Field Engineer Handbook

Technical Volume I

Sun Microsystems. Inc.

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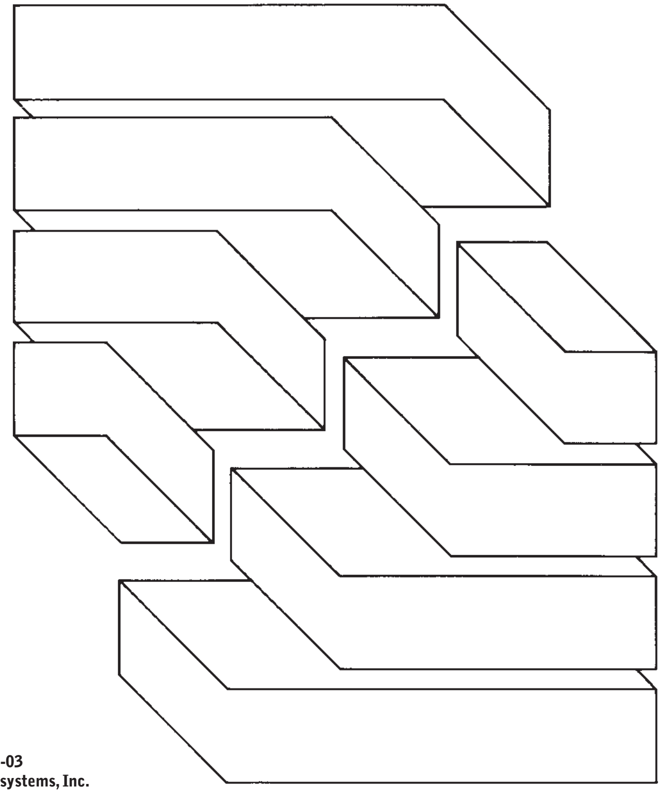
Mountain View, CA 94043



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Edited by Jim Bergman, Mike Persichetty, Tom Pratt, and Gerri Roe

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Preface

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

This handbook complements other Sun technical publications and education courses that are more extensive but generally single-product oriented. 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 this FE Handbook is organized into main sections, as follows:

- Configurations. This section is divided by purple tabs to facilitate quick reference to line illustrations, identifying jumper and switch locations, and configuration tables for each field replaceable board.
- Troubleshooting. Purple tabs divide this section containing error code charts for CPUs, disks, tapes, and communications.
- Operating Systems. Contains selected software charts.
- Diagnostics. Describes current diagnostics tools.
- Parts Breakdowns. Purple tabs divide this section that diagrams Sun systems, racks, and options, and provides miscellaneous hardware information and a listing of Sun hardware manuals.
- Power Supplies. Contains illustrations of power supplies, power distribution units, and tables listing power supply specifications and the power requirements for Sun products.
- Upgrades. Summarizes the upgrade program and lists the upgrade order options.
- Appendix. Allows for future reference materials.

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

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 - Technical Volume I. 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

Handling Static–Sensitive Devices

Electronic components on printed circuit boards can be damaged by static electricity. Because ordinary amounts of static from your clothes or work environment can destroy board components, use proper anti-static procedures.

Overview

This section is divided by tabs to provide reference to line illustrations identifying jumper, switch and component locations, and configuration tables for field replaceable boards and peripherals.

The titles for the board illustrations include the board name, the Sun systems the board is used in, and the Sun part number.

Titles in the Disk section include the manufacturer's name, the Sun formatted capacity of the drive, the disk platter diameter, the disk controller interface, the Sun systems the disk drive or controller is used in, and the Sun part number.

The titles in the tape section include the manufacturer's name, the Sun part number, and the Sun systems the tape drive or controller is used in.

ID PROMs

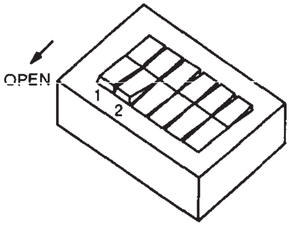
Transfer the ID PROM when a CPU board is replaced.

DIP Switches

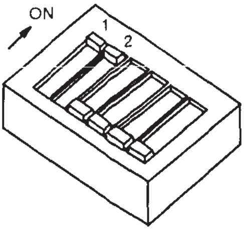
The basic types of DIP switches used in Sun products are Rocker and Slide switches. Turn on a Rocker-type switch by pressing down the end of the switch furthest from the OPEN lettering on the switch. Turn on a Slide-type switch by sliding the switch in the direction of the arrow on the switch. Switches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

Rocker–type

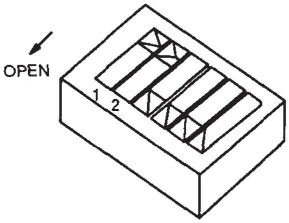
Slide–type



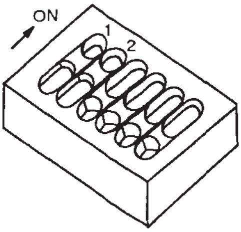
SWITCH TYPE A



SWITCH TYPE C



SWITCH TYPE B



SWITCH TYPE D

CPU

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Sun–2 Multibus 12
Sun–2 Multibus Prime. 14
Sun–2/50 & Sun–2/130/160 16

Sun–3/50 20
Sun–3/60 22
Sun–3/80 24
Sun–3/75/140/150/160/180 26
Sun–3/140/150/160/180 28
Sun–3/110 30
Sun–3/260/280 32
Sun–3/460/470/480 34

Sun–4/60 36
Sun–4/110/150 38
Sun–4/260/280 42
Sun–4/260/280 44
Sun–4/330/370/390 46

Sun386i/250 48
Sun386i/150 50

Sun–3/E 52

EEPROM and NVRAM Information

Common EEPROM or NVRAM parameters for the Sun–3, Sun–4 (except Sun–4/60), and Sun386i products are listed in the beginning of this section. An introduction to the procedure for programming the Sun–4/60 follows the parameter listings.

Reference the PROM User's Guide, 800–1736, the *SunOS 4.0.3 Release Manual*, Chapter 16, 800–3213, the *Sun Forth User's Guide*, 800–4063, and the *Open PROM Toolkit User's Guide*, 800–4251, for complete information.

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>.

The Diagnostic Executive can also be used to program the EEPROM on Sun–3 and Sun–4 systems. The Diagnostic Executive and the Sun386i Hardware Diagnostic can be used to program the NVRAM on the Sun386i.

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 screen (standard resolution)
12 = 1024x1024 screen (1Kx1K)
13 = 1600x1280 screen (high resolution) (see 0x50 & 0x51)

Location 0x17 [Watchdog Reset Action]

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

EEPROM and NVRAM Information (Continued)

Location 0x18 [Operating System Boot Device]

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

Location 0x19 - 0x1a [OS Boot Device in ASCII]

xy	78	79	ip	69	70
xd	78	64	gn	67	6e
sd	73	64			
ie	69	65			
le	6c	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 0x21 [Keyboard Click]

00 = turn click off
12 = turn click on (default)

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

xy	78	79	ip	69	70
xd	78	64	gn	67	6e
sd	73	64			
ie	69	65			
le	6c	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.

EEPROM and NVRAM Information (Continued)

Location 0x50 [Hi Res # Columns]

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

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 will be 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

EEPROM and NVRAM Information (Continued)

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 Bds.
0x03 = 501–1413–xx and 501–1414–xx CPU Bds.

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 0x492 [Power–On Model] 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

Location 0x492 [Password Mode Selector]

Boot PROM ≥ 2.7.1 (Sun–3 & Sun–4) or ≥ 4.5 (Sun386i)

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) or ≥ 4.5 (Sun386i)

8 bytes of password in ASCII

EEPROM and NVRAM Information (Continued)

The Sun–4/60 NVRAM is programmed using the FORTH language. Parameters are set by name. Commonly used options in the 525–1043–02 Boot PROM are listed in this section.

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"

The **help** command display is shown below.

```
boot <boot-spec>
 Examples:
  boot                        ( boot from default device )
  boot net                    ( boot from default network )
  boot tape                   ( boot from default tape )
  boot disk vmunix -as        ( boot vmunix from disk with flags )
  boot st(,4,2)               ( boot from 'st' target 4 file 2 )

 Diagnostics:
  test-net                    ( Tests the Ethernet chip )
  watch-net                   ( Watches network activity )
  probe-scsi                  ( Shows which devices are connected
                              to SCSI bus )
  test-floppy                 ( Tests floppy; formatted disk must be
                              installed )

 Others:
  eject-floppy                ( Ejects the diskette from the floppy drive)

  show-config                 ( Displays the settable parameters )
  <value> to <param-name>     ( Sets a configuration parameter )
  old-mode                    ( Switches to old-style '>' commands )

The PROM manual describes many other commands.
```

EEPROM and NVRAM Information (Continued)

The show-config command displays NVRAM parameter names, current values, and default values. NVRAM parameter names and default values are shown below.

Parameter Name	Default Value
sunmon-compat?	true
oem-logo?	false
oem-logo	
oem-banner?	” ”
oem-banner	false
terminal-#columns	50
terminal-#rows	22
boot-from-diag	”dexec”
boot-from	”vmunix”
auto-boot?	true
input-device	ff
output-device	ff
keyboard-click?	false
ttyb-mode	”9600,8,1,n,-”
ttya-mode	”9600,8,1,n,-”
hardware-revision	” ”
last-hardware-update	” ”
watchdog-reboot?	false
selftest-#megs	1
security-#badlogins	0
security-passwd	” ”
security-level	0
filler	
testarea	0
mfg-switch?	false
diag-switch?	false

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

```
ok show selftest-#megs
1
ok
```

IDPROM and NVRAM Information (Continued)

To change a parameter, enter the **new value**, **to**, and the **parameter name**. For example, to change the number of megabytes tested at power on:

```
ok 8 to selftest-#megs
ok
```

The **set-defaults** command restores the default setting of a parameter. The **show-default <name>** command displays the default setting for one parameter.

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	Display the ID PROM contents.
input [source]	Select source for input (ttya, ttyb, or keyboard).
output [source]	Select source for output (ttya, ttyb, or keyboard).
reset	Reset entire system, similar to old k2.
soft-reset	Soft reset, similar to old k1.

ID PROM and NVRAM Information

The ID PROM on Sun CPU boards contains identification information including a machine–type code, serial number, and hardware ethernet address. This information is located in the ID/NVRAM device on Sun–3/80 and Sun–4/60 systems.

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

ID PROMs 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.

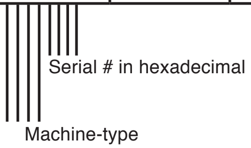
The **hostid** command under SunOS displays the serial number in hexadecimal. The printed label on the ID PROM and the power–on Self Test banner serial number are in decimal. Do not rely on the printed label on the ID PROM to verify the ID PROM or ID/NVRAM device for a system. Follow the steps in the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

The chart on the next page contains the machine–type code hostid prefix, the ID PROM or ID/NVRAM label legend, a description of the system type, and the Sun part number for Sun system types.

IDPROM and NVRAM Information (Continued)

SYSTEM TYPE	HOSTID SunOS	PRINTED LABEL	DESCRIPTION	SUN PART NUMBER
100U/150U	100xxxx	xxxx	Sun–2 Multibus	520-1042-01
120/170	100xxxx	xxxx	Sun–2 Multibus	520-1042-01
2/50/130/160	200xxxx	xxxx	Sun–2 VME	520-1039-01
3/75/140/150	1100xxxx	3 xxxx	Sun–3 100 {Carerra}	520-1221-01
3/160/180	1100xxxx	3 xxxx	Sun–3 100 {Carerra}	520-1221-01
3/50	1200xxxx	4 xxxx	Sun–3 50	520-1295-01
3/260/280	1300xxxx	5 xxxx	Sun–3 200 {Sirius}	520-1322-01
3/110	1400xxxx	6 xxxx	Sun–3 100 {Prism}	520-1412-01
3/60	1700xxxx	0 xxxx	Sun–3 60	520-1559-01
3E	1800xxxx	9 xxxx	Sun–3 E Board	520-8049-01
4/260/280	2100xxxx	A xxxx	Sun–4 200 {Sunrise}	520-1532-01
4/110/150	2200xxxx	B xxxx	Sun–4 100 {Cobra}	520-1638-01
4/330	2300xxxx	C xxxx	Sun–4 300 {Stingray}	523-2136-01
Sun386i	3100xxxx	xxxx	Sun–386i	520-1811-01
3/460/480	4100xxxx	D xxxx	Sun–3 400 {Pegasus}	523-2127-01
3/80	4200xxxx	NVRAM	Sun–3/80 {Hydra}	525-1031-01
4/60	5100xxxx	NVRAM	Sun–4/60 {Campus}	525-1032-01



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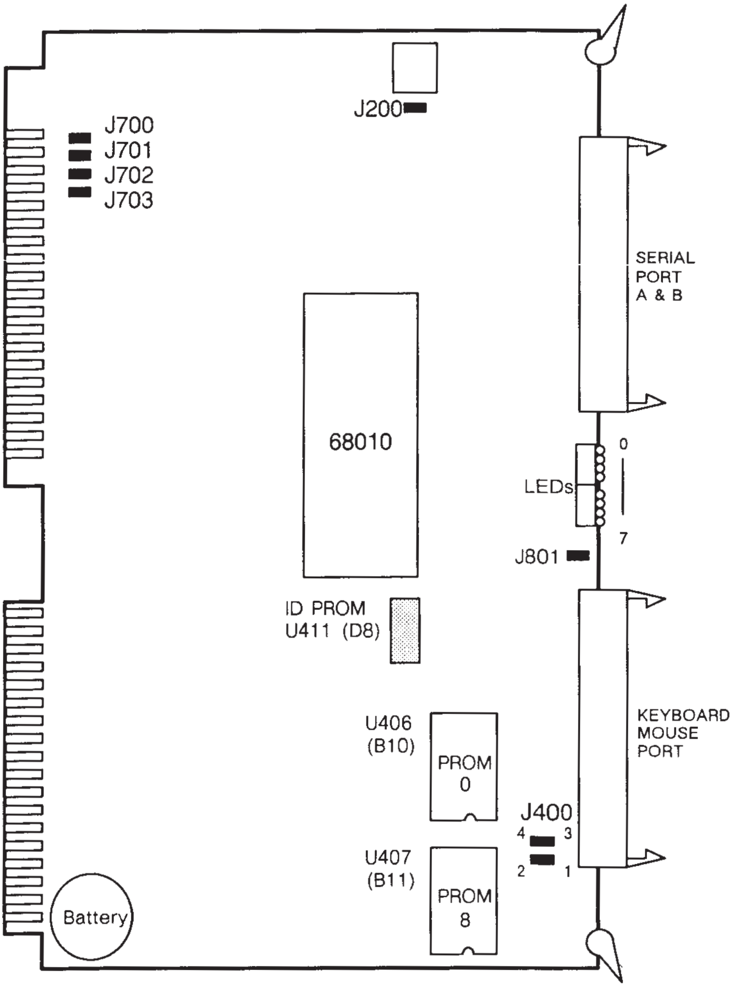
Sun–2™ Multibus

2/100U/120/150U/170
501–1007


J200
J700
J701
J702
J703
SERIAL PORT A & B
68010
0
LEDs
7
J801
ID PROM U411 (D8)
U406 (B10)
PROM 0
KEYBOARD MOUSE PORT
J400
4
3
2
1
U407 (B11)
PROM 8
Battery

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

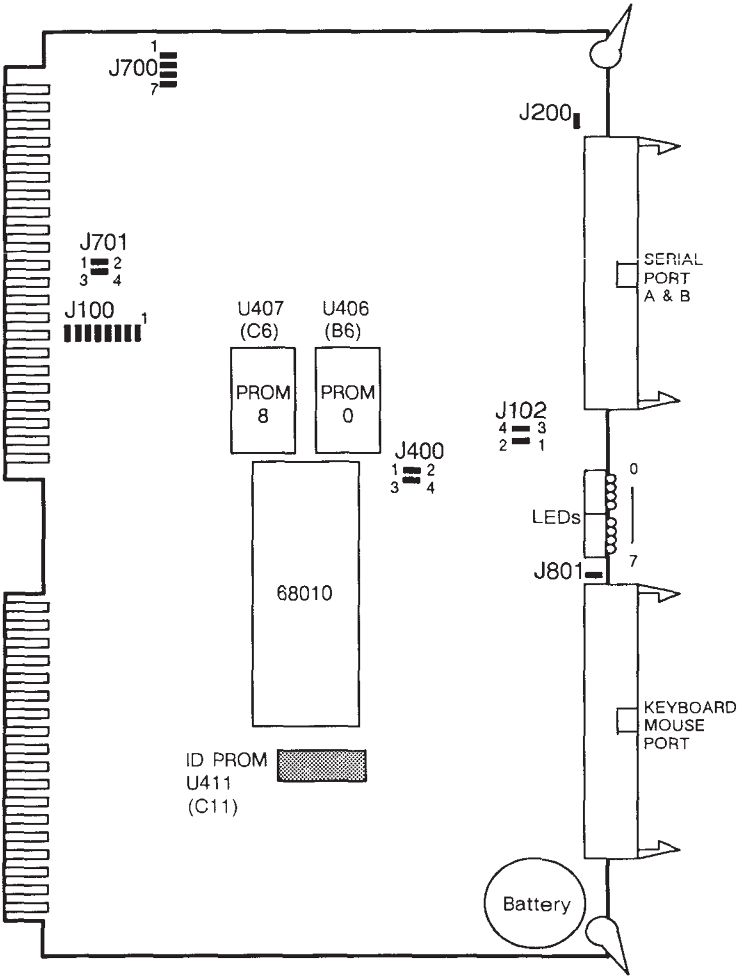
*May cause problems with Tapemaster Controller settings.

Notes

1. SunOS 2.0 and above requires Revision N or greater PROMs.
2. CPU boards with PROM 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. When replacing this board, note that a 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 PROM for Sun–2/120 or Sun–2/170.
5. J701 must be installed for SunOS 4.0, unless the kernel has been patched.
6. 2/100U and 2/150U requires specific Boot PROMs for the Sun VT100 style keyboards, part numbers 520–1103–02 and 520–1104–02, PROM Revision Q.

Sun–2 Multibus Prime

2/120/170
501–1051


J700
1
7
J200
J701
1 2
3 4
J100
1
U407
(C6)
U406
(B6)
PROM
8
PROM
0
SERIAL
PORT
A & B
J102
4 3
2 1
J400
1 2
3 4
0
LEDs
7
J801
68010
KEYBOARD
MOUSE
PORT
ID PROM
U411
(C11)
Battery

Notes

1. CPU boards with PROM 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 Boot PROM.

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

Note: When replacing this board, note that a 501–1007 has a RasterOP function.

Sun–2/50

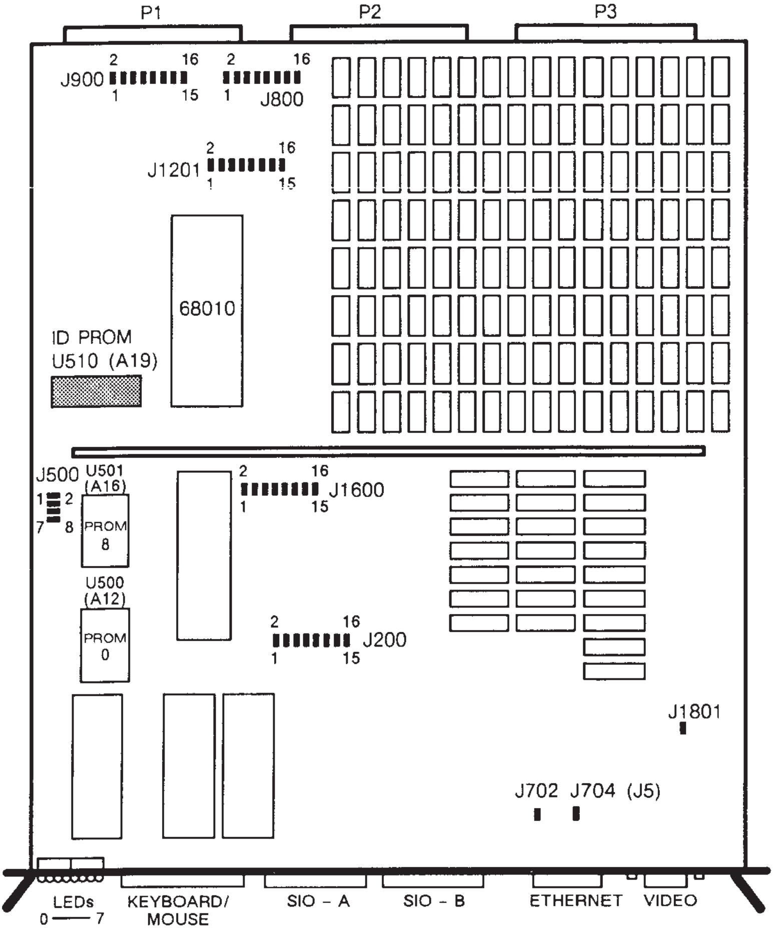
501–1141,1142,1143,1426,1427,1428

1MB 2MB 4MB 1MB 2MB 3MB

Sun–2/130/160

501–1144,1145,1146,1429,1430,1437

1MB 2MB 4MB 1MB 2MB 3MB


P1
P2
P3
J900
2
16
1
15
2
16
1
J800
J1201
2
16
1
15
68010
ID PROM
U510 (A19)
J500
U501
(A16)
1
2
7
8
PROM
8
U500
(A12)
PROM
0
J1600
2
16
1
15
J200
2
16
1
15
J1801
J702
J704 (J5)
LEDs
0 —— 7
KEYBOARD/
MOUSE
SIO – A
SIO – B
ETHERNET
VIDEO

Note: The 501–1426, 501–1427, 501–1428, 501–1429, 501–1430, and 501–1437 boards use 1.1.2 Boot PROMS.

501–1141,1142,1143,1426,1427,1428
501–1144,1145,1146,1429,1430,1437
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 Boot PROM.

501–1141,1142,1143,1426,1427,1428
501–1144,1145,1146,1429,1430,1437
Jumper Settings (Continued)

<table>
<tr><th>JUMPER</th><th>PINS</th><th>SETTING</th><th colspan="2">DESCRIPTION</th></tr>
<tr><td rowspan="8">J900</td><td>1-2</td><td>In</td><td colspan="2">DVMA address comparator A20=0/1</td></tr>
<tr><td>3-4</td><td>In</td><td colspan="2">DVMA address comparator A21=0/1</td></tr>
<tr><td>5-6</td><td>In</td><td colspan="2">DVMA address comparator A22=0/1</td></tr>
<tr><td>7-8</td><td>In</td><td colspan="2">DVMA address comparator A23=0/1</td></tr>
<tr><td>9-10</td><td>In</td><td colspan="2">VME arbiter</td></tr>
<tr><td>11-12</td><td>In</td><td colspan="2">VME reset master</td></tr>
<tr><td>13-14</td><td>Out</td><td colspan="2">Reset slave</td></tr>
<tr><td>15-16</td><td>In</td><td colspan="2">VME system clock</td></tr>
<tr><td rowspan="12">J1201</td><td colspan="2">1MB (64K Rams)</td><td colspan="2">3MB (256K Rams)</td></tr>
<tr><td>5–6</td><td>In</td><td>1–2</td><td>In</td></tr>
<tr><td>9–10</td><td>In</td><td>3–4</td><td>In</td></tr>
<tr><td>13–14</td><td>In</td><td>7–8</td><td>In</td></tr>
<tr><td></td><td></td><td>11–12</td><td>In</td></tr>
<tr><td></td><td></td><td>15–16</td><td>In</td></tr>
<tr><td colspan="2">2MB (256K Rams)</td><td colspan="2">4MB (256K Rams)</td></tr>
<tr><td>1–2</td><td>In</td><td>1–2</td><td>In</td></tr>
<tr><td>7–8</td><td>In</td><td>3–4</td><td>In</td></tr>
<tr><td>11–12</td><td>In</td><td>7–8</td><td>In</td></tr>
<tr><td>15–16</td><td>In</td><td>11–12</td><td>In</td></tr>
<tr><td></td><td></td><td>15–16</td><td>In</td></tr>
<tr><td rowspan="8">J1600</td><td>1-2</td><td>In</td><td colspan="2">Video register sense bit 0</td></tr>
<tr><td>3-4</td><td>In</td><td colspan="2">Video register sense bit 1 *</td></tr>
<tr><td>5-6</td><td>In</td><td colspan="2">Video register sense bit 2</td></tr>
<tr><td>7-8</td><td>In</td><td colspan="2">Video register sense bit 3</td></tr>
<tr><td>9-10</td><td>Out</td><td colspan="2">Reserved</td></tr>
<tr><td>11-12</td><td>Out</td><td colspan="2">Reserved</td></tr>
<tr><td>13-14</td><td>In</td><td colspan="2">10/12 MHz CPU operation</td></tr>
<tr><td>15-16</td><td>Out</td><td colspan="2">12/10 MHz CPU operation</td></tr>
<tr><td>J1801</td><td>1-2</td><td>In</td><td colspan="2">Enable/disable 100MHz video CLK</td></tr>
</table>

*J1600, Pins 3-4, must be Out if color PCB is installed.

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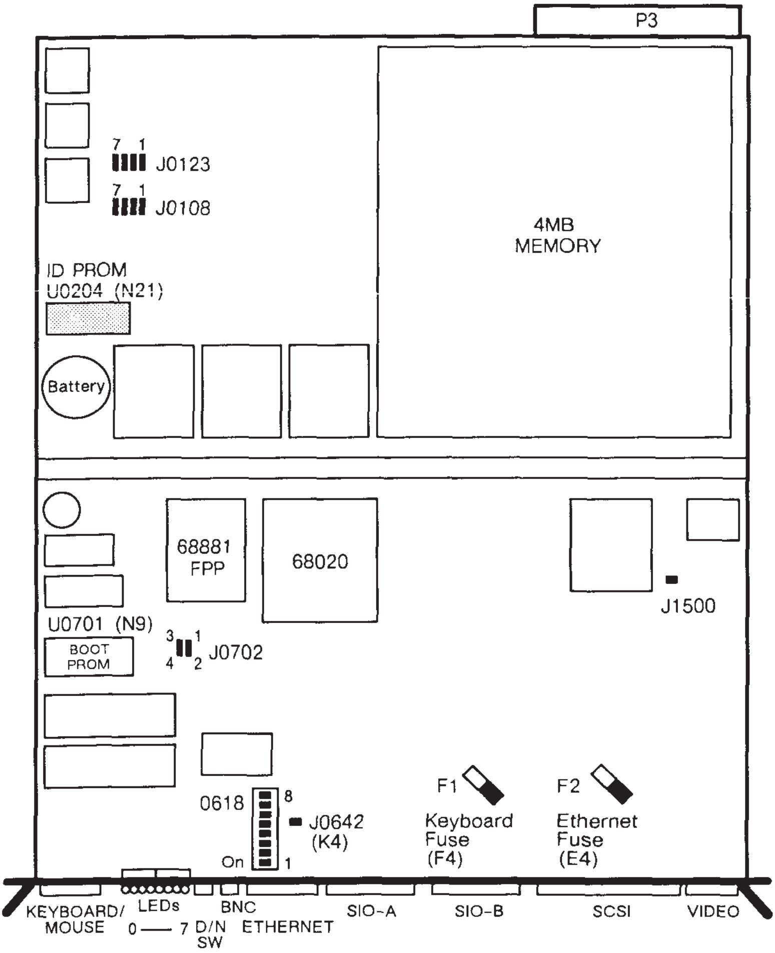
Sun–3™/50

501–1075, 501–1133, 501–1162, 501–1207

w/o FPP (501–1075, 501–1133, 501–1162) w FPP (501–1207)


P3
7 1 J0123
7 1 J0108
4MB MEMORY
ID PROM U0204 (N21)
Battery
68881 FPP
68020
J1500
U0701 (N9)
BOOT PROM
3 1 4 2 J0702
0618
8
On
1
J0642 (K4)
F1 Keyboard Fuse (F4)
F2 Ethernet Fuse (E4)
KEYBOARD/ MOUSE
LEDs 0 — 7
D/N SW
BNC
ETHERNET
SIO–A
SIO–B
SCSI
VIDEO

Notes

1. Boot PROM revision 1.8 or greater is required to load SunOS 1/4” distribution tapes in QIC–24 format.
2. Boot PROM revision 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

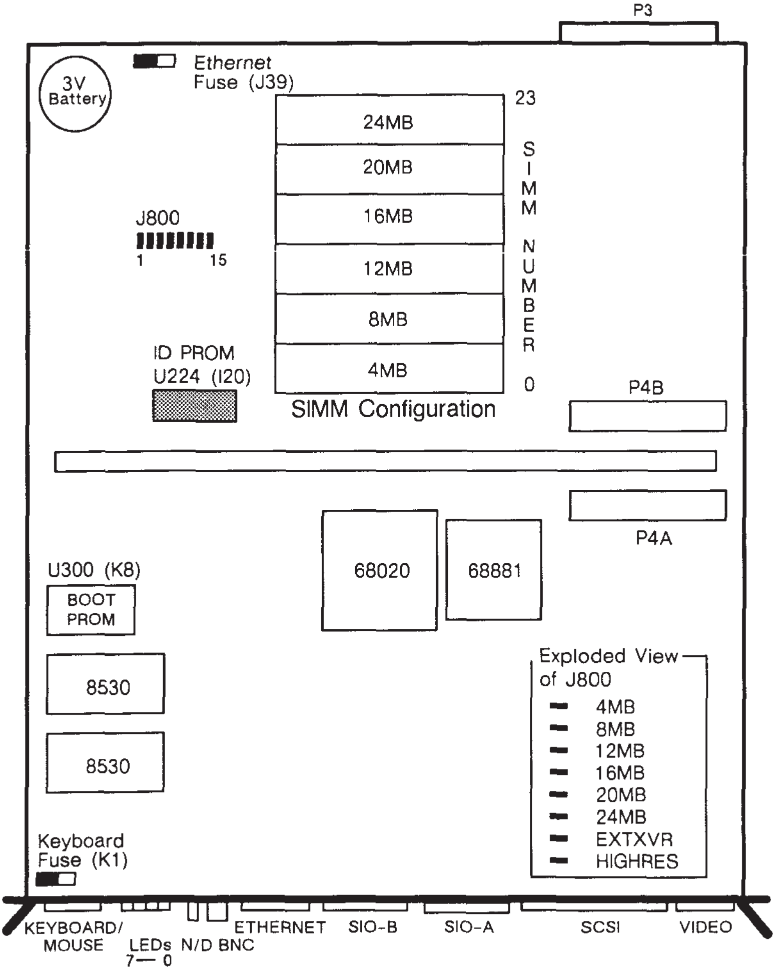
Notes

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.
4. Reference the Hardware Installation Manual for the Sun 3/50M, 800–1355–XX.

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
SIMM NUMBER
0
J800
1
15
ID PROM U224 (I20)
SIMM Configuration
P4B
P4A
68020
68881
U300 (K8)
BOOT PROM
8530
8530
Exploded View of J800
4MB
8MB
12MB
16MB
20MB
24MB
EXTXVR
HIGHRES
Keyboard Fuse (K1)
KEYBOARD/ MOUSE
LEDs 7— 0
N/D BNC
ETHERNET
SIO-B
SIO-A
SCSI
VIDEO

Note: Boot PROM revision 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	Force Ethernet
	13–14	Out	Force Thin Ethernet
	15–16	Out	Monitor Auto Select † § £
	15–16	Out	Force Low Res
	15–16	In	Force Hi Res

* Jumper installation depends on memory configuration.

† Factory setting

§ Must be used with mono video cable 530–1359 or 530–1336 for auto sense feature to operate.

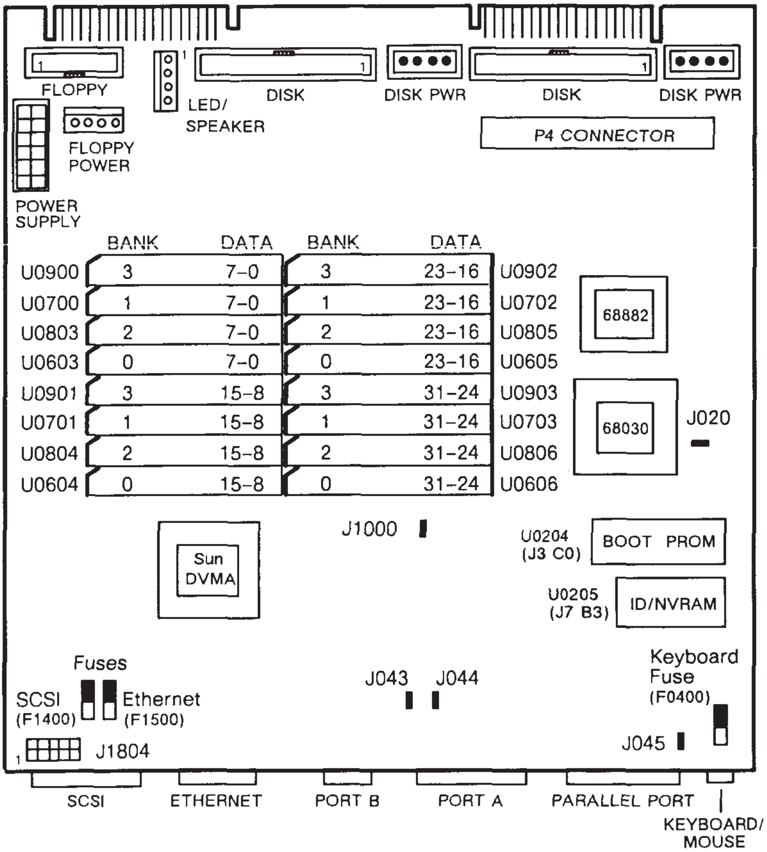
£ Hi Resolution Monitor, 540–1427, must be Motorola revision T or greater for the auto–sense feature to operate.

Notes
1. This board uses 1MB SIMM module, 501–1239.
2. Reference the Hardware Installation Manual for the Sun–3/60 Workstation, 800–1987–XX.

Sun–3/80

501–1401

0MB


FLOPPY
1
FLOPPY POWER
POWER SUPPLY
LED/ SPEAKER
DISK
DISK PWR
DISK
DISK PWR
P4 CONNECTOR
BANK
DATA
BANK
DATA
U0900 3 7–0
U0700 1 7–0
U0803 2 7–0
U0603 0 7–0
U0901 3 15–8
U0701 1 15–8
U0804 2 15–8
U0604 0 15–8
3 23–16 U0902
1 23–16 U0702
2 23–16 U0805
0 23–16 U0605
3 31–24 U0903
1 31–24 U0703
2 31–24 U0806
0 31–24 U0606
68882
68030
J020
J1000
Sun DVMA
U0204 (J3 C0)
BOOT PROM
U0205 (J7 B3)
ID/NVRAM
Fuses
SCSI (F1400)
Ethernet (F1500)
J043
J044
Keyboard Fuse (F0400)
J045
J1804
SCSI
ETHERNET
PORT B
PORT A
PARALLEL PORT
KEYBOARD/ MOUSE

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, 150–1162.
4. F0400 and F1500 use 2A Fuses, 150–1974.

501–1401

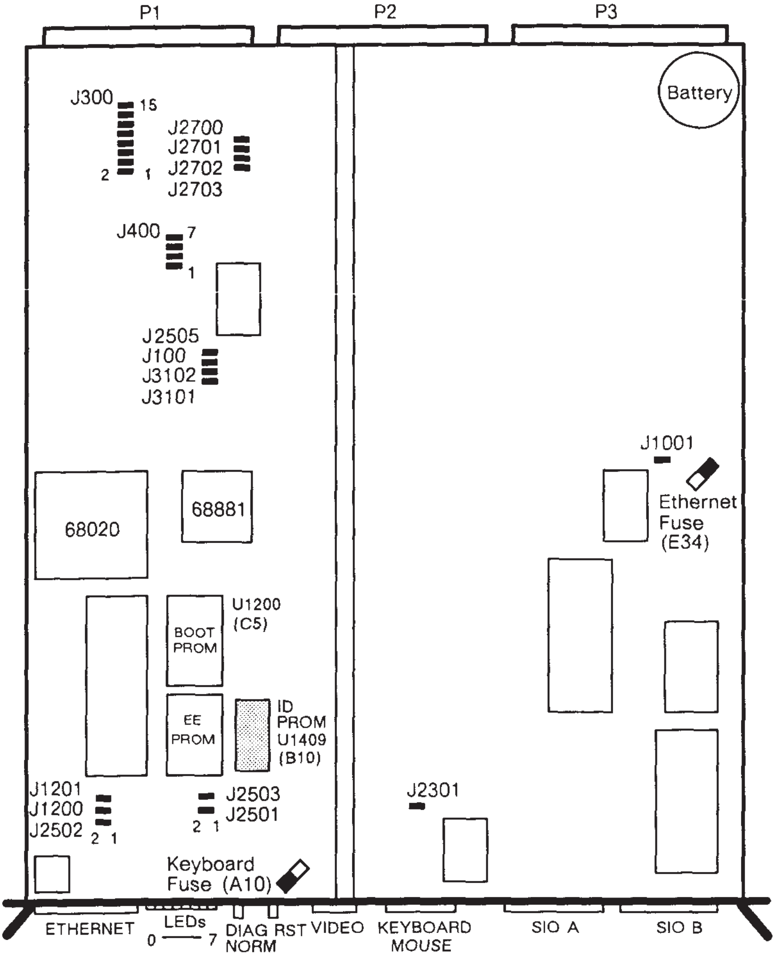
JUMPER	PINS	SETTING	DESCRIPTION
J1000	1–2	Out	Watchdog reset (Test only)
J020	1–2	In*	20 MHz 68882 clock
J020	2–3	Out	40 MHz 68882 clock
J043	1–2	Out	RS–232, Ports A and B
J043	2–3	In*	RS–423, Ports A and B
J044	1–2	In*	RS–423, Ports A and B
J044	2–3	Out	RS–232, Ports A and B
J045	1–2	In*	Enable transmit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

*Factory Setting

Sun–3/75/140/150/160/180

501–1074, 501–1094, 501–1163, 501–1164

2MB 4MB 2MB 4MB


P1
P2
P3
Battery
J300
15
2
1
J2700
J2701
J2702
J2703
J400
7
1
J2505
J100
J3102
J3101
J1001
Ethernet
Fuse
(E34)
68020
68881
BOOT
PROM
U1200
(C5)
EE
PROM
ID
PROM
U1409
(B10)
J1201
J1200
J2502
2 1
J2503
J2501
2 1
J2301
Keyboard
Fuse (A10)
ETHERNET
LEDs
0 7
DIAG RST
NORM
VIDEO
KEYBOARD
MOUSE
SIO A
SIO B

Notes

1. Boot PROM revision 1.8 or greater is required to load SunOS 1/4” distribution tapes in QIC–24 format.
2. Boot PROM revision 2.5 or greater is required to load SunOS 1/4” distribution tapes in QIC–24 format from a Sun–2 Shoebox.
3. Boot PROM revision 2.6 or greater is required for XD7053 disk controller.

