────────────────┘
              DB9
```
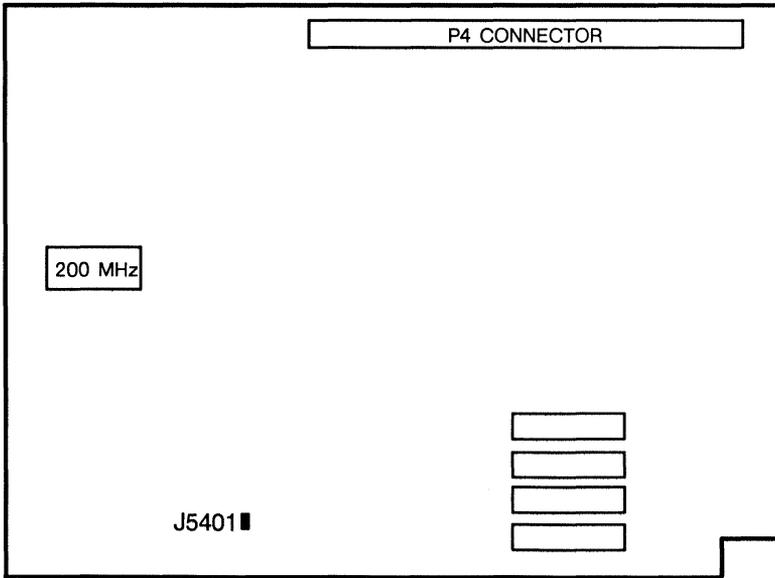
Jumper J5401 Settings

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

*Factory setting

UNIX ID: /dev/bwtwo0

Power: 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 62KHz 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

```
┌─────────────────────────────────────────────┐
│              ┌──────────────────────────┐    │
│              │      P4 Connector        │    │
│              └──────────────────────────┘    │
│                                              │
│                                      ┌──────┐│
│                                      │92.94 ││
│                                      │MHz   ││
│                                      └──────┘│
│                              J700 ▬           │
│                   Sync Blu Grn Red            │
└───┐            ┌────┐  ┌┐ ┌┐ ┌┐ ┌┐ ┌─────────┘
    DB13W3
```
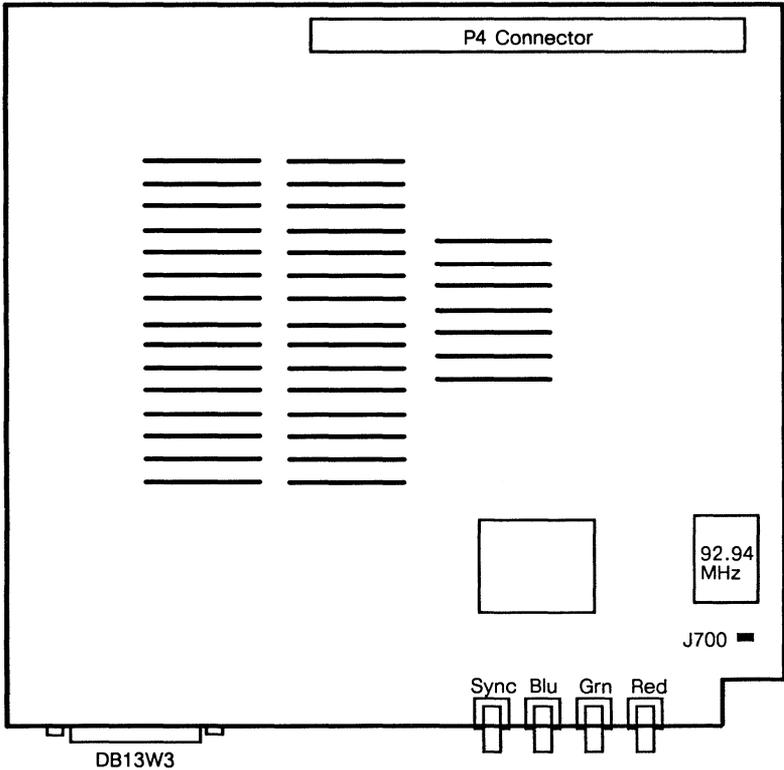
J700 Setting

PINS	SETTING	DESCRIPTION
1–2	In	Enable clock

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

Power: 3.8 Amps @ +5Vdc
        19.0 Watts

Note: Set EEPROM location 0x1F to 0x20.

CG6 Color Frame Buffer
1152 x 900 62KHz 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
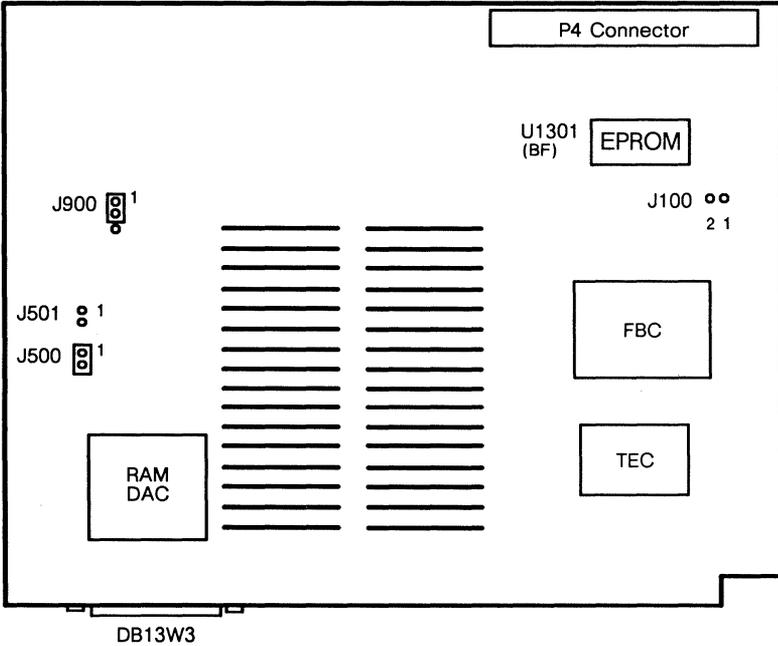
UNIX ID: /dev/cgsix0

Power
501–1374   3.5 Amps @ +5Vdc
            17.5 Watts
501–1505 and 501–1532
            4.6 Amps @ +5Vdc
            23.0 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 62KHz 66Hz
Sun-4/110/150
501-1374   501-1505   501-1532
BNC   DB13W3   w 3/80 rear panel
                          DB13W3

```
                    (C15)  ┌──────────────┐    ┌─────────────────────┐
                           │  BOOT PROM   │    │    P4 CONNECTOR      │
                           └──────────────┘    └─────────────────────┘
                           ┌──────┐
                           │ OSC  │
                           └──────┘


              ┌─────────┐ ┌─────────┐ ┌─────────┐
              │  BLUE   │ │  GREEN  │ │   RED   │
              │ RAMDAC  │ │ RAMDAC  │ │ RAMDAC  │
              └─────────┘ └─────────┘ └─────────┘

                        Sync  Blu  Grn  Red
     DB13W3                        BNC
```
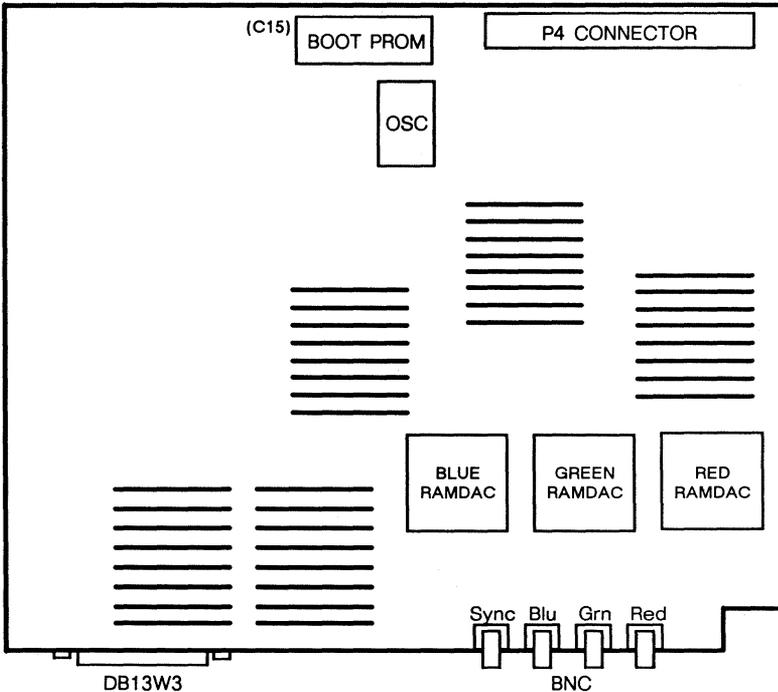
UNIX ID: /dev/cgeight0

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 62KHz 66Hz
Sun–3/80/460/470/480
Sun–4/310/350/370/390/470/490
501–1402
w 3/80 Backpanel

P4 CONNECTOR

92.94 MHz

100 MHz

DB13W3
Analog

DB9
ECL
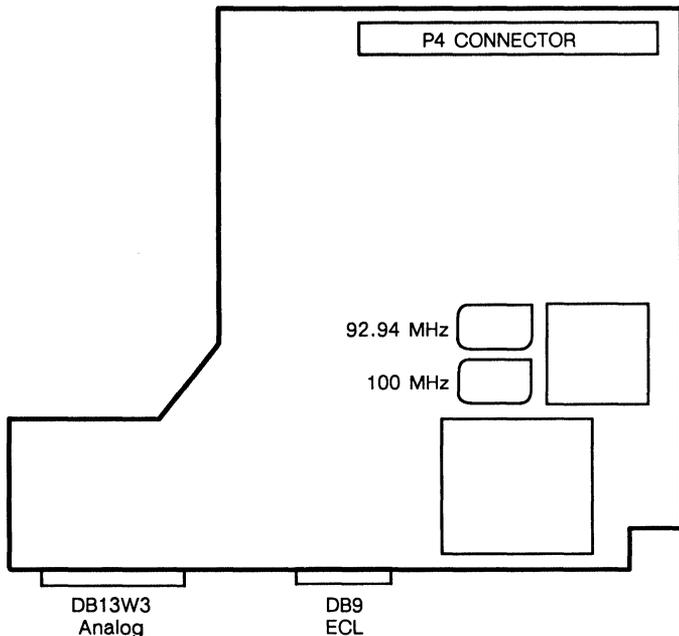
UNIX ID: /dev/bwtwo0

Power: 3.3 Amps @ +5Vdc
          16.5 Watts

Notes
1. There are NO jumpers or switches on the MG4 Frame Buffer.
2. The MG4 Frame Buffer produces a 1–bit Analog output and a 1–bit
   ECL output.

DC to DC Converter
Sun–3/80
501–1483
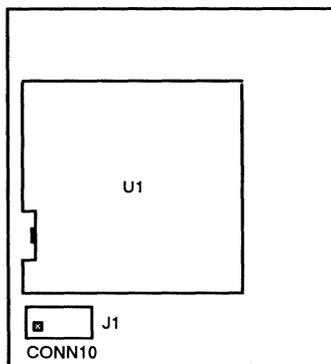
Exploded View of Connector J1
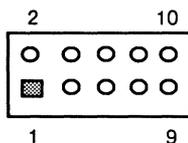
Power
Total Power for 501–1483 and 501–1637 is 2.7 Amps @ +5Vdc

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 62KHz 66Hz
Sun386i/150/250
501-1243
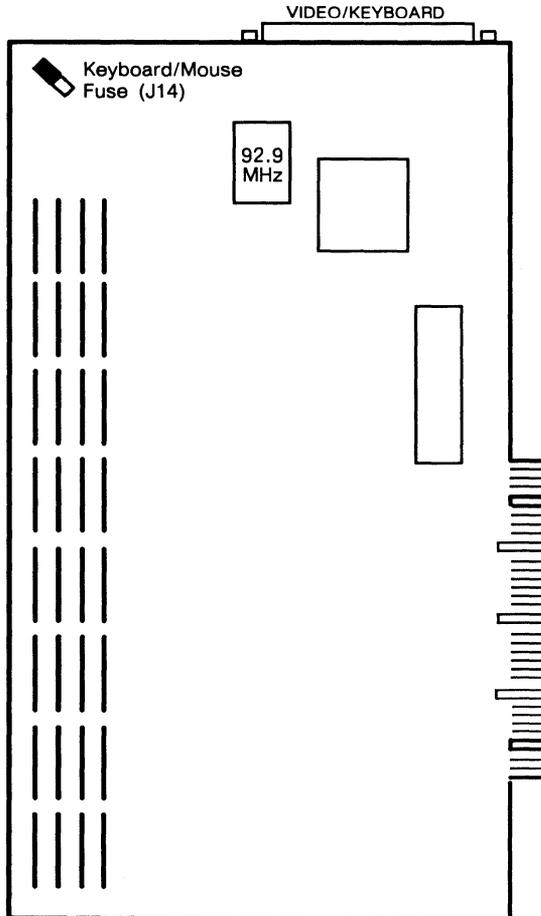
VIDEO/KEYBOARD

◆ Keyboard/Mouse
◇ Fuse (J14)

92.9
MHz

UNIX ID: /dev/cgthree0

Notes

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

Color Frame Buffer
1024 x 768 53KHz 66Hz
Sun386i/150/250
501–1286
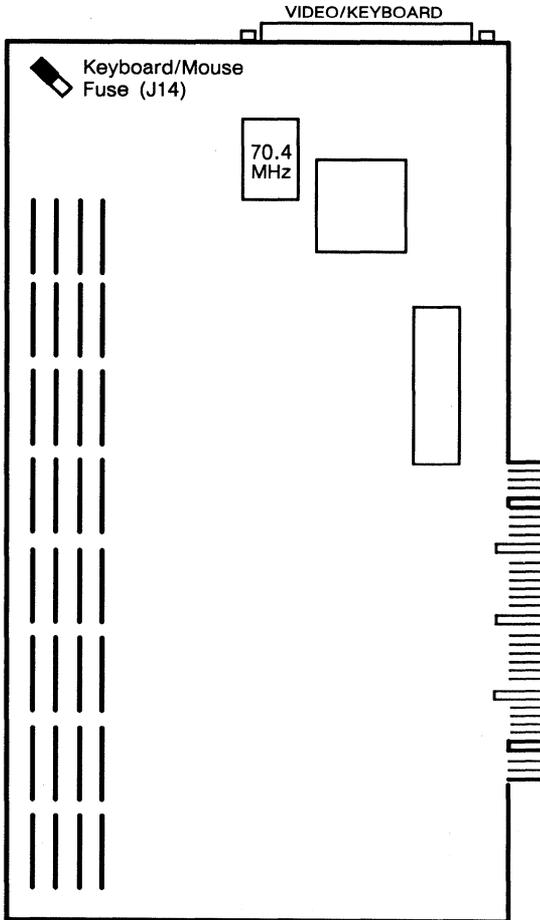
VIDEO/KEYBOARD

Keyboard/Mouse
Fuse (J14)

70.4
MHz

UNIX ID: /dev/cgthree0

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

Monochrome Frame Buffer
1024 x 768 64KHz 66Hz
Sun386i/150/250
501–1433 501–1568
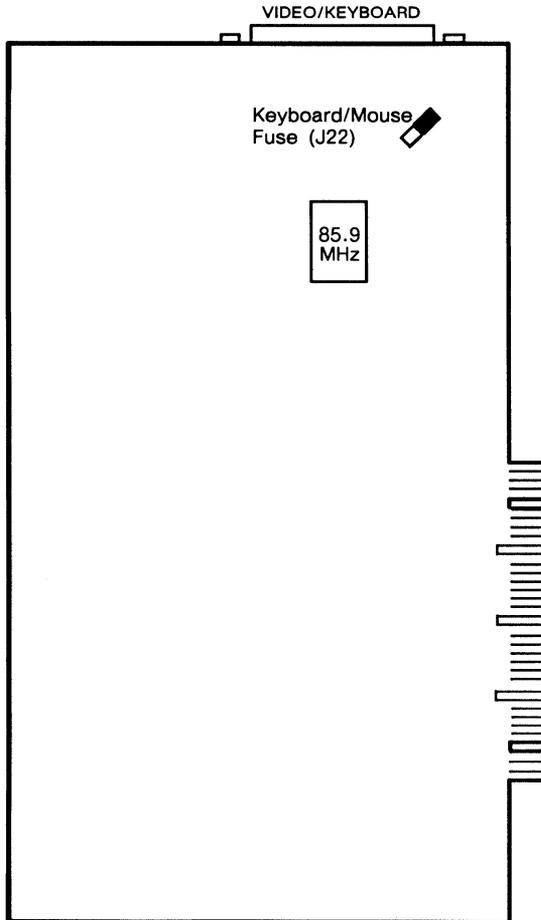
VIDEO/KEYBOARD

Keyboard/Mouse
Fuse (J22)

85.9
MHz

UNIX ID: /dev/bwtwo0

Notes
1. There are NO jumpers on this board.
2. The Keyboard/Mouse 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 62KHz 66Hz
Sun386i/150/250
501–1244 501–1567
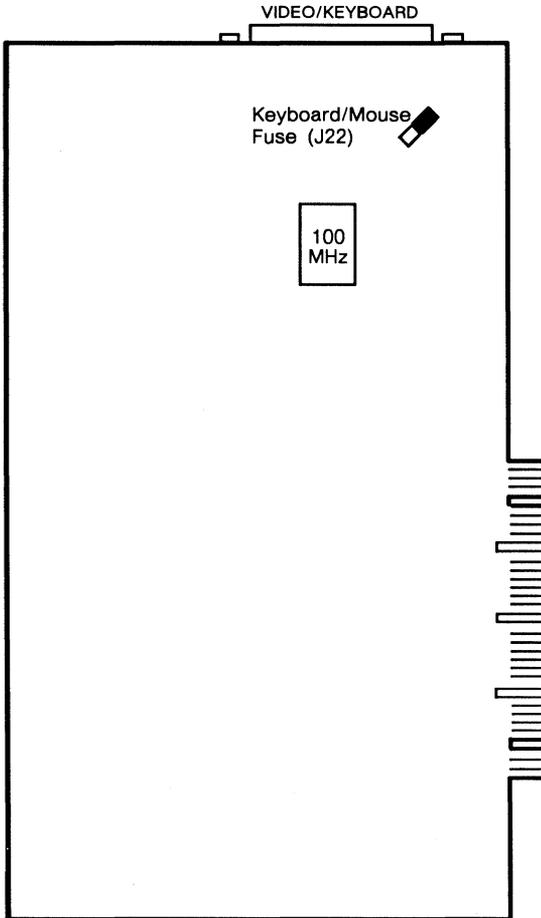
VIDEO/KEYBOARD

Keyboard/Mouse
Fuse (J22)

100
MHz

UNIX ID: /dev/bwtwo0

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

SunVGA/EGA
Sun386i/150/250
501-1397
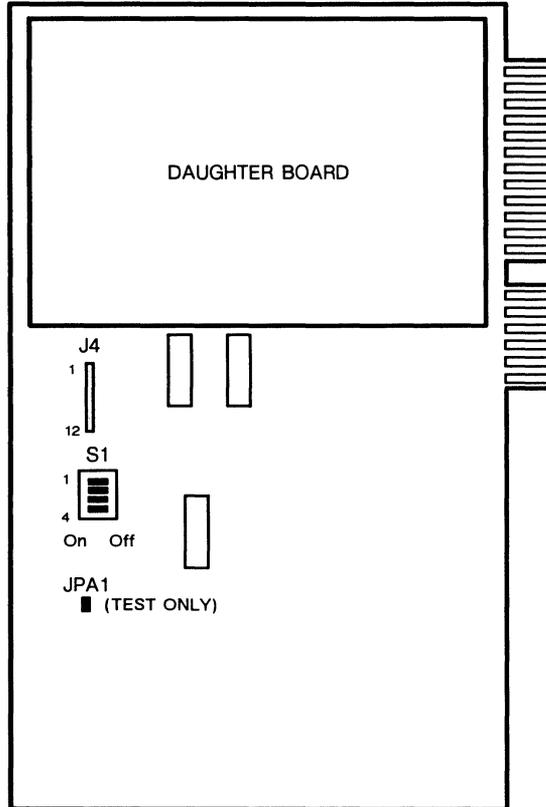
S1 Switch Settings

SWITCH	SETTING	DESCRIPTION
1	On	
2	Off	Set Base Address
3	On	= A000
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 62KHz 66Hz
Sun386i/150/250
501-1352

DB21W4
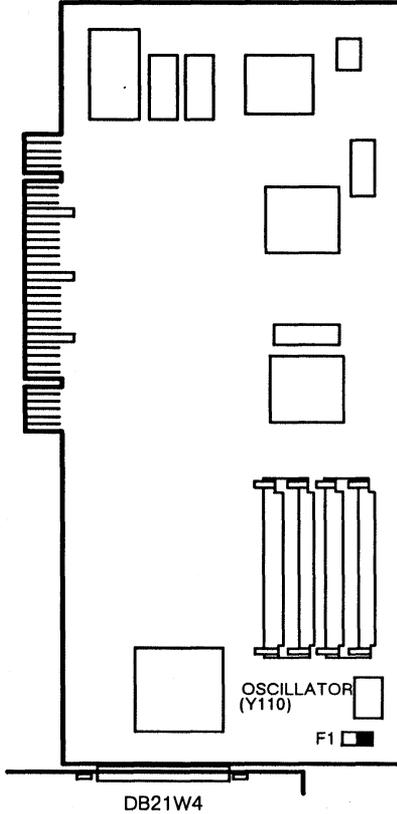
UNIX ID: /dev/cgfive0

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 62KHz 66Hz
Sun–4/60/65   Sun 4/E
501–1419   501–8043
w 4/E Backpanel

```
┌─────────────────────────────────────┐
│     ┌─────────────────────────┐      │
│     │     SBus Connector       │      │
│     └─────────────────────────┘      │
│                                       │
│   ┌───────────┐   │││││││││││         │
│   │           │   │││││││││││         │
│   │ S4 VIDEO  │   │││││││││││         │
│   │           │   │││││││││││         │
│   └───────────┘                       │
│                                       │
│          ┌──────────┐                 │
│          │ 200 MHz  │                 │
│          └──────────┘                 │
│                          JMP4         │
│                          ┌─┐          │
│                          │○│          │
│                          │○│          │
│                          └─┘          │
│         ┌──┐        ┌──┐              │
└─────────┴──┴────────┴──┴──────────────┘
                  DB9
```
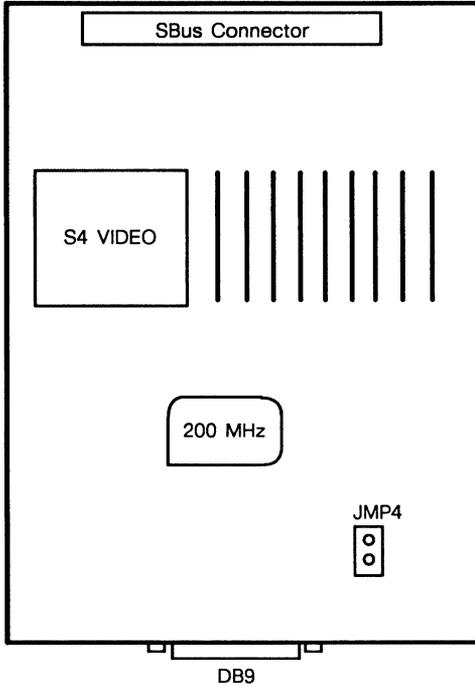
Jumper JMP4

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   62KHz   66Hz
Sun-4/60/65
501-1455

DB13W3
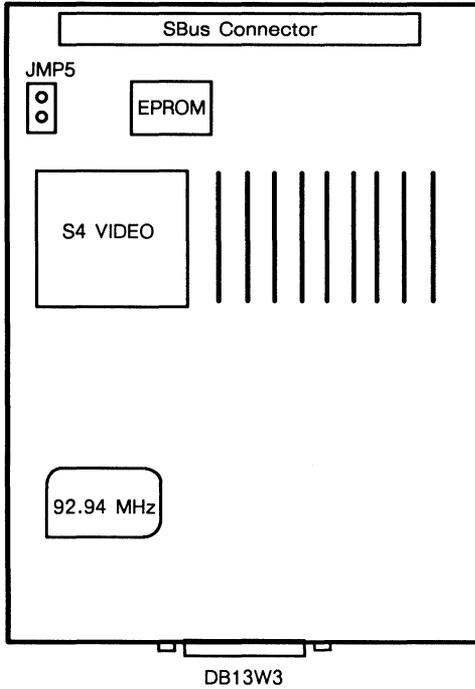
Jumper JMP5

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
1152 x 900 62KHz 66/76Hz
Sun–4/40/75
501–1561

```
┌─────────────────────────────────────┐
│   ┌───────────────────────────────┐  │
│   │        SBus Connector         │  │
│   └───────────────────────────────┘  │
│                                       │
│                      ┌──────┐         │
│                      │EPROM │         │
│     ┌──────────┐     └──────┘         │
│     │92.94 MHz │                      │
│     └──────────┘                      │
│                                       │
│     ┌──────────┐  ┌─────────┐  │      │
│     │105.5 MHz │  │         │  │      │
│     └──────────┘  │ S4 VIDEO│  │      │
│                   │         │  │      │
│                   └─────────┘         │
│                                       │
│                                       │
│                                       │
└─────────────────────────────────────┘
          DB13W3
```
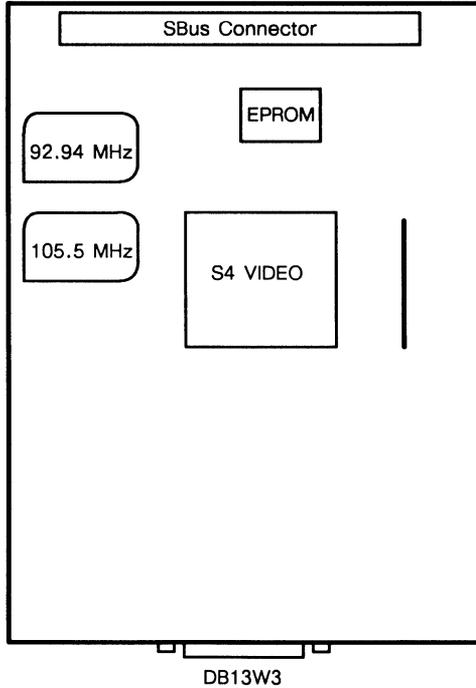
Power: 0.4 Amps @ +5Vdc
         2.0 Watts

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

CG3 Color Frame Buffer
1152 x 900 62KHz 66Hz
Sun–4/60/65   Sun–4/E
501–1415   501–8044
w 4/E Backpanel
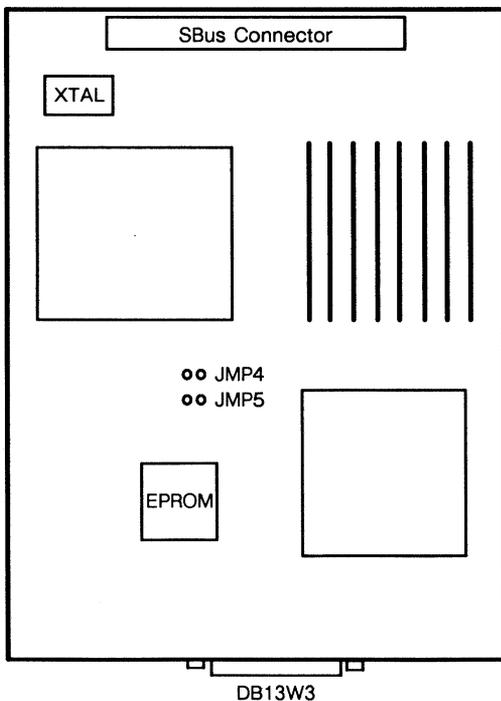
```
┌─────────────────────────────────────┐
│   ┌───────────────────────────┐      │
│   │      SBus Connector        │      │
│   └───────────────────────────┘      │
│  ┌──────┐                             │
│  │ XTAL │                             │
│  └──────┘                             │
│   ┌───────────────┐   │ │ │ │ │ │ │   │
│   │               │   │ │ │ │ │ │ │   │
│   │               │   │ │ │ │ │ │ │   │
│   │               │                   │
│   └───────────────┘                   │
│       oo JMP4                         │
│       oo JMP5    ┌──────────────┐     │
│                  │              │     │
│     ┌───────┐    │              │     │
│     │ EPROM │    │              │     │
│     └───────┘    └──────────────┘     │
│                                       │
└───────────┐──────────────┌───────────┘
             └─────DB13W3────┘
```

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　62KHz　66/76Hz
Sun–4/40/75
501–1718
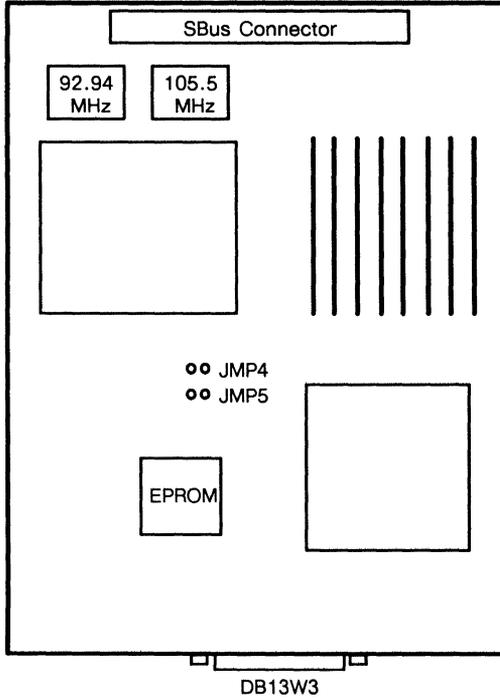
```
┌─────────────────────────────────┐
│   ┌─────────────────────────┐    │
│   │     SBus Connector       │    │
│   └─────────────────────────┘    │
│  ┌──────┐ ┌──────┐               │
│  │ 92.94│ │105.5 │               │
│  │ MHz  │ │ MHz  │               │
│  └──────┘ └──────┘   │ │ │ │ │ │ │
│  ┌─────────────┐     │ │ │ │ │ │ │
│  │             │     │ │ │ │ │ │ │
│  │             │                  │
│  └─────────────┘                  │
│         ∘∘ JMP4                   │
│         ∘∘ JMP5   ┌────────────┐  │
│                   │            │  │
│         ┌──────┐  │            │  │
│         │EPROM │  │            │  │
│         └──────┘  └────────────┘  │
│                                   │
└──────────┌─┐────────┌─┐──────────┘
            DB13W3
```

UNIX ID: /dev/cgthree0

Power:　0.7 Amps @ +5Vdc
　　　　　3.5 Watts.

Note: The jumpers on this board are not used.

CG6 Color Frame Buffer
1152 x 900 62KHz 66Hz
Sun–4/60
501–1481

```
┌─────────────────────────────────────────────────┐
│  ┌──────────────────┐   ┌──────────────────┐     │
│  │ J1 SBus Connector │   │ J2 SBus Connector │    │
│  └──────────────────┘   └──────────────────┘     │
│              ┌─────────┐      ┌─────────┐         │
│              │         │      │         │         │
│              │   SIF   │      │   TEC   │         │
│              │         │      │         │         │
│              └─────────┘      └─────────┘         │
│                                                   │
│              ══════  ══════                       │
│              ══════  ══════   ┌─────────┐         │
│              ══════  ══════   │         │         │
│              ══════  ══════   │   FBC   │         │
│   ┌──────┐   ══════  ══════   │         │         │
│   │      │   ══════  ══════   └─────────┘         │
│   │      │   ══════  ══════                       │
│   └──────┘   ══════  ══════                       │
│              ══════  ══════                       │
└─────────────────────────────────────────────────┘
      DB13W3
```
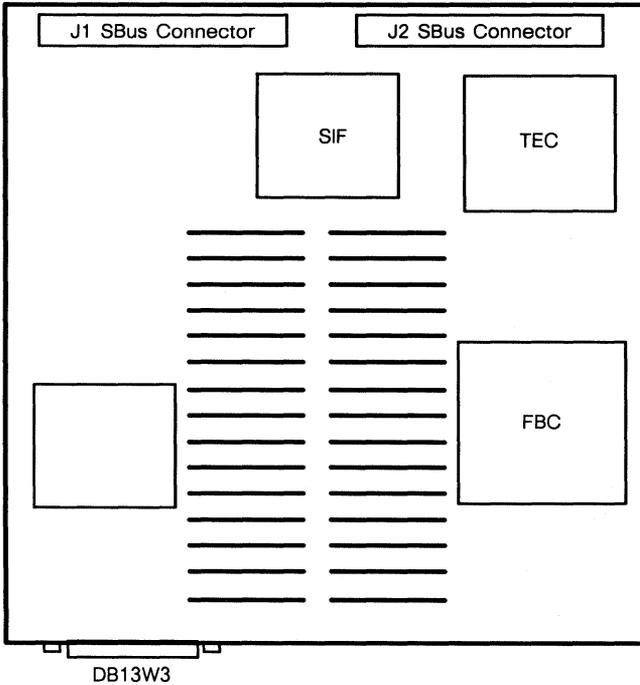
UNIX ID: /dev/cgsix0

Power: 1.4 Amps @ +5Vdc
        7.0 Watts

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

CG6 Color Frame Buffer
1152 x 900 62KHz 66Hz
Sun-4/60/65/75
501-1645

```
┌──────────────────────────────────────────────┐
│  ┌─────────────────┐      ┌─────────────────┐ │
│  │ J1 SBus Connector│      │ J2 SBus Connector│ │
│  └─────────────────┘      └─────────────────┘ │
│              ┌────────┐      ┌────────┐        │
│              │        │      │        │        │
│              │  SIF   │      │  TEC   │        │
│              │        │      │        │        │
│              └────────┘      └────────┘        │
│   ┌──────┐                                     │
│   │92.94 │                                     │
│   │ MHz  │                   ┌────────┐        │
│   └──────┘                   │        │        │
│   ┌────────┐                 │  FBC   │        │
│   │        │                 │        │        │
│   │        │                 └────────┘        │
│   └────────┘                                   │
│                                                │
└──────────────────────────────────────────────┘
      DB13W3
```
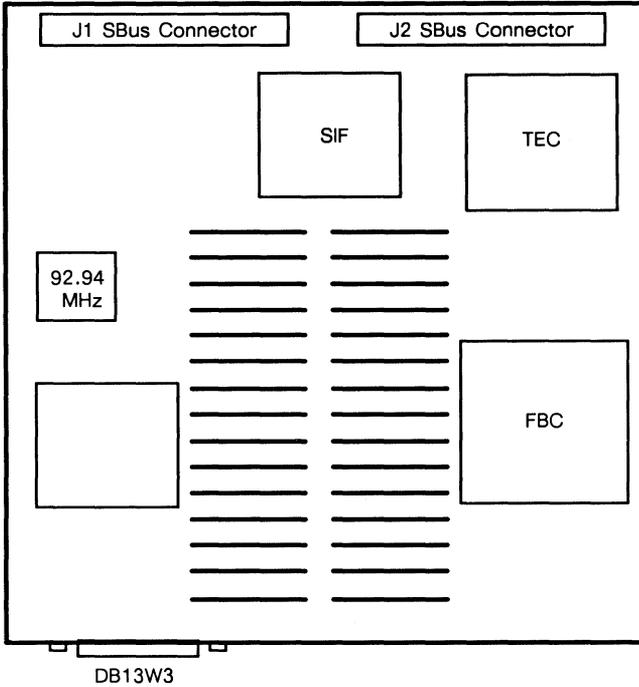
UNIX ID: /devcgsix0

Power: 1.4 Amps @ +5Vdc
        7.0 Watts

CG6 Color Frame Buffer
1152x900 62KHz 66/76Hz
Sun–4/40/75
501–1672

```
┌─────────────────────────────────────────┐
│        ┌──────────────────────┐          │
│        │    SBus Connector     │          │
│        └──────────────────────┘          │
│  ┌──────┐   ┌──────────────────┐         │
│  │EPROM │   │                  │         │
│  └──────┘   │                  │         │
│  ┌──────┐   │                  │         │
│  │105.5 │   │                  │         │
│  │ MHz  │   │                  │         │
│  └──────┘   └──────────────────┘         │
│  ┌──────┐                                │
│  │92.94 │                                │
│  │ MHz  │                                │
│  └──────┘                                │
│                   ┌──────────────┐       │
│                   │              │       │
│                   │              │       │
│                   │              │       │
│                   └──────────────┘       │
│                                          │
└───────────────────┬───┬──────────────────┘
                  DB13W3
```
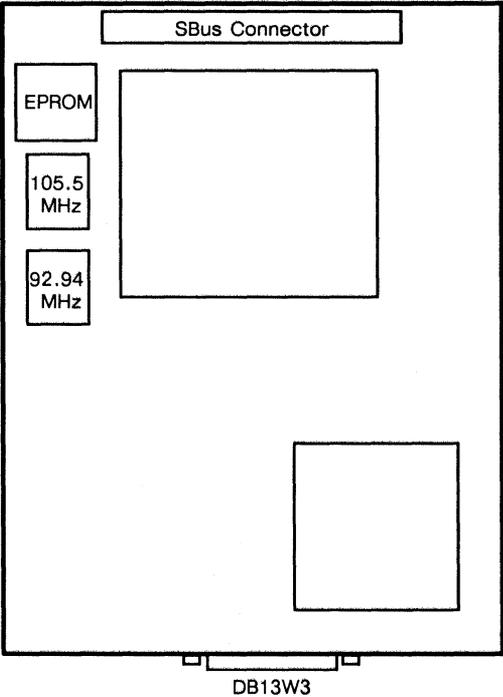
UNIX ID: /dev/cgsix0

CG12 24–bit Color Frame Buffer
1152 x 900 62KHz 76Hz
Sun–4/75
370–1329
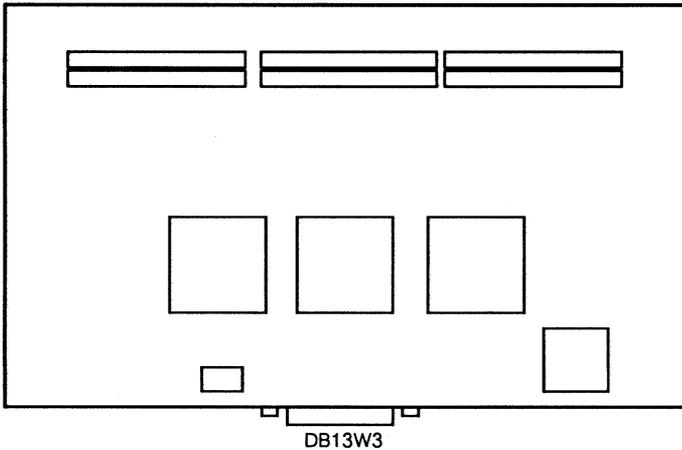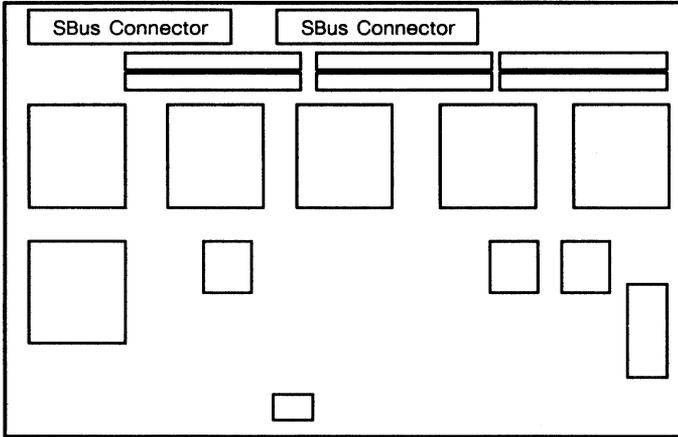
UNIX ID: /dev/cgtwelve0

Note: Do not disassemble this two–board set.

VideoPics
Sun–4/40/60/65/75
501–1706

SBus Connector

SELFTEST
LED

S–VIDEO
SVHS CONNECTOR   PORT 2   PORT 1
                    RCA JACK   RCA JACK
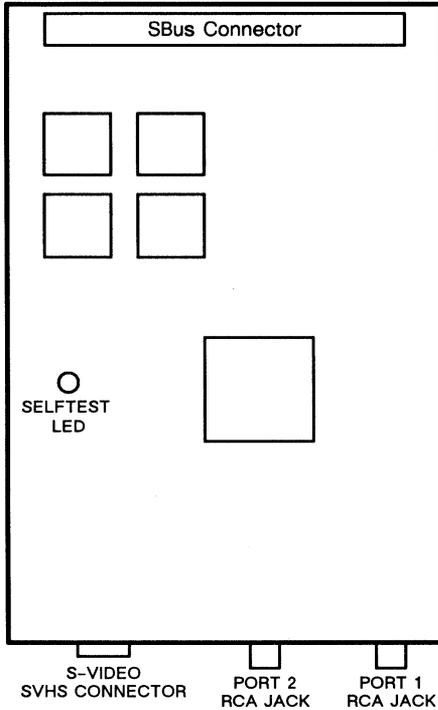
Reference: *Using VideoPics*, 800–5099.

CONFIGURATIONS

DISK

Disk

Disk – Continued

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Micropolis 1304 (42MB)
5-1/4" ST506
Sun-2/120
370-1015

J4

W9

DS4 DS3 DS2 DS1 W2 W1

INTERFACE TERMINATOR
RN 1

W8 W7

DATA   COMMAND
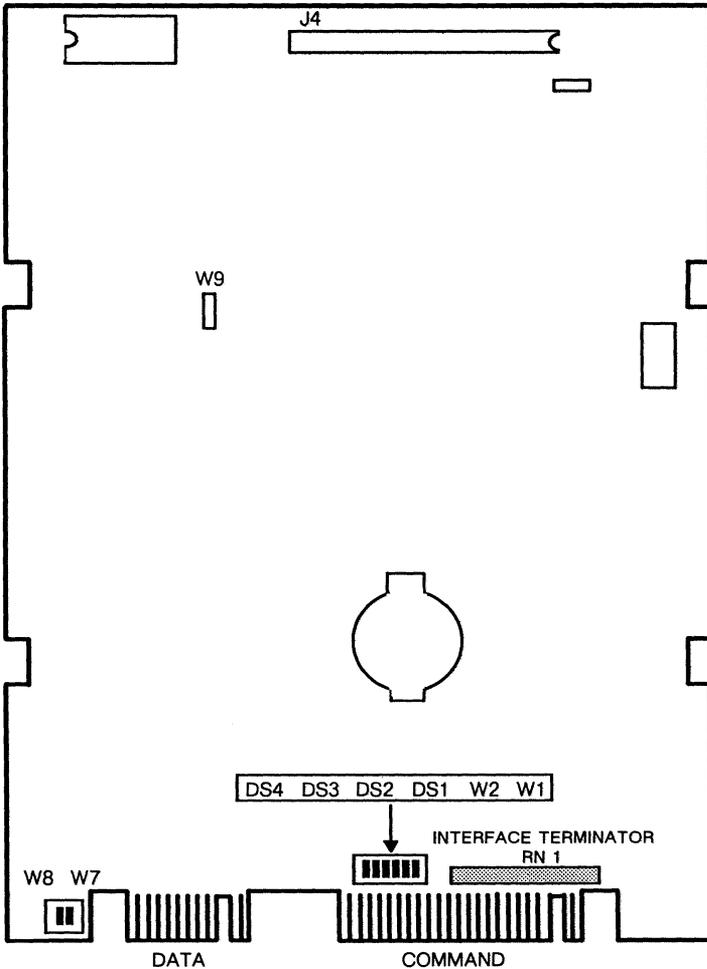
Power: 1.5 Amps @ +5 Vdc
        3.5 Amps @ +12 Vdc
        49.5 Watts

370-1015
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: Refer to the chart below to jumper the 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)

Reference
71 MByte Disk Drive Configuration Procedures, 813-2026.

Fujitsu M2243AS (71MB)
5-1/4" ST506
Sun-2/120/130/160 & Sun-3/160
Options 55 55EX 56 501 503 511
370-1034


```
                          RV2  RV1
  9    10                  O    O
  [CNH2]                         9    10
                                [CNH1]
  1    2                         1    2


                                CZYM PCB
                                Revision
                                Location

  CNH3
  9    10                       15    16
  [   ]                         [CNH4]
  1    2                         1    2

       TERMINATOR /SW2
                           SW1  [===] 1
       [▓▓▓]                    [===] 8
                           Off   On

  POWER          COMMAND              DATA
```
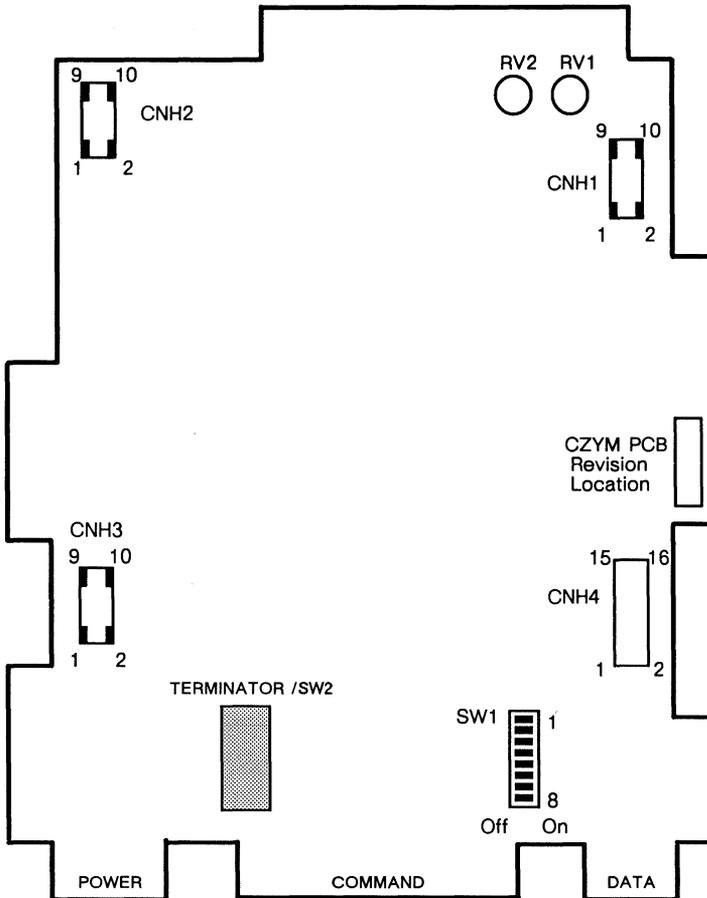
Power: 2.0 Amps @ +5 Vdc
        3.1 Amps @ +12 Vdc
        47.2 Watts

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.

Micropolis 1325 (71MB)
5-1/4" ST506
Sun-2/120/130/160 & Sun-3/160
Options 55 55EX 56 501 503 511
370-1034

J4

W9

DS4 DS3 DS2 DS1 W2 W1

INTERFACE TERMINATOR
RN 1

W8 W7

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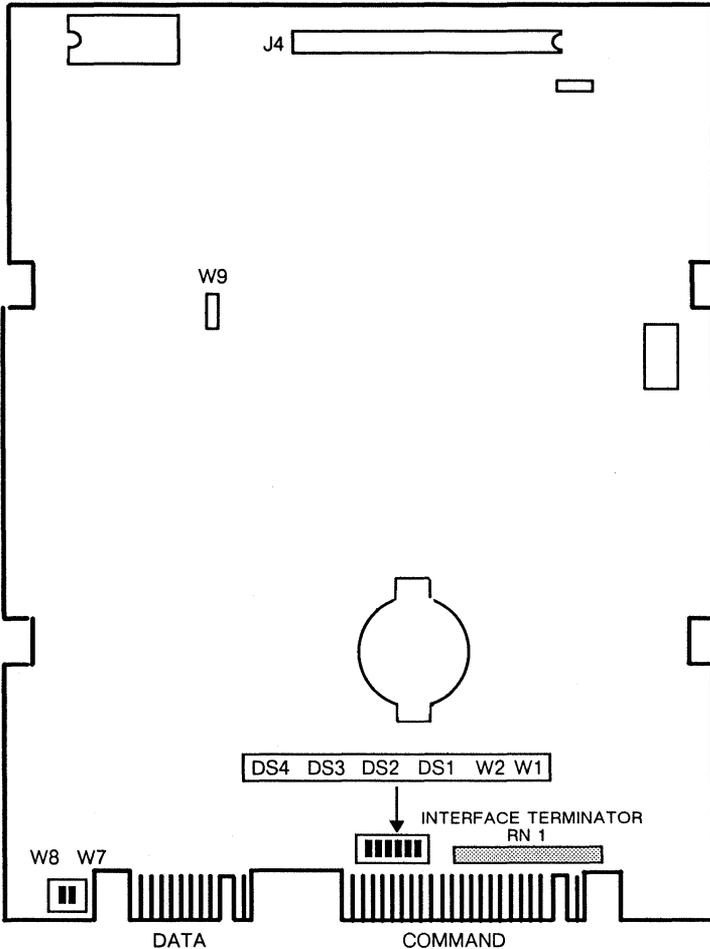
Power: 2.0 Amps @ +5 Vdc
       3.1 Amps @ +12 Vdc
       47.2 Watts

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.

Micropolis 1355 (141MB)
5-1/4" EDSI
Sun-3/160/260 & Sun-4/260
Options 504 505 514
370-0551

```
                          J4
                     ┌──────────────────┐
                     └──────────────────┘
                                    ▭

              W9
              ▯


       W10        W16
       ▭
       W7     W6
       ▭

          ┌─────────────────────────────────┐
          │ W1 W2 W3 W4 W5 DA1 DA2 DA3 │
          └─────────────────────────────────┘
                        ▼        INTERFACE TERMINATOR
                    ▭                RN 1
                    ▭▭▭▭▭            ▭▭▭▭▭▭▭

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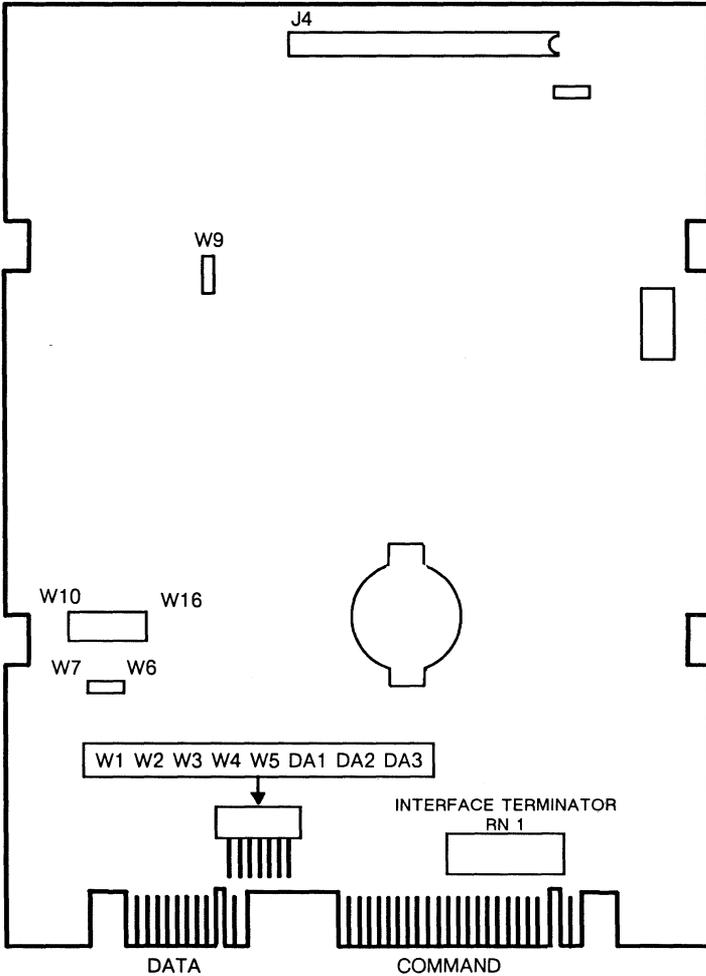
Power: 1.4 Amps @ +5 Vdc
        2.4 Amps @ +12 Vdc
        35.8 Watts

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.

Toshiba MK156 (141MB)
5-1/4" ESDI
Sun-3/160/260 & Sun-4/260
Options 504 505 514
370-0551

SW1 |▌▌▌▌| Off On 1

SW2 |▌| 1 Off On

PJ7 ▌▌▌▌▌▌▌▌ 1   8   16   9

TERMINATOR, RM1

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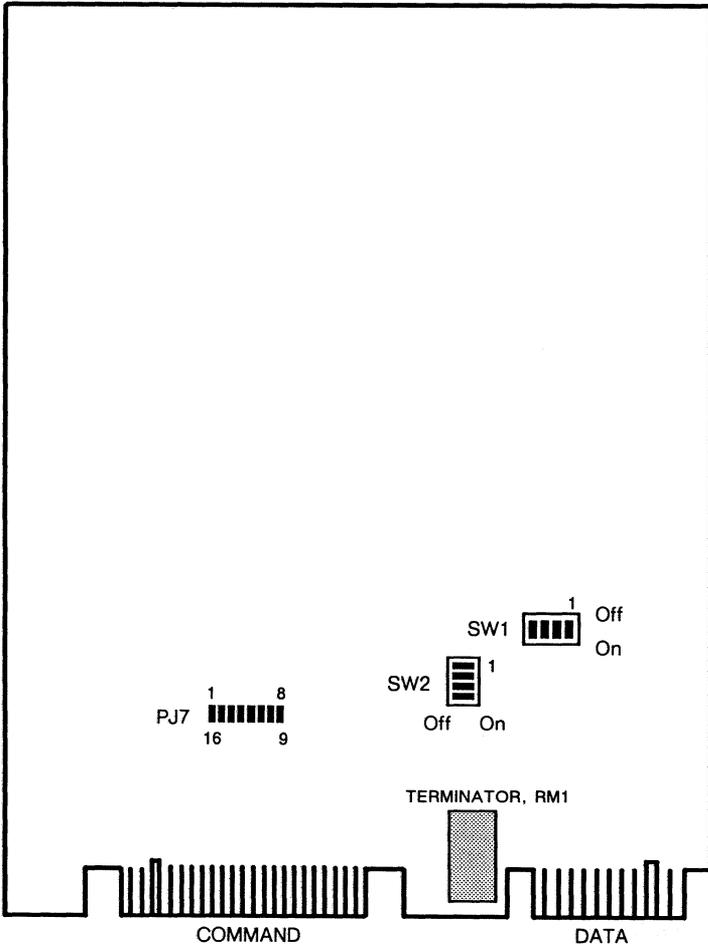
Power: 1.4 Amps @ +5Vdc
       2.4 Amps @ +12Vdc
       35.8 Watts

370–0551
Switch & Jumper Settings

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

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

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

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

Micropolis 1558–15 (327MB)
5–1/4" ESDI
Sun–3/160/260 & Sun–4/260
Options 506 507 509   510 516
370–1133

ADDRESS SELECT JUMPERS

DA3
DA2
DA1

W5
W4
W3
W2
W1

INTERFACE
TERMINATOR
RN1

J3
POWER

J1

J2

COMMAND   DATA
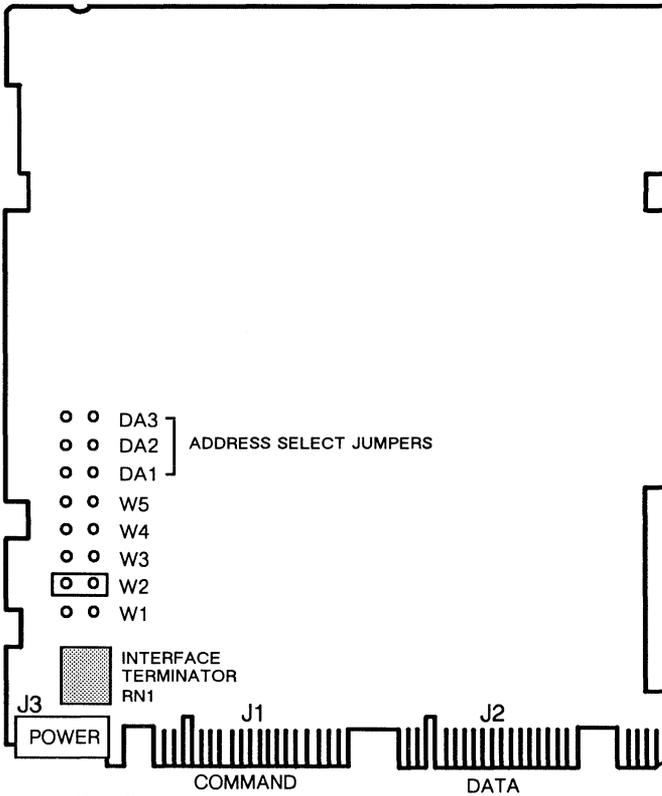
Jumper Settings

W1	W2	W3	W4	W5	DA1*	DA2*	DA3	*DA1 is Out & DA2
Out	In	Out	Out	Out	In	Out	Out	is In for drive unit 1

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

Reference
327 MByte Disk Drive Configuration Procedures, 813–2101.

CDC 94211–91 (91MB)
5–1/4" Embedded SCSI
Sun386i/150/250
Option RR133
555–1004 370–1148

End View

```
┌─────────────────────────────────────────────┐
│  ⊙   ┌──────────────────────────────┐    ⊙   │
│      │        CIRCUIT BOARD          │        │
│      └──────────────────────────────┘        │
│  49                            1    J2   DC POWER │
│   ┌──────────────────┐  J3    o o  oo│  ┌──────┐ │
│   │  SCSI CONNECTOR  │ o oo o o ooo o o o│ o o o o│ │
│   └──────────────────┘                   └──────┘ │
└─────────────────────────────────────────────┘
```
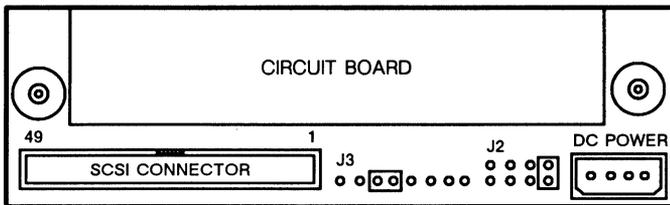
TERMINATORS ON UNIT BOTTOM

Terminator Power Source Select and Test Seek Jumper J3

o o ☐o o☐ o o   o o

J4–26 TP +5   TST GRD M

TP – +5V	In	Terminator power is from DC connector
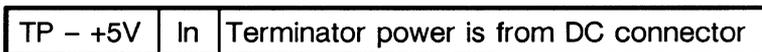
Drive Select and Parity Check Jumper J2

o o o ☐o☐
o o o ☐o☐
4   2   1   P

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.*
2. *91MB Embedded SCSI Configuration Procedures, 814–1017.*

Quantum 105S (104MB)
3 1/2" Embedded SCSI
Sun–3/80 & Sun–4/60/65
Option 550
370–1200
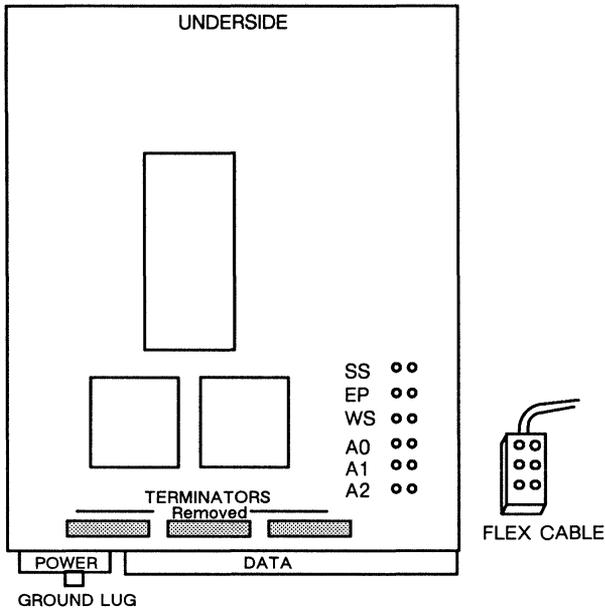
UNDERSIDE

SS ○○
EP ○○
WS ○○
A0 ○○
A1 ○○
A2 ○○

TERMINATORS
Removed

FLEX CABLE

POWER DATA

GROUND LUG

In the Desktop Storage Pack, orient flex cable, 530–1454,
as shown above 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
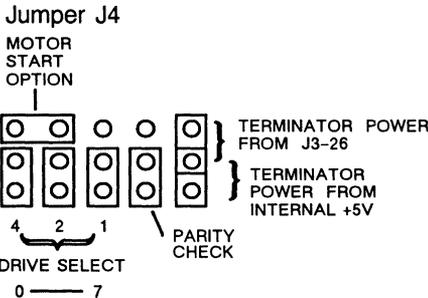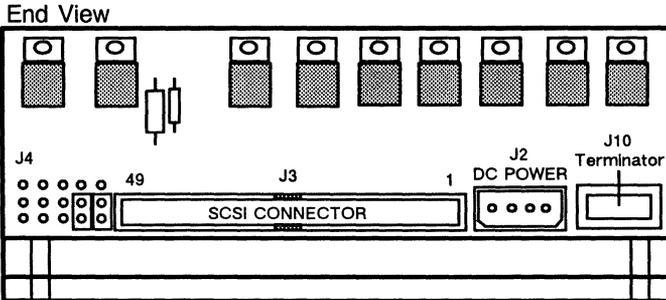
Jumper J4

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 and 814–1018.

Quantum 210S (207MB)
3 1/2" Embedded SCSI
Sun-4/40/75
370-1327
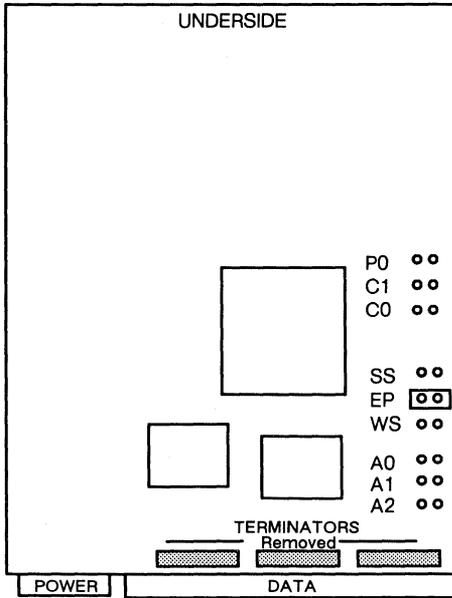
```
┌─────────────────────────────────────┐
│              UNDERSIDE                │
│                                       │
│                                       │
│                       P0  o o         │
│              ┌─────┐   C1  o o         │
│              │     │   C0  o o         │
│              │     │                   │
│              │     │   SS  o o         │
│              └─────┘   EP [o o]        │
│                        WS  o o         │
│          ┌────┐  ┌────┐                │
│          │    │  │    │ A0  o o         │
│          │    │  │    │ A1  o o         │
│          └────┘  └────┘ A2  o o         │
│                  TERMINATORS           │
│               ─── Removed ───          │
│              [▒▒▒] [▒▒▒] [▒▒▒▒]         │
├──────┬────────────────────────────────┤
│POWER │            DATA                 │
└──────┴────────────────────────────────┘
```

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

Note: This drive is not supported inside the Sun-4/60 or Sun-4/65.
       The chassis does not provide adaquate cooling.

References
1. *Sun-4/40 Installation Guide*, 800-5037.
2. *Installing SPARCstation 2 Internal Disk Drives*, 800-5661.

Maxtor LXT–213SY (207MB)
3 1/2" Embedded SCSI
Sun–4/40/75
370–1327

```
                    UNDERSIDE




      TERMPWR  Fuse
      ◄⟮═⟯►


      A0  o o
      A1  o o
      A2  o o
      WS [o o]          TERMINATORS
      EP [o o]    ──── Removed ────
                  [▒▒▒▒]  [▒▒▒▒]  [▒▒▒▒]
      [ POWER ]│       DATA
```
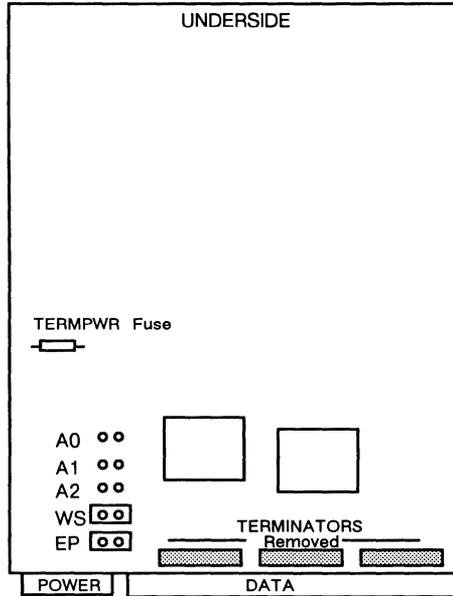
JUMPER	SETTING	DESCRIPTION	USAGE
A0,A1,A2	Out	Drive ID	Target 0
A0	In	Drive ID	Target 1
A1	In	Drive ID	Target 2
A0,A1	In	Drive ID	Target 3
WS	In	Wait Spin	Spin with power
EP	In	Parity	Enable parity

Notes
1. Installation of this drive inside the Sun–4/60 and Sun–4/65 is not supported. The chassis does not provide adaquate cooling.
2. This drive is currently not supported inside the Desktop Storage Pack due to the orientation of the address jumpers.

References
1. *Sun–4/40 Installation Guide*, 800–5037.
2. *Installing SPARCstation 2 Internal Disk Drives*, 800–5661.