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 CLK
	3–4	Out	Enable 12.5MHz CPU CLK
	5–6	Out	Enable 12.5MHz FFP CLK
	7–8	In	Enable 16.67MHz FFP CLK
J1001	1–2	In	Enable SCC CLK
J1201	5–6	In	If 27512 Boot PROM
J1200	3–4	Out	If 27256 Boot PROM
J2502	1–2	In	Enable VME CLK
J2301	1–2	In	Enable Video CLK
J2503	1–2	Out	VCC – Pin 7 on Ethernet
J2501	1–2	In	Enable Ethernet CLK
J2700	7–8	Out	Enable VME request only
J2701	5–6	In	Enable VME request/arbiter
J2702	3–4	Out	Enable VME reset slave
J2703	1–2	In	Enable VME reset master
J3101	1–2	In	2MB CPU
J3102	3–4	In	4MB CPU
J100	5–6	Out	Cache disable
J2505	7–8	In	Level 1 Ethernet transceiver
		Out	Level 2 Ethernet transceiver

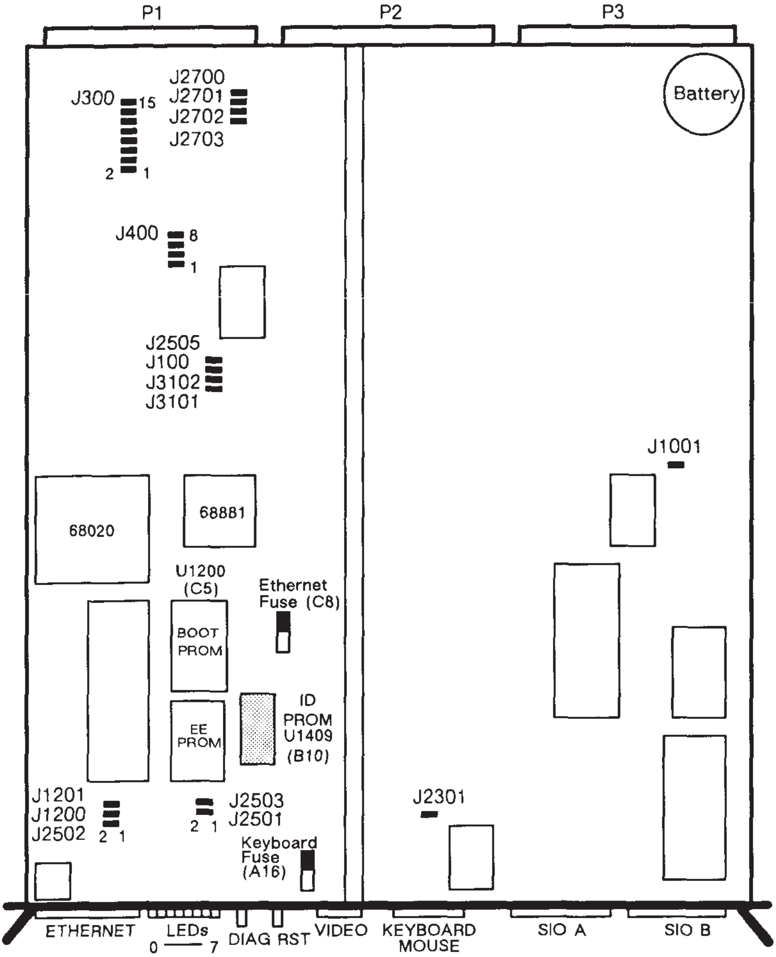
Notes

1. To install with a VME 32–bit data device (MCP, ALM–2, SCA, HSI, Xylogics 7053, SCSI 3, or TACC–1), the CPU revision must be 501–1094–22, 501–1074–22, 501–1163–09, 501–1164–09 or greater.
2. Reference Sun 3004 CPU Board Configuration Procedures, 813–2047–XX.

Sun–3/140/150/160/180

501–1208

4MB


P1
P2
P3
J2700
J2701
J2702
J2703
J300
15
2
1
Battery
J400
8
1
J2505
J100
J3102
J3101
J1001
68020
68881
U1200
(C5)
Ethernet
Fuse (C8)
BOOT
PROM
EE
PROM
ID
PROM
U1409
(B10)
J1201
J1200
J2502
2 1
J2503
J2501
2 1
J2301
Keyboard
Fuse
(A16)
ETHERNET
LEDs
0 — 7
DIAG
RST
VIDEO
KEYBOARD
MOUSE
SIO A
SIO B

Notes

1. Boot PROM revision 1.8 or greater is required to load SunOS 1/4” distribution tapes in QIC–24 format.
2. Boot PROM revision 2.6 or greater is required to load SunOS 1/4” distribution tapes in QIC–24 format from a Sun–2 Shoebox.
3. Boot PROM revision 2.6 or greater is required for the XD7053 disk controller.

501–1208
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 5
	15–16	In	VME interrupt level 6
J400	1–2	In	Enable 16.67MHz CPU CLK
	3–4	Out	Enable 12.5MHz CPU CLK
	5–6	Out	Enable 12.5MHz FFP CLK
	7–8	In	Enable 16.67MHz FFP CLK
J1001	1–2	In	Enable SCC CLK
J1201	1–2	In	If 27512 Boot PROM
J1200	1–2	Out	If 27256 Boot PROM
J2502	1–2	In	Enable VME CLK
J2301	1–2	In	Enable Video CLK
J2503	1–2	Out	Level 1/2
J2501	1–2	In	Enable Ethernet CLK
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	Out	Null

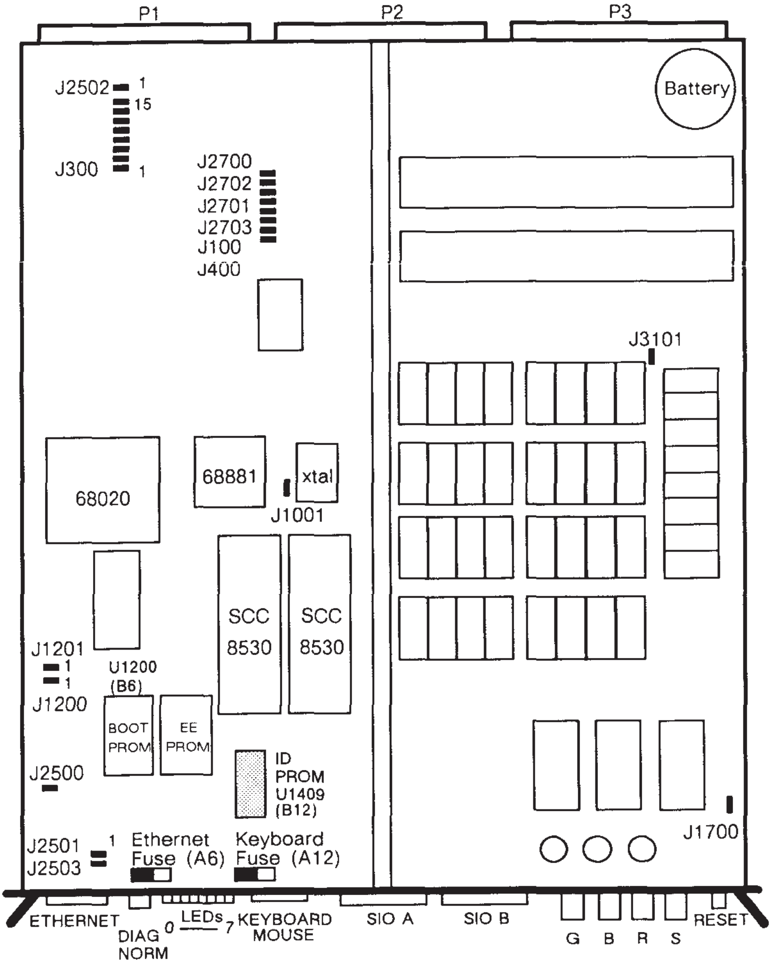
Notes

1. This board may fail with non–Sun supplied boards, use 501–1208–05 or greater.
2. Reference Sun 3004 CPU Board Configuration Procedures, 813–2047–XX.

Sun–3/110

501–1134, 501–1209

4MB


P1
P2
P3
J2502
1
15
J300
1
Battery
J2700
J2702
J2701
J2703
J100
J400
J3101
68020
68881
xtal
J1001
SCC 8530
SCC 8530
J1201
1
1
J1200
U1200 (B6)
BOOT PROM
EE PROM
J2500
ID PROM U1409 (B12)
J1700
J2501
J2503
1
Ethernet Fuse (A6)
Keyboard Fuse (A12)
ETHERNET
DIAG
NORM
0
LEDs
7
KEYBOARD
MOUSE
SIO A
SIO B
G
B
R
S
RESET

501–1134, 501–1209
Jumper Settings

JUMPER	PINS	SETTING	DESCRIPTION
J100	1–2	Out	Cache disable
J300	1–2	Not Used	Null
	3–4	In	P1 Int request 1
	5–6	In	P1 Int request 2
	7–8	In	P1 Int request 3
	9–10	In	P1 Int request 4
	11–12	In	P1 Int request 5
	13–14	In	P1 Int request 6
	15–16	In	P1 Int request 7
J400	1–2	In	Enable main CLK
J1001	1–2	In	Enable SCC CLK
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 CLK
J2502	1–2	In	P1 system CLK
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

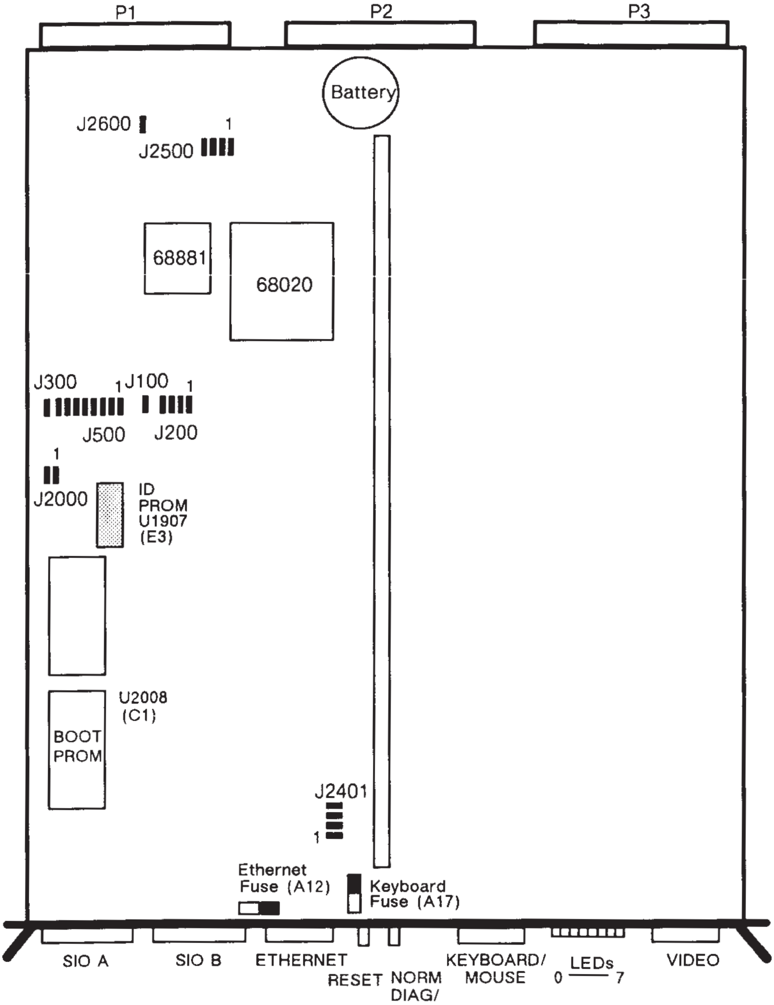
Notes

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.
3. Reference Sun 501–1134 CPU Board Configuration Procedures, 812–2013–XX.

Sun–3/260/280

501–1100, 501–1206

0MB


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
RESET
NORM DIAG/
KEYBOARD/ MOUSE
LEDs
0
7
VIDEO

Note: Boot prom revision 2.6 or greater is required for the XD7053 disk controller.

501–1100, 501–1206
Jumper Settings

JUMPER	PINS	SETTING	DESCRIPTION
J100	1–2	Out	Cache Disable for the 68020
J200	1–2	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 (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

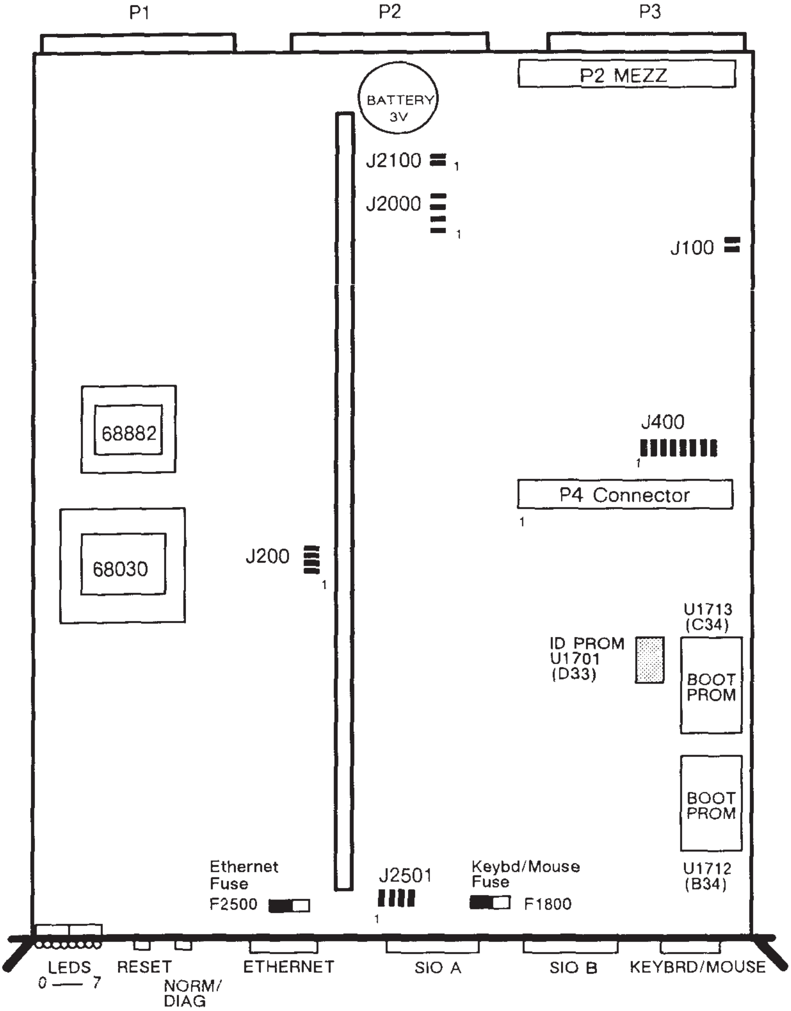
Notes

1. With PROM Rev 2.1, when two control–Gs ring the keyboard bell, 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.
3. Reference Sun 501–1206 CPU Board Configuration Procedures, 813–2017–XX.

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 (D33)
BOOT PROM
BOOT PROM
U1712 (B34)
Ethernet Fuse
F2500
J2501
1
Keybd/Mouse Fuse
F1800
LEDS
0 —— 7
RESET
NORM/ DIAG
ETHERNET
SIO A
SIO B
KEYBRD/MOUSE

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. Use the 501–1451 32MB Memory board.

501–1299, 501–1550

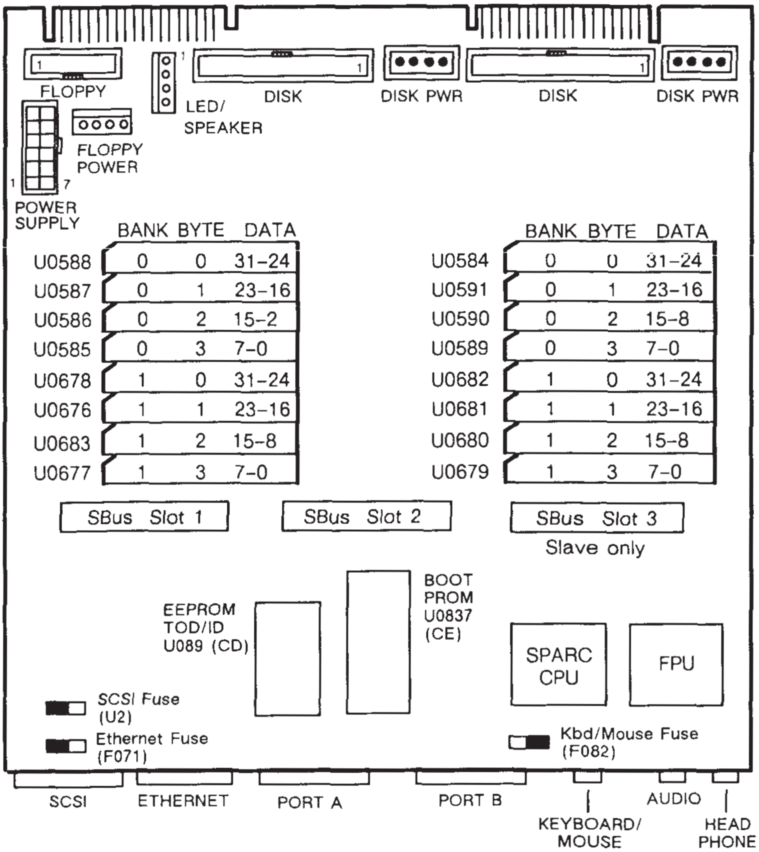
JUMPER	PINS	SET-TING	DESCRIPTION
J100	1–2	Out	Enable 68030 cache
J100	3–4	Out	Enable 68030 MMU
J200	1–2	In	Enable 68030 clock
J200	3–4	Out	Null
J200	5–6	Out	Null
J200	7–8	In	Enable 50ns clock
J400	1–2	In	Enable VME interrupt level 1
J400	3–4	In	Enable VME interrupt level 2
J400	5–6	In	Enable VME interrupt 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	Out	Null
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	Out	Null
J2501	5–6	Out*	Select level 2 Ethernet
J2501	5–6	In	Select level 1 Ethernet
J2501	7–8	Out	Null

* factory setting

Note: Reference the Sun 3/470 Board Set Configuration Procedure, 813–2055–XX.

Sun–4/60

501–1382


1
FLOPPY
1
DISK
1
LED/
SPEAKER
DISK PWR
1
DISK
DISK PWR
FLOPPY
POWER
1
7
POWER
SUPPLY
SBus Slot 1
SBus Slot 2
SBus Slot 3
Slave only
EEPROM
TOD/ID
U089 (CD)
BOOT
PROM
U0837
(CE)
SPARC
CPU
FPU
SCSI Fuse
(U2)
Ethernet Fuse
(F071)
Kbd/Mouse Fuse
(F082)
SCSI
ETHERNET
PORT A
PORT B
KEYBOARD/
MOUSE
AUDIO
HEAD
PHONE

	BANK	BYTE	DATA
U0588	0	0	31–24
U0587	0	1	23–16
U0586	0	2	15–2
U0585	0	3	7–0
U0678	1	0	31–24
U0676	1	1	23–16
U0683	1	2	15–8
U0677	1	3	7–0

	BANK	BYTE	DATA
U0584	0	0	31–24
U0591	0	1	23–16
U0590	0	2	15–8
U0589	0	3	7–0
U0682	1	0	31–24
U0681	1	1	23–16
U0680	1	2	15–8
U0679	1	3	7–0

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 with 1.5A Fuse, 150–1162.
4. F071 and F082 use 2A Fuses, 150–1974.

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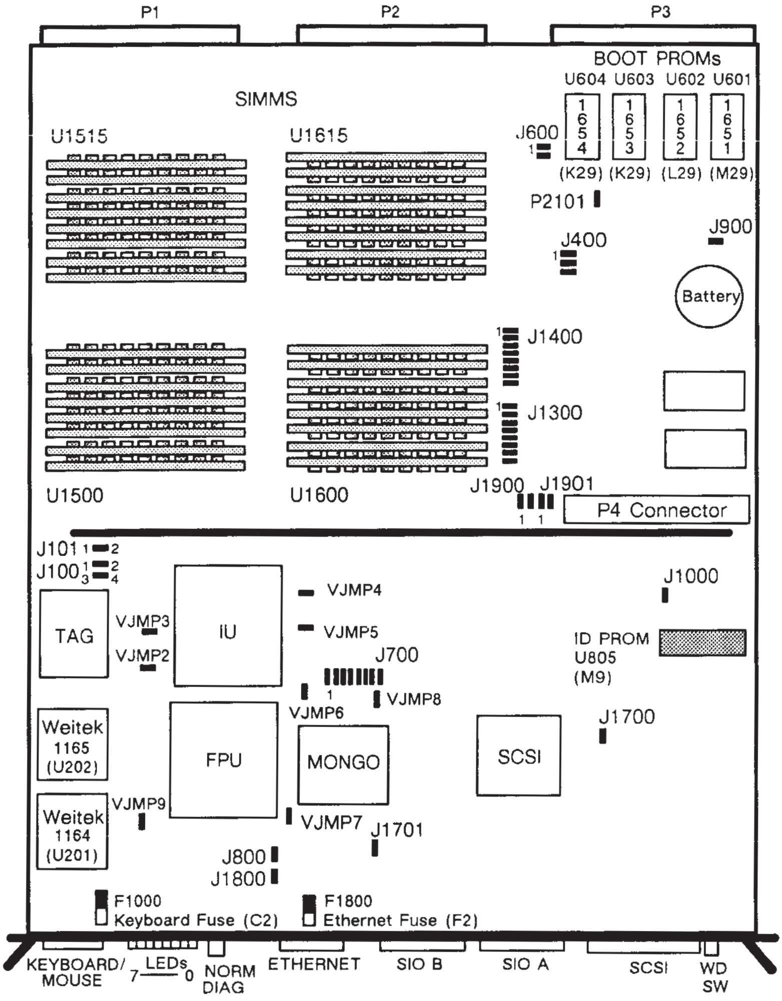
Sun 4™/110/150

501–1199 501–1512 8MB w/o FPU	501–1237 501–1513 8MB w FPU	501–1462 501–1514 16MB w/o FPU	501–1463 501–1515 16MB w FPU
	501–1464 501–1516 32MB w/o FPU	501–1465 501–1517 32MB w FPU	


P1
P2
P3
BOOT PROMs
U604 U603 U602 U601
1654
1653
1652
1651
(K29) (K29) (L29) (M29)
SIMMS
U1515
U1615
J600
1
P2101
J400
1
J900
Battery
J1400
1
J1300
1
U1500
U1600
J1900
J1901
1 1
P4 Connector
J101 1 2
J100 1 2 3 4
TAG
VJMP3
VJMP2
IU
VJMP4
VJMP5
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/
MOUSE
LEDs
7 0
NORM
DIAG
ETHERNET
SIO B
SIO A
SCSI
WD
SW

501–1199, 1237,1462,1463,1464,1465,1485,1486 501–1512, 1513,1414,1515,1516

Jumper Settings

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

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

Notes

1. 501–1199 must be ≥ 501–1199–11 and 501–1237 must be ≥ 501–1237–11 to use with the Type–4 keyboard.
2. The 501–1384 FPU2 is supported only on CPU boards 501–1512, 501–1513, 501–1514, 501–1515, 501–1516, and 501–1517.
3. Reference the Sun 4100 Board Set Configuration Procedures, 813–2049.

501–1199, 1237,1462,1463,1464,1465,1485,1486 501–1512, 1513,1414,1515,1516

Jumper Settings (Continued)

Cache Line, J100

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

Memory Strobe Configuration, J400

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

SIMM Addressing Mode, J1300

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

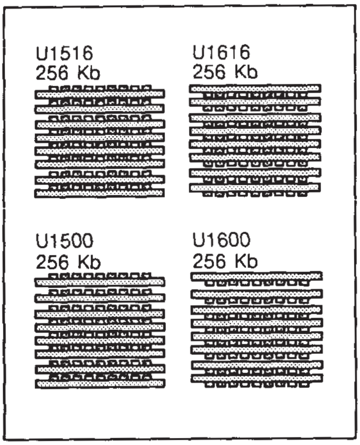
SIMM Addressing Mode, J1400

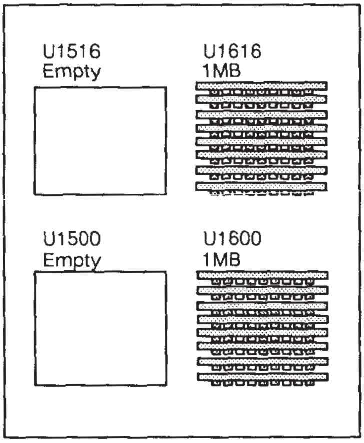
SIMM TYPE	MEMORY SIZE	8MB	16MB	20MB	32MB
		256K	1MB	1MB/256K	1MB
Same*	Pin 1–2	In	Out	Out	In
Different*	Pin 3–4	Out	In	In	Out
256K	Pin 5–6	In	Out	Out	Out
1 M	Pin 7–8	Out	In	In	In
2 M	Pin 9–10	Out	Out	Out	Out
<32M	Pin 11–12	In	In	In	Out
32M	Pin 13 14	Out	Out	Out	In
Unused	Pin 15–16	Out	Out	Out	Out

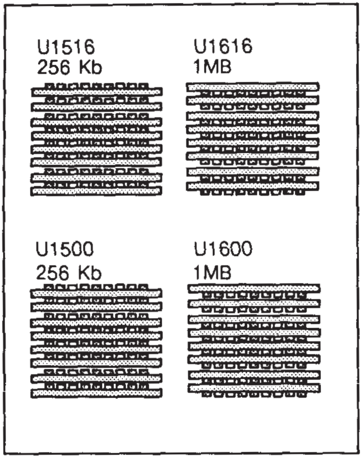
* Same/Different corresponds to sets of 256KB/1MB DRAMS.

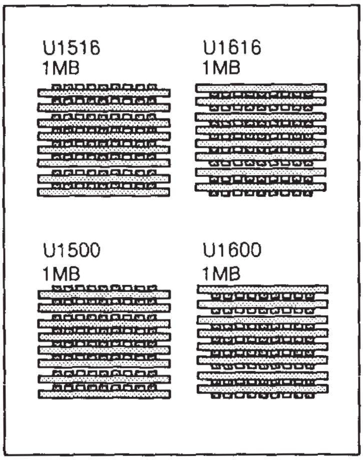
SIMM Memory Configurations

501–1314, 256KB SIMM Module
501–1466, 1MB SIMM Module


8 MB
U1516
256 Kb
U1616
256 Kb
U1500
256 Kb
U1600
256 Kb

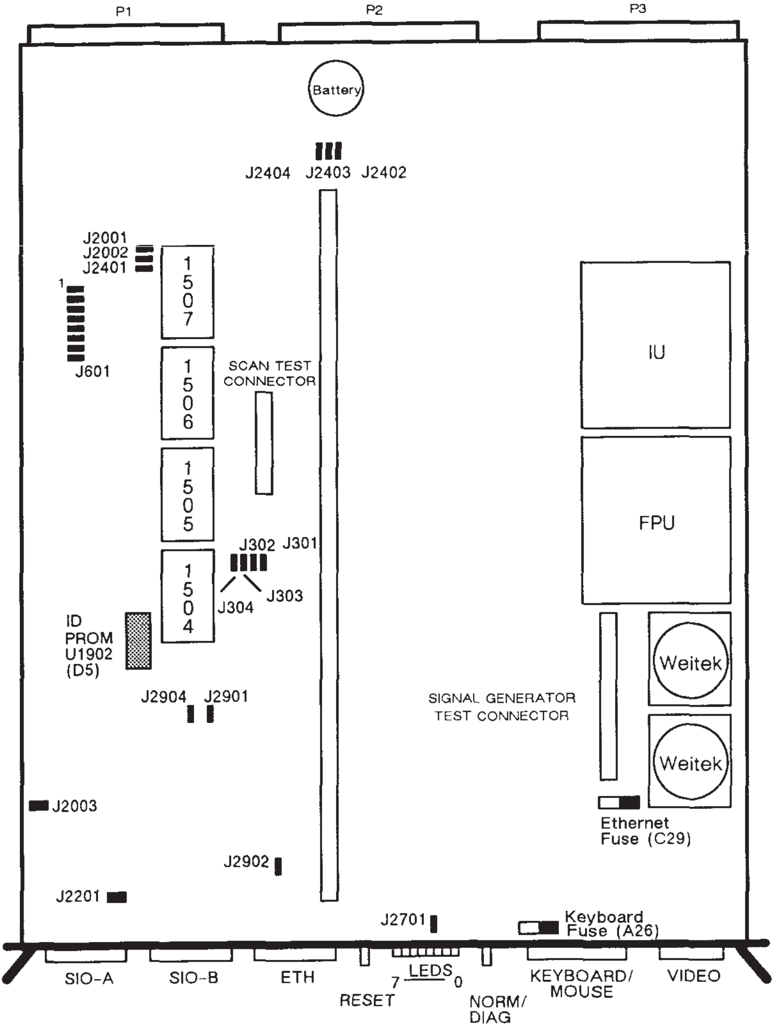

16 MB
U1516
Empty
U1616
1MB
U1500
Empty
U1600
1MB


20 MB
U1516
256 Kb
U1616
1MB
U1500
256 Kb
U1600
1MB


32 MB
U1516
1MB
U1616
1MB
U1500
1MB
U1600
1MB

Sun–4/260/280

501–1129*


P1
P2
P3
Battery
J2404 J2403 J2402
J2001
J2002
J2401
1
J601
1507
1506
1505
1504
SCAN TEST CONNECTOR
J302 J301
J304 J303
ID PROM U1902 (D5)
J2904 J2901
IU
FPU
Weitek
Weitek
SIGNAL GENERATOR TEST CONNECTOR
Ethernet Fuse (C29)
J2003
J2902
J2201
J2701
Keyboard Fuse (A26)
SIO-A
SIO-B
ETH
RESET
7 LEDS 0
NORM/ DIAG
KEYBOARD/ MOUSE
VIDEO

*Replaced with 501–1274. **This board should not be used in the field.**

501–1129
Jumper Settings

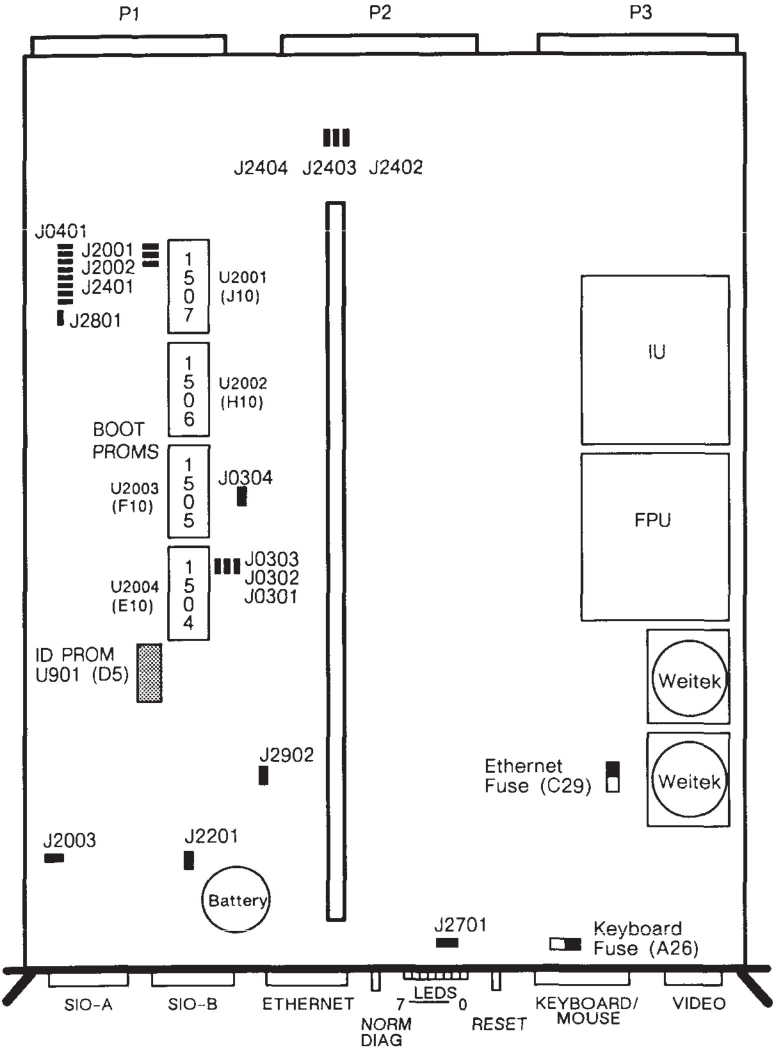
JUMPER	PINS	SETTING	DESCRIPTION
J2701	1–2	Out	Debug jumper
J2003	1–2	In	Connect 3V battery
J2201	1–2	In	UART clock enable
J2901	1–2	In	Enable Ethernet clock
J2902	1–2	Out	+5V to Ethernet tap
J2904	1–2	Out	Null
J304	1–2	In	Enable VME clock
J303	1–2	In	Enable 16Mhz clock
J302	1–2	In	Enable 46Mhz clock
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

Note: Reference Sun 4200 Board configuration Procedures, 813–2031–XX.

Sun–4/260/280

501–1274, 501–1491, 501–1522

w FPU–2 w FPU–4
2–hi backpanel 2–hi backpanel


P1
P2
P3
J2404 J2403 J2402
J0401
J2001
J2002
J2401
J2801
1507
U2001 (J10)
1506
U2002 (H10)
BOOT PROMS
U2003 (F10)
1505
J0304
U2004 (E10)
1504
J0303
J0302
J0301
ID PROM U901 (D5)
IU
FPU
Weitek
Weitek
Ethernet Fuse (C29)
J2902
J2003
J2201
Battery
J2701
Keyboard Fuse (A26)
SIO-A
SIO-B
ETHERNET
NORM DIAG
7 LEDS 0
RESET
KEYBOARD/ MOUSE
VIDEO

Note: Boot PROM revision 1.7 or greater is required for proper operation with the Xylogics 7053 disk controller.

501–1274, 501–1491, 501–1522
Jumper Settings

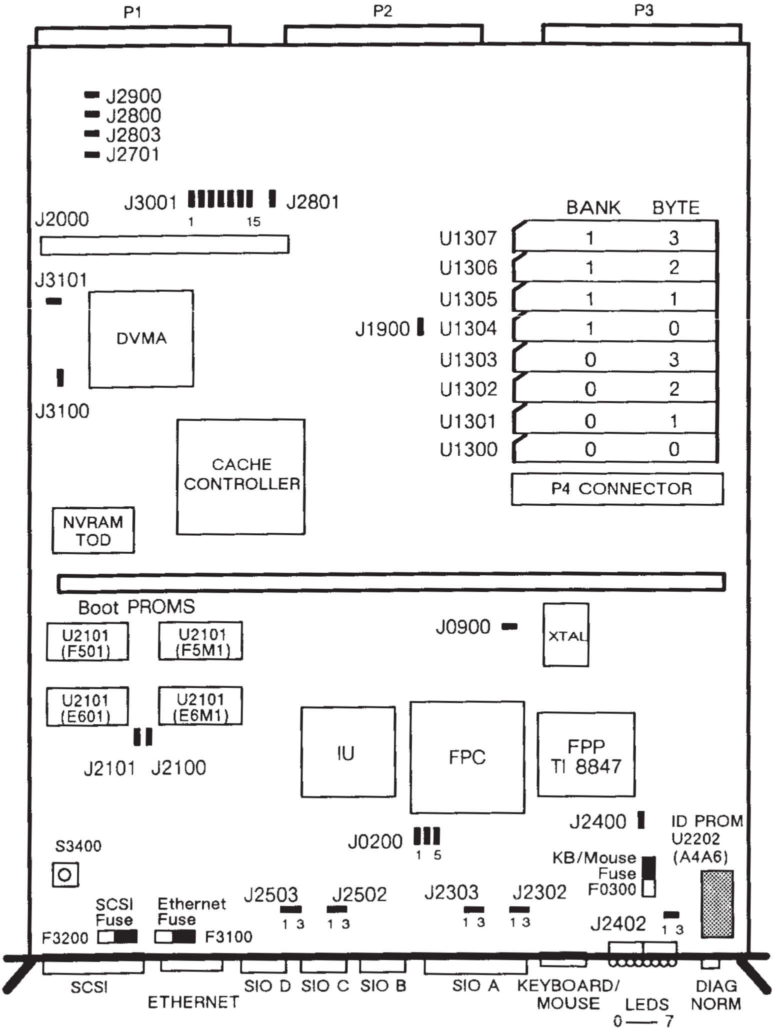
JUMPER	PINS	SETTING	DESCRIPTION
J2701	1–2	Out	Debug jumper
J2003	1–2	In	Connect 3V battery
J2201	1–2	In	SCC (UART) clock enable
J2902	1–2	Out	Enet Level 2 (IN for level 1)
J2904	1–2	Out	Null
J0304	1–2	In	Enable VME clock
J0303	1–2	In	16 MHz clock enable
J0302	1–2	In	46.153 MHz clock enable
J0301	1–2	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 ≥ 501–1274–12 to use with the Type–4 Keyboard.
2. 501–1274 must be ≥ 501–1274–13 to use with the Xylogics 7053
3. Reference Sun–4200 CPU Board Configuration Procedures, 813–2031–XX.

Sun–4/330/370/390

501–1316


P1
P2
P3
J2900
J2800
J2803
J2701
J3001
1
15
J2801
J2000
BANK
BYTE
U1307 1 3
U1306 1 2
U1305 1 1
J1900
U1304 1 0
U1303 0 3
U1302 0 2
U1301 0 1
U1300 0 0
P4 CONNECTOR
J3101
DVMA
J3100
CACHE CONTROLLER
NVRAM TOD
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 Fuse
Ethernet Fuse
F3200
F3100
J2503
J2502
J2303
J2302
1 3
J2402
SCSI
ETHERNET
SIO D
SIO C
SIO B
SIO A
KEYBOARD/ MOUSE
LEDS 0 — 7
DIAG NORM

Notes

1. The 501–1316 CPU uses 1MB SIMM module, 501–1544–XX.
2. F0300, F3100, and F3200 use 2 Amp Fuses, 150–1174.
3. CPU board is Set for Ethernet Level 2. Level 1 is not selectable.
4. CPU ≥ 501–1316–04 is required for use with the IPI and FDDI controllers and with LISP software.

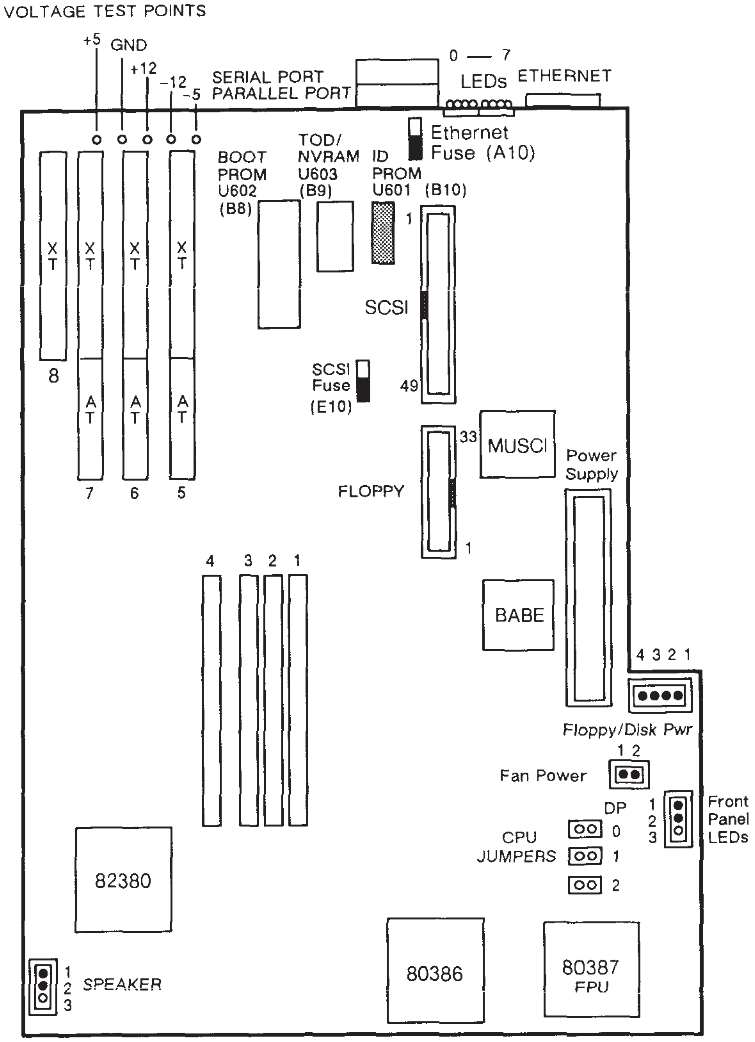
501–1316

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

Note: Reference the Sun 4300 CPU Board Installation Notes, 800–3119.

Sun386i™/250

501–1324, 501–1413


VOLTAGE TEST POINTS
+5
GND
+12
-12
-5
SERIAL PORT
PARALLEL PORT
0 — 7
LEDs
ETHERNET
Ethernet Fuse (A10)
BOOT PROM U602 (B8)
TOD/ NVRAM U603 (B9)
ID PROM U601 (B10)
1
SCSI
49
SCSI Fuse (E10)
XT
AT
8
7
6
5
33
MUSCI
Power Supply
FLOPPY
1
4 3 2 1
BABE
4 3 2 1
Floppy/Disk Pwr
1 2
Fan Power
DP
1 2 3
Front Panel LEDs
CPU JUMPERS
0
1
2
82380
1 2 3
SPEAKER
80386
80387 FPU

Note: Boot PROM revision 4.4 or greater is required for use with the 501–1433 Low–Res Mono Frame Buffer board.

501–1324, 501–1413
Jumper Settings

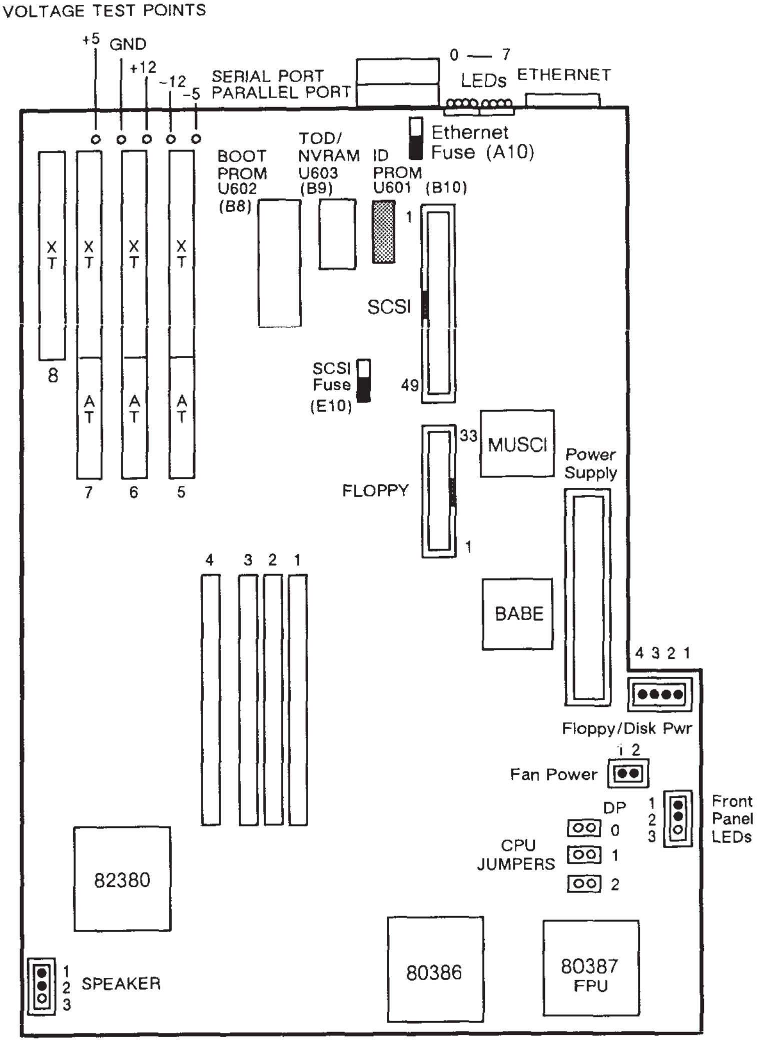
JUMPER			FUNCTION
0	1	2	
Out	Out	Out	Normal Mode
In	Out	Out	Diagnostic Mode
Out	Out	In	Manufacturing Mode
In	Out	In	Bypass Mode

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.

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.
5. Reference the Sun386i Field Service Manual, 814–0002–XX.

Sun386i/150

501–1241, 501–1414


VOLTAGE TEST POINTS
+5
GND
+12
-12
-5
SERIAL PORT
PARALLEL PORT
0 — 7
LEDs
ETHERNET
Ethernet Fuse (A10)
BOOT PROM U602 (B8)
TOD/ NVRAM U603 (B9)
ID PROM U601 (B10)
XT
AT
8
7
6
5
1
SCSI
49
SCSI Fuse (E10)
33
MUSCI
Power Supply
FLOPPY
1
4 3 2 1
BABE
4 3 2 1
Floppy/Disk Pwr
1 2
Fan Power
DP
0
1
2
CPU JUMPERS
1 2 3
Front Panel LEDs
82380
1 2 3
SPEAKER
80386
80387 FPU

Note: Boot PROM revision 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

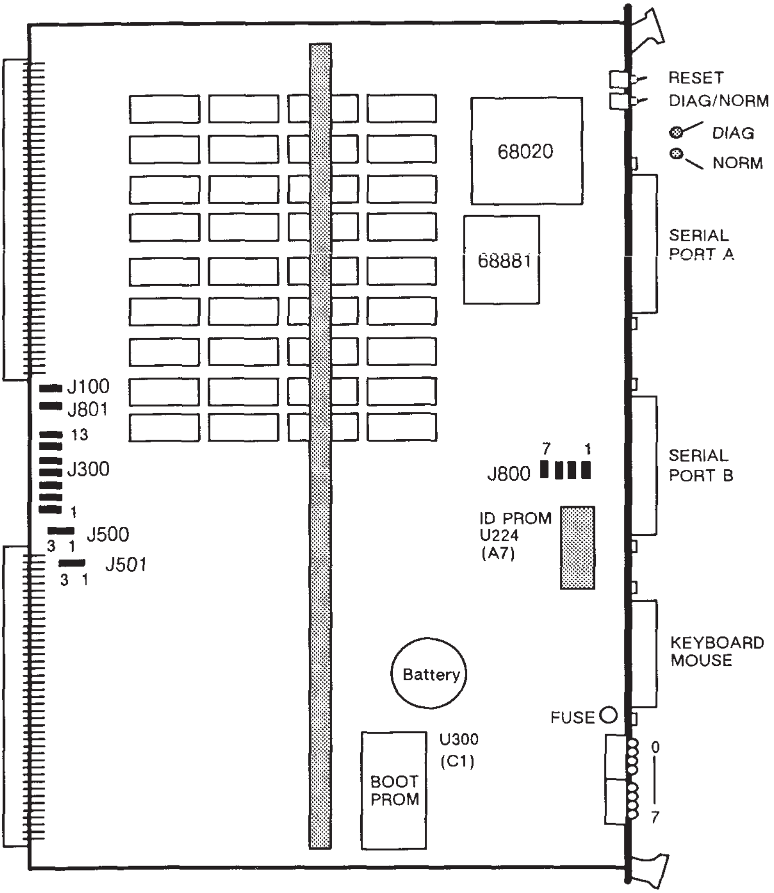
FUNCTION	DESCRIPTION
Normal Mode	Self–Test is executed. Memory tested is determined by NVRAM setting.
Diagnostic Mode	Self–Test is executed. All memory is tested. Status information is directed to the serial port until all video hardware is successfully tested.
Manufacturing Mode	Diagnostic mode runs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

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.
6. Reference the Sun386i Field Service Manual, 814–0002–XX.

Sun–3/E

501–8028


RESET
DIAG/NORM
DIAG
NORM
68020
68881
SERIAL PORT A
SERIAL PORT B
KEYBOARD MOUSE
J100
J801
13
J300
1
J500
3 1
J501
3 1
7 1
J800
ID PROM
U224
(A7)
Battery
FUSE
U300
(C1)
BOOT PROM
0
7

Note: The fuse is not field replaceable

501–8028
Jumper Settings

JUMPER	PINS	SETTING	DESCRIPTION
J100	1–2	In	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	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

Memory

SIMM Modules 2

Sun–2 Multibus (1 MB. 3
Sun–2 Multibus Prime (1MB) 4
Sun–2 Multibus Prime (4MB) 6
Sun–2/50 & Sun–2/130/160 8

Sun–3/60 (See CPU Section)
Sun–3/75 & Sun–3/110/140/150/160/180 10
Sun–3/80 (See CPU Section)
Sun–3/260/280 & Sun–4/260/280 (8MB)
Sun–3/460/470/480 & Sun–4/260/280 (32MB) . 12

Sun–4/60 (See CPU Section)
Sun–4/110/150 (See CPU Section)
Sun–4/330 14

Sun386i Dynamic Memory 15
Sun386i XP Cache 16

Sun–3/E (4MB) 18
Sun–3/E (12MB) 20

SIMM Modules

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

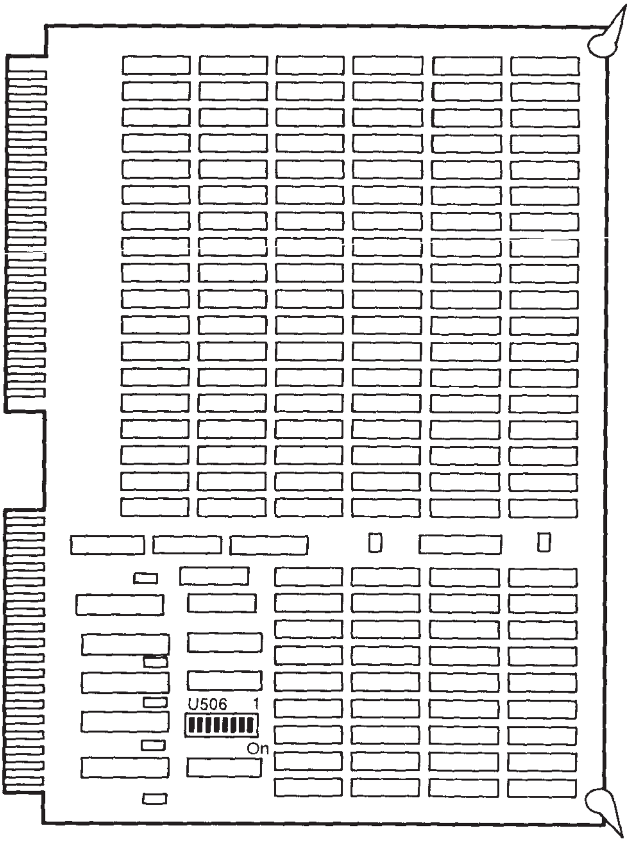
SIZE	SIMM P/N	SYSTEMS							
		3/60	3/60LE	4/110 4/150	386i/ 150	386i/ 250	3/80	4/60	4/330 4/370 4/390
1MB	501–1239	x							
256KB	501–1349		x						
1MB	501–1346		x						
256KB	501–1314			x					
1MB	501–1466			x					
1MB	501–1424				x	x			
1MB	501–1375					x			
1MB	501–1510					x			
1MB	501–1408						x	x	
1MB	501–1544								x

Sun–2 Multibus

2/100U/120/150U/170

501–1013

1MB



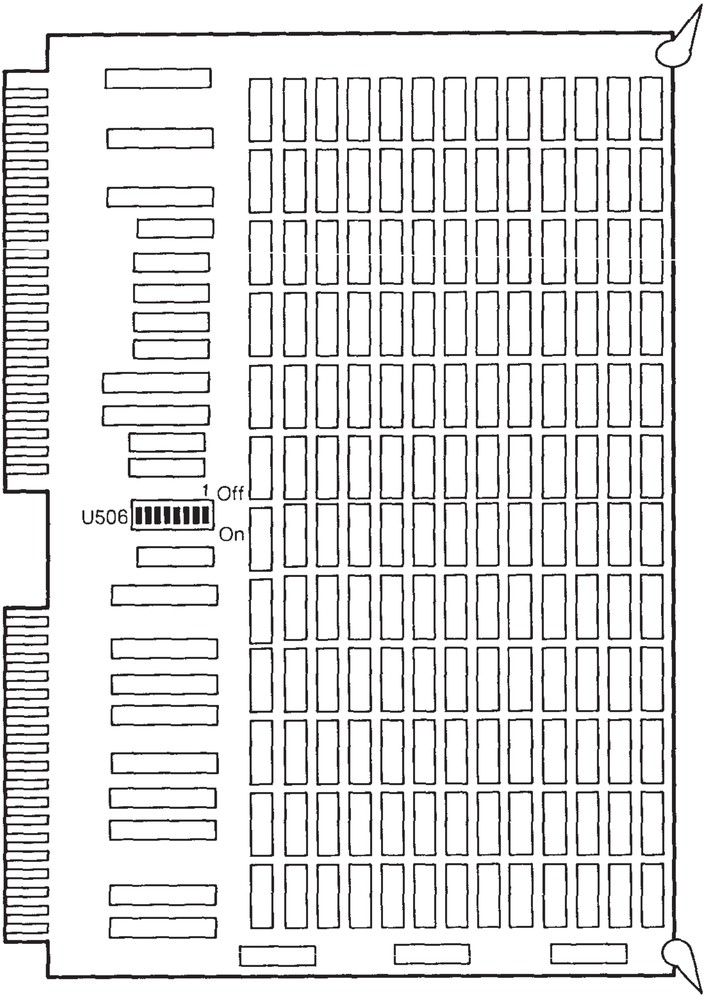
MEMORY SIZE	DIP SWITCH U506							
	1	2	3	4	5	6	7	8
1st MB	On	Off	Off	Off	Off	Off	Off	Off
2nd MB	Off	On	Off	Off	Off	Off	Off	Off
3rd MB	Off	Off	On	Off	Off	Off	Off	Off
4th MB	Off	Off	Off	On	On	Off	Off	Off
5th MB	Off	Off	Off	Off	On	Off	Off	Off
6th MB	Off	Off	Off	Off	Off	On	Off	Off

Sun–2 Multibus Prime

2/120/170

501–1048

1MB


1
Off
U506
On

501–1048
Switch Settings

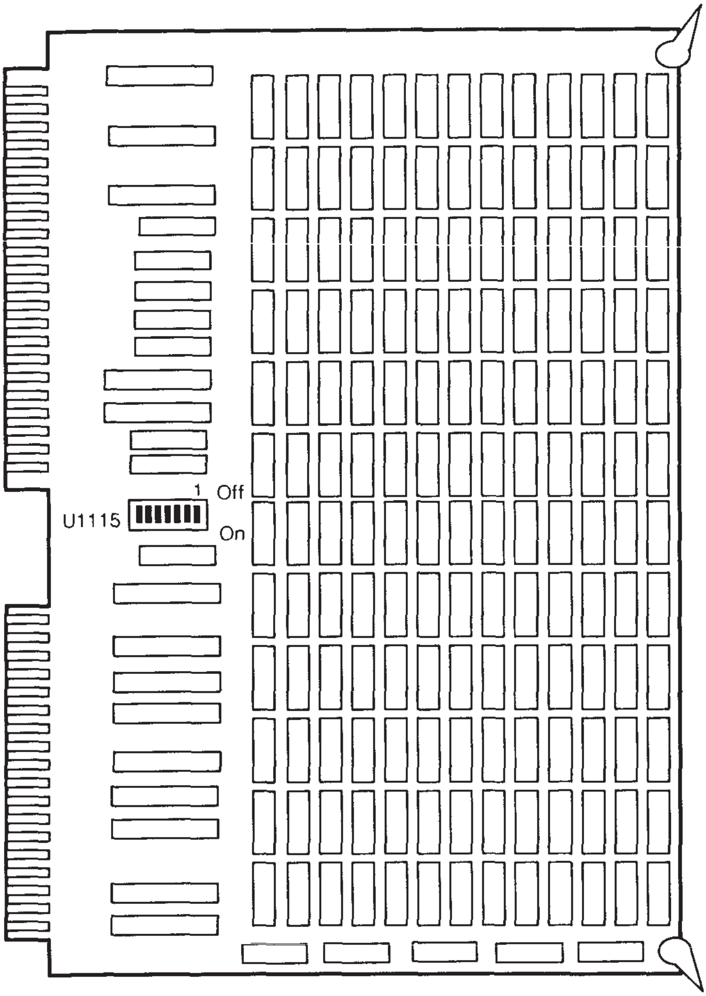
MEMORY SIZE	DIP SWITCH U506							
	1	2	3	4	5	6	7	8
1st MB	On	Off	Off	Off	Off	Off	Off	Off
2nd MB	Off	On	Off	Off	Off	Off	Off	Off
3rd MB	Off	Off	On	Off	Off	Off	Off	Off
4th MB	Off	Off	Off	On	On	Off	Off	Off
5th MB	Off	Off	Off	Off	On	Off	Off	Off
6th MB	Off	Off	Off	Off	Off	On	Off	Off

Sun–2 Multibus Prime

2/100U/120/150U/170

501–1232

4MB


1
Off
U1115
On

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–2/50

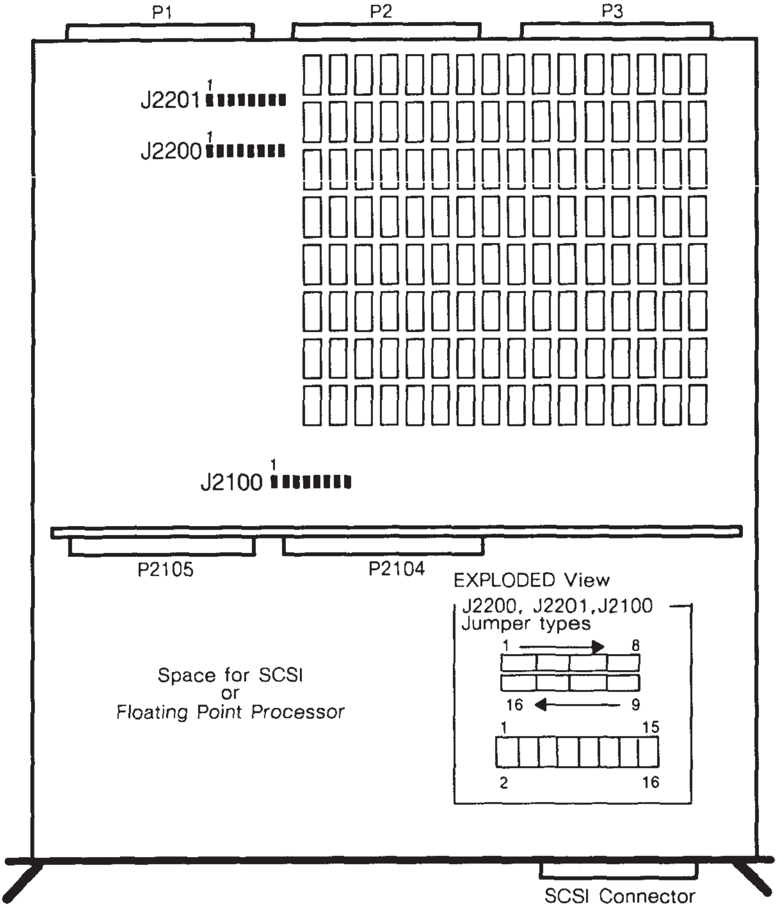
501–1020,1046,1047,1067,1079

1MB 2MB 4MB 3MB 0MB

Sun–2/130/160

501–1070,1071,1096,1097

1MB 3MB 2MB 4MB


P1
P2
P3
J2201
1
J2200
1
J2100
1
P2105
P2104
EXPLODED View
J2200, J2201,J2100
Jumper types
1
8
16
9
1
15
2
16
Space for SCSI
or
Floating Point Processor
SCSI Connector

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.

501 –1020,1046,1047,1067,1079
501–1070,1071,1096,1097
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	1MB	J2200	In	3–4
CPU Board	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	1MB	J2200	In	5–6
CPU Board	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	1MB	J2200	In	9–10
CPU Board	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 PCB combinations may function.

Sun–3/75

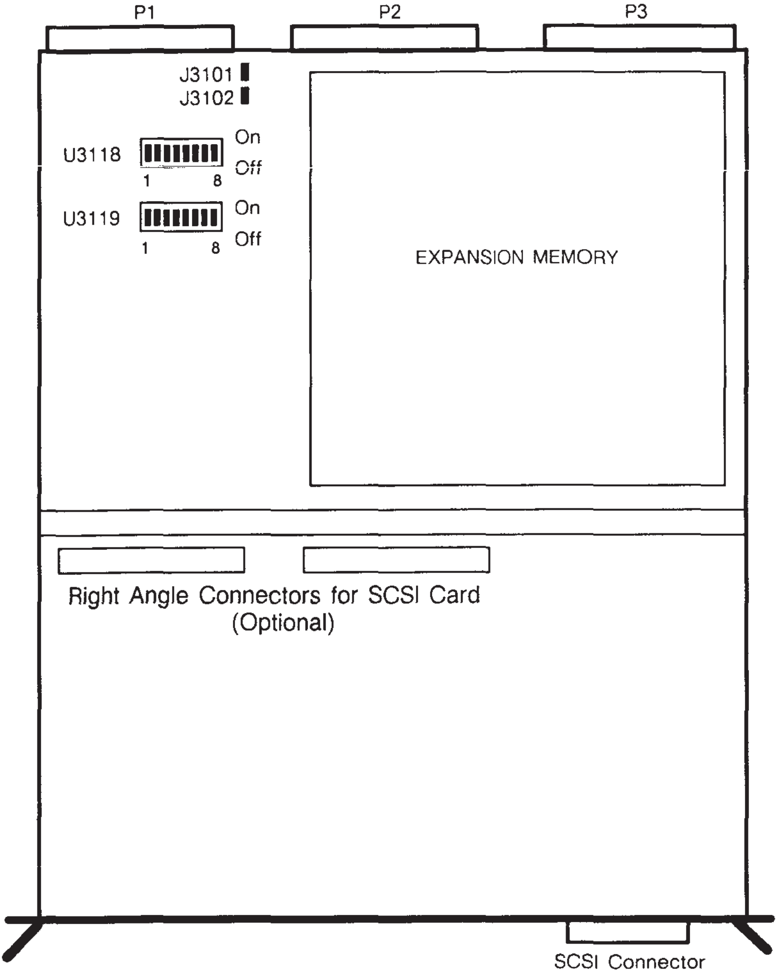
501–1111,1121,1122

2MB 0MB 4MB

Sun–3/110/140/150/160/180

501–1131,1132

2MB 4MB


P1
P2
P3
J3101
J3102
U3118
On
Off
1
8
U3119
On
Off
1
8
EXPANSION MEMORY
Right Angle Connectors for SCSI Card
(Optional)
SCSI Connector

Note: The SCSI connector is only used for 3/75 memory boards.

501–1111,1121,1122,1131,1132
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 4 MB 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

Notes

1. Balance of pins not specified are Out.
2. Reference the Sun 501–1131 and 501–1132 Memory Board Configuration Procedures, 813–2016–XX.

Sun–3/260/280 & Sun–4/260/280

501–1102

8MB

Sun–4/260/280

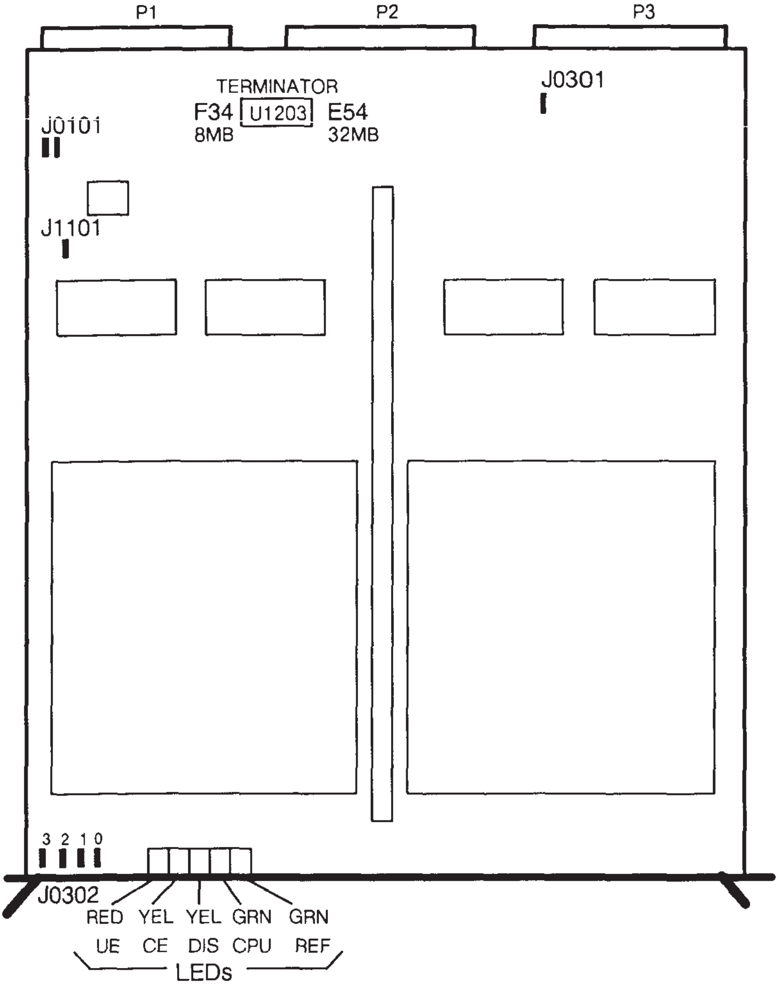
501–1254

32MB

Sun–3/460/470/480 & Sun–4/260/280

501–1451

32MB


P1
P2
P3
TERMINATOR
F34
U1203
E54
8MB
32MB
J0301
J0101
J1101
3 2 1 0
J0302
RED UE
YEL CE
YEL DIS
GRN CPU
GRN REF
LEDs

501–1102, 501–1254, 501–1451
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	16MB loaded (32MB only)
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.** For P2 bus termination, install a single system Memory board in slot 6 with a 220/270 Terminating Resistor Network, Sun part number 120–1613–01, installed at location F–34, U1203 (8MB), or E54, U1203 (16MB and 32MB).

   To install expansion memory boards in slots 2, 3, 4, and 5 remove the Terminating Resistor Network from location F–34 or F–54.
2. **501–1439 or 501–1498 Backplanes.** Install a 220/270 Terminating Resistor Network, Sun part number 120–1613–01, at location F–34 or F–54, on the memory board installed in slot 1.

   If placement results in memory boards on both sides of the CPU, remove the Terminating Resistor Network at location 0–23 (U1411) on the Sun–4300 CPU, 501–1299 and 501–1550. Install a Terminating Resistor Network on memory boards in slot 1 and slot 7.
3. When used with the 501–1299 or 501–1550 Sun 4300 CPU, the FPA, and the FPA+, the 8MB Memory board must be ≥ 501–1102–11.
4. The 501–1451 32MB board must be ≥ 501–1451–03 when used with the 501–1576 16MB memory board.

Memory Board LEDs

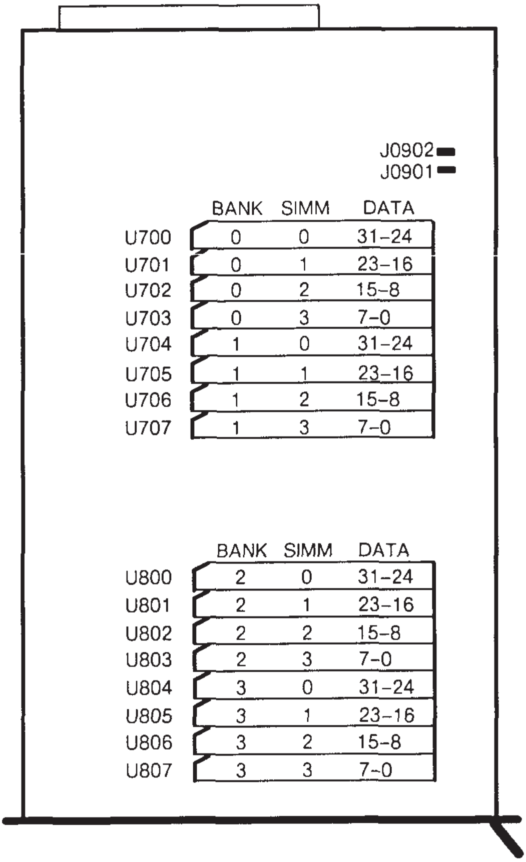
			STATUS	
	LED	COLOR	INTERPRET ON	INTERPRET OFF
Top	UE	Red	Uncorrectable error	No UE reported
	CE	Yel	Correctable error	No CE reported
	DIS	Yel	CPU access disabled	CPU access enabled
	CPU	Grn	CPU accessing memory	No CPU accesses
Bottom	REF	Grn	Refresh enabled	Refresh failure

Note: Reference Sun 501–1102 Memory Board Configuration Procedures, 813–2018–XX, and the Installation Notes for the 32MB Memory Board, 800–2123–XX.

Sun–4/330

501–1435, 501–1317

8MB 16MB



	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 Out	8MB, board half full 16MB, board full
J902	1–2	In	1MB SIMM

Notes

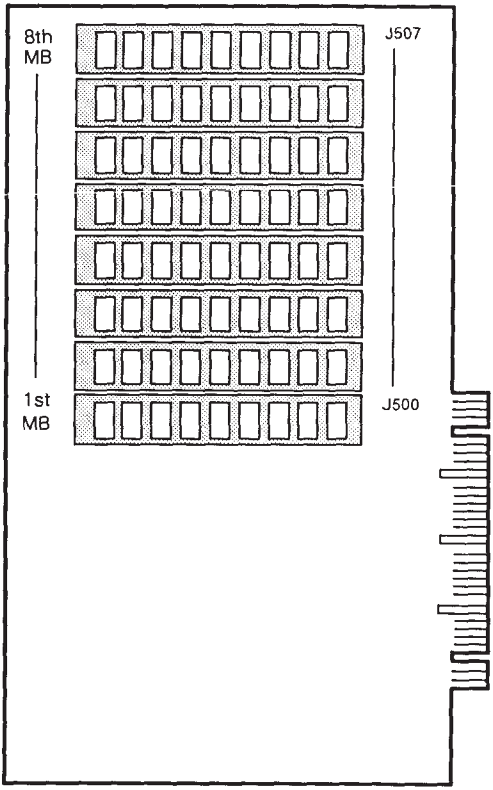
1. This board uses 1MB SIMM module, 501–1544.
2. Reference the Sun 4300 CPU and Memory Board Configuration Procedure, 813–2064–XX.

Sun386i Dynamic Memory

386i/150

501–1394, 501–1441, 555–1423

4MB 8MB 0MB



Notes

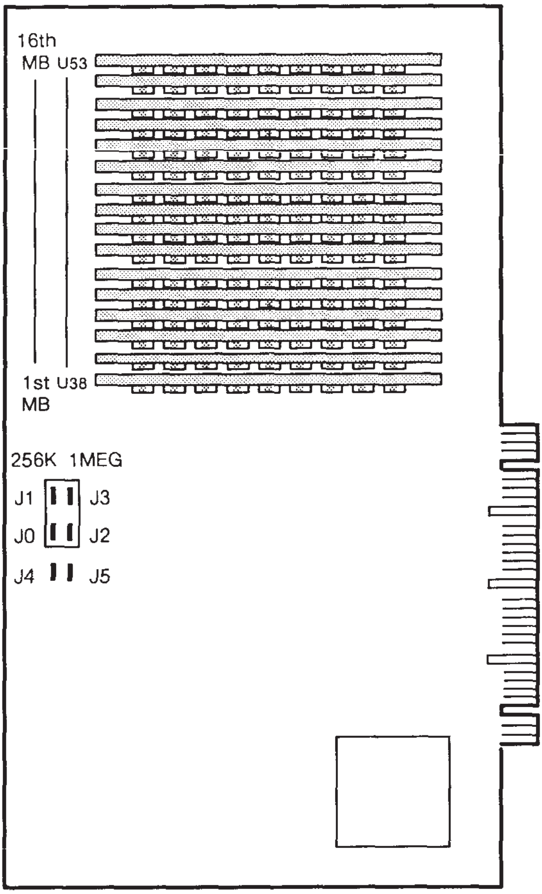
1. The Dynamic Memory board can be used with any revision of CPU 501–1414.
2. CPU revision 501–1241–02, Rev. 03, or greater is required for use with the Dynamic Memory board.
3. CPU revision 501–1241–04, Rev. 01, or greater is required for use with multiple Dynamic Memory boards.
4. The Dynamic Memory Board uses the 1MB SIMM module 501–1424.
5. There are NO jumpers on this board.

Sun386i XP Cache

386i/150/250

501–1298, 501–1325, 501–1482, 555–1054

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


16th
MB
U53
1st
MB
U38
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.

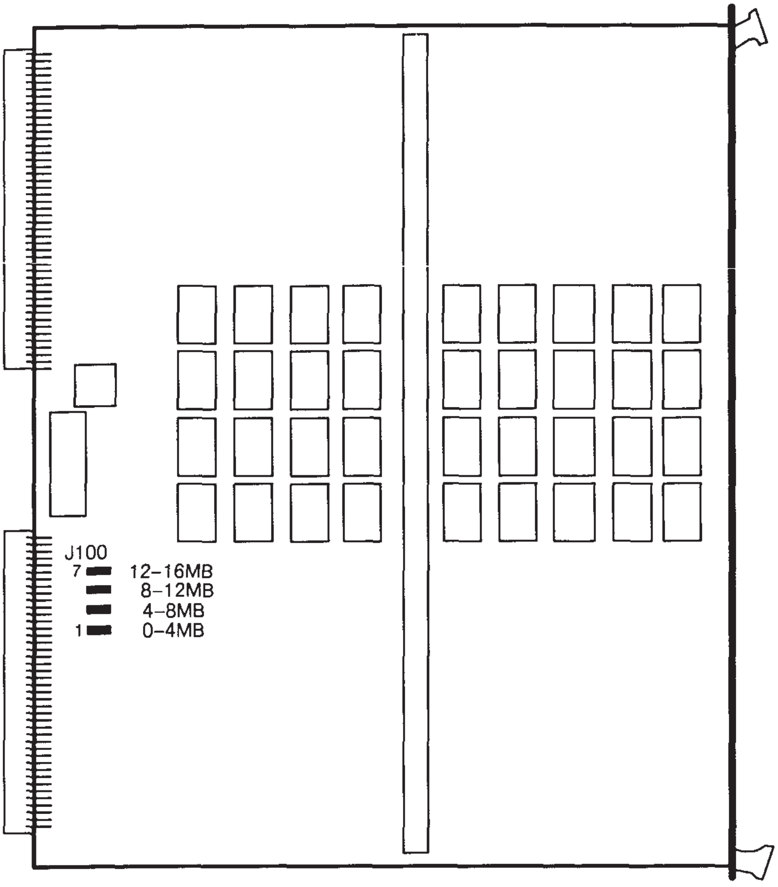
Notes

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.
3. Reference the 386i Field Service Manual, 814–0002–XX.

Sun–3/E

501–8031

4MB


J100
7
12-16MB
8-12MB
4-8MB
1
0-4MB

501–8031
Jumper Settings

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

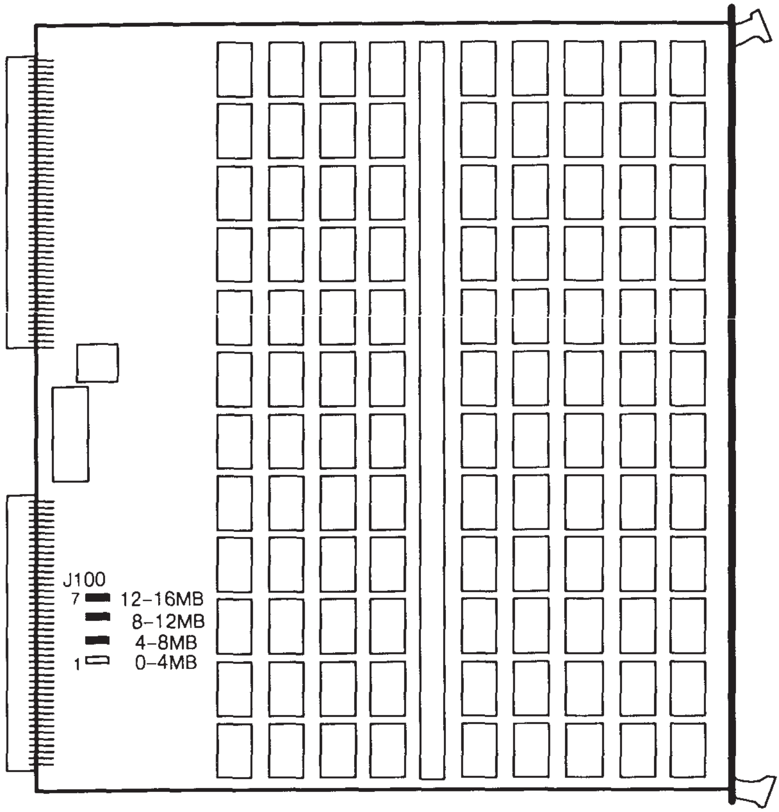
*Only one location is jumpered, depending on the expansion board address range.

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

Sun–3/E

501–8030

12MB



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

* Normally installed to configure full 12MB of memory.

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

501–8030
Jumper Settings

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.

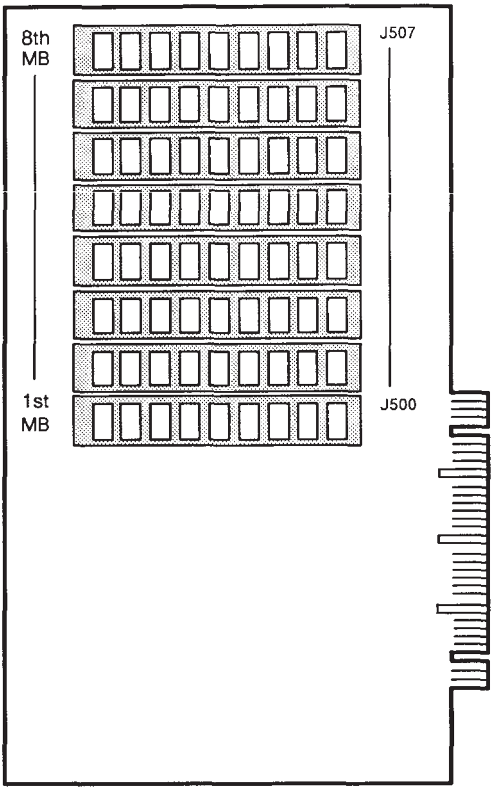
Note: The Sun 3/E CPU board has onboard memory that occupies the first 4MB of the addressing range. The 12MB memory board can be jumpered in 4MB increments in the 5 to 16MB range.