Quantum 210S (207MB)
3 1/2" Embedded SCSI
Option 552
370–1376
Desktop Storage Pack
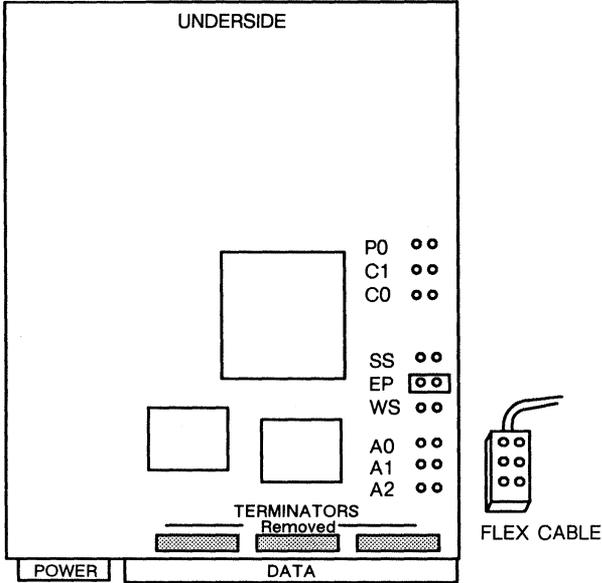
```
┌─────────────────────────────────────────┐
│                 UNDERSIDE                 │
│                                           │
│                                           │
│                              P0  o o      │
│              ┌──────┐        C1  o o      │
│              │      │        C0  o o      │
│              │      │                     │
│              │      │        SS  o o      │
│              └──────┘        EP [o o]     │
│                              WS  o o      │
│       ┌────┐     ┌────┐                   │
│       │    │     │    │      A0  o o      │
│       └────┘     └────┘      A1  o o      │
│                              A2  o o      │
│              TERMINATORS                  │
│               Removed                     │
│            ▓▓▓▓  ▓▓▓▓  ▓▓▓▓   FLEX CABLE  │
├──────┬────────────────────────────────────┤
│POWER │              DATA                   │
└──────┴────────────────────────────────────┘
```

In the Desktop Storage Pack, orient flex cable, 530–1454, as shown above 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

Note: This drive is not supported inside the Sun–4/40, Sun–4/60, Sun–4/65, or Sun–4/75.

References for Drive Configuration
1. *Sun–4/40 Installation Guide*, 800–5037.
2. *Installing SPARCstation 2 Internal Disk Drives*, 800–5661.

CDC 94171–327/344 (327MB)
5 1/4" Embedded SCSI
Sun386i/150/250
Sun–3/470 & Sun–4/330/370/470

Options RREXP–P7   RR129   RR134
Options 526   527   530   539

555–1005 370–1153 370–1230

w Bracket	w/o Bracket	w/o Bracket
w/o Bezel	w/o Bezel	w Bezel
77777107	77777107	77777126

End View
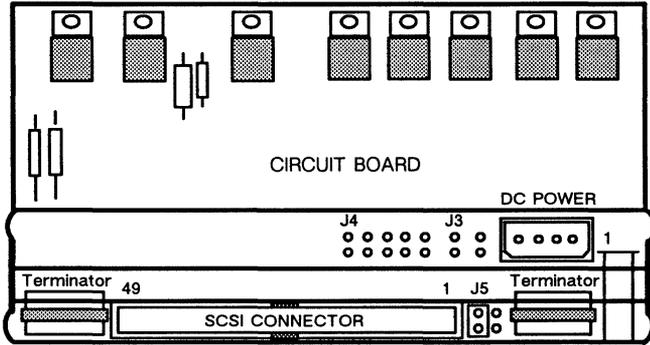
Ground Select Jumper J3

```
3  O  O  1
4  O  O  2
```

Drive Select and Option Select Jumper J4
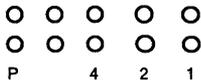
```
O  O  O   O  O
O  O  O   O  O
P    4  2   1
```

In the External Storage Module orient Pin–1
of the Address Select Switch Cable, 530–1659,
with ID4 of Jumper J4.

Terminator Power Source Select Jumper J5

```
3  |O|  O 1
4  |O|  O 2
```
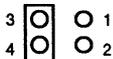
Power: 1.5 Amps @ +5Vdc
        1.4 Amps @ +12Vdc.
        24.3 Watts

555–1005 & 370–1153 Only
Jumper Settings
Jumper J3

PIN	SETTING	DESCRIPTION
1–2	In	AC + DC ground connected to signal ground
3–4	In	AC + DC ground connected to chassis ground

Jumper J4

PIN	SETTING	DESCRIPTION
P	In	Parity enabled

Jumper J5

PIN	SETTING	DESCRIPTION
3–4	In	Terminator power from DC connector

370–1230 only
Jumper J3

PIN	SETTING	DESCRIPTION
1–2	Out	AC + DC ground not connected to signal ground
3–4	Out	AC + DC ground not connected to chassis ground

Jumper J4

PIN	SETTING	DESCRIPTION
P	Out	Parity enabled

Jumper J5

PIN	SETTING	DESCRIPTION
3–4	In	Terminator power from DC connector

Address Jumper Settings
Jumper J4

PIN	SETTING	DESCRIPTION	USAGE
1,2,4	Out	Drive select	Target 0
1	In	Drive select	Target 1
2	In	Drive select	Target 2
1,2	In	Drive select	Target 3

555-1005 370-1153
Notes

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

References
1. *386i Field Service Manual*, 814-0002.
2. *327MB Embedded SCSI Configuration Procedures*, 814-1015.

370-1230

1. Remove the terminators from the underside of the drive.
2. Sun-3/470, Sun-4/370, and Sun-4/470 systems with dual option
   trays are terminated internally on the 501-1493 Interface PCB.
   The right side tray must be installed to terminate the SCSI bus.
3. Sun-4/370, and Sun-4/470 systems with a single option tray
   are terminated externally with terminator part number 150-1346.
4. Terminate the External Storage Module externally with terminator
   part number 530-1381.
5. Terminate the Sun-4/330 on the SCSI Out PCB with three 220/330
   terminators part number 120-1608-01.

References
1. *5 1/4-Inch Disk Drive Installation in the 12-Slot Office Pedestal
   Manual*, 813-1055.
2. *Sun 327 Mbyte SCSI Disk Configuration Manual*, 813-2048.

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	FS0019–01–6	FS0019–01–6
Black Bezel	No Bezel	No Bezel
Green LED	No LED	No LED
		w Bracket

Bottom View

```
  FRAME GROUND
  OPTION
  W26      +5 TO BUS                                BUS
   o        W11    TERMINATOR                       PARITY
   o         o     OPTION                           CHECK
             o      W1  o   RN9 – TERMINATOR        OPTION       SPINDLE
                    W2  o    [REMOVED]           W4  W5   CONTROL
                                                 o o  o o        OPTION

      J3              J1                    J2
```

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

End View

```
            [O |•]  HDA GROUND CONNECTOR J4

             |o•|   FRAME GROUND CONNECTOR J5

      SCSI [ ID0
        ID [ ID1
           [ ID2                                      1          1

   o o o o o o o o o o   o o o o o o o o o o o o o o o   o o o o
   o o o o o o o o o o   o o o o o o o o o o o o o o o

   MULTI-FUNCTION         SIGNAL CONNECTOR          POWER
   CONNECTOR                    J1                   J3
       J2
```
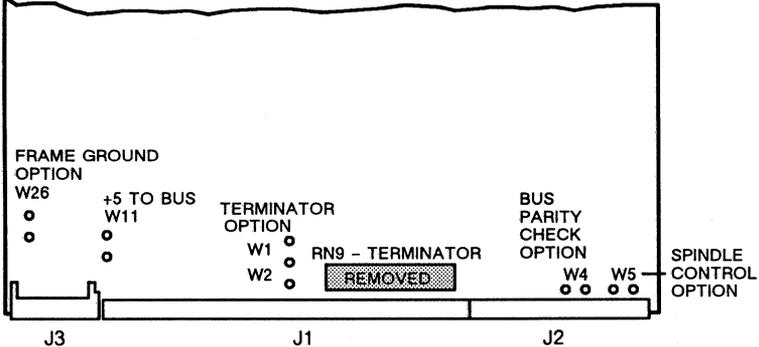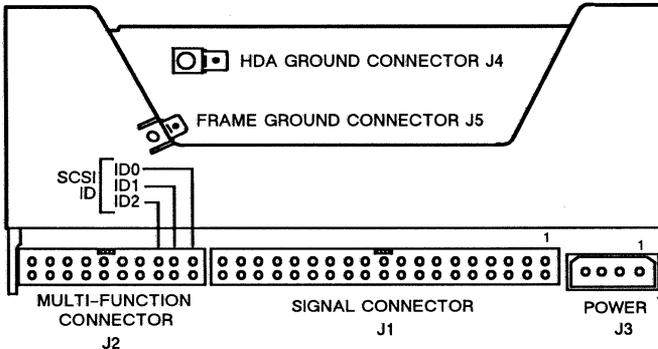
In the External Storage Module orient Pin–1 of
the Address Select Switch Cable, 530–1659,
with ID2 of Connector J2.

Pin–1

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	In	
W2	Out	Drive provides internal terminator power
W11	Out	
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	In	
W2	Out	Drive provides internal terminator power
W11	Out	
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
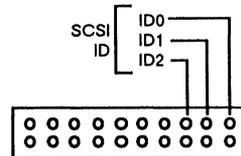
SCSI ID
ID0
ID1
ID2

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

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

```
        JP35  JP36  JP37
         o     o     o
  JP14   o     o     o

        JP40  JP39  JP38
         ⬚     ⬚     o
         ⬚     ⬚     o

                              F1
              TERMINATORS
              Removed              JP34  o o
   J2   J6                         JP41  o o
  J3                          J1
```

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

End View

```
                    1        1        1         1
  o o o o o o o o o o o o o o   o o   o o o o   o o o o
  o o o o o o o o o o o o o o   o o   o o o o
  SIGNAL CONNECTOR            J6      J2        POWER
       J1                                        J3
```
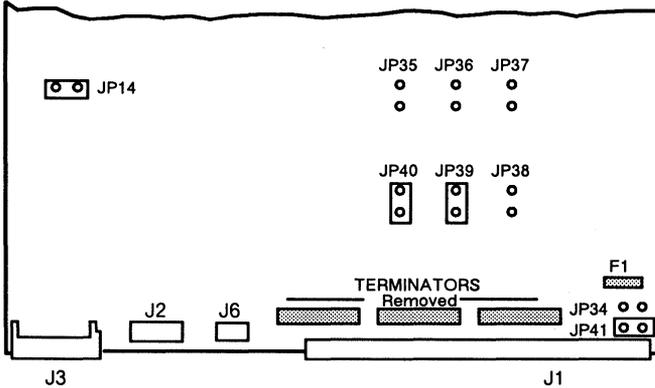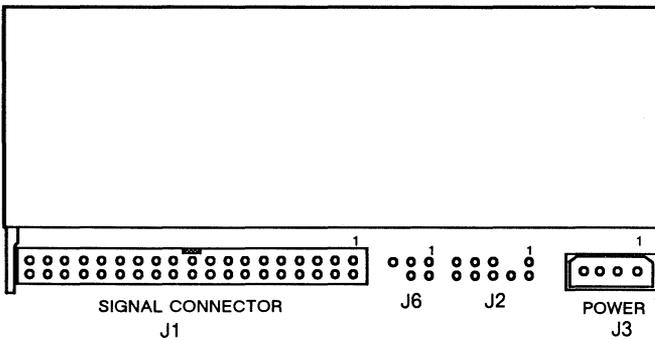
                                            Pin-1

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

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
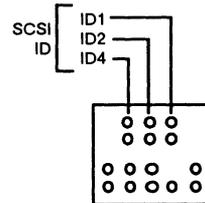
JP35, JP36, and JP37

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.
2. *Revised Removal/Replacement Procedures for Sun ESM and EEM Storage Units*, 814-3044.

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Fujitsu M2312 (65MB)
8" SMD
Options 60 61 62
Options D84   D84EX   D84TC   D84TR
370–0567

SW2

1   7   On / Off

SW3

1   7   On / Off

RDY O
FPT O
ST8 O   LEDs
ST4 O
ST2 O
ST1 O

On SW1
Off   1   10

TERMINATORS

A   B   C   D

CN1   CN2

COMMAND   DATA
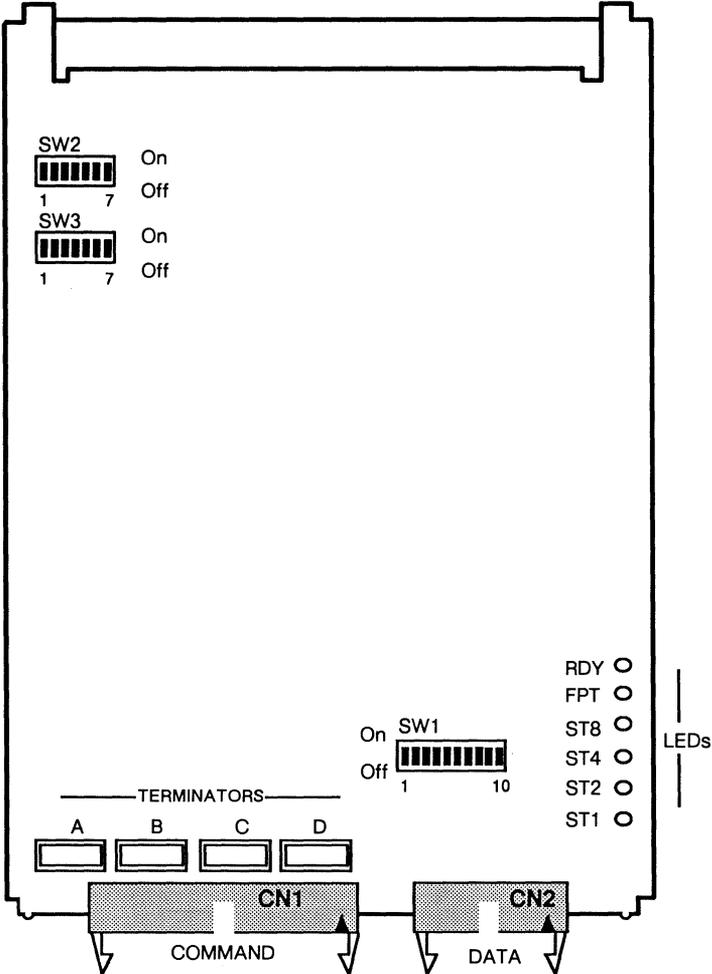
Power: 3.5 Amps @ +5Vdc
          3.0 Amps @ –12Vdc
          3.0 Amps @ +24Vdc
     125.5 Watts

370–0567
Jumper 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*
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*
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, Off, for drive 0, On, for drive 1
 Switch–7, On, enables write protect

† Non–slip sector format used on OS3.0 and below.

Fujitsu M2322 (130MB)
8" SMD
Options 63 64 65 601 602 603
370-1014
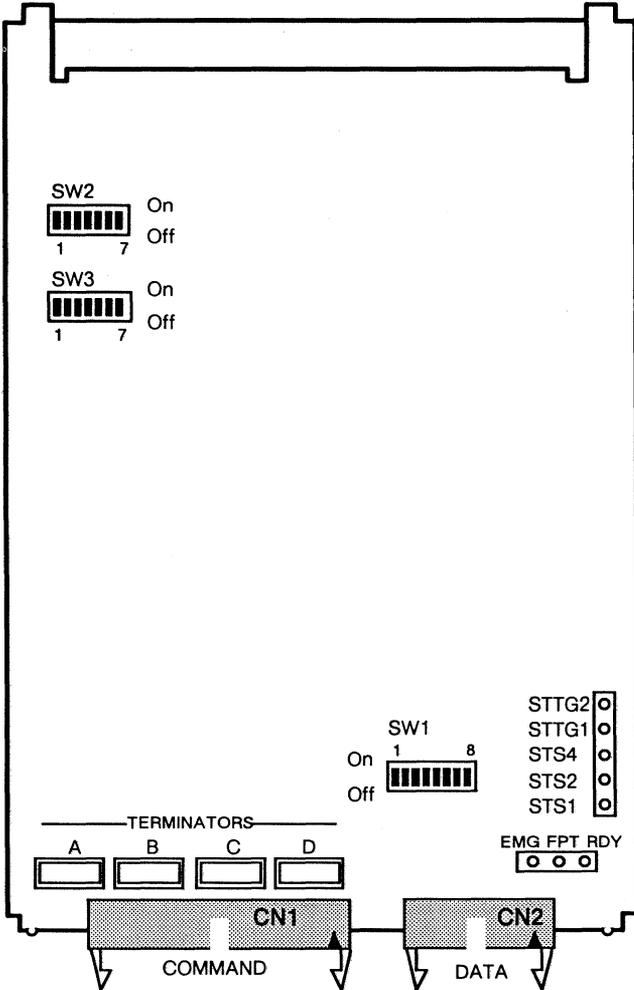
370–1014
Switch Settings

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 M2284 (130MB)
14" SMD
Options D169 D169EX D169TC D169TR
Options 66 67
370–1005

VOFM PCB

S2
On
Off

S1
On
Off
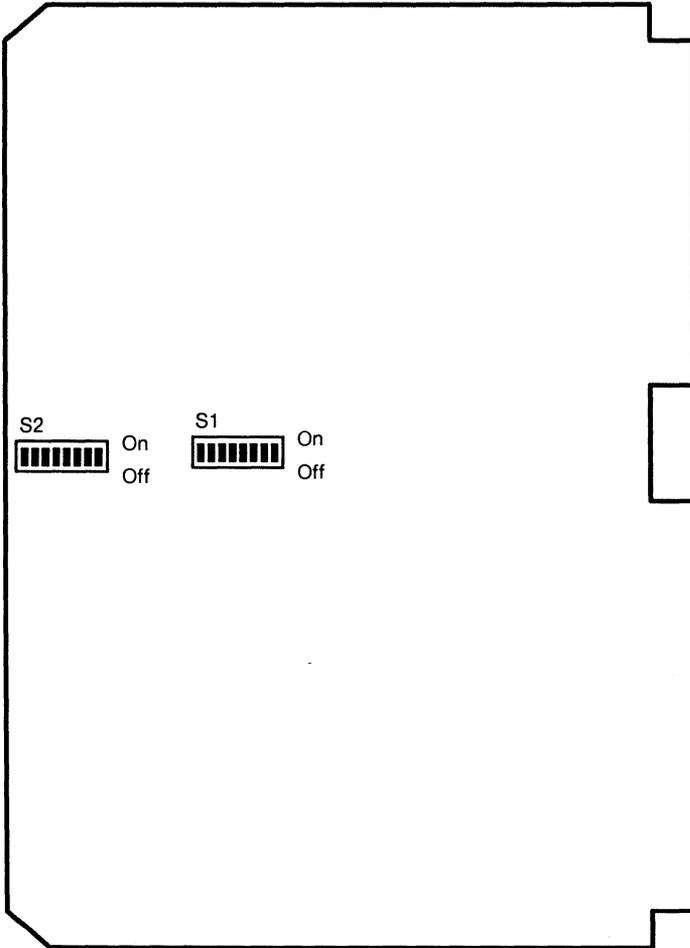
Power: 3.0 @ 115VAC
       2.0 @ 240VAC

370–1005
Switch Settings

VOFM PCB
Non–slip sector format
for Xylogics 450/451
32 Sectors / Track †

VOFM PCB
Slip sector format
for Xylogics 450/451
33 Sectors / Track

DIP	SWITCH	SETTING
S1	1	On
	2	On
	3	On
	4	On
	5	On
	6	On
	7	On
S2	1	Off
	2	Off
	3	On
	4	Off
	5	Off
	6	Off
	7	Off

DIP	SWITCH	SETTING
S1	1	Off
	2	Off
	3	On
	4	On
	5	Off
	6	On
	7	On
S2	1	Off
	2	Off
	3	On
	4	Off
	5	Off
	6	Off
	7	Off

† Non–slip sector format used on SunOS 3.0 and below.

Fujitsu M2284 (130MB)
14" SMD
Options D169 D169EX D169TC D169TR
Options 66 67
370–1005
CQFM PCB

SW2

SW1
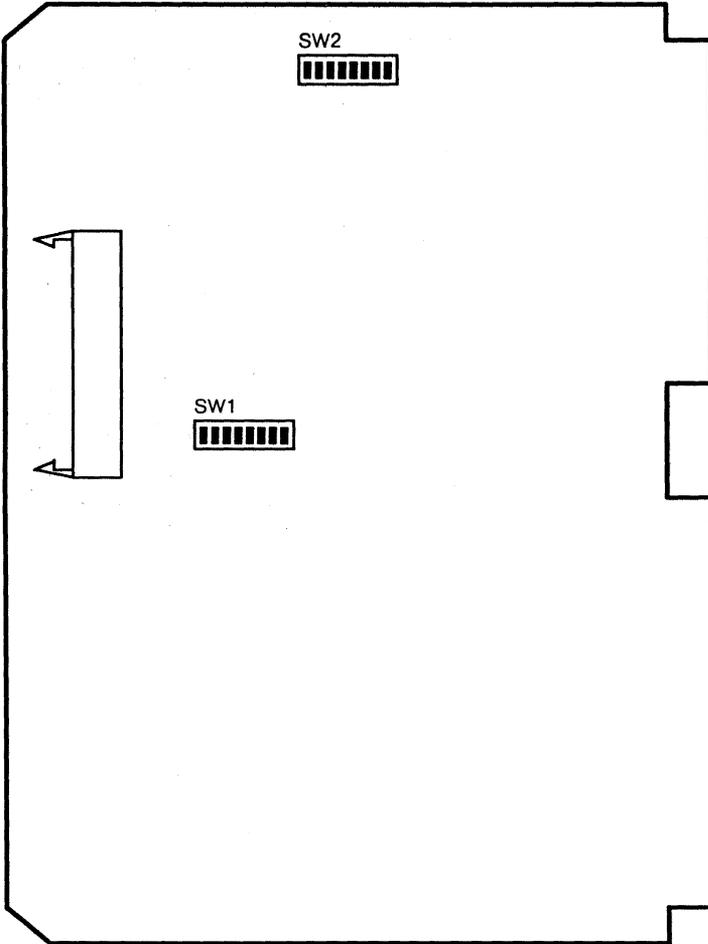
370–1005
Switch Settings

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

*SW1, Switch –1, Off, for drive 0, On, for drive 1

Notes
1. Xylogics 450 firmware revisions greater than 952C do not function with the Fujitsu M2284. Firmware revisions lower than 952C do not operate with the Fujitsu M2284 and SunOS 3.2 and greater.
2. Termination is required in a single drive configuration and on the last drive of a multiple drive configuration. Install the terminator at location OM1. Install the Ground Wire at location TRM1–2.
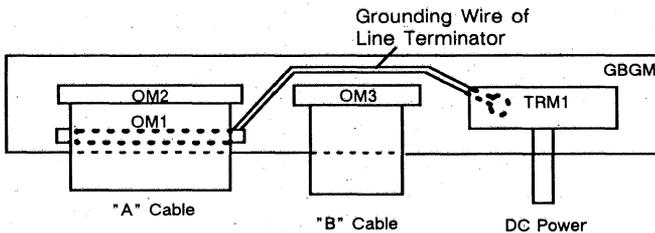
Fujitsu M2351 (380MB)
10" SMD
Options 68 69 620 621
Options D474 D474EX D474TR
370–1003
Logic PCB

(AE7) Interface Modification

EXPLODED VIEW of JUMPER

(BC7)
(BD7)
(BE7)
(BF7)

(C16B–5123–0980#U)
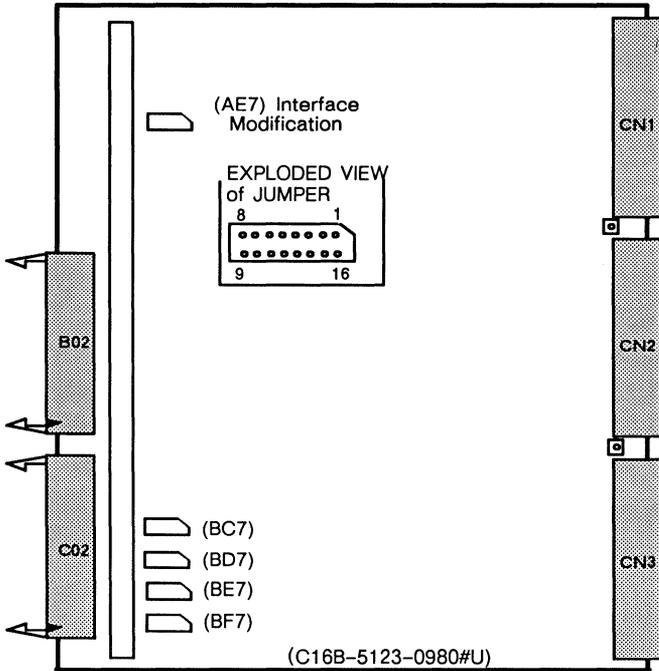
Non–slip sector format for Xylogics 450/451   46 Sectors/Track

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)

| BF7 | BE7 | BD7 | BC7 | AE7 |
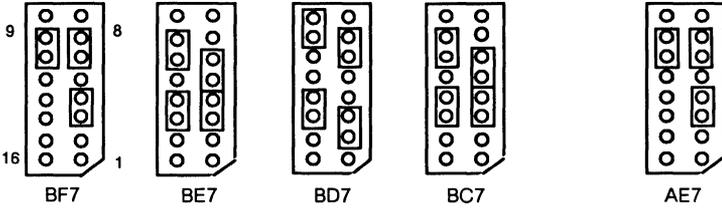
Interface PCB
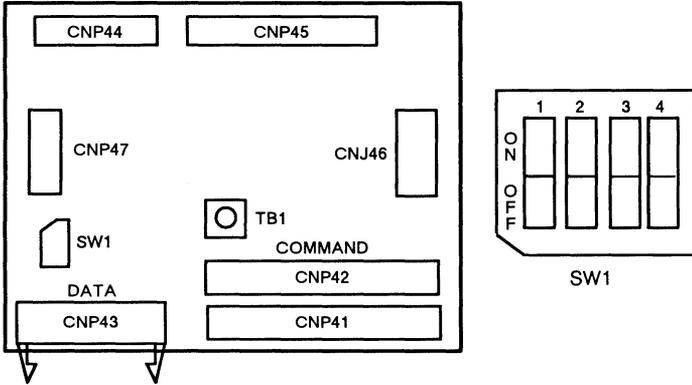
Note: Terminator plugs into CNP42 and grounds at location TB1.

SW1 Drive Addressing

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

Fujitsu M2333 (280MB)
8" ESMD
Options 605 606
540-1635 370-1068
w Bracket   w/o Bracket

SW2 On / Off 1 - 7

SW3 On / Off 1 - 7

SW1 On 1 — 10 Off

STTG2
STTG1
STS4
STS2
STS1

———TERMINATORS———
A   B   C   D

EMG FPT RDY

CN1
COMMAND

CN2
DATA
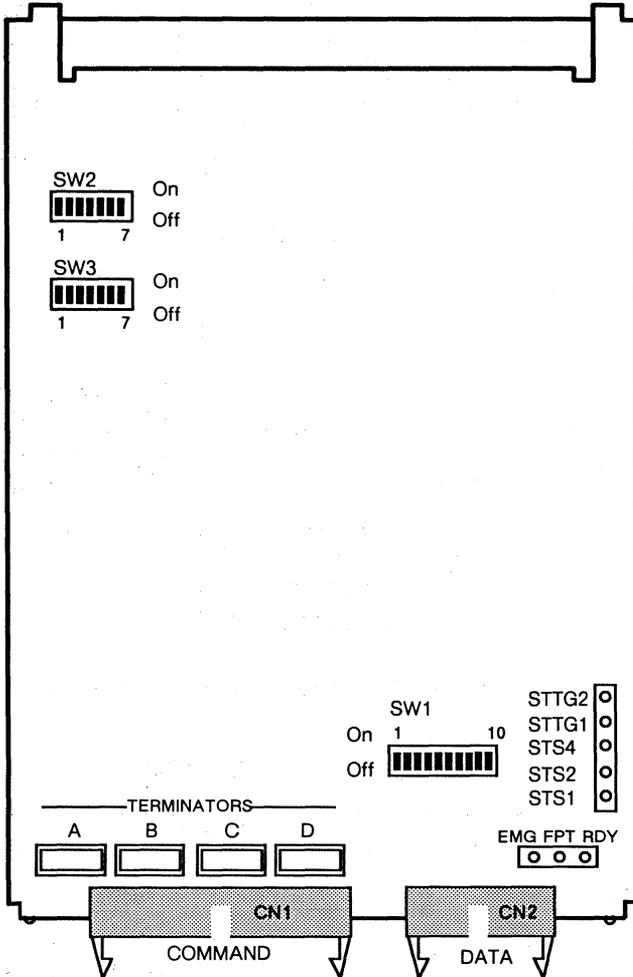
Power: 4.5 Amps @ +5Vdc
         3.5 Amps @ -12Vdc
         4.0 Amps @ +24Vdc
     165.5 Watts

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.

CDC 9720–368 (280MB)
8" ESMD
Options 605   606
540–1635   370–1068
w Bracket   w/o Bracket

Control Board

J15	J13

LEDs
+5V
FLT
SEL
RDY

Off   On
1
6   E1175

1
6   E875

1
6   F575

J80

J25

J27

P28

P20

J15B
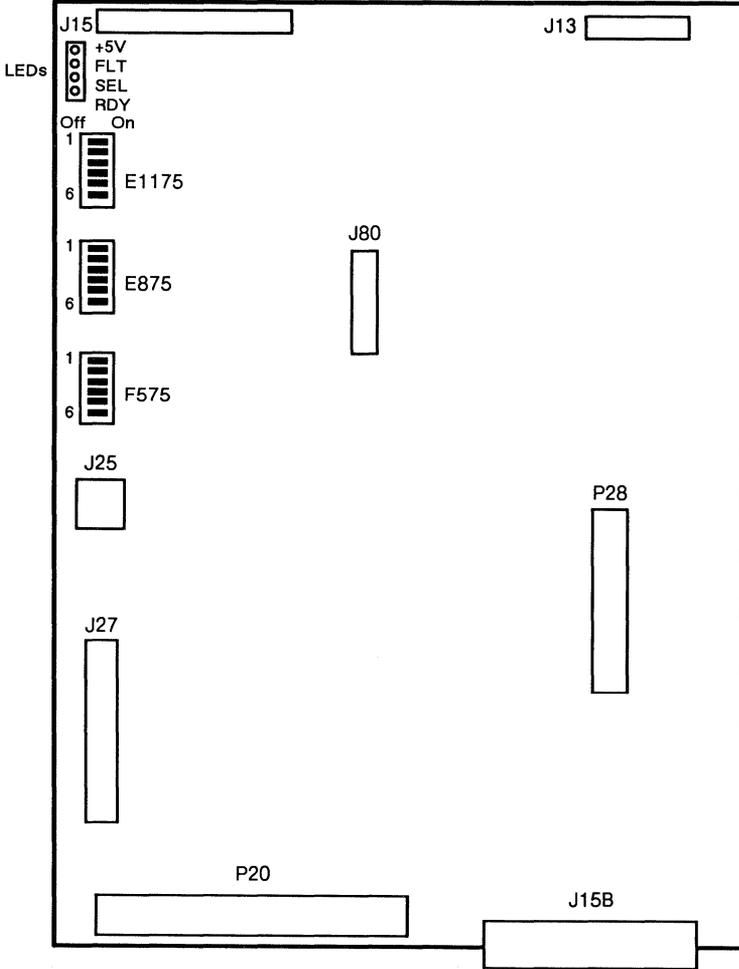
540–1635 370–1068
Switch Settings

Control Board
Slip sector format
49 Sectors/Track

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
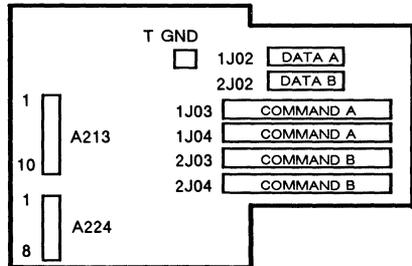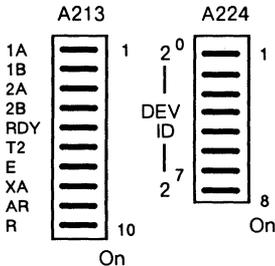
Notes
1. Install the terminator at location 1J03.
2. Install the ground wire at T GND.

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

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

Logic PCB

811-2012-01

EXPLODED VIEW
of JUMPER

8   1

9   16

B03

AE7
Interface
Modification

C03
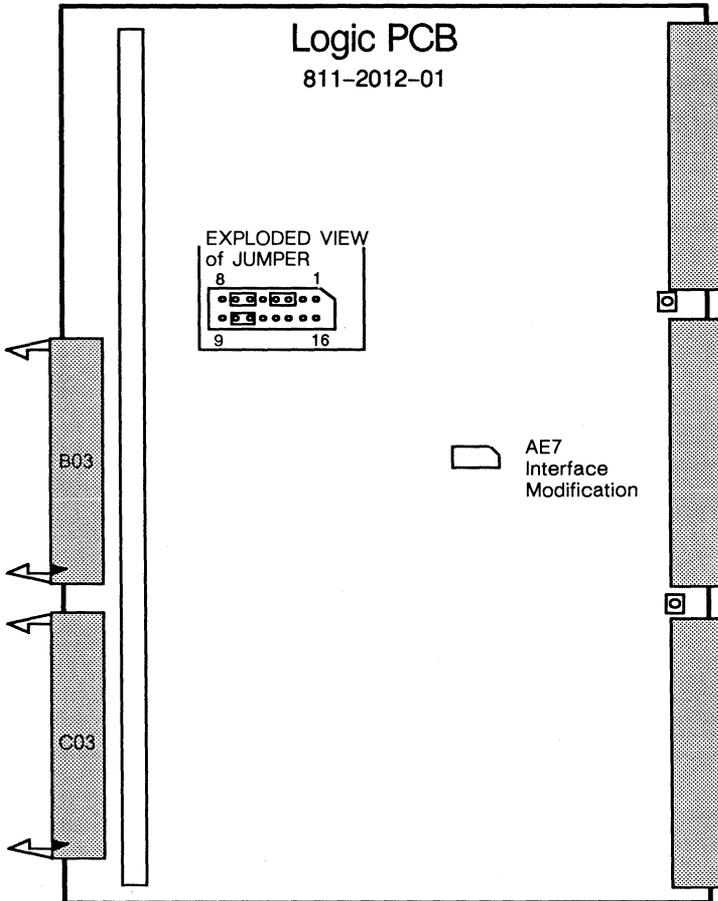
JUMPER	2-3	3-4	5-6	6-7	9-10	10-11	12,13,14,15,16
AE7	Out	In	Out	In	Out	In	Out

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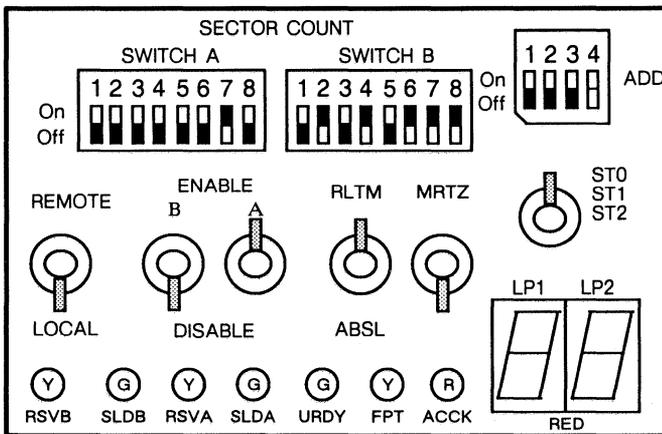
Reference
Fujitsu 2361A Disk Drive Configuration Procedures, 813-2005.

CDC 9720–850 (688MB)
8" ESMD
Options 615   616   731   732   733   734

370–1197   540–1768 (FRU)   540–1813 (FRU)
w/o Bracket   w Mass Storage   w Sun Expansion
Pedestal Bracket   Pedestal Bracket

J15 [   ]   J13 [   ]

LEDs
O +5V
O FLT
O SEL
O RDY

Off On
1
SW1

10

1
SW2

10

J81   J80

J48

CONTROL BOARD

P20

J15B

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

Controller Board   I/O 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

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

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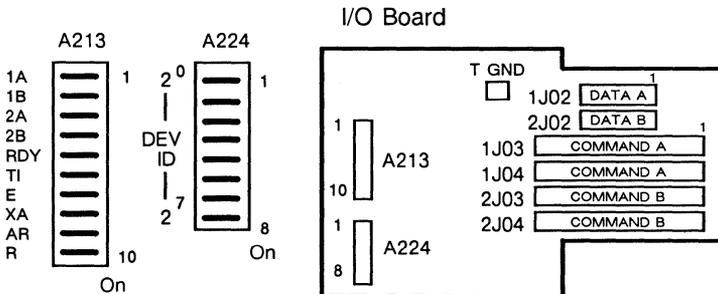
Notes
1. Install the terminator at location 1J03.
2. Install the ground wire from the terminator board to T GND.
3. Jumpers not described are factory set and are not user configurable.

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 |

SW4 On / Off   1   7

SW5 On / Off   1   4

SW3 On / Off   1   7

SW2 On / Off   1   4

SW1 On / Off   1   8

RDY ○
ST6 ○
ST5 ○
ST4 ○
ST3 ○
ST2 ○
ST1 ○
ST0 ○

LEDS

TERMINATORS
A   B   C   D

CN1
COMMAND

CN2
DATA
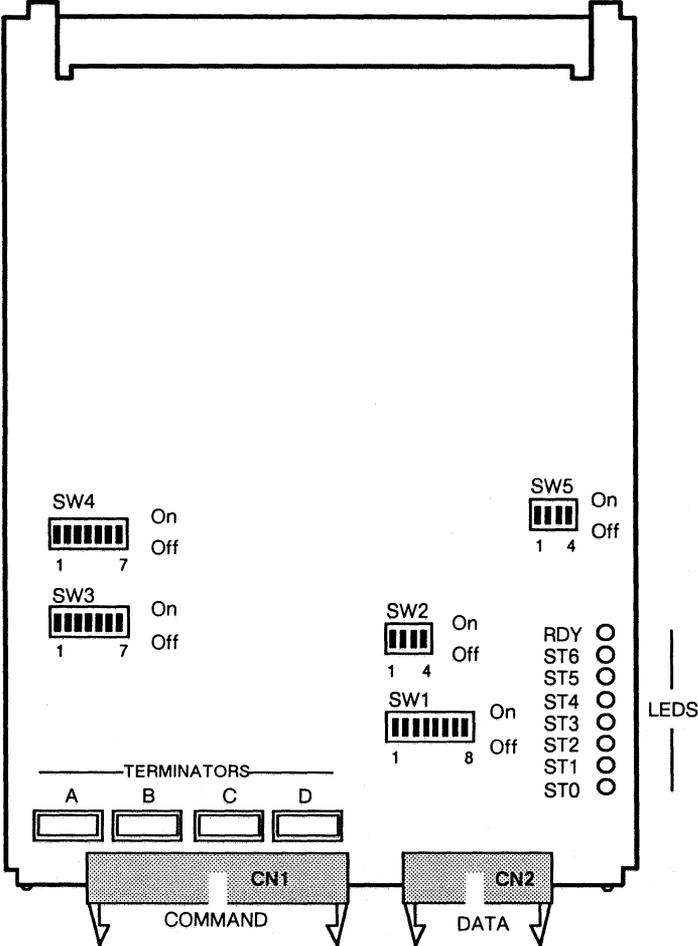
Power: 3.5 Amps @ +5Vdc
         3.5 Amps @ -12Vdc.
         4.5 Amps @ +12Vdc.
    164.5 Watts

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 Supplys 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

MODE   EXECUTE   ADDRESS   START

SW28
Off On Off On

1 SW27

Red LEDs
STATUS

READY   Grn

7 6 5 4 3 2 1 0

8   8
1 SW41

8
Off On

Yellow
LED
DIAG

READ
ONLY

FAULT
RESET

READ ONLY   Yel

FAULT   Red
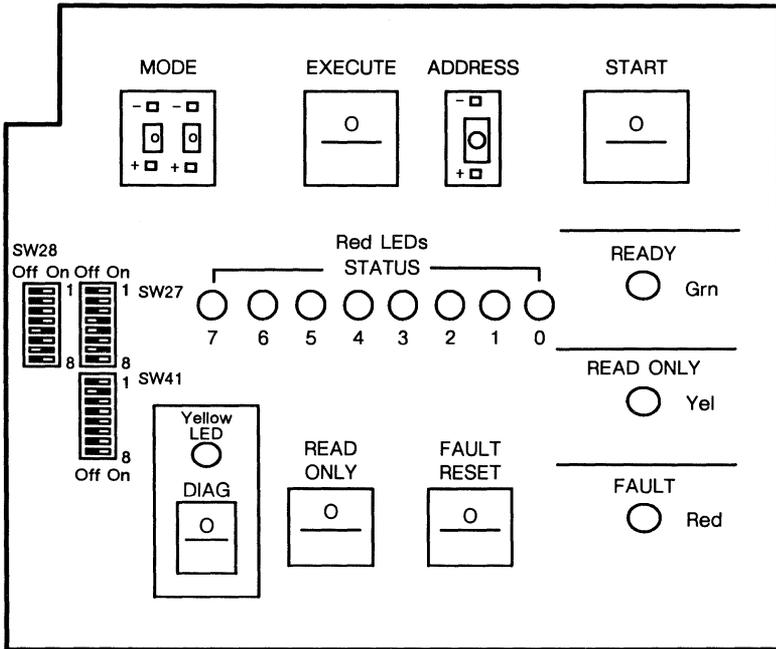
555-1008 370-1141
Switch Settings

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 2 drives may be installed in a system rack using the 115V power sequencer.
2. A maximum of 4 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 used.
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.

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
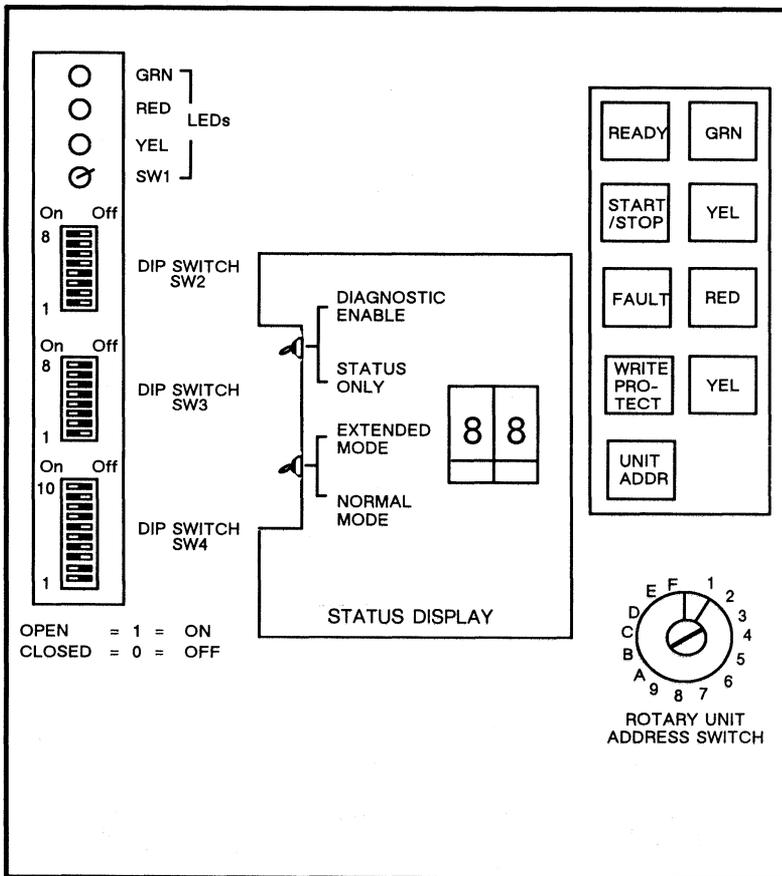
555-1008 370-1140 370-1141
Switch Settings

Operator Panel

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

Seagate 97209–12G (1.2GB)
8" IPI–2 3MB/Sec
Options 706 707 709 710
Options 741A 742A 743A 744A 745A

Operator Panel
370–1221
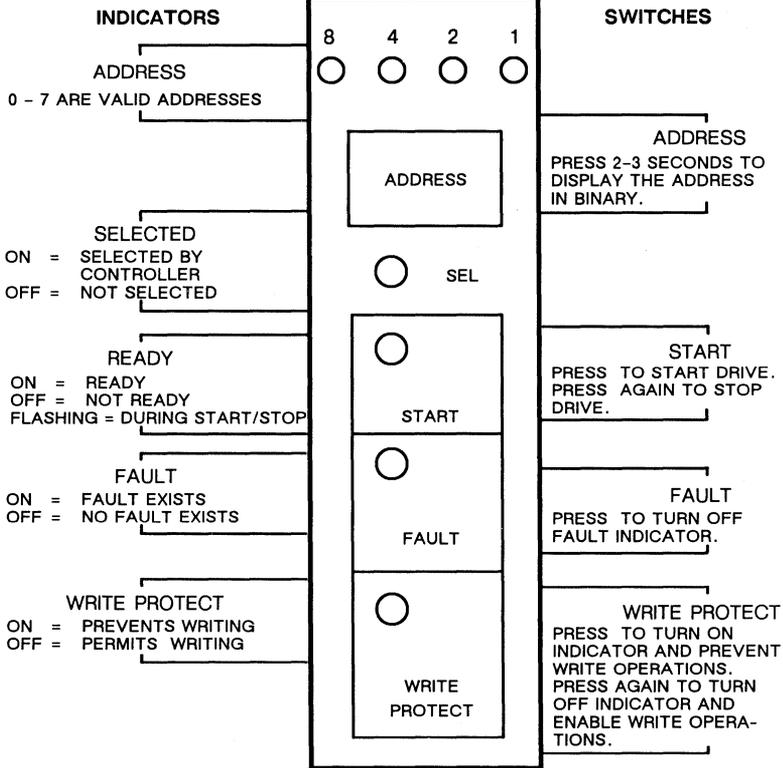
| INDICATORS | | | | | | SWITCHES |

8   4   2   1

ADDRESS
○ ○ ○ ○

0 – 7 ARE VALID ADDRESSES

ADDRESS

ADDRESS
PRESS 2–3 SECONDS TO
DISPLAY THE ADDRESS
IN BINARY.

SELECTED

ON = SELECTED BY
        CONTROLLER   ○ SEL
OFF = NOT SELECTED

READY   ○

ON = READY
OFF = NOT READY
FLASHING = DURING START/STOP   START

START
PRESS TO START DRIVE.
PRESS AGAIN TO STOP
DRIVE.

FAULT   ○

ON = FAULT EXISTS
OFF = NO FAULT EXISTS

FAULT

FAULT
PRESS TO TURN OFF
FAULT INDICATOR.

WRITE PROTECT   ○

ON = PREVENTS WRITING
OFF = PERMITS WRITING

WRITE
PROTECT

WRITE PROTECT
PRESS TO TURN ON
INDICATOR AND PREVENT
WRITE OPERATIONS.
PRESS AGAIN TO TURN
OFF INDICATOR AND
ENABLE WRITE OPERA-
TIONS.

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   Pedestal Disk   Rackmount Disk   Pedestal Disk
w/o Power Supply   w/o Bracket   w Power Supply   w Tray
   w/o Tray   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

DIP	SWITCH	DESCRIPTION
2	5	Not Used
	6	Open = Write protected
		Closed = Write enabled

Control Board Types
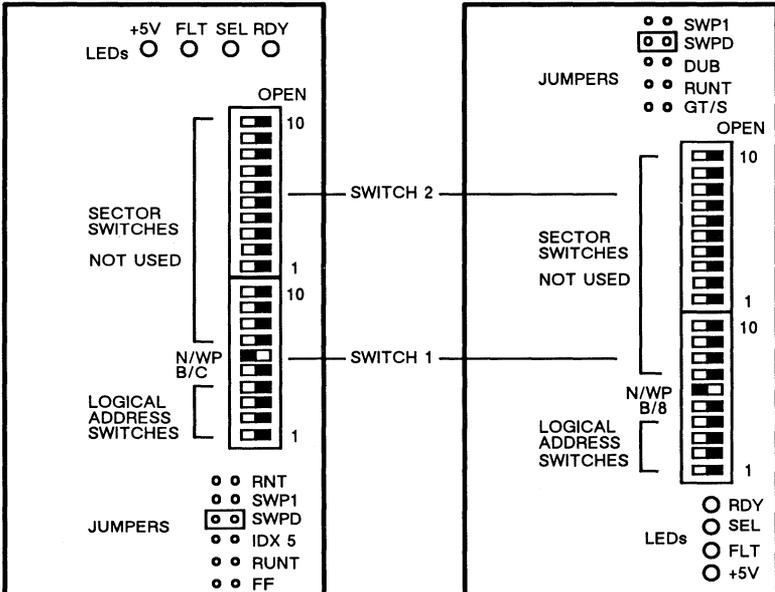
Disk Enclosure
370-1187 370-1314 540-1770 540-1926

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 ⌐
6	Open	1D 2
7	Closed	1D 1 ID Microcode. Do Not Change.
8	Closed	1D 0 ⌐
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/O board LYBX. It is not on I/O board BXDX.
5. There may be cooling vents on the top cover of 1.2GB Disk Drive 370–1187. Do NOT install this drive in the Sun Expansion Pedestal.
7. Power Supply 300–1052–02 does NOT support 1.2GB Disk Drives.
8. Power Supply 300–1052–03 supports two 1.2GB Disk Drives. Power must be distributed between the two 410 Watt modules.
9. Power Supply 300–1052–04 supports four 1.2GB Disk Drives.
10. Power Supply 300–1052–05 does NOT support 1.2GB Disk Drives.
11. 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.*
2. *IPI8–1000 and IPI8–1000/2HP Disk Drive Configuration and Installation Procedures for the Sun 56–inch Cabinets, 813–1109.*

Seagate 97229–11G (911MB)
8" IPI–2 6MB/Sec
Options 716 717 719 720
Options 741L 742L 743L 744L 745L

Operator Panel
370–1355

INDICATORS

SWITCHES

PROTECT
WRITE

WRITE PROTECT

WRITE PROTECT
ON = PREVENTS WRITING
OFF = PERMITS WRITING

WRITE PROTECT
PRESS TO TURN ON
INDICATOR AND PREVENT
WRITE OPERATIONS.
PRESS AGAIN TO TURN
OFF INDICATOR AND
ENABLE WRITE OPERA-
TIONS.

FAULT

FAULT
ON = FAULT EXISTS
OFF = NO FAULT EXISTS

FAULT
PRESS TO TURN OFF
FAULT INDICATOR.

START

READY
ON = READY
OFF = NOT READY
FLASHING = DURING START/STOP

START
PRESS TO START DRIVE
PRESS AGAIN TO STOP
DRIVE.

SEL

SELECTED
ON = SELECTED BY
        CONTROLLER
OFF = NOT SELECTED

ADDRESS

ADDRESS
PRESS 2–3 SECONDS TO
DISPLAY THE ADDRESS
IN BINARY.

ADDRESS
0 – 7 ARE VALID ADDRESSES

1   2   4   8

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	Pedestal Disk	Rackmount Disk	Pedestal Disk
w/o Tray	w/o Bracket	w Tray	w Bracket
w/o Power Supply		w Power Supply	

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

DIP	SWITCH	DESCRIPTION
1	5	Not Used
	6	Open = Write Protected
		Closed = Write enabled
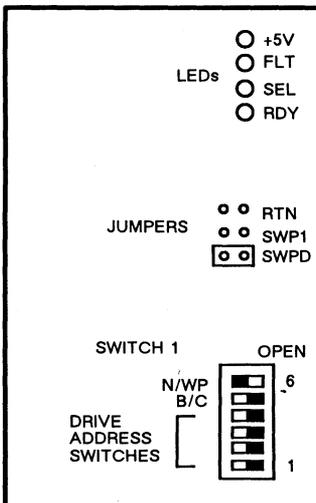
Disk Enclosure
370–1351 370–1352   540–2005   540–2008

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 ⎤
6	Closed	1D 2 ⎥ ID Microcode. Do Not Change.
7	Open	1D 1 ⎥
8	Closed	1D 0 ⎦
9	Open	Slave/Master spindle sync–slave

370–1351   370–1352   540–2005   540–2008
Seagate 97229–11G
Notes

1. The ISP–80 IPI–2 Disk Controller must be 501–1539–05 or greater.
2. Use terminator 370–1220–01 on the Port A/B Out connector.
3. Disable an unused port with the Port Enable/Disable switch.
4. Do not install a terminator on an unused port.
5. There are cooling vents on the cover of 911MB Disk Drive 370–1351. Do NOT install this drive in the Sun Expansion Pedestal.
6. There are no cooling vents on the cover of 911MB Disk Drive 370–1352. Do NOT install this drive in the Sun 56" Rack.
7. Power Supply 300–1052 does NOT support 911MB Disk Drives.
8. 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.*
2. *IPI8–1000 and IPI8–1000/2HP Disk Drive Configuration and Installation Procedures for the Sun 56–inch Cabinets, 813–1109.*

Adaptec ACB4000
Sun–2/120/130/160 & Sun–3/160
Options 55   55EX   56   501   503   511
370–1010

Precompensation jumpers
at one location
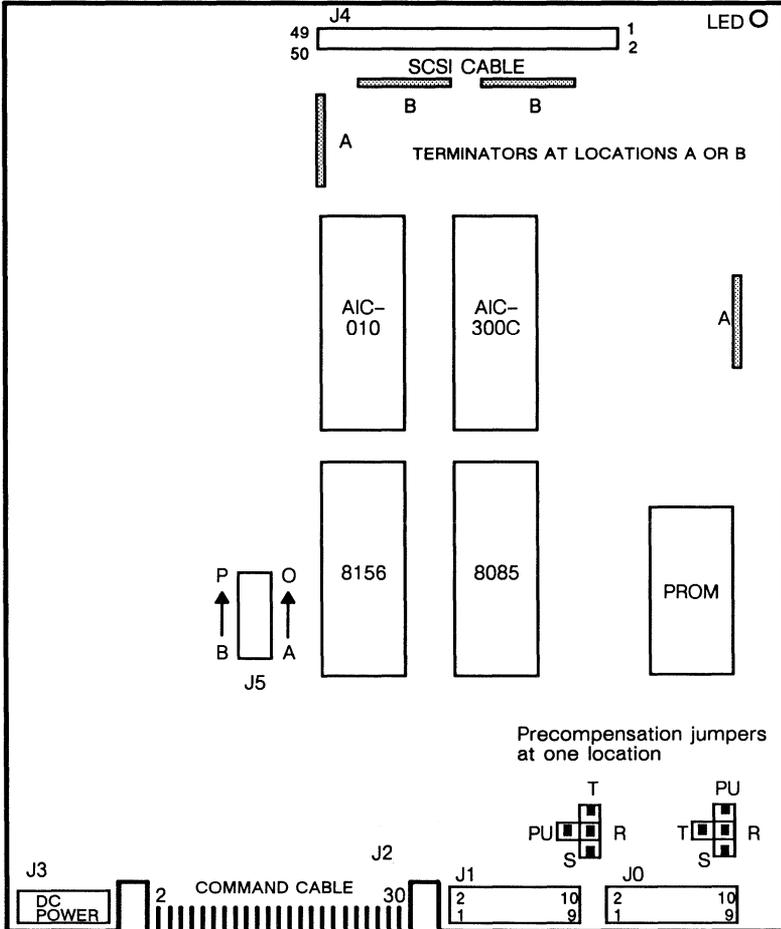
Power: 1.5 Amps @ +5Vdc
        0.1 Amps @ +12Vdc.
        8.7 Watts

Note: On individual board layouts, the terminators are either at the
       A or B location, and the precompensation jumpers are oriented
       as shown in one of the examples above.

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 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
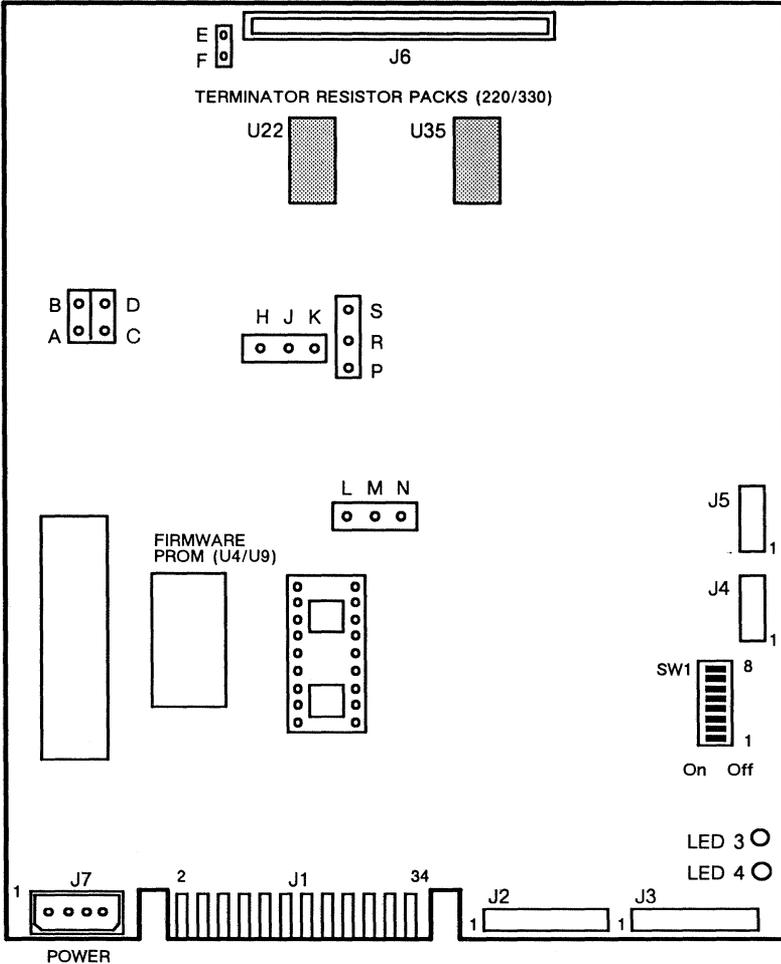
Power: 1.6 Amps @ +5Vdc
        8.0 Watts

370–0552   370–1236
Switch & Jumper Settings

DIP SWITCH	SETTING	DESCRIPTION
1	Off *	SCSI BUS ADDRESS/TARGET Bit 0–7
2	Off	
3	Off	
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

* E and F jumpers are not on the Emulex Rev MD2110103 board.

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–2/100U/120/130/150U/160/170
Sun–3/160/180/260/280/460/470/480
Sun–4/260/280

370–1012 (Fab C, Revs C thru K)
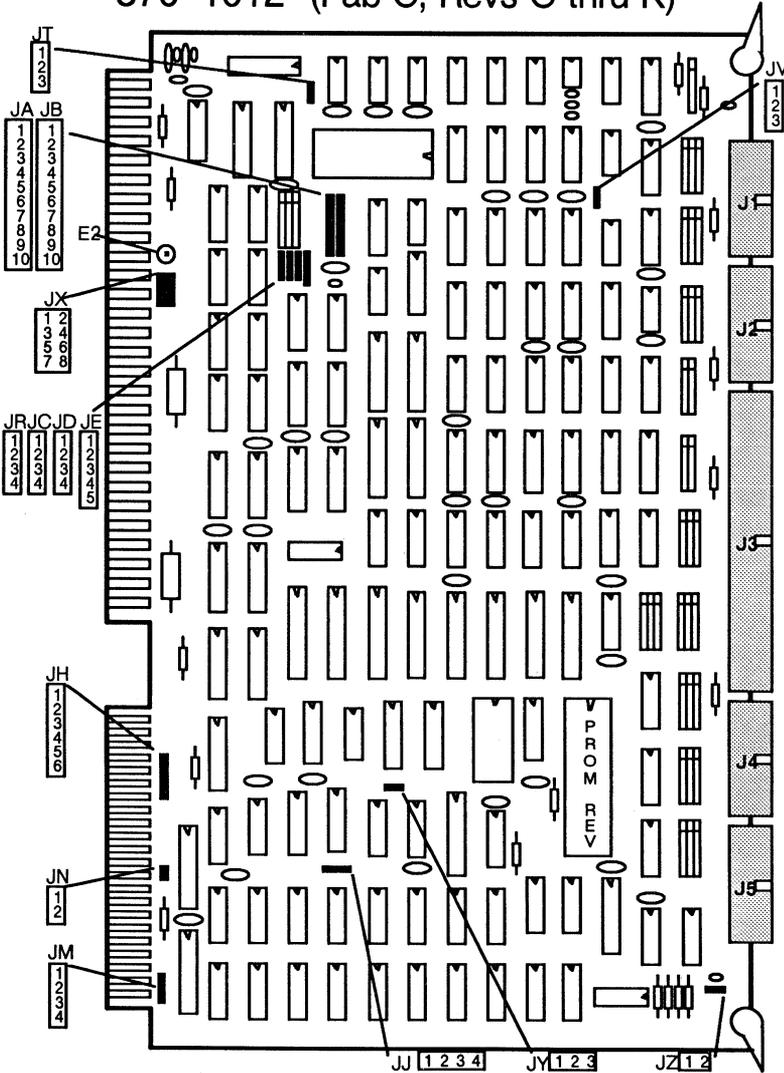
Xylogics 450
370–1012 (Fab D, Revs K, L & M)
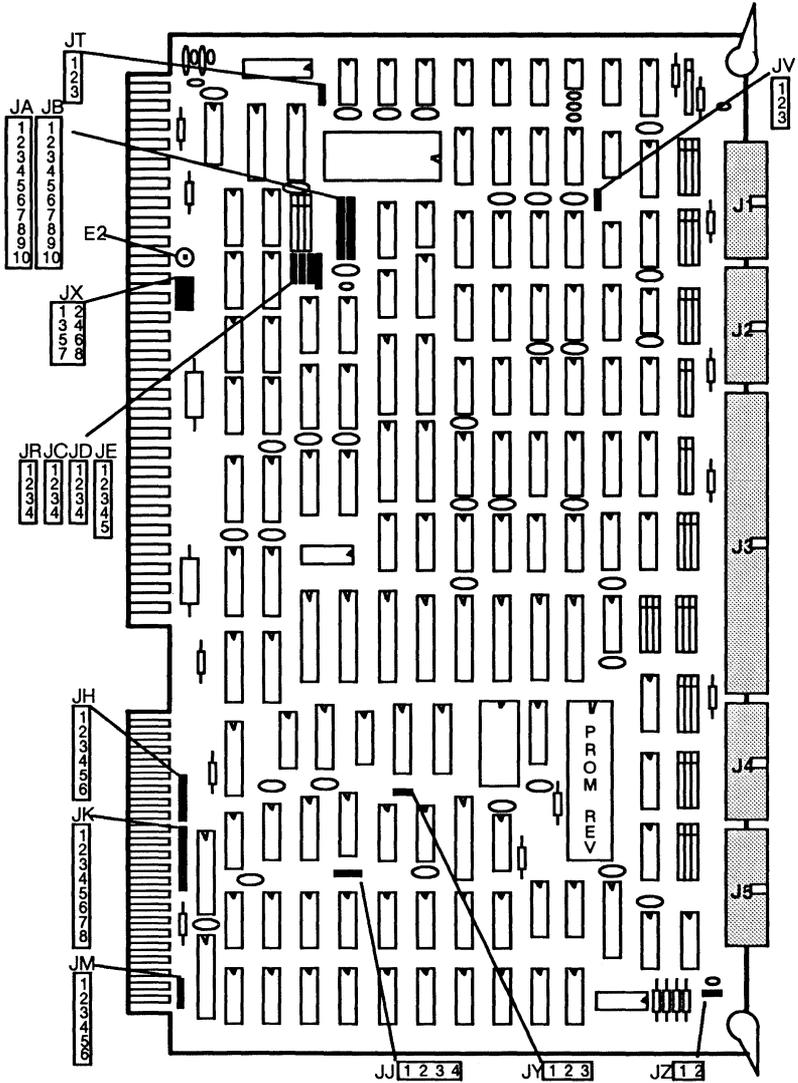
Xylogics 450
370–1012 (Fab E, Rev N)

370–1012 (Fab C, Revs C thru K)
370–1012 (Fab D, Revs K, L & M)
370–1012 (Fab E, Rev N)
Common Jumper Settings

JUMPER	PINS	SETTING	DESCRIPTION
JV	1–2	In	Optional 8KB
	3	N/A	
JT	1–2	In	Optional 8KB
	3	N/A	
JJ	1–2	Out	Disk Sequencer Clock
	3–4	In	
JY	1	N/A	Close ECC Feedback
	2–3	In	
E2 & JX	E2 JX		Interrupt Request Level Selections:
	E2 to 2	N/A	Level – 0
	E2 to 7	N/A	Level – 1
	E2 to 4	In	Level – 2
	E2 to 5	N/A	Level – 3
	E2 to 8	N/A	Level – 4
	E2 to 3	N/A	Level – 5
	E2 to 6	N/A	Level – 6
	E2 to 1	N/A	Level – 7
JA & JB	JA JB		
	1 to 1	Out	16 or 8 Bit Address Control
	2 to 2	Out	Address Bit F
	3 to 3	In	Address Bit 8
	4 to 4	Out	Address Bit E
	5 to 5	Out	Address Bit 9
	6 to 6	Out	Address Bit D
	7 to 7	Out	Address Bit A
	8 to 8	In	Address Bit C
	9 to 9	Out	Address Bit B
	10 to10	Out	Ground
JE	1 to 2	In	Selects Serial Arbitration (Sun–100's Only)
	1 to 2	Out	Selects Parallel Arbitration (All other products)
	3	N/A	
	4 to 5	In	Address Bit 7 (Hex)

370–1012 (Fab C, Revs C thru K)
370–1012 (Fab D, Revs K, L & M)
370–1012 (Fab E, Rev N)
Common Jumper Settings – Continued

JUMPER	PINS	SETTING	DESCRIPTION	
JR, JC & JD	JR JC 1 to 1	In	Address Bit 6 (Hex)	⎫
	JD JC 2 to 2	In	Address Bit 5 (Hex)	⎬ Sets Address of device for xy0,
	3 to 3	In	Address Bit 4 (Hex)	EE40
	4 to 4	In	Address Bit 3 (Hex)	⎭
	JR JC 1 to 1	In	Address Bit 6 (Hex)	⎫
	4 to 4	In	Address Bit 3 (Hex)	Sets Address of device for xy1,
	JD JC 2 to 2	In	Address Bit 5 (Hex)	EE48
	3 to 3	In	Address Bit 4 (Hex)	⎭
JZ	1 to 2	In	Crystal Shunt	

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.

Jumper Settings

370–1012 (Fab C, Revs C thru K)

JUMPER	PINS	SETTING	DESCRIPTION
JH	1–2	Out	Automatically Selects DC Power Fail Detection
		In=N/A	AC Power Fail Detection (Not for Sun systems)
	3–4	Out	Inhibit DMA Sequencer Clock
	5–6	In	Select DMA Sequencer Clock
JM	1–2	Out	20–Bit Address Selected
	3–4	In	20–Bit Address Selected
	1–2	In	24–Bit Address Selected
	3–4	Out	24–Bit Address Selected
JN	1 to 2	Out	Disable Remote Act Indicator

370–1012 (Fab D, Revs K, L & M)

JUMPER	PINS	SETTING	DESCRIPTION
JH	1 to 2	Out	Automatically selects DC power fail detection
		In = N/A	AC Power Fail Detection–not in Sun systems
	3 to 4	Out	Inhibit DMA Sequencer Clock
	5 to 6	In	Select DMA Sequencer Clock
20–Bit Addressing – For Multibus			
JM	1 to 2	Out	24–Bit Address Selected
	3 to 4	In	20–Bit Address Selected
	5 to 6	Out	Connect ADR0x14
JK	1 to 2	Out	Connect ADR0x16
	3 to 4	Out	Connect ADR0x17
	5 to 6	Out	Connect ADR0x15
	7 to 8	Out	Disable ACT Indicator
24–Bit Addressing – For VMEbus			
JM	1 to 2	In	24–Bit Address Selected
	3 to 4	Out	20–Bit Address Selected
	5 to 6	In	Connect ADR0x14
JK	1 to 2	In	Connect ADR0x16
	3 to 4	In	Connect ADR0x17
	5 to 6	In	Connect ADR0x15
	7 to 8	Out	Disable ACT Indicator

370–1012 (Fab E, Rev N)
Jumper Settings

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

VMEbus to Multibus Adapter
with Xylogics 450
Sun–2/130/160
Sun–3/160/180/260/280/460/470/480
Sun–4/260/280

501–1154

P1   P3

ADAPTER 501–1054

XYLOGICS 450 370–1012

CABLE	CABLE	CABLE
530–1147	530–1148	530–1147

J5   J4   J3   J2   J1

DATA   COMMAND   DATA
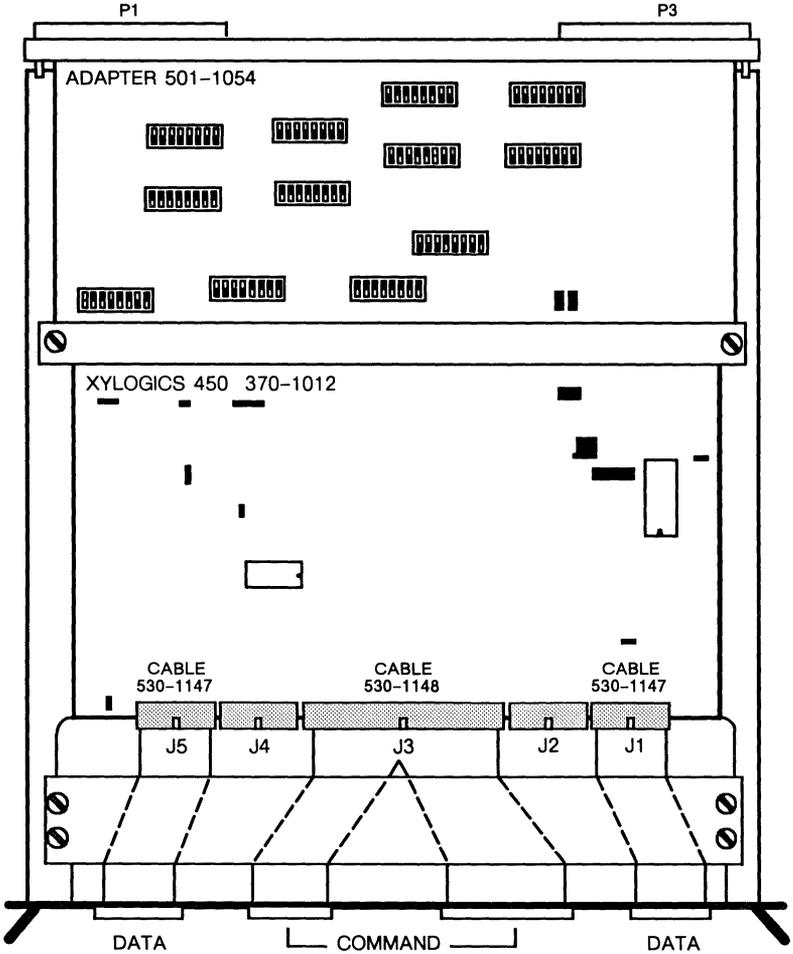
VMEbus to Multibus Adapter
with Xylogics 450
501-1154

```
┌──────────────────────────────────────────────────────────────┐
│ ▒▒ VME P1 ▒▒                              ▒▒ VME P3 ▒▒         │
│                                                                │
│                          Dip 2        Dip 10                   │
│                          ▐████████▌    ▐████████▌              │
│              Dip 6       1       8    1       8                │
│   Dip 8      ▐████████▌   Dip 1 │*                             │
│   ▐████████▌  1      8    ▐████████▌   Dip 9                   │
│    1      8              1      8      ▐████████▌               │
│   Dip 7      Dip 5       1      8      1      8       ↑ ON      │
│   ▐████████▌ ▐████████▌                             Switches   │
│    1      8   1      8        Dip 3                  ↓ OFF      │
│                          ▐████████▌                            │
│  *            Dip 11      1     8   Dip 4                       │
│  │Dip 12     ▐████████▌             ▐████████▌    J1            │
│  ▐████████▌   1      8              1      8     1▐█▌3          │
│   1      8                                       2▐█▌4          │
│ ▒▒ M'Bus P2 ▒▒               ▒▒ M'Bus P1 ▒▒                   │
└──────────────────────────────────────────────────────────────┘
```

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

* xyc0= ON   (I–O Address = 0xee40, Interrupt Vector = 0x48)
  xyc1= OFF (I–O Address = 0xee48, Interrupt Vector = 0x49)

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

Xylogics 451
Sun–3/160/180/260/280/460/470/480
Sun–4/260/280/360/370/380

370–1082
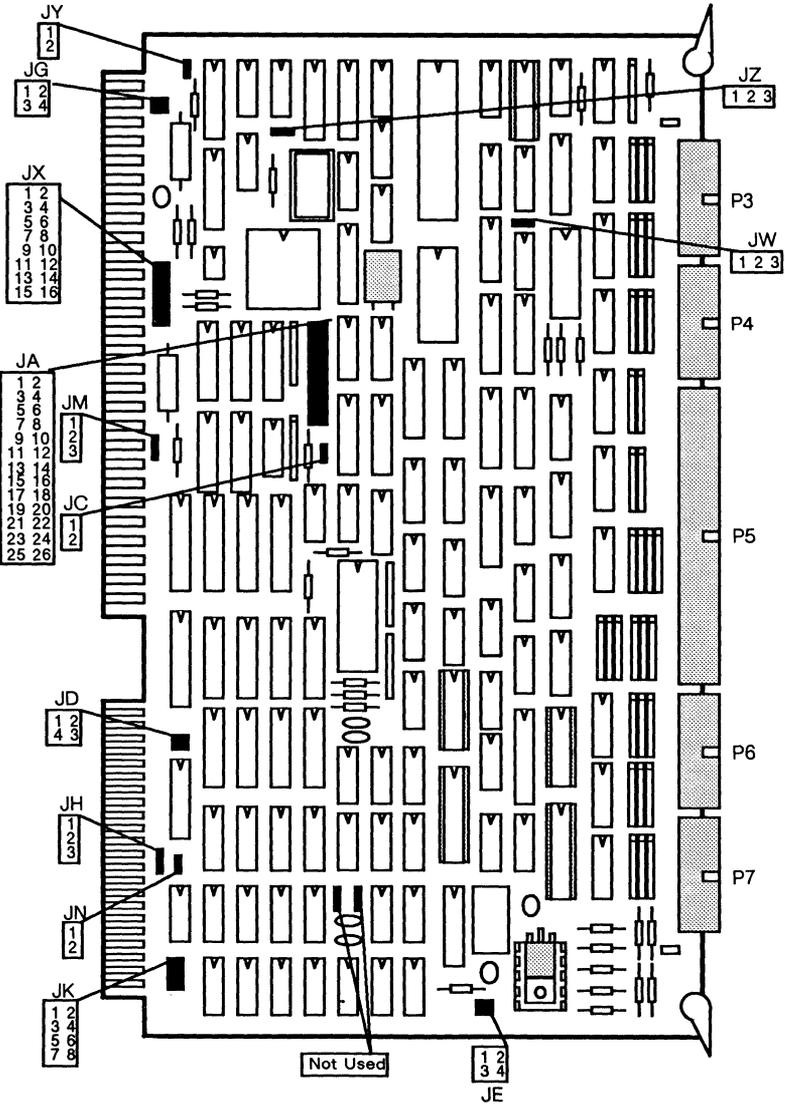
370–1082
Jumper Settings

JUMPER	PINS	SETTING	DESCRIPTION
JC	1 to 2	Out	Enables 16–bit addressing mode
JA			Base address setting (ee40)
	1–2	In	Address Bit F
	3–4	In	Address Bit E
	5–6	In	Address Bit D
	7–8	Out	Address Bit C
	9–10	In	Address Bit B
	11–12	In	Address Bit A
	13–14	In	Address Bit 9
	15–16	Out	Address Bit 8
	17–18	Out	Address Bit 7
	19–20	In	Address Bit 6
	21–22	Out	Address Bit 5
	23–24	Out	Address Bit 4
	25–26	Out	Address Bit 3*
JM	1–2	In	16–24 Mode for VME–bus
JK	1–8	In for VMEbus	24–bit address jumpers ADR0x17–ADR0x14
JX	1–2	Out	INT0 Interrupt Request level
	3–4	Out	INT1
	5–6	In	INT2
	7–8	Out	INT3
	9–10	Out	INT4
	11–12	Out	INT5
	13–14	Out	INT6
	15–16	Out	INT7
JY	1–2	Out	Bus arbitration (BPRO)
JH	1–2	In	AC Power–down protection
JZ	2–3	In	Common bus request disabled
JN	1–2	Out	Activity indicator
JD	1–2–3–4	Out	–5 VDC from backplane
JE	1–2–3–4	Out	–5 VDC from backplane
JG	1–2–3–4	In	–5 VDC from backplane
JW	1–2	In	Busy not synchronized to bus clock

*In for address ee48(xy1), Out for address ee40(xy0)

370–1082
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.

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

P1   P3

ADAPTER 501-1054

XYLOGICS 451   370-1082

| CABLE | CABLE | CABLE |
| 530-1147 | 530-1148 | 530-1147 |

J5   J4   J3   J2   J1

DATA   COMMAND   DATA
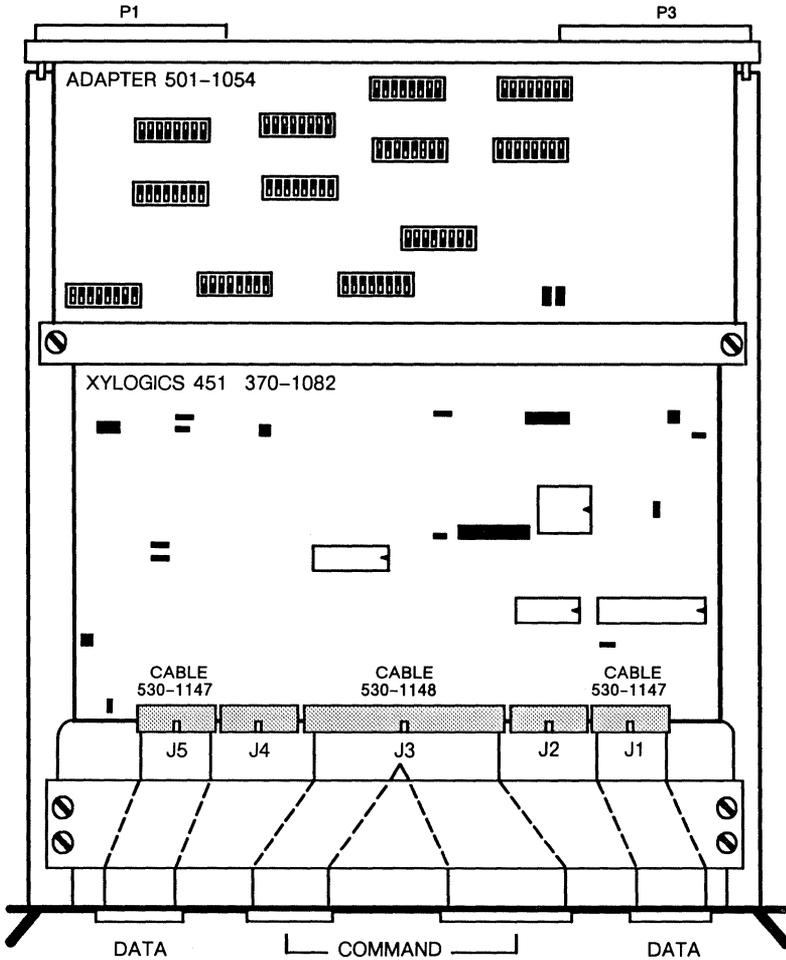
VMEbus to Multibus Adapter
with Xylogics 451
501-1166

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						

* xyc0= ON   (I-O Address = 0xee40, Interrupt Vector = 0x48)
  xyc1= OFF (I-O Address = 0xee48, Interrupt Vector = 0x49)

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

Xylogics 7053
Sun-3/160/180/260/280/460/470/480
Sun-4/260/280/370/390/470/490
501-1249

P1   P2   P3

JD JC JB   JA   JE
3   4 5 6 7 8 9 A B C D E F   4 o [o] 1
2   3 o [o] 2
1
0

Exploded View of Jumpers
Base Address 0xEE80 Shown

o A10
o R10

JG
[o o]

o TP5

LED Description

☐Þ   LED2 On = Error
Upper   SYSFAIL is
           asserted on
           VME bus

☐Þ   LED1 On = Busy
Lower

PROM

☐Þ

DATA 2,3   CMD   DATA 0,1
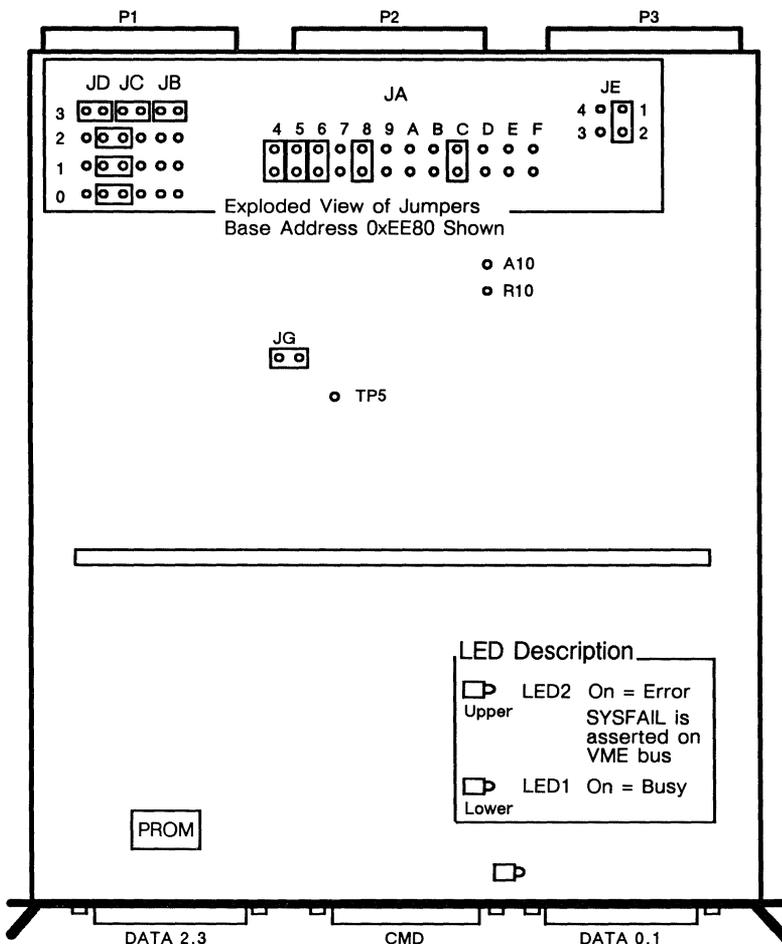
Power: 4.8 Amps @ +5Vdc
        0.6 Amps @ -12Vdc
        31.2 Watts

501–1249
Jumper Settings

Jumper Block 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

Jumper Block 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

Jumper Block 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.

Jumper Block JG

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

501–1249
Xylogics 7053
Notes

1. Do not install a shunt at locations R10 and A10 (test points).
2. When the Xylogics 7053 is installed in a Sun–4/2xx, the CPU be 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 $\geq$501–1434–04 for use with the Xylogics 7053 Disk Controller.
12. The Sun 4400 CPU must be $\geq$501–1381–12 when used with the Xylogics 7053.
13. The Xylogics 7053 must be $\geq$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.

Reference
VME/SMD Disk Controller Configuration Procedures, 813–2033.

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ISP–80 IPI–2
Sun–4/370/390/470/490
501–1539 501–1855

P1   P2   P3

On 1   8
Off [|||||||] SW1602

On 1   8
Off [|||||||]
SW1603

On 1   8
Off [|||||||]
SW1601

[68020]

DIAGNOSTIC
SERIAL PORT
1
J2 o o o o o o
    o o o o o o
25

7 — 0   NORM/DIAG   IPI–2 PORT
LEDs
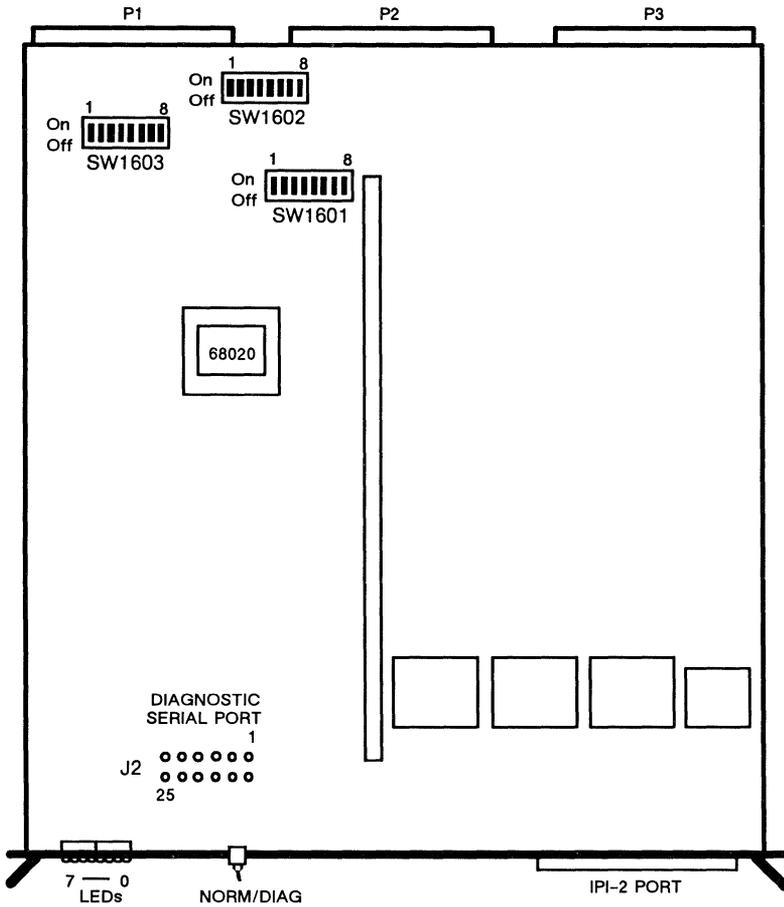
Power: 11.8 Amps @ +5Vdc
       59.0 Watts

Notes
1. This board must be ≥ 501–1539–04 for use with the Sun–4400 CPU.
2. This board must be ≥501–1539–05 for use with 6MB/sec disk drives.
3. Board revisions lower than 501–1539–08 or 501–1855–02 may hang under SunDiag when the ISP–80 is used with the Prestoserve and 32MB of system memory.

Reference
ISP–80 Disk Controller Configuration Procedures, 813–2065.

501-1539   501-1855
Switch & Jumper Settings

Controller idc0 at Base Address 0x01080000

SW1603   SW1602   SW1601

Controller idc1 at Base Address 0x01080400

SW1603   SW1602   SW1601

Controller idc2 at Base Address 0x1080800

SW1603   SW1602   SW1601

Controller idc3 at Base Address 0x01080C00

SW1603   SW1602   SW1601
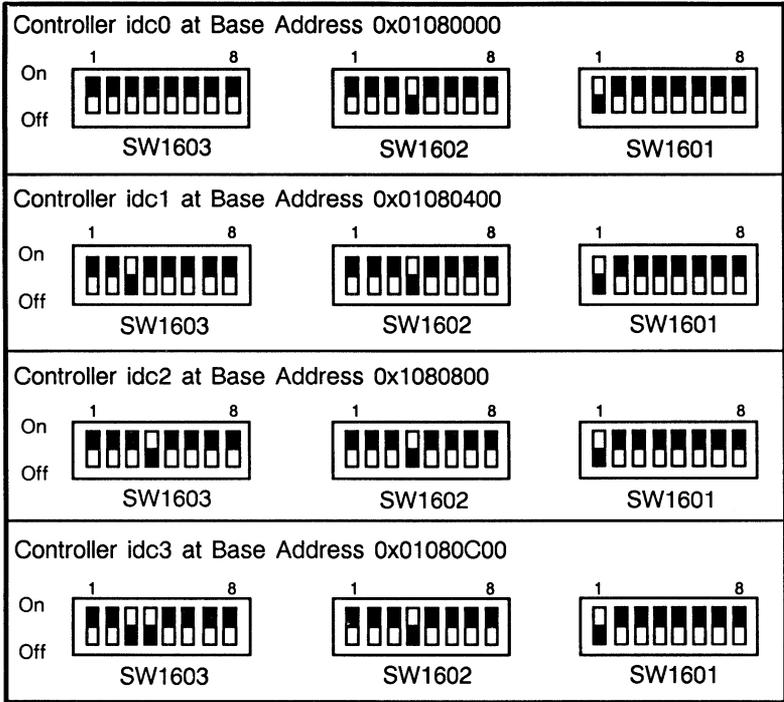
Note: Dip Switches 3 and 4, SW1603, select bits A10 and A11 of the
controller base address. These are the only switches changed
when setting up a system with multiple controllers.

Jumper JM2

PINS	SETTING	DESCRIPTION
1–2	In	Enable UART clock

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

Prestoserve
Sun–4/470/490
501–1847
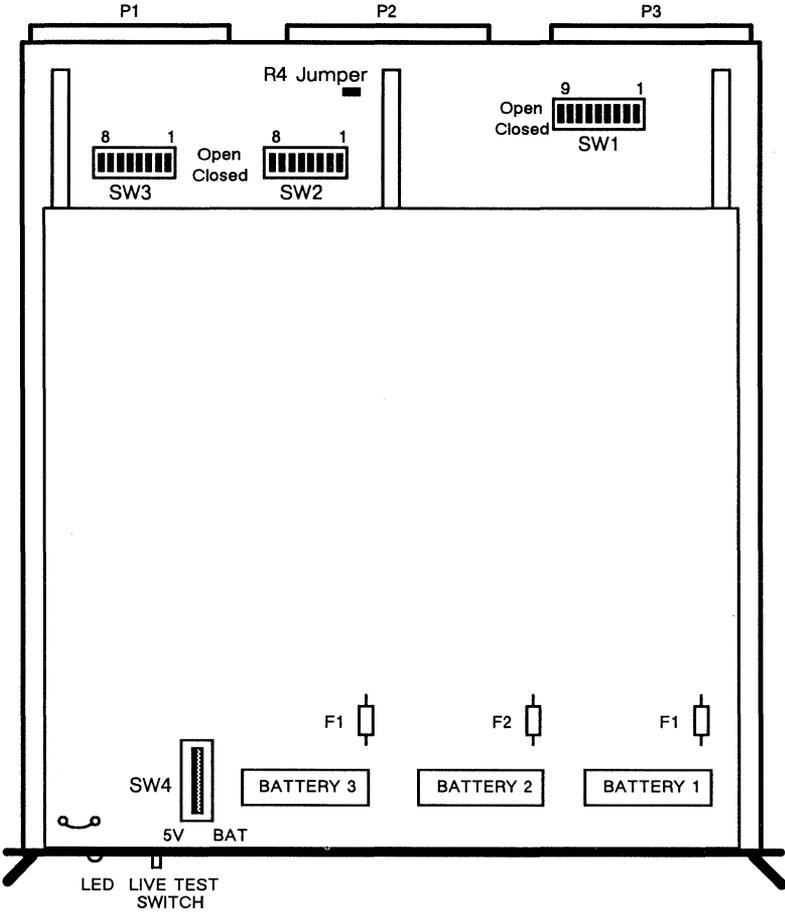
Switch SW1, SW2, and SW3

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

501–1847
Switch & Jumper Settings

Controller pr0 at vme24d32 Address 0x800000

Open 8   1   8   1   9   1

Closed   SW3   SW2   SW1
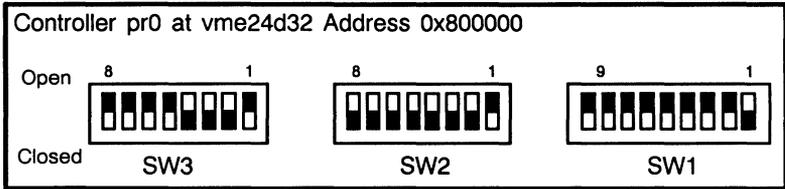
Switch SW4

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

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. IPI-2 Disk Controller board revisions lower than 501-1539-08 or 501-1855-02 may hang under SunDiag when used with the Prestoserve and 32MB of system memory.
5. The batteries are not field replaceable.
6. The minimum operating system is SunOS 4.1 PSR A.

Reference
Sun Prestoserve Installation Manual, 813–1112.

Sony CDU-8012
Sun-4/370/390/470/490
Option 558
370-1312 370-1347

White Bezel   Black Bezel

AUDIO   VOLUME   ACTIVITY   EJECT   MANUAL
OUTPUT   CONTROL   LED   EJECT

L ⎍ L R
GND
AUDIO OUT   0 1 2
               ID SELECT
PARITY

F.GND

2 ... SCSI BUS CABLE ... 50

GND
5V   12V
DC INPUT
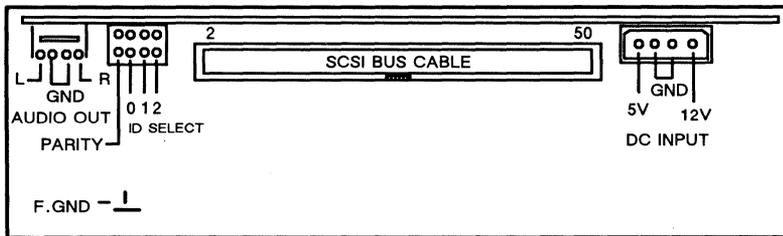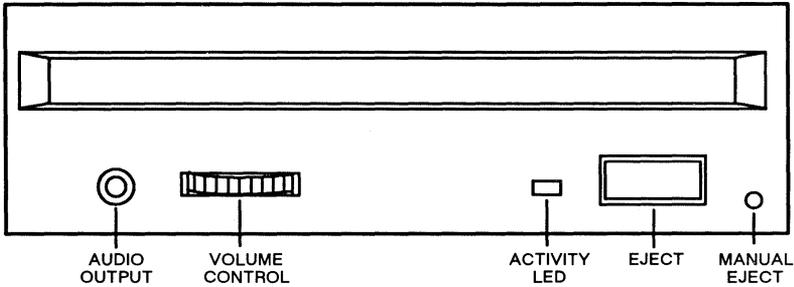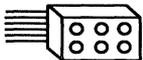
Flex Cable

To install the 370-1312 CD-ROM drive in the Desktop SunCD Pack, orient the 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.

CONFIGURATIONS

TAPE

Tape

TAPE DRIVES

CONTROLLERS

1/4" Tape
1/2" Tape

FLOPPY DRIVES

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60MB 1/4" Tape Drive
with Formatter
Sun–2/130/160 & Sun–3/160
Option 56

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

End View

```
           ┌──────────────────────────────────────┐
    DC POWER
  1 │o o o o│  Motor Driver Board

    ┌─ 1  CONNECTOR TO FORMATTER ─┐

                                    DC POWER
    ┌─ 1     SCSI CONNECTOR ─┐    1 │o o o o│

              FORMATTER
```

Wangtech Model 5099EG11

```
    DC POWER     ┌─O─┐ ┌─O─┐ ┌─O─┐
  1 │o o o o│

  o o │ 1 CONNECTOR TO FORMATTER │  o│o o│
                                    o│o o│o

                                    DC POWER
    ┌─ 1     SCSI CONNECTOR ─┐    1 │o o o o│

              FORMATTER
```
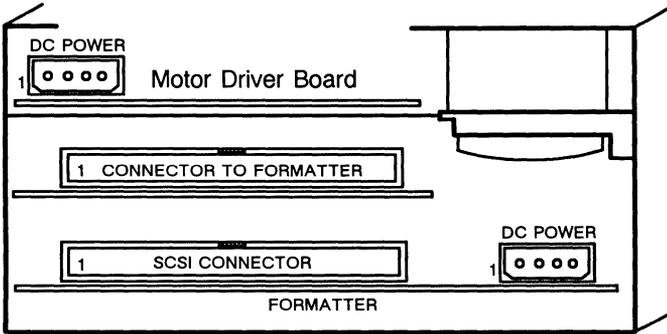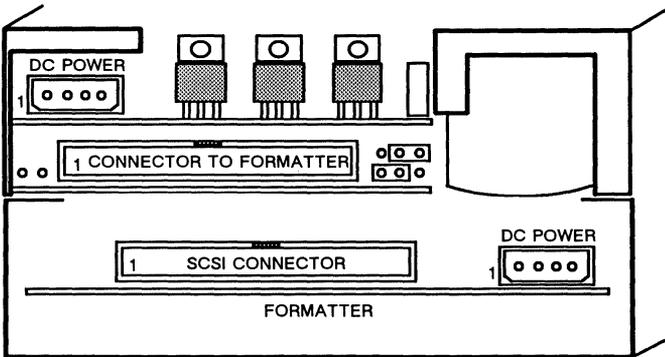
Archive Model 5945L–2

Note: This Tape Drive is used with the Sysgen SC4000 QIC–02
      Tape Controller.

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

Wangtech   Wangtech
5099EN24   5099EN24

Archive
5945C

End View

DC POWER

1 | o o o o | Motor Driver Board

| 1   CONNECTOR TO MT02 |
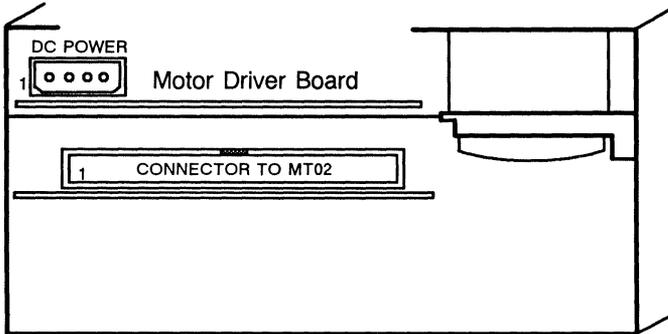
Wangtech Model 5099EN24

End View

DC POWER

1 | o o o o |

o o | 1   CONNECTOR TO MT02 |
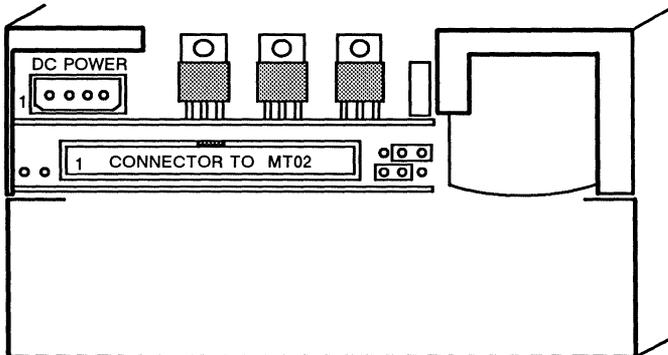
Archive Model 5945C

Note: This Tape Drive is used with the Emulex MT02 QIC-36 Tape
      Controller.

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

Archive 5945S	Archive 5945S
Full-Height	Full-Height
Black Bezel	Lt. Grey Bezel

End View
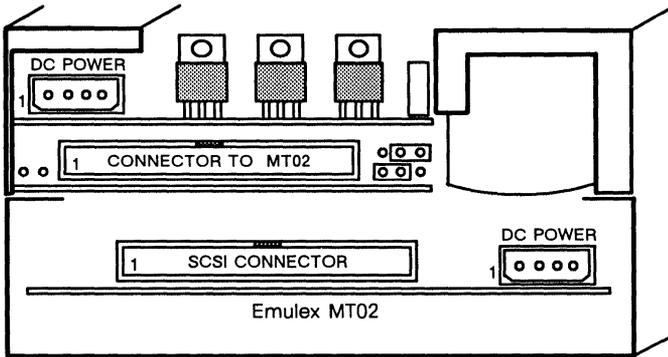
Emulex MT02 Tape Controller Switch Settings

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.

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	Full–Height	Full–Height	Full–Height
Black Bexel	Black Bexel	Custom Bexel	Lt. Grey Bexel	Lt. Grey Bexel

End View

DC POWER TERMINATING RESISTORS (Removed)

SCSI CONNECTOR

SERIAL PORT   DISCONNECT SIZE   SCSI ID

RXD   TXD

O   O   O CF2 O   O ID2 O

O DIAG O   O CF1 O   O ID1 O

O PARITY O   O CF0 O   O ID0 O
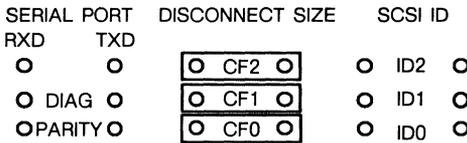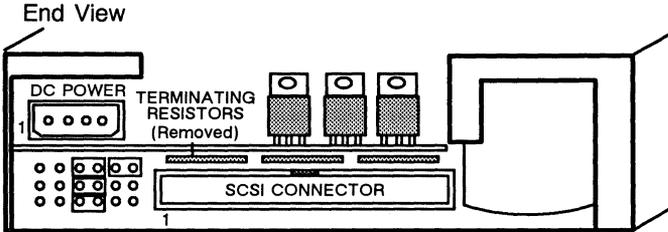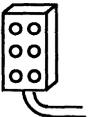
Flex Cable

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
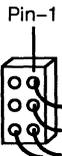
Pin–1

In the External Storage Module, orient Pin–1 of the 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

```
                                                    ┌──────┐
                                                    │ CNAA
                                                    └──────┘


                          ┌──────────┐
                          │   RELAY                ┌──────┐
                          │                        │ CNAB
                          └──────────┘             └──────┘
                             ┌────┐
                             │ RELAY
                             └────┘

  ◁
  Cable        CONNECTOR
  CNJ11        CNP11                                ┌──────┐
                                                    │ CNAC
                             ┌────┐                 └──────┘
  ◁                          │    │  RELAY
```

FUJITSU BOARD LABEL = UIJMU
FUJITSU DOC NUMBER = B16B-9460-0100A#U
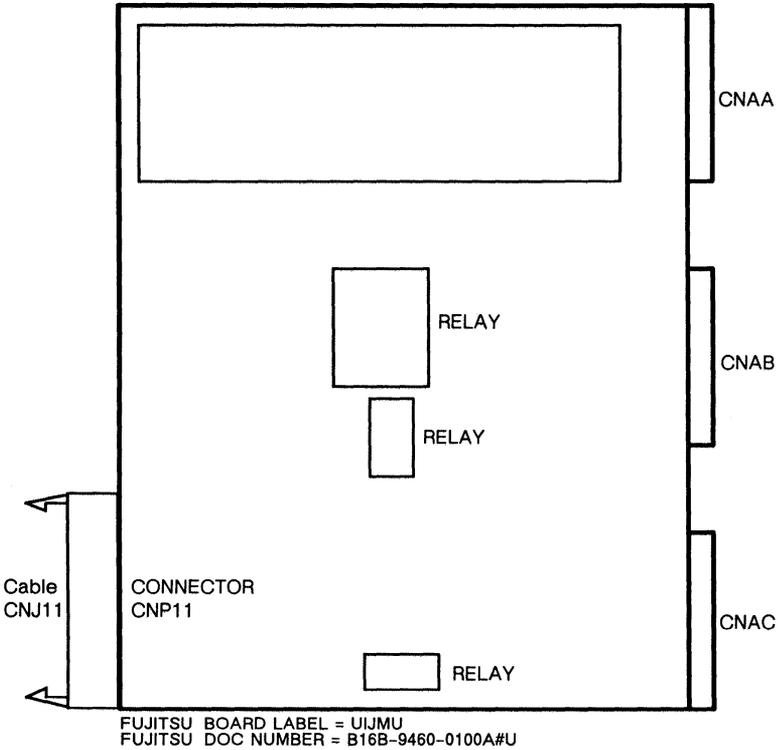
Slots 1 & 2

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

```
Cable
1A05B      CNAZ72                        ⬜ C5
                                                      CNAA

Cable      CNAZ71
1A05A


A Cable
from
Controller CNCZ1
                       TERMINATORS        CNBA


                                          ⬜ C6
                                        ┌──────────┐
                                        │  MB8873  │
B  Cable                                └──────────┘
from       CNEZ2      8 MHz      ⬜ C7   ┌──────────┐
Controller                              │  27C64   │
                            ┌─────────────────┐   CNCA
                            │   MBL68B09E      │
                            └─────────────────┘
```
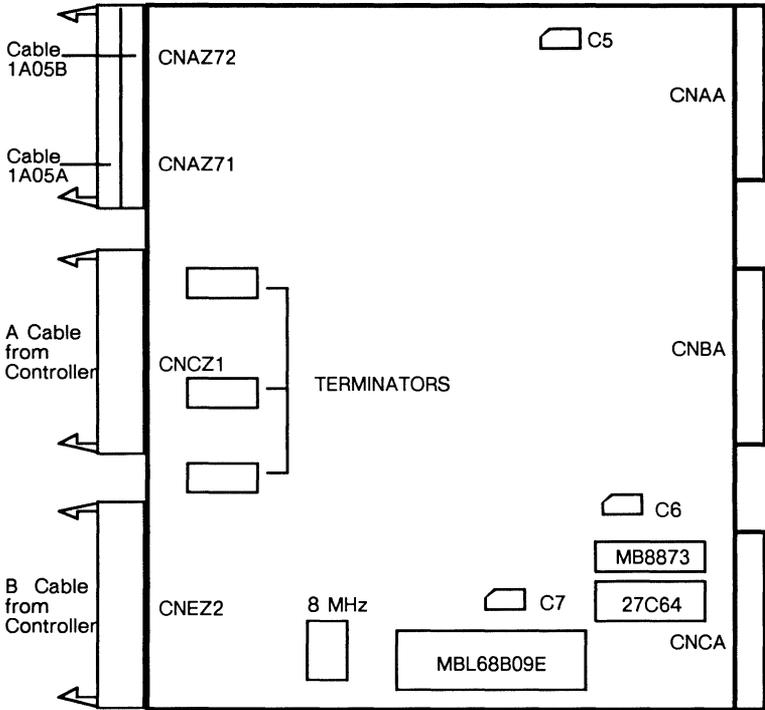
FUJITSU BOARD LABEL = B17B-0160-0010A 10F
FUJITSU DOC NUMBER = B17B-0160-0010A#U

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

Not Used

8   1
oooooooo
o o o o o o o o   J1, Pins 10-11, IN
9   16

A   27128   27128   27128

CE Tester

B

Cable 1C06

MB15120

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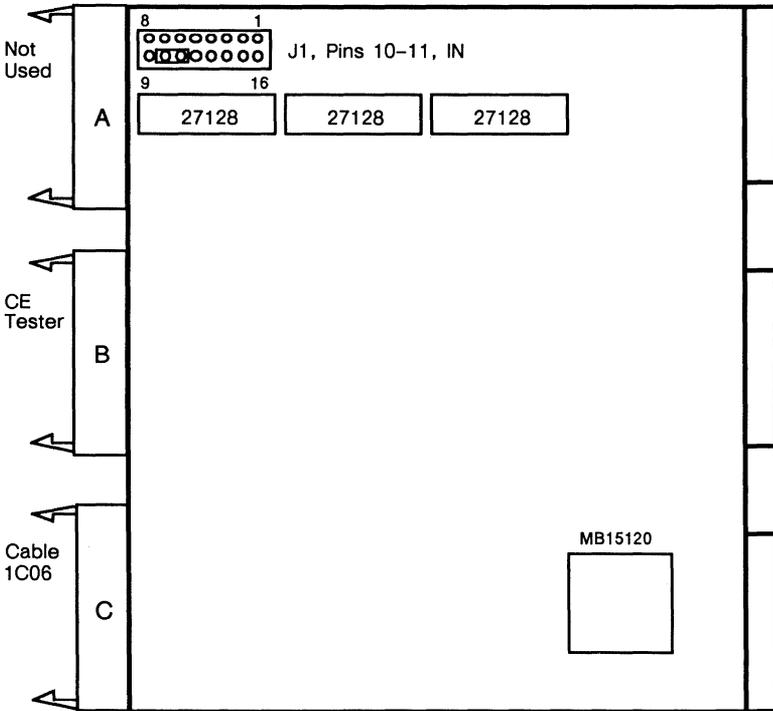
FUJITSU BOARD LABEL = 532705U
FUJITSU DOC NUMBER = C16B-5327-0050#U

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

Cable
1A07

A*

Cable
1B07

B*

Cable
1C07U

8   1
9   16

Pins 2–3,5–6,9–10,12–13, IN

8   1
9   16

Jumper Pin 3
to Pin 7

2764

NVRAM

Line terminators are only installed when
there is no buffer option

MB15120   MB15120

CONNECTOR
1C07U
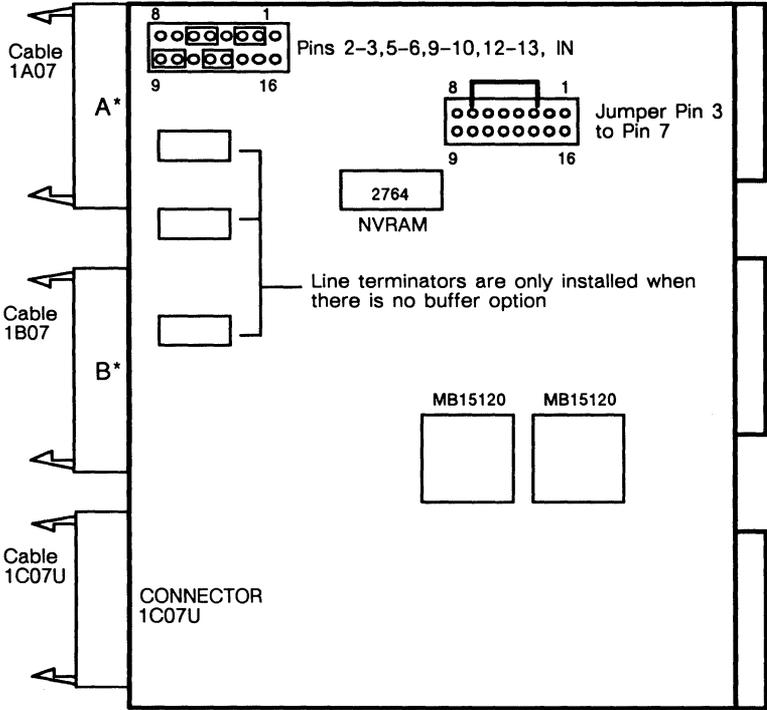
FUJITSU BOARD LABEL = 532706U
FUJITSU DOC NUMBER = C16B–5327–0060#U

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

```
┌─────────────────────────────────────┐─┐
│                                      │ │
│                                      │ │
│            ┌────────┐  ┌────────┐    │ │
│            │        │  │        │    └─┘
│            │MB61504 │  │MB60506 │
│            │        │  │        │    ┌─┐
│            └────────┘  └────────┘    │ │
│                                      │ │
│                                      └─┘
│   ┌──────────┐                       ┌─┐
│   │  MB7063  │                       │ │
│   └──────────┘                       │ │
│                                      └─┘
└─────────────────────────────────────┘
```
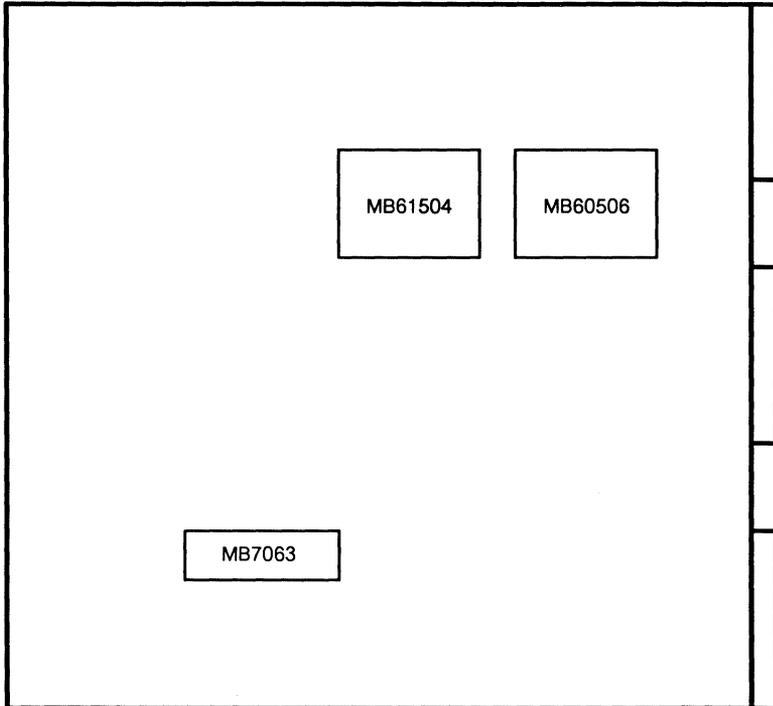
FUJITSU BOARD LABEL = 512186U
FUJITSU DOC NUMBER = C16B-5121-0860#U

Slot 8

Note: The WFM requires NO adjustment upon replacement.

Fujitsu M2444AC 1/2" Tape Drive
Read Formatter (RFM)
811-1053

```
┌─────────────────────────────────────────┐
│                                          │
│                                          │
│                                          │
│                                          │
│   ┌────────┐  ┌────────┐  ┌────────┐     │
│   │MB60507 │  │MB60507 │  │MB60507 │     │
│   └────────┘  └────────┘  └────────┘     │
│                                          │
│  ┌────────┐┌────────┐┌────────┐┌────────┐│
│  │MB60508 ││MB60508 ││MB60508 ││MB60508 ││
│  └────────┘└────────┘└────────┘└────────┘│
│                                          │
│                                          │
│                                          │
└─────────────────────────────────────────┘
```
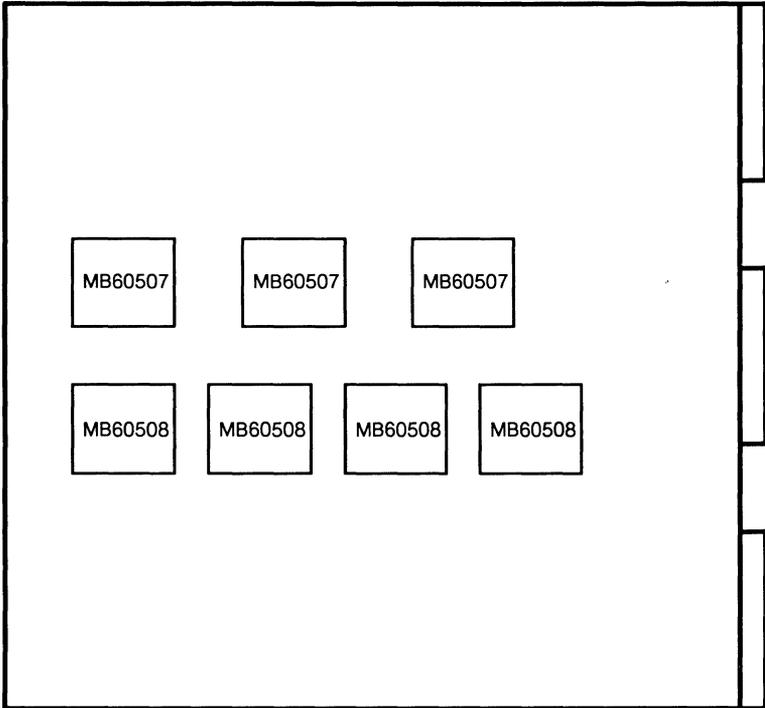
FUJITSU BOARD LABEL   = 512188U
FUJITSU DOC NUMBER = C16B-5121-0880-#U

Slot 9

Note: The RFM requires NO adjustment upon replacement.

Fujitsu M2444AC 1/2" Tape Drive
Variable Frequency Oscillator (VFO)
811–1057

Pins 3–4, In   Pins 1–2, In
   7–8, In
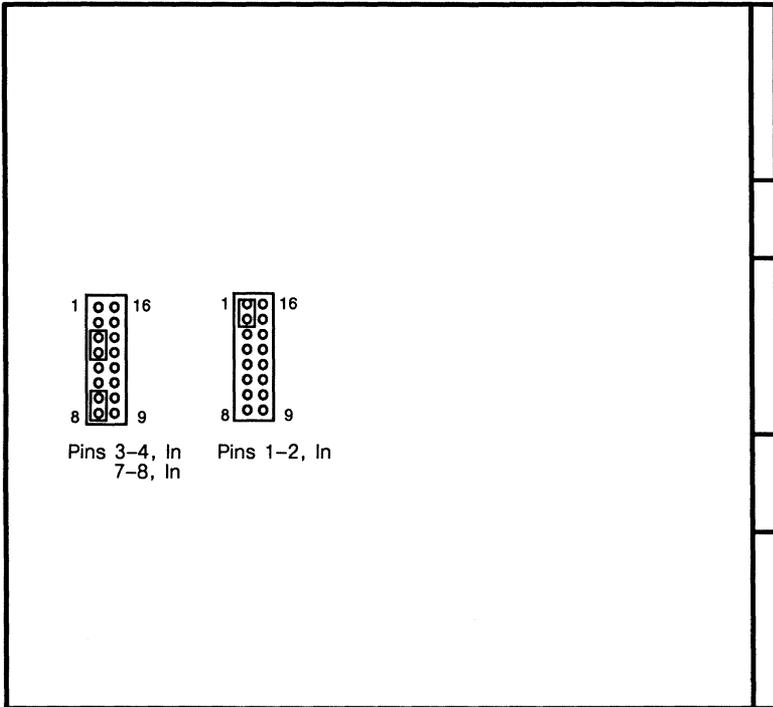
FUJITSU BOARD LABEL = 550194U C320–5501–T274/03 FJ–A
FUJITSU DOC NUMBER = C16B–54501–0940#U

Slot 10

Note: The VFO requires NO adjustment upon replacement.

Fujitsu M2444AC 1/2" Tape Drive
Read Amplifier Card (RDA)
811-1056

```
           Cable
           CNJ14                          VOLTAGE REG.

                   CNP14


                                    Jumpers
                                    All Empty


                   COIL
                    O    COIL
                          O

                   Jumper (empty)
```
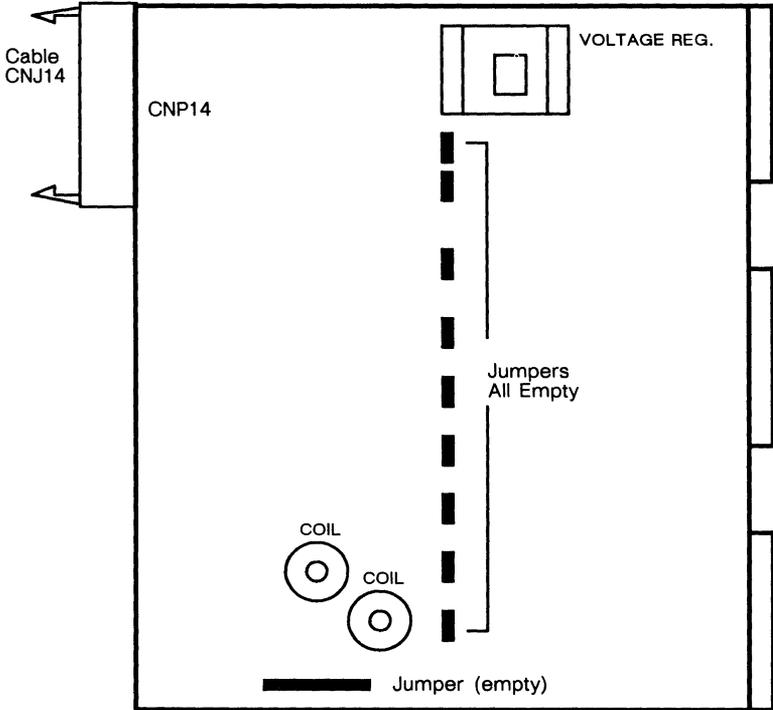
FUJITSU BOARD LABEL = RKEMU B350-8930-T016A02 FJ-A
FUJITSU DOC NUMBER = B16B-9920-0010A#U

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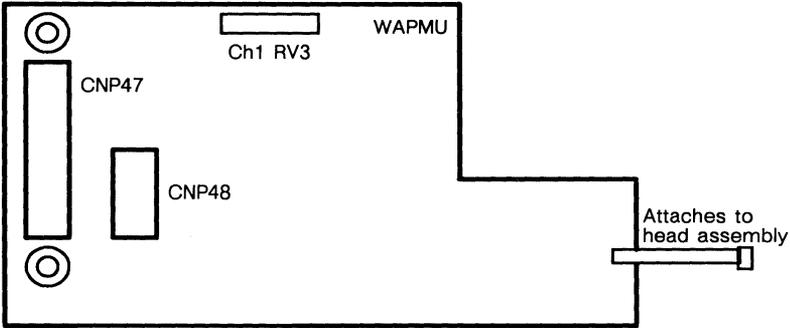
FUJITSU BOARD LABEL = WAPMU
FUJITSU DOC NUMBER = B16B-9470-0100A#U(WAPMU)

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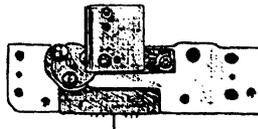
Note: The Read/Write Head requires adjustment upon replacement
       (skew tape). See REP 1240, 2110, and 2330 in the Fujitsu
       M244X CE Manual, 800-1409-01.

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)

FUJITSU BOARD LABEL = RPGMU
FUJITSU DOC NUMBER = B16B-9440-0010A#U(RPGMU)

CH3
Exploded View

4 3 2 1
Idler Tacho Check
(RV1 and RV2)
Tension Sensor Check
(RV3 and RV4)
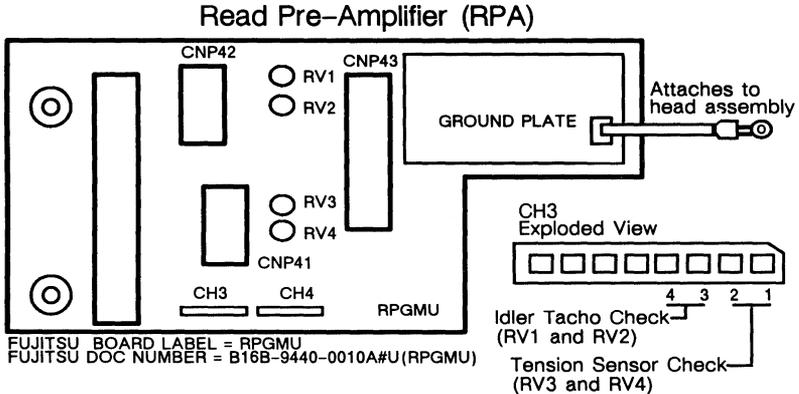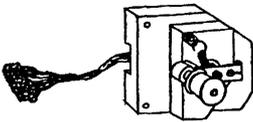
Tension Sensor   ### Idler Tachometer *
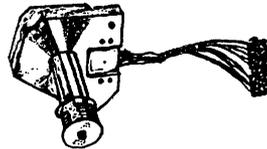
* Idler Tachometer, part number B90L-1650f-0001A, does NOT require adjustment. Variable Resistor RV1 and RV2 do not effect the signal output at CH3, pins 3 and 4.

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.

Fujitsu M2444AC 1/2" Tape Drive
Rear Door Harness and Assembly

CNJ53 to CNP53

Tension
Sensor

Main
Harness ——
Assembly

CNJ56 to
CNP56

Upper Reel
Motor Assembly
and Tacho
Cover

Door
Sensor

BOT/
EOT
Sensor
CNJ54

Reel tacho
sensor

SW1

CNJ54 to
CNP54

CNJ55 to (write enable sensor)
CNP55

CNJ64
to
CNP64

CNJ51 to
R/W
Head
Assembly

Loading fan
Module

CNJ52 to
CNP52

Lower Reel
Motor Assembly
and Tacho
Cover

Idler
Tachometer

CNJ57 to
CNP57
Reel
tacho
sensor

CNJ65
to
CNP65

CNP32 to
Pwr Supply

J66 for
+12 VDC

EXABYTE EXB–8200 8mm 2.3GB
Sun–4/370/390/470/490
Option 566
370–1297

End View
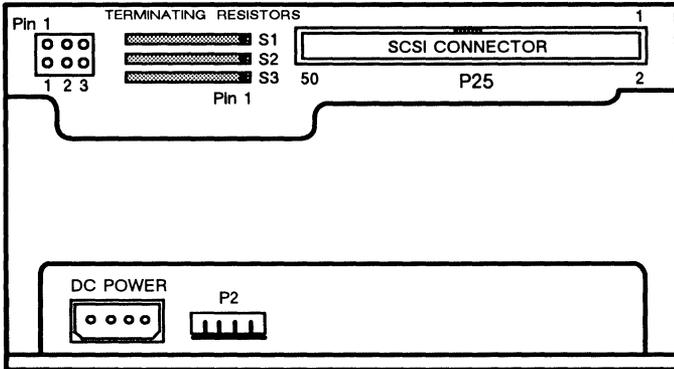
Address Select Switch Cable

Pin–1

In the External Storage Module, orient Pin–1 of the Address Select Switch Cable, 530–1659, with Pin 1 of jumper block U15.

Jumper U15

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

Power: 4.0 Amps @ +5Vdc
        1.2 Amps @ +12Vdc.
        36.4 Watts

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.

HP 88780 Front Load Tape Drive
Options 680   682   683   684
Read/Write/Format Board
370–1276
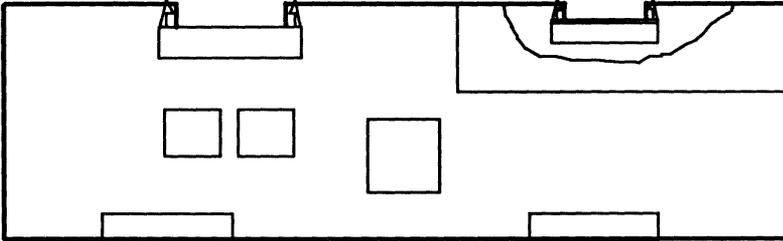
HP BOARD LABEL = 07980–66531

Drive Controller Board
370–1277
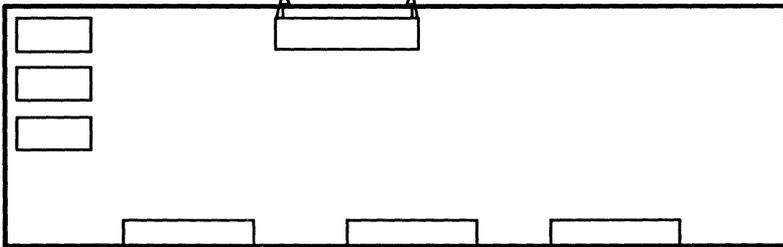
HP BOARD LABEL = 07980–66503

Single Ended I/O Board
811–1241

DEVICE   INITIATOR
TERMPWR   TERMPWR

3 Amp Fuse
NOT
REPLACEABLE
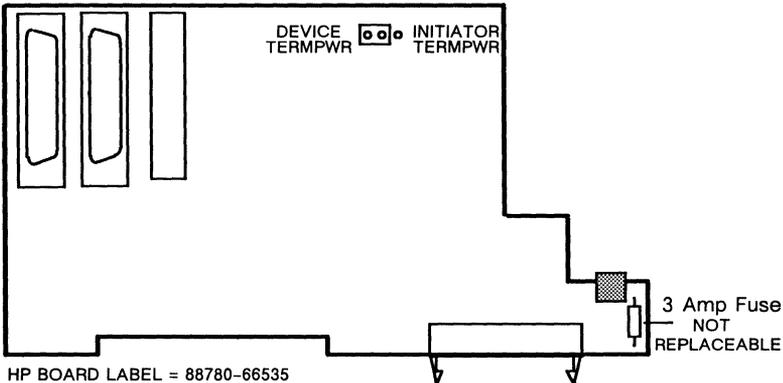
HP BOARD LABEL = 88780–66535

HP 88780 Front Load Tape Drive
Data Buffer Board
370-1279
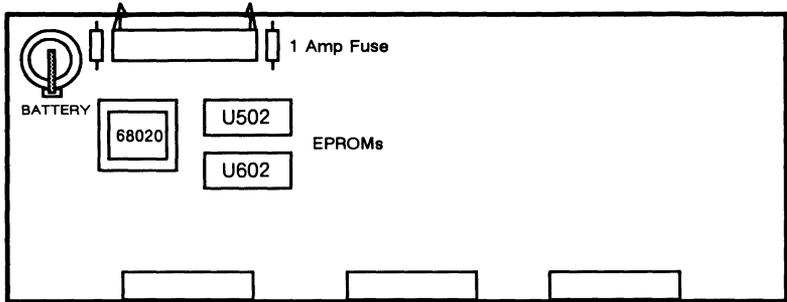
HP BOARD LABEL = 07980-66514

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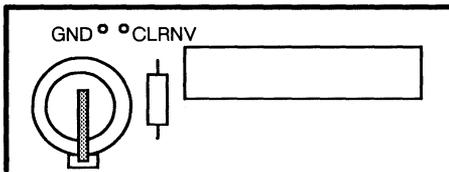
7. Apply power. FAIL--0 is displayed when selftest is complete.
8. Remove Power.
9. Remove the jumper.
10. Apply Power.
11. Load the scratch tape.
12. Run TEST 129 to load NVRAM with the contents stored on tape.
13. Run TEST 99 to calibrate the read channel gain values.

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.