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 CPU 501–1414.
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.
5. There are NO jumpers on this board.

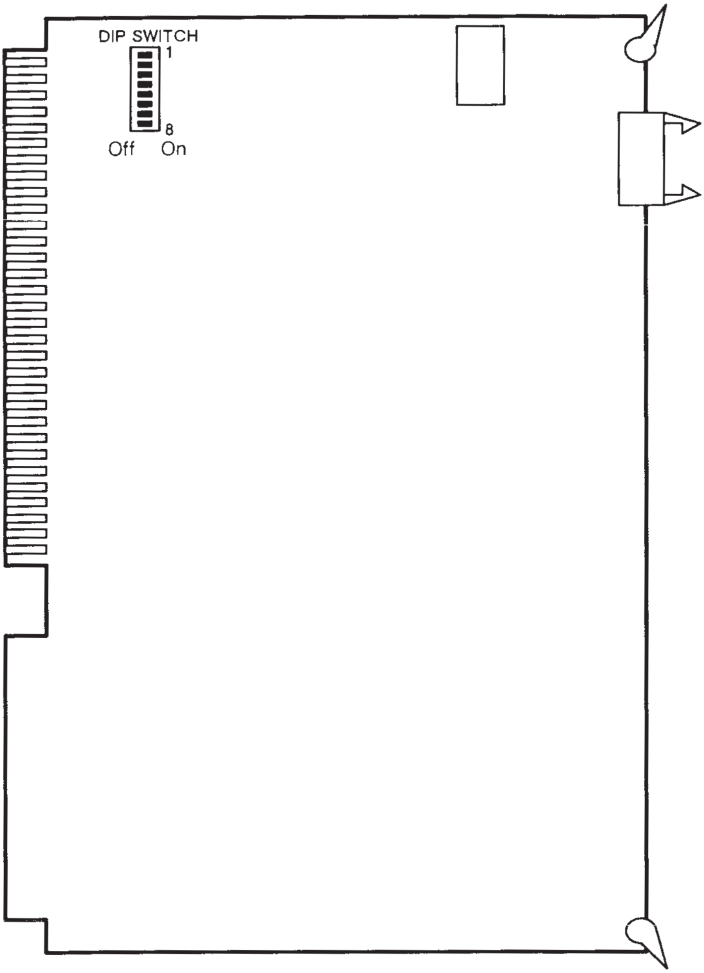
Video/Graphics

Sun–1 Monochrome Video 2
Sun–2 Color Video 4
Sun–2 Monochrome Video 6
Sun–2 Prime Monochrome Video 8
Sun–2 Color VME 10
Graphics Processor (GP) and
Graphics Processor Plus (GP+) 12
Graphics Buffer (GB) 14
Sun–3 Color Video (Single Buffer) and
Sun–3 Color (Double Buffer) 16
Color Frame Buffer (CG5) 18
GP2 Graphics Processor 22
24–Bit Color Frame Buffer (CG9) 24
TAAC–1 Application Accelerator 26
Sun–3/60 Color Frame Buffer (CG4). 30
P4 Monochrome Frame Buffer 31
P4 Color Frame Buffer (CG4) 32
P4 Color Frame Buffer (CG6) 33
P4 24–Bit Color Frame Buffer (CG8) 34
S4 Color Frame Buffer (CG10) 35
Sun386i Color Frame Buffer (High–Resolution) . 36
Sun386i Color Frame Buffer (Low–Resolution). . 37
Sun386i Monochrome Video (Low–Resolution) . 38
Sun386i Monochrome Video (High–Resolution) . 39
SunVGA/EGA 40
Sun–3/E Monochrome Frame Buffer. 41
Sun–3/E Color Frame Buffer. 42

Sun–1 Monochrome Video

1/100 & 2/100U/150U

501–0059


DIP SWITCH
1
8
Off
On

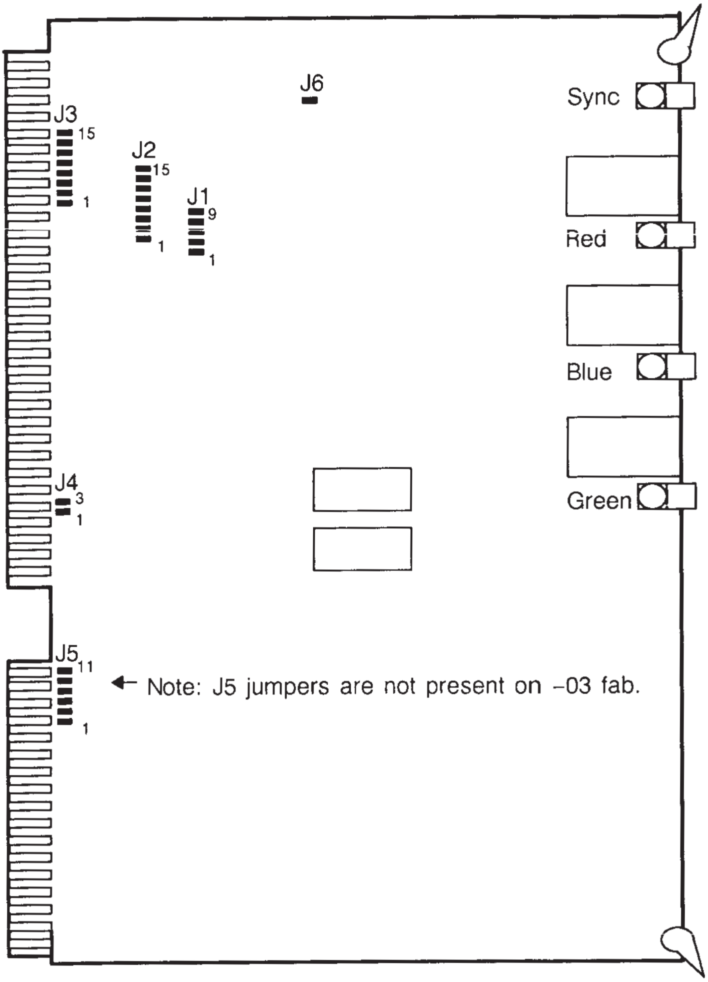
501–0059
Switch Settings

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

Sun–2 Color Video

2/100U/120/150U/170

501–0461


J6
Sync
J3
15
1
J2
15
1
J1
9
1
Red
Blue
J4
3
1
Green
J5
11
1
← Note: J5 jumpers are not present on –03 fab.

501–1116, 501–1089
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

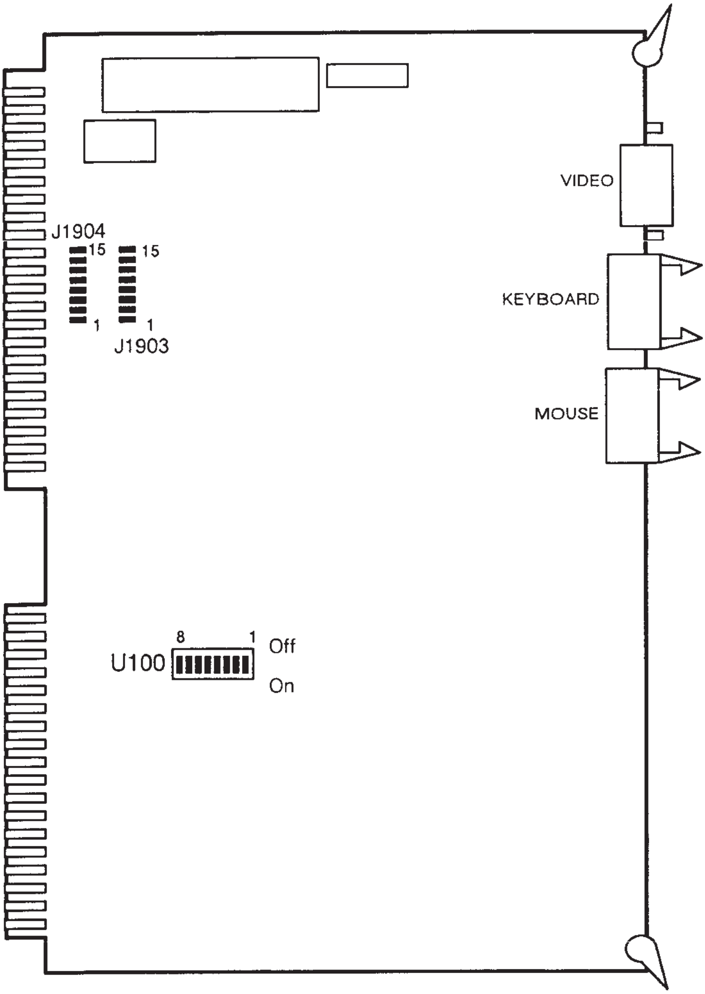
* J2 default is set to 0x1EC00.

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

Sun–2 Monochrome Video

2/120/170

501–1003


VIDEO
KEYBOARD
MOUSE
J1904
15
1
15
1
J1903
U100
8
1
Off
On

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	

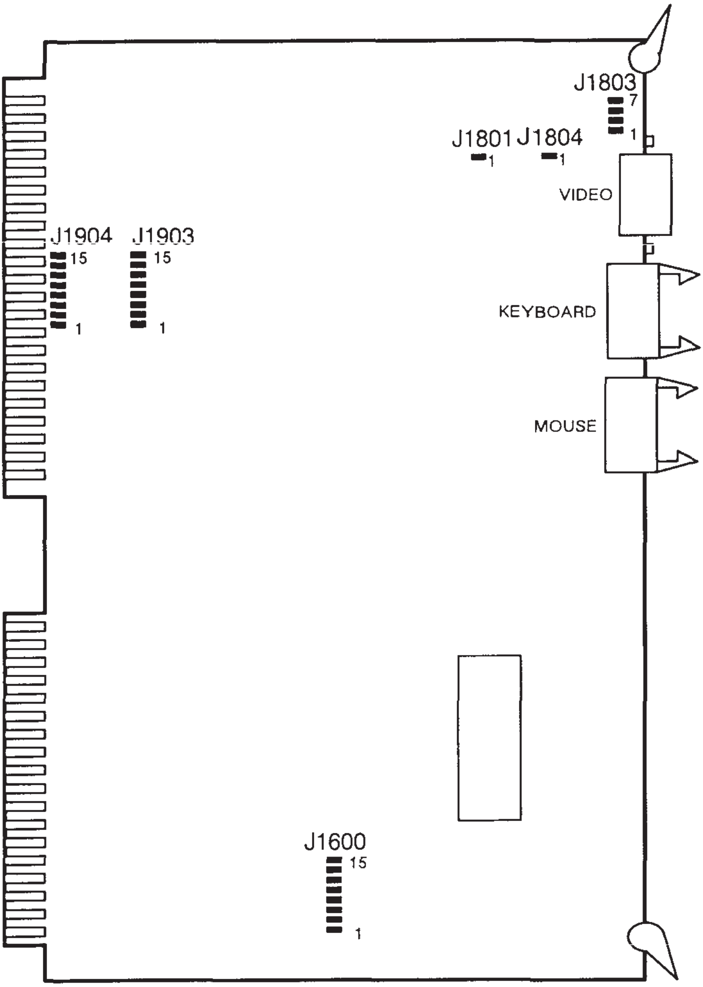
*Must be installed to run video tests under 1.0 Diagnostics, 2.0 Diagnostics, and 1.0 and 1.1 Diagnostic Executive.

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

Sun–2 Prime Monochrome Video

2/120/170

501–1052


J1803
7
1
J1801
1
J1804
1
VIDEO
J1904
15
1
J1903
15
1
KEYBOARD
MOUSE
J1600
15
1

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	Out	ECL video select
	3–4	In	TTL video select
	5–6	Out	ECL video select
	7–8	In	TTL video select
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	

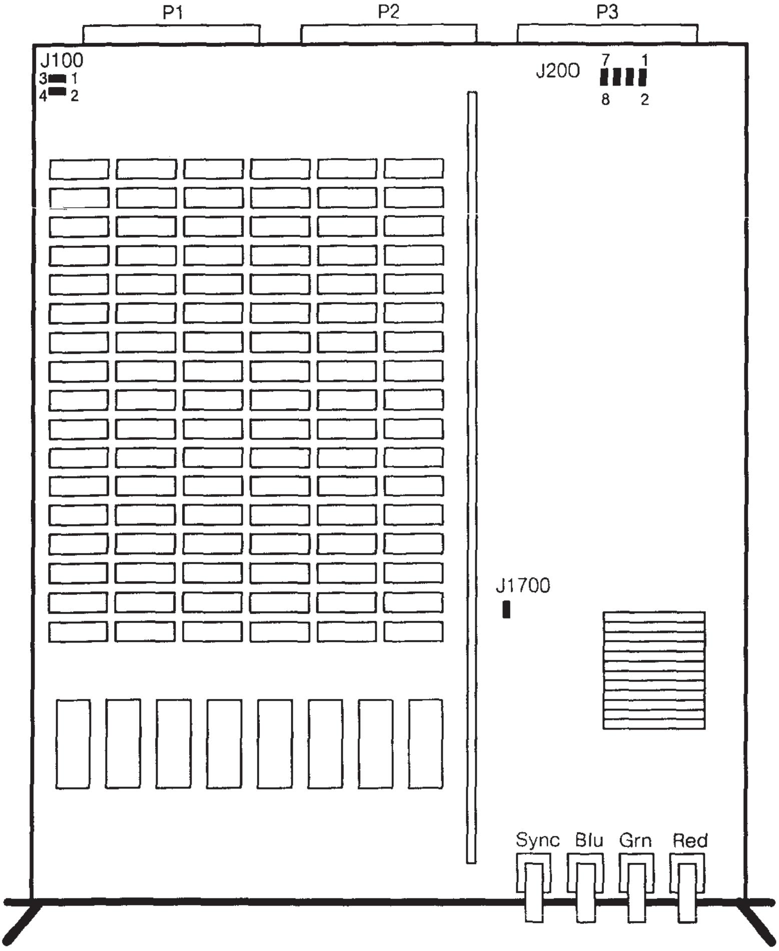
*Must be installed to run video tests under 1.0 diagnostics, 2.0 diagnostics, and 1.0 and 1.1 diagnostic executive.

Note: Systems using CPU boards with PROM Revision N or below may require the addition of shunts at J1600 to operate properly with Sun OS 3.0 and greater.

Sun–2 Color VME

2/160 & 3/160/180/260/280/460/470/480

501–1014


P1
P2
P3
J100
3
1
4
2
J200
7
1
8
2
J1700
Sync
Blu
Grn
Red

501–1014
Jumper Settings

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

Graphics Processor (GP)

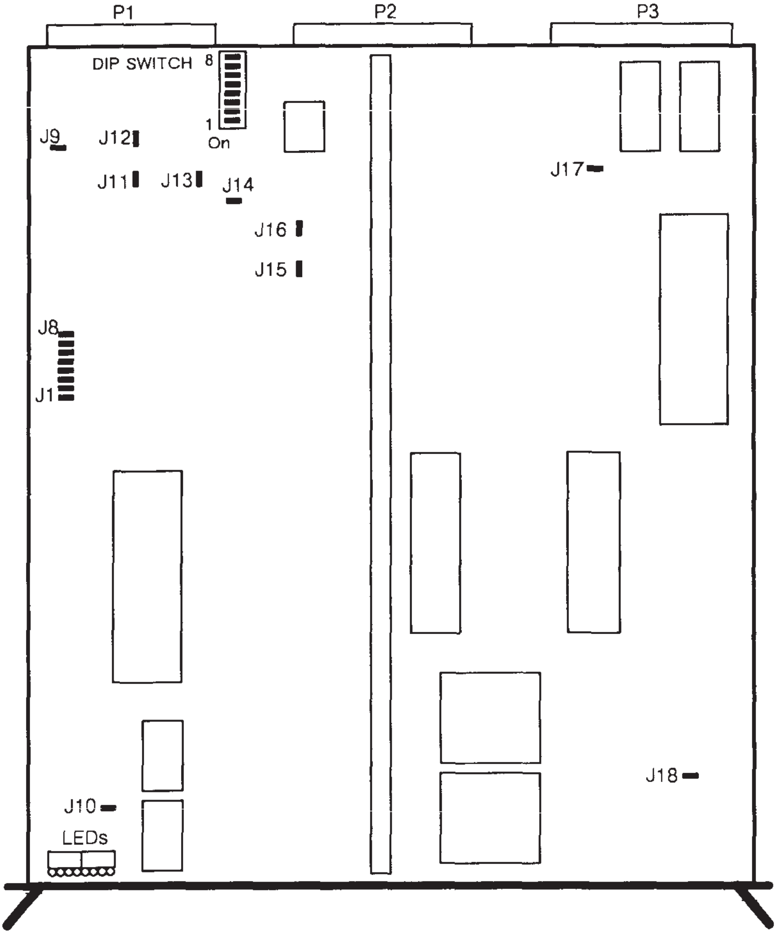
2/160 & 3/150/160/180/260/280/460/470/480
4/260/280

501–1055

Graphics Processor Plus (GP+)

2/160 & 3/150/160/180/260/280/460/470/480
4/260/280

501–1139


P1
P2
P3
DIP SWITCH
8
1
On
J9
J12
J11
J13
J14
J16
J15
J17
J8
J1
J10
LEDs
J18

501–1055, 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

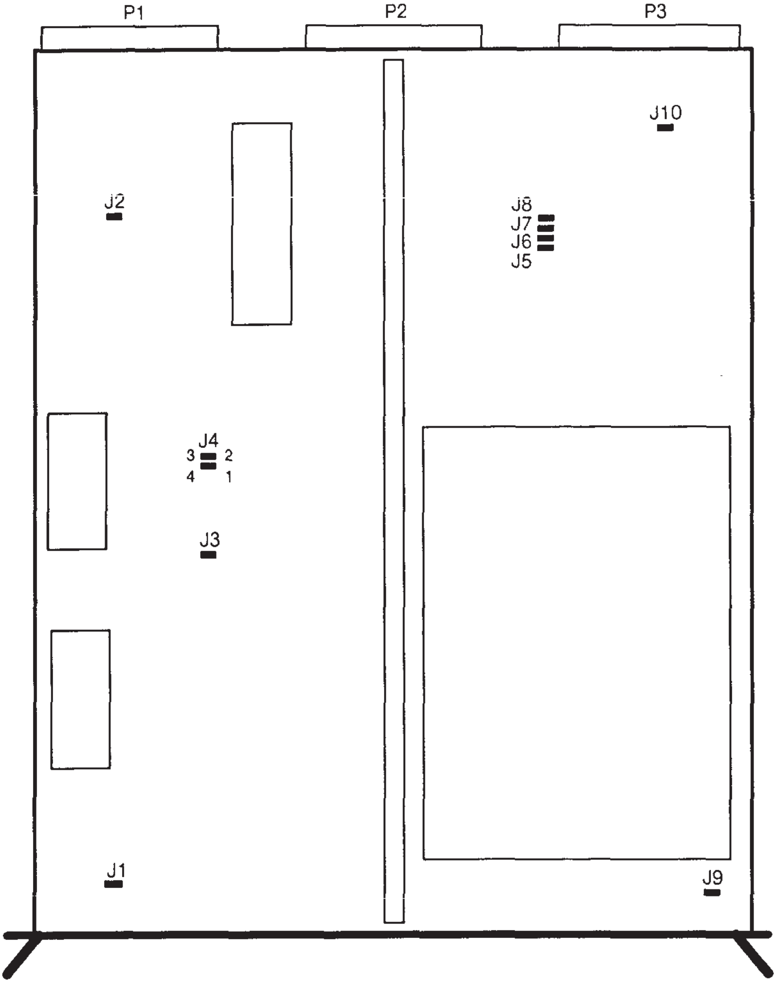
Notes

1. J7 must be In when a Graphics Buffer is installed.
2. When installed in a Sun–2/160, RC Network 540–1300–01 must be installed on the power supply.
3. Default address is 0x210000.
4. Reference the Graphics Processor Plus Configuration Procedure, 813–2023–XX.

Graphics Buffer (GB)

2/160 & 3/150/160/180/260/280/460/470/480
4/260/280

501–1058


P1
P2
P3
J10
J2
J8
J7
J6
J5
J4
3
2
4
1
J3
J1
J9

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: Installation in Sun–2/160 requires that RC network 540–1300–01 is installed on the power supply.

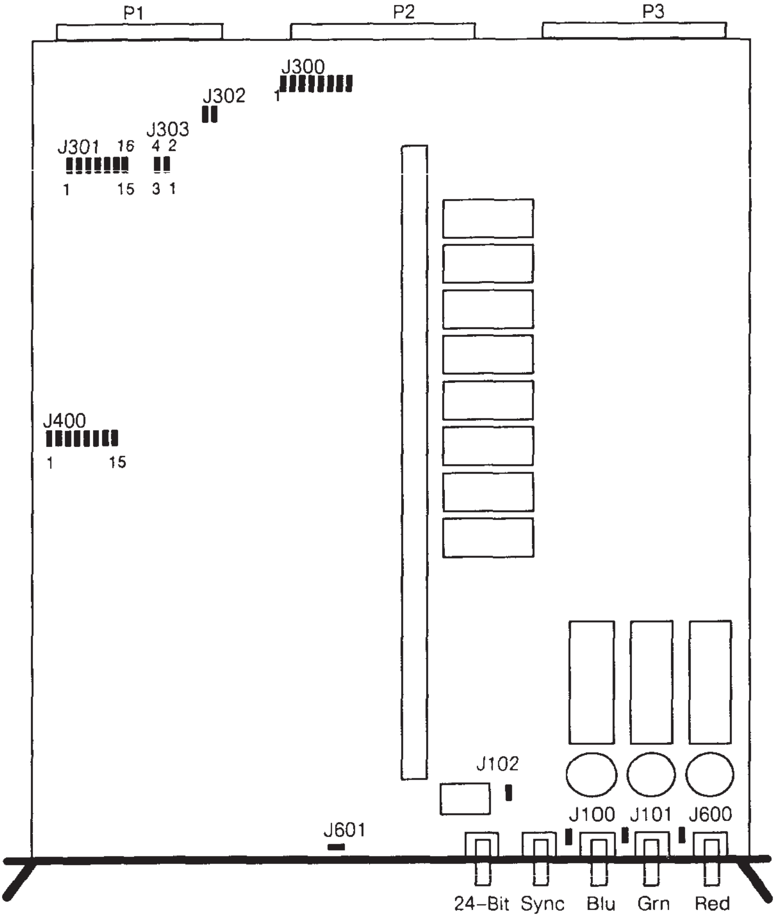
Sun–3 Color Video (Single Buffer)

3/140/150/160/180/260/280/460/470/480
4/110/150/260/280

501–1116

Sun–3 Color (Double Buffer)*

501–1089


P1
P2
P3
J300
1
J302
J303
J301
16
4 2
1
15
3 1
J400
1
15
J102
J100
J101
J600
J601
24-Bit
Sync
Blu
Grn
Red

*Requires SunOS 3.5 (Sun–3) or 4.0 (Sun–4) or greater for double buffering.

501–1116, 501–1089
Jumper Settings

JUMPER	PINS	SETTING	DESCRIPTION
J100	All	Factory Set	
J101	All	Factory Set	
J102	1–2	In	
J300	1–2 3–4 5–6 7–8 9–10 11–12 13–14 15–16	Out Out Out Out Out Out Out Out	
J301	1–2 3–4 5–6 7–8 9–10 11–12 13–14 15–16	Out Hardwired Out Out Hardwired Out Hardwired Hardwired	Default Address = 0x400000
J302	1–2 3–4	Out Hardwired	
J303	1–2 3–4	Hardwired Out	
J400	1–2/J8 3–4/J9 5–6/J10 7–8/J11	Out Out Out Out	1152x900 Resolution
	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.

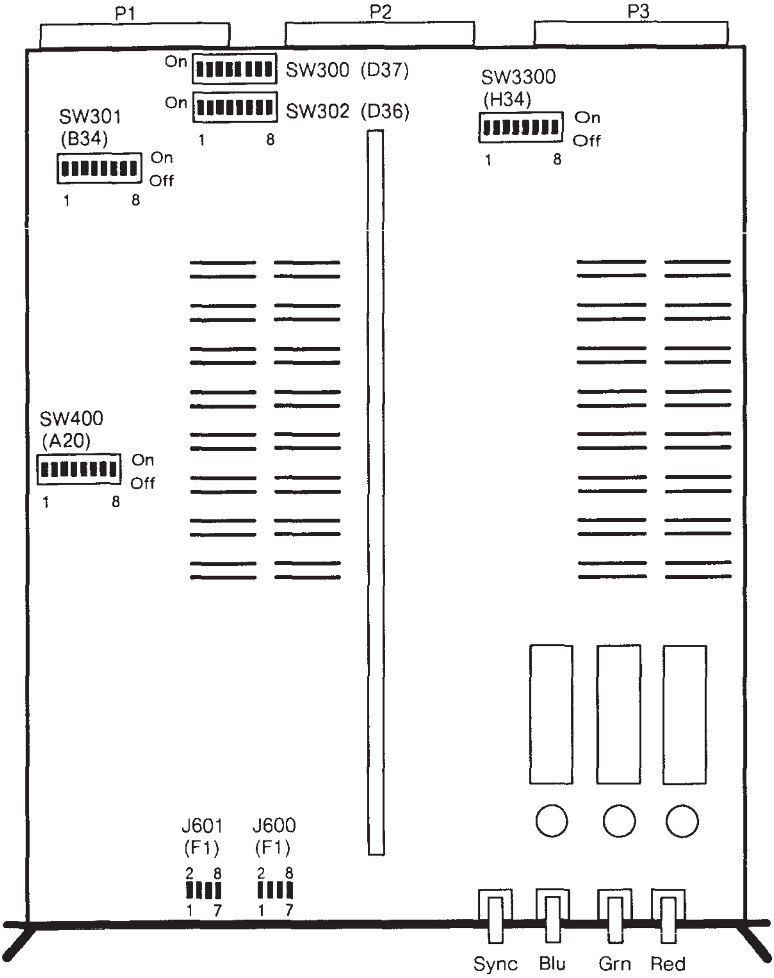
Note: Reference the Configuration Guide for the Double Buffered Color Board, 813–8108–XX.

Color Frame Buffer (CG5)

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

Sun–4/110/150/260/280/330

501–1267


P1
P2
P3
On
SW300 (D37)
On
SW302 (D36)
1
8
SW3300
(H34)
On
Off
1
8
SW301
(B34)
On
Off
1
8
SW400
(A20)
On
Off
1
8
J601
(F1)
2 8
1 7
J600
(F1)
2 8
1 7
Sync
Blu
Grn
Red

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

Note: Reference the Installation Notes for the GP2 and CG5 Boards, 800–2330–XX, or Configuration Procedures for the GP2 and CG5 Boards, 813–2059–XX.

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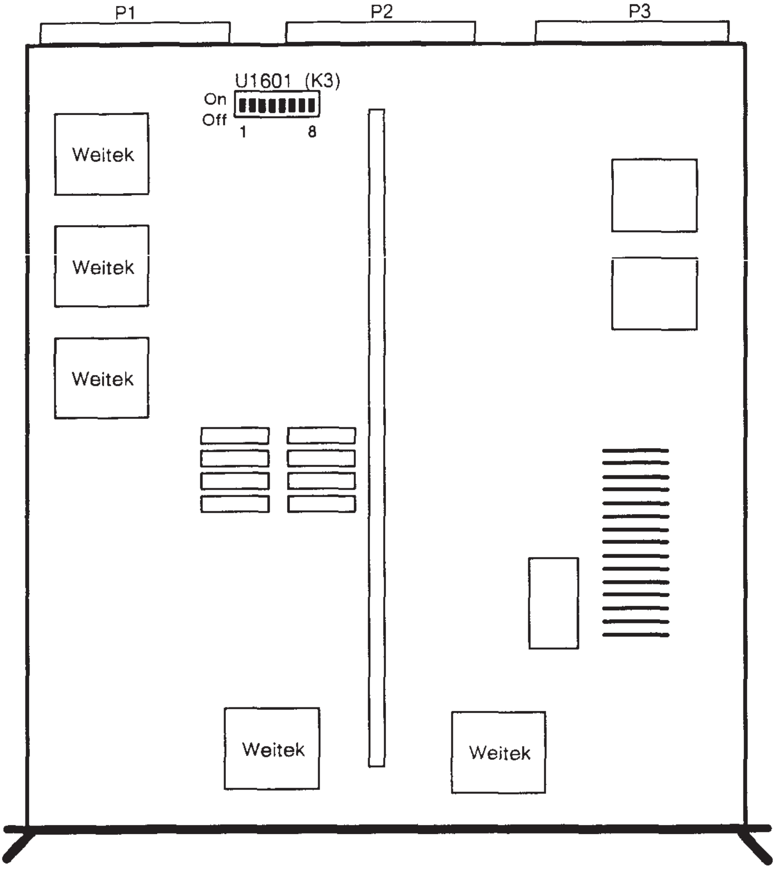
GP2 Graphics Processor

Sun–3/150/160/180260/280/460/470/480

Sun–4/150/260/280/330

501–1268


P1
P2
P3
U1601 (K3)
On
Off
1
8
Weitek
Weitek
Weitek
Weitek
Weitek

Notes

1. The GP2 is used with the CG5 or CG9. GP2 requires unbundled software for SunOS releases 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. Reference the Installation Notes for the GP2 and CG5 Boards, 800–2330, or Configuration Procedures for the GP2 and CG5 Boards, 813–2059.
3. The GP2 must be ≥ 501–1268–07 for use with CG9.

501–1268
Switch Settings

U1601 – Enable P2 Connection

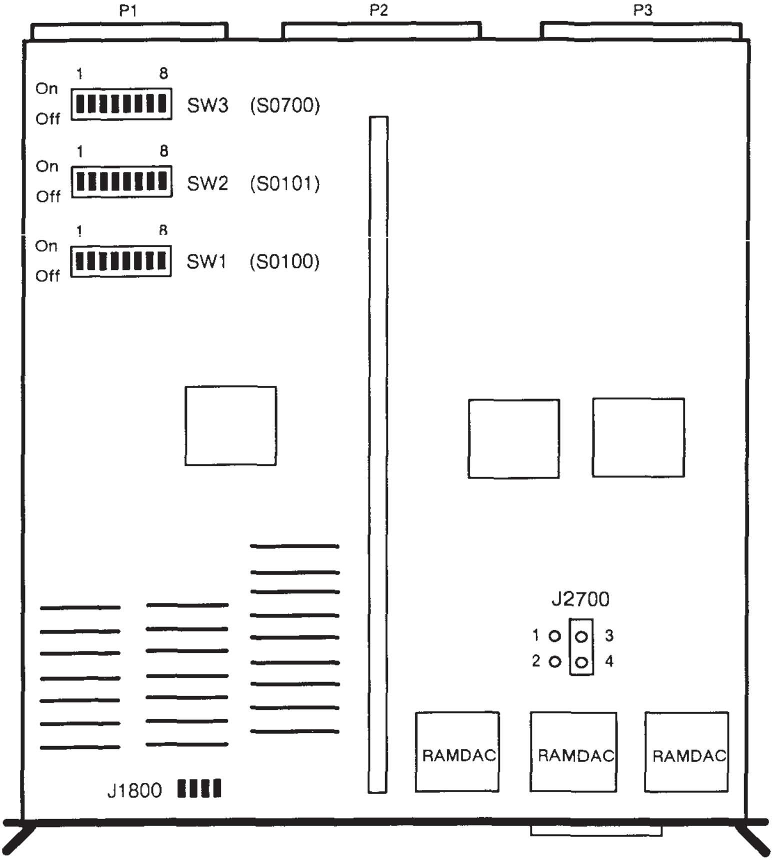
DIP SWITCH	SWITCH	SETTING	DESCRIPTION
U1601	1	Off	
	2	On	
	3	On	
	4	Off	
	5	On	
	6	On	
	7	On	Not used
	8	On	Not used

24–Bit Color Frame Buffer (CG9)

Sun–3/260/280/460/470/480

Sun–4/150/260/280/330/390

501–1434


P1
P2
P3
1
8
On
Off
SW3
(S0700)
1
8
On
Off
SW2
(S0101)
1
8
On
Off
SW1
(S0100)
J2700
1
2
3
4
RAMDAC
RAMDAC
RAMDAC
J1800

Notes

1. The SW1 default 32–bit Base Address is 0x08000000.
2. Reference the Installation and Configuration Guide for the CG9 Color Frame Buffer, 800–3627–XX.
3. The GP2 must be ≥ 501–1268–07 when used with CG9.
4. The CG9 is not supported with the GP or GP+.

501–1434
Jumper & Switch Settings

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

SW1 50100

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 50101

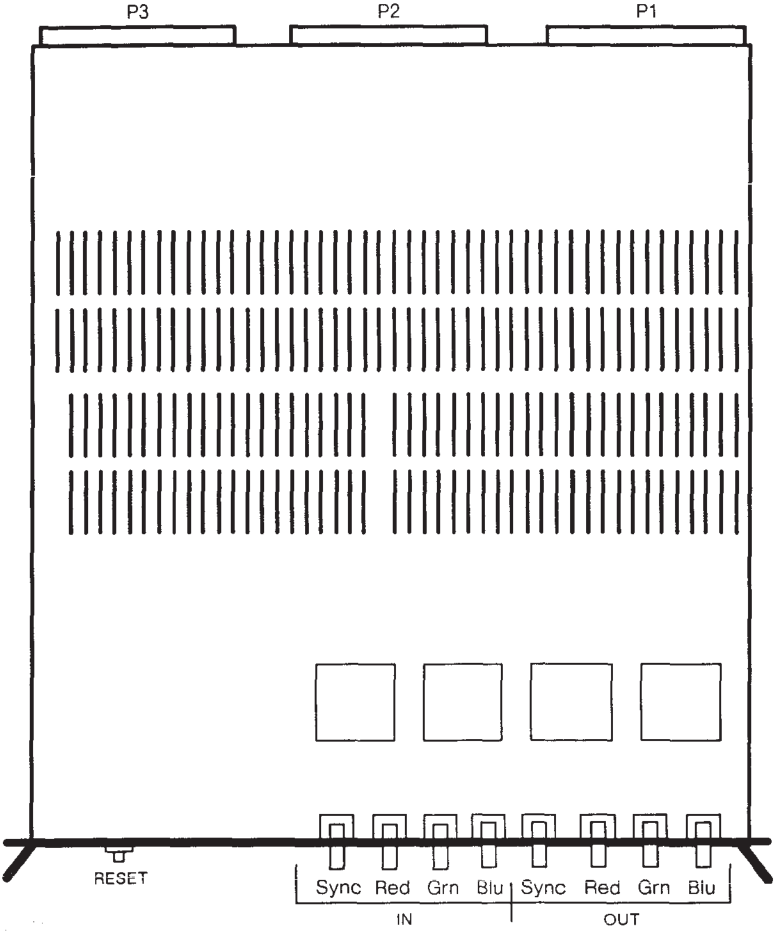
DIP	SETTING	DESCRIPTION
6	Off	N/C
7	Off	N/C
8	On	Flag
9	Off	N/C
6	Off	A32 Mode
7	Of	AM4 Switch
8	On	AM5 Switch
9	On	A23 Mode

SW3

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	On	N/C
8	On	N/C

TAAC–1™ Application Accelerator

Sun–3/150/160/180/260/280/460/470/480
Sun–4/150/260/280
501–1383, 501–1447
POP Board

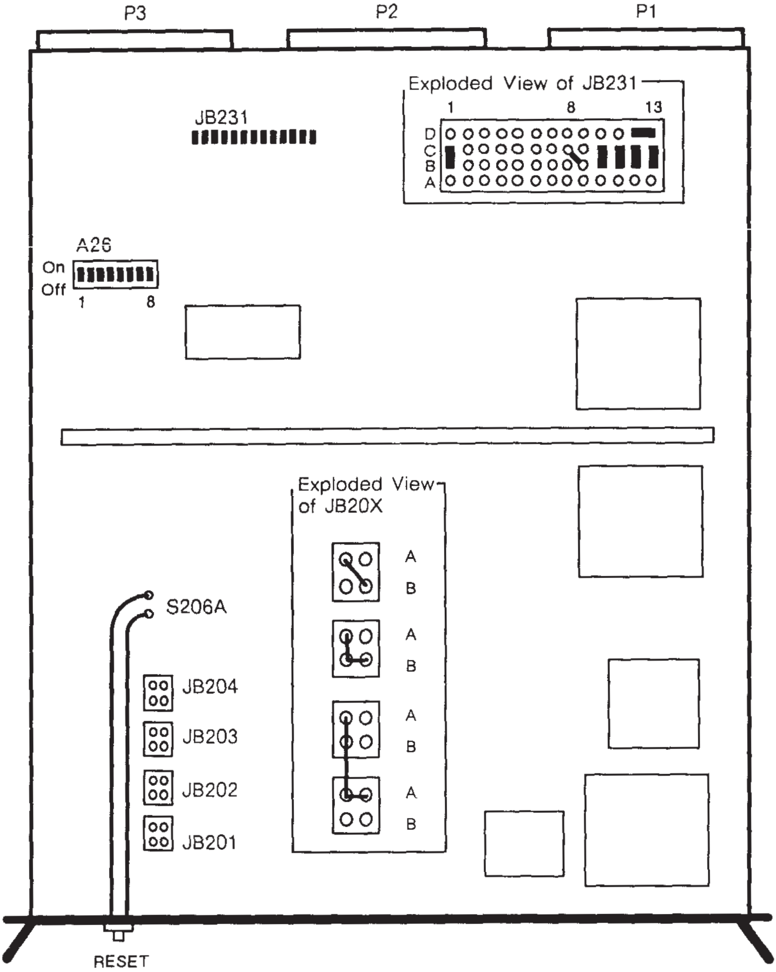

P3
P2
P1
RESET
Sync
Red
Grn
Blu
Sync
Red
Grn
Blu
IN
OUT

Notes
1. The TAAC–1 is a matched two–board assembly. Do not disassemble the board set.
2. The TAAC–1 is not compatible with Sun–2 Color PCB, 501–1014.

TAAC–1

501–1383, 501–1447

DFB Board


P3
P2
P1
Exploded View of JB231
1
8
13
D
C
B
A
JB231
A26
On
Off
1
8
Exploded View of JB20X
A
B
A
B
A
B
A
B
S206A
JB204
JB203
JB202
JB201
RESET

DFB03 Board
501–1383, 501–1447
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 early board revisions. These boards are Not marked with a Sun P/N. On later board revisions that have Switch A26, Jumpers 2–7 are empty.

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 address = 0xF8000000

Notes
1. Jumpers JB201–JB204 are hardwired for 16K x 4K RAM.
2. Reference the Configuration Procedures for the TAAC–1 Application Accelerator Board Set, 813–2057–XX.

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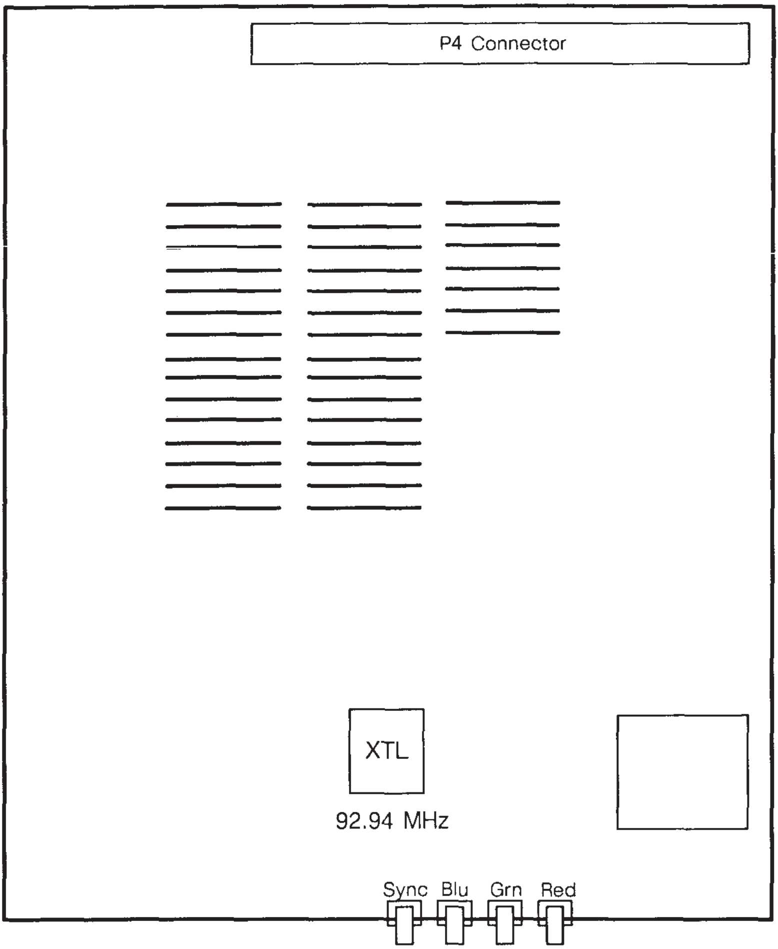
3/60 Color Frame Buffer (CG4)

3/60

501–1210

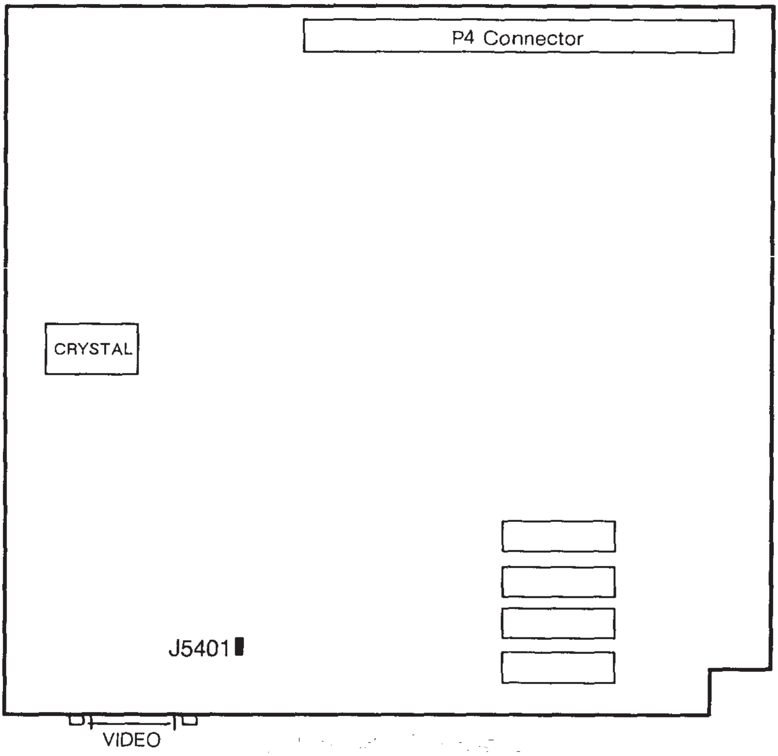

P4 Connector
XTL
92.94 MHz
Sync
Blu
Grn
Red

Notes
1. There are NO jumpers on the Color Frame Buffer.
2. Set EEPROM location 0x1F to 0x12.

P4 Monochrome Frame Buffer

Sun–3/60 & Sun–4/110/150

501–1247



Jumper Settings

JUMPER	PINS	SETTING	DESCRIPTION
J5401	1–2	In	Auto sense*
J5401	1–2	In	Force Hi Res
J5401	1–2	Out	Force Lo Res

*Factory setting

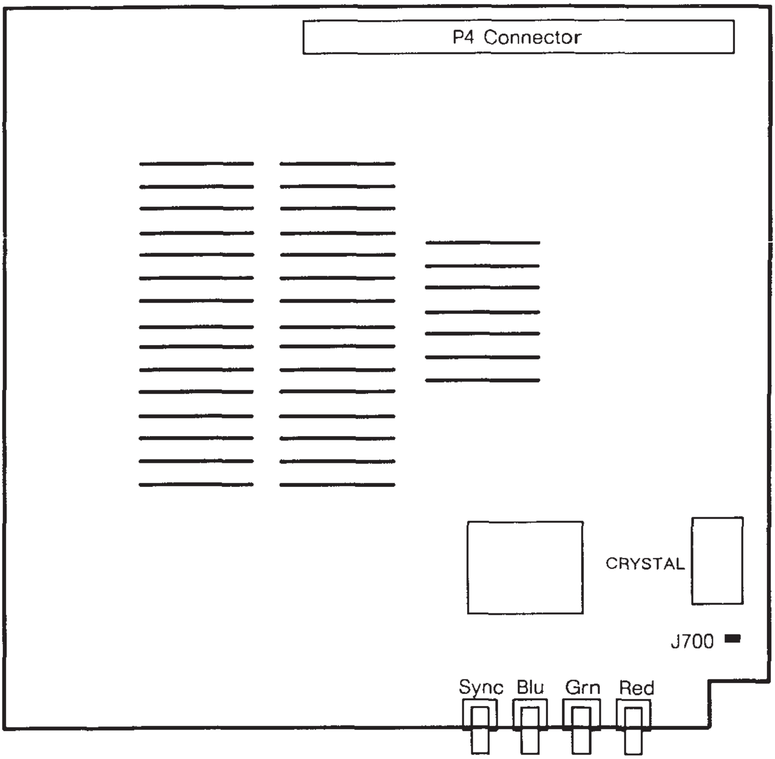
Notes

1. Must be installed with video cable 530–1359 or 530–1336 for auto-sense feature to operate.
2. Set EEPROM location 0x1F to 20.
3. Hi Resolution monitor, 540–1427, must be Motorola revision T or greater for the auto-sense feature to operate.

P4 Color Frame Buffer (CG4)

Sun–3/60/460/470/480 & Sun–4/110/150

501–1248


P4 Connector
CRYSTAL
J700
Sync
Blu
Grn
Red

J700 Setting

PINS	SETTING	DESCRIPTION
1–2	In	Enable Clock

Note: Set EEPROM location 0x1F to 0x20.

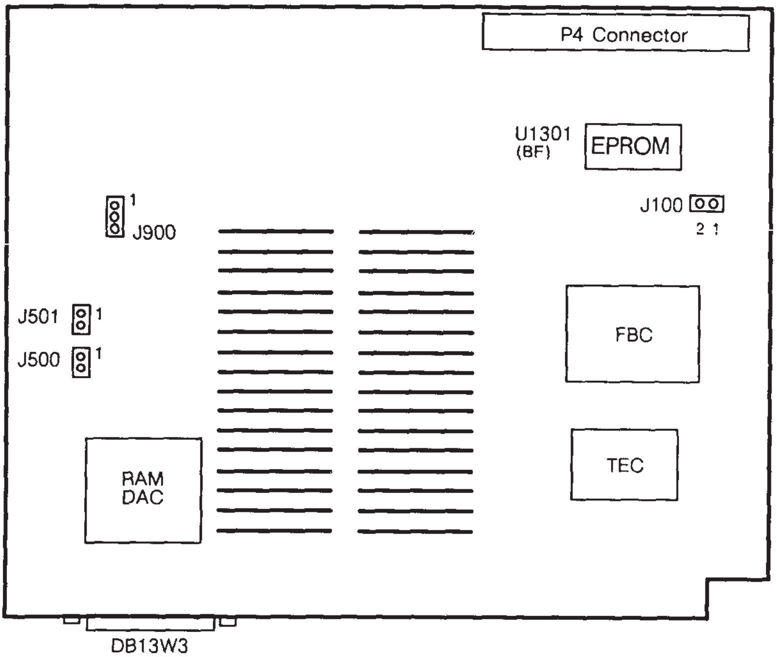
P4 Color Frame Buffer (CG6)

Sun–3/60/80/460/470/480

Sun–4/110/150/330/370/390

501–1374, 501–1505, 501–1532

3/80 w Panel


P4 Connector
U1301
(BF)
EPROM
J100
2 1
1
J900
J501
1
J500
1
FBC
TEC
RAM
DAC
DB13W3

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	1–2	In	1152 x 900 (on 270–1532 Fab)

Notes

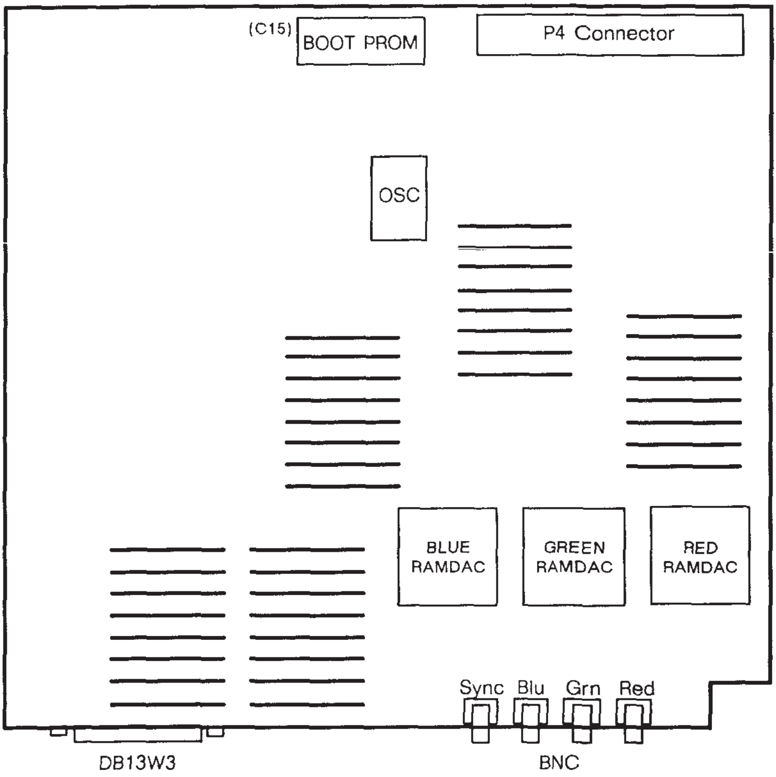
1. Sun–3/60, Sun–4100, and Sun–4300 CPU boards require Boot PROM revision 3.0 or greater.
2. Set CPU EEPROM location 0x1F to 0x20.
3. CG6 is supported in SunOS 4.0.3 or greater.
4. Use External Video Cable, 530–1440 or 530–1509
5. Adapter cable, DB13W3 to BNC, 530–1446, is required for use with older BNC–type connectors on monitors.

P4 24–Bit Color Frame Buffer (CG8)

Sun–3/80/460/470/480 & Sun–4/110/150

501–1371, 501–1518, 501–1577

BNC DB13W3 w 3/80 rear panel


(C15)
BOOT PROM
P4 Connector
OSC
BLUE RAMDAC
GREEN RAMDAC
RED RAMDAC
Sync
Blu
Grn
Red
DB13W3
BNC

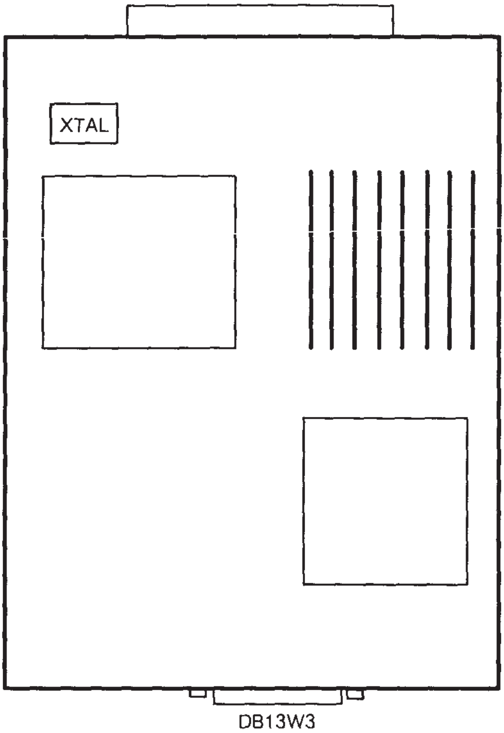
Notes

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, 501–1371–04 or greater is required for use with CPU boards 501–1299, 501–1316, and 501–1550.
6. Adapter cable, DB13W3 to BNC, 530–1446, is required for use with older BNC–type connectors on monitors.

S4 Color Frame Buffer (CG10)

Sun–4/60

501–1415



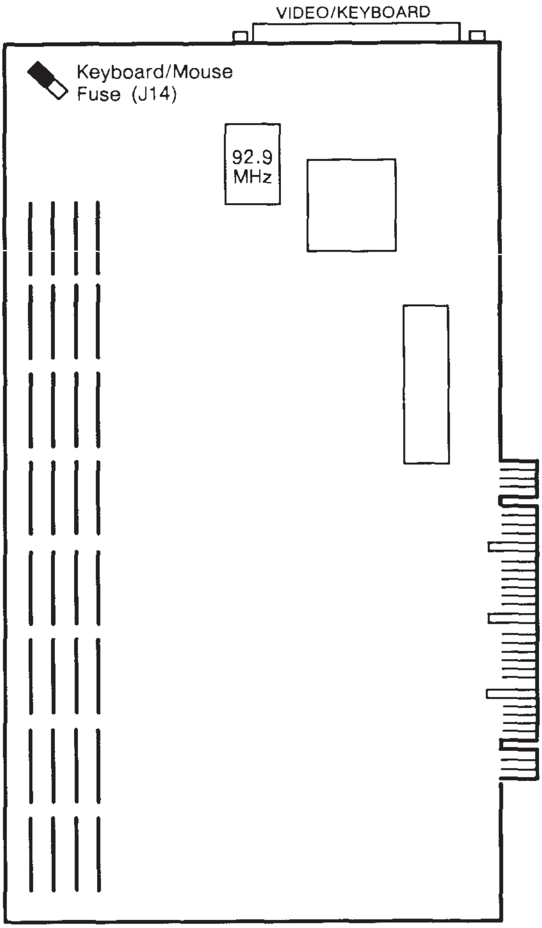
Note: There are NO jumpers on this board.

Sun386i Color Frame Buffer

High–Resolution 1152 x 900

386i/150/250

501–1243


VIDEO/KEYBOARD
Keyboard/Mouse
Fuse (J14)
92.9
MHz

Notes

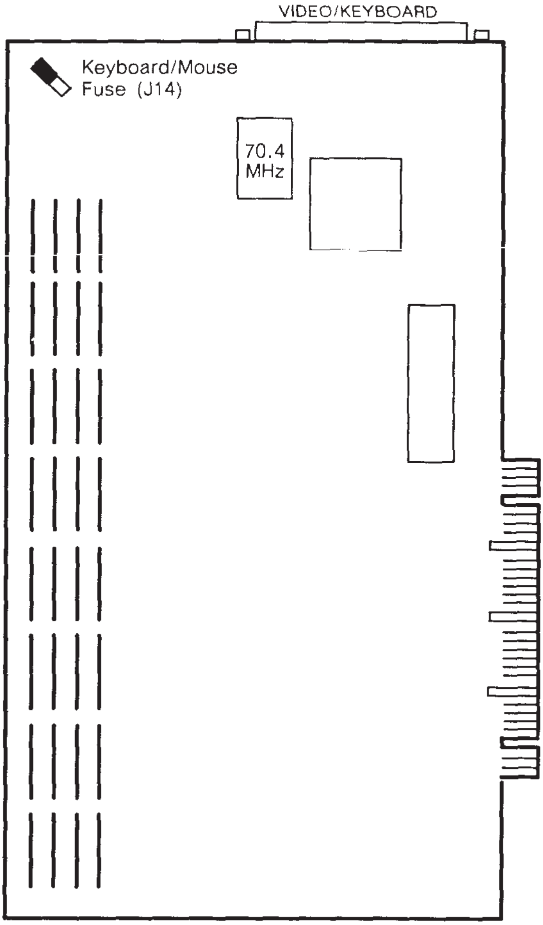
1. There are NO jumpers on the Sun386i Color Frame Buffer.
2. The Keyboard/Mouse fuse is a 1 Amp subminiature fuse, Sun part number, 140–1027–01.

Sun386i Color Frame Buffer

Low–Resolution 1024 x 768

386i/150/250

501–1286


VIDEO/KEYBOARD
Keyboard/Mouse Fuse (J14)
70.4 MHz

Notes

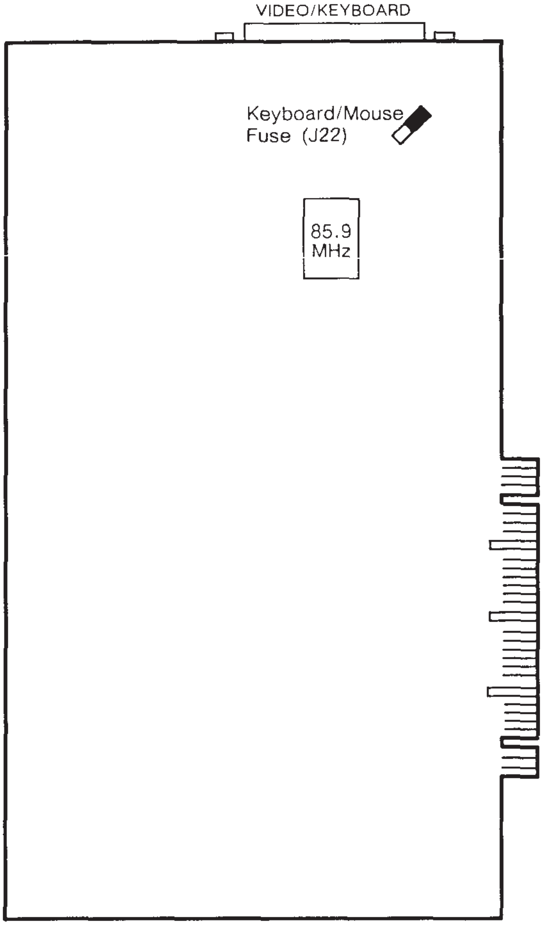
1. There are NO jumpers on the Sun386i Color Frame Buffer.
2. The Keyboard/Mouse fuse is a 1 Amp subminiature fuse, Sun part number, 140 1027–01.

Sun386i Monochrome Video

Low–Resolution 1024 x 768

386i/150/250

501–1433, 501–1568


VIDEO/KEYBOARD
Keyboard/Mouse
Fuse (J22)
85.9
MHz

Notes

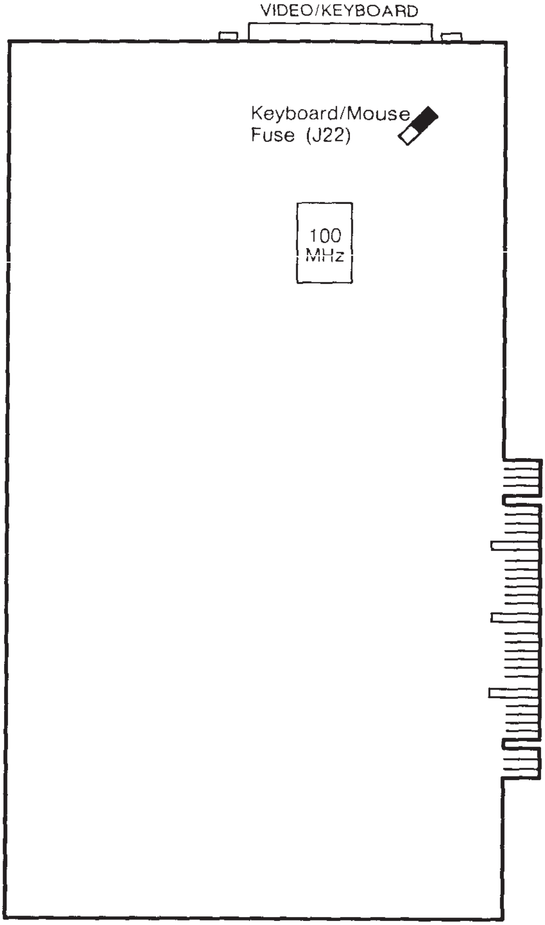
1. There are NO jumpers on this board.
2. The Keyboard/Mouse fuse is a 1 Amp subminiature fuse, Sun part number, 140–1027–01.
3. The CPU requires Boot PROM revision 4.4 or later.

Sun386i Monochrome Video

High–Resolution 1152 x 900

386i/150/250

501–1244, 501–1567


VIDEO/KEYBOARD
Keyboard/Mouse Fuse (J22)
100 MHz

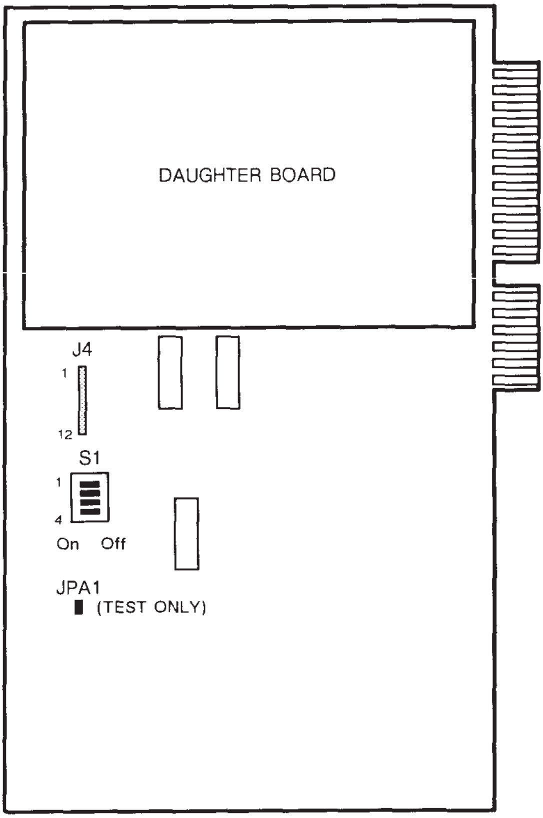
Notes

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

Sun VGA/EGA™

Sun386i/150/250

501–1397


DAUGHTER BOARD
J4
1
12
S1
1
4
On Off
JPA1
(TEST ONLY)

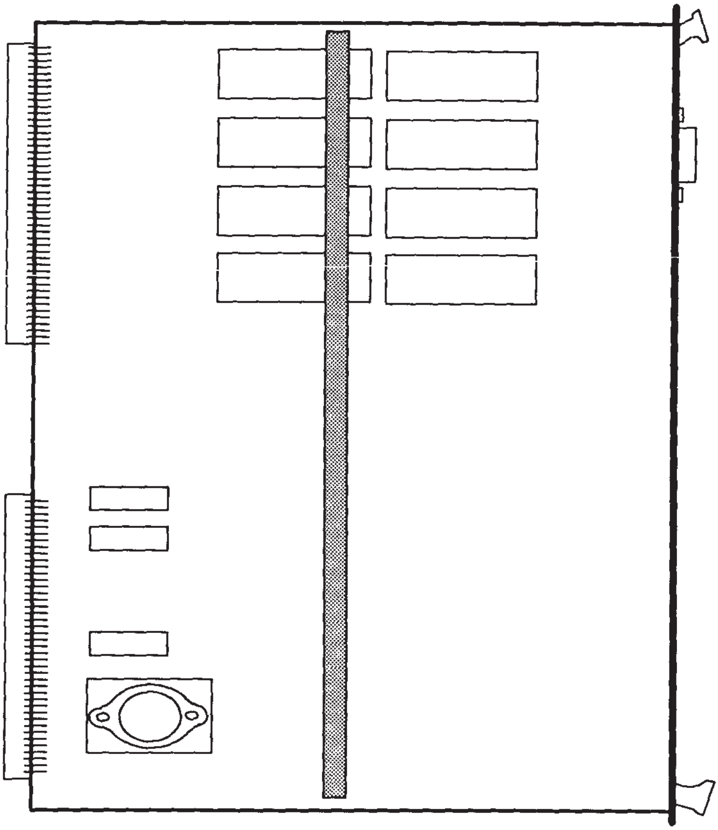
S1 Switch Settings

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

Notes.
1. The SunVGA only works in color systems.
2. The SunVGA requires SunOS 4.0.1.

Sun–3/E Monochrome Frame Buffer

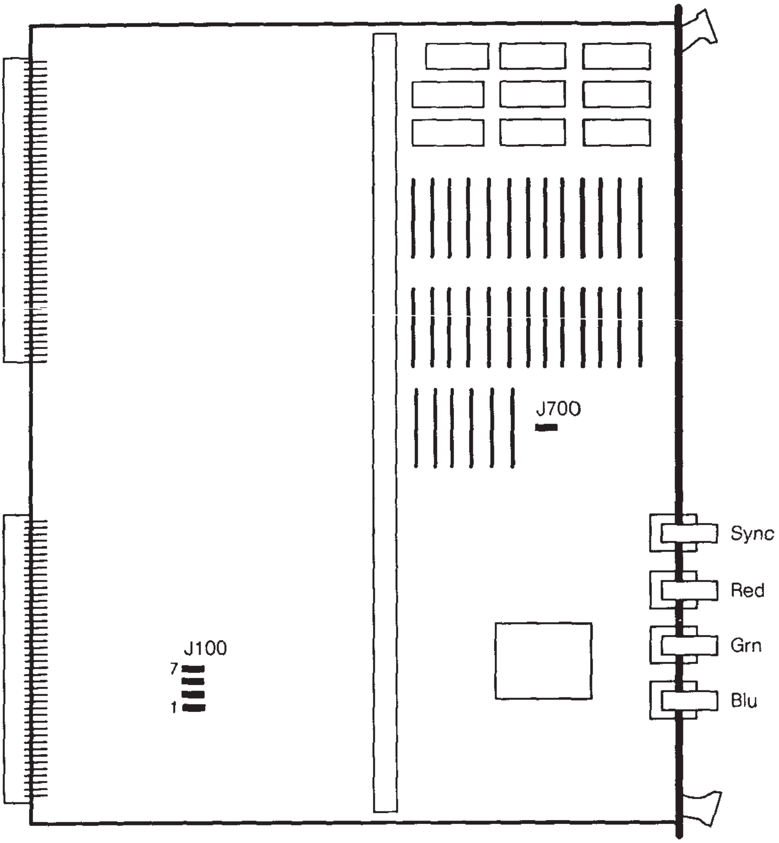
501–8020



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

Sun–3/E Color Frame Buffer

501–8029



Jumper Settings

JUMPER	PINS	SETTING	DESCRIPTION
J100 J100 J100 J100	1–2 3–4 5–6 7–8	In Out In Out	Base address =FF800000
J700	1–2	In	Clock enable

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.

Disk

DISK DRIVES

SCSI

ST506

Micropolis 1304 (42MB) 4
Fujitsu M2243AS (71MB) 6
Micropolis 1325 (71MB) 8

ESDI

Micropolis 1355 (141MB 10
Toshiba MK156 (141MB) 12
Micropolis 1558–15 (327MB) 14

Embedded SCSI

CDC 94211–91 (91MB) 15
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SMD

Fujitsu M2312 (65MB) 22
Fujitsu M2322 (130MB) 24
Fujitsu M2284 VOFM PCB (133MB) 26
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Fujitsu M2351 Logic PCB (380MB) 30

ESMD

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Disk Continued

DISK CONTROLLERS

SCSI

ST506

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ESDI

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SMD

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Xylogics 450 (Fab D, Revs K, L & M). 51
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VME–Multibus Adapter with Xylogics 450 57

ESMD

Xylogics 451 58
VME–Multibus Adapter with Xylogics 451 61
Xylogics 7053 62

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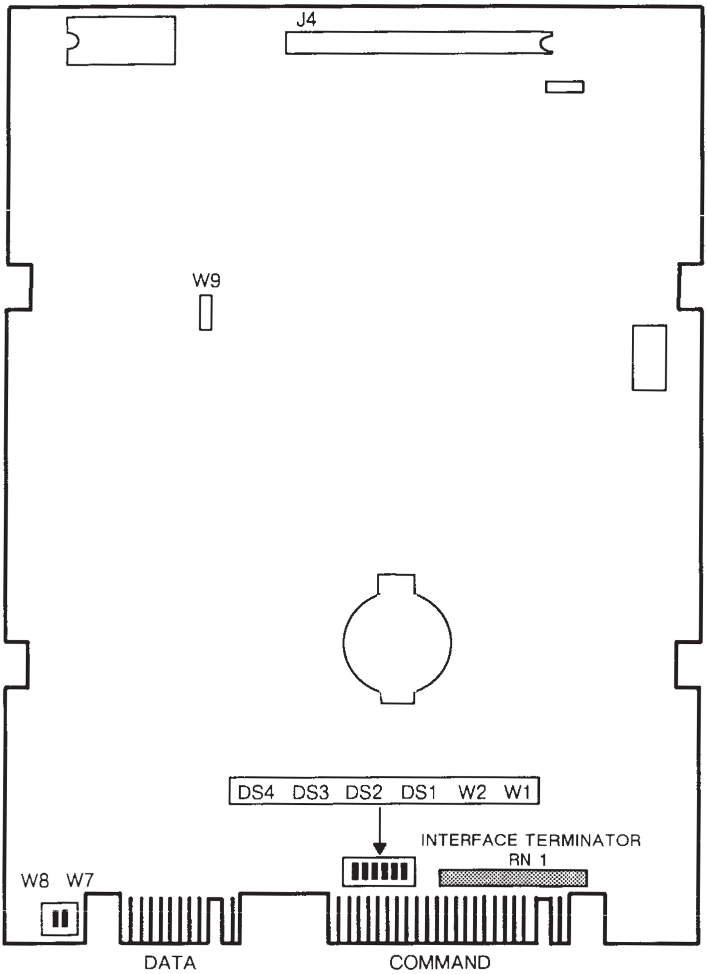
Micropolis 1304 Disk Drive (42MB)

(5–1/4”, ST506)

Sun–2/50/120

370–1015


J4
W9
DS4 DS3 DS2 DS1 W2 W1
INTERFACE TERMINATOR
RN 1
W8 W7
DATA
COMMAND

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

Notes

1. Refer to the chart below to jumper the 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)

2. Reference the 71 MByte Disk Drive Configuration Procedures, 813–2026–XX.

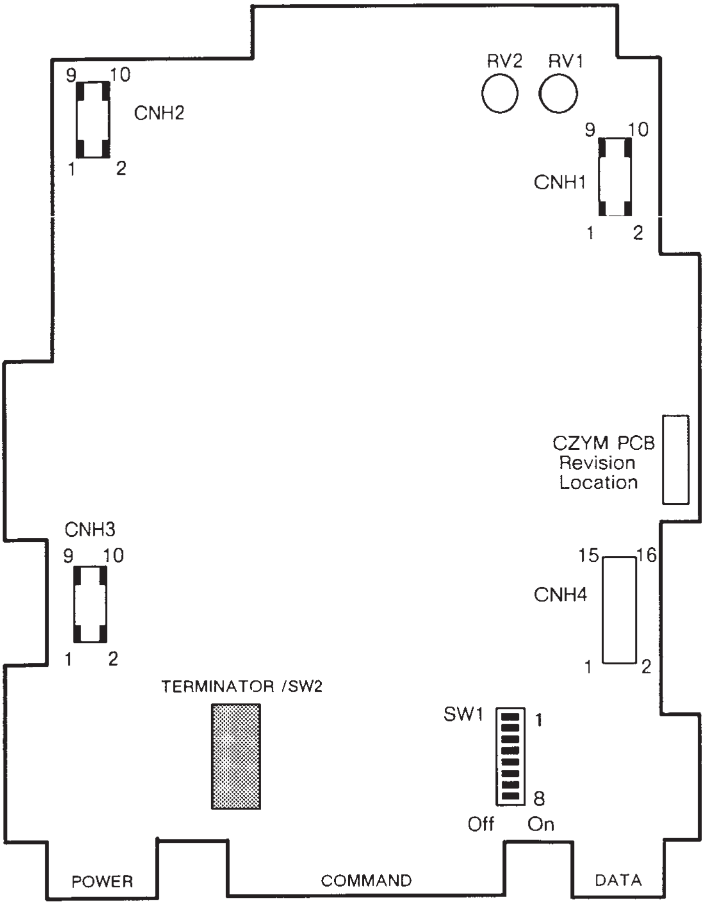
Fujitsu M2243AS Disk Drive (71 MB)

(5–1/4”, ST506)

Sun–2/50/120/130/160

Sun–3/50/60/75/110/140/160

370–1034


RV2
RV1
9
10
CNH2
1
2
9
10
CNH1
1
2
CZYM PCB
Revision
Location
CNH3
9
10
1
2
15
16
CNH4
1
2
TERMINATOR /SW2
SW1
1
8
Off
On
POWER
COMMAND
DATA

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.

Notes

1. The Adaptec controller must be jumpered for no precompensation (PU–R).
2. Reference the 71 MByte Disk Drive Configuration Procedures, 813–2026–XX.

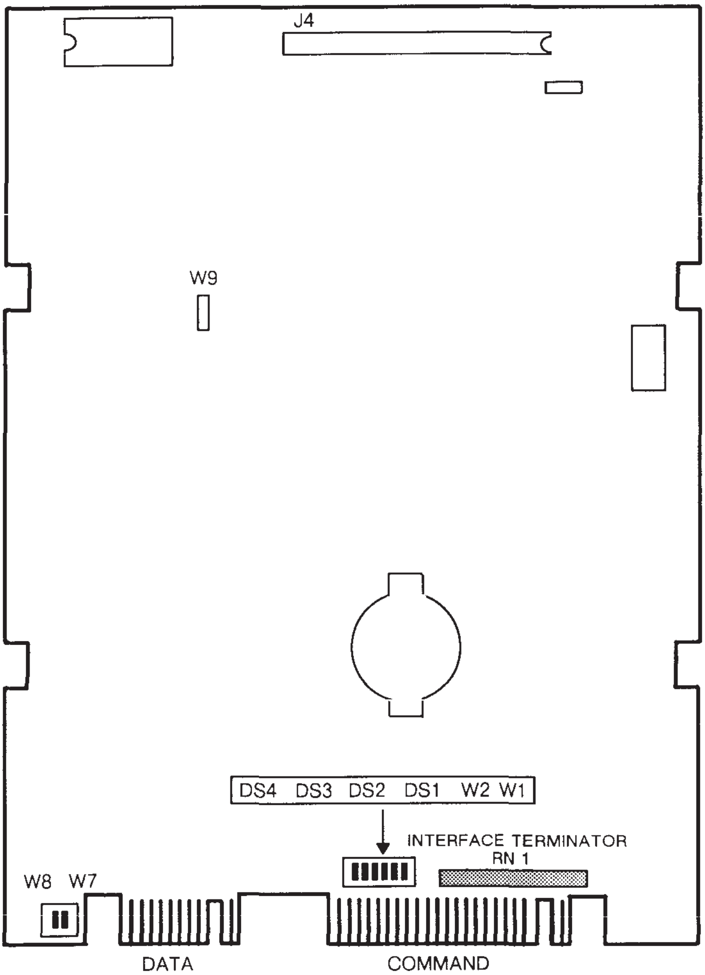
Micropolis 1325 Disk Drive (71MB)

(5–1/4”, ST506)

Sun–2/50/120/130/160

Sun–3/50/60/75/110/140/160

370–1034


J4
W9
DS4 DS3 DS2 DS1 W2 W1
INTERFACE TERMINATOR
RN 1
W8 W7
DATA
COMMAND

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

Notes
1. The Adaptec controller must be jumpered for no precompensation (PU–R).
2. Reference the 71 MByte Disk Drive Configuration Procedures, 813–2026–XX.

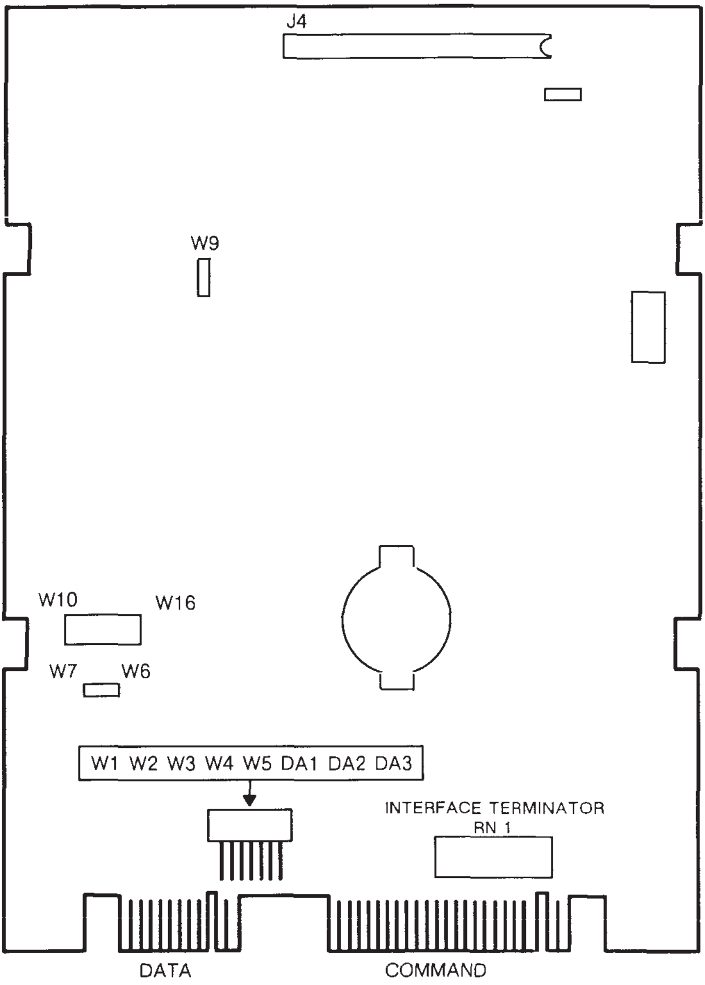
Micropolis 1355 Disk Drive (141MB)

(5–1/4”, ESDI)

Sun–3/50/60/75/110/140/150/160/260

Sun–4/110/150/260

370–0551


J4
W9
W10
W16
W7
W6
W1 W2 W3 W4 W5 DA1 DA2 DA3
INTERFACE TERMINATOR
RN 1
DATA
COMMAND

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.

Note: Reference the 141 MByte Disk Drive Configuration Procedures, 813–2021–XX.