Sun 1/4" Tape Controller
Sun–2/100U/150U
501–0526

U52   U50

U53

U56

ON◄—
Switches
OFF—►
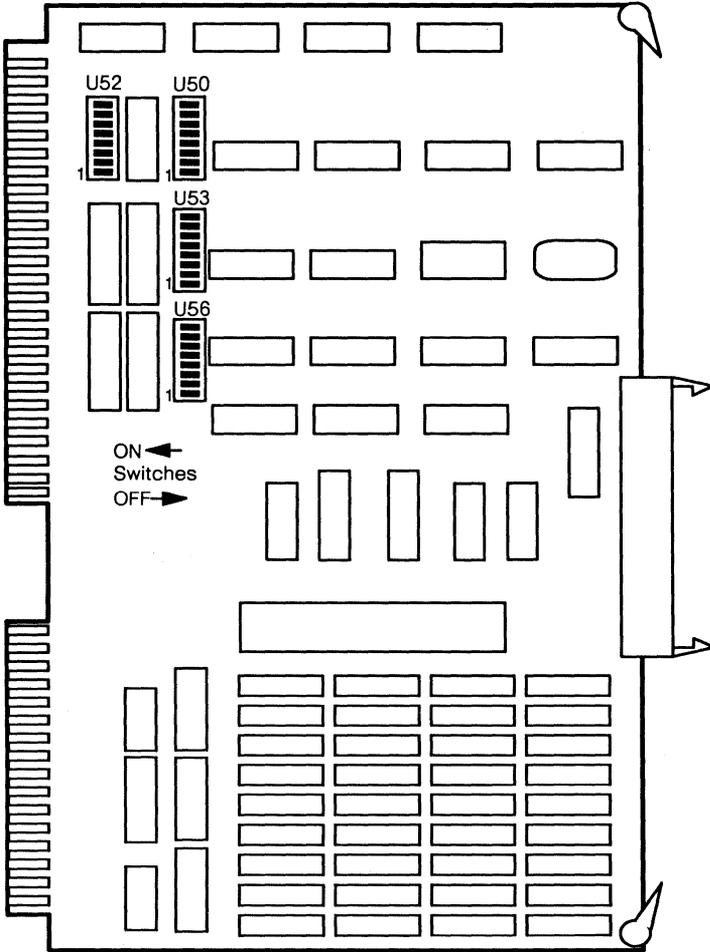
501–0526
Switch Settings

DIP SWITCH	SWITCH	SETTING	DESCRIPTION
U50	1–8	Off	Selects base address
U52	1	Off	Selects interrupt level 0
	2	Off	Selects interrupt level 1
	3	Off	Selects interrupt level 2
	4	On	Selects interrupt level 3
	5	Off	Selects interrupt level 4
	6	Off	Selects interrupt level 5
	7	Off	Selects interrupt level 6
	8	Off	Selects interrupt level 7
U53*	1	Off	
	2	On	
	3–8	Off	Decode address lines
U56*	1–8	Off	

*Selects the base address of I/O registers in Multibus

Sysgen SC4000
Sun-2/120/130/160 & Sun-3/160
Options 56 511
370-1011

DC POWER

```
┌─────────────────────────────────────────────────────────────┐
│  ┌───────────────────────┐1  ┌─────┐ ┌─────┐  ┌─────────┐    │
│  │:::::::::::::::::::::::::│   │▒▒▒▒▒│ │▒▒▒▒▒│  │o o o o  │    │
│  └───────────────────────┘    └─────┘ └─────┘  └─────────┘1  │
│           HOST               \    /                          │
│  ┌───────────────────────┐1  TERMINATOR PACKS                │
│  │:::::::::::::::::::::::::│     R220/330                  1  │
│  └───────────────────────┘   ┌───────────────────────────┐  │
│           SLAVE              │:::::::::::::::::::::::::::::│  │
│                              └───────────────────────────┘  │
│                                      TAPE                    │
│                                                             │
│                                            DIP SWITCH        │
│                                            1 ▛▀▜             │
│                                            2 ▐▐▐             │
│                                            3 ▐▐▐             │
│                                            4 ▙▄▟             │
│                                            Off  On           │
```
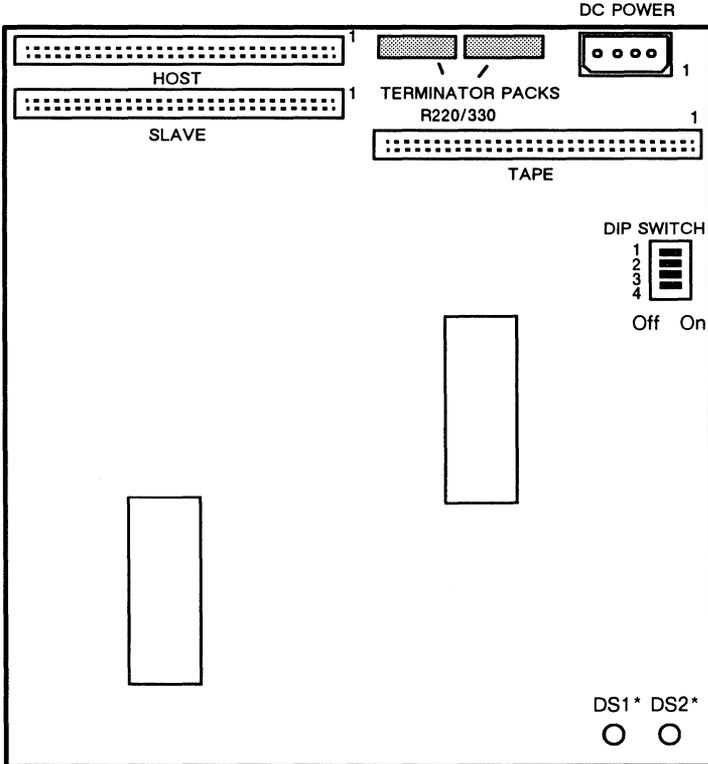
*DS1, On, indicates an error
DS2, On, indicates Sysgen is busy

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 SAC Standalone Controller
Sun–2/120
Options 61   73
370–1026

2 [============================] 50

▯ D

○

▯ E

○ ▯ F

▯ C

A   B
[========]

K
L

A2
A1 [====] A3

TERMINATOR
RESISTOR PACK
(220/230)

AA

BB
CC
DD
EE
FF
HH
KK
Y
ZZ

YY
J

H▯

B1   B3
[====]
B2

○ ○ ○ ○ ○

2   50

DC
POWER
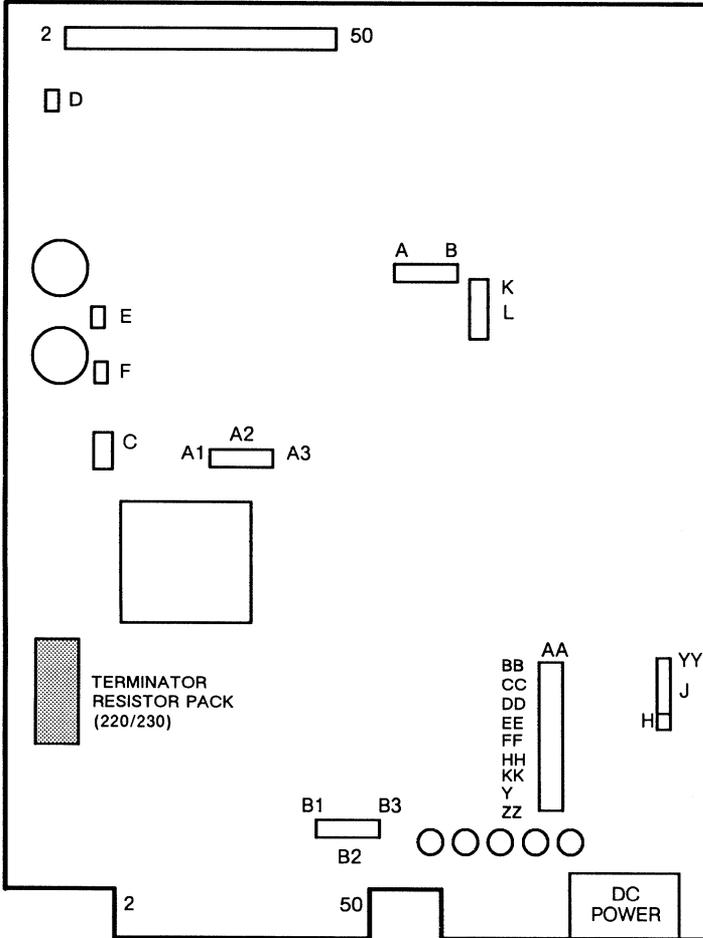
370–1026
Jumper Settings

JUMPER	SETTING	DESCRIPTION
AA	Off	Format Selection QIC–11/24
BB	Off	
CC*	Off/On	
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
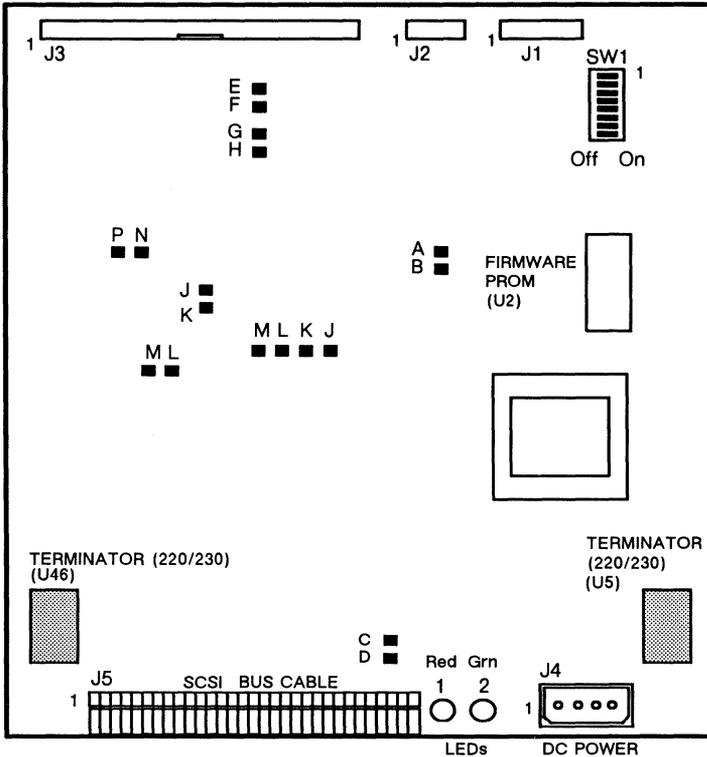
KEY	LED 1 (Green)	LED 2 (Red)	STATE
0 = Off	0	0	Power up reset clear
1 = On	1	1	Power up self–test passed

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 370–1235
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 always 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–2/100U/120/130/150U/160/170
Sun–3/160/180/260/280/460/470/480
370–0502
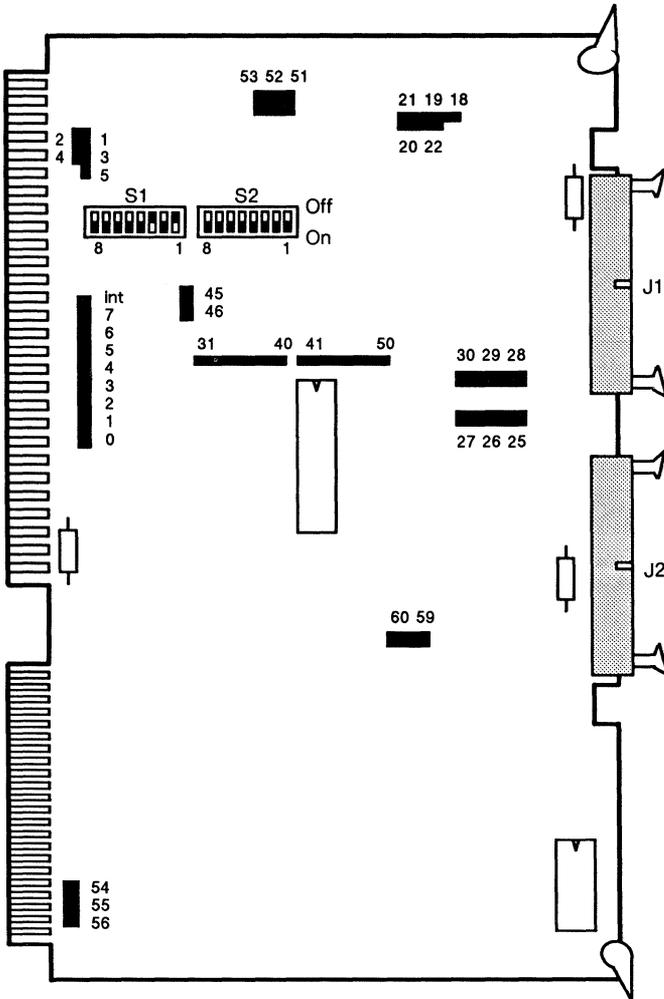
Power: 5.0 Amps @ +5Vdc
        25.0 Watts

370–0502
Switch Settings

DIP SWITCH	SWITCH	SETTING	DESCRIPTION
S1			Addressing Mode and Address Line select
	1	Off	Addr A7
	2	On	Addr A6
	3	Off	Addr A5
	4	On	Addr A4
	5	On	Addr A3
	6	On	Addr A2
	7	*	Addr A1 Channel Attn addr
	8	On	Data Bus selection (16Bit/8Bit)
S2			Channel Attention Selection
	1	On	Addr AF
	2	On	Addr AE
	3	On	Addr AD
	4	On	Addr AC
	5	On	Addr AB
	6	On	Addr AA
	7	On	Addr A9
	8	On	Addr A8

*tm0=On (Channel Attention Address LSB=0xA0)
 tm1=Off (Channel Attention Address LSB=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	In	Enable CBRQ		
5	Out			
15–16	Hardwired	Select 16–bit address mode		
18–19	Hardwired	Non–maintenance mode		
20–21	Hardwired	(Normal mode)		
22	Out			
25–26	Hardwired	Check odd parity		
27	Out			
28–29	Hardwired	Generate odd parity		
30	Out			
31 to 32,33,34,35	Hardwired	A4–A7 (Low)		
36–40	Hardwired	A8 (High)		
31 to 37,38,39	Hardwired	A9–A11 (Low)	Address (A4–A19) 0x01106	
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	Hardwired	Enable ANYQRST high		
53	Out			
54–55	Hardwired	Select 2732–based firmware		
56	Out			
57–58	Hardwired	Enable system bus time–out		
59,60	Out	(Normal mode) Disable Diagnostics		
INT–3	Hardwired	Level 3 interrupt		

Sun–2/100U

PINS	SETTING	DESCRIPTION
1,2	In	Serial arbitration
3–5	In	CBRQ low
4	Out	
51–52	Hardwired	ANYQRST high
53	Out	

VMEbus to Multibus Adapter
with Ciprico Tapemaster
Sun–2/130/160
Sun–3/160/180/260/280/460/470/480
501–1156

P1 P3

ADAPTER 501–1054

TAPEMASTER 370–0502

CABLE
530–1165

CABLE
530–1165

J2 J1

TAPE B TAPE A
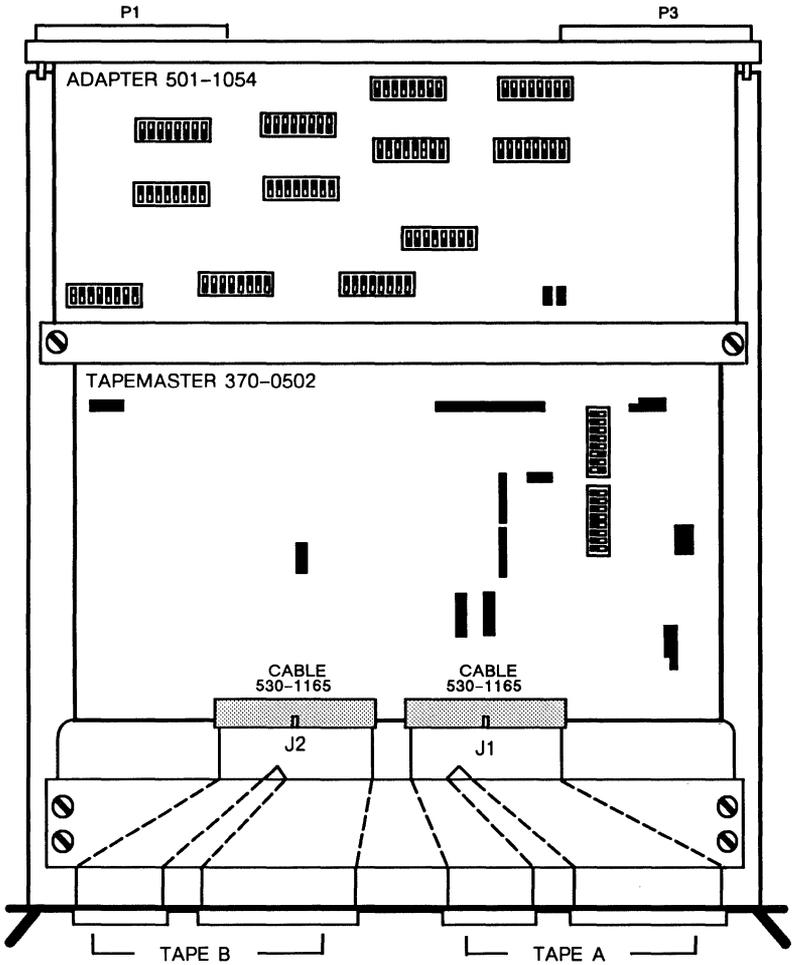
VMEbus to Multibus Adapter
with Ciprico Tapemaster
501-1156

| VME P1 | | | | VME P3 |

Dip 2   Dip 10

Dip 8   Dip 6   Dip 1   Dip 9

Dip 7   Dip 5

Dip 3

↑ ON

Switches

↓ OFF

Dip 12   Dip 11   Dip 4   J1

| M'Bus P2 | | M'Bus P1 |
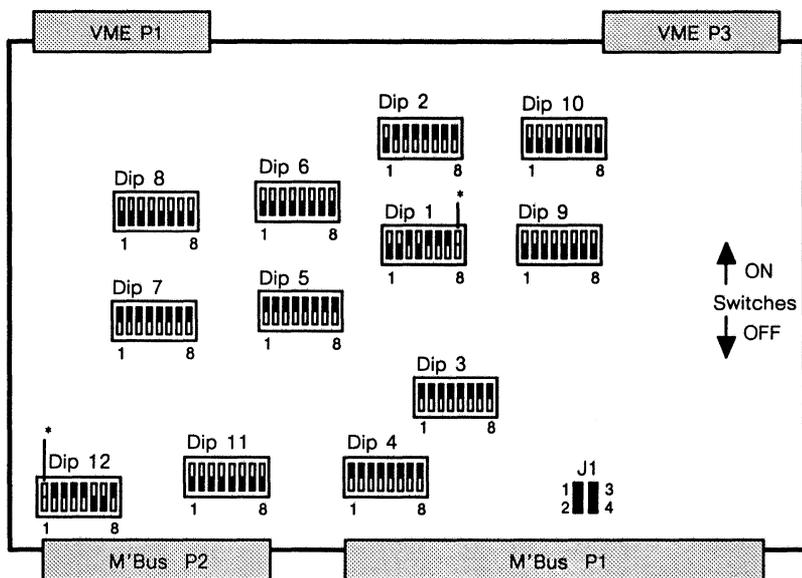
SWITCH	1	2	3	4	5	6	7	8	DESCRIPTION
U1	N/C	OFF	ON	OFF	ON	ON	ON	*	I-O Address
U2	N/C	ON	ON	ON	ON	ON	ON	ON	I-O Space = 2
U3	ON	ON	ON	ON	ON	ON	ON	ON	I-O Address = 0x00
U4	ON	ON	ON	ON	ON	ON	ON	ON	VME I-O Space
U5	ON	ON	ON	ON	ON	ON	ON	ON	24-Bit Memory Address Space
U6	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	24-Bit 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)

Power: 5.1 Amps @ +5Vdc
        25.5 Watts

Xylogics 472
Sun-2/120/130/160/170
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	Out	All Sun–2 Multibus Systems (20–bit address)
		In	All Sun–2,3,4 VME Systems (24–bit address)
JM	1	*	Select ADR0x17 ⎫
	2	*	Select ADR0x16 ⎪ All IN for 24–bit addressing
	3	*	Select ADR0x15 ⎬ and all OUT for 20–bit
	4	*	Select ADR0x14 ⎭ addressing
JG	1	Out	
	2	In	8KB FIFO Buffer On–Board (Selected)
JJ	N/A	In	8KB FIFO Buffer On–Board (Selected)
JH	1	Out	
	2	In	Select 10MHz On–Board Sequencer Clock
JK			Interrupt Level Selection
	0	Out	Select Interrupt Level–0
	1	Out	Select Interrupt Level–1
	2	Out	Select Interrupt Level–2
	3	In	Select Interrupt Level–3 ⟵ Factory Setting
	4	Out	Select Interrupt Level–4
	5	Out	Select Interrupt Level–5
	6	Out	Select Interrupt Level–6
	7	Out	Select Interrupt Level–7
JL	N/A	Out	Select 16–Bit I–O Address
JN	N/A	Out	Select Parallel DMA Priority
JA to	JA JB		Selects the "high–order" byte of I–O Address
JB	1 to 1	Out	ADR0xF ⎫
	2 to 2	Out	ADR0xE ⎪
	3 to 3	Out	ADR0xD ⎪
	4 to 4	In	ADR0xC ⎬ Selects High–Order
	5 to 5	Out	ADR0xB ⎪ Byte = 0xEE
	6 to 6	Out	ADR0xA ⎪
	7 to 7	Out	ADR0x9 ⎪
	8 to 8	In	ADR0x8 ⎭

370–1067
Jumper Settings – Continued

JUMPER	PINS	SETTING	DESCRIPTION
JC to JD	JC JD		
	1 to 1	In	ADR0x7 ⎫
	2 to 2	Out	ADR0x6
	3 to 3	Out	ADR0x5
	4 to 4	In	ADR0x4 ⎬ Set as "First Controller" device
	5 to 5	In	ADR0x3 (xtc0). I–O Address = 0x60
	6 to 6	In	ADR0x2
	7 to 7	In	ADR0x1
	8 to 8	In	ADR0x0 ⎭
	1 to 1	In	ADR0x7 ⎫
	2 to 2	Out	ADR0x6
	3 to 3	Out	ADR0x5
	4 to 4	In	ADR0x4 ⎬ Set as "Second Controller" device
	5 to 5	Out	ADR0x3 (xtc1). I–O Address = 0x68
	6 to 6	In	ADR0x2
	7 to 7	In	ADR0x1
	8 to 8	In	ADR0x0 ⎭

VMEbus to Multibus Adapter
with Xylogics 472
Sun-2/120/130/160/170
Sun-3/160/180/260/280/460/470/480
Sun-4/260/280/360/380
501-1155

P1   P3

ADAPTER 501-1054

XYLOGICS 472   370-1067

CABLE   CABLE
530-1165   530-1165

J2   J1

TAPE B   TAPE A
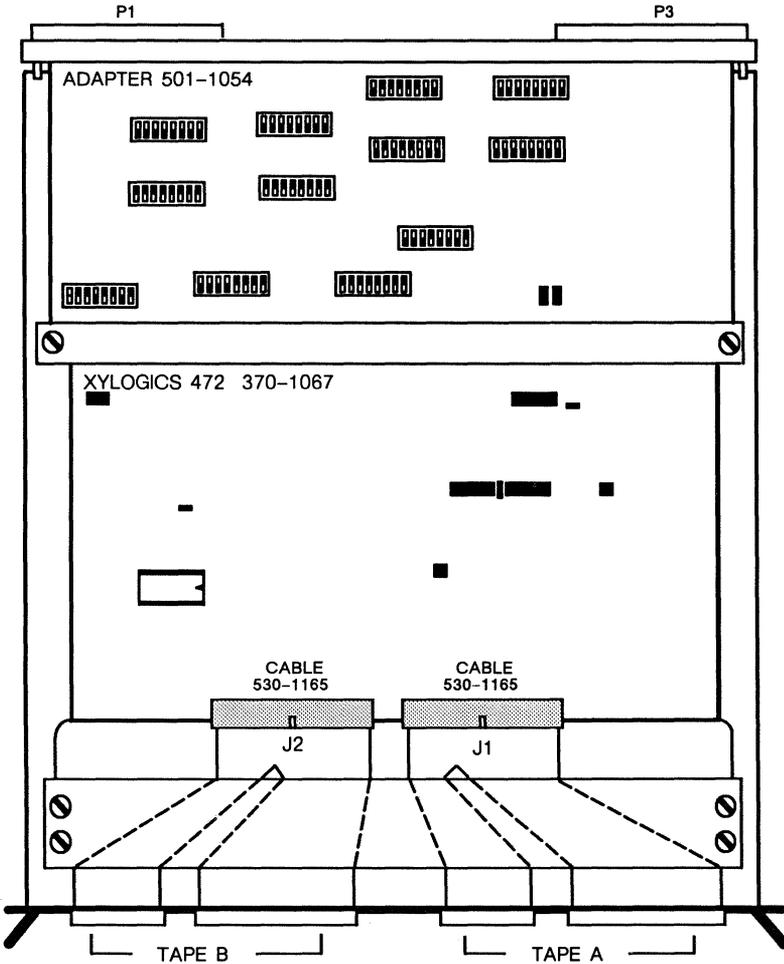
VMEbus to Multibus Adapter
with Xylogics 472
501-1155
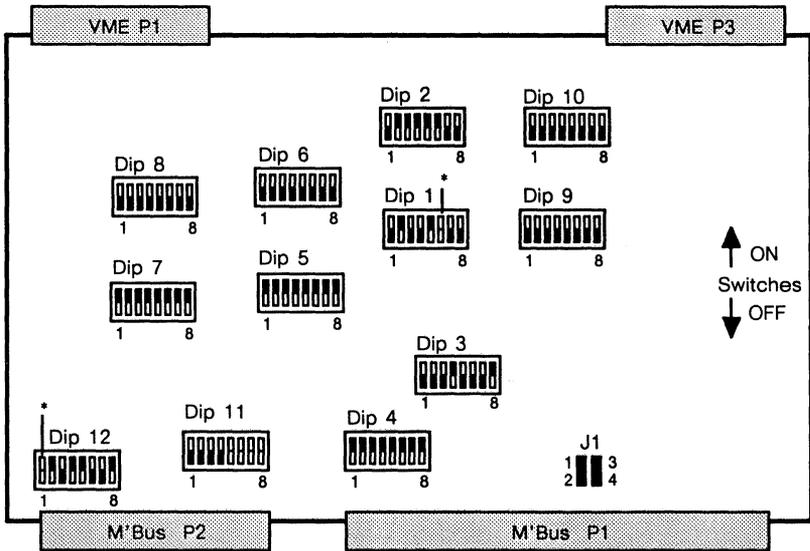
SWITCH	1	2	3	4	5	6	7	8	DESCRIPTION
U1	N/C	ON	OFF	OFF	ON	*	OFF	OFF	I-O Address
U2	N/C	ON	ON	ON	ON	ON	OFF	OFF	I-O Space = 8
U3	OFF	OFF	OFF	ON	OFF	OFF	OFF	ON	I-O Address = 0xEE
U4	ON	ON	ON	ON	ON	ON	ON	ON	VME I-O Space
U5	ON	ON	ON	ON	ON	ON	ON	ON	24-Bit Memory Address Space
U6	OFF	OFF	OFF	OFF	OFF	OFF	OFF	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.

Sony 1.4MB Floppy Diskette

	Sun-3/80	
Sun386i	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

End View

DRIVE
SELECT

FLOPPY CONNECTOR

1

DC POWER

Exploded View of
Drive Select Switch

3 2 1 0
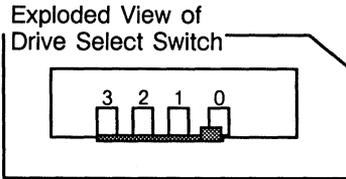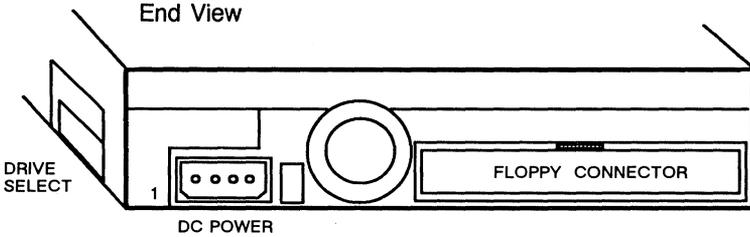
Power: 0.3 Amps @ +5Vdc
        1.5 Watts

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.
2. *Installing SPARCstation 1 Internal Drives*, 800-4902.

CONFIGURATIONS

COMMUNICATION

Communication

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3Com 3C400 Ethernet Controller
Sun-2/100U/120/150U/170
370-0288

JP1 JP2

ADR13

Off   On

EXPLODED VIEW OF
Jumpers

JP4
JP6
JP3
JP5
INT7
INT6
INT5
INT4
INT3
INT2
INT1
INT0

ADR17

1

8

Off   On
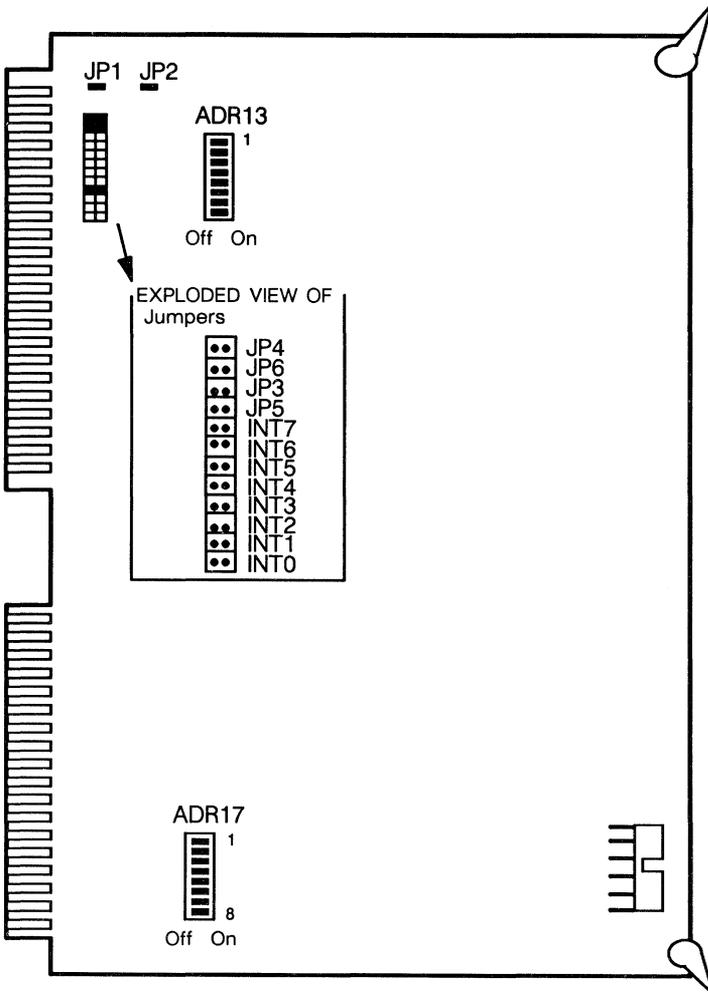
Power: 5.0 Amps @ +5Vdc
        0.5 Amps @ +12VdcVdc
        31.0 Watts

Note: This board only works with an Ethernet Level 1 Transceiver.

370–0288
Jumper & Switch Settings

JUMPER	SETTING	DESCRIPTION
JP1	Out	24 bit address
JP2	In	20 bit address
JP3	Out	Memory
JP4	In	Memory
JP5	Out	Memory
JP6	In	Memory
INT7	Out	Int7
INT6	Out	Int6
INT5	Out	Int5
INT4	Out	Int4
INT3	In	Int3
INT2	Out	Int2
INT1	Out	Int1
INT0	Out	Int0

First Board
(ec0)
Base address is 0xE 0000

Second Board
(ec1)
Base address is 0xE 2000

DIP SWITCH ADR 13

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

DIP SWITCH ADR 13

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

DIP SWITCH ADR 17

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

DIP SWITCH ADR 17

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

Sun-2 Ethernet Controller
Sun-2/120/130/160/170 & Sun-3/110/140
Sun-3/150/160/180/260/280/460/470/480
Sun-4/110/150/260/280/310/330/350/360
Sun-4/370/390

501-1004
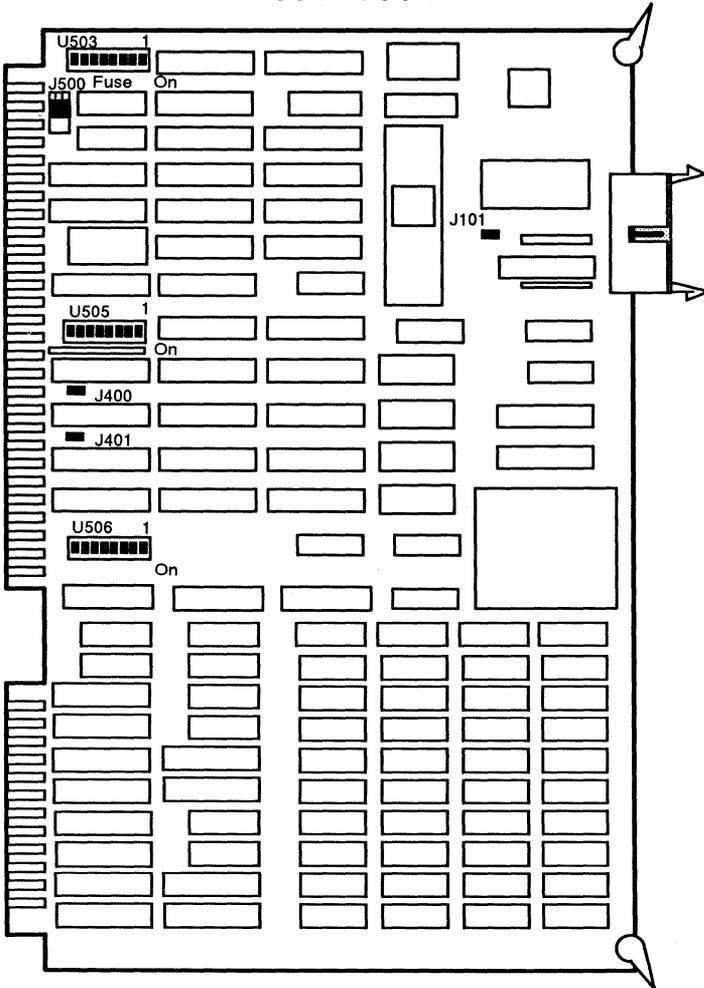

```
Power:  6.0 Amps @  +5Vdc
        0.5 Amps @  +12VdcVdc
        36.0 Watts
```

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

Note: The 2Amp 125V subminiature fuse is located on top of J500

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-2/130/160 & Sun-3/110/140/150/160
Sun-3/180/260/280460/470/480
Sun-4/110/150/260/280/310/330/350/360
Sun-4/370/390
501-1153
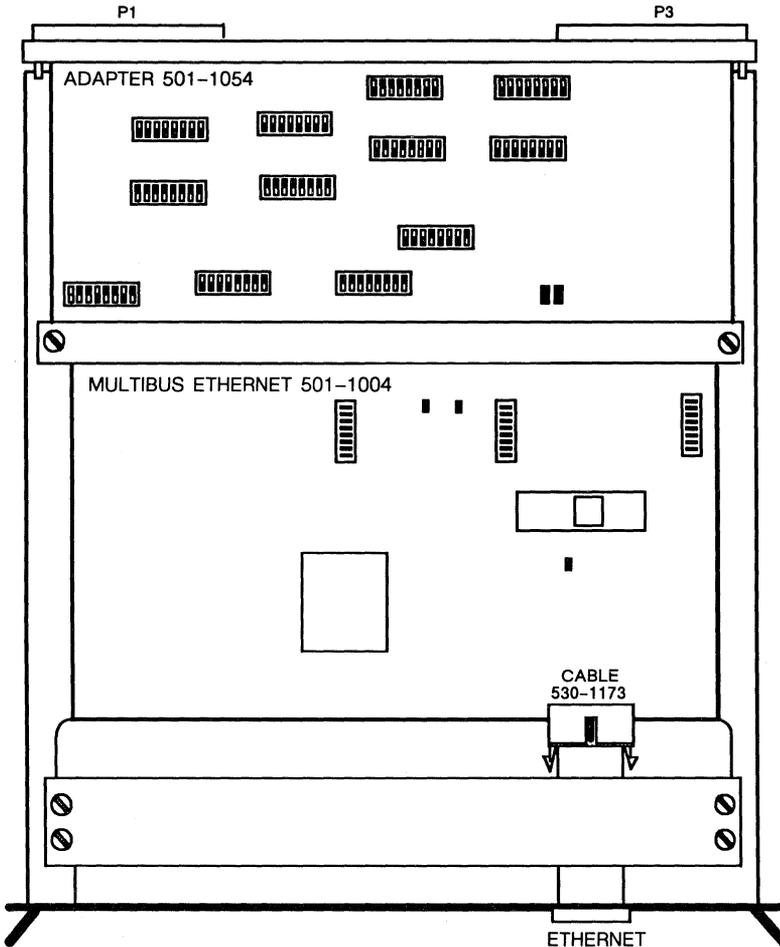
P1   P3

ADAPTER 501-1054

MULTIBUS ETHERNET 501-1004

CABLE
530-1173

ETHERNET

VMEbus to Multibus Adapter
with Sun–2 Ethernet
Sun–2/130/160
Sun–3/110/140/150/160/180/260/280/460/470/480
un–4/110/150/260/280/310/330/350/360/370/380/390
501–1153
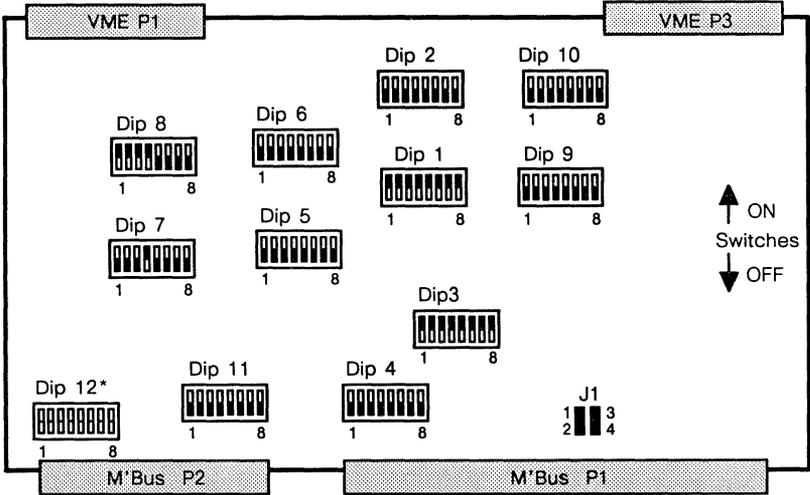
VME TO MULTIBUS ADAPTER BOARD SWITCH SETTINGS								
SWITCH	1	2	3	4	5	6	7	8	DESCRIPTION
U1	N/C	ON	ON	ON	ON	ON	ON	ON	I–O Address = 0x00
U2	N/C	OFF	OFF	OFF	OFF	OFF	OFF	OFF	I–O Space = No response
U3	ON	ON	ON	ON	ON	ON	ON	ON	I–O Address = 0x00
U4	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	VME I–O Space = No response
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.

Power: 5.8 Amps @ +5Vdc
          29.0 Watts

Sun–3/E Ethernet Assembly
Sun–4/390/470/490
501–1584
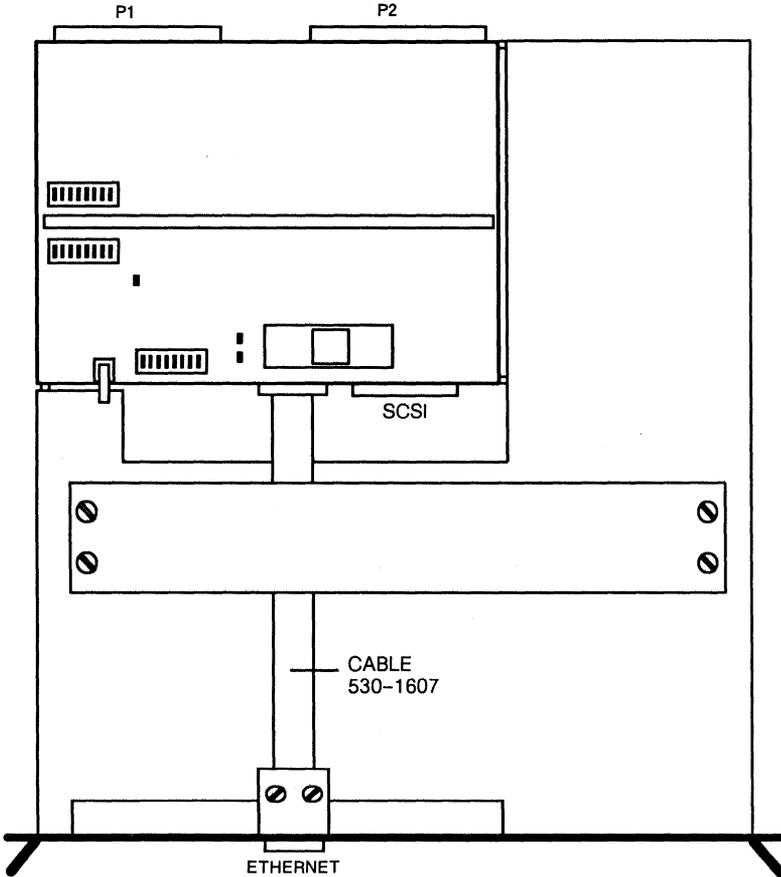
P1   P2

SCSI

CABLE
530–1607

ETHERNET

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 or
   ≥501–1584–02.

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

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

Note: This board is designed for use with Level 2 transceivers only.

Systech DCP-8804
SunLink Communications Processor (SCP)
Sun-2/120/130/160/170 & Sun-3/110/140/150
Sun-3/160/180/260/280/460/470/480
370-1049
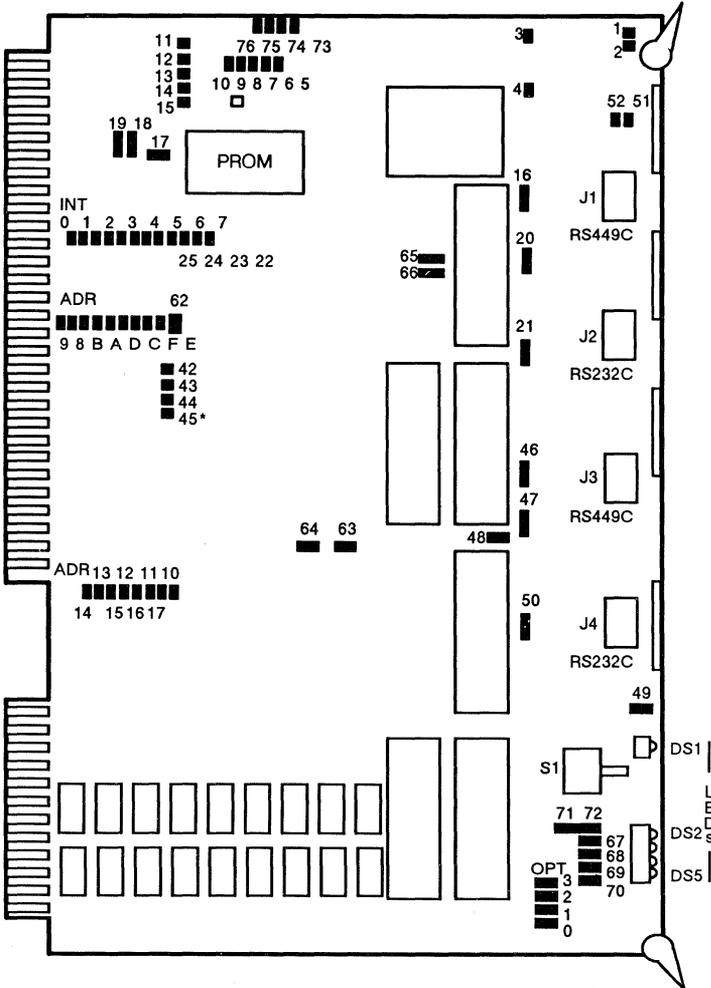
Power: 5.6 Amps @ +5Vdc
        0.2 Amps @ +12VdcVdc
        0.1 Amps @ -12
        31.6 Watts

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–2/130/160 & Sun–3/110/140/150
Sun–3/160/180/260/280/460/470/480
501–1158

P1   P3

ADAPTER 501–1054

SYSTECH DCP–8804   370–1049

CABLE   CABLE   CABLE   CABLE
530–1178 530–1180   530–1179   530–1181

PORT 3   PORT 2   PORT 1   PORT 0
RS–232   RS–232   RS–232   RS–232
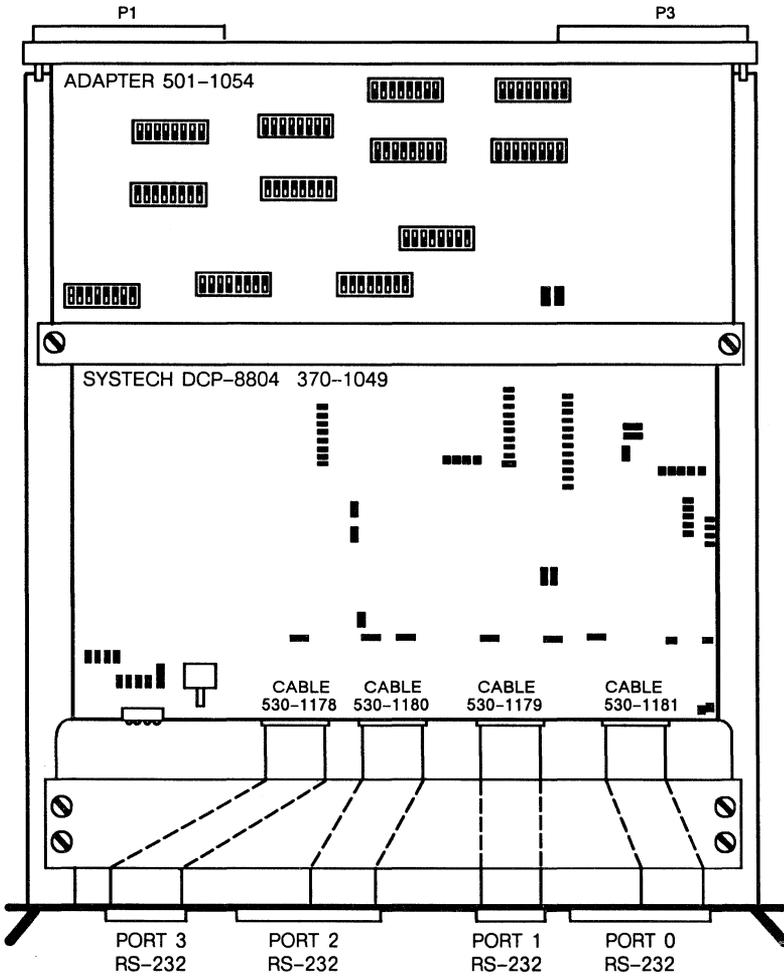
VMEbus to Multibus Adapter
with Systech DCP-8804
501-1158
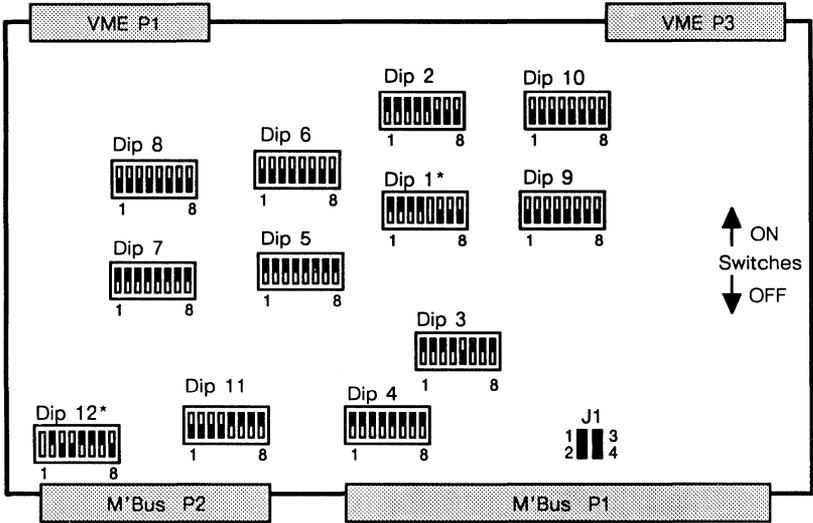
VME TO MULTIBUS ADAPTER BOARD SWITCH SETTINGS								
SWITCH	1	2	3	4	5	6	7	8	Description
U1	N/C	ON	ON	ON	*	OFF	OFF	OFF	I–O Address = 0x800
U2	N/C	ON	ON	ON	ON	OFF	OFF	OFF	I–O Space = 16
U3	ON	ON	ON	ON	OFF	ON	ON	ON	I–O Address = 0x0800
U4	ON	ON	ON	ON	ON	ON	ON	ON	VME I–O Space
U5	ON	ON	ON	ON	ON	ON	ON	ON	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

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

Systech MTI–800/1600 Controller
Asychronous Line Multiplexer 1 (ALM–1)
Sun–2/120/130/160/170 & Sun–3/150/160
Sun–3/180/260/280/460/470/480
Sun–4/260/280
370–1047
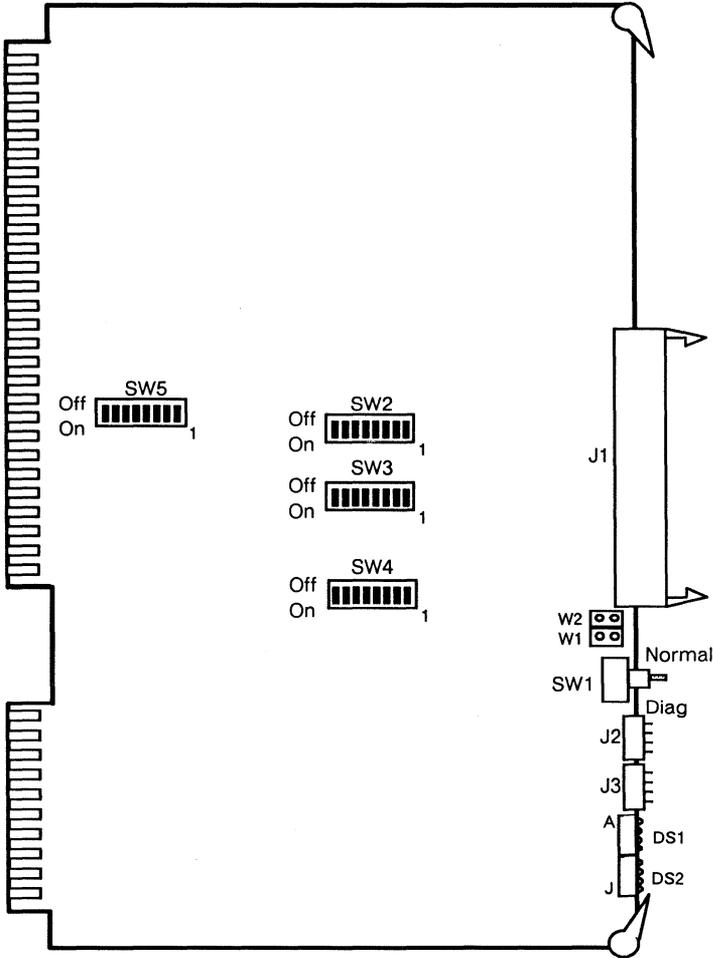
Systech Part Number 65–200004–7

370–1047
Switch Settings

mti0 Defaults

DIP	SWITCH	SETTING	DESCRIPTION
SW2	1	Off	Address Select (0 x 620)
	2	Off	Address Select (0 x 620)
	3	Off	Address Select (0 x 620)
	4	Off	Address Select (0 x 620)
	5	Off	Address Select (0 x 620)
	6	On	Address Select (0 x 620)
	7	On	Address Select (0 x 620)
	8	Off	Address Select (0 x 620)
SW3	1	Off	Address Select (0 x 620)
	2*	Off	Address Select (0 x 620)
	3*	On	Address Select (0 x 620)
	4	Off	Address Select (0 x 620)
	5	Off	Address Select (0 x 620)
	6	Off	16–bit Address
	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	9600 Baud
	6	On	9600 Baud
	7	On	9600 Baud
	8	Off	9600 Baud
SW5	1	Off	Interrupt Level 4
	2	Off	Interrupt Level 4
	3	Off	Interrupt Level 4
	4	Off	Interrupt Level 4
	5	On	Interrupt Level 4
	6	Off	Interrupt Level 4
	7	Off	Interrupt Level 4
	8	Off	Interrupt Level 4

*For mti1, Dip SW3, Switch–2, On, and Switch–3, Off
 For mti2, Dip SW3, Switch–2, On, and Switch–3, On

Systech MTI–850/1650 Controller
Asychronous Line Multiplexer 1 (ALM–1)
Sun–2/120/130/160/170 & Sun–3/150/160
Sun–3/180/260/280/460/470/480
Sun–4/260/280
370–1099
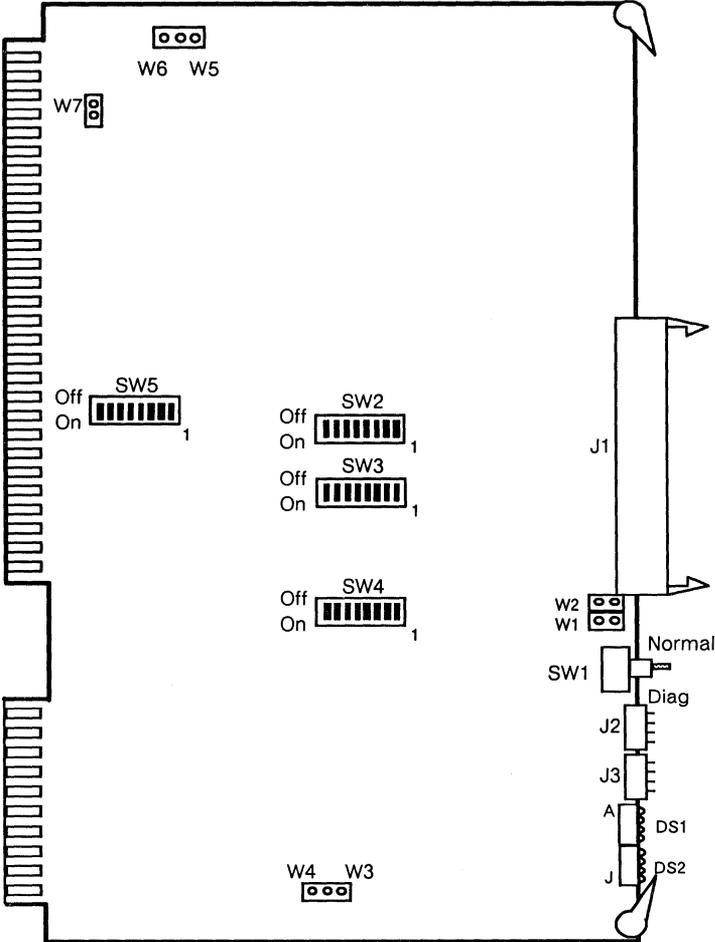
Systech Part Number 65–201004–8

370-1099
Switch Settings

mti0 Defaults

DIP	SWITCH	SETTING	DESCRIPTION
SW2	1	Off	Address Select (0 x 620)
	2	Off	Address Select (0 x 620)
	3	Off	Address Select (0 x 620)
	4	Off	Address Select (0 x 620)
	5	Off	Address Select (0 x 620)
	6	On	Address Select (0 x 620)
	7	On	Address Select (0 x 620)
	8	Off	Address Select (0 x 620)
SW3	1	Off	Address Select (0 x 620)
	2*	Off	Address Select (0 x 620)
	3*	On	Address Select (0 x 620)
	4	Off	Address Select (0 x 620)
	5	Off	Address Select (0 x 620)
	6	Off	16-bit Address
	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	9600 Baud
	6	On	9600 Baud
	7	On	9600 Baud
	8	Off	9600 Baud
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

*For mti1, Dip SW3, Switch-2, On and Switch-3, Off
For mti2, Dip SW3, Switch-2, On, and 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-2/130/160 & Sun-3/150/160/260/460/470
Sun-4/260/360
501-1157-01

P1   P3

ADAPTER 501-1054

SYSTECH MTI-1600 CONTROLLER 370-1047
SYSTECH MTI-1650 USART 370-1048

CABLE 530-1251
CTRL - USART

CABLE 530-1255   J1   CABLE 530-1252
CTLR - USART   USART - PANEL
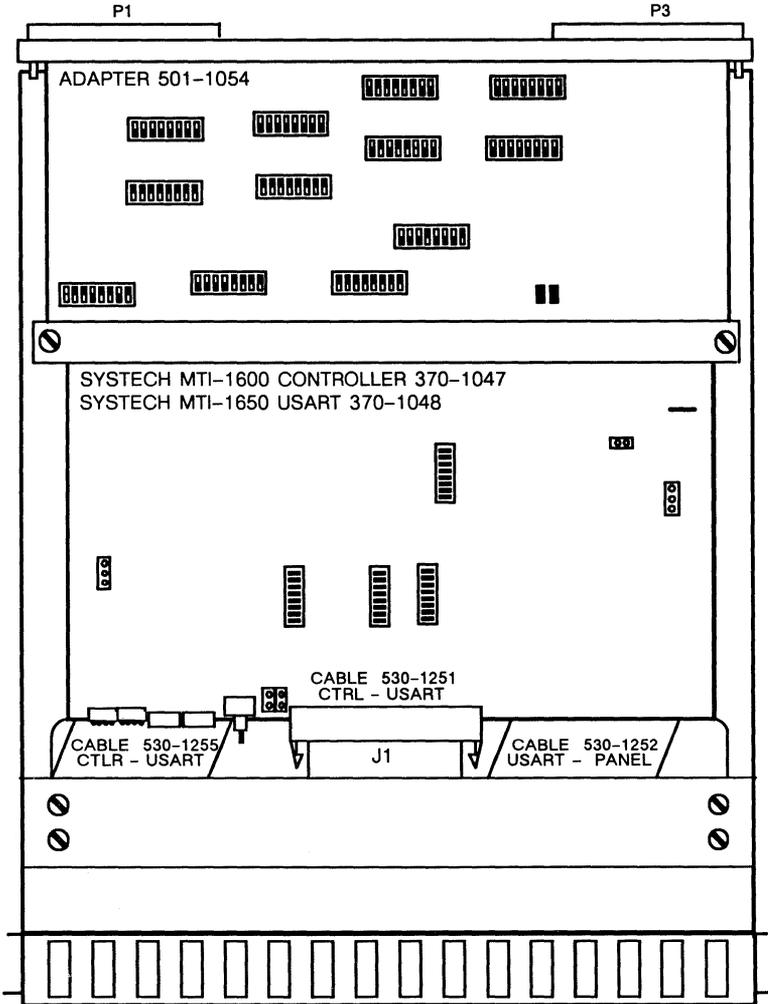
VMEbus to Multibus Adapter
with Systech MTI–1650
Sun–2/130/160 & Sun–3/150/160/260/460/470
Sun–4/260/360
501–1157–02

P1   P3

ADAPTER 501–1054

Systech MTI–1650 CONTROLLER 370–1099
Systech MTI–1650 USART 370–1100

CABLE 530–1251
CTRL – USART

CABLE 530–1255
CTLR – USART

J1

CABLE 530–1252
USART – PANEL
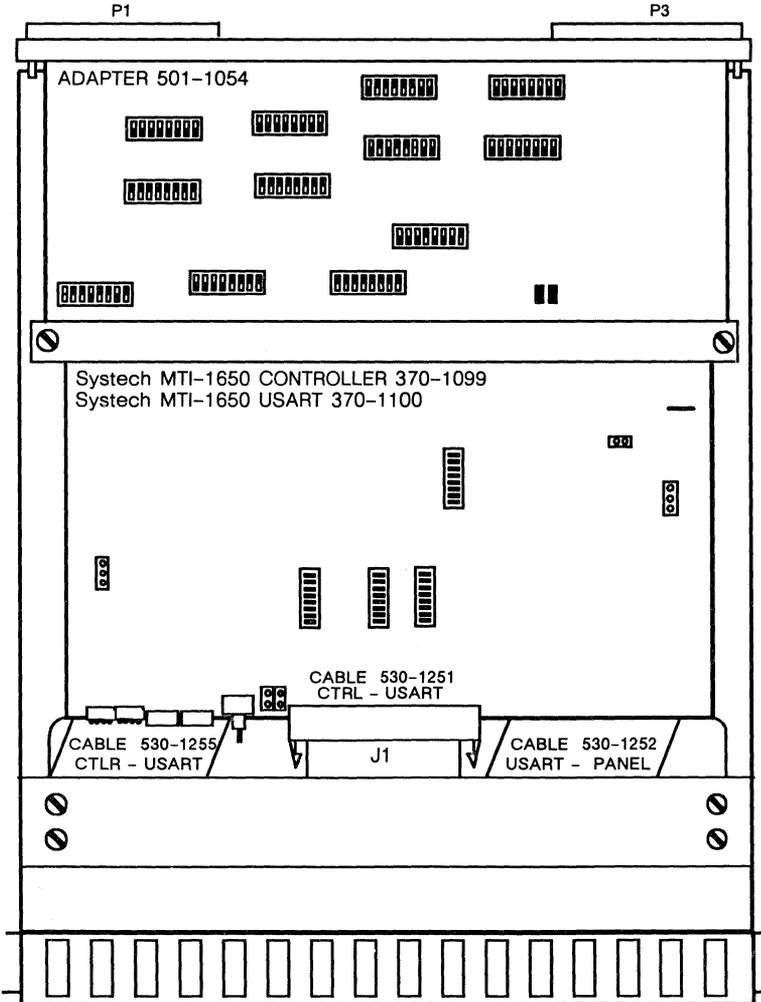
VMEbus to Multibus Adapter
with Systech MTI-1650A
Sun-3/160/180/260/280/460/470/480
Sun-4/260/280/360/380

501-1165

P1   P3

ADAPTER 501-1054

SYSTECH MTI-1650 CONTROLLER   370-1099

CABLE
530-1295   CABLE
530-1276

J1

ALM POWER   USART CABLE CONNECTOR
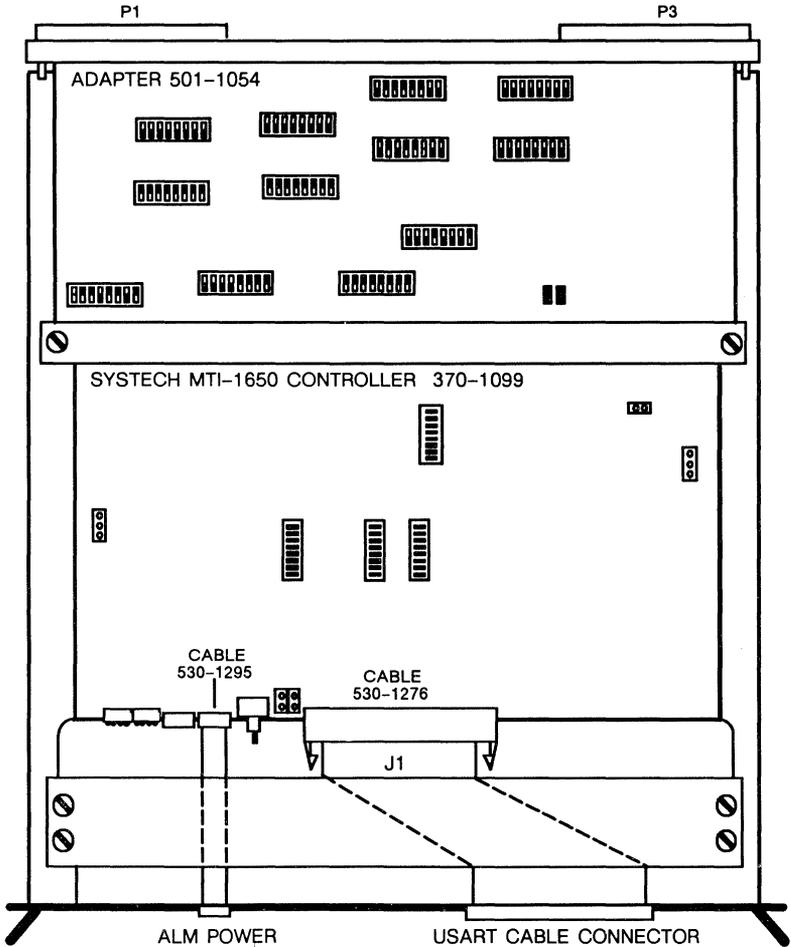
VMEbus to Multibus Adapter
with Systech MTI-1650A
501-1157 501-1165
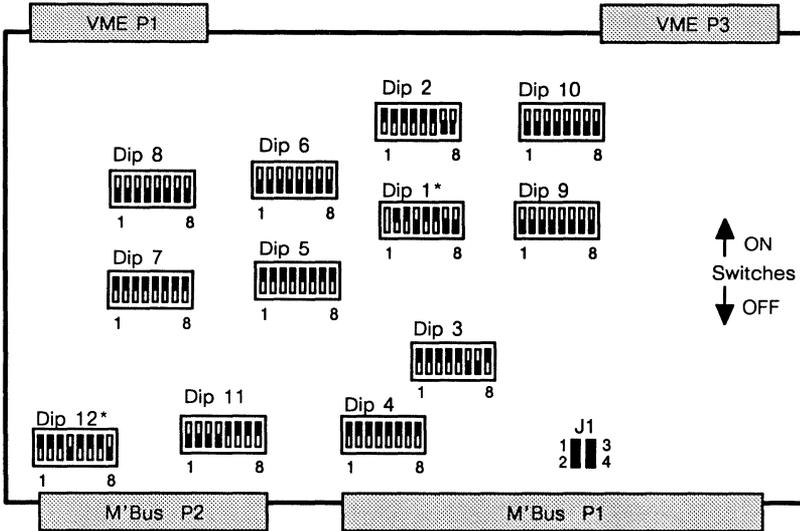
	VME TO MULTIBUS ADAPTER BOARD SWITCH SETTINGS							
SWITCH	1	2	3	4	5	6	7	8	DESCRIPTION
U1*	N/C	ON	ON	OFF	ON	ON	OFF	OFF	I-O Address
U2	N/C	ON	ON	ON	ON	ON	OFF	OFF	I-O Space = 2
U3	ON	ON	ON	ON	ON	OFF	OFF	ON	I-O Address = 0xEE
U4	ON	ON	ON	ON	ON	OFF	OFF	ON	VME I-O Space
U5	ON	ON	ON	ON	ON	ON	ON	ON	24-Bit 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.