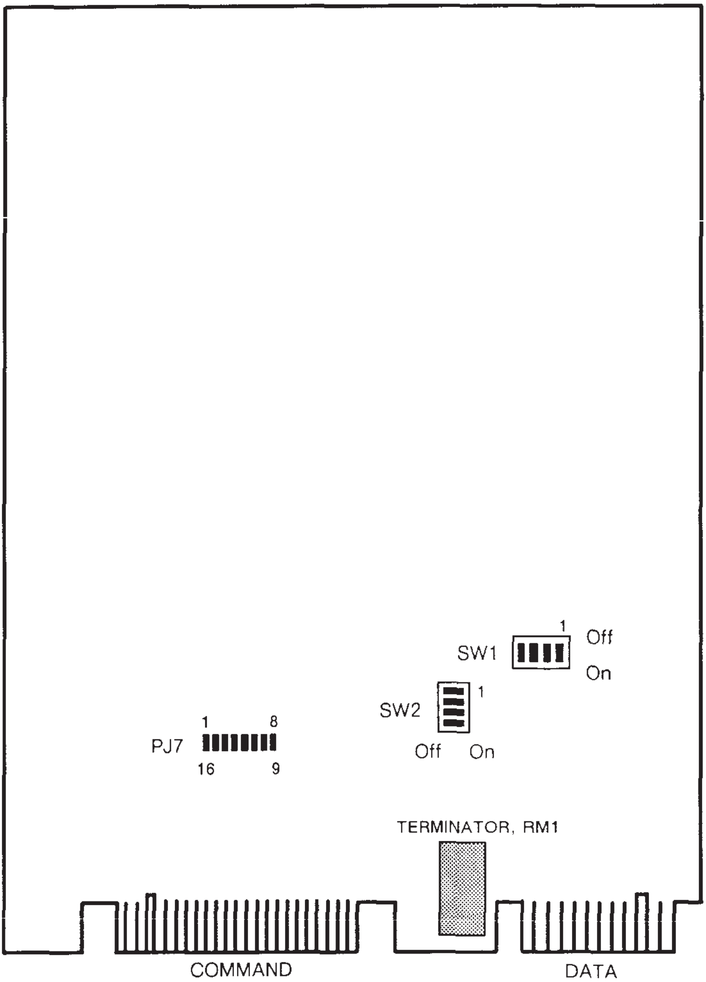
Toshiba MK156 Disk Drive (141MB)

(5–1/4”, ESDI)

Sun–3/50/60/75/110/140/150/160/260

Sun–4/110/150/260

370–0551


1
SW1
Off
On
SW2
1
Off
On
PJ7
1
8
16
9
TERMINATOR, RM1
COMMAND
DATA

370–0551
Switch & Jumper Settings

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

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

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

Note: Reference the 141 MByte Disk Drive Configuration Procedures, 813–2021–XX.

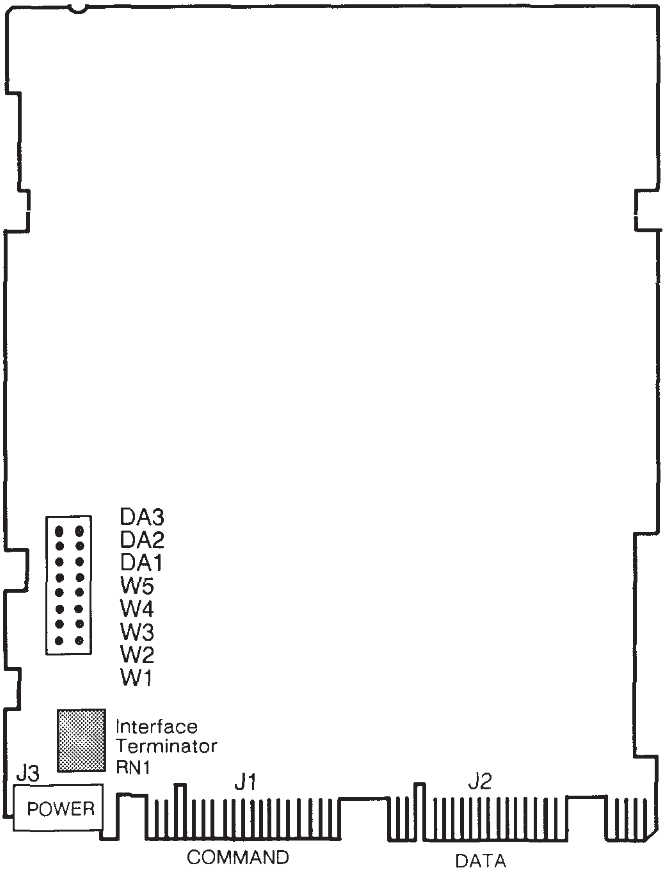
Micropolis 1558–15 Disk Drive (327MB)

(5–1/4”, ESDI)

Sun–3/50/60/75/110/140/150/160/260

Sun–4/110/150/260

370–1133


DA3
DA2
DA1
W5
W4
W3
W2
W1
Interface
Terminator
RN1
J3
POWER
J1
J2
COMMAND
DATA

Jumper Settings

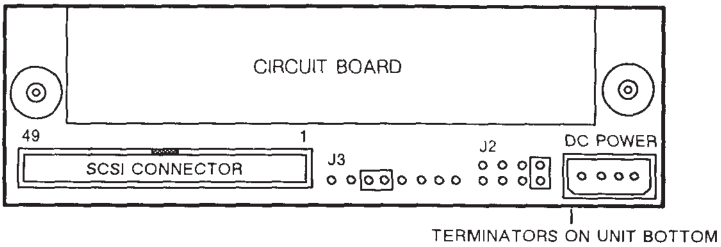
W1	W2	W3	W4	W5	DA1 *	DA2*	DA3
Out	In	Out	Out	Out	In	Out	Out

*DA1 is Out & DA2 is In for drive unit 1

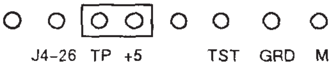
Note: Reference the 327 MByte disk drive Configuration Procedures, 813–2048–XX.

CDC 94211–91 (91MB)
(5 1/4” Embedded SCSI)
Sun386i/150/250
555–1004

End View

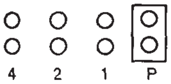

CIRCUIT BOARD
49
1
SCSI CONNECTOR
J3
J2
DC POWER
TERMINATORS ON UNIT BOTTOM

Terminator Power Source Select and Test Seek Jumper J3


J4-26
TP
+5
TST
GRD
M

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

Drive Select and Parity Check Jumper J2



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

* Target 2, drive sd2, is located in the CPU chassis.

† Target 0, drive sd0, is located in the peripheral box.

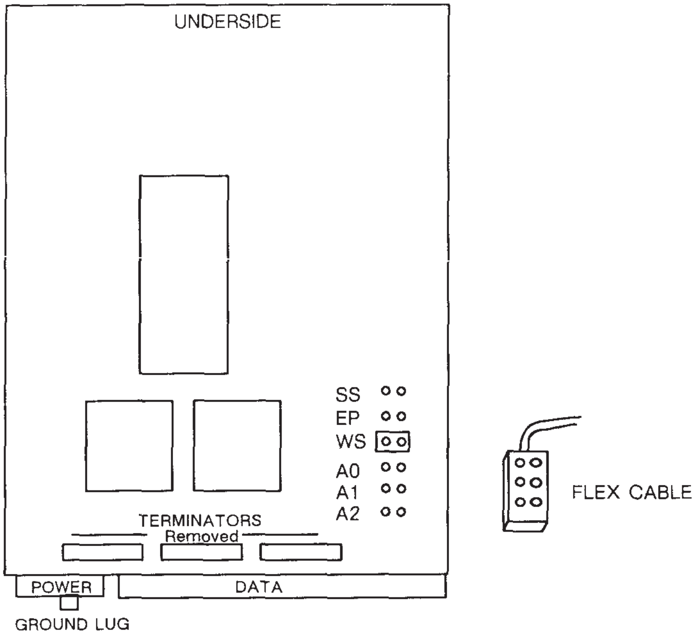
Notes
1. Remove three terminators on the underside of the drive for normal operation. Termination is done externally using Sun terminator, 530–1381.
2. Reference the 386i Field Service Manual, 814–0002–XX and the 91MB Embedded SCSI Configuration Procedures, 814–1017–XX.

Quantum ProDrive 105S (104MB)

(3 1/2” Embedded SCSI)

Sun–3/80 & Sun–4/60

370–1200


UNDERSIDE
SS
EP
WS
A0
A1
A2
TERMINATORS
Removed
POWER
DATA
GROUND LUG
FLEX CABLE

To install the Quantum disk drive 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	Enable Parity	Parity check
WS	In	Wait Spin	Wait spin
A0,A1,A2	Out	Drive ID	Target 0
A1	In	Drive ID	Target 1
A2	In	Drive ID	Target 2
A0,A1	In	Drive ID	Target 3

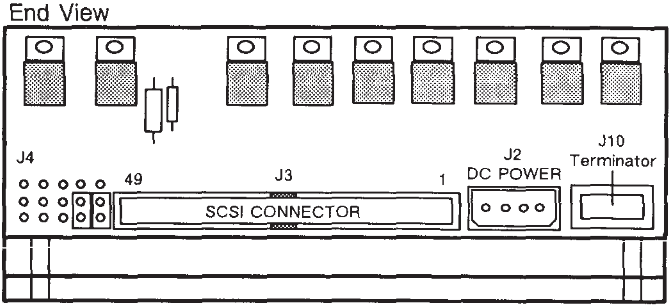
Note: Reference the Sun–3/80 Internal Disk Drive Installation Manual, 813–1064–XX.

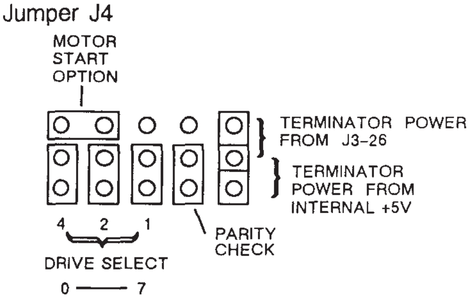
CDC 94161–155 (155MB)

(5 1/4” Embedded SCSI)

Sun386i/150/250

555–1059


End View
J4
49
J3
1
SCSI CONNECTOR
J2
DC POWER
J10
Terminator


Jumper J4
MOTOR START OPTION
TERMINATOR POWER FROM J3-26
TERMINATOR POWER FROM INTERNAL +5V
4
2
1
DRIVE SELECT
0 — 7
PARITY CHECK

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 4 2 4,2	All Out In In In	Drive select Drive select Drive select Drive select	Target 0 * Target 1 Target 2 † Target 3

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

Notes
1. Remove terminator J10 on the end of the drive for normal operation.
2. Reference the 155MB Embedded SCSI Disk Drive Configuration Procedures, 813–2070–XX and 814–1018–XX.

CDC 94171–327/344 (327MB)

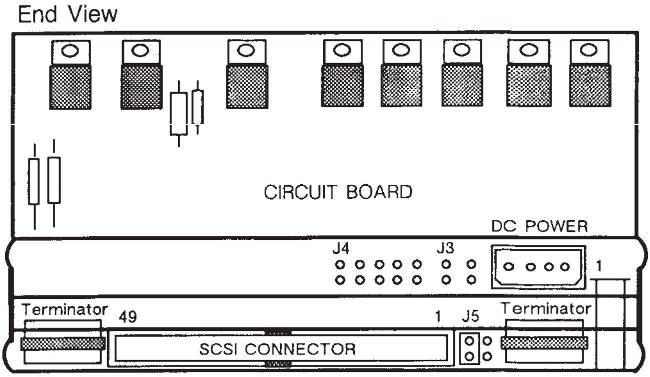
(5 1/4” Embedded SCSI)

Sun–3/80/470 & Sun–4/60/330

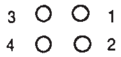
Sun386i/150/250

555–1005, 370–1230

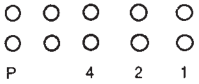
w bracket


End View
CIRCUIT BOARD
DC POWER
J4
J3
1
Terminator
49
1
J5
Terminator
SCSI CONNECTOR

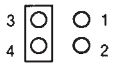
Ground Select Jumper J3



Drive Select and Option Select Jumper J4



Terminator Power Source Select Jumper J5



Jumper Settings
555–1005

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

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
555–1005, 370–1230

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

Notes

1. Remove two terminators on the underside of the drive. Termination is done externally using Sun terminator, 530–1381.
2. Reference the 386i Field Service Manual, 814–0002–XX and the 327MB Embedded SCSI Configuration Procedures, 814–1015–XX.

370–1230

Notes

1. Remove two terminators on the the underside of the drive.
2. Sun–3/470 and Sun–4/370 systems are terminated internally on the 501–1493 Interface PCB.
3. In the External Storage Module, termination is done externally using Sun terminator, 530–1381.
4. In the SPARCstation 330, termination is done on the SCSI Out PCB using three 220/330 terminators, 120–1608–01.
5. Reference the 327 Mbyte Disk Drive Installation Procedures for the 12–Slot Office Pedestal, 813–1013–XX.
6. Reference the Sun 327 Mbyte SCSI Disk Configuration Manual, 813–2048.

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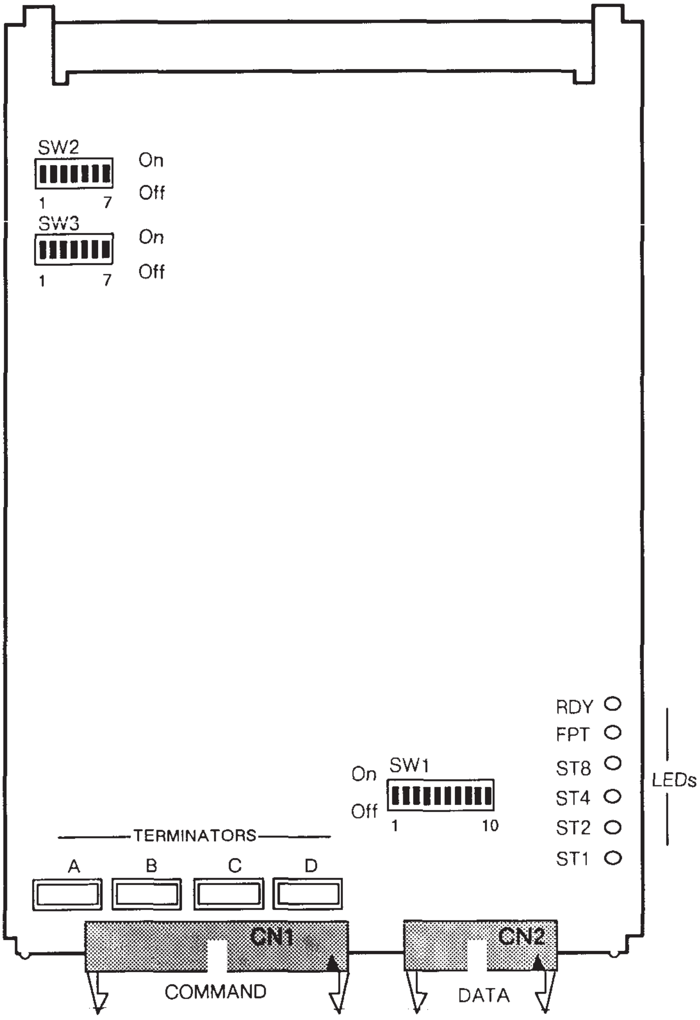
Fujitsu M2312 Disk Drive (65MB)

(8”, SMD)

Sun–2/100U/120/150U/170

370–0567


SW2
On
Off
1
7
SW3
On
Off
1
7
RDY
FPT
ST8
ST4
ST2
ST1
LEDs
On
Off
SW1
1
10
TERMINATORS
A
B
C
D
CN1
CN2
COMMAND
DATA

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

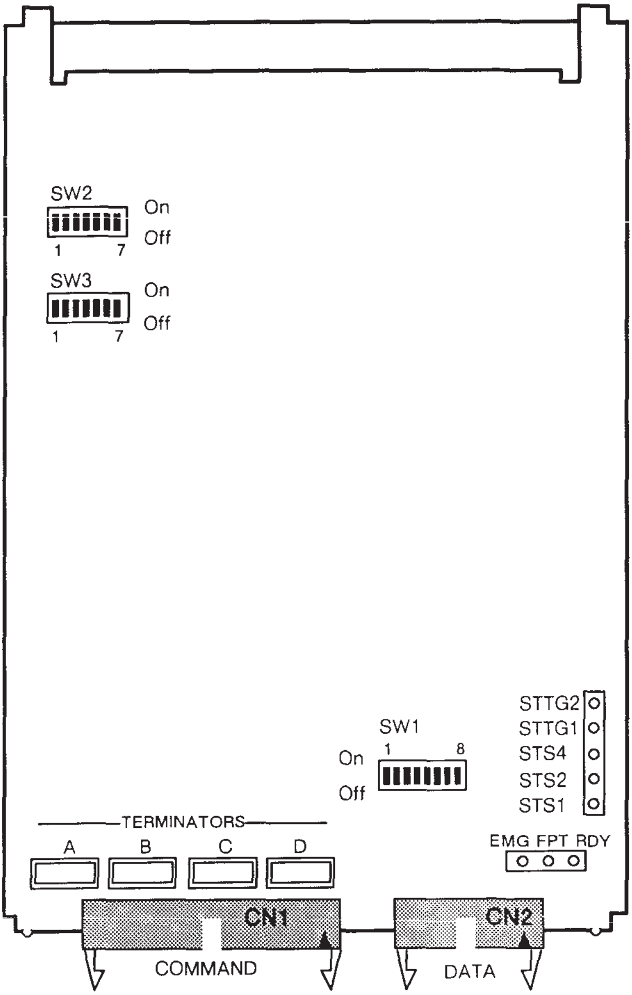
† Non–slip sector format used on OS3.0 and below.

Fujitsu M2322 Disk Drive (130MB)

(8”, SMD)

Sun–2/120/130/160/170 & Sun–3/160

370–1014


SW2
On
Off
1
7
SW3
On
Off
1
7
SW1
1
8
On
Off
STTG2
STTG1
STS4
STS2
STS1
TERMINATORS
A
B
C
D
EMG FPT RDY
CN1
CN2
COMMAND
DATA

370–1014
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*
	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

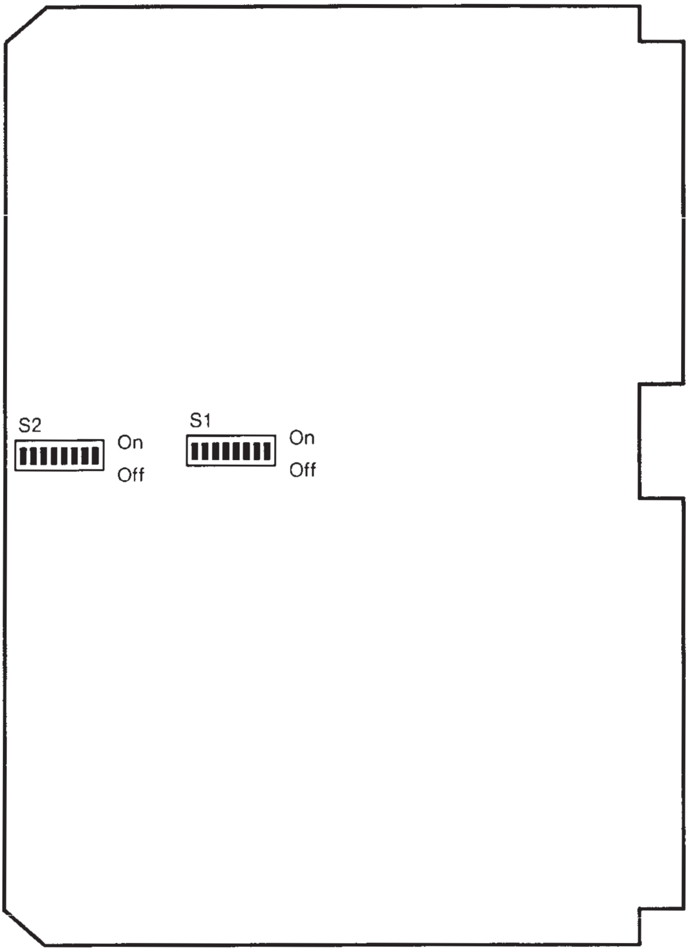
Notes
1. Remove the TVQM cover plate for normal operation.
2. Attach the TVQM cover plate to the drive to prevent damage to C15 and C16 during shipping.

Fujitsu M2284 VOFM PCB (133MB)

(14”, SMD)

Sun–2/100U/150U

370–1005


S2
On
Off
S1
On
Off

370–1005
Switch Settings

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

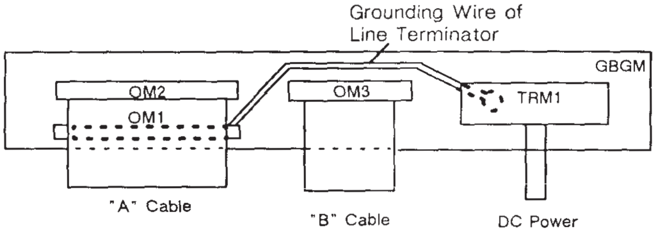
VOFM PCB
Slip sector format
for Xylogics 450/451
33 Sectors / Track

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 OS3.0 and below.

Notes

1. Termination is required on a disk drive in a single drive configuration and on the last drive of a multiple drive configuration. The line terminator must be installed at location OM1 with the grounding wire installed at location TRM1–2.



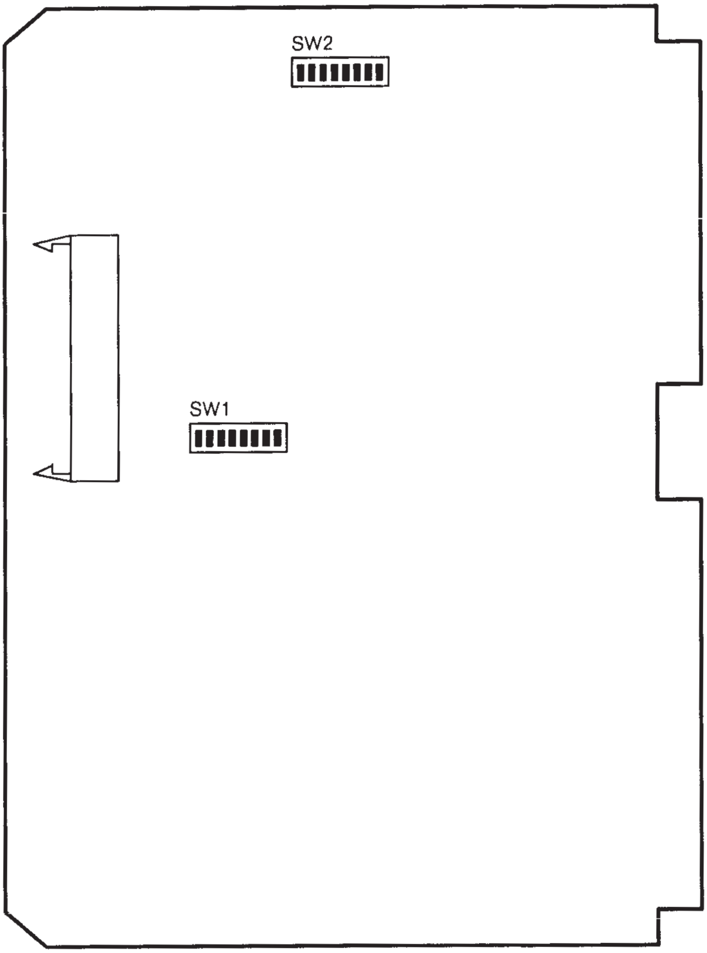
2. Xylogics 450 firmware revisions greater than 952C will not operate. Firmware revisions lower than 952C will not operate with Sun OS 3.2 and greater.

Fujitsu M2284 CQFM PCB (133MB)

(14”, SMD)

Sun–2/100U/150U

370–1005



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. Termination is required on a disk drive in a single drive configuration and on the last drive of a multiple drive configuration. The line terminator must be installed at location OM1 with the grounding wire installed at location TRM1–2.
2. Xylogics 450 firmware revisions greater than 952C will not operate. Firmware revisions lower than 952C will not operate with Sun OS 3.2 and greater.

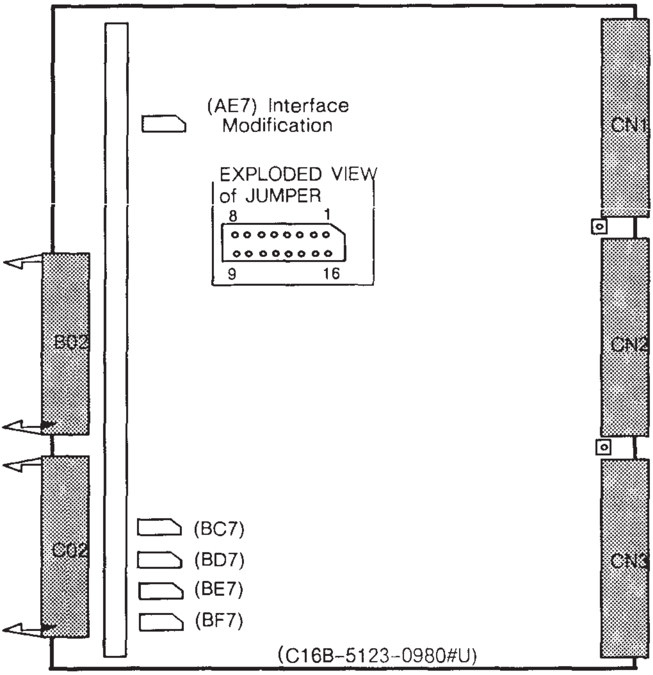
Fujitsu M2351 Logic PCB (380MB)

(10”, SMD)

Sun–2/130/160/150U/170

Sun–3/160/180/260/280

370–1003


(AE7) Interface Modification
EXPLODED VIEW of JUMPER
8
1
9
16
CN1
CN2
CN3
BO2
CO2
(BC7)
(BD7)
(BE7)
(BF7)
(C16B-5123-0980#U)

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

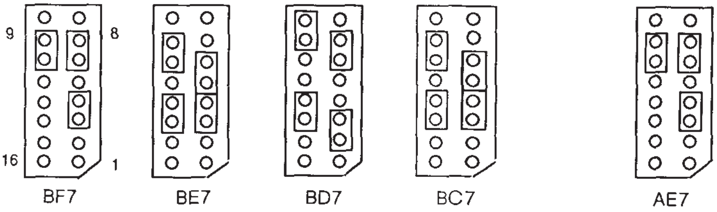
Jumper	2–3	3–4	5–6	6–7	9–10	10–11	12–13	13–14
BF7	Out	In	Out	In	Out	In	Out	Out
BE7	Out	In	In	Out	Out	In	Out	In
BD7	In	Out	Out	In	In	Out	Out	In
BC7	In	Out	In	Out	In	Out	Out	In
AE7	Out	In	Out	In	Out	In	Out	Out

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

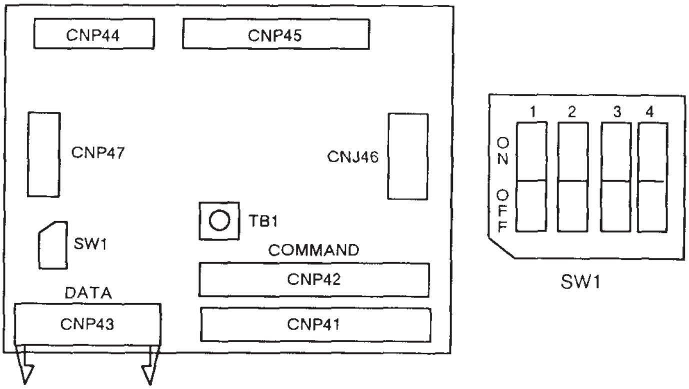
Jumper	2–3	3–4	5–6	6–7	9–10	10–11	12–13	13–14
BF7	Out	In	Out	In	Out	In	Out	Out
BE7	Out	In	In	Out	Out	In	Out	In
BD7	In	Out	Out	In	In	Out	Out	In
BC7	Out	In	In	Out	Out	In	Out	In
AE7	Out	In	Out	In	Out	In	Out	Out

370–1003

Setting of Sector Count on Logic PCB (Slip Sector Format)


9
8
16
1
BF7
BE7
BD7
BC7
AE7

Interface PCB


CNP44
CNP45
CNP47
CNJ46
TB1
SW1
COMMAND
CNP42
DATA
CNP43
CNP41
1
2
3
4
ON
OFF
SW1

Note: Terminator plugs into CNP42 and grounds at location TB1.

SW1 Drive Addressing

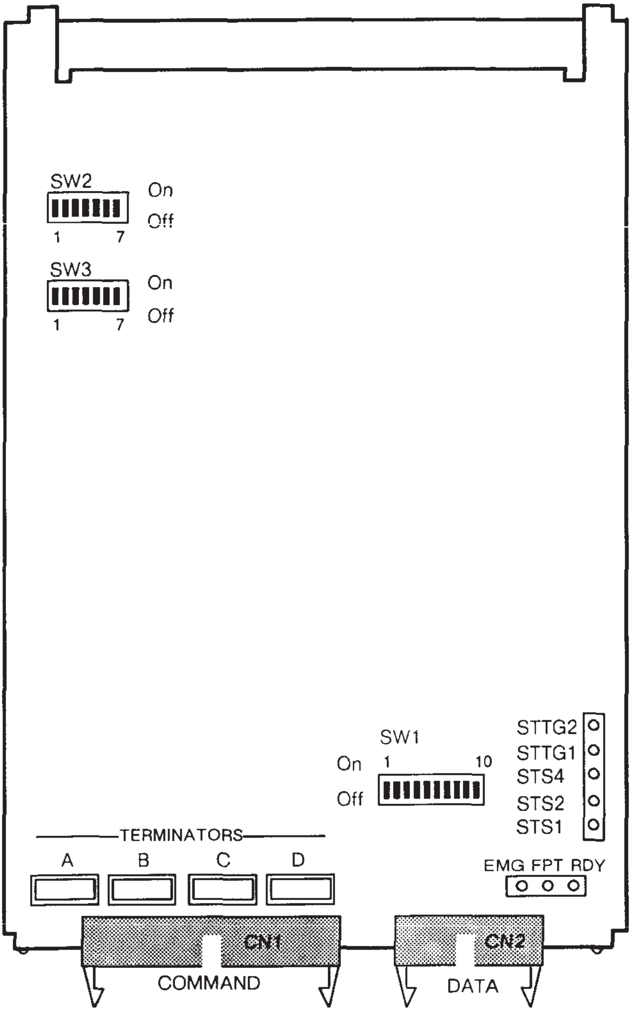
DRIVE ADDRESS	SWITCH POSITION			
	1	2	3	4
0	Off	Off	Off	Not Used
1	On	Off	Off	
2	Off	On	Off	
3	On	On	Off	

Fujitsu M2333 Disk Drive (280MB)

(8”, ESMD)

Sun–3/160/260/460/470 & 4/260

540–1635


SW2
On
Off
1
7
SW3
On
Off
1
7
SW1
On
Off
1
10
STTG2
STTG1
STS4
STS2
STS1
TERMINATORS
A
B
C
D
EMG FPT RDY
CN1
COMMAND
CN2
DATA

540–1635
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

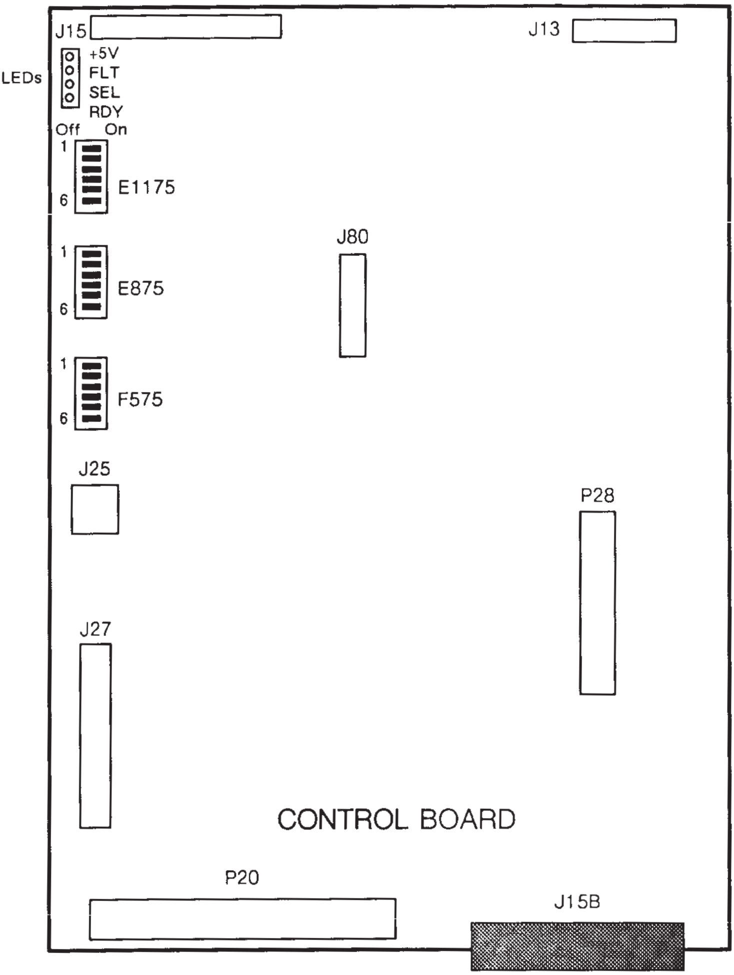
Notes
1. Remove the TVQM cover plate for normal operation.
2. Attach the TVQM cover plate to the drive to prevent damage to C15 and C16 during shipping.
3. Reference the 280 MByte Disk Drive Configuration Procedures, 813–2006–XX.

CDC EMD9720 Disk Drive (280MB)

(8”, ESMD)

Sun–3/160/260/460/470 & 4/260

540–1635


J15
J13
LEDs
+5V
FLT
SEL
RDY
Off
On
1
6
E1175
1
6
E875
1
6
F575
J80
J25
P28
J27
CONTROL BOARD
P20
J15B

540–1635
Switch Settings

Control Board

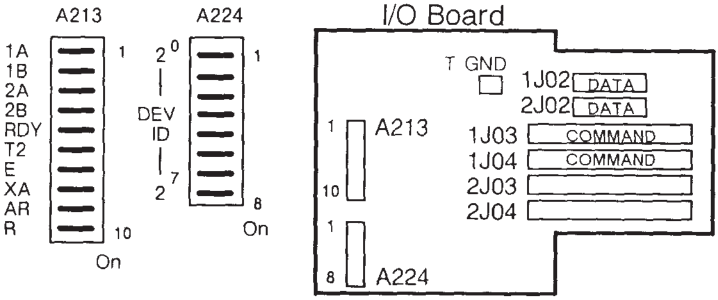
Slip sector format
49 Sectors/Track

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

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

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


A213
1A
1B
2A
2B
RDY
T2
E
XA
AR
R
1
10
On
A224
2^0
DEV
ID
2^7
1
8
On
I/O Board
T GND
1J02
DATA
2J02
DATA
1
A213
10
1J03
COMMAND
1J04
COMMAND
2J03
2J04
1
8
A224

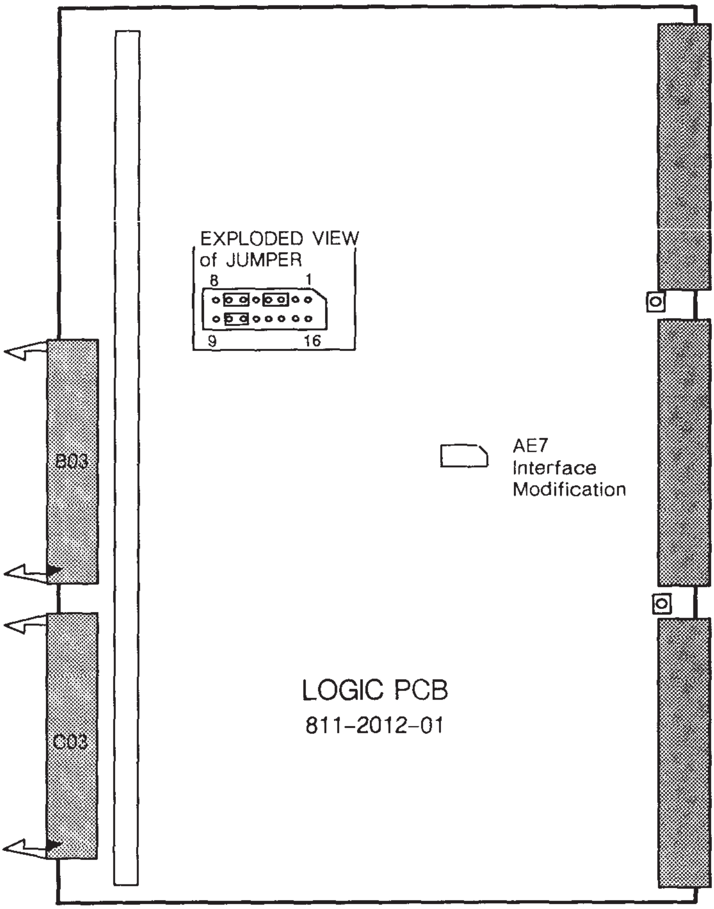
Notes
1. Install the terminator at location 1J03.
2. Install the ground wire at T GND.
3. Reference the 280 MByte Disk Drive Configuration Procedures, 813–2006–XX.

Fujitsu M2361 Disk Drive (575MB)

(10”, ESMD)

Sun–3/180/280 & Sun–4/280

370–1069


EXPLODED VIEW
of JUMPER
8
1
9
16
AE7
Interface
Modification
B03
C03
LOGIC PCB
811–2012–01

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

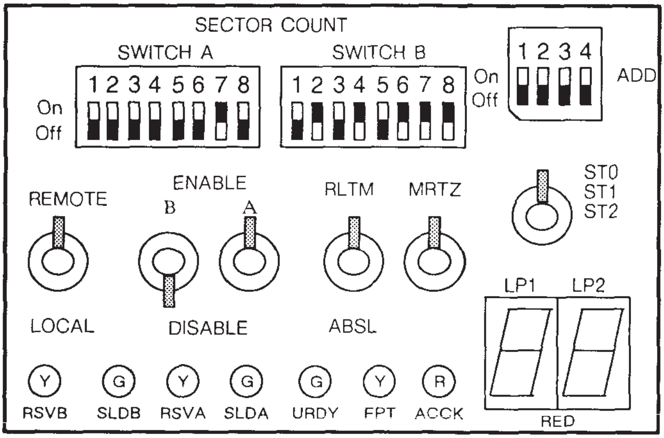
Slip Sector format for Xylogics 451, 68 Sectors/Track

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

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


SECTOR COUNT
SWITCH A
SWITCH B
1 2 3 4 5 6 7 8
1 2 3 4 5 6 7 8
On
Off
On
Off
1 2 3 4
ADD
REMOTE
ENABLE
B
A
RLTM
MRTZ
ST0
ST1
ST2
LOCAL
DISABLE
ABSL
LP1
LP2
Y
G
Y
G
G
Y
R
RSVB
SLDB
RSVA
SLDA
URDY
FPT
ACCK
RED

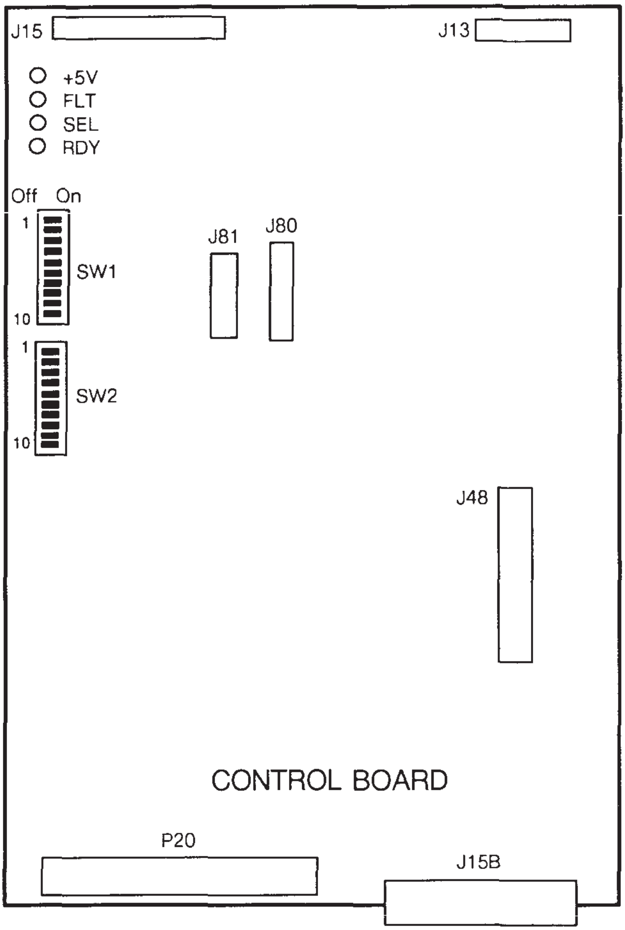
Note: Reference the Fujitsu 2361A Disk Drive Configuration Procedures, 813–2005–XX.

CDC EMD9720–850 Disk Drive (688MB)

(8”, ESMD)

Sun–3/160/260/460/470 & Sun–4/260

540–1768


J15
J13
+5V
FLT
SEL
RDY
Off
On
1
SW1
10
1
SW2
10
J81
J80
J48
CONTROL BOARD
P20
J15B

Notes

1. The 300–1014, 250W power supply, must be Boschert, Rev F or greater.
2. The fans installed in the top of the pedestal MUST intake air. The lower fans MUST exhaust air.
3. The 688MB drive is only supported on the Xylogics 7053.

540–1768
Switch Settings

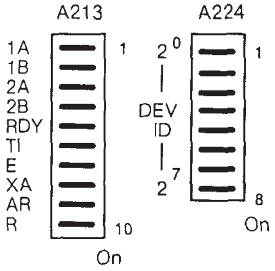
Controller Board

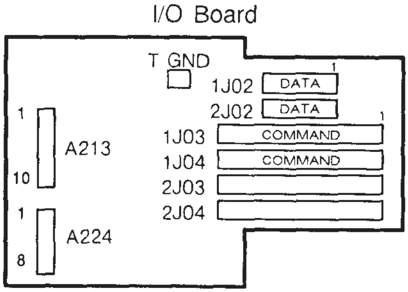
DIP	SWITCH	SETTING
SW1	1	On*
	2	On
	3	On
	4	On
	5	On
	6	On
	7	Off
	8	On
	9	On
	10	On
SW2	1	On
	2	Off
	3	Off
	4	On
	5	On
	6	Off
	7	On
	8	On
	9	On
	10	On

I/O Board

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

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


A213
1A
1B
2A
2B
RDY
TI
E
XA
AR
R
1
10
On
A224
2^0
DEV ID
2^7
1
8
On


I/O Board
T GND
1J02
DATA
2J02
DATA
1J03
COMMAND
1J04
COMMAND
2J03
2J04
1
1
1
A213
10
1
A224
8

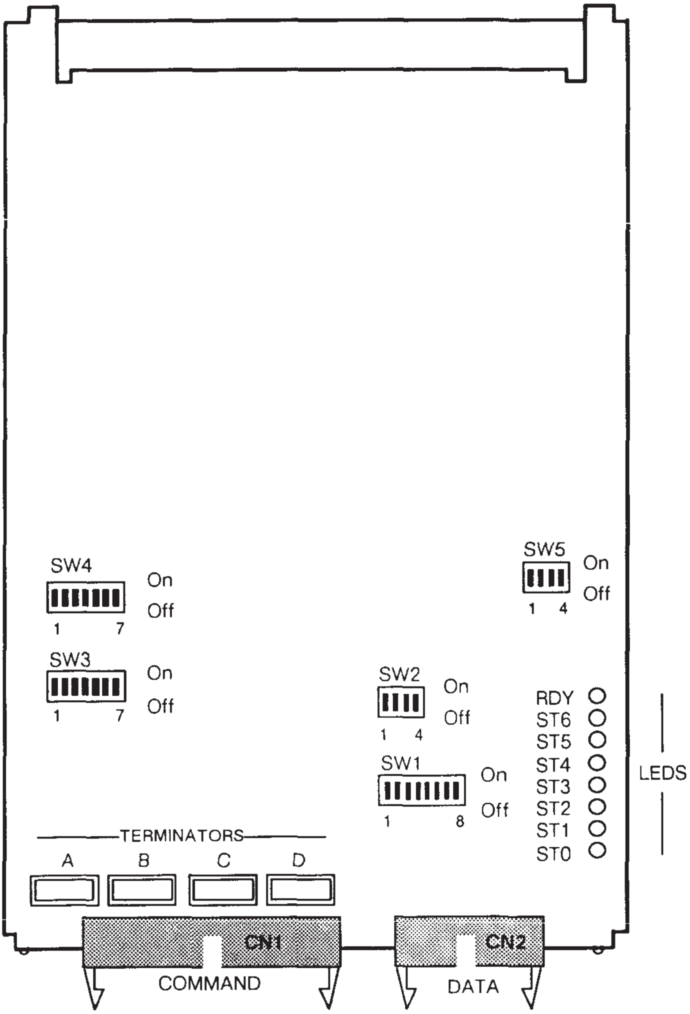
Notes
1. Install the terminator at location 1J03.
2. Install the ground wire from the terminator board to T Gnd.
3. Jumpers not described are factory set and are not user configurable
4. Reference the 688 MByte Disk Drive Configuration Procedures, 813–2062–XX.

Fujitsu M2372 Disk Drive (688MB)

(8”, ESMD)

Sun–3/160/260/460/470 & Sun–4/260

540–1768


SW4
On
Off
1
7
SW3
On
Off
1
7
SW5
On
Off
1
4
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

540–1768
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

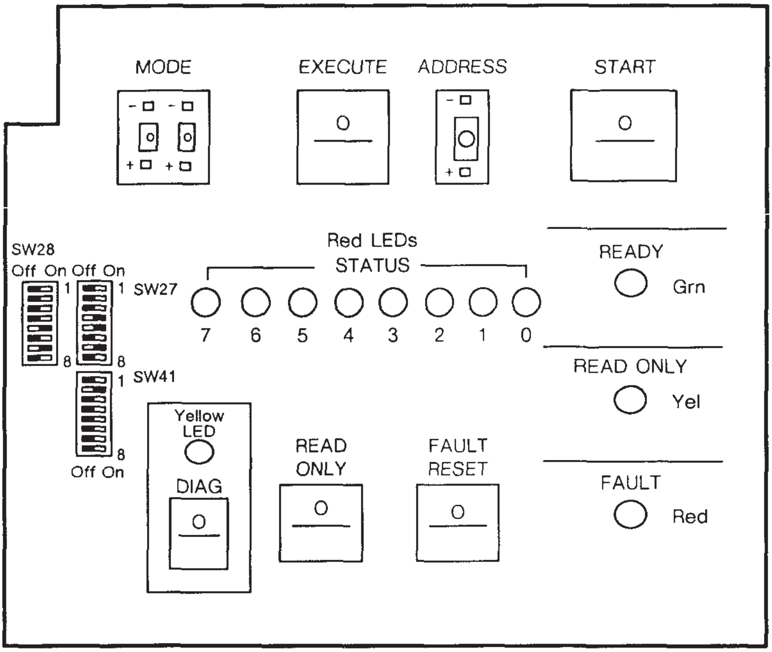
Notes
1. The 300–1014, 250W power supply, must be Boschert, Rev F or greater.
2. The fans installed in the top of the pedestal MUST intake air. The lower fans MUST exhaust air.
3. The 688MB drive is only supported on the Xylogics 7053.
4. Drives manufactured prior to 5/8/89 may require the addition of the Fujitsu M2372 noise insulator kit. Sun part number 370–1300–01
5. Reference the 688 MByte Disk Drive Configuration Procedures, 813–2062–XX.

Hitachi DK815-10 Disk Drive (892MB)

(9", ESMD)

Sun–3/280 & Sun–4/280

555–1008


MODE
EXECUTE
ADDRESS
START
Red LEDs
STATUS
SW28
Off On Off On
SW27
7 6 5 4 3 2 1 0
READY
Grn
READ ONLY
Yel
FAULT
Red
SW41
Off On
Yellow LED
DIAG
READ ONLY
FAULT RESET

555–1008
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

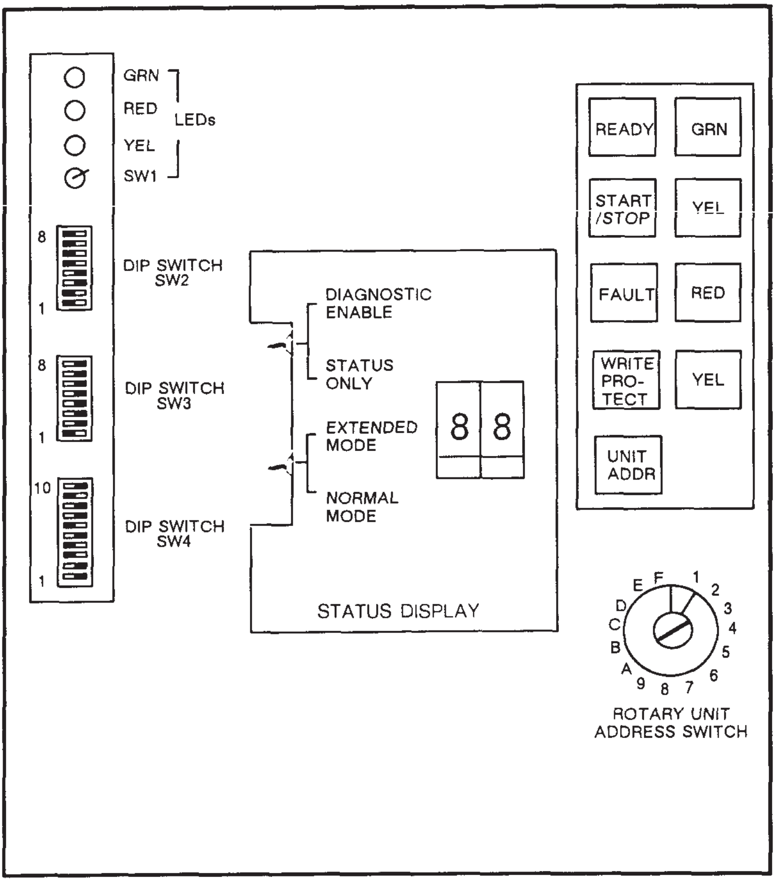
1. A maximum of 2 drives may be installed in a rack system using the 115V power sequencer.
2. A maximum of 4 drives may be installed in a rack system using the 230V or 240V, 20 sec delay power sequencer.
3. The minimum software level is Sys4–3.2 or 3.5.
4. Different drive types cannot be interconnected on the same Xylogics 451 disk controller when an 892MB drive is used.
5. The Xylogics 450 is not supported with the 892MB drive, and cannot be mixed with the Xylogics 451 in any 892MB Configuration.
6. Reference the Sun 892 MByte Disk Drive Configuration Procedures, 813–2046–XX.

NEC D2363 Disk Drive (892MB)

(9", ESMD)

Sun–3/280 & Sun–4/280

555–1008


GRN
RED
YEL
SW1
LEDs
8
1
DIP SWITCH SW2
8
1
DIP SWITCH SW3
10
1
DIP SWITCH SW4
DIAGNOSTIC ENABLE
STATUS ONLY
EXTENDED MODE
NORMAL MODE
8 8
STATUS DISPLAY
READY
GRN
START /STOP
YEL
FAULT
RED
WRITE PRO- TECT
YEL
UNIT ADDR
E F 1 2 3 4 5 6 7 8 9 A B C D
ROTARY UNIT ADDRESS SWITCH

555–1008
Switch Settings

Operator Panel

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

Status Display Panel

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

*Momentary switch only

Parameter Selection Switches

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

Sector Count Switch – 68 Sectors Per Track

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

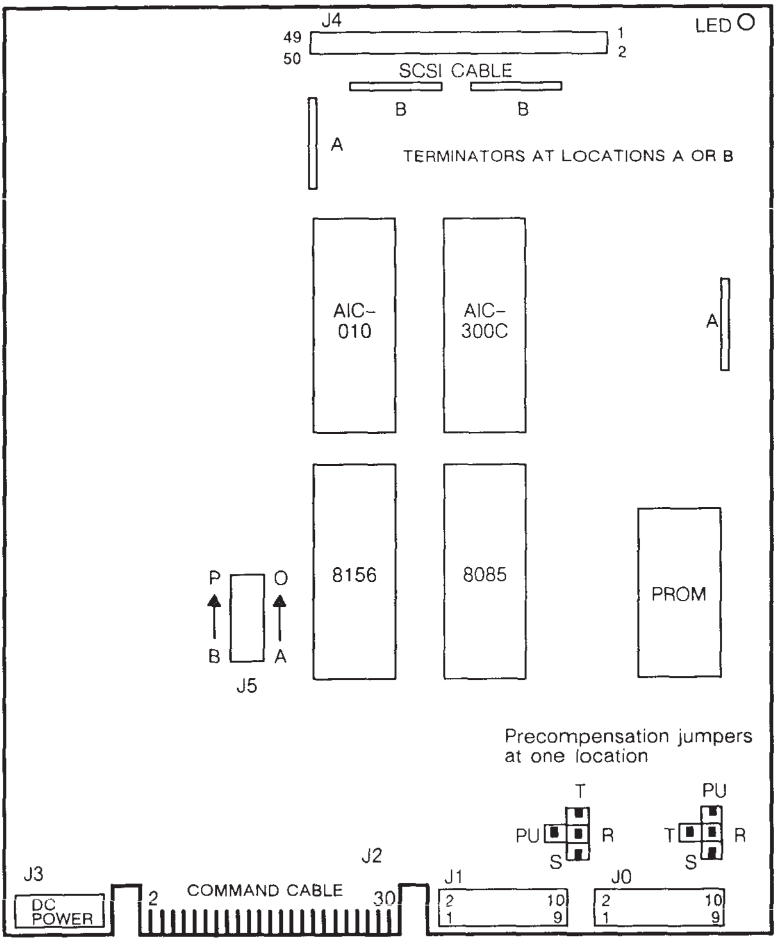
Notes

1. The Rotary Unit Address Switch is selectable from unit 1 to unit F. It is enabled when SW2 switches 5,6,7, 8 are ON.
2. Reference the Sun 892 MByte Disk Drive Configuration Procedures, 813–2046–XX.

Adaptec ACB4000 ST506 Disk Controller

Sun–2/50/120/130/160
Sun–3/50/60/75/110/140/160

370–1010


J4
49
50
1
2
LED
SCSI CABLE
B
B
A
TERMINATORS AT LOCATIONS A OR B
AIC-010
AIC-300C
A
P
O
B
A
J5
8156
8085
PROM
Precompensation jumpers at one location
T
PU
R
S
PU
T
R
S
J3
DC POWER
2
COMMAND CABLE
J2
30
J1
2
1
10
9
J0
2
1
10
9

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).

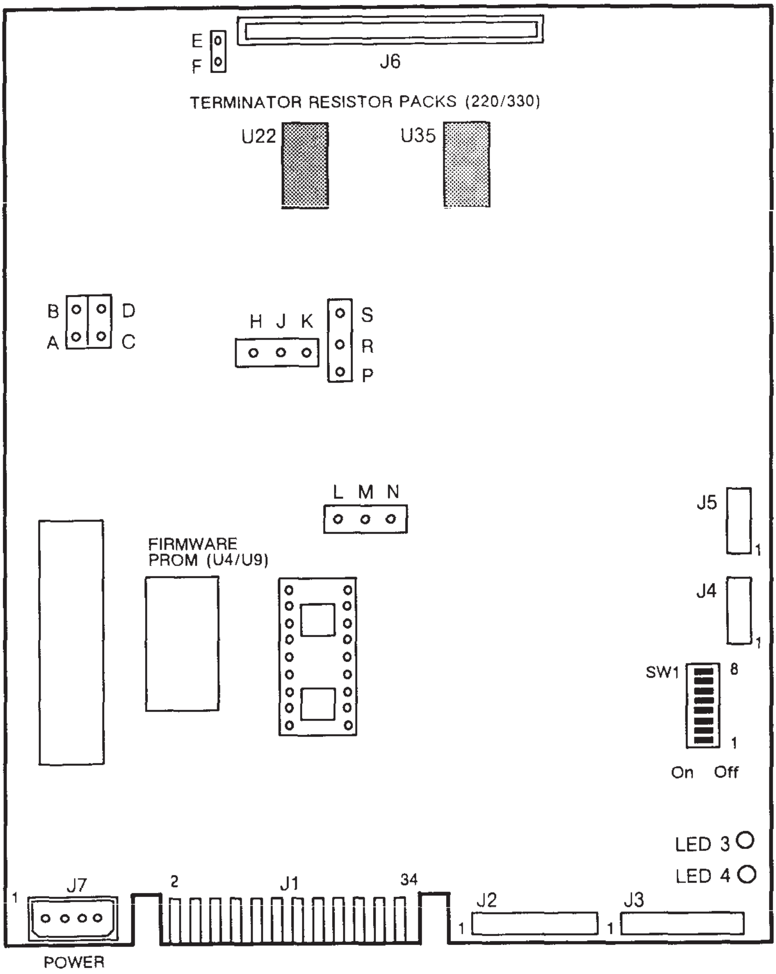
† A–B, In, for second Adaptec controller

Note: Reference the 71 Mbyte Disk Controller Configuration Procedures, 813–2027–XX.

Emulex MD21 ESDI DISK Controller

Sun–3/50/60/75/110/140/150/160/260
Sun–4/110/150/260

370–0552, 370–1236


E
F
J6
TERMINATOR RESISTOR PACKS (220/330)
U22
U35
B
A
D
C
H J K
S
R
P
L M N
J5
1
J4
1
FIRMWARE
PROM (U4/U9)
SW1
8
1
On Off
LED 3
LED 4
1
J7
2
J1
34
J2
1
J3
1
POWER

370–0552, 370–1236
Switch & Jumper Settings

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

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

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

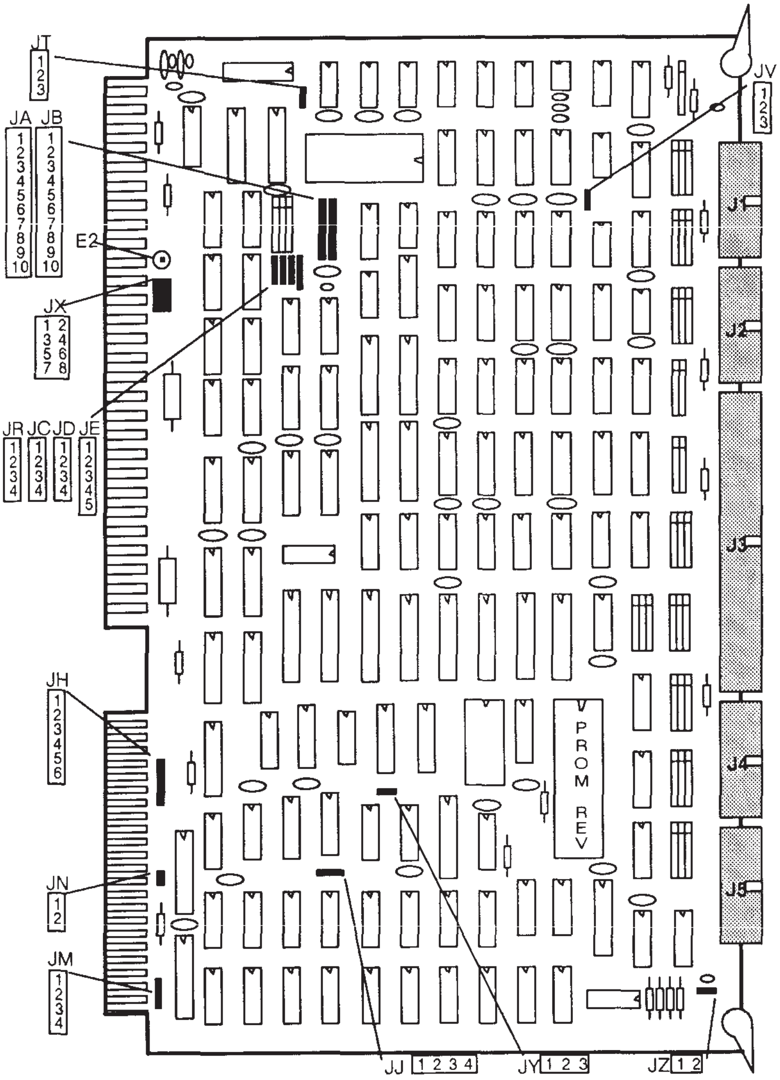
* E and F jumpers are not on the Emulex Rev MD2110103 board.

Notes
1. Install termination resistor packs on the last Tape/Disk Controller on the SCSI bus.
2. Reference the ESDI Disk Controller Configuration Procedures, 813–2022–XX.

Xylogics 450 SMD Controller

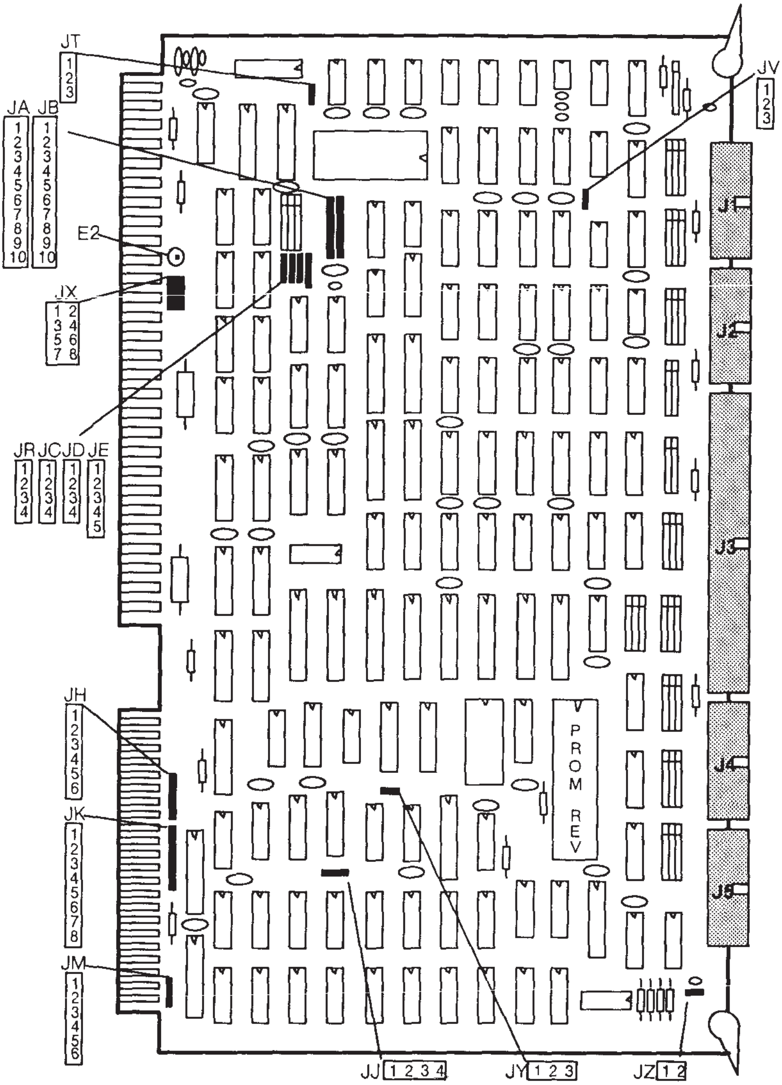
Sun–2/100U/120/130/150U/160/170
Sun–3/160/180/260/280/460/470/480
Sun–4/260/280

370–1012 (Fab C, Revs C thru K)


JT 1 2 3
JA 1 2 3 4 5 6 7 8 9 10
JB 1 2 3 4 5 6 7 8 9 10
E2
JX 1 2 3 4 5 6 7 8
JR 1 2 3 4
JC 1 2 3 4
JD 1 2 3 4
JE 1 2 3 4 5
JH 1 2 3 4 5 6
JN 1 2
JM 1 2 3 4
JV 1 2 3
J1
J2
J3
J4
J5
PROM REV
JJ 1 2 3 4
JY 1 2 3
JZ 1 2

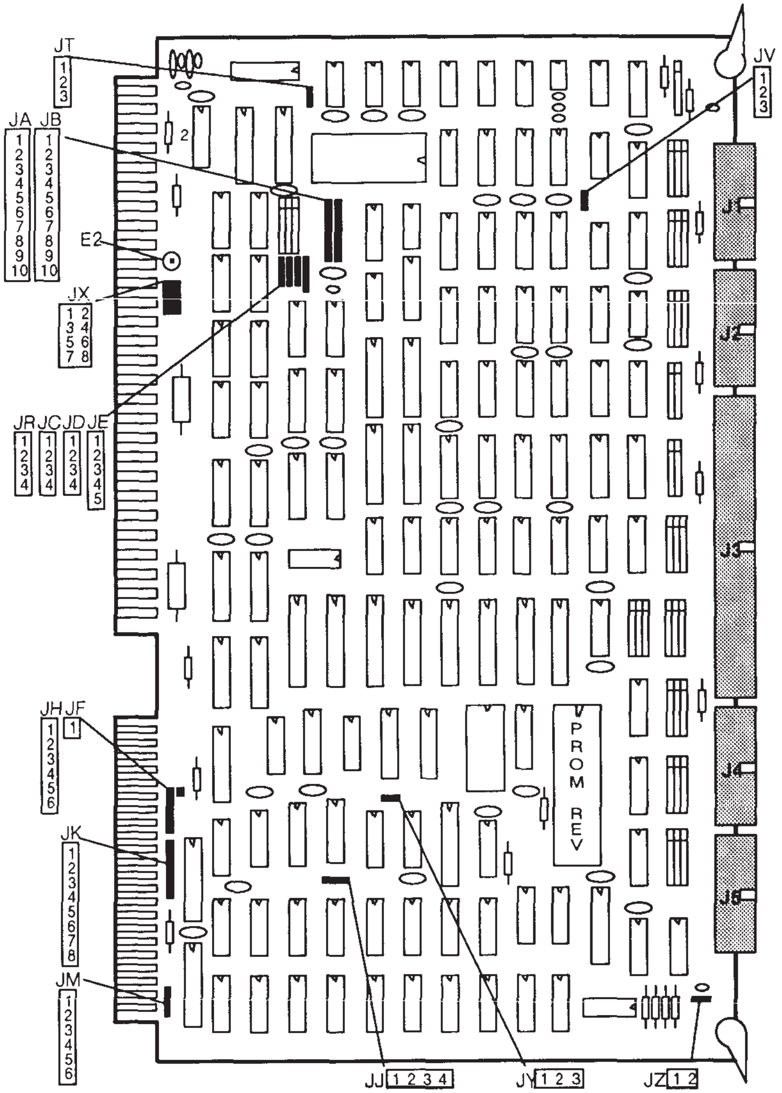
Xylogics 450 SMD Controller

370–1012 (Fab D, Revs K, L & M)


JT
1 2 3
JA
1 2 3 4 5 6 7 8 9 10
JB
1 2 3 4 5 6 7 8 9 10
E2
JX
1 2
3 4
5 6
7 8
JR
1 2 3 4
JC
1 2 3 4
JD
1 2 3 4
JE
1 2 3 4 5
JH
1 2 3 4 5 6
JK
1 2 3 4 5 6 7 8
JM
1 2 3 4 5 6
JV
1 2 3
J1
J2
J3
J4
J5
PROM REV
JJ 1 2 3 4
JY 1 2 3
JZ 1 2

Xylogics 450 SMD Controller

370–1012 (Fab E, Rev N)


JT
1 2 3
JA
1 2 3 4 5 6 7 8 9 10
JB
1 2 3 4 5 6 7 8 9 10
2
E2
JX
1 2 3 4 5 6 7 8
JR
1 2 3 4
JC
1 2 3 4
JD
1 2 3 4
JE
1 2 3 4 5
JH
1 2 3 4 5 6
JF
1
JK
1 2 3 4 5 6 7 8
JM
1 2 3 4 5 6
JJ
1 2 3 4
JY
1 2 3
JZ
1 2
JV
1 2 3
J1
J2
J3
J4
J5
PROM REV

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 to 10	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)	Sets Address of device for xy0, EE40
	JD JC 2 to 2	In	Address Bit 5 (Hex)	
	3 to 3	In	Address Bit 4 (Hex)	
	4 to 4	In	Address Bit 3 (Hex)	
	JR JC 1 to 1	In	Address Bit 6 (Hex)	Sets Address of device for xy1, EE48
	4 to 4	In	Address Bit 3 (Hex)	
	JD JC 2 to 2	In	Address Bit 5 (Hex)	
	3 to 3	In	Address Bit 4 (Hex)	
JZ	1 to 2	In	Crystal Shunt	

Notes

1. Firmware revisions greater than 952C will not work with a Fujitsu M2284.
2. Firmware revision lower than 952C will not work with a Fujitsu M2284 and Sun OS 3.2 or greater.
3. Reference Xylogics 450/451 SMD Controller Board Configuration Procedures, 813–2002–XX.

370–1012 (Fab C, Revs C thru K)
Jumper Settings

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	
JN	1 to 2	Out	Disable Remote Act Indicator

370–1012 (Fab D, Revs K, L & M)

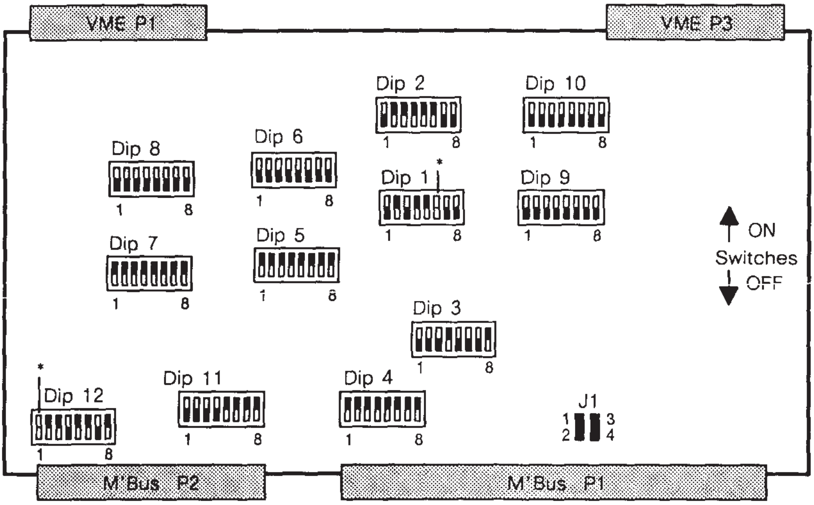
JUMPER	PINS	SETTING	DESCRIPTION
JH	1 to 2	Out	Automatically selects DC power fail detection
		In=N/A	AC Power Fail Detection–not in Sun systems
	3 to 4	Out	Inhibit DMA Sequencer Clock
	5 to 6	In	Select DMA Sequencer Clock
20–Bit Addressing – For Multibus			
JM	1 to 2	Out	24–Bit Address Selected
	3 to 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

VME–Multibus Adapter with Xylogics 450

501–1154


VME P1
VME P3
Dip 2
Dip 10
Dip 8
Dip 6
Dip 1
Dip 9
Dip 7
Dip 5
Dip 3
Dip 12
Dip 11
Dip 4
J1
1 2 3 4
1 8
*
ON
Switches
OFF
M'Bus P2
M'Bus P1

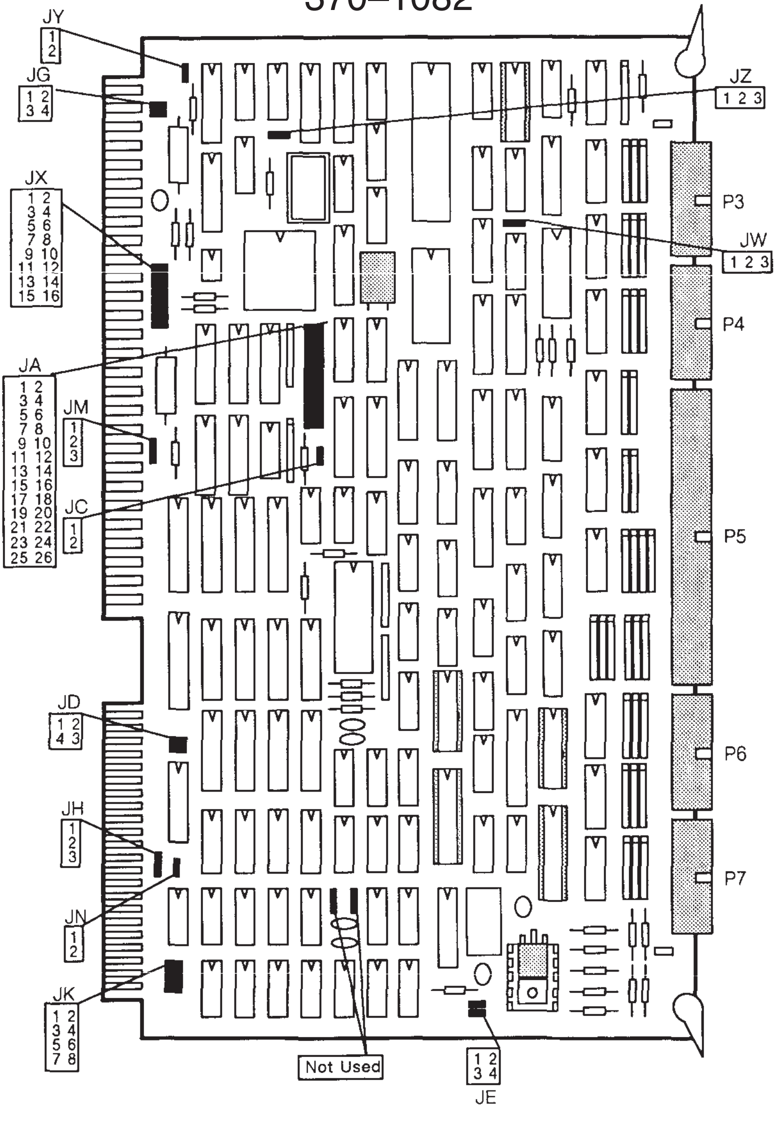
VME TO MULTIBUS ADAPTER BOARD SWITCH SETTINGS									
SWITCH	1	2	3	4	5	6	7	8	DESCRIPTION
U1	N/C	ON	OFF	ON	ON	*	OFF	OFF	I–O Address
U2	N/C	ON	ON	ON	ON	ON	OFF	OFF	I–O Space = 8
U3	OFF	OFF	OFF	ON	OFF	OFF	OFF	ON	I–O Address = 0xEE
U4	ON	ON	ON	ON	ON	ON	ON	ON	VME I–O Space
U5	ON	ON	ON	ON	ON	ON	ON	ON	24–Bit 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)

Xylogics 451 ESMD Controller

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

370–1082


JY
1 2
JG
1 2 3 4
JX
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
JA
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
JM
1 2 3
JC
1 2
JD
1 2 4 3
JH
1 2 3
JN
1 2
JK
1 2 3 4 5 6 7 8
Not Used
1 2 3 4
JE
JZ
1 2 3
P3
JW
1 2 3
P4
P5
P6
P7

370–1082
Jumper Settings

JUMPER	PINS	SETTING	DESCRIPTION
JC	1 to 2	Out	Enables 16–bit addressing mode
JA	1–2	In	Base address setting (ee40) 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 INT1
	3–4	Out	INT2
	5–6	In	INT3
	7–8	Out	INT4
	9–10	Out	INT5
	11–12	Out	INT6
	13–14	Out	INT7
	15–16	Out	
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)

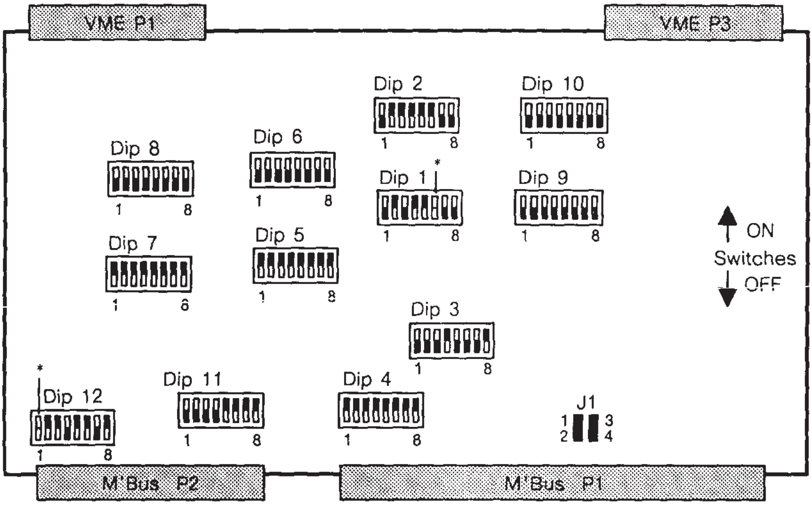
370–1082

Notes

1. The Xylogics 451 SMD Controller may randomly exhibit “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 may 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 451 and two 7053s.
5. Systems using Sun–2 SCSI, 501–1167, may mix a maximum of one 451 and two 7053s.
6. Systems using Sun–2 SCSI, 501–1149, or Sun–3 SCSI, 501–1170, may mix a maximum of one 451 and one 7053.
7. Reference the Xylogics 450/451 SMD Controller Board Configuration Procedures, 813–2002–X

VME–Multibus Adapter with Xylogics 451

501–1166


VME P1
VME P3
Dip 2
Dip 10
Dip 8
Dip 6
Dip 1
Dip 9
ON
Switches
OFF
Dip 7
Dip 5
Dip 3
Dip 12
Dip 11
Dip 4
J1
1
2
3
4
M'Bus P2
M'Bus P1
1
8
*

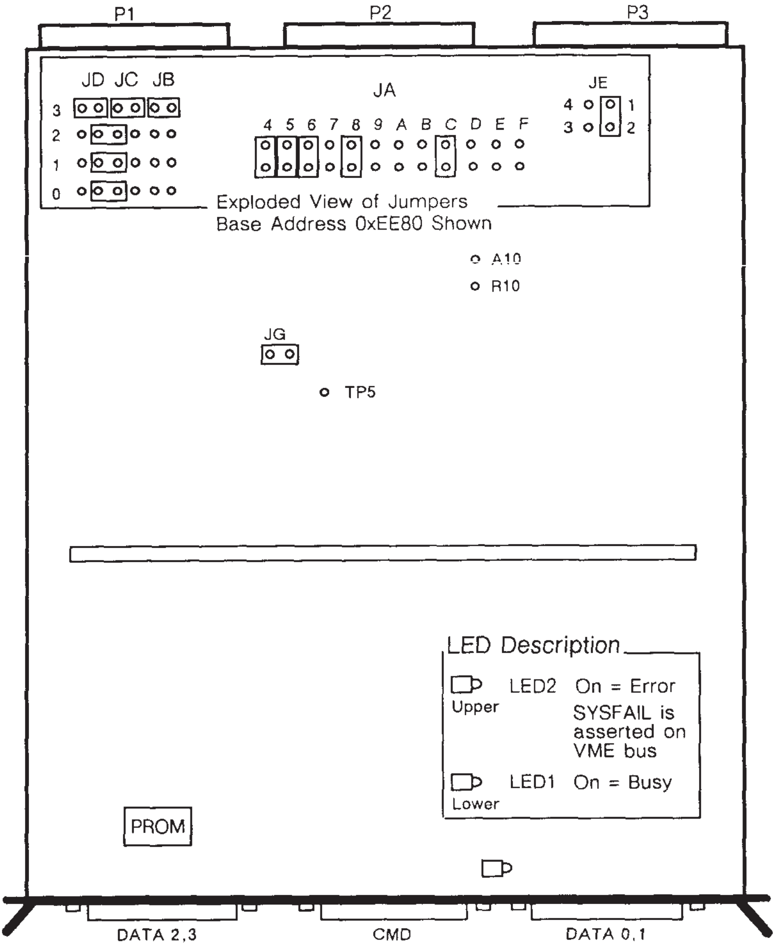
VME TO MULTIBUS ADAPTER BOARD SWITCH SETTINGS									
SWITCH	1	2	3	4	5	6	7	8	DESCRIPTION
U1	N/C	ON	OFF	ON	ON	*	OFF	OFF	I–O Address
U2	N/C	ON	ON	ON	ON	ON	OFF	OFF	I–O Space = 8
U3	OFF	OFF	OFF	ON	OFF	OFF	OFF	ON	I–O Address = 0xEE
U4	ON	ON	ON	ON	ON	ON	ON	ON	VME I–O Space
U5	ON	ON	ON	ON	ON	ON	ON	ON	24–Bit 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)

Xylogics 7053 Disk Controller

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

501–1249


P1
P2
P3
JD JC JB
3
2
1
0
JA
4 5 6 7 8 9 A B C D E F
JE
4 1
3 2
Exploded View of Jumpers
Base Address 0xEE80 Shown
A10
R10
JG
TP5
LED Description
LED2 On = Error
Upper
SYSFAIL is asserted on VME bus
LED1 On = Busy
Lower
PROM
DATA 2,3
CMD
DATA 0,1

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 3–4	In* Out†	Unrestricted maintenance mode (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

Notes

1. When used in a Sun–4/2XX, the CPU must be revision 501–1274–13, 501–1491–01, 501–1522–01, or greater.
2. When used in a Sun–3/1XX, use only with the 501–1208 CPU board.
3. When used in a Sun–3/1XX or Sun–3/2XX, the CPU Boot PROM must be revision 2.6 or greater.
4. Systems using Sun–2 SCSI, 501–1138, or Sun–3 SCSI, 501–1217, may mix a maximum of one 451 and two 7053s.
5. Systems using Sun–2 SCSI, 501–1167, may mix a maximum of one 451 and two 7053s.
6. Systems using Sun–2 SCSI, 501–1143, or Sun–3 SCSI, 501–1170, may mix a maximum of one 451 and one 7053.
7. Do not install a shunt at locations R10 and A10 (test points).
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. Reference the VME/SMD Disk Controller Configuation Procedures, 813–2033–XX.