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

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MAPKIT
Sun–2/130/160
Sun–3/110/140/150/160/180/260/280/460/470/480
Sun–4/260/280/390
501–1202*

CHANGE CLOCK

J9   J13

J5

J6

INTERRUPT REQUEST
LEVEL

J7

TOKEN BUS CONTROLLER
FAB 16005-00

J11
OPTIONAL
POWER
SUPPLY
TO
MODEM

J8 MEMORY SIZE

J3   J4   J1 J2

WATCH DOG   SHORT I/O
TIMER DELAY ADDRESS BLOCK   └── BUS REQUESTOR ──┘

J10
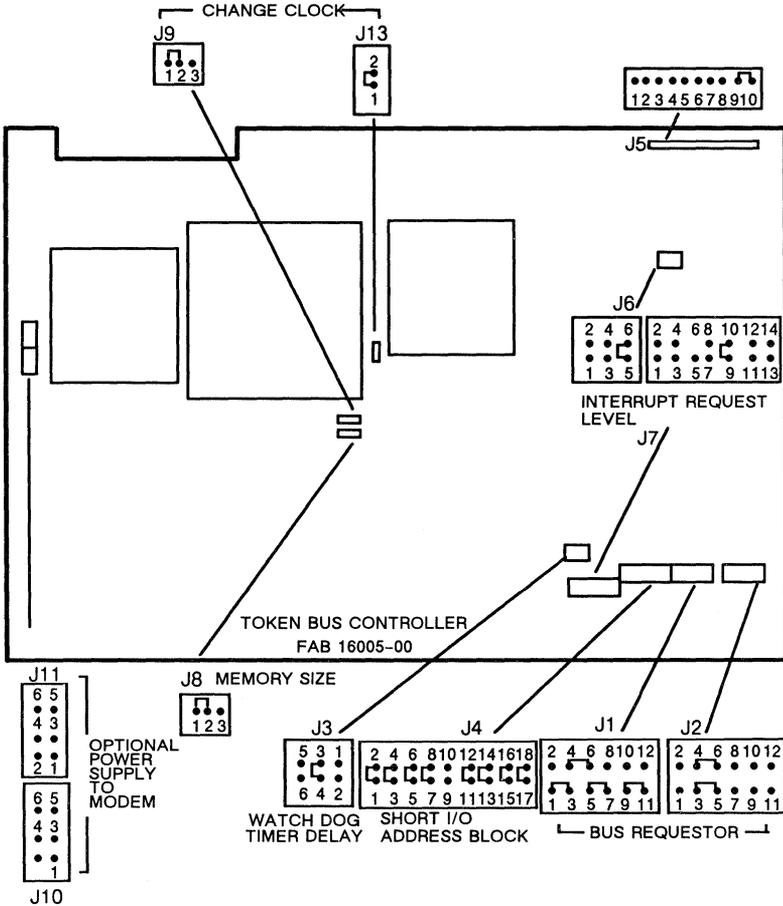
*Sun supplies the adapter board, 501–1202, required for MAPKIT installation. The INI Token Bus Controller and Modem boards are not supplied by Sun.

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

PRINTER

P11

P7

LEDs   1
       2

P10

SERIAL
PORT
CONN A
(0–5)

P6

J0202
1 32 BIT
   24 BIT

On S0201
1   8

Off S0202
1   8

P12

SERIAL
PORT
CONN B
(6–15)

P5

P9

J1501

J0201

J1502

Exploded View
J1501 and J1502

R R
S S
2 4
3 4
2 9

J1503

P4

P8

P1

P2

P3
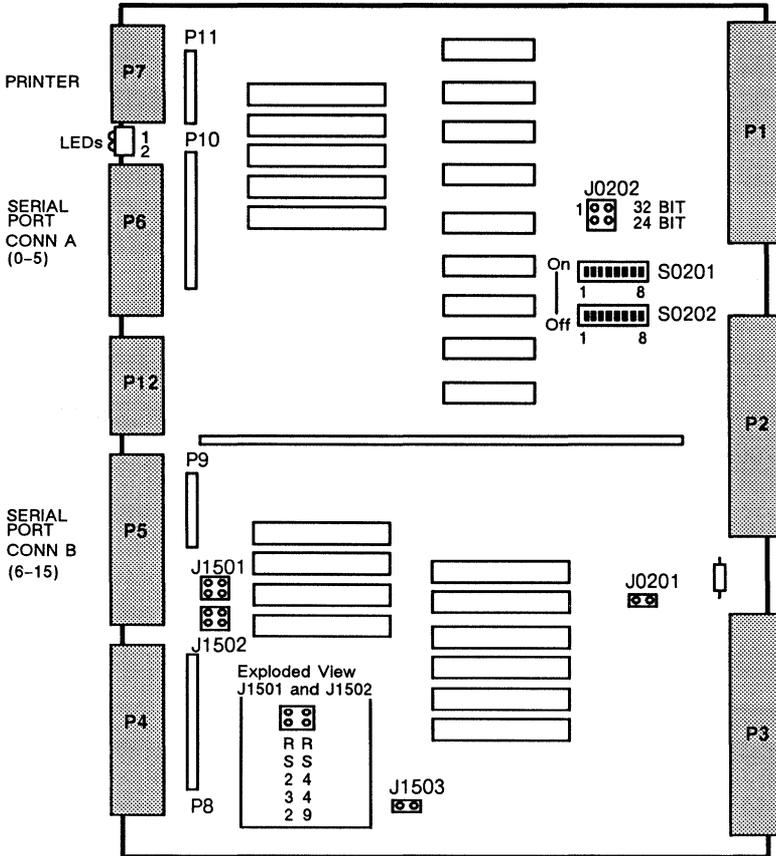
Power: 7.0 Amps @ +5Vdc
        0.2 Amps @ –5Vdc
       36.0 Watts

Note: An addressing conflict can occur between the ALM–2 and the
      MCP and ALM–1. Refer to the VME Installation Notes in the
      Backplane Section.

501–1203
Jumper & Switch Settings

JUMPER	PINS	SETTING	DESCRIPTION
J0201	1–2	In	Test jumper for oscillator
J0202	32 Bit	In	VME address bus size
	24 Bit	Out	
J1501	RS–232	In	Enables RS–232 for ALM–2
	RS–449	Out	Not used for ALM–2
J1502	RS–232	In	Enables RS–232 for ALM–2
	RS–449	Out	Not used for ALM–2
J1503	1–2	In	Test jumper for oscillator

DIP SWITCH	SWITCH	SETTING	ADDRESS BIT	DESCRIPTION
S0201	3–8	On	A18–A23	mcp0–mcp7
S0202	3–8	On	A26–A31	mcp0–mcp7
S0202	1	Off	A24	mcp0–mcp3
S0202	2	On	A25	mcp0–mcp3
S0202	1	On	A24	mcp4–mcp7
S0202	2	Off	A25	mcp4–mcp7
S0201	1	On	A16	mcp0 (0x01000000) & mcp4 (0x02000000)
S0201	2	On	A17	mcp0 (0x01000000) & mcp4 (0x02000000)
S0201	1	Off	A16	mcp1 (0x01010000) & mcp5 (0x02010000)
S0201	2	On	A17	mcp1 (0x01010000) & mcp5 (0x02010000)
S0201	1	On	A16	mcp2 (0x01020000) & mcp6 (0x02020000)
S0201	2	Off	A17	mcp2 (0x01020000) & mcp6 (0x02020000)
S0201	1	Off	A16	mcp3 (0x01030000) & mcp7 (0x02030000)
S0201	2	Off	A17	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

```
P11
P7        RS232
          PORT 3
LEDs  1
      2
                                              J0202
P6        RS449                                  32 BIT
          PORT 2                                 24 BIT
                                              On        S0201
                                                 1    8
P10                                           On        S0202
          LED1  Request                          1    8
                Busy Cycle

P12       LED2  FIFO
                Empty

          P9
          RS232
P5        PORT 1

          J1501                               J0201
                                                          P2
          J1502
          Exploded View
          J1501 and J1502
P4        RS449
          PORT 0
          R R
          S S
          2 4
          3 4        J1503
          2 9
P8
```
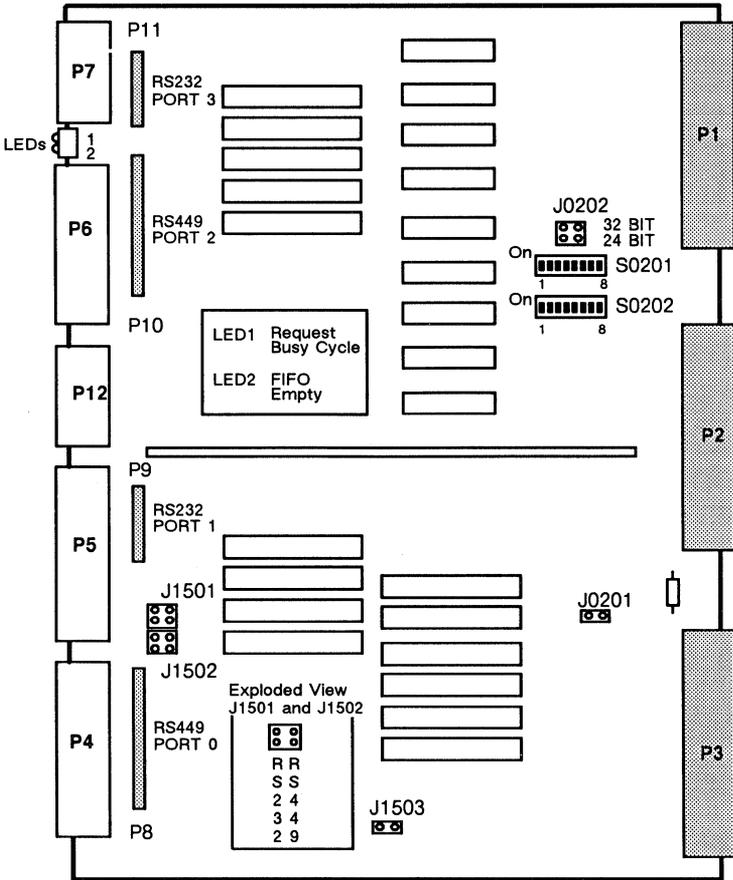
Power: 7.3 Amps @ +5Vdc
        0.1 Amps @ −5Vdc
        37.0 Watts

Note: An addressing conflict can occur between the MCP and the
      ALM–1 and ALM–2. Refer to the VME Installation Notes in the
      Backplane 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	Enables RS-449 for MCP
J1502	RS-232 RS-449	Out In	Enables RS-449 for MCP
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
Sun-3/150/160/180/260/280/460/470/480
Sun-4/260/280/350/360/370/380/390/470/470
370-1128   501-1460

IBD Board
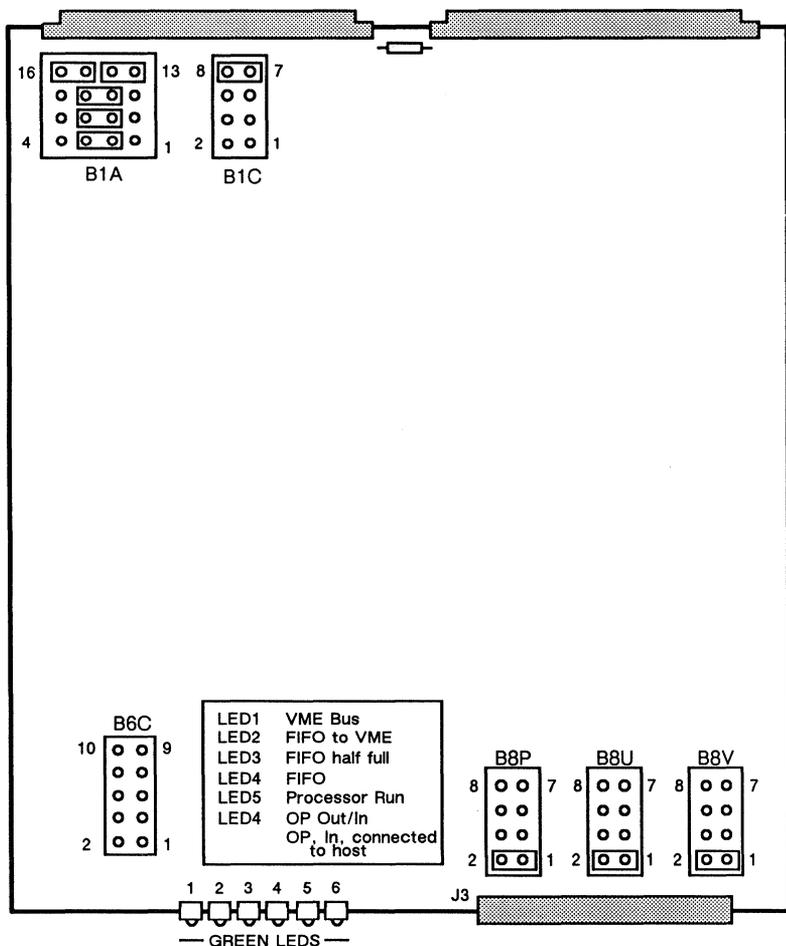
```
16 [o  o][o  o] 13   8 [o  o] 7
    o [o  o] o            o  o
    o [o  o] o            o  o
4   o [o  o] o  1    2  [o  o] 1
      B1A                 B1C
```

```
        B6C
   10 [o  o] 9          B8P        B8U        B8V
      o  o           8 [o  o] 7  8 [o  o] 7  8 [o  o] 7
      o  o             o  o        o  o        o  o
      o  o             o  o        o  o        o  o
    2 [o  o] 1       2 [o  o] 1  2 [o  o] 1  2 [o  o] 1
```

LED1	VME Bus
LED2	FIFO to VME
LED3	FIFO half full
LED4	FIFO
LED5	Processor Run
LED4	OP Out/In
	OP, In, connected to host

```
   1  2  3  4  5  6      J3
  — GREEN LEDS —
```

Note: The jumpers on this board are not accessible or visible without
      disassembling the board set. Do not disassemble the set.

370–1128 501–1460
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
370-1128   501-1460

CIO Board
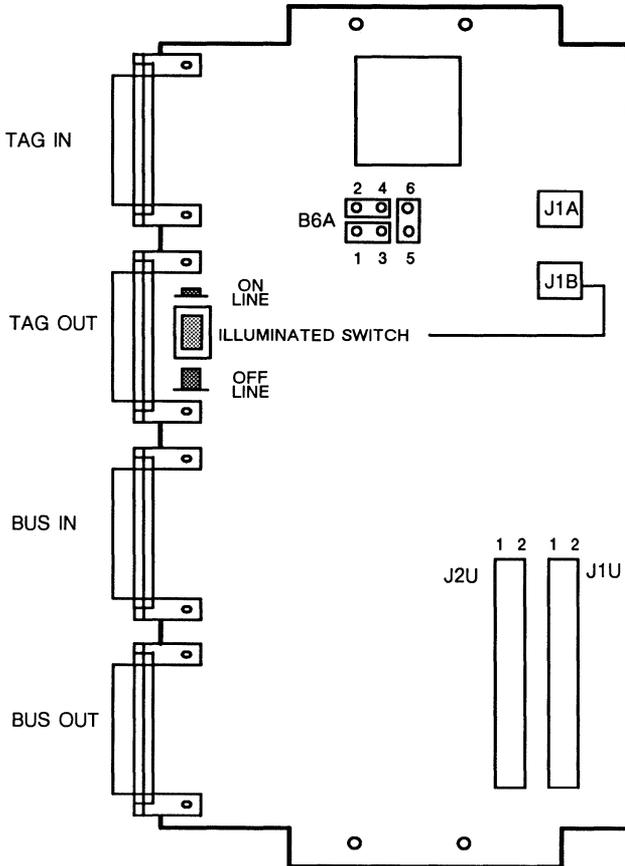
TAG IN

B6A

2 4 6

1 3 5

J1A

J1B

ON
LINE

TAG OUT   ILLUMINATED SWITCH

OFF
LINE

BUS IN

1 2   1 2

J2U   J1U

BUS OUT

Note: The jumpers on this board are not accessible or visible without
disassembling the board set. Upon request, remove the cable
retainer bars to change the select signal jumpers.

370–1128 501–1460
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
370-1128   501-1460

LCP Board

SW1	Reset
SW2	Abort Level 7
LED1	Halt
LED2	Parity
LED3	Status
LED4	Sys Fail

DIAG/RS-232 DCE   Red LEDs
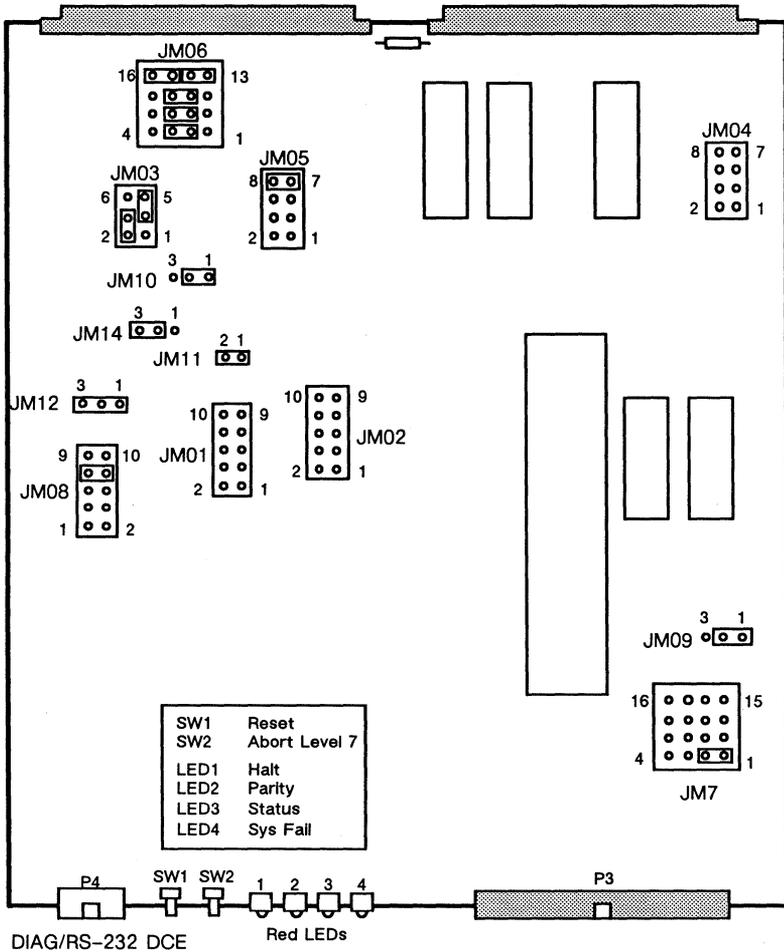
Note: Assemblies 370-1128 and 501-1460 are three board sets: the
      LCP, IBD, and CIO. Do not disassemble the board set.

370–1128 501–1460
Jumper Settings

JUMPER	PINS	SETTING	DESCRIPTION
JM01	1–2 3–4 5–6 7–8 9–10	Out Out Out Out Out	VME data transfer bus timeout (gives 67.1 sec.)
JM02	1–2 3–4 5–6 7–8 9–10	Out Out Out Out Out	Local data transfer timeout (gives 107.4 sec.)
JM03	2–4 3–5 Others	In In Out	SYSRESET In–Enabled SYSTRESET Out–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 Others	In In In In In Out	VME bus grant In/Out (gives level 3)
JM07	1–2 Others	In Out	Local PROM DRACK delay (gives 100ns)

370–1128   501–1460
Jumper Settings – Continued

JUMPER	PINS	SETTING	DESCRIPTION
JM08	1–2 3–4 5–6 7–8 9–10	Out Out Out In Out	Unclaimed grant timeout (gives 262ms)
JM09	1–2 2–3	In Out	EPROM size (uses 27128 EPROMs)
JM10	1–2 2–3	In Out	VME bus release option (Release when done)
JM11	1–2	Out	System controller function (gives Disabled)
JM12	1–2	Out	Arbitration style priority (gives Don't Care)
JM14	1–2 2–3	Out In	Minimum address strobe hold time (gives 60ns)

Channel Adapter Parts

DESCRIPTION	OBSOLETE#	CURRENT#
Loopback Test Plug Set	370–1134–02	370–1134–03
Bus Terminator Plug	370–1135–01	370–1135–02
Tag Terminator Plug	370–1136–01	370–1136–02
8 ft Cable, Bus Out/Tag Out	370–1130–03	370–1130–04
8 ft Cable, Bus In/Tag In	370–1129–03	370–1129–04
5 ft Cable, Bus Out/Tag Out	370–1131	None
5 ft Cable, Bus In/Tag In	370–1132	None
RS232 Cable (20 ft)	None	530–1364
SunLink Channel Adapter Bd.	370–1128	501–1460

Do NOT use the cables or loopback connector listed below.

Cables	Loopback Connector
370–1129–01,–02,–03	370–1134–01 and –02
370–1130–01,–02,–03	
370–1131–01,–02	
370–1132–01,–02	

Power: 8.6 Amps @ +5Vdc
        43.0 Watts

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 usable.
2. In Sun–3/2XX systems with multiple SCA boards, the CPU must be 501–1100–08, 501–1206–06, or greater.
3. The SunLink Channel Adapter must be $\geq$501–1460–02 for use with the Sun 3400 CPU.
4. The Sun FDDI Board must be $\geq$501–1276–02 for use with the SunLink Channel Adapter.
5. SunLink Release 7.0 Channel Gateway is required for use with the Sun 3400 CPU.
6. The Sun 3400 CPU must be $\geq$501–1550–10 for use with the SunLink Channel Adapter.
7. The Sun 4200 CPU, 501–1274 must be $\geq$501–1274–13 for use with the SunLink Channel Adapter.

Reference
SunLink Channel Adapter Configuration Procedures, 813–2040.

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

P1   P2   P3

S0203   On   S0201   On
|▮▮▮▮▮▮▮▮| |▮▮▮▮▮▮▮▮|
1   8 Off   Off

S1301   On
|▮▮▮▮▮▮▮▮|
1   Off

U1103
▮

PORT A RS-449   PORT A V.35   PORT B RS-449   PORT B V.35
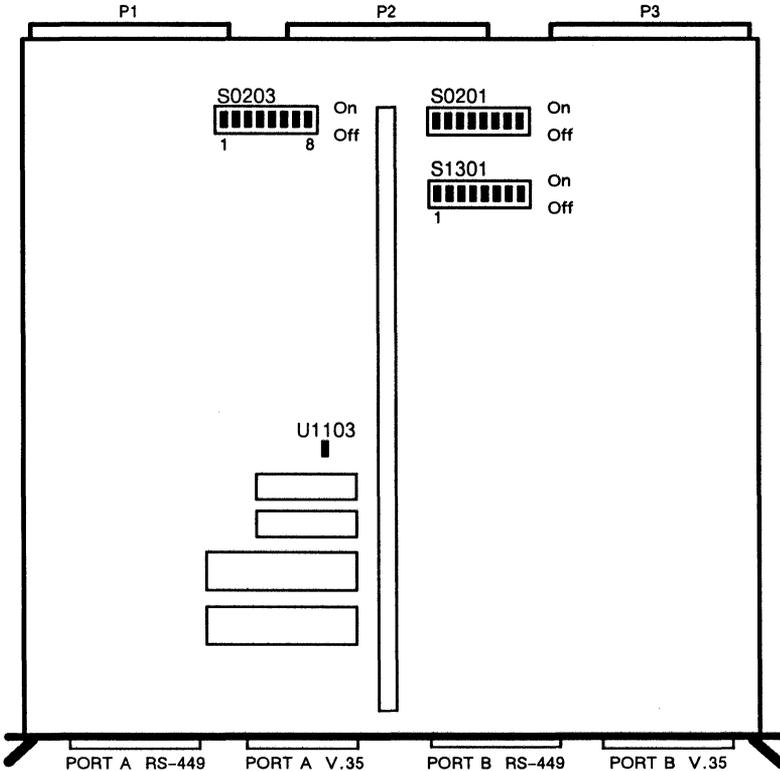
Power: 5.3 Amps @ +5Vdc
        0.3 Amps @ -5Vdc
        28.1 Watts

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 HSI board requires SunOS 4.0 or greater.

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

Fiberoptic Ethernet Controller
Fibercom 027–100G6
Sun–3/160T
370–8012–01 370–8012–02

P1   P2   P3

S3   J6   S3   J6
9   9
8529   8529

1   1
On   On

OPTICAL
SWITCH

IN   OUT   SIO IN OUT   SIO   ETHERNET 0
           CD   A   CD B   IN   OUT ⌐ B SYNC
           LED   LED   ⌐ N LED
                                         └ P
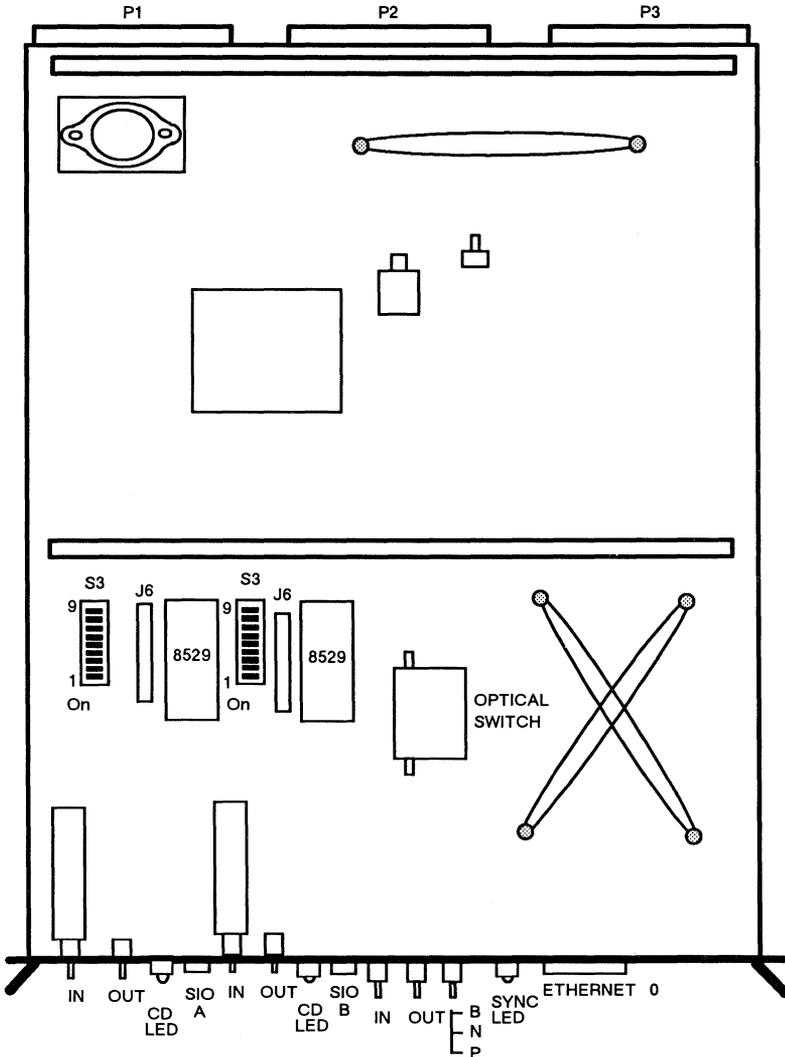
Reference
*Fiber Optic Ethernet Transceiver Installation Guide for the Sun–3/160T
Workstation*, 800–8006.

370–8012
Switch Settings

Dip Switch 3

RTS Setting

DIP SWITCH	SETTING	DESCRIPTION
1	On*	RTS continuous
	Off	RTS switched

Transmit Carrier Control

DIP SWITCH	SETTING	DESCRIPTION
2	Off*	Continuous carrier
3	Off*	
2	On	Switched by RTS & DTR
3	On	
2	Off	Switched by DTR
3	Off	
2	Off	Switched by RTS
3	On	

Clear To Send Delay

DIP SWITCH	SETTING	DESCRIPTION
4	Off*	0 msec
5	Off*	
4	Off	8 msec
5	On	
4	On	50 msec
5	Off	
4	On	150 msec
5	On	

* Factory Setting

370–8012
Switch Settings

Transmit Timing Source

DIP	SETTING	DESCRIPTION	DIP	SETTING	DESCRIPTION
6	On*		6	Off	
7	Off*	Async	7	Off	1200 Hz
8	Off*		8	On	
9	Off*		9	Off	
6	On		6	Off	
7	Off	External	7	Off	2400 Hz
8	Off		8	On	
9	On		9	On	
6	Off		6	Off	
7	Off	Received	7	On	4800 Hz
8	Off		8	Off	
9	Off		9	Off	
6	Off		6	Off	
7	Off	300 Hz	7	On	9600 Hz
8	Off		8	Off	
9	Off		9	On	
6	Off		6	Off	
7	On	600 Hz	7	On	19200 Hz
8	Off		8	On	
9	Off		9	Off	

* Factory Setting

Fiberoptic Ethernet Controller
Fibercom 7501–01
Sun–3/160T
370–8012–03

P1   P2   P3

IN OUT   SYNC   ETHERNET 0   PWR

B
N
P
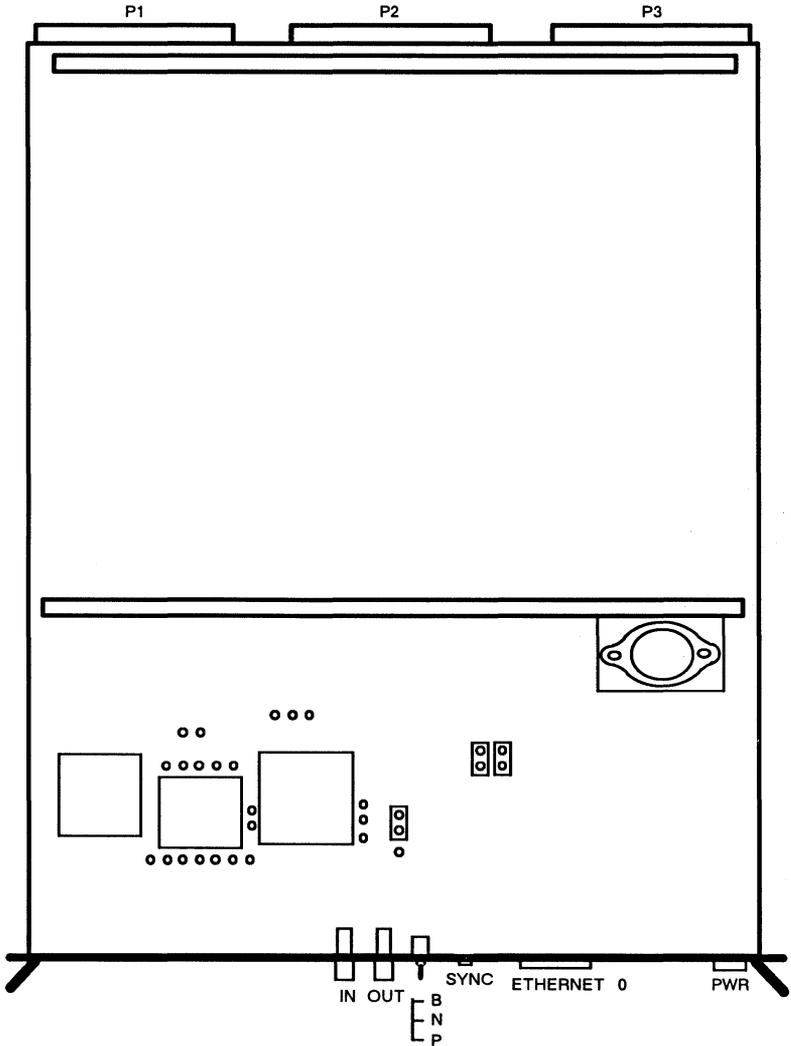
FDDI
Sun–3/150/180/260/280/460/470/480
Sun–4/110/150/260/280/350/390/470/490
501–1276

P1   P2   P3

1   8 1   8
On [□□□□□□□□] [□□□□□□□□] On
Off   Off
SWITCH 1   SWITCH 2

68020

Fuse
■■□ F1800

FDDI–A   FDDI–B   LEDS   NORM/   RESET   RS232
                    7—— 0   DIAG
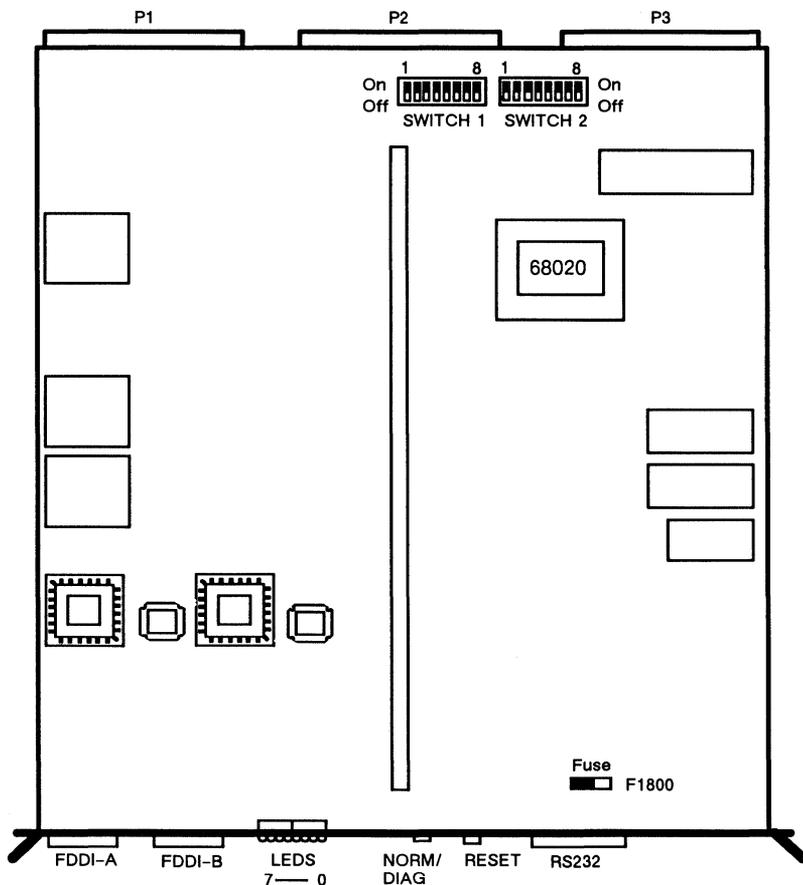
501-1276
Switch Settings

Controller fddi0 at Base Address 0x01600000

On / Off — Switch 1, Switch 2

Controller fddi1 at Base Address 0x01800000

On / Off — Switch 1, Switch 2
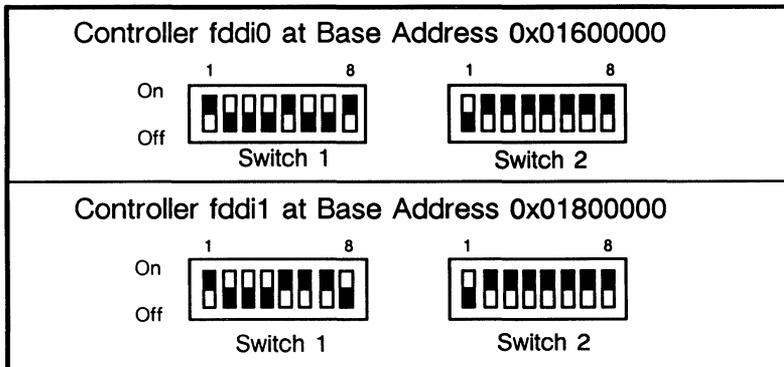
Notes
1. Diskless booting requires CPU EPROM 3.0 or greater.
2. Requires SunOS 4.0.3 or greater.
3. The FDDI uses a 2A subminature fuse, 150-1174.
4. The Sun 3004 CPU must be 501-1163-09, 501-1164-09 or greater.
   All 501-1208 revisions are useable.
5. 501-1276-02 or greater is required for use with 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
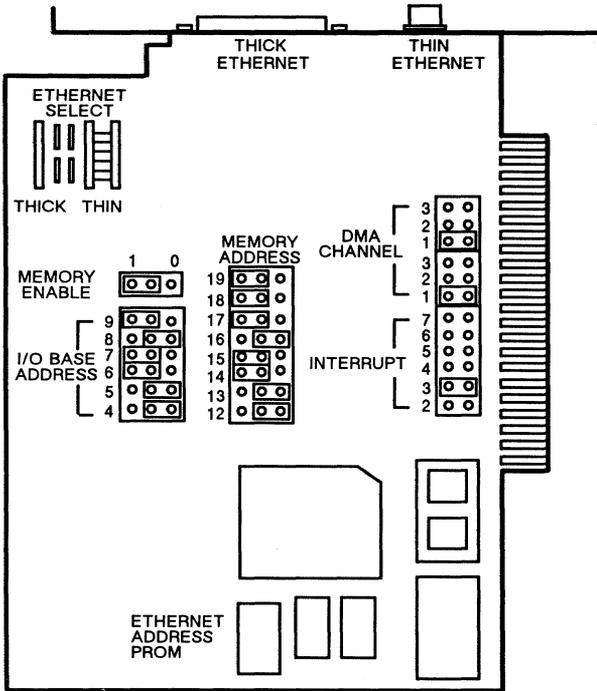
JUMPER	SETTING	DESCRIPTION
Memory Enable	1	EtherStart ROM installed
I/O Base Address	4–9	I/O base address (000H–3F0H) Address bits 4–9
Memory Address	12–19	Memory base address (00000H – FF000H) Address bits 12–19
DMA Channel	1–3	DMA channel select
Interrupt	2–7	Interrupt channel

Reference: *Etherlink I Installation Guide*, 814-5000.

Etherlink I I
3COM 3C503
370-1180
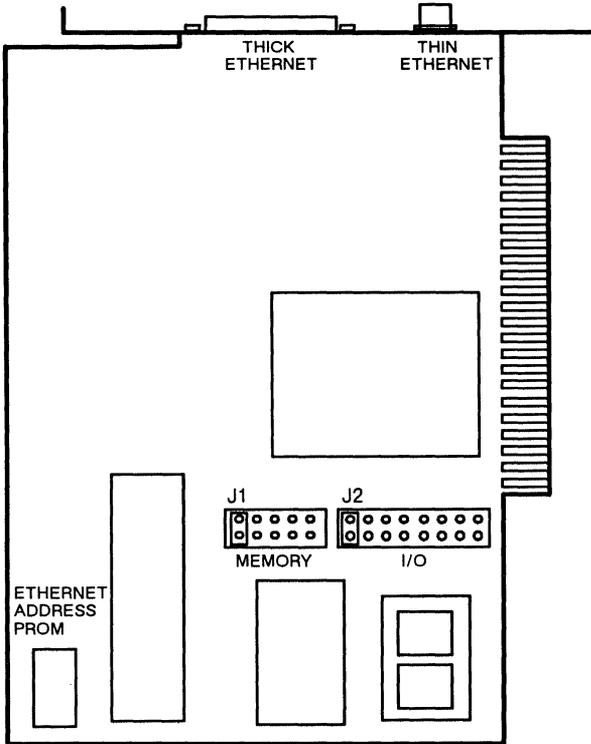
JUMPER	SETTING	DESCRIPTION
J1		Memory select/
	DC000H	Base address
	D8000H	
	CC000H	
	C8000H	
J2	300H	I/O base address
	310H	
	330H	
	350H	
	280H	
	2A0H	
	2E0H	

Reference: *Etherlink II Installation Guide*, 814-5005.

Etherlink/MC
3COM 3C523
370-1181

THICK
ETHERNET

THIN
ETHERNET
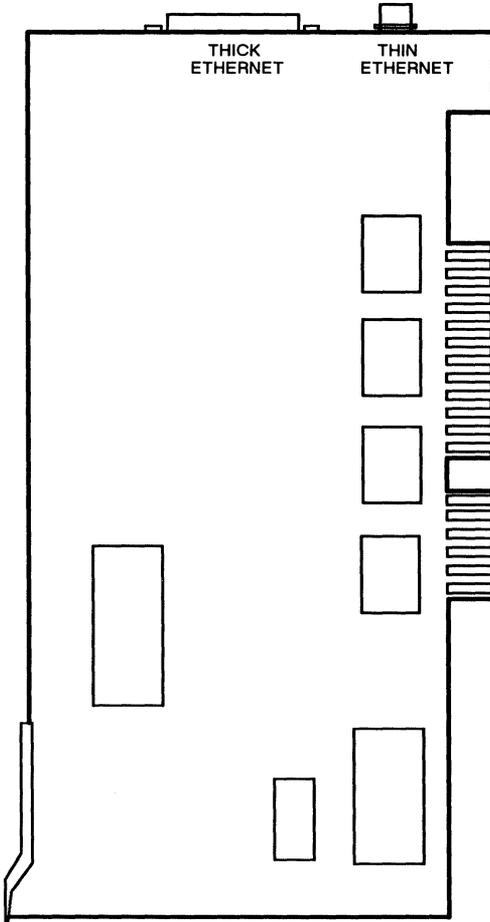
Note: There are NO user selectable switches/jumpers on this board.
Configuration parameters are set in the software file ETH523SYS.

Reference: *Etherlink/MC Installation Guide*, 814-5006.

Ethernet Controller
Sun–4/40/60/65/75
501–1450

```
┌─────────────────────────────────────┐
│  ┌───────────────────────────────┐  │
│  │        SBUS Connector         │  │
│  └───────────────────────────────┘  │
│                                      │
│     ┌──────┐   ┌──────────┐          │
│     │      │   │          │          │
│     │      │   │  S4DMA   │          │
│     └──────┘   │          │          │
│                └──────────┘          │
│                                      │
│        ┌────────────┐                │
│        │            │                │
│        │  AM7990    │                │
│        │            │                │
│        └────────────┘                │
│                                      │
│                        8        1    │
│  ▮ Fuse      Off  ┌──────────┐       │
│  ▯ F1             │ 🮐🮐🮐🮐🮐🮐🮐🮐 │       │
│              On   └──────────┘       │
│                    SWITCH 1          │
│   ┌──────┐           ┌──┐            │
└───┴──────┴───────────┴──┴────────────┘
      DB15                  BNC
```
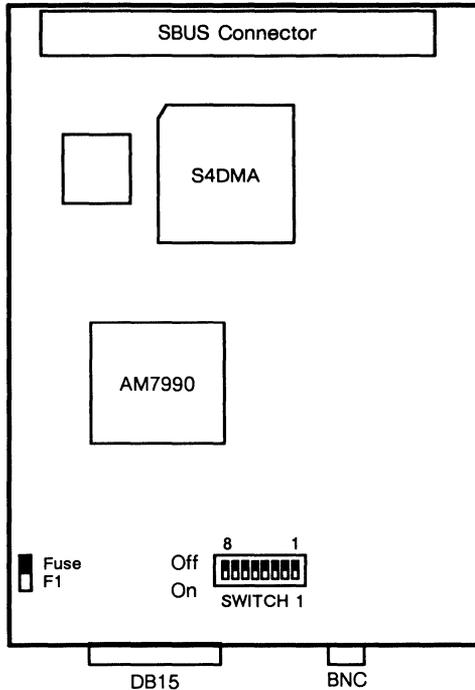
Dip Switch 1

SWITCH	SETTING	DESCRIPTION
1–8	Off	Ethernet
1–8	On	Thin Ethernet

Power: 1.0 Amps @ +5Vdc
        5.0 Watts

Note: Fuse F1 is a 2A subminiature fuse, part number 150–1174.

SBus Printer
Sun–4/40/60/65/75
501–1540

```
┌─────────────────────────────────────────┐
│   ┌──────────────────────────┐           │
│   │      SBus Connector       │           │
│   └──────────────────────────┘           │
│                      ┌──────────────┐     │
│                      │              │     │
│                      │     HIOD     │     │
│  1                   │              │     │
│  o o o o             │              │     │
│  o o o o   J0401     └──────────────┘     │
│                                           │
│      ┌────────┐                           │
│      │ EPROM  │                           │
│      └────────┘                           │
│                                           │
│                                           │
│                                           │
│                                           │
│                                           │
│  └───────┘           └───────┘            │
└─────────────────────────────────────────┘
       VIDEO PORT          PARALLEL PORT
   20-PIN HIGH-DENSITY    28-PIN HIGH-DENSITY
```
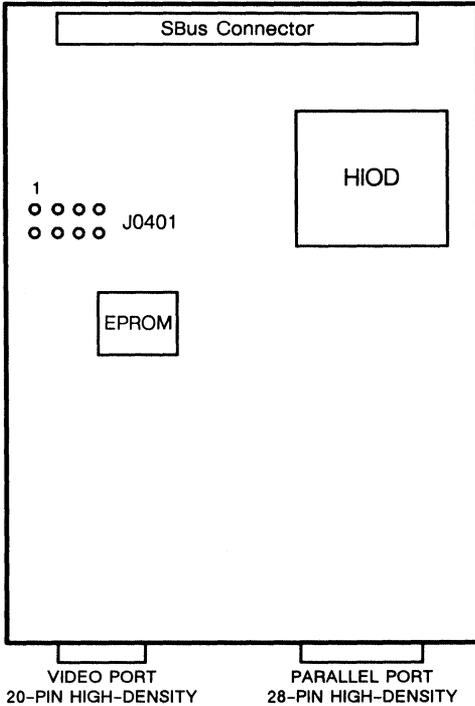
Notes
1. The Sun–4/60 CPU requires EPROM 1.3 Version 3.
2. All J0401 pins are ground points.

Reference: *SBus Printer Board Installation Guide*, 800–4486.

Serial Parallel Controller
Sun–4/40/60/65/75
501–1511

```
┌─────────────────────────────────────────┐
│   ┌─────────────────────────────────┐    │
│   │         SBus Connector          │    │
│   └─────────────────────────────────┘    │
│                                           │
│   ┌─────────────┐                         │
│   │             │                         │
│   │  CL-CD180   │       ┌─────────┐       │
│   │             │       │  PPC2   │       │
│   └─────────────┘       └─────────┘       │
│                                           │
│                      U15   U16            │
│      PINS 2-3 = RS-232  [o][o] 3          │
│      PINS 1-2 = RS-423  [o][o]            │
│                          o  o  1          │
│                                           │
└─────────────────────────────────────────┘
```
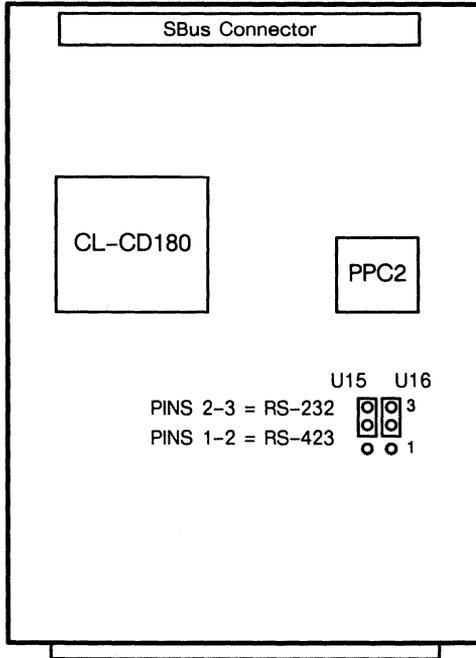
U15 and U16 Jumper Settings

PINS	SETTING	DESCRIPTION
1–2	In	Select RS–423 (5Vdc)
2–3	In	Select RS–232 (12Vdc)

Power: 2.0 Amps @ +5Vdc
        10.0 Watts

High Speed Serial Interface
Sun–4/40/60/65/75
501–1725

```
┌─────────────────────────────────┐
│  ┌───────────────────────────┐  │
│  │      SBus Connector       │  │
│  └───────────────────────────┘  │
│                                 │
│   ┌─────────┐     ┌─────────┐   │
│   │         │     │         │   │
│   │         │     │         │   │
│   │         │     │         │   │
│   └─────────┘ ┌──┐└─────────┘   │
│               │OPEN│            │
│               │BOOT│            │
│               │PROM│            │
│               └──┘              │
│   ┌─────────┐ ┌─────────┐       │
│   │         │ │         │       │
│   │         │ │         │       │
│   └─────────┘ └─────────┘       │
│                                 │
└─────────────────────────────────┘
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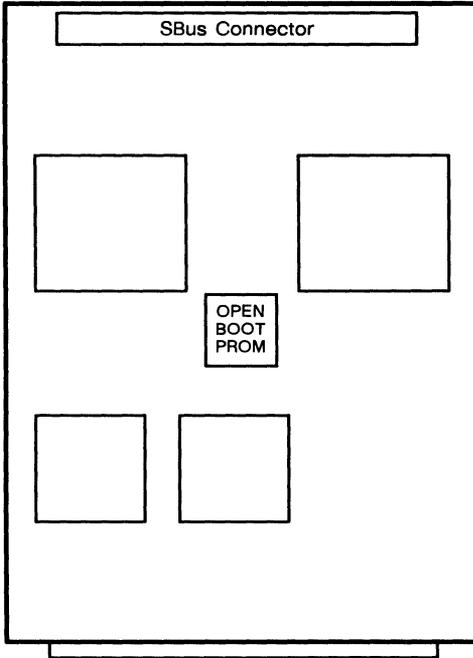
Notes
1. The minimum operating system requirement is SunOS 4.1.
2. RS–530 and RS–232 signal levels are not compatible. Install an
   RS–232 to RS–530 or an RS–422 to RS–530 Converter on each port.

Reference
*High Speed Interface/SBus (HSI/S) Installation and Administration
Guide*, 800–5332.

CONFIGURATIONS

SCSI

SCSI

SCSI HOST ADAPTERS

Sun–2 Multibus SCSI
Sun–2/120/170
501–1006

SIO – C & D

SIO – E & F

U312   1   U315   1   U305   1   Off

On

SERIAL
PORT
E & F

SERIAL
PORT
C & D

SCSI
PORT
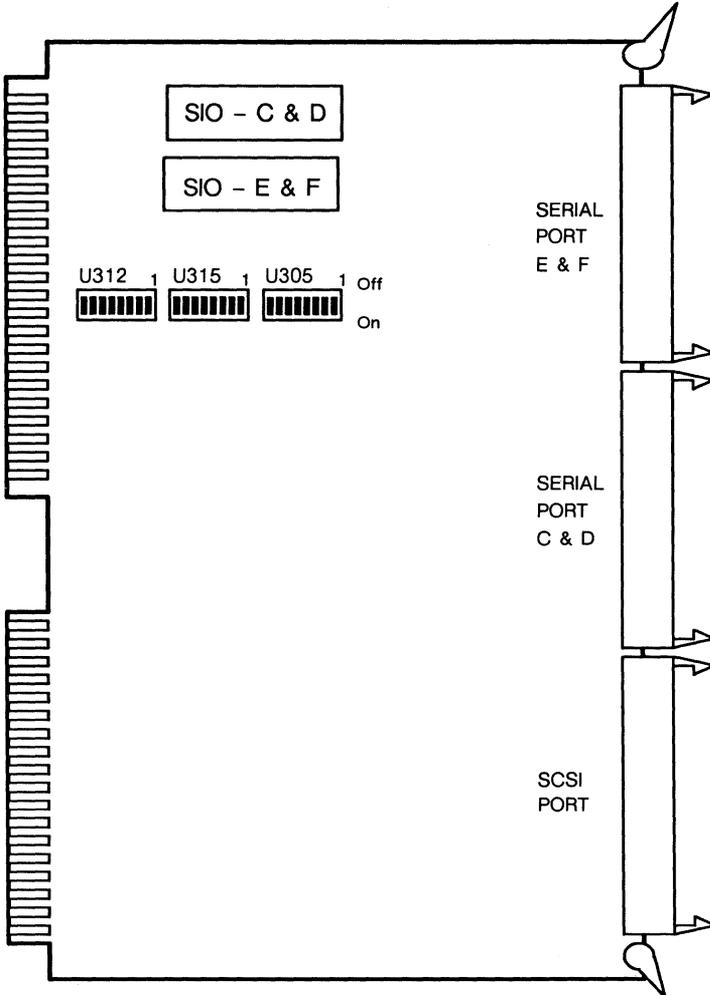
Power: 5.0 Amps @ +5 Vdc
        25.0 Watts

501–1006
Switch Settings

DIP SWITCH	SWITCH	SETTING	DESCRIPTION
U305	1–5 6 7–8	Off On Off	Sets base address 80000
U315	1 2 3–8	Off On Off	Selects interrupt level on P1
U312	1–5 6 7–8	Off On Off	Selects interrupt level on P1

Sun-2 SCSI Host Adapter
Sun-2/50/130/160
Sun-3/75/140/150/160/180/260/280
Sun-4/260/280
501-1045
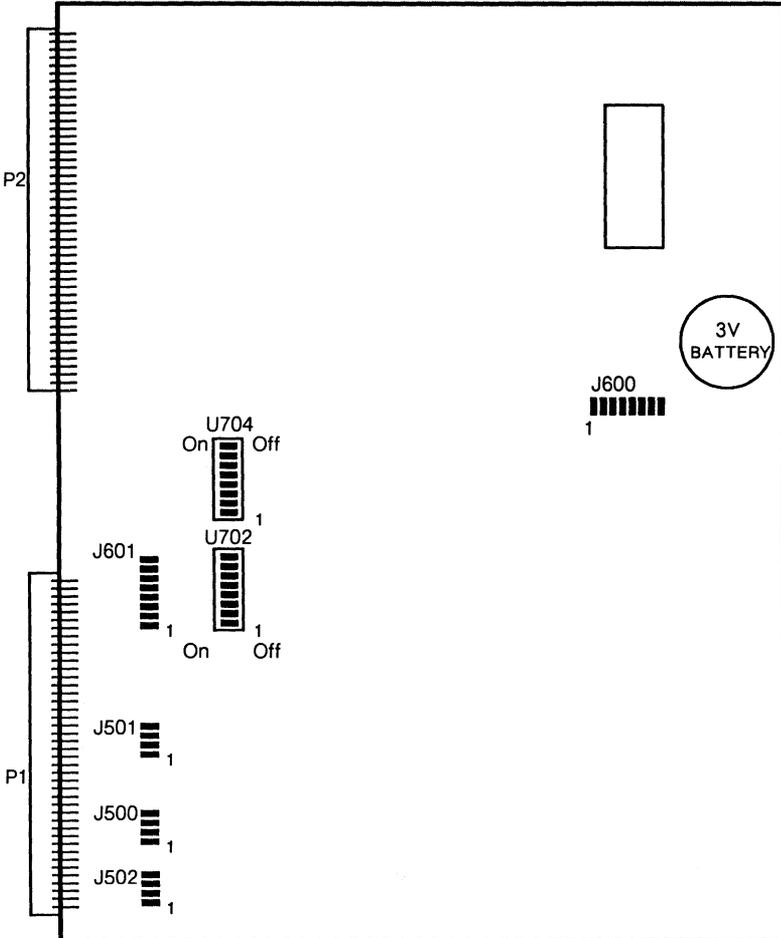
Power: 2.8 Amps @ +5 Vdc
14.0 Watts

501-1045
Jumper & Switch Settings

JUMPER	PINS	SETTING	DESCRIPTION
J500	1–2	Out	P1 Bus Grant 0 in
	3–4	Out	P1 Bus Grant 1 in
	5–6	Out	P1 Bus Grant 2 in
	7–8	In	P1 Bus Grant 3 in
J501	1–2	Out	P1 Bus Request 0
	3–4	Out	P1 Bus Request 1
	5–6	Out	P1 Bus Request 2
	7–8	In	P1 Bus Request 3
J502	1–2	Out	P1 Bus Grant 0 Out
	3–4	Out	P1 Bus Grant 1 Out
	5–6	Out	P1 Bus Grant 2 Out
	7–8	In	P1 Bus Grant 3 Out
J600	1–2	Out	Respond Priority 0
	3–4	Out	Respond Priority 1
	5–6	In	Respond Priority 2
	7–8	Out	Respond Priority 3
	9–10	Out	Respond Priority 4
	11–12	Out	Respond Priority 5
	13–14	Out	Respond Priority 6
	15–16	Out	Respond Priority 7
J601	1–2	Out	P1 Int Req 0
	3–4	Out	P1 Int Req 1
	5–6	In	P1 Int Req 2
	7–8	Out	P1 Int Req 3
	9–10	Out	P1 Int Req 4
	11–12	Out	P1 Int Req 5
	13–14	Out	P1 Int Req 6
	15–16	Out	P1 Int Req 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

P1   P2   P3

3x2 ADAPTER 270–1138

P1   P2

Sun–2 SCSI   501–1045

CABLE
530–1282

50–PIN DD–50SA
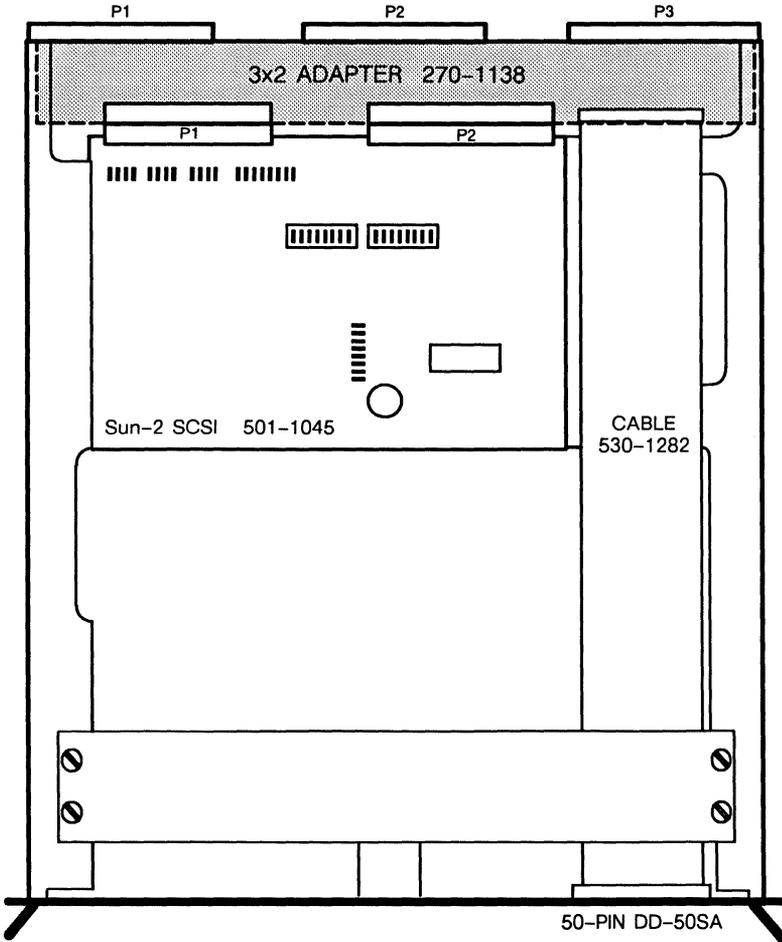
Sun–2 SCSI Host Adapter Assembly
Sun–2/130/160
Sun–3/160/260/460 & Sun–4/260
501–1149
with P2A & P2C

P1 P2 P3

3x2 ADAPTER 270-1059

P1 P2

Sun–2 SCSI 501–1045
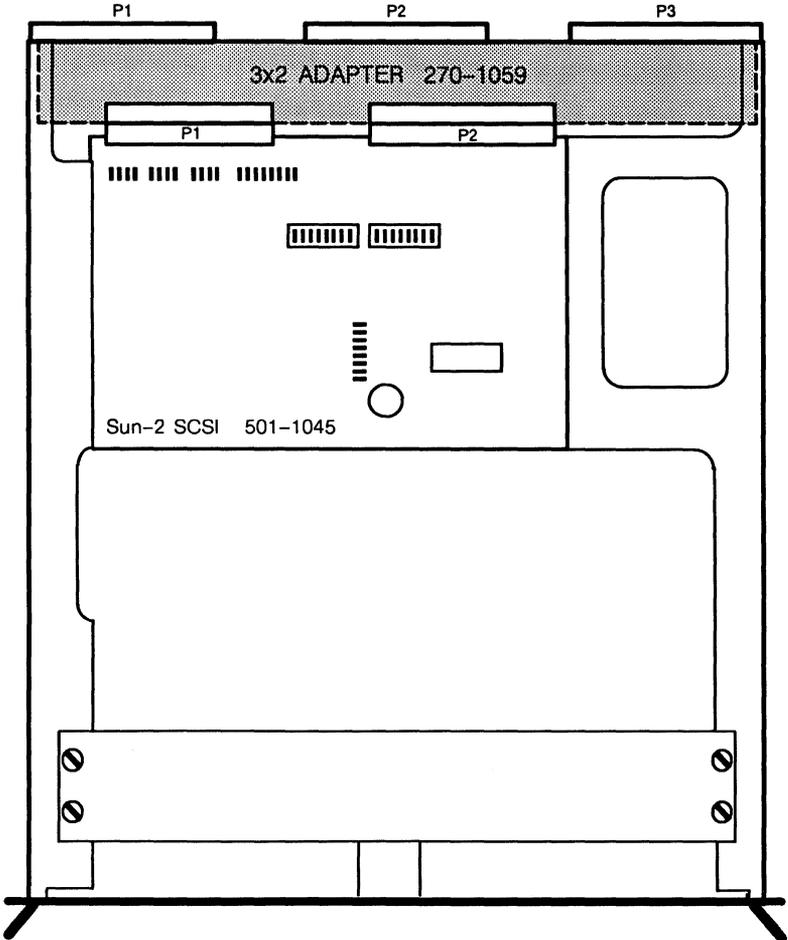
Sun-2 SCSI Host Adapter Assembly
Sun-3/180/280 & Sun-4/280
501-1167
with P2A & P2C

P1   P2   P3

3x2 ADAPTER 270-1059

P1   P2

Sun-2 SCSI   501-1045   CABLE
                                          530-1282

50-PIN DD-50SA
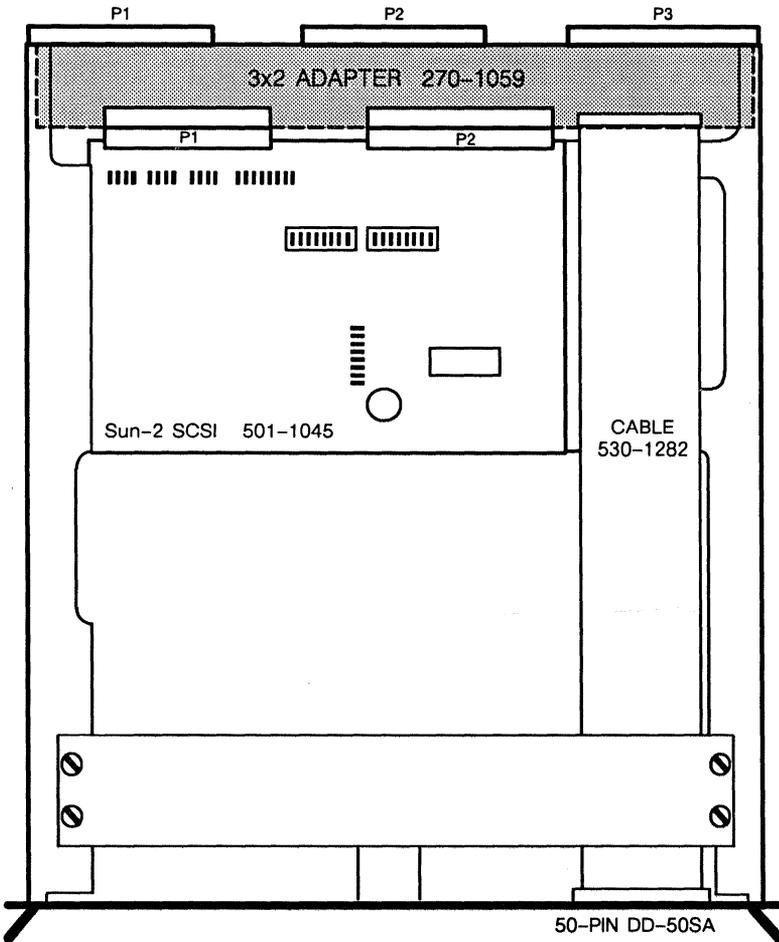
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Sun-3 SCSI Host Adapter
Sun-3/110/140/150/160/180/260/280/460/470/480
Sun-4/260/280/330/370/380/390/490
501-1236
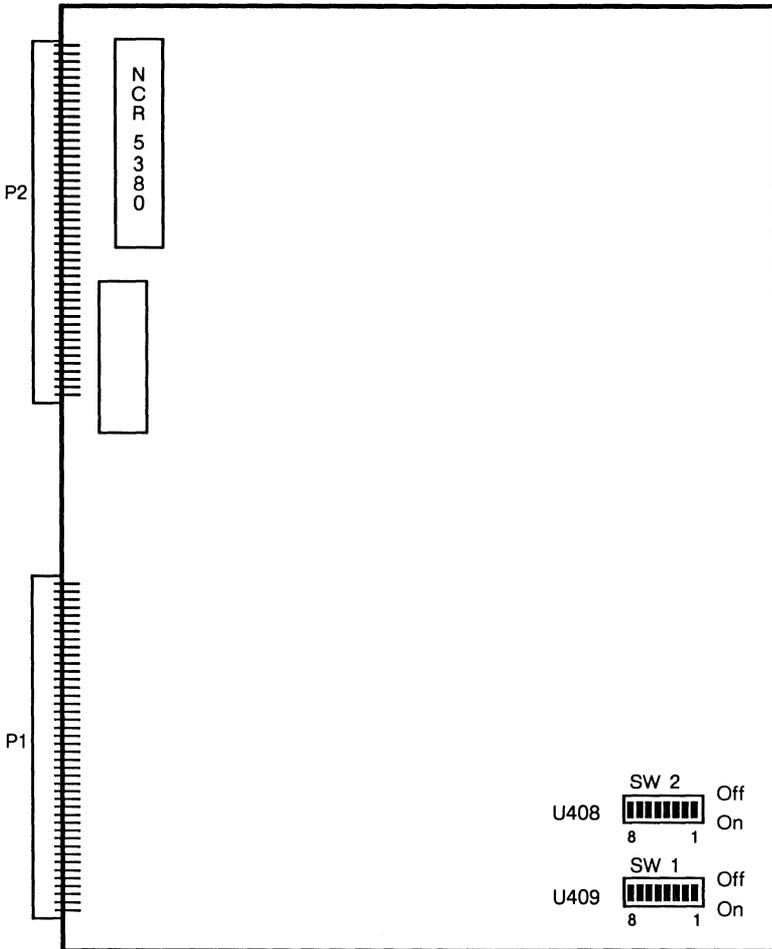
Power: 4.8 Amps @ +5 Vdc
        24.0 Watts

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

P1   P2   P3

3x2 ADAPTER   270-1059

P1   P2

Sun–3 SCSI   501–1236
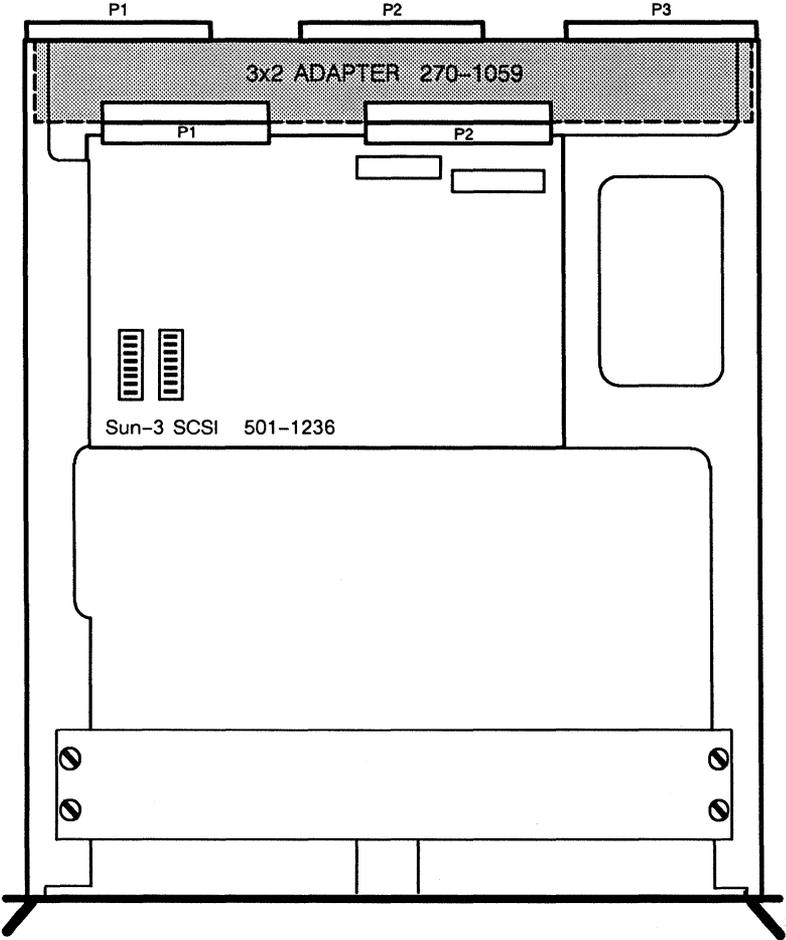
Sun–3 SCSI Host Adapter Assembly
Sun–3/110/140/150/160/180/260/280/470/480
Sun–4/280/330/370/390/470/490
501–1217
without P2A & P2C

P1   P2   P3

3x2 ADAPTER 270–1138

P1   P2

Sun–3 SCSI   501–1236   CABLE
                                          530–1282

50–PIN DD–50SA
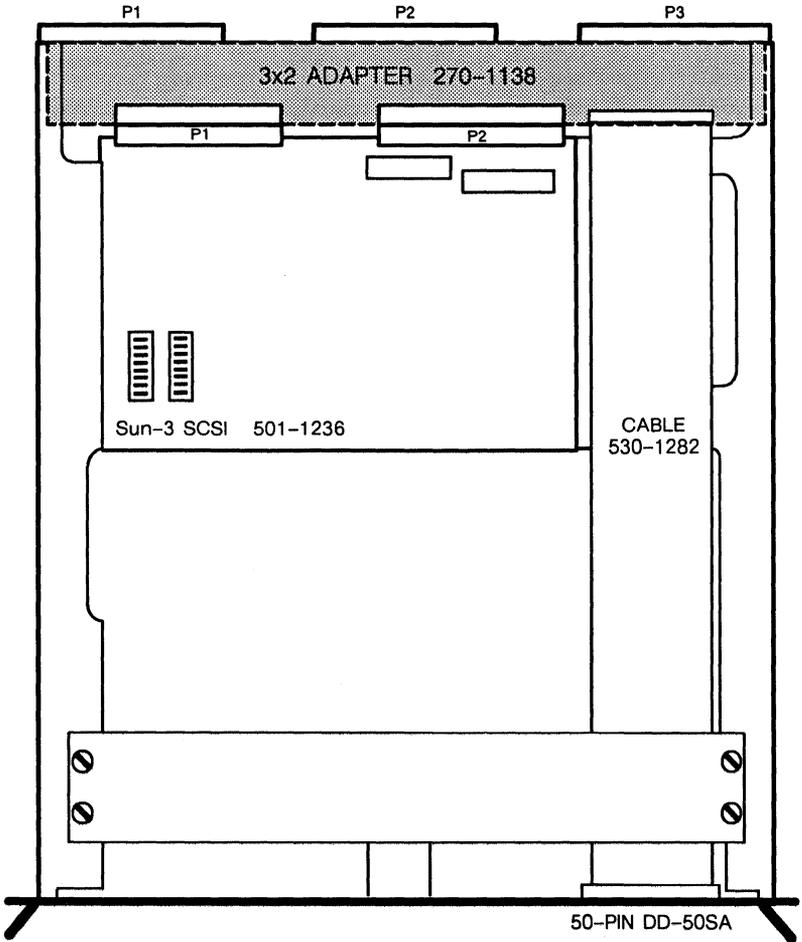
Sun-3/E SCSI/Ethernet
501-8027 501-1584
9U Assembly

SCSI

82586

FUSE
(F0601)

ETHERNET

J601   J602

SW0601

THIN
ETHERNET

THICK
ETHERNET

8

1
On Off

THIN
ETHERNET

J0201

8

SW0202

8

SW0201

1
On Off

1
On Off
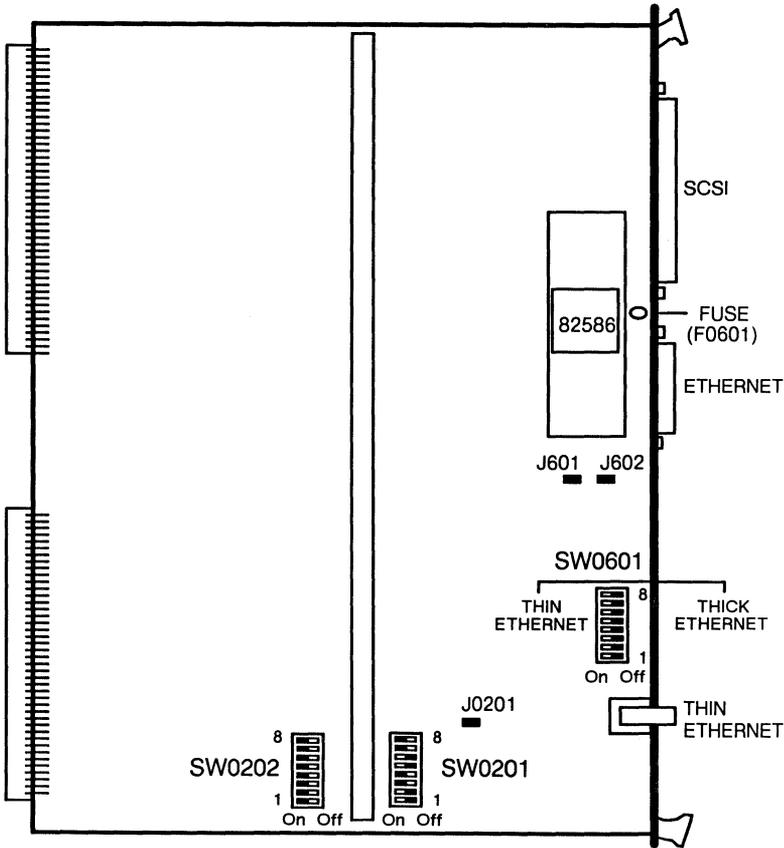
Power: 4.1 Amps @ +5 Vdc
         20.5 Watts

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 $\geq$501-8027-07 or the assembly must be $\geq$501-1584-02.
4. SCSI TERMPWR is provided on boards $\geq$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
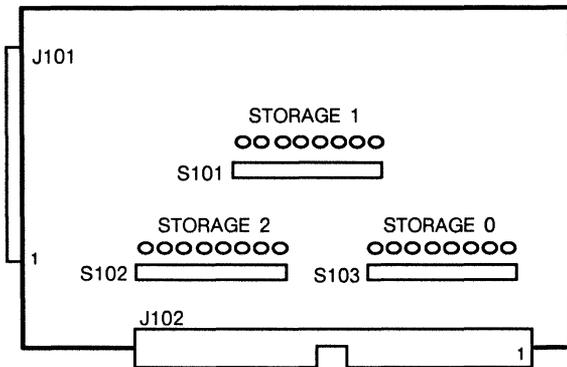
SCSI–IN Terminator Board
501–1432
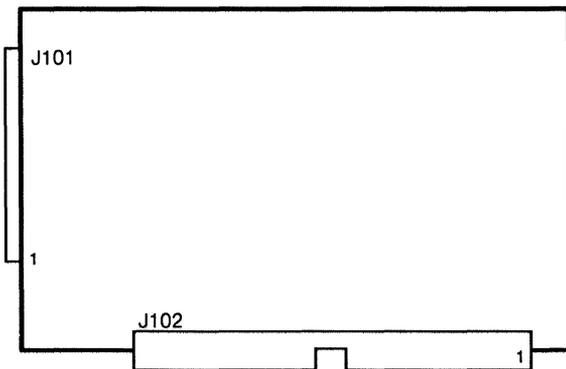
Notes
1. The 4/330 Terminator Board uses three 221/331 terminators, 120–1608.
2. Move Terminators to the Storage position to connect an external peripheral subsystem.
3. There are NO components on the SCSI–IN Terminator board, 501–1432.

SCSI Adapter Assembly
Sun–4/360
501–1666
with P2A & P2C
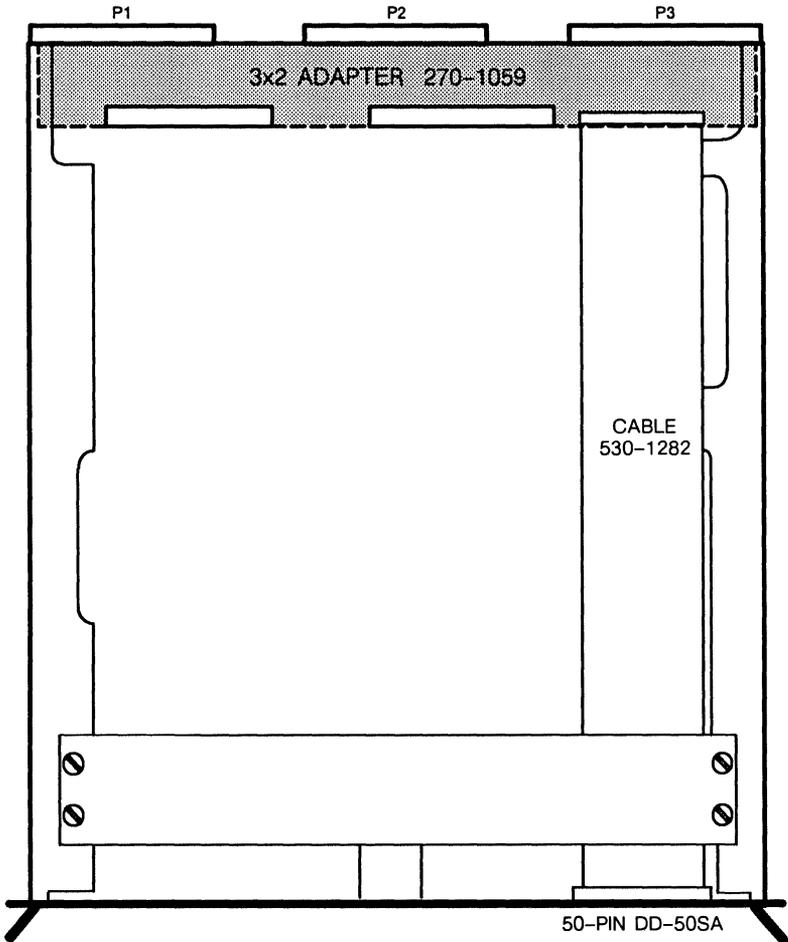
SCSI Host Adapter
Sun–4/40/60/65/75

501–1759   501–1850
FCC–A/VCCI–1   FCC–B/VCCI–2

```
┌─────────────────────────────────────┐
│        ┌───────────────────┐         │
│        │   SBus Connector   │         │
│        └───────────────────┘         │
│                                       │
│   ┌──────┐         ┌──────────┐      │
│   │EPROM │         │          │      │
│   │      │         │ S4–DMA+  │      │
│   └──────┘         │          │      │
│                    └──────────┘      │
│                                       │
│   ┌──────────┐       ┌────┐          │
│   │          │       │25.0│          │
│   │ 53C90A   │       │MHz │          │
│   │          │       └────┘          │
│   └──────────┘                       │
│                                       │
│              SCSI Fuse □              │
│              (F0102)  � │              │
│                                       │
│        GREEN LED    YELLOW LED        │
│           O   O                       │
└─────────────────────────────────────┘
   50–Pin SCSI–2           ON = BAD SCSI FUSE
                      ON = TERMPWR GOOD
```
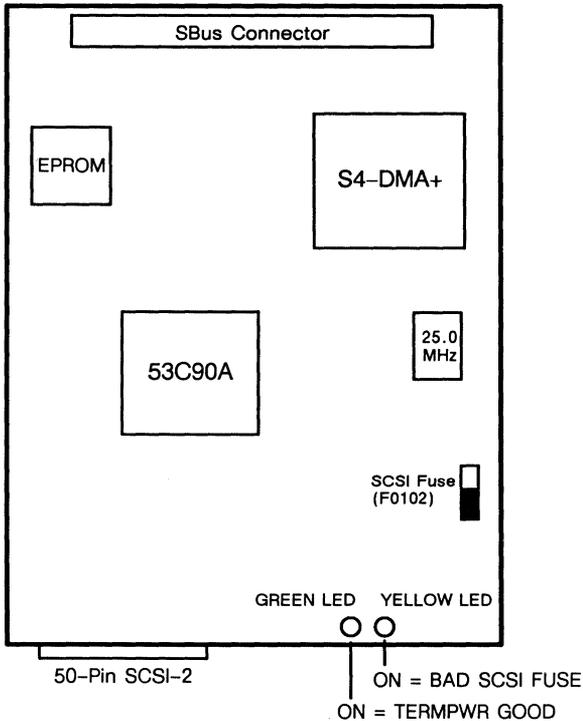
Power: 0.2 Amps @ +5vdc
        1.0 Watt Average

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 slightly different on the 501–1759 and
   the 501–1850 boards. The 501–1850 is illustrated on this page.
4. Reference the *SBus SCSI Host Adapter Installation Guide for
   SPARCstations*, 800–5385–10.

CONFIGURATIONS

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

7–Slot Multibus Backplane, 340–0332

Slot	1	2	3	4	5	6	7
P2 Bus	–	A	A	A	–	–	–

9–Slot Multibus Backplane, 501–1049 & 501–1090

Slot	1	2	3	4	5	6	7	8	9
P2 Bus	A	A	A	A	A	A	B	B	C

12–Slot VMEbus Backplane, 501–1053 & 501–1085

Slot	1	2	3	4	5	6	7	8	9	10	11	12
P2 Bus	A	A	B	B	C	D	E	F	G	H	I	J

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	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	B	C	D	D	D	

15–Slot Multibus Backplane, 340–0644

Slot	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
P2 Bus	A	A	A	A	A	A	A	B	B	B	B	B	C	C	C

15–Slot Multibus Backplane, 501–1050 & 501–1150

Slot	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
P2 Bus	A	A	A	A	A	B	B	B	B	C	C	C	D	E	

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	B	C	D	E	E	F	F	F	G	

Sun-2/120

501-1090 501-1049
Non-Prime   Prime

O +5

O GRD

O +12

O -5

O -12

O GRD

O +5

SLOT 1   SLOT 9

Connector Side

Sun–2/170
501–1050   501–1150
Prime   Non–Prime

O +5

O GRD

O +12

O –5

O –12

O GRD

O +5

SLOT 1   SLOT 15
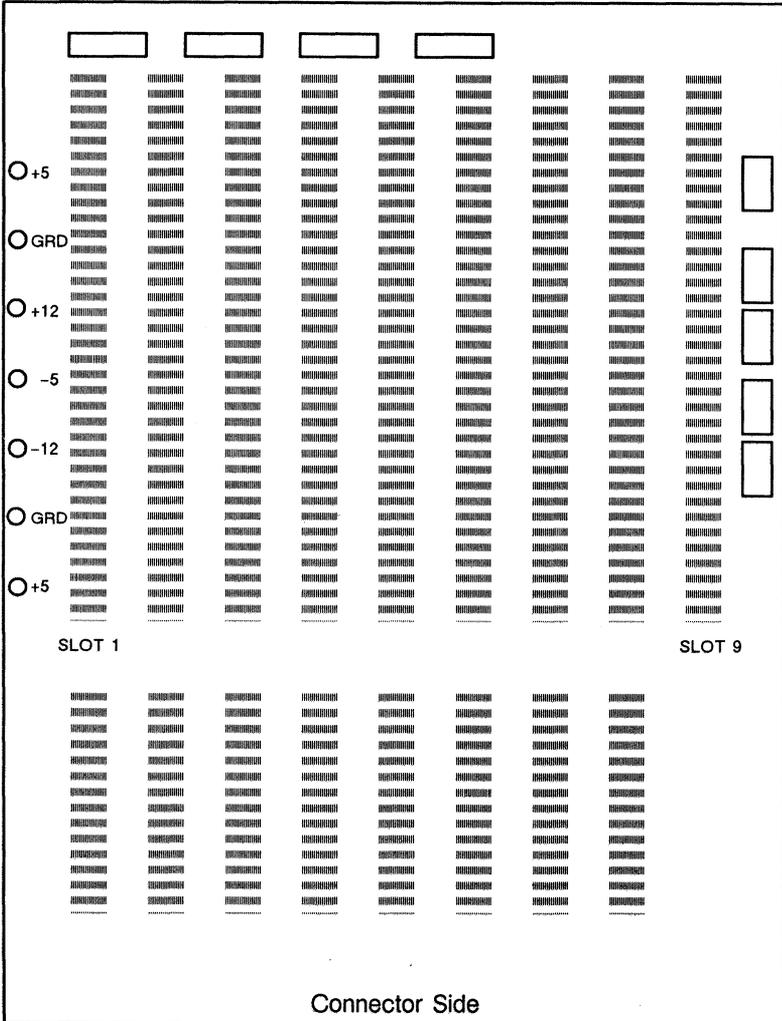
Connector Side
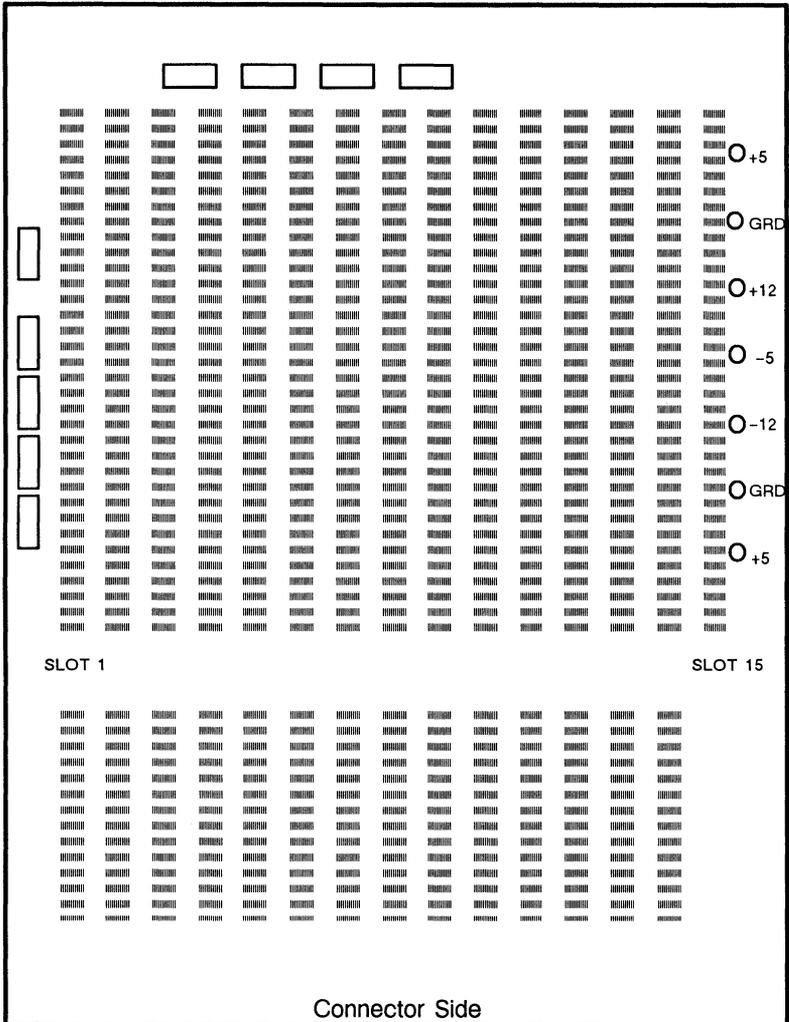
Sun-2/130/160
501-1053   501-1085
Pressfit

```
1200 1100 1000  900   800   700  600  500  400   300  200 100

      1104 1004  904   804   704  604  504  404   304  204
```

RTN

+ 5V

SCSI Bus
CONNECTOR

slot 6

RTN

+ 5V

-5V
-5V
+12V
-12V

Solder Side

Sun–2/50
501–1042

J105	J101	J100
+12	V C C	V C C
–12		
J104	G R D	G R D
	J103	J102

P201　　P202　　P203

P101　　P102　　P103

Connector Side
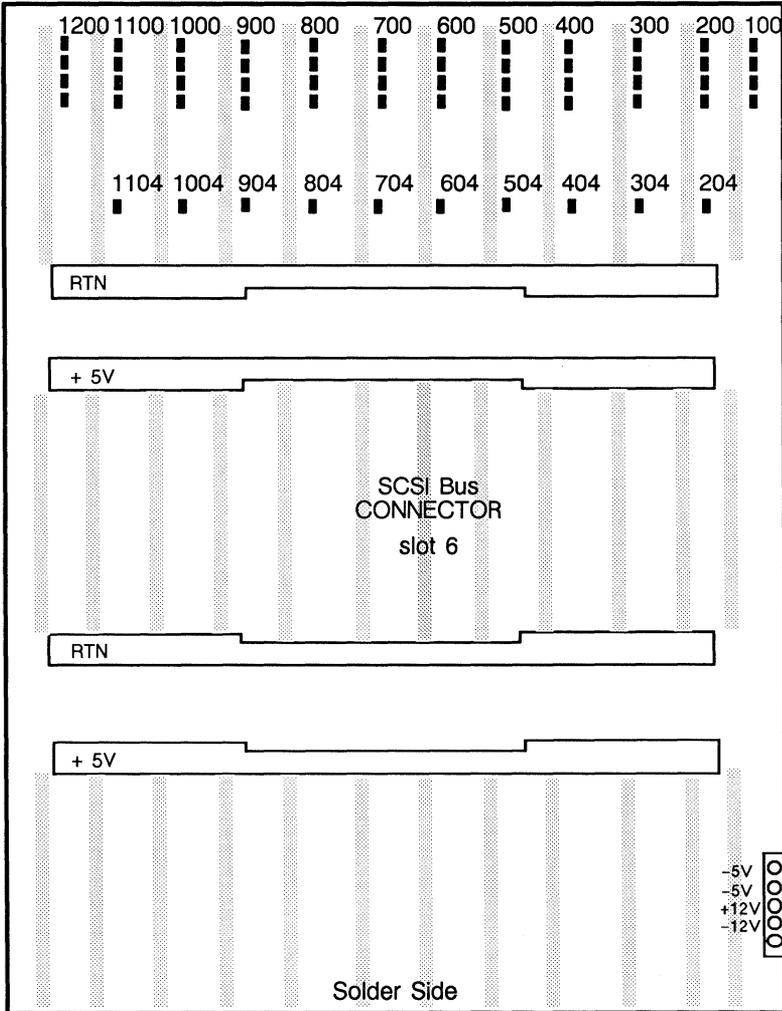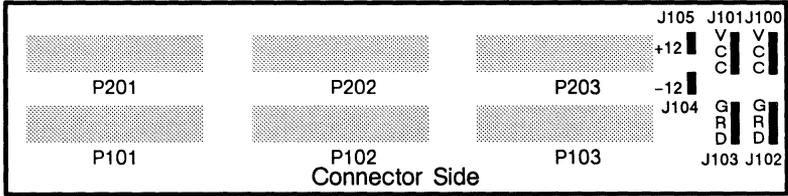
Power: 0.5 Amps @ +5Vdc
2.5 Watts

Sun–3/50
501–1109

DC POWER CONNECTOR

P1

Connector Side
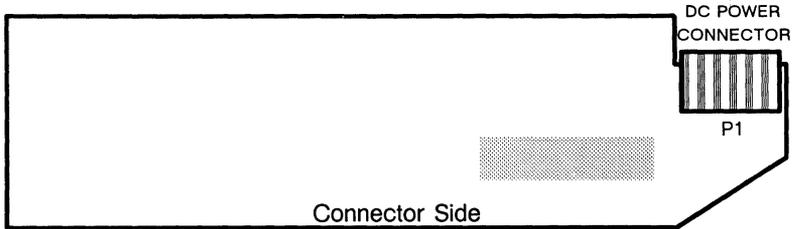
Power: 0.5 Amps @ –5Vdc
2.7 Watts

P1 Power Pinouts

1	2	3	4–8	9–12
–5	–12	+12	GND	+5

Sun–3/75
501–1093

DC POWER CONNECTOR

J201　　J202　　J203　　P1

J101　　J102　　J103

Connector Side
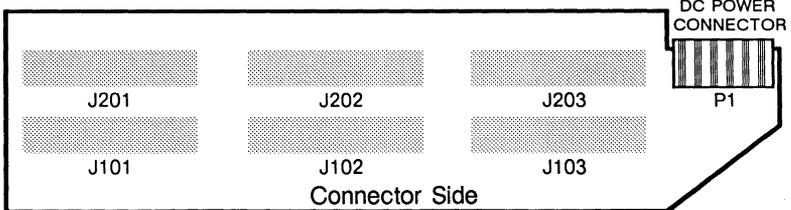
Power: 1.4 Amps @ +5Vdc
7.0 Watts

P1 Power Pinouts

1	2	3	4–8	9–12
–5	PFail	+12	GND	+5

Sun–3/50 & 3/60
501–1277

```
                                              DC POWER
        Systems Shipped after July '87         CONNECTOR



                                                   P1

                    Connector Side
```
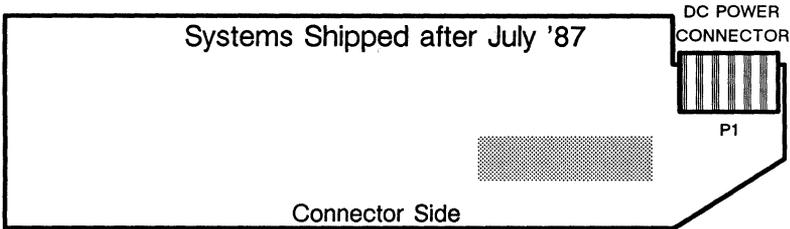
Power: 0.5 Amps @ –5Vdc
        2.4 Watts

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

```
                                  G
                                  R    P304 ■  ■ ■ ■ ■
          GND VCC                 D                P300
              ┌──┐
              │o o│
              └──┘               P204 ■  ■ ■ ■ ■
      P1                                          P200
     ┌─────────────┐            V
     │o o o o o o o o│          C
     │o o o o o o o o│          C
     └─────────────┘            P104 ■  ■ ■ ■ ■
      8           1                               P100
              Solder Side
```
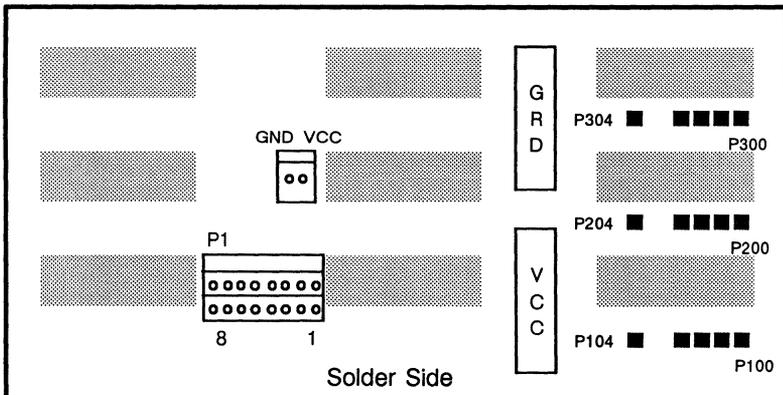
Power: 1.3 Amps @ +5Vdc
        6.5 Watts

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
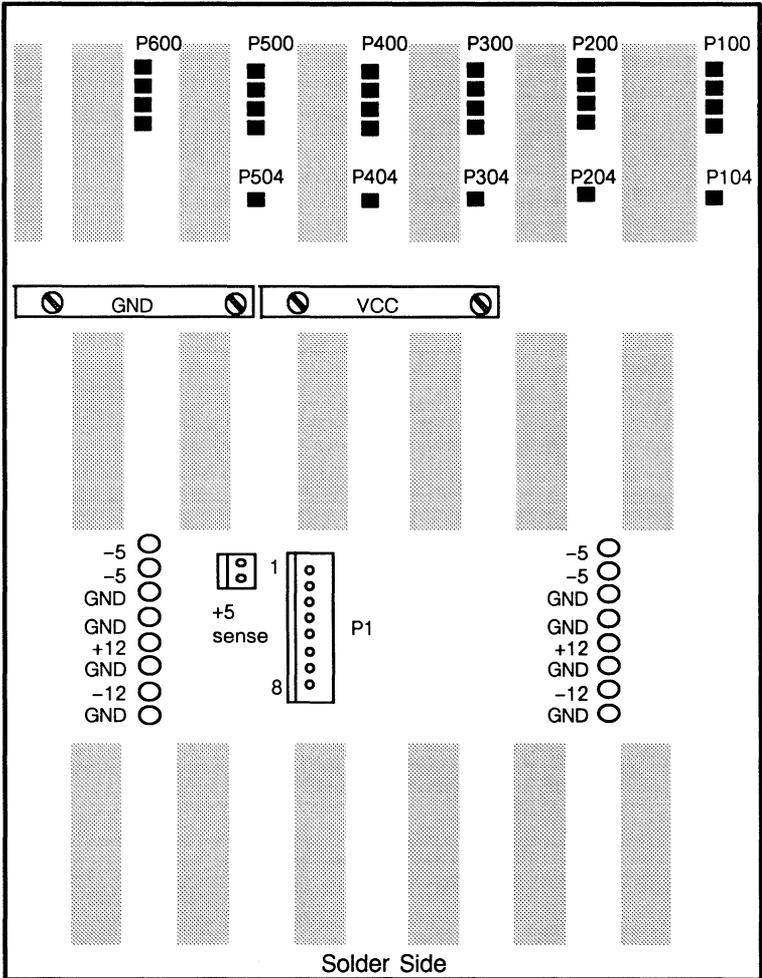
Power: 1.3 Amps @ +5Vdc
6.5 Watts

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

```
1200 1100 1000 900  800  700  600  500  400  300  200 100
  ▮   ▮    ▮   ▮   ▮    ▮    ▮    ▮    ▮    ▮    ▮   ▮
  ▮   ▮    ▮   ▮   ▮    ▮    ▮    ▮    ▮    ▮    ▮   ▮

     1104 1004 904  804  704  604  504  404  304   204 104
       ▪    ▪   ▪    ▪    ▪    ▪    ▪    ▪    ▪     ▪   ▪
```

RTN

+ 5V

○ GND
○ VCC
○ −5V
○ +12V
○ −12V

SCSI Bus
CONNECTOR
Slot 7

RTN

+ 5V

−5 ○
−5 ○
−12 ○
+12 ○

Solder Side
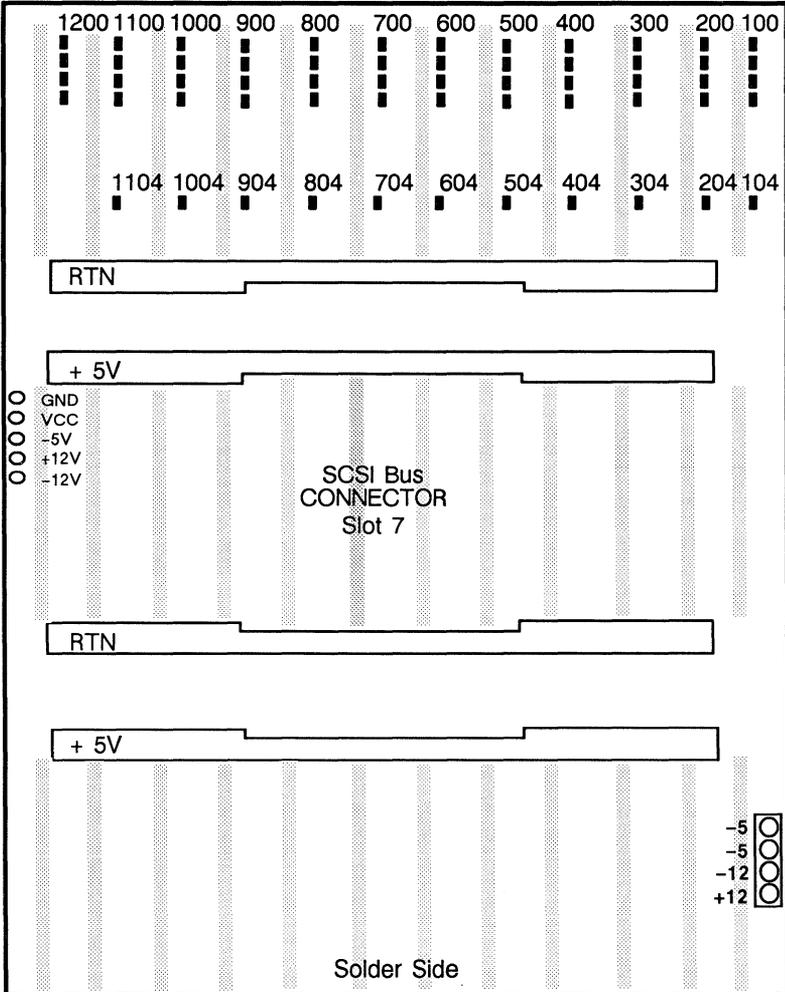
Power: 1.3 Amps @ +5Vdc
        6.5 Watts

Sun–3/470 & Sun–4/370
501–1439
Pressfit
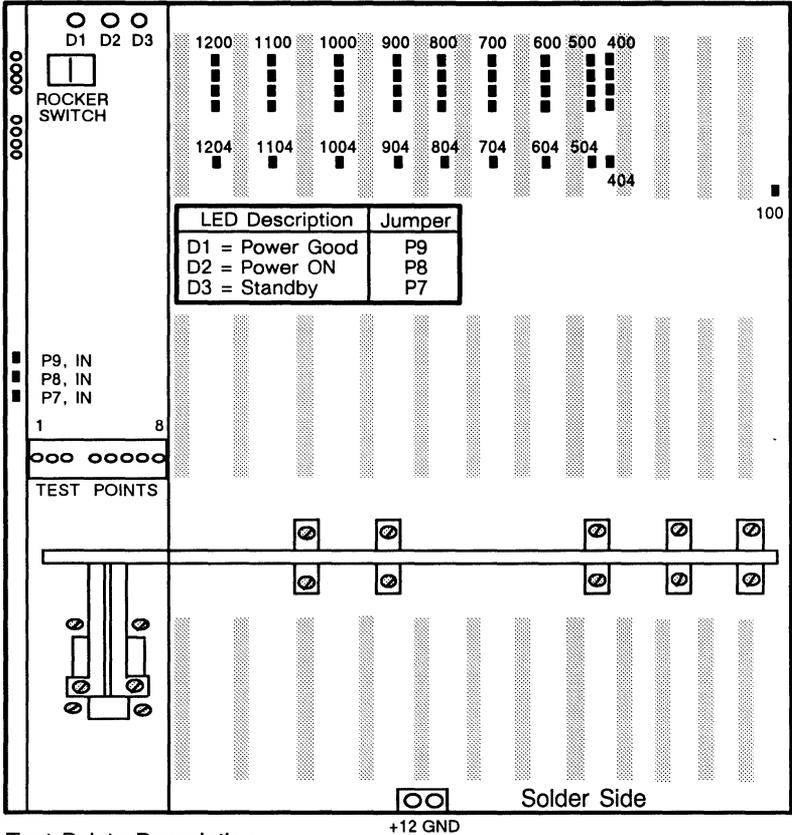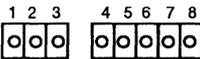
LED Description	Jumper
D1 = Power Good	P9
D2 = Power ON	P8
D3 = Standby	P7

P9, IN
P8, IN
P7, IN

TEST POINTS

Solder Side
+12 GND

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
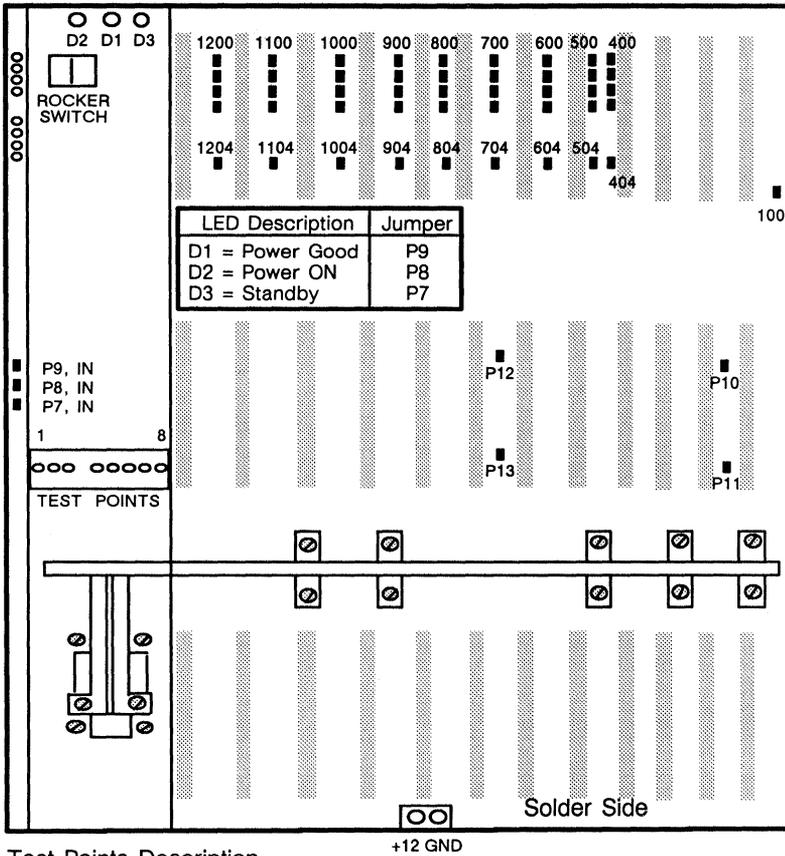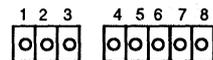
LED Description	Jumper
D1 = Power Good	P9
D2 = Power ON	P8
D3 = Standby	P7

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
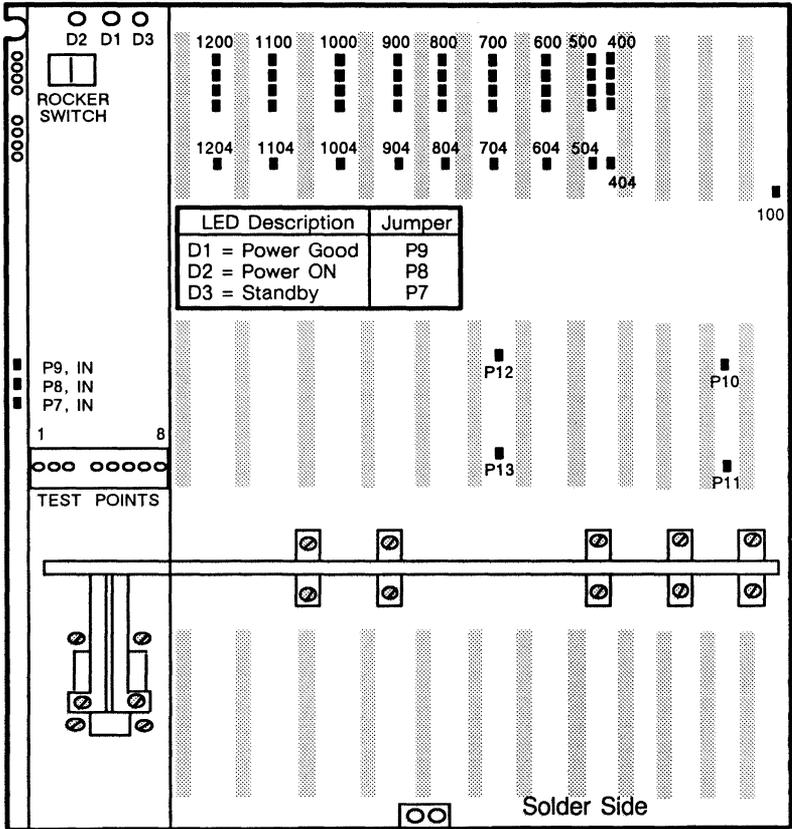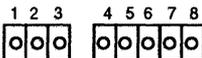
LED Description	Jumper
D1 = Power Good	P9
D2 = Power ON	P8
D3 = Standby	P7

Solder Side

+12 GND

Test Points Description

1 2 3   4 5 6 7 8

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

MEMORY
EXPANSION   3   2   1

5   4

J2

POWER
CONNECTOR

— 6U —

O -12V
O -5V
O GND
O VCC
O +12V

J1

POWER
CONNECTOR

P304 ■   P204 ■

P404 ■

P303 ■   P203 ■
P403 ■   P302 ■   P202 ■
P402 ■   P301 ■   P201 ■
P401 ■   P300 ■   P200 ■
P400 ■
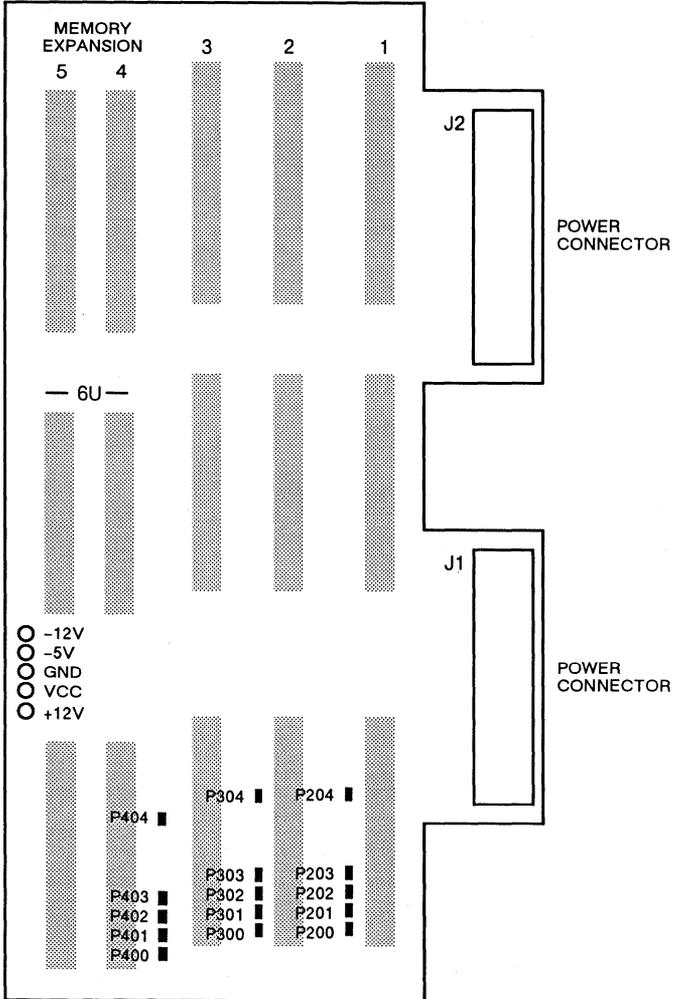
Power: 2.0 Amps @ +5Vdc
         10.0 Watts

Sun-4/390/490
501-1498
Pressfit
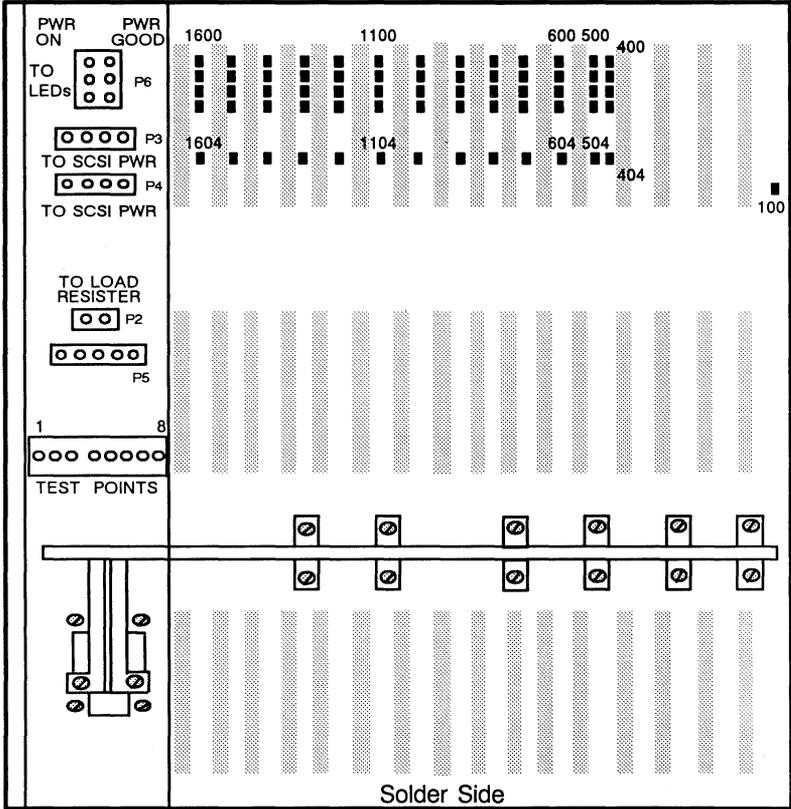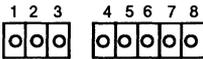
Solder Side

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


```
PWR        PWR
ON        GOOD   1600        1100           600 500
                                                   400

TO    o o
LEDs  o o   P6
      o o

   o o o o  P3
TO SCSI PWR

            F2    1604        1104           604 504

   o o o o  P4
                                                404
TO SCSI PWR
            F1                                          ■
                                                     100

    o o  P2

  o o o o o
      P5

 1           8

 ooo ooooo

TEST  POINTS
```

Solder Side

Test Points Description

```
1 2 3   4 5 6 7 8
o o o   o o o o o
```

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.
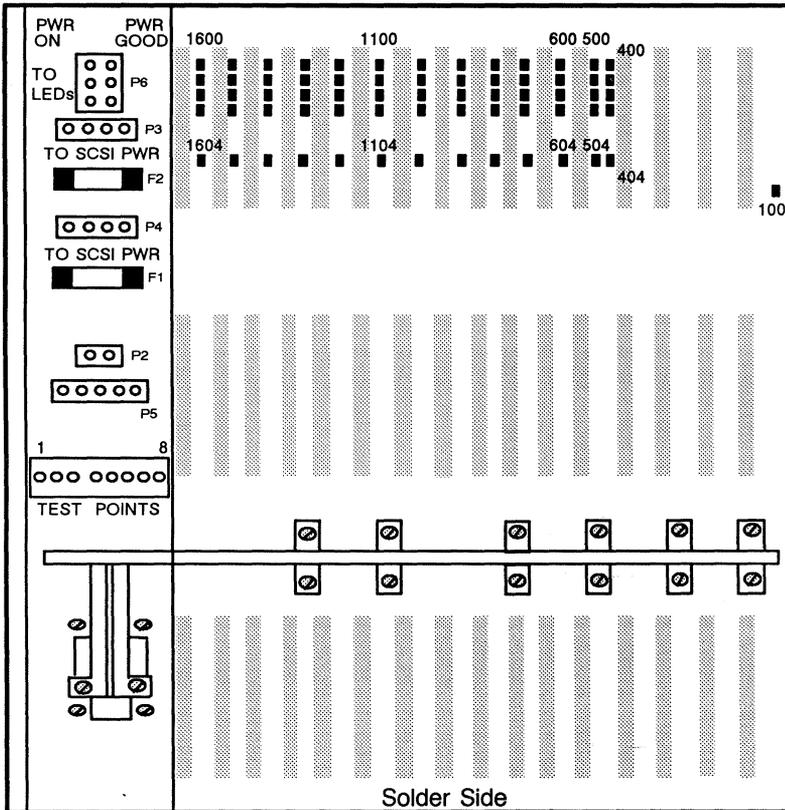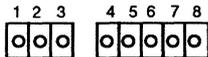
Fuses: F1 and F2
15 Amp @ 250V
P/N   140–1019
        140–1019

CONFIGURATIONS

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–2/130 and Sun–2/160

Do not install a Tape Controller or a Disk Controller in an un-used slot to the left of the SCSI Host Adapter. Throughput of the SCSI subsystem may be affected.

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 manufac-tured 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	stc1	Empty
stclp0	stclp1	Empty

One Printer card removed with *sbus–probe–list* = 0123

Slot 1	Slot 2	Slot 3
stc0	Removed	Empty
stclp0	Removed	Empty
Removed	stc0	Empty
Removed	stclp0	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	ttyy8 – f	ttyy10 – 17
ttyz0 – 7	ttyz8 – f	ttyz10 – 17

One SPC removed with *sbus–probe–list* = 0123

Slot 1	Slot 2	Slot 3
Removed	ttyy0 – 7	ttyy8 – f
Removed	ttyz0 – 7	ttyz8 – f
ttyy0 – 7	Removed	ttyy8 – f
ttyz0 – 7	Removed	ttyz8 – f
ttyy0 – 7	ttyy8 – f	Removed
ttyz0 – 7	ttyz8 – f	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 GP2GXP System 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

Sun–2/50

PART #	DESCRIPTION
501–1141	1MB CPU
501–1142	2MB CPU
501–1143	4MB CPU
501–1020	1MB Memory
501–1046	2MB Memory
501–1067	3MB Memory
501–1047	4MB Memory
501–1079	0MB Memory
501–1147	0MB Memory with Sun–2 VME SCSI
501–1148	0MB Memory with Sky FPP

Reference
Hardware Installation Manual for the Sun–2/50, 800–1143–02.

Sun–2/130/160

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	CPU 1	A											
In	In	Memory 2		A										
Out	Out	GP 3			A									
In	In	GB				A								
In	Out	Color 4					A							
Out	N/A	ALM–1 5											A	A
Out	Out	SCSI 6							A					
Out	Out	1st SCP			A	B	C	D	E					
Out	Out	2nd SCP				A	B	C	D	E				
Out	Out	1st MAPkit			A	A	C	C	E	E	G	G		
–	–				B	B	D	D	F	F				
Out	Out	2nd MAPkit					A	A	C	C	E	E	G	G
–	–						B	B	D	D	F	F		
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 SMD Ctlr 8			A	B	C	D	E	F	G	H	I	J
Out	Out	2nd SMD Ctlr 8				A	B	C	D	E	F	G	H	I
In	In	Sky FPP					A	B	C	D	E	F	G	H
Out	Out	2nd Ethernet			A	B	C	D	E	F	G	H	I	J
In	Out	1st IPC 9										B		A
In	Out	2nd IPC 9									B		A	
In	Out	3rd IPC 9								B		A		
In	Out	4th IPC 9							B		A			

References
1. *Hardware Installation Manual for the Sun–2/130 and Sun–2/160*, 800–1144–02.
2. *Sun Systems Cardcage Slot Assignments and Backplane Configuration Procedures*, 813–2004–16.

Sun–2/130/160

NOTE #	PART#	BOARD
1	501–1144 501–1145 501–1146	1MB CPU 2MB CPU 4MB CPU
2	501–1070 501–1071 501–1096 501–1097	1MB Memory 2MB Memory 3MB Mem 4MB Memory
3	501–1055 501–1139	Graphics Processor Graphics Processor + RC Network 540–1300–01 must be installed on the power supply. (FCO 160–0002 DOC 807–0029)
4	501–1014 501–1116	Sun–2 Color Sun–3 Color
5	501–1157 370–1040 370–1047 370–1048	ALM–1 Assy (501–1157–01) MTI–1600 Board Set MTI–1600 Controller MTI–1600 USART
	501–1157 370–1097 370–1099 370–1100	ALM–1 Assy (501–1157–02) MTI–1650B Board Set MTI–1650B Controller MTI–1650B USART
6	501–1049	Sun–2 VME SCSI Assy
7	501–1155 501–1156	1/2" Xylogics 472 Assy 1/2" CPC Tapemaster Assy
8	501–1154 501–1166	Xylogics 450 SMD Ctlr Assy Xylogics 451 SMD Ctlr Assy
9	501–1125 501–1214	SunIPC w/o 80287 SunIPC w 80287

Sun–2/120

BOARD	SLOT POSITION								
	1	2	3	4	5	6	7	8	9
CPU 1	A								
1st Memory 2		A							
2nd Memory 2			A						
3rd Memory 2				A					
4th Memory 2					A				
ALM–8 Ctlr 3							A		
ALM–8 USART						A			
Video 4					B	A			
1st SCP							A	B	
2nd SCP								A	B
SCSI				B	A		C	D	E
1st Ethernet 5			A	B	C		D	E	F
2nd Ethernet 5				A	B		C	D	E
1st Tape Ctlr 6							A	B	C
2nd Tape Ctlr 6								A	B
1st Disk Ctlr 7							A	B	C
2nd Disk Ctlr 7								A	B
Sky FPP							A		C
Color			F	E	D		C	B	A

References

1. *Hardware Installation Manual for the Sun–2/170*, 800–1171–01.
2. *Sun Systems Cardcage Slot Assignments and Backplane Configuration Procedures*, 813–2004–16.

Sun–2/170

BOARD	SLOT POSITION														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CPU 1	A														
1st Memory 2		A													
2nd Memory 2			A												
3rd Memory 2				A											
4th Memory 2					A										
Video 4						A									
1st SCP							A								
2nd SCP								A							
SCSI				A	B		C	D	E	F	G				
1st Ethernet 5			A	B	C		D	E	F	G					
2nd Ethernet 5				A	B		C	D	E	F	G				
1st Tape Ctlr 6							A	B	C	D	E	F			
2nd Tape Ctlr 6								A	B	C	D	E	F		
1st Disk Ctlr 7							A	B	C	D	E	F	G		
2nd Disk Ctlr 7								A	B	C	D	E	F	G	H
Sky FPP							A	B	C	D	E	F	G	H	I
Color															A
ALM–14 Ctlr 8							A	B	C	D	E	F	G	H	I
ALM–14 USART								A	B	C	D	E	F	G	H

References

1. *Hardware Installation Manual for the Sun–2/120, 800–1170–01.*
2. *Sun Systems Cardcage Slot Assignments and Backplane Configuration Procedures, 813–2004–16.*

Sun-2/120/170

NOTE #	PART#	BOARD
1	501-1007 501-1051	68010 CPU 68010 CPU Avoid using the 501-1051 CPU with the 501-1013 Memory
2	501-1013 501-1051 501-1232	1MB Memory 1MB Memory 4MB Memory Avoid using the 501-1013 Memory board with the 501-1051 CPU
3	370-1039 370-1047 370-1046 370-1098 370-1099 370-1102	MTI-800 Board Set MTI-800 Controller MTI-800 USART MTI-850B Board Set MTI-850B Controller MTI-850B USART
4	501-1003 501-1052	Monochrome Frame Buffer Monochrome Frame Buffer
5	501-0288 501-1004	3Com 3C400 Ethernet Sun-2 Ethernet
6	370-0502 370-1067	Tapemaster Tape Controller Xylogics 472 Tape Controller
7	370-1012	Xylogics 450 Disk Controller The Xylogics 451, 370-1082, is NOT supported.
8	370-1040 370-1047 370-1048 370-1097 370-1099 370-1100	MTI-1600 Board Set MTI-1600 Controller MTI-1600 USART MTI-1650B Board Set MTI-1650B Controller MTI-1650B USART

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
Out	Out	1st MCP		A	B
Out	Out	2nd MCP			A
Out	Out	1st ALM-2		A	B
Out	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
Out	Out	1st MCP		A	B
Out	Out	2nd MCP			A
Out	Out	1st ALM–2		A	B
Out	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.

Sun–3/160

SHUNTS BG3	IACK	BOARD	1	2	3	4	5	6	7	8	9	10	11	12
												SLOT POSITION		
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	C			B	B	B	A	A	A
–	–			D	D	D								
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				
Out	Out	1st MCP		E	A	B	C	D	F	G	H			
Out	Out	2nd MCP		D		A	B	C	E	F	G	H	I	J
Out	Out	3rd MCP		C			A	B	C	E	F	G	H	I
Out	Out	4th MCP		B			A	B	C	E	F	G	H	
Out	Out	1st ALM–2		E	A	B	C	D	F	G	H	I	J	K
Out	Out	2nd ALM–2		D		A	B	C	E	F	G	H	I	J
Out	Out	3rd ALM–2		C			A	B	C	E	F	G	H	I
Out	Out	4th ALM–2		B			A	B	C	E	F	G	H	
Out	Out	1st SunLink		A	A	C	C	E	E	G	G	I	I	
–	–	Channel Adapter			B	B	D	D	F	F	H	H	J	J
Out	Out	2nd SunLink				A	A	C	C	E	E	G	G	
–	–	Channel Adapter					B	B	D	D	F	F	H	H
Out	Out	1st MAPkit		A	A	C	C	E	E	G	G	I	I	
–	–				B	B	D	D	F	F	H	H	J	J
Out	Out	2nd MAPkit				A	A	C	C	E	E	G	G	
–	–						B	B	D	D	F	F	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	C			B	B	B	A	A	A
–	–				D	D	D							
–	–					E	E	E						
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				
Out	Out	1st MCP		A	B	C	D	E		F	G			
Out	Out	2nd MCP			A	B	C	D		E	F	G	H	I
Out	Out	3rd MCP				A	B	C		D	E	F	G	H
Out	Out	4th MCP					A	B		C	D	E	F	G
Out	Out	1st ALM–2		A	B	C	D	E		F	G			
Out	Out	2nd ALM–2			A	B	C	D		E	F	G	H	I
Out	Out	3rd ALM–2				A	B	C		D	E	F	G	H
Out	Out	4th ALM–2					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	D		F	F	H	H	H
Out	Out	2nd SunLink				A	A			C	C	E	E	
–	–	Channel Adapter				B	B	B		D	D	F	F	F
Out	Out	1st MAPkit		A	A	C	C			E	E	G	G	
–	–			B	B	D	D	D		F	F	H	H	H
Out	Out	2nd MAPkit				A	A			C	C	E	E	
–	–					B	B	B		D	D	F	F	F

Sun–3/180 – Continued

with 501–1167 SCSI Host Adapter

SHUNTS BG3	IACK	BOARD	SLOT POSITION 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	C			B	B	B	A	A	A
	–				D	D	D							
––	–					E	E	E						
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					
Out	Out	1st MCP		A	B	C	D	E	F	G				
Out	Out	2nd MCP			A	B	C	D	E	F	G			
Out	Out	3rd MCP				A	B	C	D	E	F	G	H	I
Out	Out	4th MCP					A	B	C	D	E	F	G	H
Out	Out	1st ALM–2		A	B	C	D	E	F	G	H	I	J	K
Out	Out	2nd ALM–2			A	B	C	D	E	F	G	H	I	J
Out	Out	3rd ALM–2				A	B	C	D	E	F	G	H	I
Out	Out	4th ALM–2					A	B	C	D	E	F	G	H
Out	Out	1st SunLink		A	A	C	C	E	E	G	G	I	I	
–	–	Channel Adapter			B	B	D	D	F	F	H	H	J	J
Out	Out	2nd SunLink				A	A	C	C	E	E	G	G	
–	–	Channel Adapter				B	B	D	D	F	F	H	H
Out	Out	1st MAPkit		A	A	C	C	E	E	G	G	I	I	
–	–				B	B	D	D	F	F	H	H	J	J
Out	Out	2nd MAPkit				A	A	C	C	E	E	G	G	
–	–					B	B	D	D	F	F	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	B						A	A	A
–	–				C	C	C							
–	–					D	D	D						
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
Out	Out	1st MCP		A	B	C	D	E				F	G	H
Out	Out	2nd MCP			A	B	C	D				E	F	G
Out	Out	3rd MCP				A	B	C				D	E	F
Out	Out	4th MCP					A	B				C	D	E
Out	Out	1st ALM-2		A	B	C	D	E				F	G	H
Out	Out	2nd ALM-2			A	B	C	D				E	F	G
Out	Out	3rd ALM-2				A	B	C				D	E	F
Out	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

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 BG3	SHUNTS IACK	BOARD	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	C			B	B	B	A	A	A
–	–				D	D	D							
–	–					E	E	E						
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			
Out	Out	1st MCP		D	A	B	C		E	F	G	H	I	J
Out	Out	2nd MCP		C		A	B		D	E	F	G	H	I
Out	Out	3rd MCP		B			A		C	D	E	F	G	H
Out	Out	4th MCP		A					B	C	D	E	F	G
Out	Out	1st ALM–2		D	A	B	C		E	F	G	H	I	J
Out	Out	2nd ALM–2		C		A	B		D	E	F	G	H	I
Out	Out	3rd ALM–2		B			A		C	D	E	F	G	H
Out	Out	4th ALM–2		A					B	C	D	E	F	G
Out	Out	1st SunLink		A	A	C	C		D	D	F	F	H	H
–	–	Channel Adapter			B	B				E	E	G	G	
Out	Out	2nd SunLink				A	A		B	B	D	D	F	F
–	–	Channel Adapter								C	C	E	E	
Out	Out	1st MAPkit		A	A	C	C		D	D	F	F	H	H
–	–				B	B				E	E	G	G	
Out	Out	2nd MAPkit				A	A		B	B	D	D	F	F
–	–									C	C	E	E	
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	C			B	B	B	A	A	A
–	–				D	D	D							
–	–					E	E	E						
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			
Out	Out	1st MCP		A	B	C	D			E	F	G	H	I
Out	Out	2nd MCP			A	B	C			D	E	F	G	H
Out	Out	3rd MCP				A	B			C	D	E	F	G
Out	Out	4th MCP					A			B	C	D	E	F
Out	Out	1st ALM–2		A	B	C	D			E	F	G	H	I
Out	Out	2nd ALM–2			A	B	C			D	E	F	G	H
Out	Out	3rd ALM–2				A	B			C	D	E	F	G
Out	Out	4th ALM–2					A			B	C	D	E	F
Out	Out	1st SunLink		A	A	C	C			D	D	F	F	
–	–	Channel Adapter			B	B				E	E	G	G	
Out	Out	2nd SunLink				A	A			B	B	D	D	
–	–	Channel Adapter								C	C	E	E	
Out	Out	1st MAPkit		A	A	C	C			D	D	F	F	
–	–				B	B			E	E	D	D		
Out	Out	2nd MAPkit				A	A			B	B	D	D	
–	–									C	C	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	C			B	B	B	A	A	A
–	–				D	D	D							
–	–					E	E	E						
Out	N/A	1st ALM-1												A
Out	Out	2nd ALM-1											A	
Out	Out	3rd ALM-1										A		
Out	Out	SCSI 10						A						
Out	Out	1st SCP		A	B	C	D			E				
Out	Out	2nd SCP			A	B	C			D	E			
Out	Out	1st MCP		A	B	C	D		E	F	G			
Out	Out	2nd MCP			A	B	C		D	E	F	G	H	I
Out	Out	3rd MCP				A	B		C	D	E	F	G	H
Out	Out	4th MCP					A		B	C	D	E	F	G
Out	Out	1st ALM-2		A	B	C	D		E	F	G	H	I	J
Out	Out	2nd ALM-2			A	B	C		D	E	F	G	H	I
Out	Out	3rd ALM-2				A	B		C	D	E	F	G	H
Out	Out	4th ALM-2					A		B	C	D	E	F	G
Out	Out	1st SunLink		A	A	C	C		D	D	F	F	H	H
	––	Channel Adapter			B	B				E	E	G	G	
Out	Out	2nd SunLink				A	A		B	B	D	D	F	F
–	–	Channel Adapter								C	C	E	E	
Out	Out	1st MAPkit		A	A	C	C		D	D	F	F	G	G
–	–				B	B				E	E			
Out	Out	2nd MAPkit				A	A		B	B	D	D	F	F
–	–									C	C	E	E	

Sun-3/280 - Continued

with 501-1138 or 501-1217 SCSI Host Adapter

SHUNTS BG3	IACK	BOARD	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 BG3	SHUNTS IACK	BOARD	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	B						A	A	A
–	–				C	C	C							
–	–					D	D	D						
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
Out	Out	1st MCP		A	B	C	D					E	F	G
Out	Out	2nd MCP			A	B	C					D	E	F
Out	Out	3rd MCP				A	B					C	D	E
Out	Out	4th MCP					A					B	C	D
Out	Out	1st ALM-2		A	B	C	D					E	F	G
Out	Out	2nd ALM-2			A	B	C					D	E	F
Out	Out	3rd ALM-2				A	B					C	D	E
Out	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

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	C			B	B	B	A	A	A
–	–				D	D	D							
–	–					E	E	E						
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
Out	Out	1st MCP			A	B	C		D	E	F	G	H	I
Out	Out	2nd MCP				A	B		C	D	E	F	G	H
Out	Out	3rd MCP					A		B	C	D	E	F	G
Out	Out	4th MCP							A	B	C	D	E	F
Out	Out	1st ALM–2			A	B	C		E	F	G	H	I	J
Out	Out	2nd ALM–2				A	B		D	E	F	G	H	I
Out	Out	3rd ALM–2					A		C	D	E	F	G	H
Out	Out	4th ALM–2							B	C	D	E	F	G
Out	Out	1st SunLink			A	A			C	C	E	E	G	G
–	–	Channel Adapter				B	B			F	F	D	D	
Out	Out	2nd SunLink							A	A	C	C	E	E
–	–	Channel Adapter								B	B	D	D	
Out	Out	1st MAPkit			A	A			C	C	E	E	G	G
–	–					B	B			F	F	D	D	
Out	Out	2nd MAPkit							A	A	C	C	E	E
–	–									B	B	D	D	

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 BG3	IACK	BOARD	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
Out	Out	1st MCP						A	B	C	D	E	F	G
Out	Out	2nd MCP							A	B	C	D	E	F
Out	Out	3rd MCP								A	B	C	D	E
Out	Out	4th MCP									A	B	C	D
Out	Out	1st ALM–2						A	B	C	D	E	F	G
Out	Out	2nd ALM–2							A	B	C	D	E	F
Out	Out	3rd ALM–2								A	B	C	D	E
Out	Out	4th ALM–2									A	B	C	D
Out / ––	Out	1st SunLink Channel Adapter						A/B	A/B	C/D	C/D	E/F	E/F	F
Out / –	Out / –	2nd SunLink Channel Adapter								A/B	A/B	C/D	C/D	D
Out / –	Out / –	1st MAPkit						A/B	A/B	C/D	C/D	E/F	E/F	F
Out / –	Out / –	2nd MAPkit								A/B	A/B	C/D	C/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	1 0	1 1	1 2
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 BG3	IACK	BOARD	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	C		B	B	B	A	A	A
–	–					D	D	D						
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
Out	Out	1st MCP			A	B	C		D	E	F	G	H	I
Out	Out	2nd MCP				A	B		C	D	E	F	G	H
Out	Out	3rd MCP					A		B	C	D	E	F	G
Out	Out	4th MCP							A	B	C	D	E	F
Out	Out	1st ALM–2			A	B	C		D	E	F	G	H	I
Out	Out	2nd ALM–2				A	B		C	D	E	F	G	H
Out	Out	3rd ALM–2					A		B	C	D	E	F	G
Out	Out	4th ALM–2							A	B	C	D	E	F
Out	Out	1st SunLink			A	A			C	C	E	E	G	G
–	–	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 MAPkit			A	A			C	C	E	E	G	G
–	–					B	B		D	D	F	F		
Out	Out	2nd MAPkit							A	A	C	C	E	E
–	–									B	B	D	D	
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	B					A	A	A
–	–					C	C	C						
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
Out	Out	1st MCP			A	B	C					D	E	F
Out	Out	2nd MCP				A	B					C	D	E
Out	Out	3rd MCP					A					B	C	D
Out	Out	4th MCP										A	B	C
Out	Out	1st ALM-2			A	B	C					D	E	F
Out	Out	2nd ALM-2				A	B					C	D	E
Out	Out	3rd ALM-2					A					B	C	D
Out	Out	4th ALM-2										A	B	C
Out	Out	1st SunLink			A	A						C	C	
–	–	Channel Adapter				B	B						D	D
Out	Out	2nd SunLink										A	A	
–	–	Channel Adapter											B	B
Out	Out	1st MAPkit			A	A						C	C	
–	–					B	B						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	CG6 Color Frame Buffer
	501–1518	CG8 24–bit Color Frame Buffer
	501–1371	CG8 24–bit Color Frame Buffer
	501–1374	CG6 Color Frame Buffer
	501–1248	CG4 Color Frame Buffer
	501–1402	MG4 Mono Frame Buffer
	501–1446	FPA+
1	501–1102	8MB Memory
	501–1451	32MB Memory
	501–1576	16MB Memory
2	501–1055	Graphics Processor (GP)
	501–1139	Graphics Processor Plus (GP+)
	501–1268	Graphics Processor 2 (GP2)
3	501–1383	TAAC–1 Application Accelerator
	501–1447	TAAC–1 Application Accelerator
4	501–1149	Sun–2 VME SCSI Assembly
	501–1170	Sun–3 VME SCSI Assembly
5	501–1014	Sun–2 Color Frame Buffer
	501–1116	Sun–3 Color Frame Buffer
	501–1267	CG5 Color Frame Buffer
6	501–1125	SunIPC without 80287
	501–1214	SunIPC with 80287
7	501–1155	Xylogics 472 Tape Controller Assy
	501–1156	Tapemaster Tape Controller Assembly
8	501–1154	Xylogics 450 Disk Controller Assembly
	501–1166	Xylogics 451 Disk Controller Assembly
	501–1249	Xylogics 7053 Disk Controller
9	501–1138	Sun–2 SCSI Host Adapter Assembly
	501–1217	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
501–1680	0MB Sun–4/20 CPU
501–1777	0MB Sun–4/20 CPU
501–1676	4MB SIMM
501–1698	4MB SIMM

Sun–4/40

PART #	DESCRIPTION	SBus Slot 1	SBus Slot 2
501–1689	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
501–1481	CG6 66hz 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
501–1455	MG2 66hz Analog	A	B
501–1561	MG2 66/76hz Analog	A	B
501–1706	VideoPics	A	B
501–1450	Ethernet	A	B
501–2140	SBus Printer	A	B
501–1511	Serial Parallel Controller	A	B
501–1557	FDDI	A	B
501–1725	HSI	A	B
501–1759	SCSI Host Adapter	A	B
501–1850	SCSI Host Adapter	A	B

Sun–4/60

PART #	DESCRIPTION	SBus Slot		
		1	2	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
370–1329	CG12 76Hz 24–bit Color	A	A	A
501–1693	GT SBus Adapter	A	B	*
501–1419	MG1 66hz ECL	C	B	A
501–1455	MG2 66hz Analog	C	B	A
501–1450	Ethernet	A	B	*
501–1454	TI FPU	–	–	–
501–1667	DC Load Board	–	–	–
501–1706	VideoPics	C	B	A
501–2140	SBus Printer	A	B	*
501–1511	Serial Parallel Controller	A	B	C
501–1557	FDDI	A	B	*
501–1725	HSI	A	B	C
501–1759	SCSI Host Adapter	A	B	*
501–1850	SCSI Host Adapter	A	B	*

* These cards can NOT be installed in SBus Slot 3.

Sun-4/65

PART #	DESCRIPTION	SBus Slot		
		1	2	3
501-1632	Sun-4/65 CPU	–	–	–
501-1408	1MB SIMM	–	–	–
501-1625	4MB SIMM	–	–	–
501-1415	CG3 66Hz Color	C	B	A
501-1645	CG6 66Hz Color	B	A B	A
370-1329	CG12 76Hz 24-bit Color	A	A	A
501-1693	GT SBus Adapter	A	B	*
501-1419	MG1 66Hz ECL	C	B	A
501-1455	MG2 66Hz Analog	C	B	A
501-1450	Ethernet	A	B	*
501-1454	TI FPU	–	–	–
501-1667	DC Load Board	–	–	–
501-1706	VideoPics	C	B	A
501-2140	SBus Printer	A	B	*
501-1511	Serial Parallel Controller	A	B	C
501-1557	FDDI	A	B	C
501-1725	HSI	A	B	C
501-1759	SCSI Host Adapter	A	B	C
501-1850	SCSI Host Adapter	A	B	C

* These cards can NOT be installed 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	–	–	–
501–1739	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 8–bit Color	A	B	C
501–1645	CG6 66Hz Color	B	A B	A
501–1672	CG6 66/76hz Color	A	B	C
370–1329	CG12 76Hz 24–bit Color	A	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	Ethernet	A	B	C
501–1706	VideoPics	A	B	C
501–2140	SBus Printer	A	B	C
501–1511	Serial Parallel Controller	A	B	C
501–1557	FDDI	A	B	C
501–1725	HSI	A	B	C
501–1667	DC Load Board	–	–	–
501–1759	SCSI Host Adapter	A	B	C
501–1850	SCSI Host Adapter	A	B	C

Sun–4/110

SHUNTS		BOARD	SLOT POSITION		
BG3	IACK		1	2	3
Out	Out	Sun 4100 CPU 1	A	A	
Out	Out	MCP			A
Out	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	A	
–	–					B	B	B
Out	Out	1st MCP		A	B	C	D	E
Out	Out	2nd MCP			A	B	C	D
Out	Out	1st ALM–2		A	B	C	D	E
Out	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.

Sun–4/260

SHUNTS BG3	IACK	BOARD	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					
Out	Out	1st MCP	A	B	C	D			E	F	G	H	I	J
Out	Out	2nd MCP		A	B	C			D	E	F	G	H	I
Out	Out	3rd MCP			A	B			C	D	E	F	G	H
Out	Out	4th MCP				A			B	C	D	E	F	G
Out	Out	1st ALM–2	A	B	C	D			E	F	G	H	I	J
Out	Out	2nd ALM–2		A	B	C			D	E	F	G	H	I
Out	Out	3rd ALM–2			A	B			C	D	E	F	G	H
Out	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							B	B	B	A	A	A
–	–				C	C	C							
Out	Out	ALM-1											A	A
Out	Out	SCSI 7							A					
Out	Out	1st MCP			A	B	C		D	E	F	G	H	I
Out	Out	2nd MCP				A	B		C	D	E	F	G	H
Out	Out	3rd MCP					A		B	C	D	E	F	G
Out	Out	4th MCP							A	B	C	D	E	F
Out	Out	1st ALM-2			A	B	C		D	E	F	G	H	I
Out	Out	2nd ALM-2				A	B		C	D	E	F	G	H
Out	Out	3rd ALM-2					A		B	C	D	E	F	G
Out	Out	4th ALM-2							A	B	C	D	E	F
Out	Out	1st SunLink			A	A			C	C	E	E	G	G
–	–	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 MAPkit			A	A			C	C	E	E	G	G
–	–					B	B		D	D	F	F		
Out	Out	2nd MAPkit							A	A	C	C	E	E
–	–								B	B	D	D		
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 BG3	IACK	BOARD	1	2	3	4	5	6	7	8	9	10	11	12
												SLOT POSITION		
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 BG3	IACK	BOARD	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	C			B	B	B	A	A	A
–	–				D	D	D							
Out	Out	1st ALM–1												A
Out	Out	2nd ALM–1											A	
Out	Out	3rd ALM–1										A		
Out	Out	SCSI 11							A					
Out	Out	1st MCP		A	B	C	D							
Out	Out	2nd MCP			A	B	C			D				
Out	Out	3rd MCP				A	B			C	D			
Out	Out	4th MCP					A			B	C	D	E	F
Out	Out	1st ALM–2		A	B	C	D			E	F	G	H	I
Out	Out	2nd ALM–2			A	B	C			D	E	F	G	H
Out	Out	3rd ALM–2				A	B			C	D	E	F	G
Out	Out	4th ALM–2					A			B	C	D	E	F
Out	Out	1st SunLink		A	A	C	C			D	D	F	F	
–	–	Channel Adapter		B	B					E	E	G	G	
Out	Out	2nd SunLink				A	A			B	B	C	C	
–	–	Channel Adapter											D	D
Out	Out	1st MAPkit		A	A	C	C			D	D	F	F	
–	–			B	B					E	E	G	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 BG3	IACK	BOARD	| SLOT POSITION 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					
Out	Out	1st MCP		A	B	C	D							
Out	Out	2nd MCP			A	B	C		D					
Out	Out	3rd MCP				A	B		C	D				
Out	Out	4th MCP					A		B	C	D	E	F	
Out	Out	1st ALM–2		A	B	C	D			E	F	G	H	I
Out	Out	2nd ALM–2			A	B	C			D	E	F	G	H
Out	Out	3rd ALM–2				A	B			C	D	E	F	G
Out	Out	4th ALM–2					A			B	C	D	E	F
Out	Out	1st SunLink		A	A	C	C			D	D	F	F	
–	–	Channel Adapter			B	B					E	E	G	G
Out	Out	2nd SunLink				A	A			B	B	C	C	
–	–	Channel Adapter											D	D
Out	Out	1st MAPkit		A	A	C	C			D	D	F	F	
–	–				B	B					E	E	G	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 BG3	IACK	BOARD	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	C			B	B	B	A	A	A
–	–				D	D	D							
Out	Out	1st ALM-1												A
Out	Out	2nd ALM-1											A	
Out	Out	3rd ALM-1										A		
Out	Out	1st MCP		A	B	C	D							
Out	Out	2nd MCP			A	B	C		D					
Out	Out	3rd MCP				A	B		C	D				
Out	Out	4th MCP					A		B	C	D			
Out	Out	1st ALM-2		A	B	C	D		E	F	G	H	I	J
Out	Out	2nd ALM-2			A	B	C		D	E	F	G	H	I
Out	Out	3rd ALM-2				A	B		C	D	E	F	G	H
Out	Out	4th ALM-2					A		B	C	D	E	F	G
Out	Out	1st SunLink		A	A	C	C		D	D	F	F	G	G
–	–	Channel Adapter			B	B				E	E			
Out	Out	2nd SunLink				A	A		B	B	D	D	F	F
–	–	Channel Adapter								C	C	E	E	
Out	Out	1st MAPkit		A	A	C	C		D	D	F	F	H	H
–	–									E	E			
Out	Out	2nd MAPkit				A	A		B	B	D	D	F	F
–	–									C	C	E	E	
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 BG3	IACK	BOARD	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	1st MCP			A	B	C		D					
Out	Out	2nd MCP				A	B		C	D				
Out	Out	3rd MCP					A		B	C	D			
Out	Out	4th MCP							A	B	C	D	E	F
Out	Out	1st ALM–2			A	B	C		D	E	F	G	H	I
Out	Out	2nd ALM–2				A	B		C	D	E	F	G	H
Out	Out	3rd ALM–2					A		B	C	D	E	F	G
Out	Out	4th ALM–2							A	B	C	D	E	F
Out	Out	1st SunLink			A	A			C	C	E	E	G	G
–	–	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 MAPkit			A	A			C	C	E	E	G	G
–	–					B	B			D	D	F	F	
Out	Out	2nd MAPkit							A	A	C	C	E	E
–	–									B	B	D	D	
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	B						A	A	A
–	–				C	C	C							
Out	Out	1st ALM–1												A
Out	Out	2nd ALM–1											A	
Out	Out	3rd ALM–1										A		
Out	Out	1st MCP		A	B	C	D							
Out	Out	2nd MCP			A	B	C					D	E	F
Out	Out	3rd MCP				A	B					C	D	E
Out	Out	4th MCP					A					B	C	D
Out	Out	1st ALM–2		A	B	C	D					E	F	G
Out	Out	2nd ALM–2			A	B	C					D	E	F
Out	Out	3rd ALM–2				A	B					C	D	E
Out	Out	4th ALM–2					A					B	C	D
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					D	D	
–	–				B	B							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 BG3	IACK	BOARD	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		
Out	Out	1st MCP			A	B	C					D	E	F
Out	Out	2nd MCP				A	B					C	D	E
Out	Out	3rd MCP					A					B	C	D
Out	Out	4th MCP										A	B	C
Out	Out	1st ALM-2			A	B	C					D	E	F
Out	Out	2nd ALM-2				A	B					C	D	E
Out	Out	3rd ALM-2					A					B	C	D
Out	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
Out	Out	1st MCP		A	B
Out	Out	2nd MCP			A
Out	Out	1st ALM–2		A	B
Out	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					
Out	Out	1st MCP		B	A				
Out	Out	2nd MCP		B	A				
Out	Out	1st ALM–2		B	A				
Out	Out	2nd ALM–2		B	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.

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
Out	Out	SCSI Adapter 12							A					
Out	Out	1st MCP	K	A	B	C	D	E	F	G	H	I	J	
Out	Out	2nd MCP	J		A	B	C	D	E	F	G	H	I	
Out	Out	3rd MCP	I			A	B	C	D	E	F	G	H	
Out	Out	4th MCP	H			A	B	C	D	E	F	G		
Out	Out	1st ALM-2	K	A	B	C	D	E	F	G	H	I	J	
Out	Out	2nd ALM-2	J		A	B	C	D	E	F	G	H	I	
Out	Out	3rd ALM-2	I			A	B	C	D	E	F	G	H	
Out	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
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 BG3	IACK	BOARD	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										
In	Out	CG9											A	B
Out	Out	GP 6									A			
In	In	GB									A			
In	In	TAAC-1 7					A	A	A	D	D	D		
–	–							B	B	B	E	E	E	
–	–								C	C	C	F	F	F
Out	Out	1st MCP					A	B	C	D	E	F	G	H
Out	Out	2nd MCP						A	B	C	D	E	F	G
Out	Out	3rd MCP							A	B	C	D	E	F
Out	Out	4th MCP								A	B	C	D	E
Out	Out	1st ALM-2					A	B	C	D	E	F	G	H
Out	Out	2nd ALM-2						A	B	C	D	E	F	G
Out	Out	3rd ALM-2							A	B	C	D	E	F
Out	Out	4th ALM-2								A	B	C	D	E
Out	Out	1st SunLink					A	A	C	C	E	E	G	G
–	–	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	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.

Sun–4/380

SHUNTS BG3	SHUNTS IACK	BOARD	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		
Out	Out	1st MCP	K	A	B	C	D	E	F	G	H	I	J	
Out	Out	2nd MCP	J		A	B	C	D	E	F	G	H	I	
Out	Out	3rd MCP	I			A	B	C	D	E	F	G	H	
Out	Out	4th MCP	H			A	B	C	D	E	F	G		
Out	Out	1st ALM–2	K	A	B	C	D	E	F	G	H	I	J	
Out	Out	2nd ALM–2	J		A	B	C	D	E	F	G	H	I	
Out	Out	3rd ALM–2	I			A	B	C	D	E	F	G	H	
Out	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		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

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	GP2												B				
In	In	TAAC–1 7														A	A	A
Out	Out	1st MCP						A	B	C	D	E	F	G	H	I	J	K
Out	Out	2nd MCP							A	B	C	D	E	F	G	H	I	J
Out	Out	3rd MCP								A	B	C	D	E	F	G	H	I
Out	Out	4th MCP									A	B	C	D	E	F	G	H
Out	Out	1st ALM–2						A	B	C	D	E	F	G	H	I	J	K
Out	Out	2nd ALM–2							A	B	C	D	E	F	G	H	I	J
Out	Out	3rd ALM–2								A	B	C	D	E	F	G	H	I
Out	Out	4th ALM–2									A	B	C	D	E	F	G	H
Out	Out	5th ALM–2										A	B	C	D	E	F	G
Out	Out	6th ALM–2											A	B	C	D	E	F
Out	Out	7th ALM–2												A	B	C	D	E
Out	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									1 0	1 1	1 2	1 3	1 4	1 5	1 6
BG3	IACK		1	2	3	4	5	6	7	8	9							
Out	Out	1st IPI Ctlr						A	B	C	D	E	F	G	H	I	J	K
Out	Out	2nd IPI Ctlr							A	B	C	D	E	F	G	H	I	J
Out	Out	3rd IPI Ctlr								A	B	C	D	E	F	G	H	I
Out	Out	4th IPI Ctlr									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		

Reference
*Sun SPARCserver 390 Card Cage Slot Assignments and Backplane
Configuration Procedure*, 813–2067–10.

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
	501–1466	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
	501–1466	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

NOTE #	PART#	BOARD
8	501–1316 501–1466 501–1544 501–1565	8MB Sun 4300 CPU 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 501–1466 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
	501–1704 501–1755 501–1682	32MB Memory Board 32MB Memory Board 4MB SIMM Module
11	501–1436 501–1723 501–1317 501–1711 501–1466 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
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

Sun–4/470

SHUNTS BG3	IACK	BOARD	1	2	3	4	5	6	7	8	9	10	11	12
								SLOT POSITION						
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	GP2										A	B	
In	In	TAAC–1 2										A	A	A
Out	Out	1st MCP						A	B	C	D	E	F	G
Out	Out	2nd MCP							A	B	C	D	E	F
Out	Out	3rd MCP								A	B	C	D	E
Out	Out	4th MCP									A	B	C	D
Out	Out	1st ALM–2						A	B	C	D	E	F	G
Out	Out	2nd ALM–2							A	B	C	D	E	F
Out	Out	3rd ALM–2								A	B	C	D	E
Out	Out	4th ALM–2									A	B	C	D
Out	Out	5th ALM–2										A	B	C
Out	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									1 0	1 1	1 2
BG3	IACK		1	2	3	4	5	6	7	8	9	1 0	1 1	1 2
Out	Out	1st SMD Ctlr 5									A	B	C	D
Out	Out	2nd SMD Ctlr 5									A	B	C	
Out	Out	1st IPI Ctlr									A	B	C	D
Out	Out	2nd IPI Ctlr									A	B	C	
Out	Out	3rd IPI Ctlr										A	B	
Out	Out	4th IPI Ctlr											A	
In	Out	CG5									A	B	C	D
In	Out	CG5 with GP2										A	B	
In	Out	CG9										A	B	

Reference
Sun SPARCsystem 470 Cardcage Slot Assignments and Backplane Configuration Procedures, 813–2102–12.

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	GP2													A	B		
In	In	TAAC–1 2														A	A	A
Out	Out	1st MCP						A	B	C	D	E	F	G	H	I	J	K
Out	Out	2nd MCP							A	B	C	D	E	F	G	H	I	J
Out	Out	3rd MCP								A	B	C	D	E	F	G	H	I
Out	Out	4th MCP									A	B	C	D	E	F	G	H
Out	Out	1st ALM–2						A	B	C	D	E	F	G	H	I	J	K
Out	Out	2nd ALM–2							A	B	C	D	E	F	G	H	I	J
Out	Out	3rd ALM–2								A	B	C	D	E	F	G	H	I
Out	Out	4th ALM–2									A	B	C	D	E	F	G	H
Out	Out	5th ALM–2										A	B	C	D	E	F	G
Out	Out	6th ALM–2											A	B	C	D	E	F
Out	Out	7th ALM–2												A	B	C	D	E
Out	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 6						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 BG3	IACK	BOARD	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 IPI Ctlr									A	B	C	D	E	F	G	H
Out	Out	2nd IPI Ctlr										A	B	C	D	E	F	G
Out	Out	3rd IPI Ctlr											A	B	C	D	E	F
Out	Out	4th IPI Ctlr												A	B	C	D	E
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

Note: column headers for SLOT POSITION 10–16 are printed as two-digit numbers (10, 11, 12, 13, 14, 15, 16).

Reference

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	501–1155	Xylogics 472 Tape Controller Assembly

CONFIGURATIONS

MISCELLANEOUS

Miscellaneous

Sky Floating Point Processor (Multibus)
Sun–2/120/170
370–1021

Sky FFP–M–01

```
            JP05
        16 ▀▀▀▀ 9
         1 ▀▀▀▀ 8

    JP02    JP01    JP03
   14   8  14   8  8    5
    1   7   1   7  1    4
```

Sky FFP–M–03

```
            JP05
        11  ▀▀▀▀ 15
        10  ▀▀▀▀ 6
         1       5

    JP02    JP01    JP03
   14   8  14   8  8    5
    1   7   1   7  1    4
```
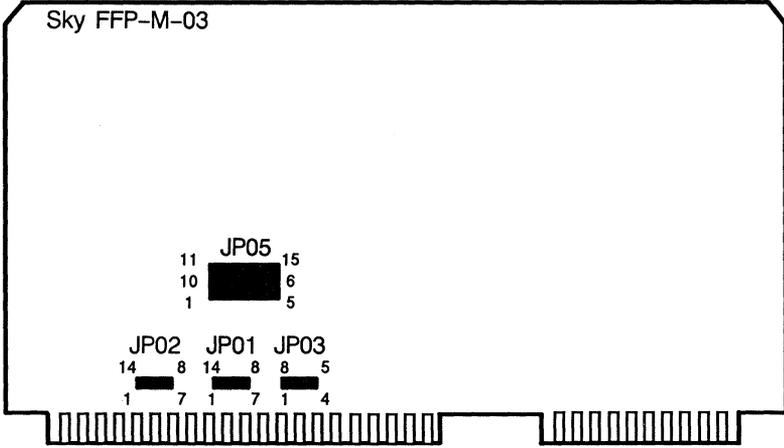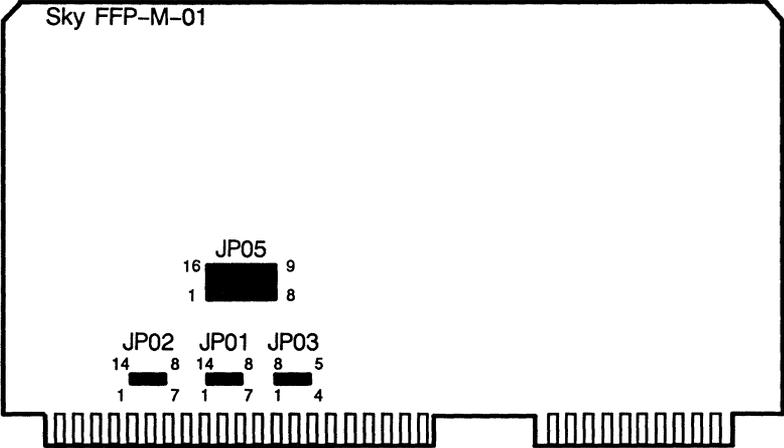
370-1021
Jumper Settings

Jumpers JP01, JP02, and JP03

JUMPER	PINS	SETTING	DESCRIPTION
JP01	1-11	Wirewrap	Sets base address at 8000
JP02	1-3-6	Wirewrap	
	4-5	Wirewrap	
JP03	2-3	In	Set for no interrupts*
	4-5	In	
	6-7	In	

Sky FFP M-01, Jumper JP05

BOARD	PINS	SETTING
M-01	1-16	In
	2-15	In
	3-14	In
	4-13	In
	5-12	In
	6-11	In
	7-10	In
	8-9	In

Sky FFP-M-03, Jumper JP05

BOARD	PINS	SETTING
M-03	10-11	In
	9-12	In
	8-13	In
	7-14	In
	6-15	In

Reference
Sky Board Configuration Procedures for the Sun-2/120/170, 813-2014.

Sky Floating Point Processor (VMEbus)
Sun–2/50/130/160
370–1029

Sky FPP–V–01 & Sky FFP–E–02

JP01 JP02

JP03

Sky FFP–E–03

JP04

JP01 JP02
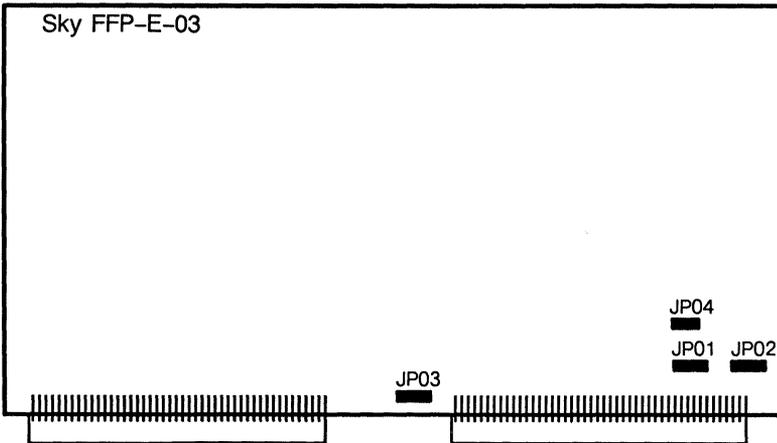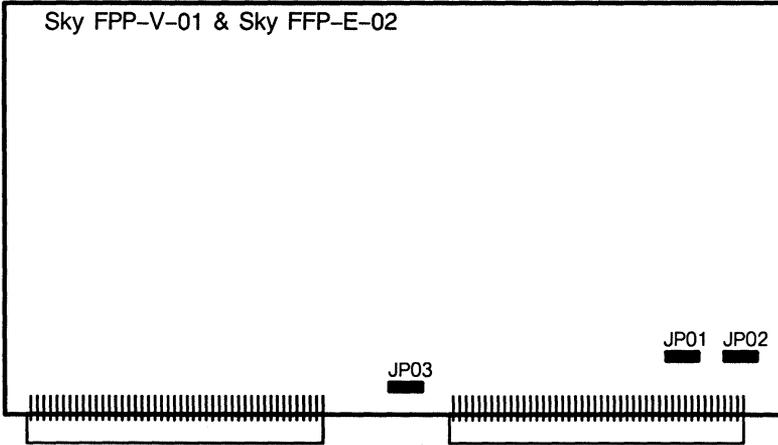
JP03

Reference
Sky Board Configuration Procedures for the Sun–2/130/160, 813–2015.

370–1029
Jumper Settings

Sky FPP–V–01 & Sky FFP–E–02

JUMPER	PINS	SETTING
JP01	1–2–3–4–5	Wirewrapped
	6–7–8–9–10	Wirewrapped
JP02	1–16	In
	2–15	In
	3–14	In
	5–6	In
	7–8	In
	10–11	In
	12–13	In
JP03	1–6	In
	2–5	In
	3–4	In

Sky FPP–E–03

JUMPER	PINS	SETTING
JP01	1–16	In
	2–15	In
	3–14	In
	4–13	In
	5–12	In
	6–11	In
	7–10	In
JP02	1–16	Soldered
	2–15	Soldered
	3–14	Soldered
	5–6	Soldered
	7–8	Soldered
	10–11	Soldered
	12–13	Soldered
JP03	1–6	In
	2–5	In
JP04	1–2	In
	4–5	In

Floating Point Accelerator (FPA)
Sun-3/110/140/150/160/180/260/280/460/470/480
501-1105
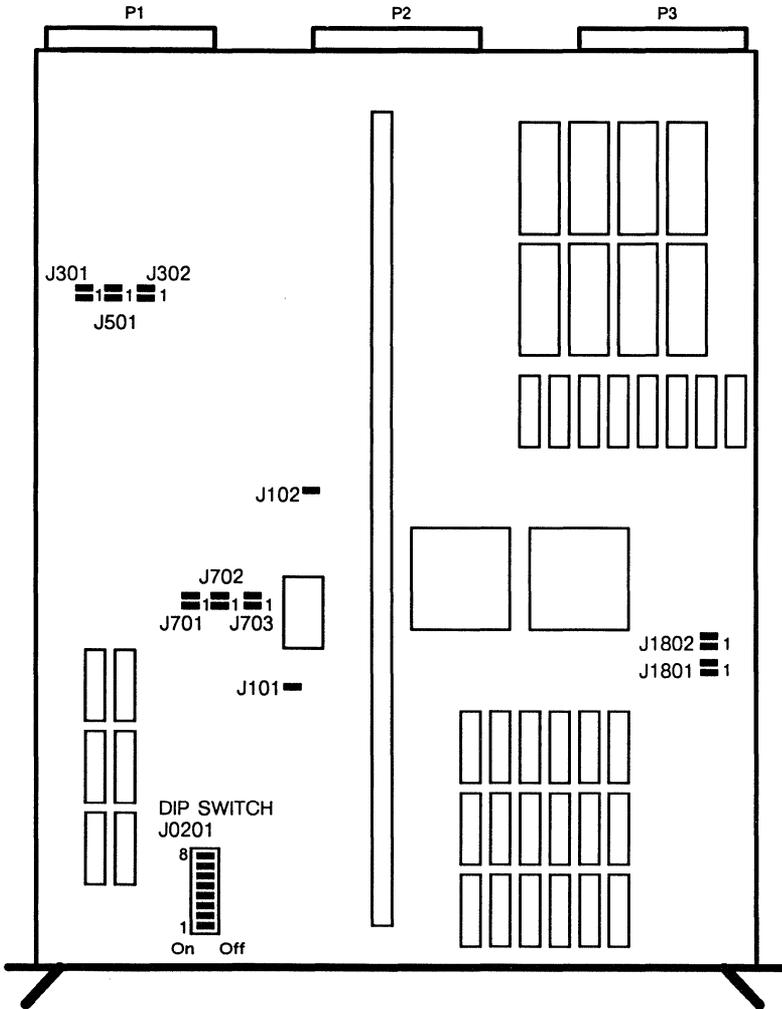
501-1105
Jumper & Switch Settings

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
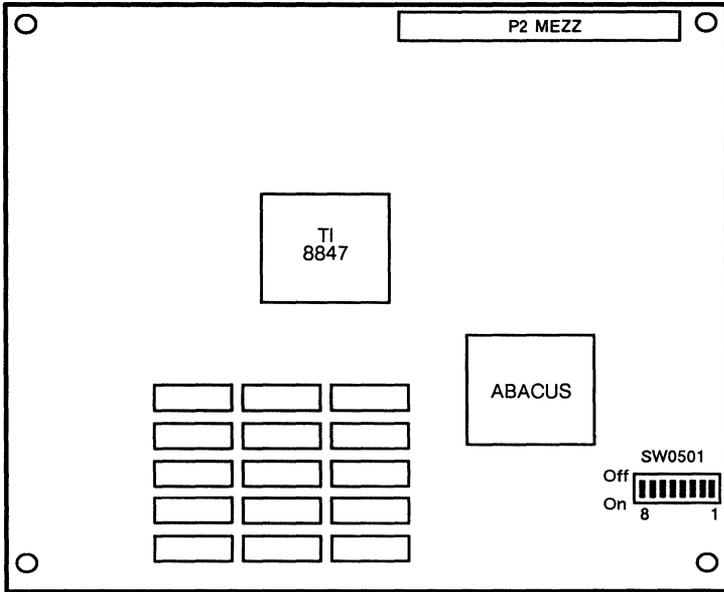
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│            │     P2 MEZZ      │              │
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│        │  8847   │                           │
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│  ┌──┐ ┌──┐ ┌──┐    │          │   SW0501     │
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│  └──┘ └──┘ └──┘                               │
│  ┌──┐ ┌──┐ ┌──┐                               │
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│ ○└──┘ └──┘ └──┘                          ○    │
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```

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.

FPU2

501-1387
Sun-4/260/280

501-1384
Sun-4/110/150

GNUFPC CONN

GNUFPC

J100

TI8847

GNUFPC

J100 1 7

GNUFPC CONN
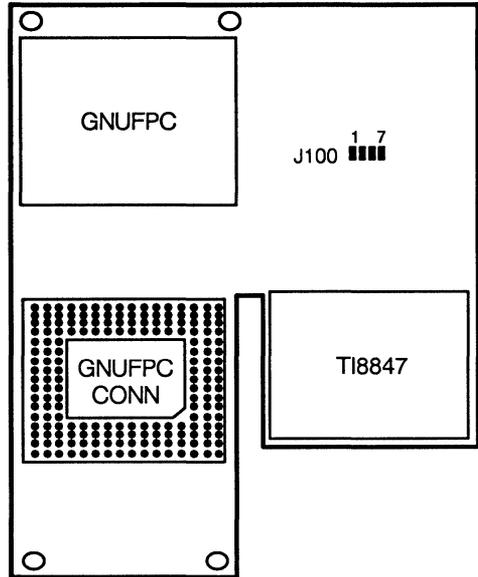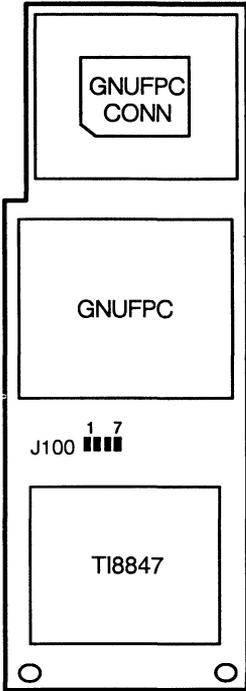
TI8847

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.

SBus FPU
Sun–4/60
501–1454

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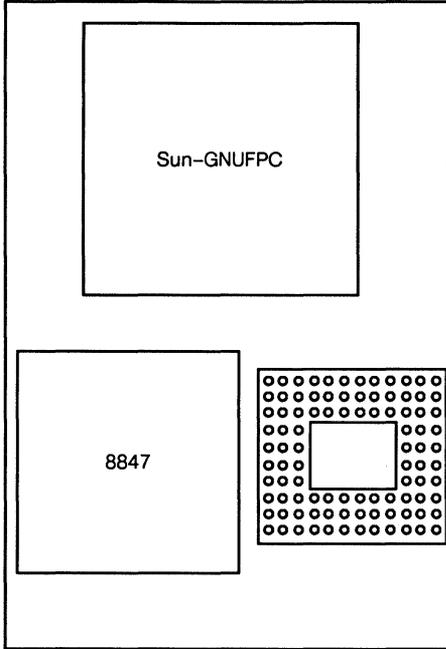
Type-4 Keyboard

320-1005	320-1006	320-1007	320-1008
United States	German	Swiss German	Belgium French

320-1009	320-1010	320-1011	320-1012
United Kingdom	Swiss French	Netherlands	Sweden Denmark

320-1013	320-1014	320-1015	320-1016
Denmark	Norway	Italy	Spanish

320-1017	320-1018
Portugal	French Canadian

UNDERSIDE OF KEYBOARD
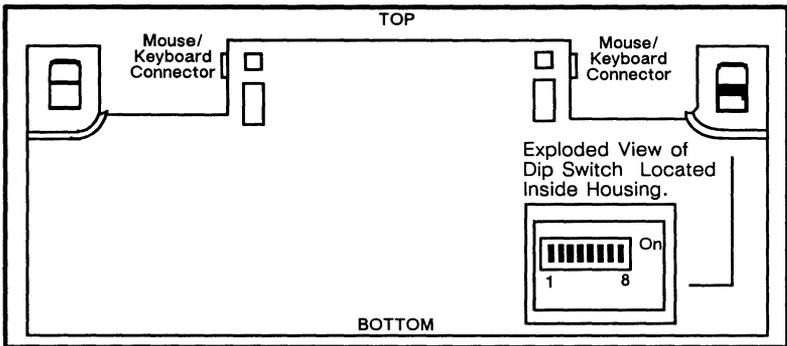
DESCRIPTION	DIP SWITCH								CODE
	1	2	3	4	5	6	7	8	
Sun-3/4 w > 4.0 or 386i	Off	–	–	–	–	–	–	–	–
Sun-3 w < 3.5	On	–	–	–	–	–	–	–	–
United States	–	–	–	–	–	–	–	–	00
Belgium/French	–	–	–	–	–	–	On	–	02
Canadian French	–	–	–	–	–	–	On	On	03
Danish	–	–	–	–	–	On	–	–	04
German	–	–	–	–	–	On	–	On	05
Italian	–	–	–	–	–	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
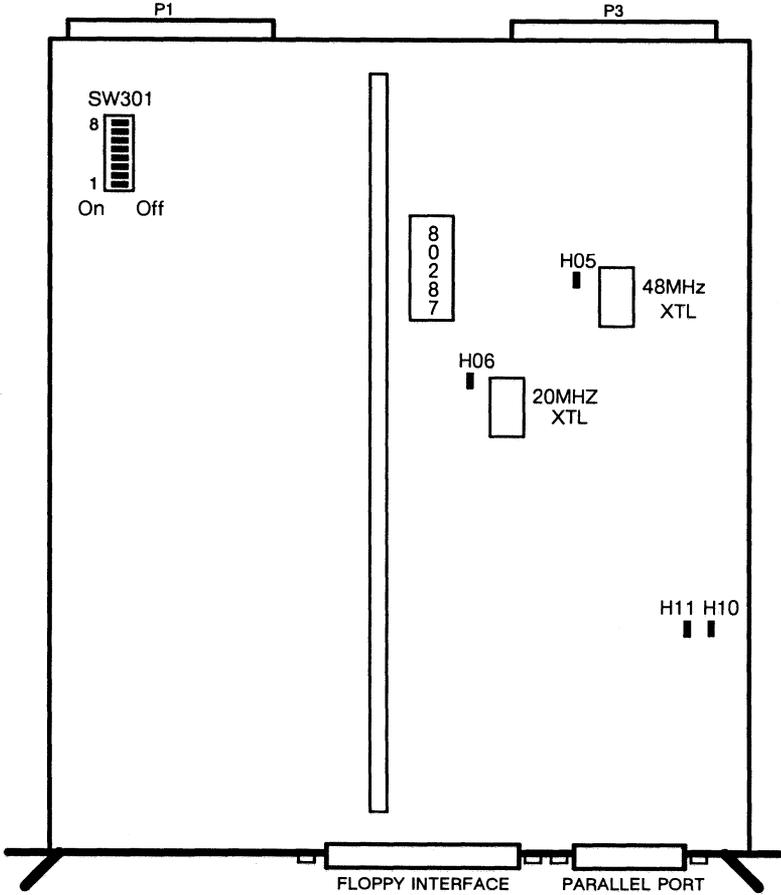
Power: 5.6 Amps @ +5Vdc
      28.0 Watts

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 $\geq$501-1100-08 or $\geq$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

P1   P2   P3

3x2 ADAPTER 270-1059
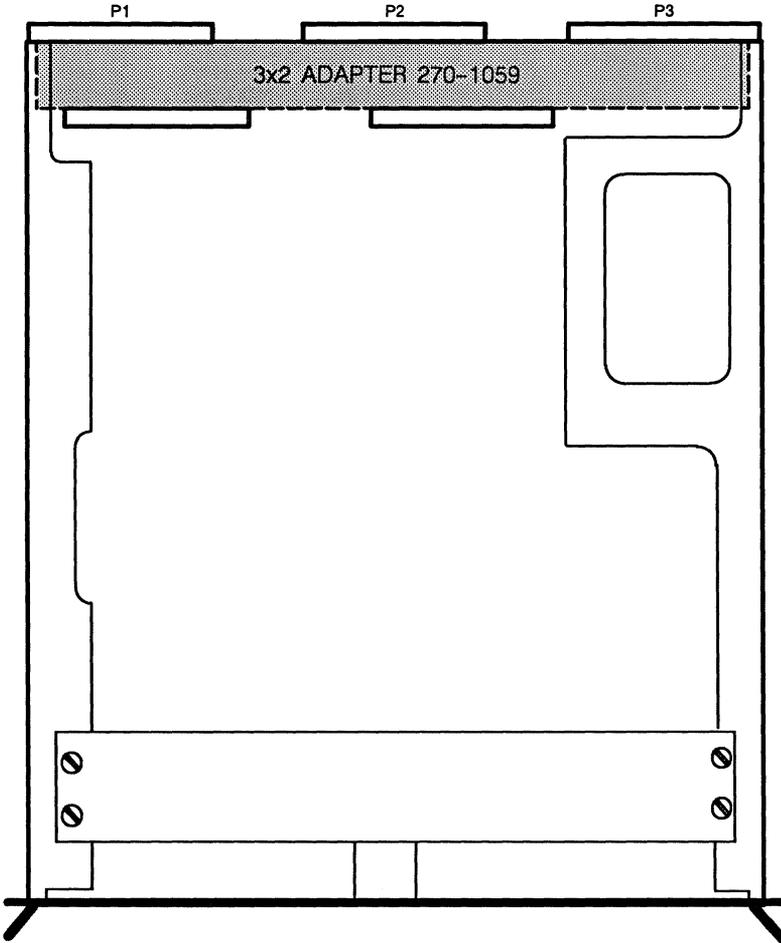
6U to 9U VMEbus Adapter
Option 160B
501-1191
without P2A & P2C

P1   P2   P3

3x2 ADAPTER 270-1138
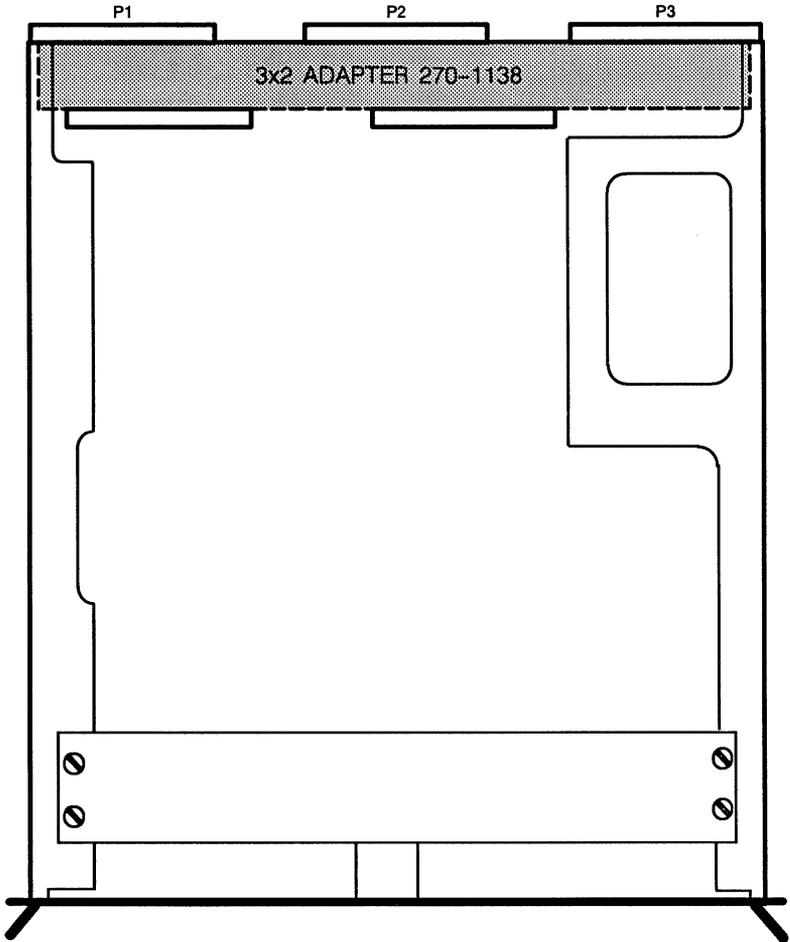
POWER

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.

TUV Female Fastons   Non–TUV Male Fastons
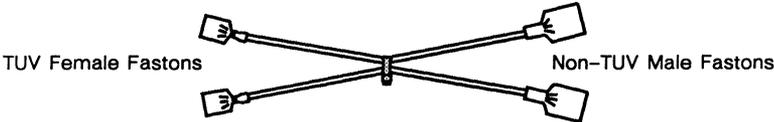
A TUV female faston attaches to a non–TUV male faston.

TUV Female   Non–TUV Male

or
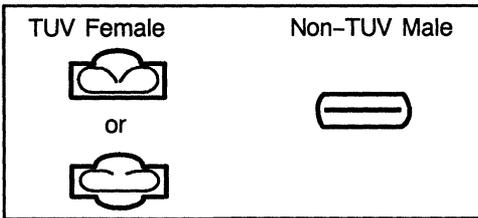
A non–TUV female faston does NOT attach to a TUV male faston. Use adapter harness 811–9015–01.

Non–TUV Female   TUV Male
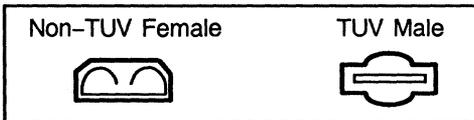
Fuseholder and Fusecarrier

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

Fusecarrier   Fuseholder

Fuse

Terminal to On/Off Switch or AC Line Filter

Terminal to AC Input

Power

POWER SUPPLIES

Power – Continued

Power Tec 19C–A01–ABC   150 Watts
Sun–1/100U
300–0135
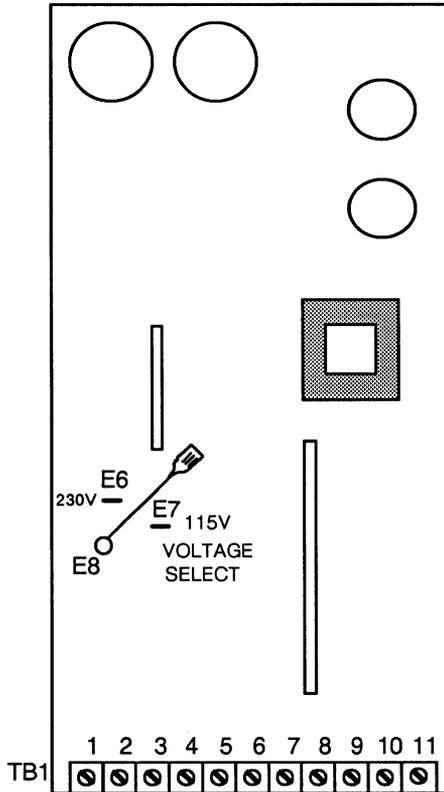
TB1										
1	2	3	4	5	6	7	8	9	10	11
Grn	Wht	Blk	Blu	Wht	Brn				Red	Red
GND	NEUT	LINE	+12 V	−5 V	−12 V	COM	COM	COM	+5 V	+5 V

DC Current Output

+5V	−5.2V	+12V	−12V
25A	4.0A	4.0A	4.0A

Note: Connect wire E8 to E7 for 115 voltage or to E6 for 230 voltage.

Power One SPL200–4100P   200 Watts
Sun–2/100U

300–0135–03

TB1
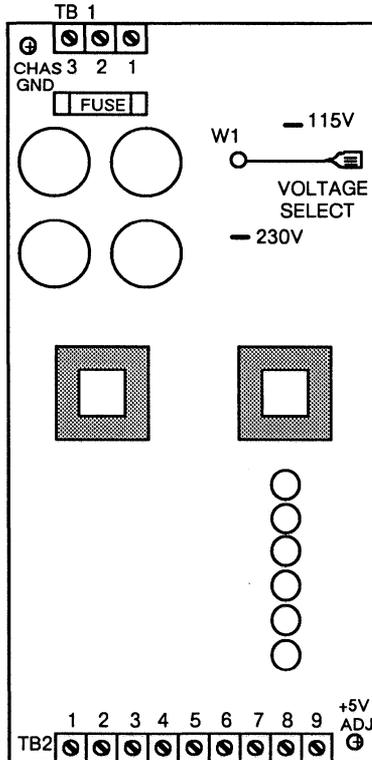
1	2	3
Wht	Blk	Grn
NEUT	LINE	GND

TB2

1	2	3	4	5	6	7	8	9
Wht	Blu	Brn	––	Grn	Grn	Grn	Red	Red
–5 V	+12 V	–12 V	NC	GND	GND	GND	+5 V	+5 V

DC Current Output

+5V	–5.2V	+12V	–12V
35A	1.5A	4.0A	1.5A

Fuse: 8 Amps @ 250 Volts

Note: Connect wire W1 to 115V for 115 voltage or to 230V for 230 voltage.

Power Tec 19C–B00–BS1286   170 Watts
Options D84 D84EX D84TC D84TR TC
Options 60 61 62 63 64 65 73
300–0566

E6 __ 230V

E8

E7 __ 115V

VOLTAGE
SELECT

FUSE: 4 Amps @ 250 Volts

TB1   1 2 3 4 5 6 7 8 9 10 11

TB1
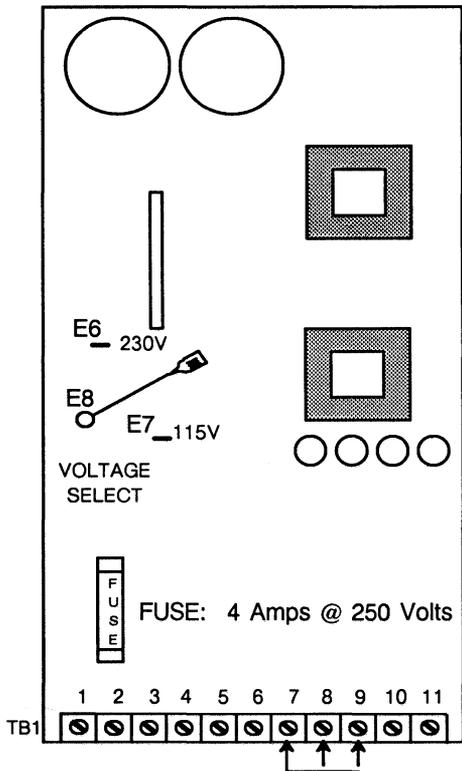
1	2	3	4	5	6	7	8	9	10	11
Grn	Wht	Blk	––	Blu	Brn	Blk	Blk	Blk	Red	Red
CHAS GND	NEUT	LINE	+12 V	+24 V	–12 V	COM	COM	COM	+5 V	+5 V

DC Current Output

+5V	+12V	–12V	+24V
20A	4.0A	4.0A	4.0A

Notes
1. Connect wire E8 to E7 for 115 voltage or to E6 for 230 voltage.
2. When used with the Fujitsu M2322, upon failure replace with
   300–1014. See FCO 120–0014 and 170–0015.

LH Research SM24–12Y2Y1Y   1000 Watts
Sun–1/150U & Sun–2/150U

300–0645
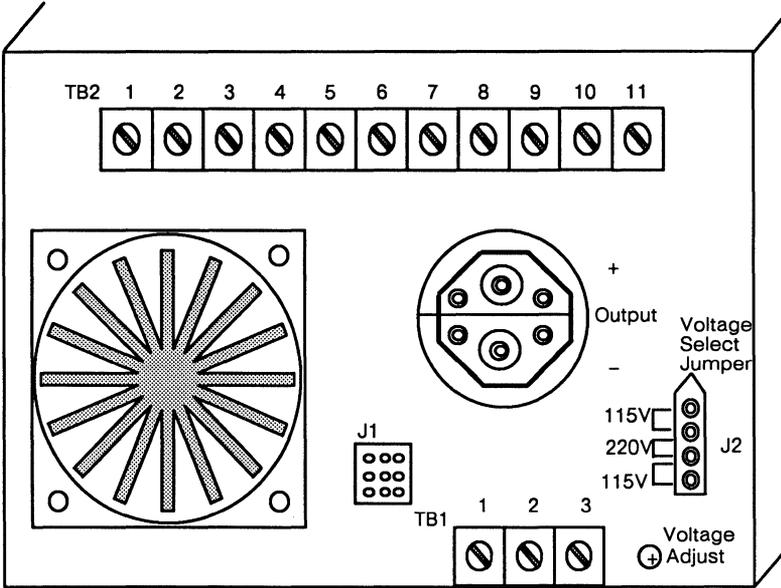
TB1		
1	2	3
Blk	Wht	Grn
LINE	NEUT	GND

TB2										
1	2	3	4	5	6	7	8	9	10	11
+S2	+V2	–V2	–S2	+S3	+V3	–V3	+S4	+V4	–V4	–S4

JUMPER FOR VOLTAGE SELECT (J2)

LH PART NUMBER	USED FOR
46867	115V
46868	230V

DC Current Output

+5V	–5V	+12V	–12V
150A	5.0A	10.0A	10.0A

Power Tec 6M5–BBA–17   1000 Watts
Sun–1/150U & Sun–2/150U
300–0645
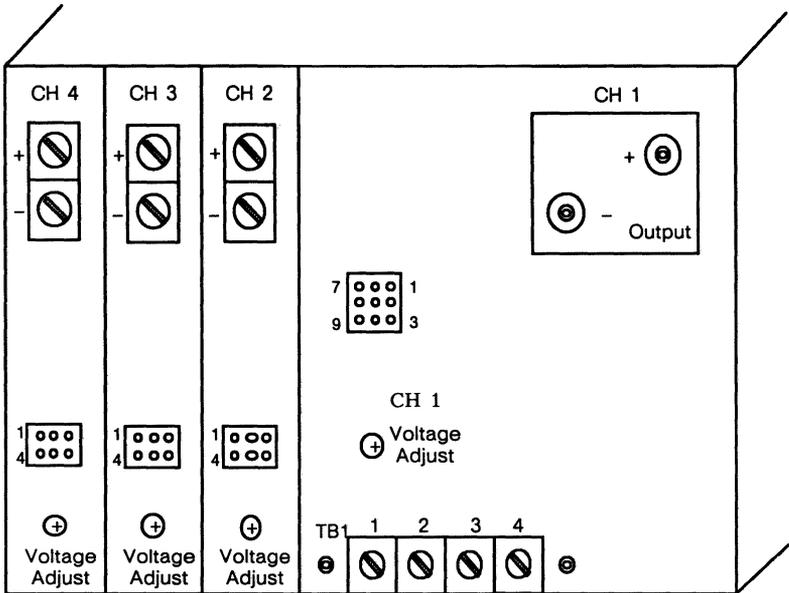
TB1

1	2	3	4
Blk	Grn	Wht	Blk
LINE 115V	GND	NEUT	LINE 230V

DC Current Output

CH 1	CH 2	CH 3	CH 4
+5V	+12V	−12V	−5V
150A	10.0A	10.0A	10.0A

LH Research MML45–E1246   600 Watts
Sun–2/120
300–1000
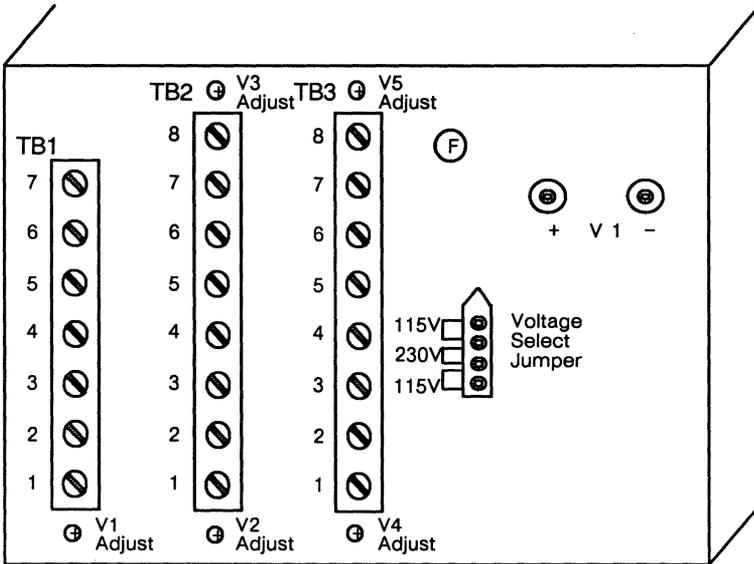
TB1

1	2	3	4	5	6	7
				Grn	Wht	Blk
+S1	–S1	ON OFF	PF	GND	NEUT	LINE

JUMPER FOR VOLTAGE SELECT

LH PART NUMBER	USED FOR
46867	115V
46868	230V

TB2

1	2	3	4	5	6	7	8
+S2	+V2	–V2	–S2	+S3	+V3	–V3	–S3

TB3

1	2	3	4	5	6	7	8
+S4	+V4	–V4	–S4	+S5	+V5	–V5	–S5

DC Current Output

V1	V2	V3	V4	V5
+5V	+12V	–12V	–5V	+24V
60A	10.0A	5.0A	2.0A	8.0A

Fuses
20 Amp @ 250 Volts for 115 Volts
10 Amp @ 250 Volts for 230 Volts

Note: This supply was only used on early production units.

Fujitsu B14L-0300-00118A .351KVA 115V
Options 66 67 D169 D169EX D169TC
Option 169TR

300-1001

TB1
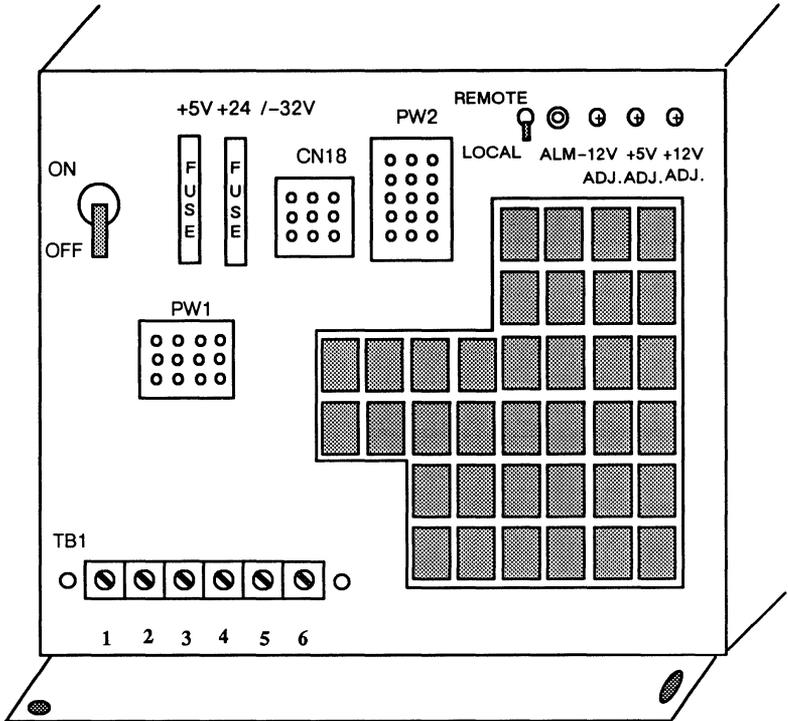
1	2	3	4	5	6
Blk	Wht				
LINE	NEUT	FG	SG	ALM	ALM

DC Current Output

+5V	+12V	–12V	+24V
7.0A	1.0A	2.5A	4.0A

Fuses
+5V Fuse = 15 Amps @ 250 Volts
+24/32V Fuse = 15 Amps @ 250 Volts

Power Systems PS 1557
Sun−2/50

300−1002
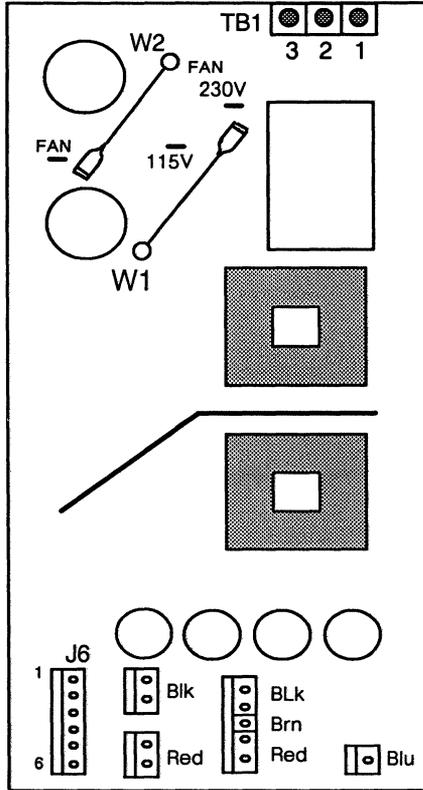
TB1		
1	2	3
Blk	Grn	Wht
LINE	GND	NEUT

J6 Test Points			
1 & 2	3	4 & 5	6
RTN	−12V	+5V	+12V

DC Current Output		
+5V	+12V	−12V
22A	1.5A	0.5A

Note: Connect wire W1 to 115V for 115 voltage or to 230V for 230
       voltage.

Fujitsu B141–5–1–0030A .391KVA 220V/240V
Options 66 67 D169 D169EX D169TC
Option D169TR
300–1003

TB1
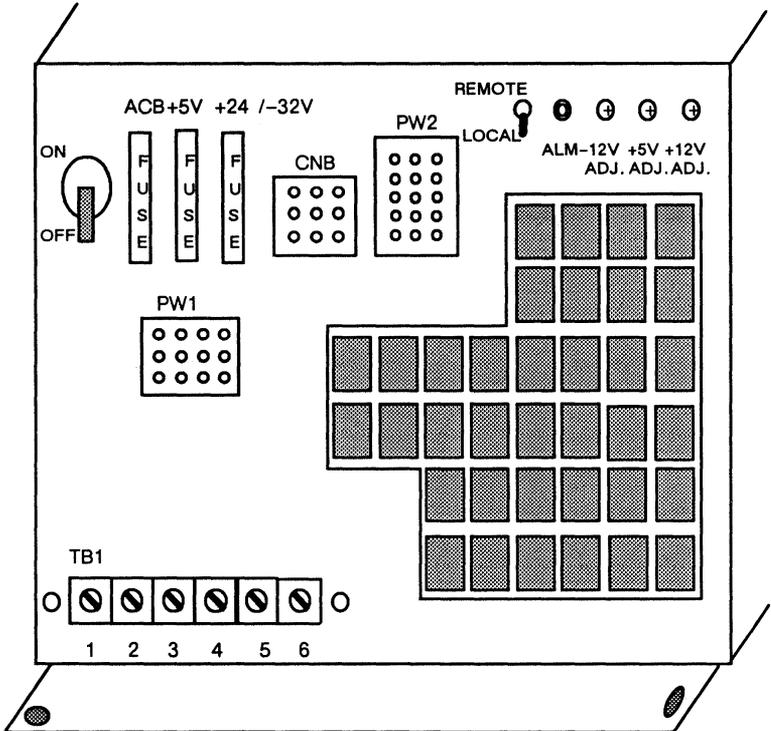
1	2	3	4	5	6
Blk	Wht				
LINE	NEUT	FG	SG	ALM	ALM

DC Current Output

+5V	+12V	-12V	+24V
7.0A	1.0A	2.5A	4.0A

ACB Fuse = 1.3 Amps @ 250 Volts
+5V Fuse = 15 Amps @ 250 Volts
+24/32V Fuse = 15 Amps @ 250 Volts

Boschert XL 750   750 Watts
Sun–2/120/130/160/170

300–1004

VOLTAGE SELECT
(PLASTIC COVER)

230V

115V

J1 9 7   9 7 J2

V ADJ
O.V.P.
ADJ
3 1   3 1

FOLD
BACK

ILIMIT

B

STATUS
LED

Red +

Blk –

Blk

Brn

A   C

TB1
1   2

Blk

Yel

D

Red

Blk

E

OUTPUT B,C, D & E

+ SENSE
–SENSE ————— VOLTAGE ADJUST
STATUS LED ————— O.V.P. ADJUST
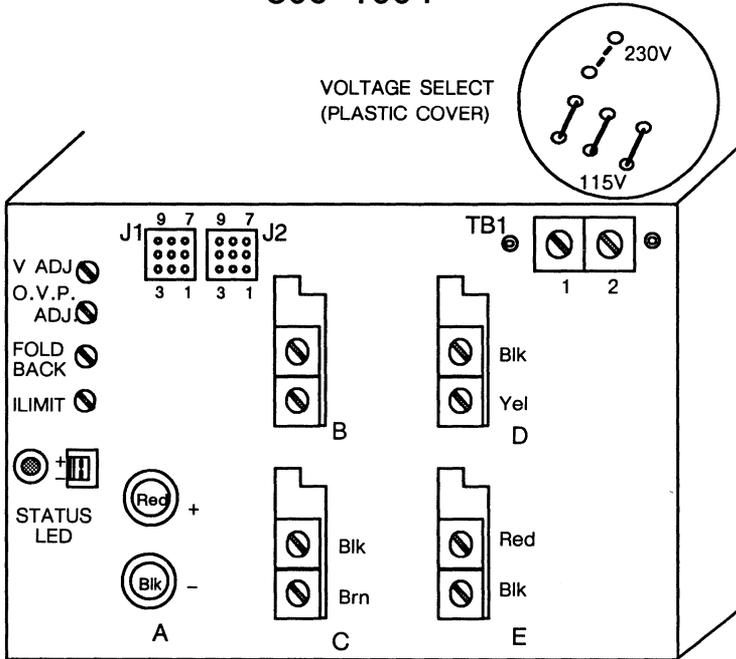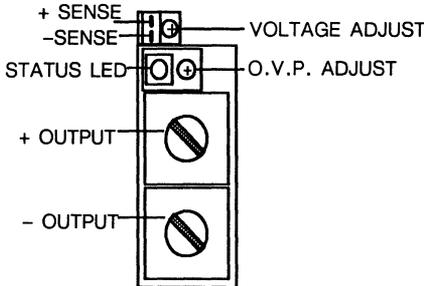
+ OUTPUT

– OUTPUT

TB1	
1	2
Blk	Wht
LINE	NEUT

DC Current Output

+5V	–5V	+12V	–12V	+24V
100A	5.0A	6.0A	3.0A	3.0A

Notes
1. Change voltage select by removing plastic cover and adding wire to terminal 230V.
2. When used in a Sun2/160 and configured with a GP/GB, RC Network, 540–1300–01, must be installed on J1/J2. Reference Installation Note, 800–1400–01 and FCO 160–0002.

Boschert XL250–3602　250 Watts
Options D84 D84EX D84TC D84TR TC
Options 60 61 62 63 64 65 73
Options 601 602 603 605 606 615 616
300–1014

TB1
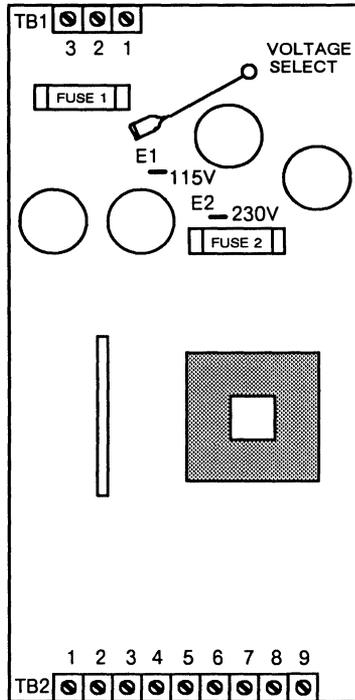
1	2	3
Blk	Wht	Grn
LINE	NEUT	GND

TB2

1	2	3	4	5	6	7	8	9
	Brn	Red	Blu	Blk	Blk	Blk	Red	Red
PF	−12 V	+12 V	+24	RTN	RTN	RTN	+5 V	+5 V

Fuses
Fuse 1 = 8 Amps @ 250 Volts
Fuse 2 = 3 Amps @ 250 Volts

DC Current Output

+5V	+12V	−12V	+24V
30A	7.0A	4.0A	7.0A

Notes
1. Connect wire to E1 for 115 voltage or to E2 for 230 voltage.
2. The 688MB SMD Disk Drive requires XL250 Rev. F or greater.

Matsushita ETX-593C101M   100 Watts
Sun-3/50/60
300-1015
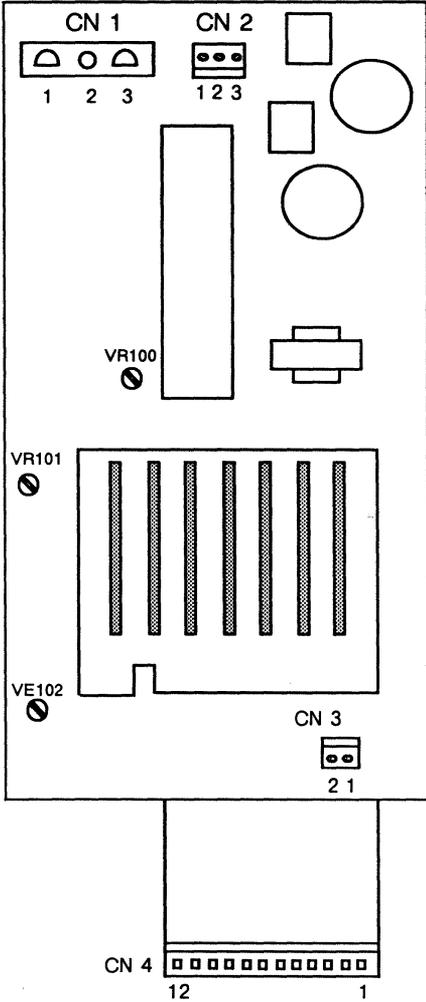
CN 1

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

CN 4

1	2	3	4	5	6
Wht	Brn	Blu	Blk	Blk	Blk
-5.2 V	PWR OK	+12 V	GND	GND	GND

CN 4

7	8	9	10	11	12
Blk	Blk	Red	Red	Red	Red
GND	GND	+5V	+5V	+5V	+5V

DC Current Output

+5V	-5V	+12V
15.0A	2.0A	1.3A

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
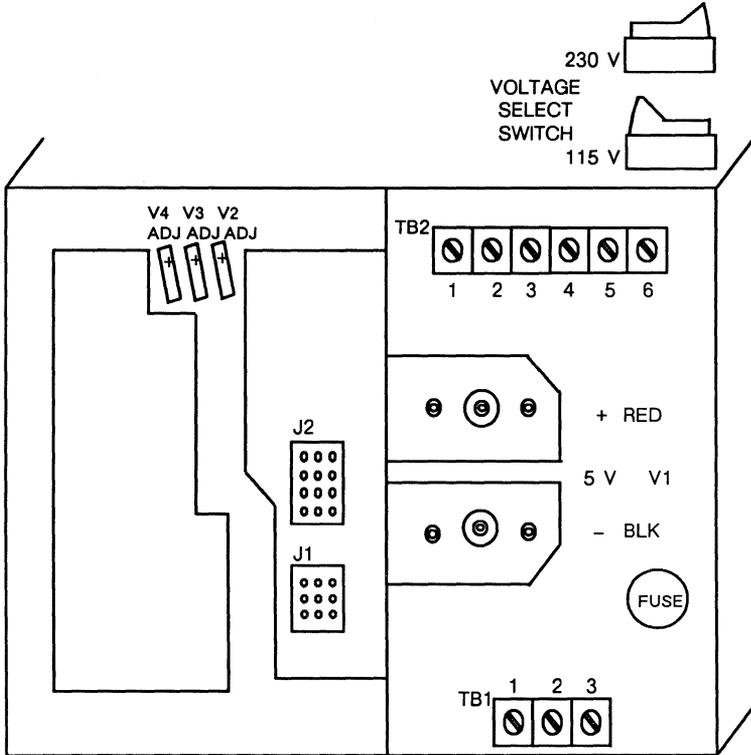
1	2	3
Wht	Blk	Grn
NEUT	LINE	GND

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
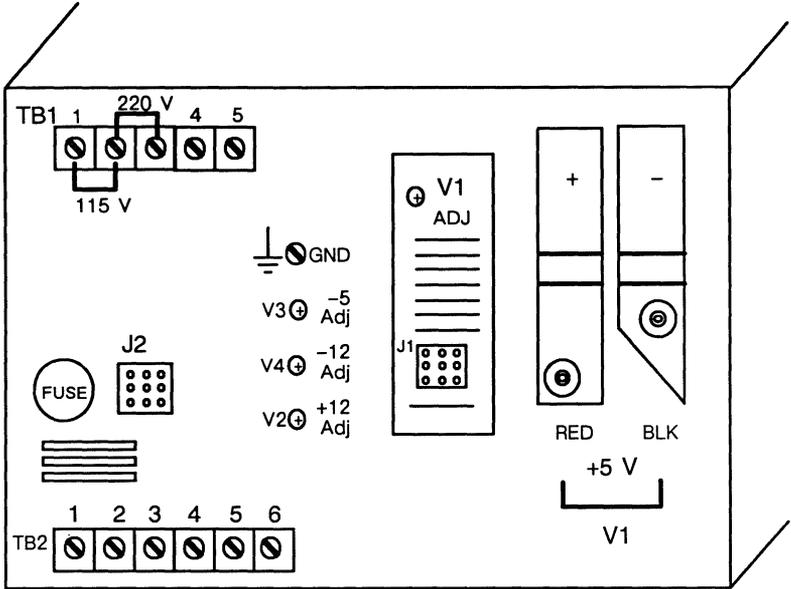
TB1				
1	2	3	4	5
			Wht	Blk
115 V STRAP	230 V STRAP		NEUT	LINE

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
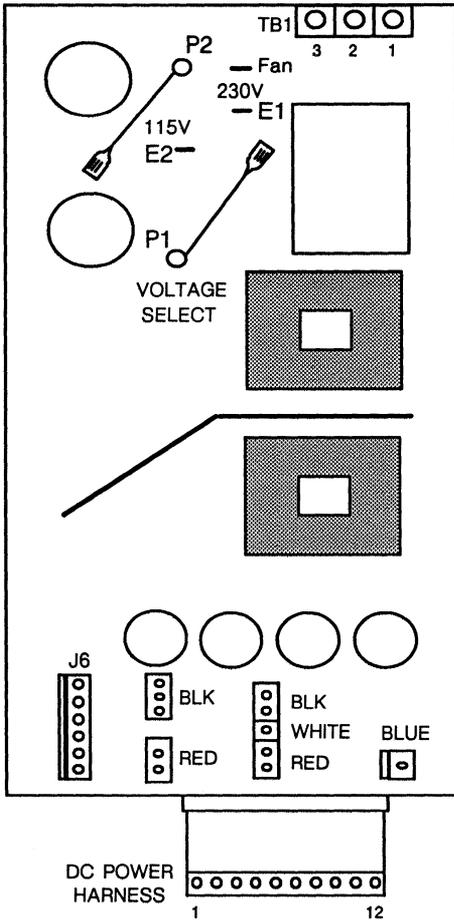
TB1

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

BACKPLANE

1 2
J3

1
2 J2
3
4

BACKPLANE
1

8

J1

P2
1
2 FAN CONTROLLER

P1
1
2 AC MODULE

P1		P2		J3	
1	2	1	2	1	2
Grey	Wht	Org	Wht	Red	Blk
PWR	A GND	+10 V	GND	+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					(J3)		
1	2	3	4		1	2	3
Red		Blk			Brn	Grn	Blue
+5 V		GND			LINE	GND	NEUT

FUSE

(J3)
3 2 1
AC FILTER
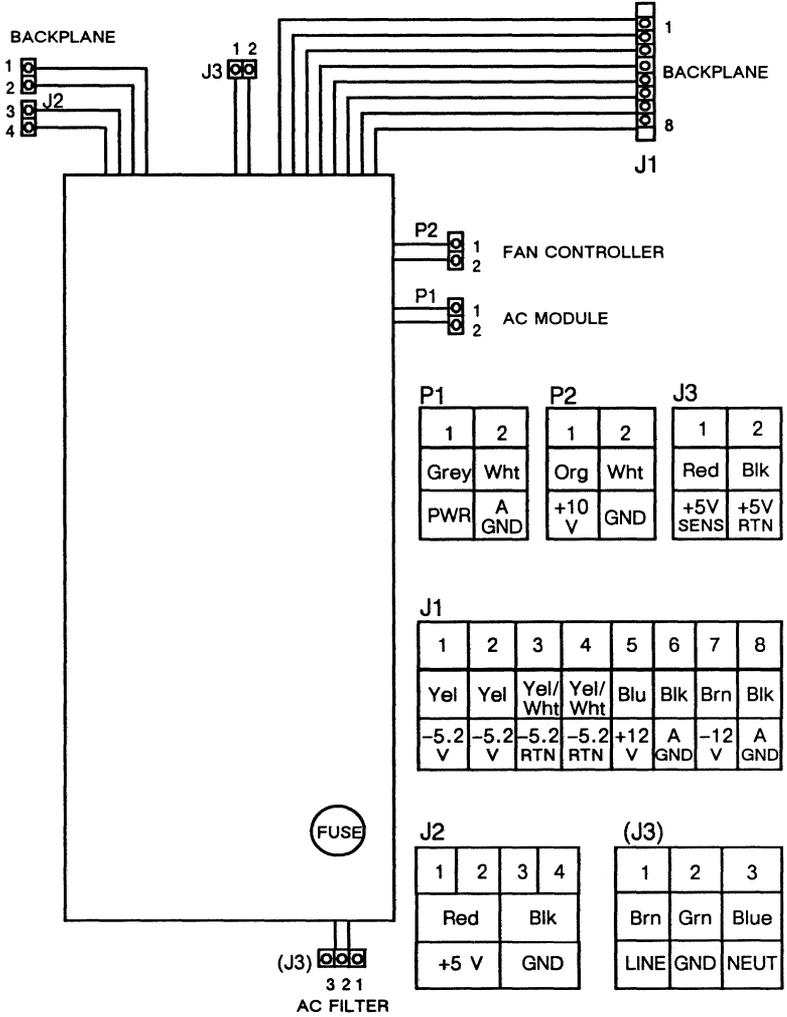
DC Current Output

+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

BACKPLANE

1 2
J3

J2

J1

BACKPLANE
1

8

P2   1
     2   FAN CONTROLLER

P1   1
     2   AC MODULE

Fuse

(J3)
3 2 1
AC FILTER

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
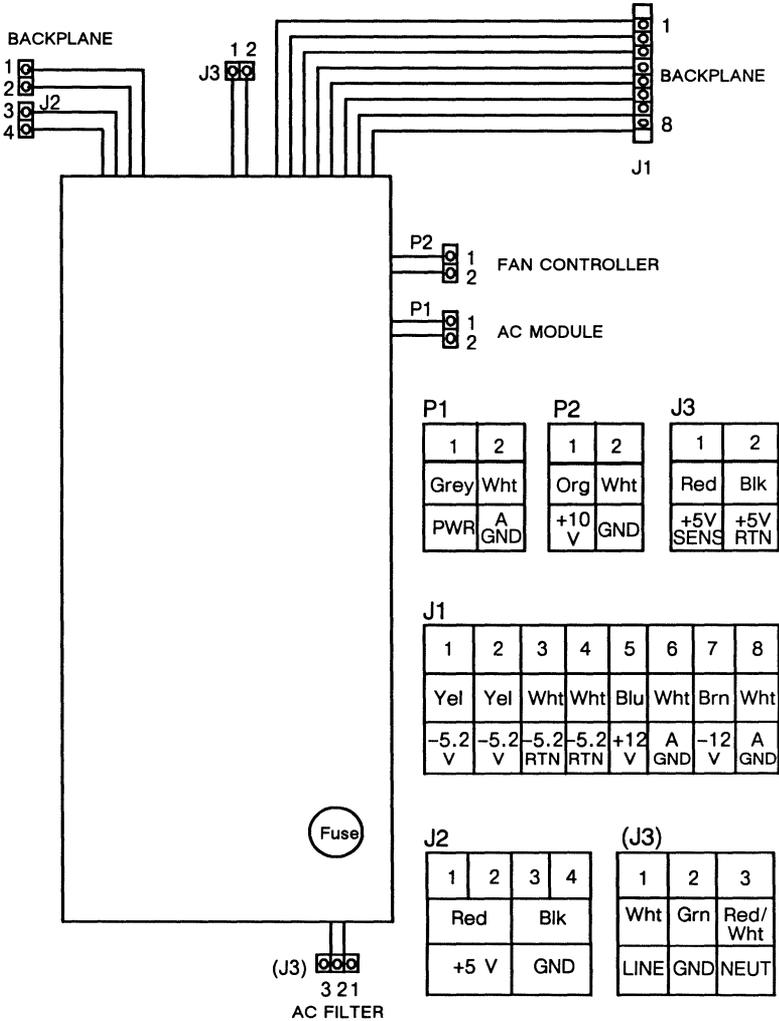
DC Current Output

+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
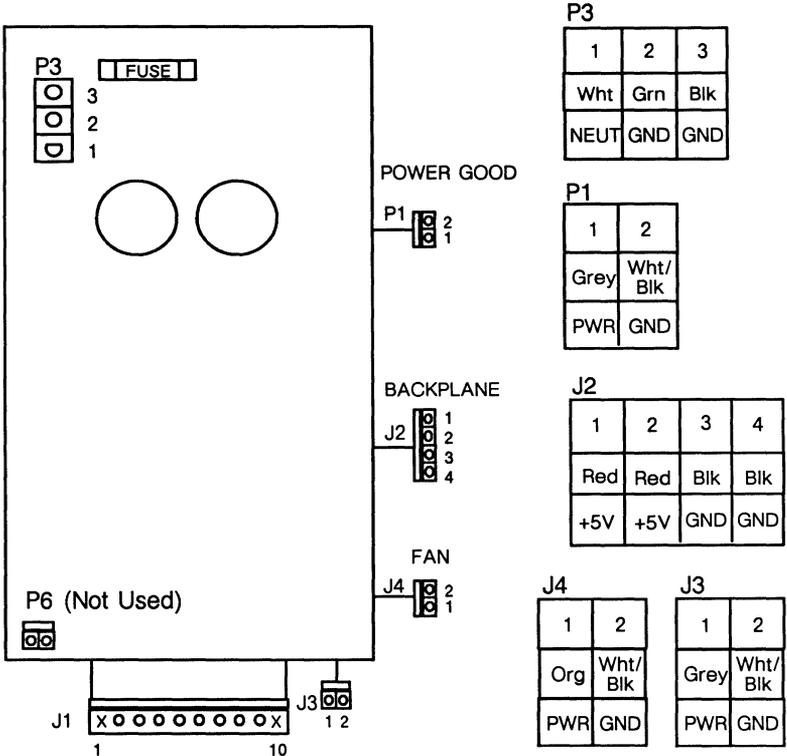
1	2	3
Wht	Grn	Blk
NEUT	GND	GND

P1

1	2
Grey	Wht/Blk
PWR	GND

POWER GOOD

P1

BACKPLANE

J2

1	2	3	4
Red	Red	Blk	Blk
+5V	+5V	GND	GND

FAN

J4

1	2
Org	Wht/Blk
PWR	GND

J3

1	2
Grey	Wht/Blk
PWR	GND

P3
3
2
1
FUSE

J2
1
2
3
4

J4
2
1

P6 (Not Used)

J1 x o o o o o o o o x
1   10

J3
1 2

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.

Brown PS41   325 Watts
Sun–3/110/140 & 4/110/310
300–1022
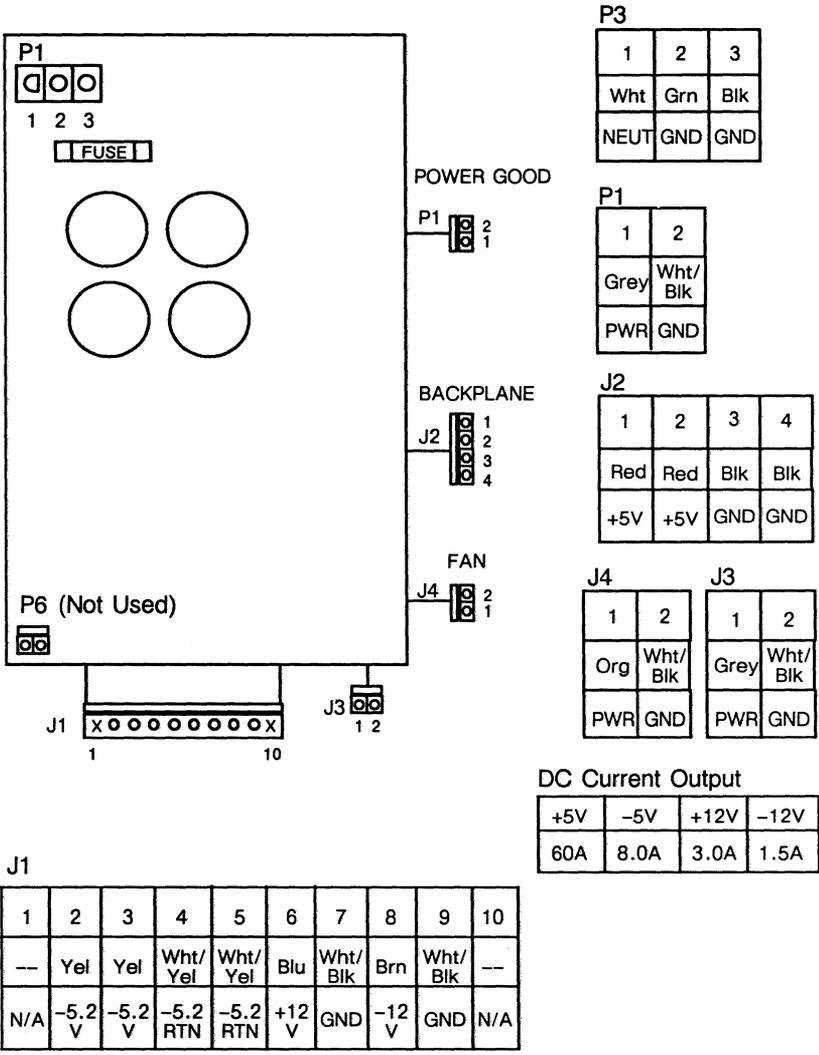
P3

1	2	3
Wht	Grn	Blk
NEUT	GND	GND

P1

1 2 3

| FUSE |

POWER GOOD

P1 — 2
1

P1

1	2
Grey	Wht/Blk
PWR	GND

BACKPLANE

J2 — 1
2
3
4

J2

1	2	3	4
Red	Red	Blk	Blk
+5V	+5V	GND	GND

FAN

J4 — 2
1

J4			J3	
1	2		1	2
Org	Wht/Blk		Grey	Wht/Blk
PWR	GND		PWR	GND

P6 (Not Used)

J3

1 2

J1   X O O O O O O O O X
1   10

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   230 V   4   5   6

115 V

GND

RED

BLK

+ +5 V –

V1

O

FUSE   J1

O

V4   V3   V2   V1

+12 –5   –12 +5
Adj Adj Adj Adj

TB2 1   2   3   4   5   6

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
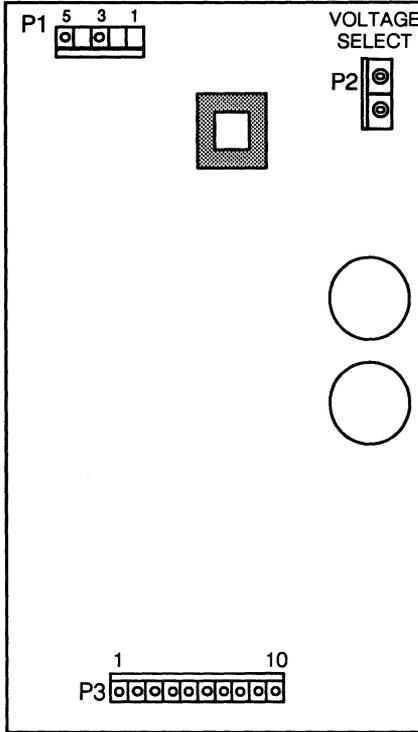
P1

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
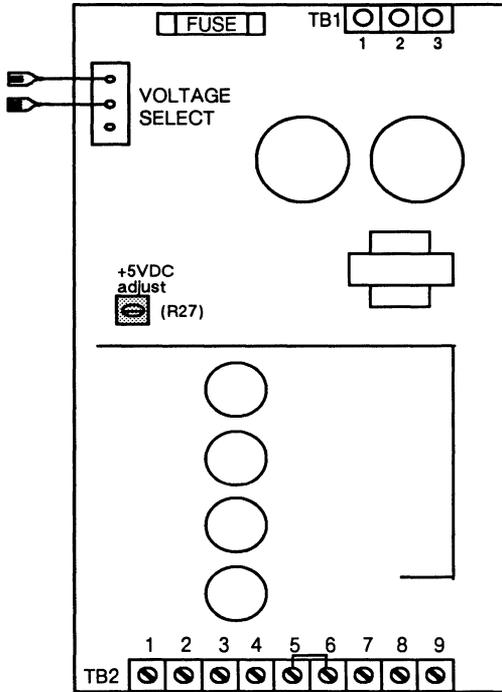
1	2	3
Blk	Wht	Grn
LINE	NEUT	GND

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
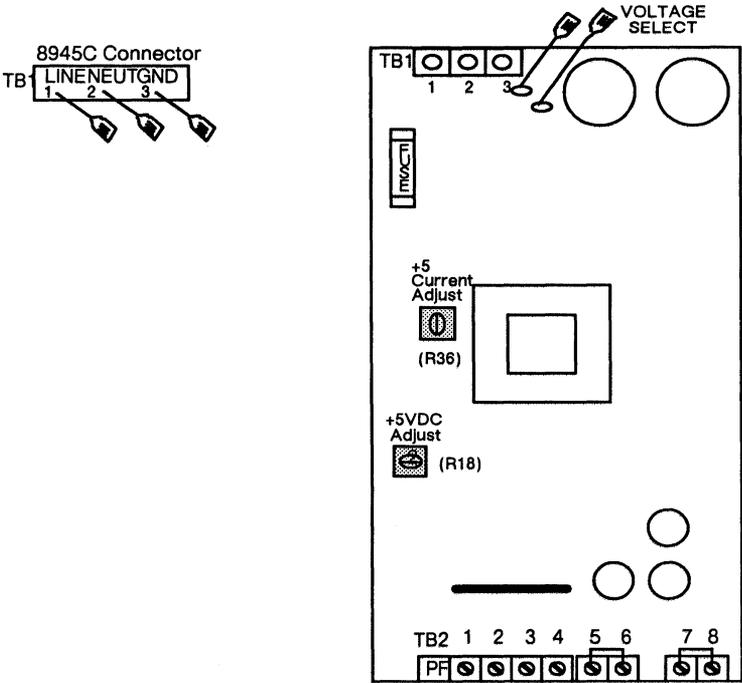
1	2	3
Blk	Wht	Grn
LINE	NEUT	GND

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
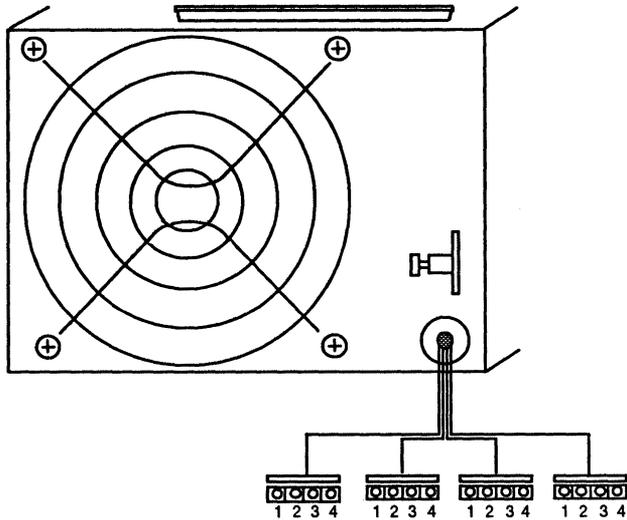
1 2 3 4   1 2 3 4   1 2 3 4   1 2 3 4

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
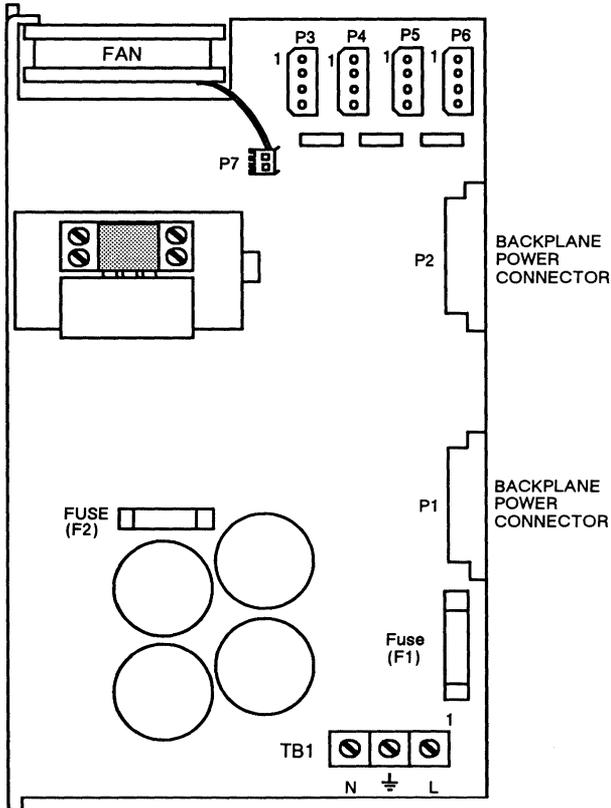
TB1

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

DISK/TAPE

TB2

TB2a

SCSI PCB

TB3

FAN PWR   AC INPUT   ON/OFF SWITCH

DC Current Output

+5V	+12V
2.0A	1.5A
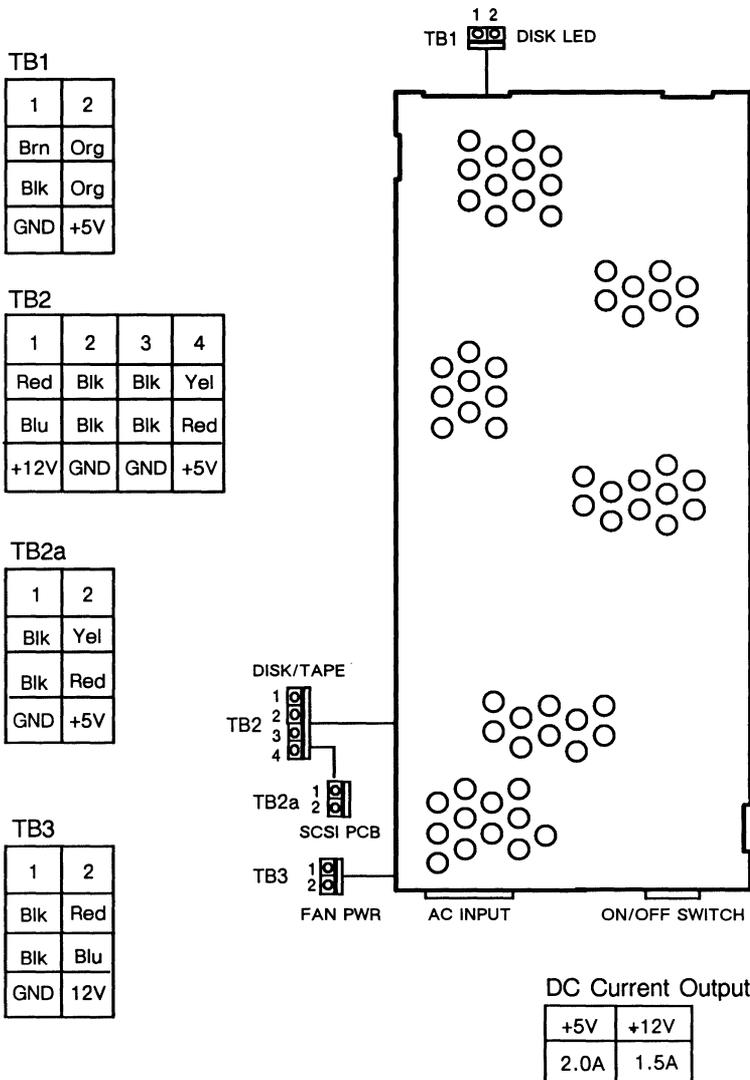
Note: The Disk Drive LED harness is 530–1522.

Sony CR–81   85 Watts
Sun–3/80 & Sun–4/60/65/75

300–1038
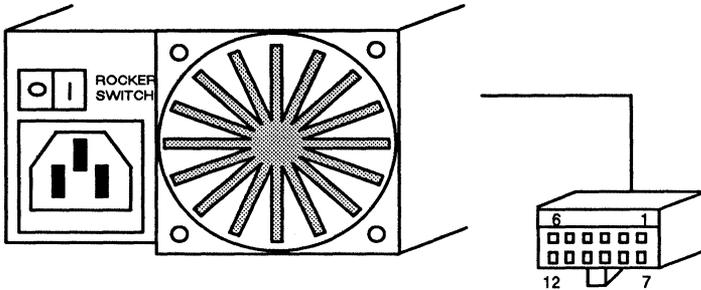
J1

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
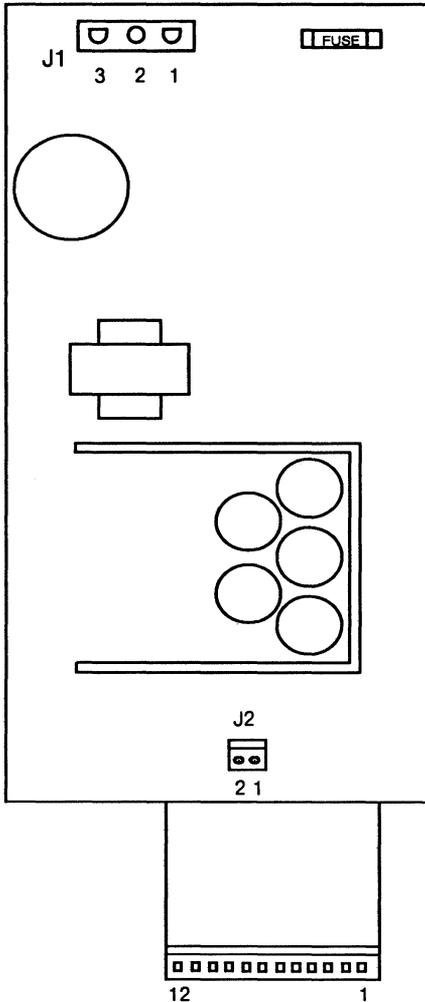
J1

1	2	3
Blu	Grn	Wht
LINE	GND	NEUT

J2

1	2
Blu	Red

J3

1	2	3	4	5	6
Wht	––	Blu	Blk	Blk	Blk
–5.2 V	N/C	+12 V	GND	GND	GND

J3

7	8	9	10	11	12
Blk	Blk	Red	Red	Red	Red
GND	GND	+5.1 V	+5.1 V	+5.1 V	+5.1 V

DC Current Output

+5V	–5V	–12V
20A	1.0A	0.5A

Fuse: 5 Amps @ 250Volts

Seagate 45070622 205 Watts
Seagate 97209–12G Disk Drive
Options 706 707 709 710
300–1041
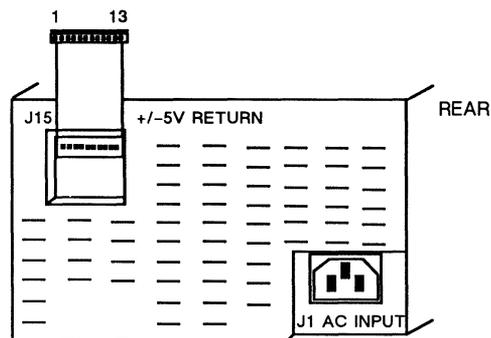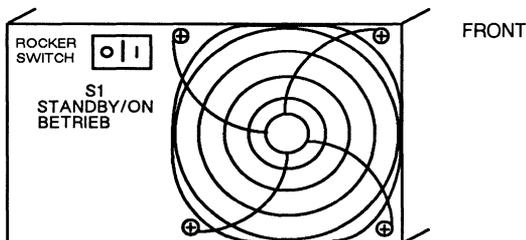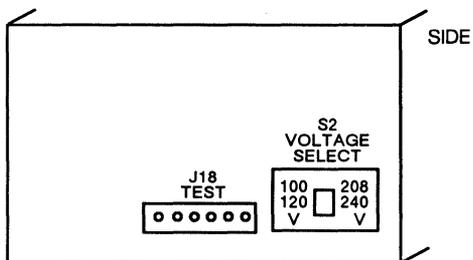
DC Current Output

+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
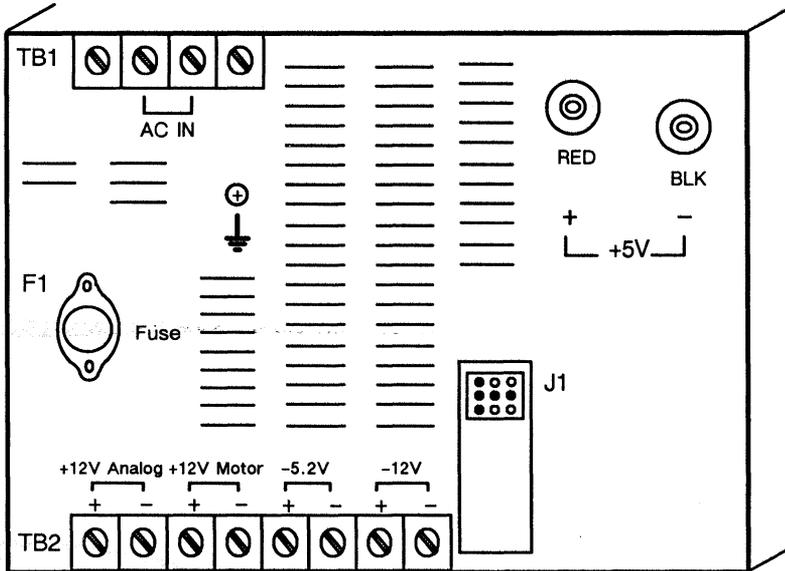
TB1

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
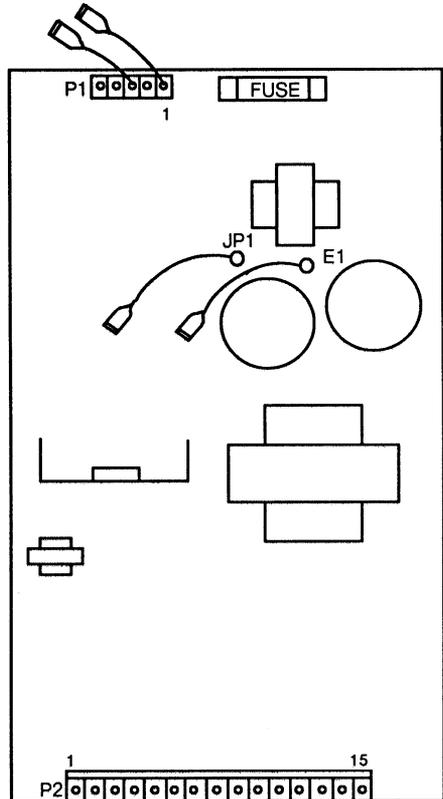
DC Current Output

+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	+12V	+12V	+12V	+12V	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
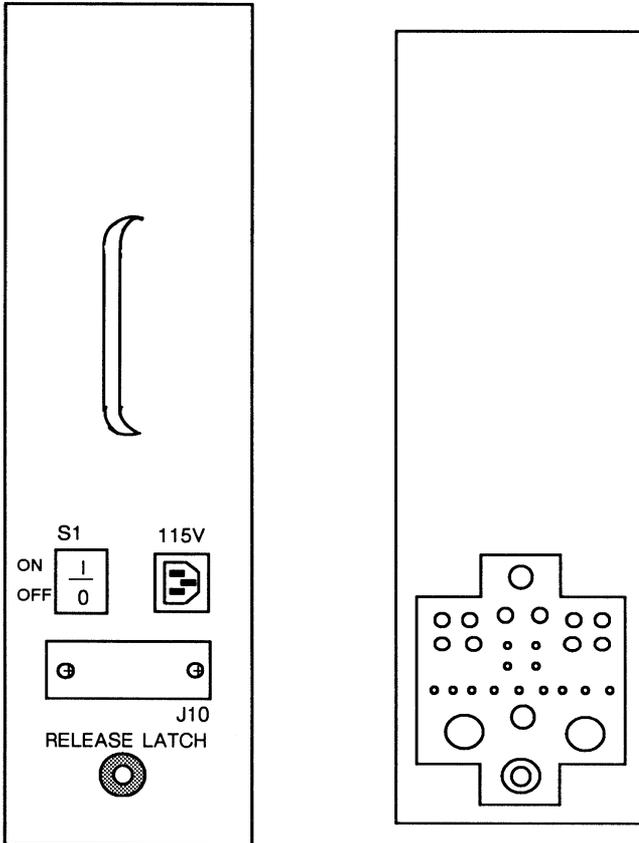
S1   115V

ON | |

OFF | 0

J10
RELEASE LATCH

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

TOP

DC WIRE HARNESS CONNECTION

| DRIVE 1 | DRIVE 2 | **IPI** | DRIVE 3 | DRIVE 0 |
| DRIVE 3 | DRIVE 2 | **SMD** | DRIVE 1 | DRIVE 0 |

— DC POWER —   — DC POWER —

STANDBY/ON
POWER

+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 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
300-1055

ON/OFF   AC INPUT   AC OUTPUT
SWITCH   RECEPTACLE   RECEPTACLE
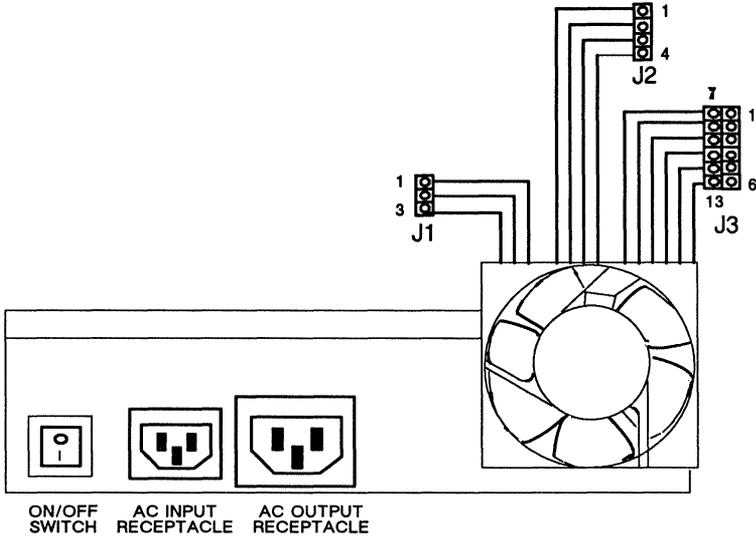
J1

1	2	3
Red	Blk	Blk
+5	GND	GND

J2

1	2	3	4
Blu	Blk	Blk	Red
+12	GND	GND	+5

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

DC Current Output

+5V	+12V	-12V
9.0A	1.5A	0.1A

Fuji PEX527–40   410 Watts
Options 731 732
300–1056

```
┌─────────────────────────────────────┐
│                 TOP                  │
│                                      │
│                                      │
│                                      │
│                                      │
│     DC WIRE HARNESS CONNECTION       │
│     ┌──────────────────────────┐     │
│     │ SMD  DRIVE 1    DRIVE 0  │     │    STANDBY/ON
│     └──────────────────────────┘     │    POWER
│     ▦▦▦▦▦▦▦ ▦▦▦▦▦▦▦   ▦▦            │
│       ──── DC POWER ────             │
└─────────────────────────────────────┘
```

+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
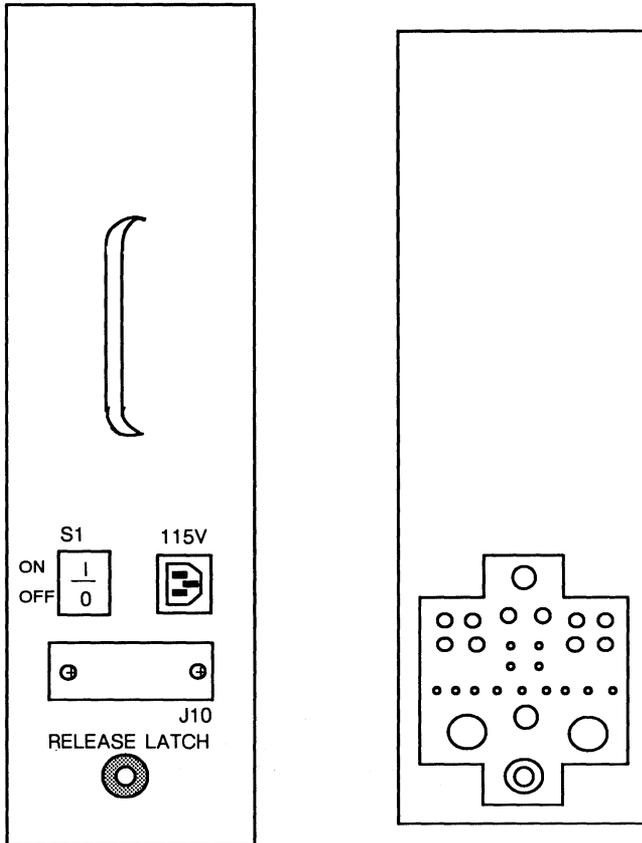
DC OUTPUT	REGULATION	FULL LOAD
+5	10–200 Amps	200.0 Amps
–5.2	0.4–15 Amps	10.0 Amps
+12 analog	0–10 Amps	2.0 Amps
+12 motor	4–15 Amps	6.3 Amps
–12	0–5 Amps	4.0 Amps

Boschert XL520-3625   520 Watts
Sun-4/330
300-1072
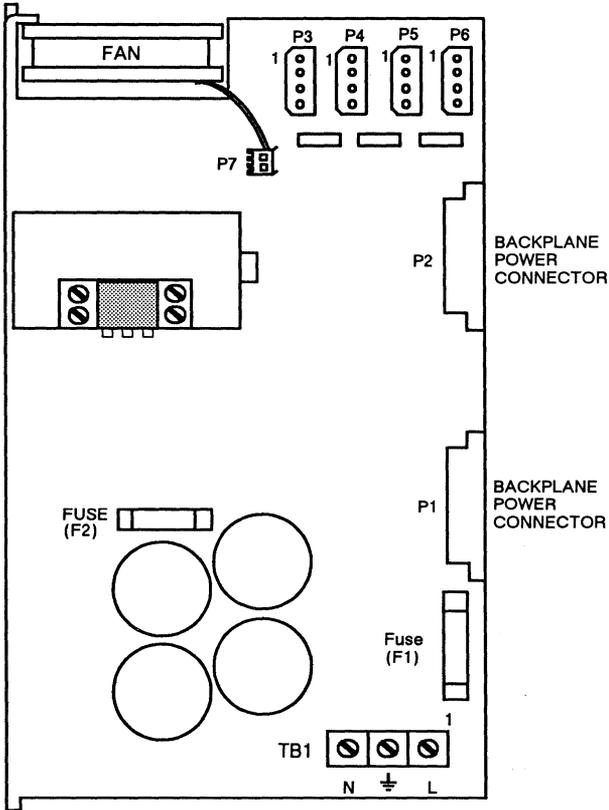
TB1

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

SIDE

S2
VOLTAGE
SELECT

J18
TEST

100 208
120 240
V   V

FRONT

ROCKER
SWITCH

S1
STANDBY/ON
BETRIEB

1   13

J15   +/-5V RETURN

REAR

J1 AC INPUT
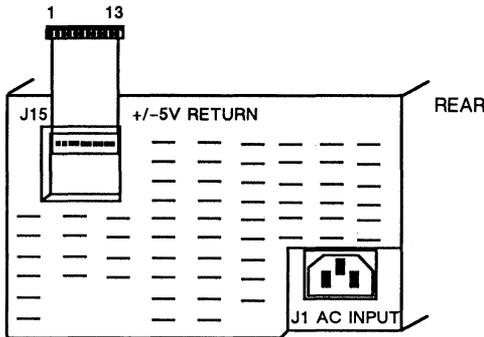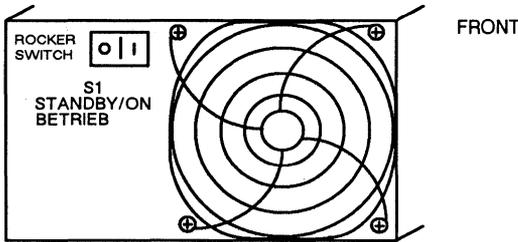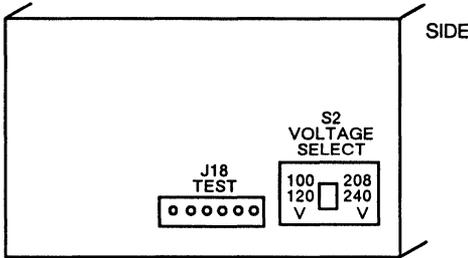
DC Current Output

+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

```
                    TOP




          DC WIRE HARNESS CONNECTION
      DRIVE 1   DRIVE 2  IPI  DRIVE 3   DRIVE 0
      [::::::] [::::::]    [::::::] [::::::]  [:::]   STANDBY/ON
      — DC POWER —        — DC POWER —              POWER
```

+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

	Wht/	Wht/
Gry	Brn	Red
1	2	3
⊛	⊛	⊛
⊛	⊛	⊛
4	5	6
Wht/	Blk	Blk
Org		

Current Output

+5V	-5.1V	-12V	+24V
28A	25A	1.4A	28A

Fuse: 20 Amps @ 250 Volts

Fuji PEX526–30   925 Watts
Sun–3/470 & Sun–4/370/470

300–1089
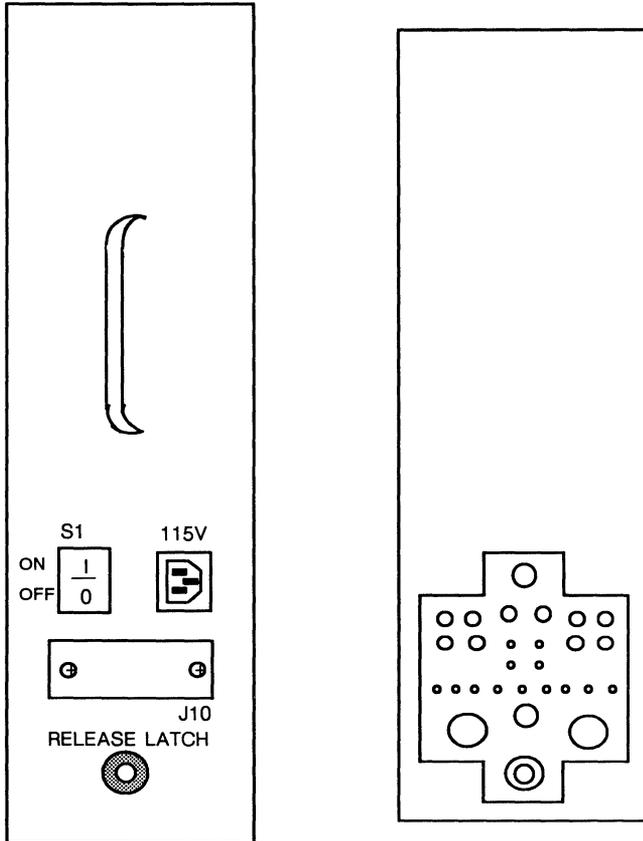
DC OUTPUT	REGULATION	FULL LOAD
+5	150 Amps	145.0 Amps
–5.2	15 Amps	10.0 Amps
+12 analog	15 Amps	2.0 Amps
+12 motor	15 Amps	6.3 Amps
–12	10 Amps	4.0 Amps

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

1 2
TB1 ▣▣ DISK LED

DISK/TAPE
1
TB2 2
3
4

TB2a 1
2
SCSI PCB

TB3 1
2

FAN PWR   AC INPUT   ON/OFF SWITCH
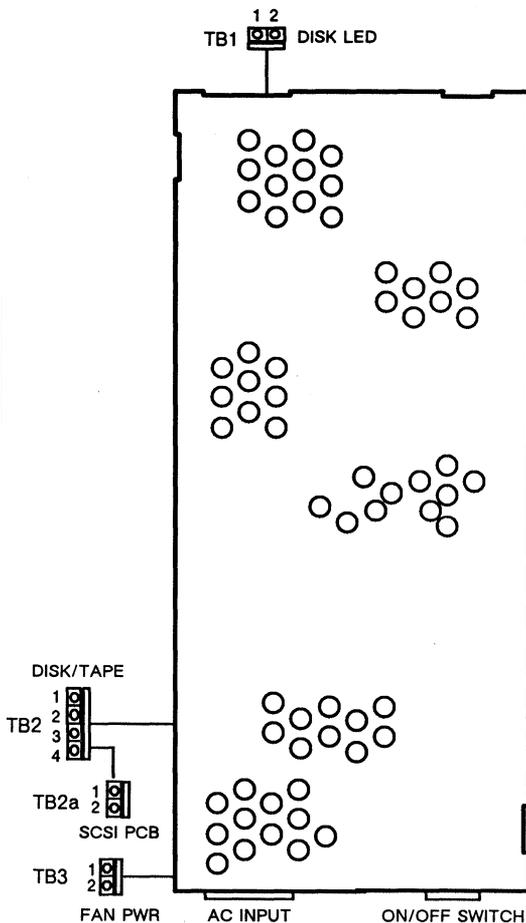
DC Current Output

+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.

SPS265   265 Watts
Sun386i/150/250

555-1006   300-1032   300-1046
| w Bracket | w/o Bracket | w/o Bracket |
| w/o DC Output | w DC Output | w/o DC Output |
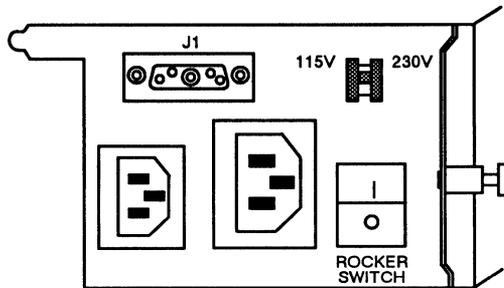
Current Input

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

Front	Back

CNP73
CNJ74

CNJ75

−5.2V
VOLT ADJ

CNJ72

CNJ71

+5V
VOLT ADJ

1
0
pwr a
pwr b

A
L
A
R
M

MAIN
LINE
SWITCH
15A

On
Off

INPUT VOLTAGE
SELECT

AC200V   AC100V
−240V   −120V

CN15

VAC INPUT

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

```
                  J8 ┌─────┐
                     │O U O│
                     │O O O│
                     │A O A│
                     └─────┘

                  J7 ┌──┐   ┌───┬───┐
                     │U U│   │Brn│Brn│  To Transformer
     FuseS       J6 │U U│   ├───┼───┤
                     └──┘   │Wht│Blu│  To Standby Switch
    ◎  ◎                    └───┴───┘
 6 Amp @ 250 Volts       J4      J5
                         ┌──┐
       To Motherboard    │O U│ ┌─┐
                         │U O│ │ │
                         │O U│ │ │
                         └──┘ └─┘

                      J3 ┌─┐
                         │U│  To Takeup Motor
                         │U│

                   J2 ┌─┐
                      │ │     To Motherboard
                      │ │
                      └─┘

                   J1 ┌─┐
                      │U│     To Supply Motor
                      └─┘
```
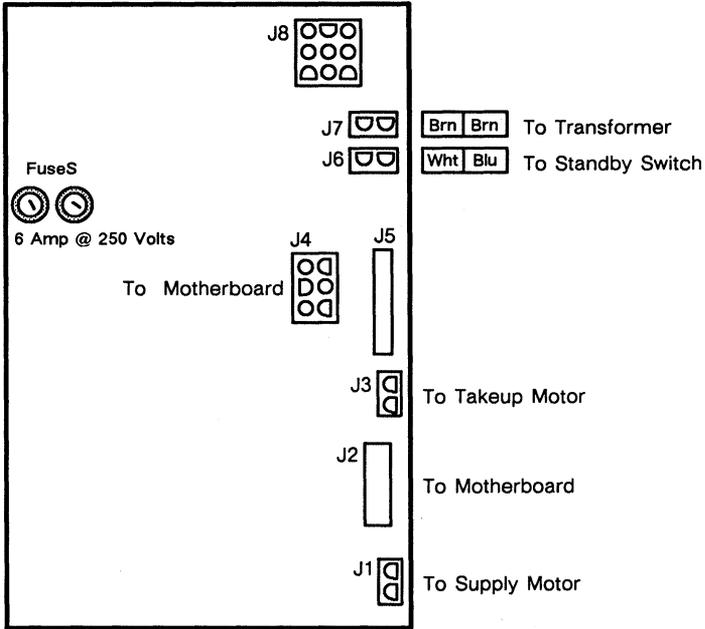
HP BOARD LABEL = 07980-66535

Note: The Sun part number for the 6 Amp fuse is 140-1021-01.

# Pulizzi Engineering PC874D–472   115 Volt
300–1011

Outlet Side
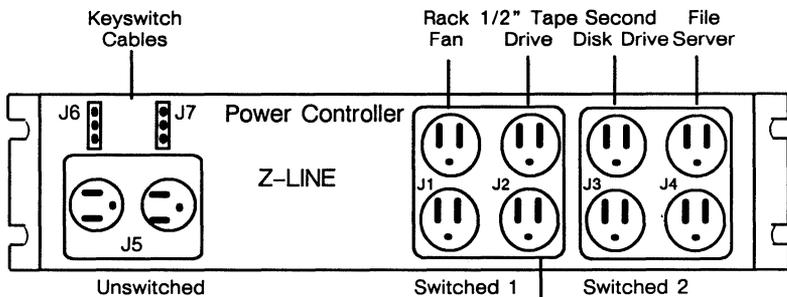
Top View
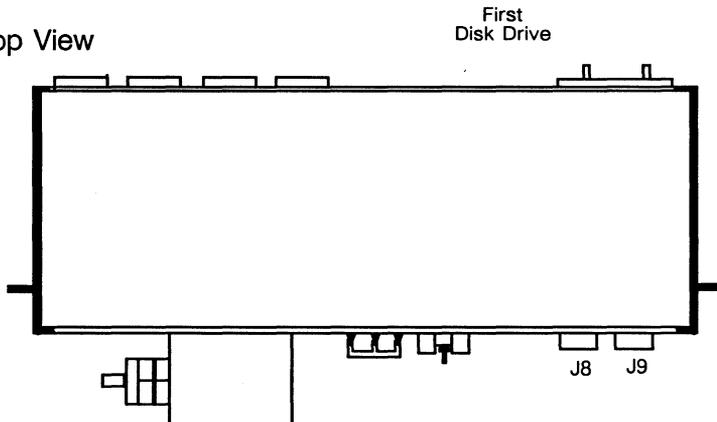
Control Side
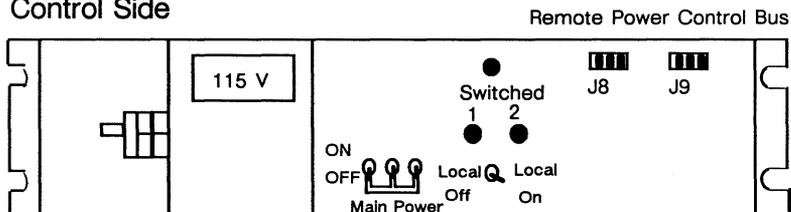
Note: Requires AC outlet NEMA L5-30R.

Pulizzi Engineering PC874E-583 230 Volt
## 370-1155 370-1127
Obsolete

Outlet Side

Keyswitch
Cables

File   Second   1/2" Tape   Rack
Server   Disk Drive   Drive   Fan

J7   J6

J4   J3   J2   J1

J5

Unswitched

Switched 2   Switched 1

First
Disk Drive

Top View

Control Side

Remote Power Control Bus

230 V

ON ●

Remote Local
ON ◐ ON   J8   J9

ON ●
OFF   Switched
                1 2
Main Power   ● ●
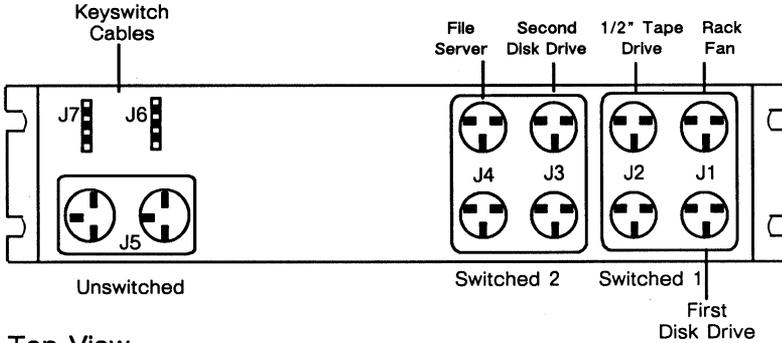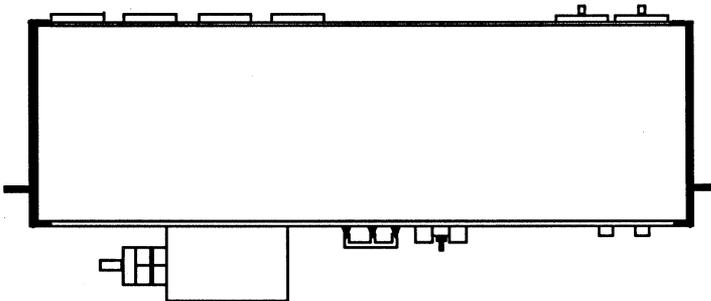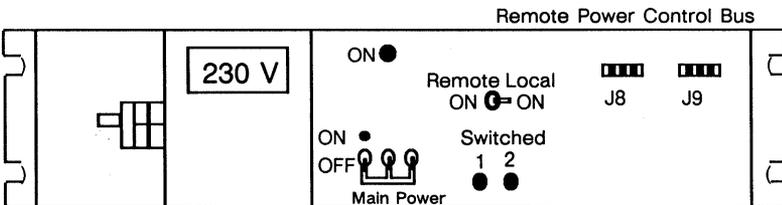
Notes
1. Requires AC outlet NEMA L6-30R.
2. When more than two disk drives are installed, distribute the power between the Switched 1 and Switched 2 outlets.

Pulizzi Engineering PC500   240 Volt
# 370–1156   370–1126
Obsolete

Outlet Side

Keyswitch
Cables

File   Second   1/2" Tape   Rack
Server Disk Drive   Drive   Fan

J6

J5
J4   J3   J2   J1

J7

Unswitched   Switched 2   Switched 1
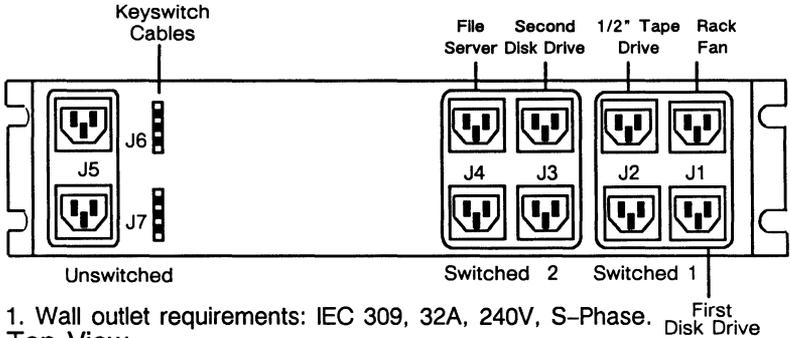
1. Wall outlet requirements: IEC 309, 32A, 240V, S–Phase. First Disk Drive

Top View

Control Side

Remote Power Control Bus

240 V

ON ●
Remote Local
ON ☞ ON   J8

ON ●
OFF   Switched   J9
          1   2
          ● ●
Main Power
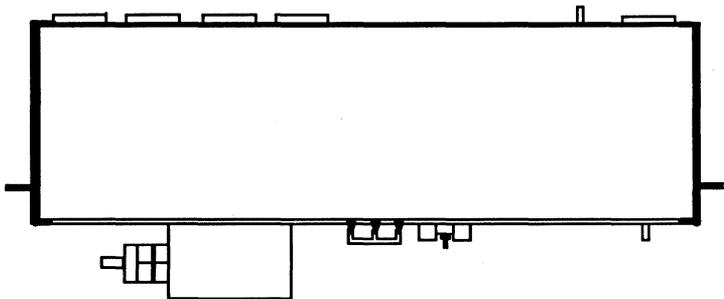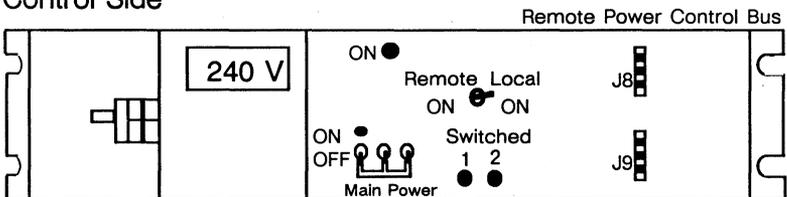
Notes

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.