Tape

TAPE DRIVES

Archive 2150S 1/4” Tape (QIC–150) 2
Fujitsu 1/2” Tape (6250 bpi) 3

CONTROLLERS

1/4” Tape

Sun 1/4” Tape 18
Sysgen SC4000 20
Archive Standalone Controller (SAC) 22
Emulex MT02 24

1/2” Tape

Ciprico Tapemaster (1600 bpi) 26
VME–Multibus Adapter with Tapemaster. 29
Xylogics 472 (6250 bpi) 30
VME–Multibus Adapter with Xylogics 472 33

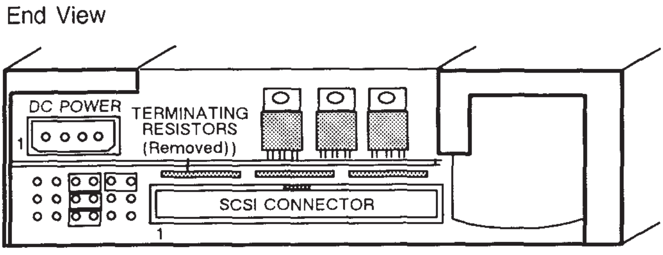
FLOPPY DRIVES

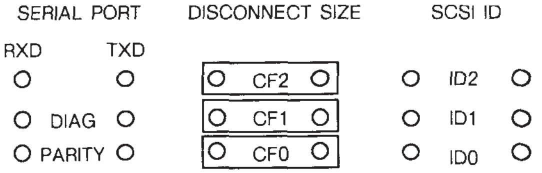
1.4MB Floppy Diskette (3 1/2”) 34

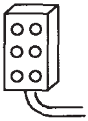
Archive 2150S 1/4” Tape Drive

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

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


End View
DC POWER
1
TERMINATING RESISTORS (Removed))
SCSI CONNECTOR
1


SERIAL PORT
DISCONNECT SIZE
SCSI ID
RXD
TXD
DIAG
PARITY
CF2
CF1
CF0
ID2
ID1
ID0



To install the 370–1218 tape drive in the Desktop Tape Pack, first remove the SCSI ID jumper. Orient flex cable, 530–1454, as shown and plug it into the SCSI ID jumper block. Finally, set the ID switch on the back of the unit.

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 In In	Disconnect Transfer Size	Size = 32K
ID2 ID1 ID0	In Out Out	SCSI ID/Target 1st 1/4” Tape Drive (ST0)	ID = 4
ID2 ID1 ID0	In Out In	SCSI ID/Target 2nd 1/4” Tape Drive (ST1)	ID = 5

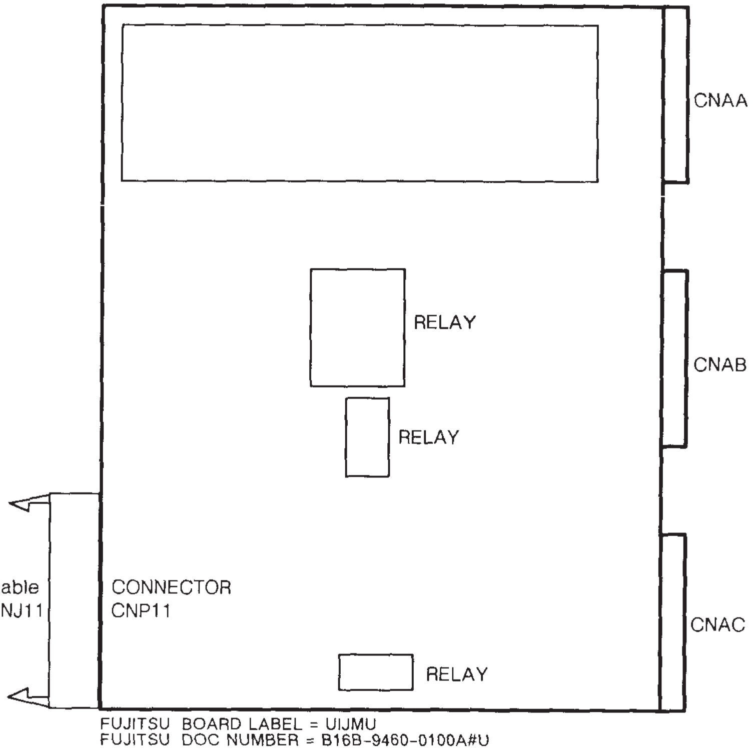
* IN for 370–1246 and 370–1293 drives.

Notes: Reference the 150MB Streaming Tape Drive Configuration Procedure.

Fujitsu 1/2” Tape Drive

Servo Amplifier (SVA)

811–1050


CNAA
RELAY
CNAB
RELAY
Cable
CNJ11
CONNECTOR
CNP11
CNAC
RELAY
FUJITSU BOARD LABEL = UIJMU
FUJITSU DOC NUMBER = B16B-9460-0100A#U

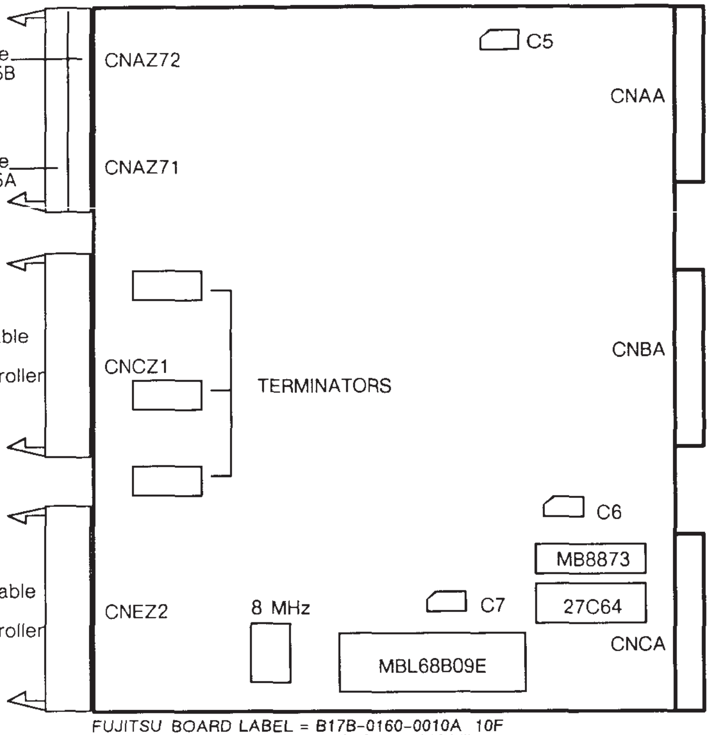
Slots 1 & 2

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

Fujitsu 1/2" Tape Drive

Buffer Option (BUF)

811–1051


Cable 1A05B
Cable 1A05A
A Cable from Controller
B Cable from Controller
CNAZ72
CNAZ71
CNCZ1
CNEZ2
TERMINATORS
8 MHz
C5
C6
C7
CNAA
CNBA
CNCA
MB8873
27C64
MBL68B09E

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

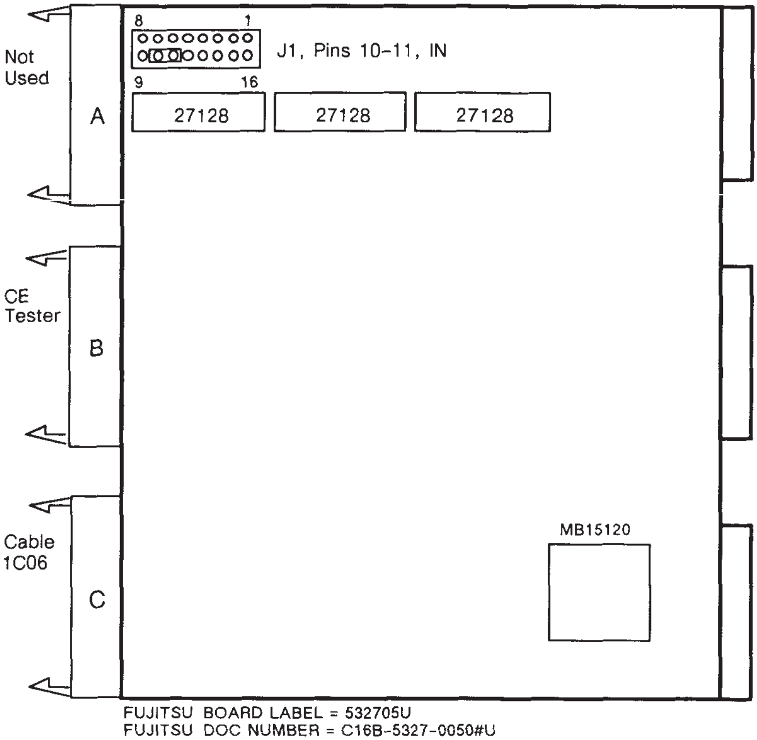
Slot 4,5

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 1/2” Tape Drive

Microprocessor Unit (MPU)

811–1054


8
1
9
16
J1, Pins 10-11, IN
27128
27128
27128
Not Used
A
CE Tester
B
Cable 1C06
C
MB15120
FUJITSU BOARD LABEL = 532705U
FUJITSU DOC NUMBER = C16B-5327-0050#U

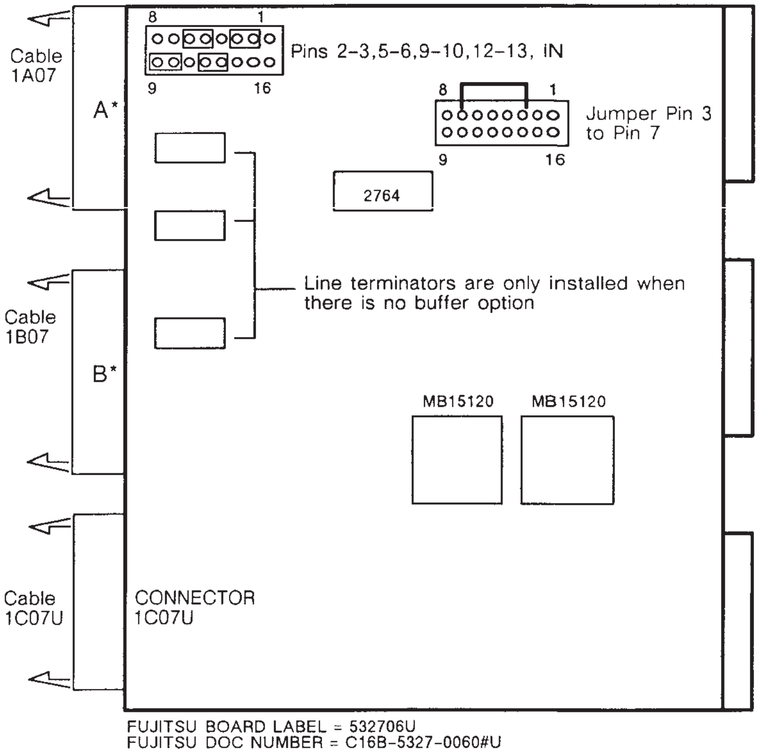
Slot 6

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

Fujitsu 1/2” Tape Drive

Interface Controller (IFC)

811–1055


8
1
Pins 2-3,5-6,9-10,12-13, IN
9
16
Cable
1A07
A*
8
1
Jumper Pin 3
to Pin 7
9
16
2764
Line terminators are only installed when
there is no buffer option
Cable
1B07
B*
MB15120
MB15120
Cable
1C07U
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, and 97). See REP 1130, 2310, and 2330 in the Fujitsu M244X CE Manual, 800–1409–01.

Fujitsu 1/2” Tape Drive
NVRAM Configuration Procedures

Test 97 – Buffer Parameters

1. Press and hold the TEST button.
2. Press START button.
3. Release the TEST button.
4. Press the UNLOAD button to decrement the LED display to 97.
5. Press and hold the TEST button.
6. Press the DENSITY SELECT button to display P0 in the LED.
7. Release the TEST button.
8. Press the RESET button to display the contents of P0.
9. Press the START or UNLOAD button to change P0 to 04
10. Press the TEST button to display P1 in the LED.
11. Press the RESET button to display the contents of P1.
12. Press the START or UNLOAD button to change P1 to 00.
13. Press the TEST button to display P2 in the LED.
14. Press the START or UNLOAD button to change P2 to 02.
15. Press the RESET button to display the contents of P2.
16. Press the TEST button to display P3 in the LED.
17. Press the RESET button to display the contents of P3.
18. Press the START or UNLOAD button to change P3 to 02.
19. Press the TEST button to display P4 in the LED
20. Press the RESET button to display the contents of P4.

21 Press the START or UNLOAD button to change P4 to 00.

22. Press the TEST button to display P5 in the LED.
23. Press the RESET button to display the contents of P5
24. Press the START or UNLOAD button to change P5 to 00.
25. Press the TEST button to display P6 in the LED.
26. Press the RESET button to display the contents of P6.
27. Press the START or UNLOAD button to change P6 to 00.
28. Press the TEST button to display P7 in the LED.
29. Press the RESET button to display the contents of P7.
30. Press the START or UNLOAD button to change P7 to 00.
31. Press the TEST button to exit test 97.
32. Press the RESET button to exit the test mode.

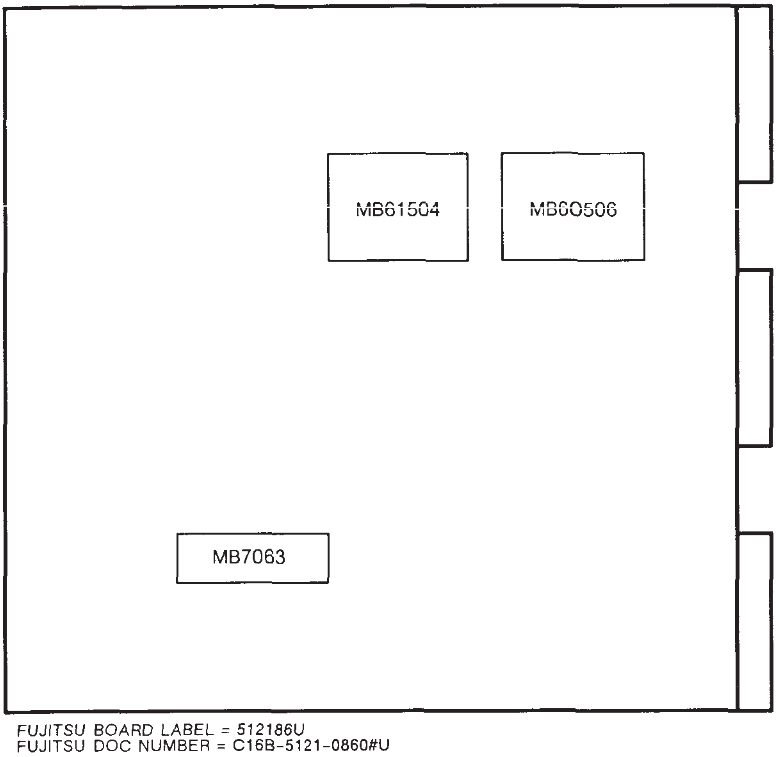
Test 94 – Set New Parameters into NVRAM

1. Press and hold the TEST button.
2. Press START button.
3. Release the TEST button.
5. Press and hold TEST button.
6. Press DENSITY SELECT and release the TEST button.
7. Press the RESET button to exit the test mode.

Fujitsu 1/2” Tape Drive

Write Formatter (WFM)

811–1052


MB61504
MB60506
MB7063
FUJITSU BOARD LABEL = 512186U
FUJITSU DOC NUMBER = C16B-5121-0860#U

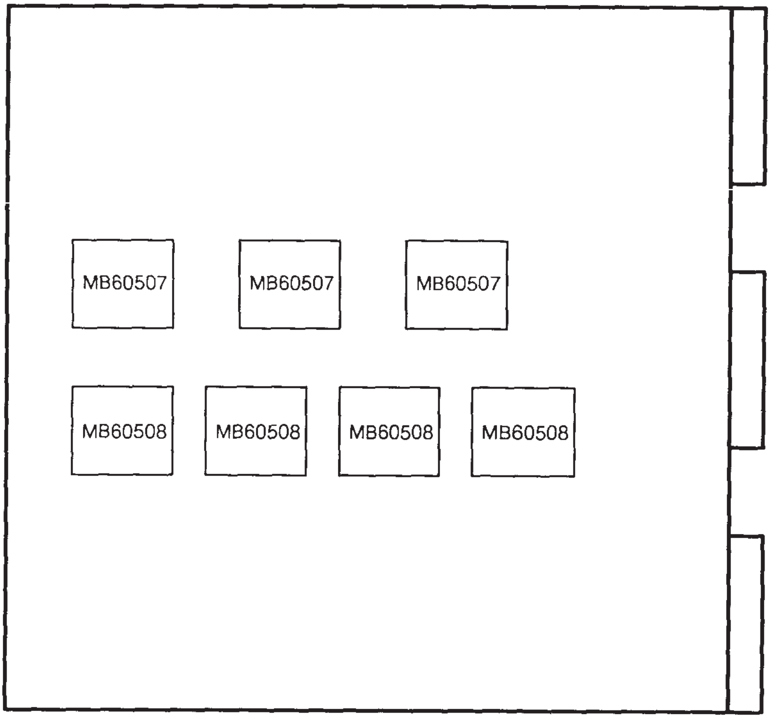
Slot 8

Note: The WFM requires NO adjustment upon replacement.

Fujitsu 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

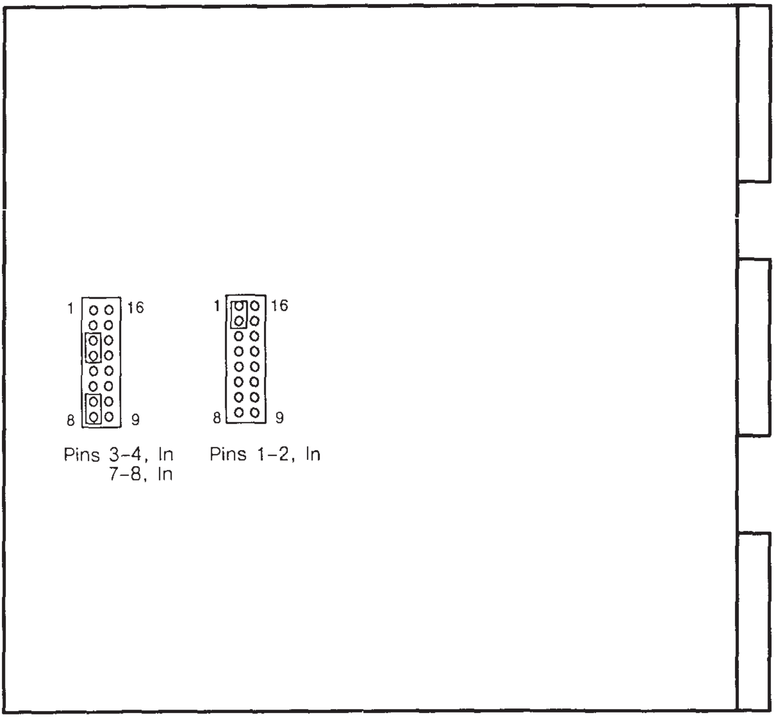
Slot 9

Note: The RFM requires NO adjustment upon replacement.

Fujitsu 1/2” Tape Drive

Variable Frequency Oscillator (VFO)

811–1057


1
16
8
9
Pins 3-4, In
7-8, In
1
16
8
9
Pins 1-2, In

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

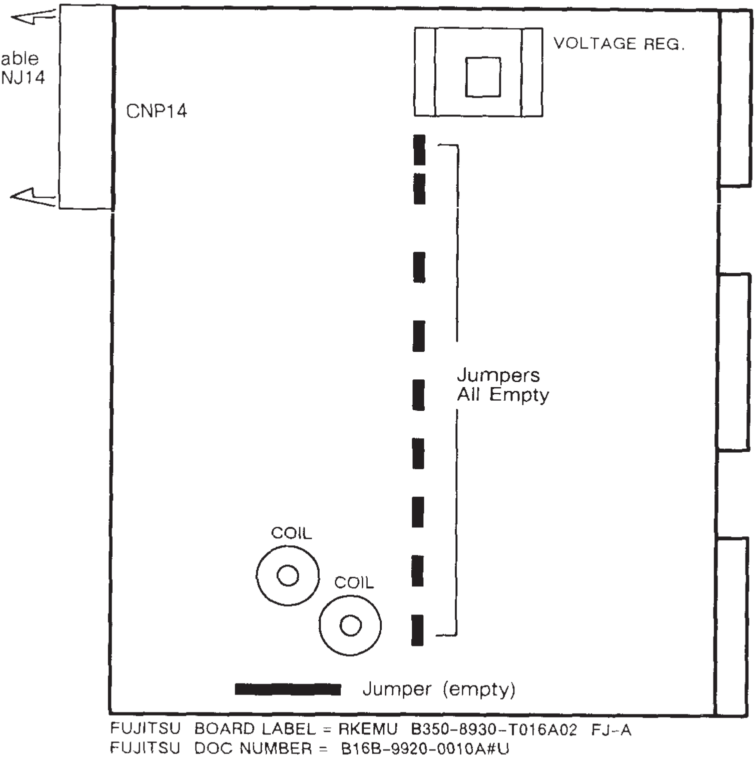
Slot 10

Note: The VFO requires NO adjustment upon replacement.

Fujitsu 1/2” Tape Drive

Read Amplifier Card (RDA)

811–1056


Cable
CNJ14
CNP14
VOLTAGE REG.
Jumpers
All Empty
COIL
COIL
Jumper (empty)
FUJITSU BOARD LABEL = RKEMU B350-8930-T016A02 FJ-A
FUJITSU DOC NUMBER = B16B-9920-0010A#U

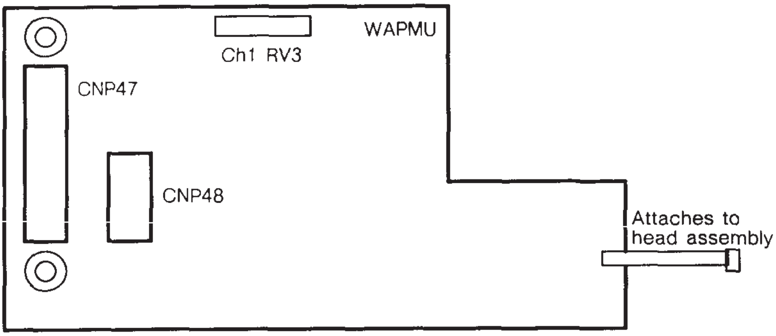
Slots 11 to 12

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

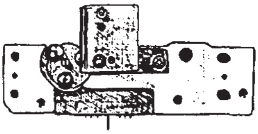


FUJITSU BOARD LABEL = WAPMU
FUJITSU DOC NUMBER = B16B-9470-0100A#U(WAPMU)

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



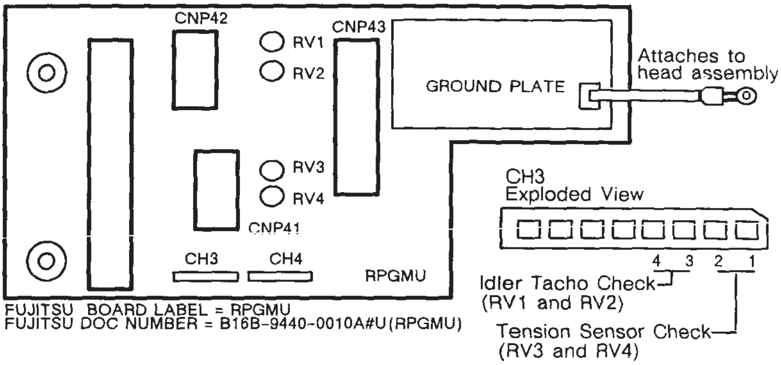
Note: The Read/Write Head requires adjustment upon replacement (skew tape). See REP 1240, 2110, and 2330 in the Fujitsu M244X CE Manual, 800–1409–01.

Fujitsu 1/2” Tape Drive

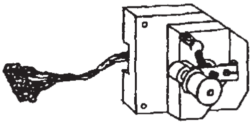
555–1055

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

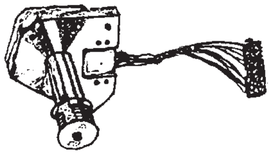
Read Pre-Amplifier (RPA)


CNP42
CNP43
RV1
RV2
GROUND PLATE
Attaches to head assembly
RV3
RV4
CNP41
CH3
CH4
RPGMU
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 *

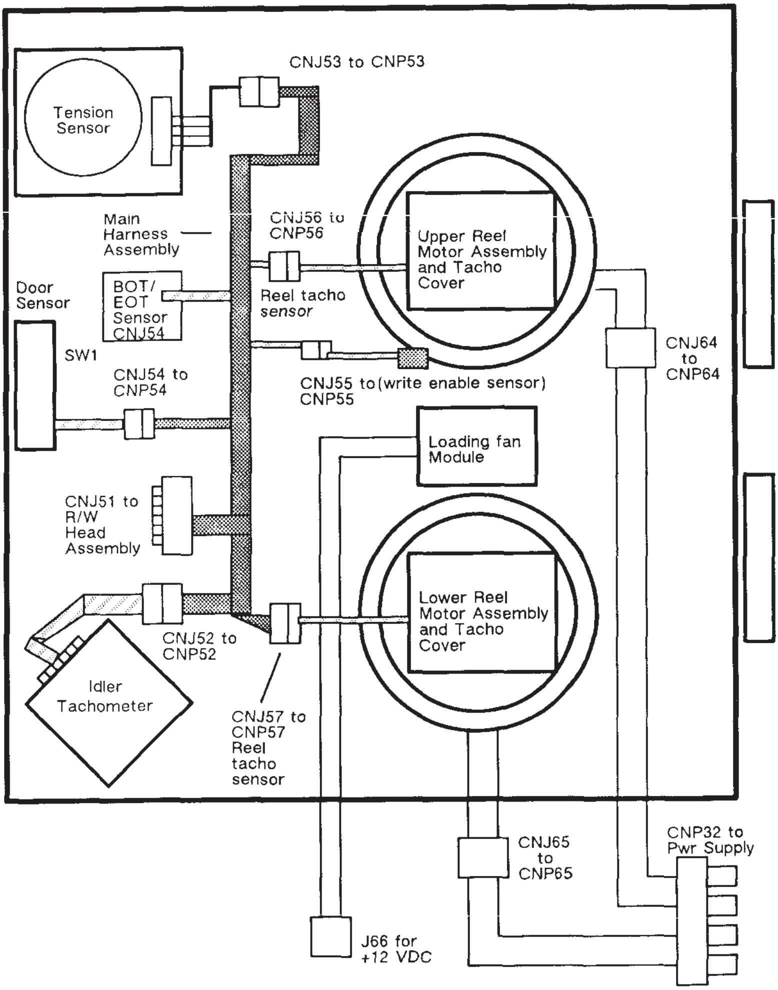


Idler Tachometer, part number B90L–1650f–0001A, does NOT require adjustment. Variable Resistor RV1 and RV2 do not effect the signal output at CH3, pins 3 and 4.

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 1/2” Tape Drive

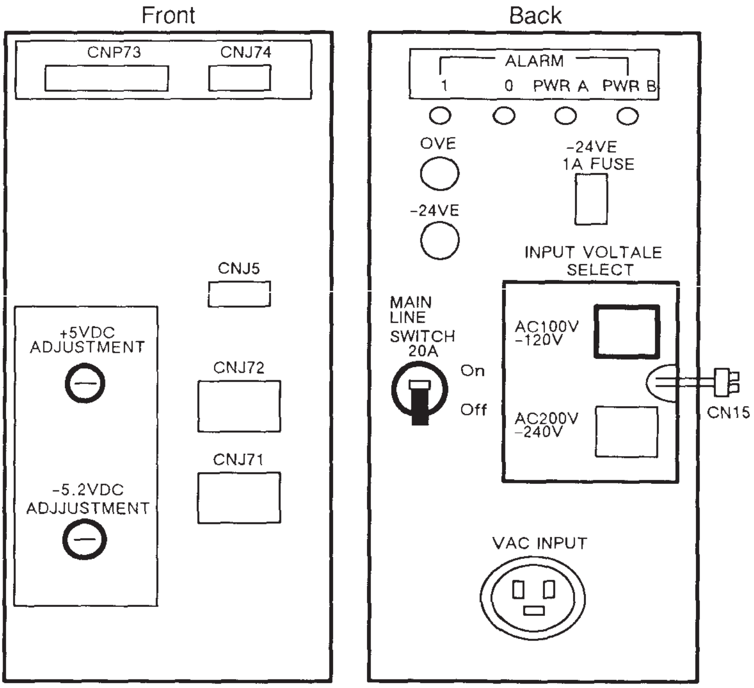
Rear Door Harness and Assembly


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
CNJ64 to CNP64
CNJ54 to CNP54
CNJ55 to (write enable sensor) CNP55
Loading fan Module
CNJ51 to R/W Head Assembly
Lower Reel Motor Assembly and Tacho Cover
CNJ52 to CNP52
Idler Tachometer
CNJ57 to CNP57 Reel tacho sensor
CNJ65 to CNP65
CNP32 to Pwr Supply
J66 for +12 VDC

Fujitsu 1/2” Tape Drive

811–1027

Power Supply Module A–1


Front
CNP73
CNJ74
CNJ5
+5VDC ADJUSTMENT
CNJ72
CNJ71
-5.2VDC ADJJUSTMENT
Back
ALARM
1
0
PWR A
PWR B
OVE
-24VE 1A FUSE
-24VE
INPUT VOLTALE SELECT
MAIN LINE SWITCH 20A
On
Off
AC100V -120V
AC200V -240V
CN15
VAC INPUT

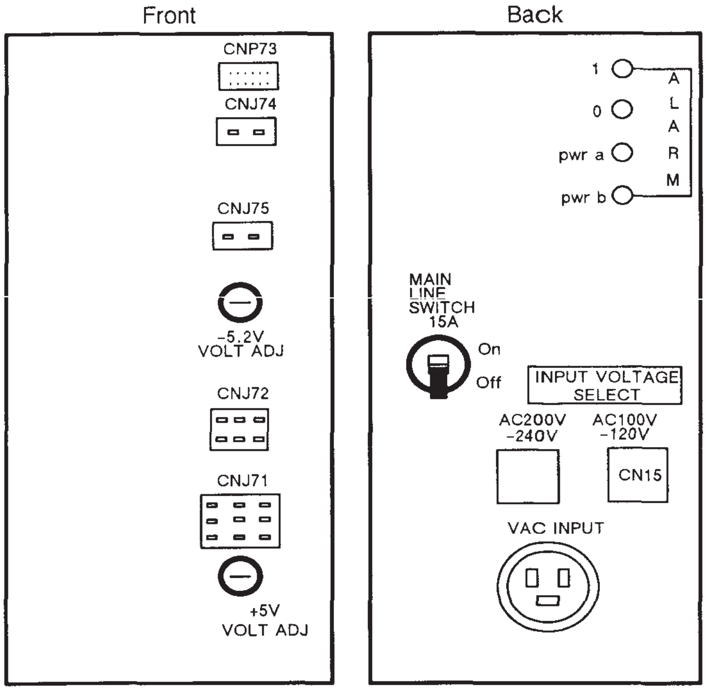
The abnormal conditions indicated by the alarm panel are described in the chart below.

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

Fujitsu 1/2” Tape Drive

811–1027

Power Supply Module A–2


Front
CNP73
CNJ74
CNJ75
–5.2V VOLT ADJ
CNJ72
CNJ71
+5V VOLT ADJ
Back
1
0
pwr a
pwr b
ALARM
MAIN LINE SWITCH 15A
On
Off
INPUT VOLTAGE SELECT
AC200V –240V
AC100V –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

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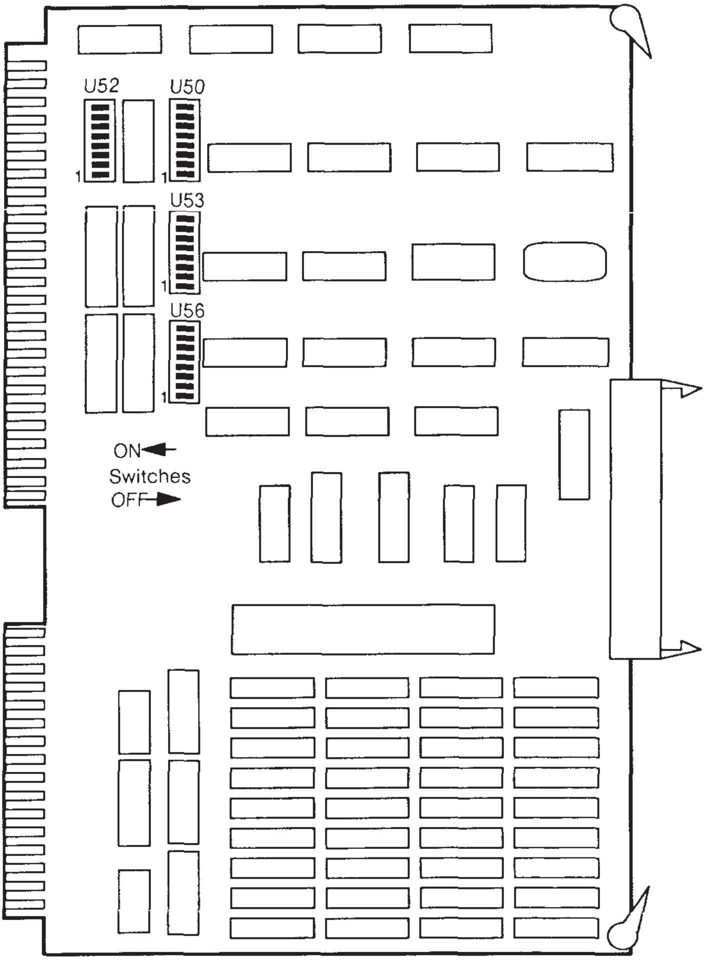
Sun 1/4” Tape Controller

Sun–2/100U/150U

501–0526


U52
U50
1
1
U53
1
U56
1
ON
Switches
OFF

501–0526
Switch Settings

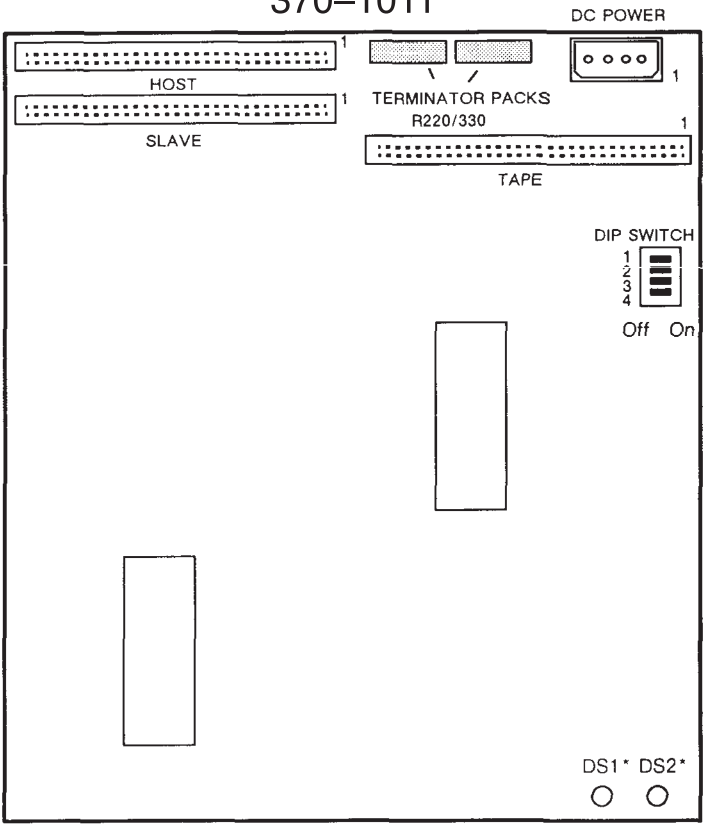
DIP SWITCH	SWITCH	SETTING	DESCRIPTION
U50	1–8	Off	Selects base address
U52	1	Off	Selects interrupt level 0
	2	Off	Selects interrupt level 1
	3	Off	Selects interrupt level 2
	4	On	Selects interrupt level 3
	5	Off	Selects interrupt level 4
	6	Off	Selects interrupt level 5
	7	Off	Selects interrupt level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

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

Sysgen SC4000 Tape Controller

Sun–2/50/120/130/160 & Sun–3/50/75/160

370–1011


DC POWER
1
HOST
1
SLAVE
1
TERMINATOR PACKS
R220/330
1
1
TAPE
DIP SWITCH
1
2
3
4
Off On
DS1* DS2*

* 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)

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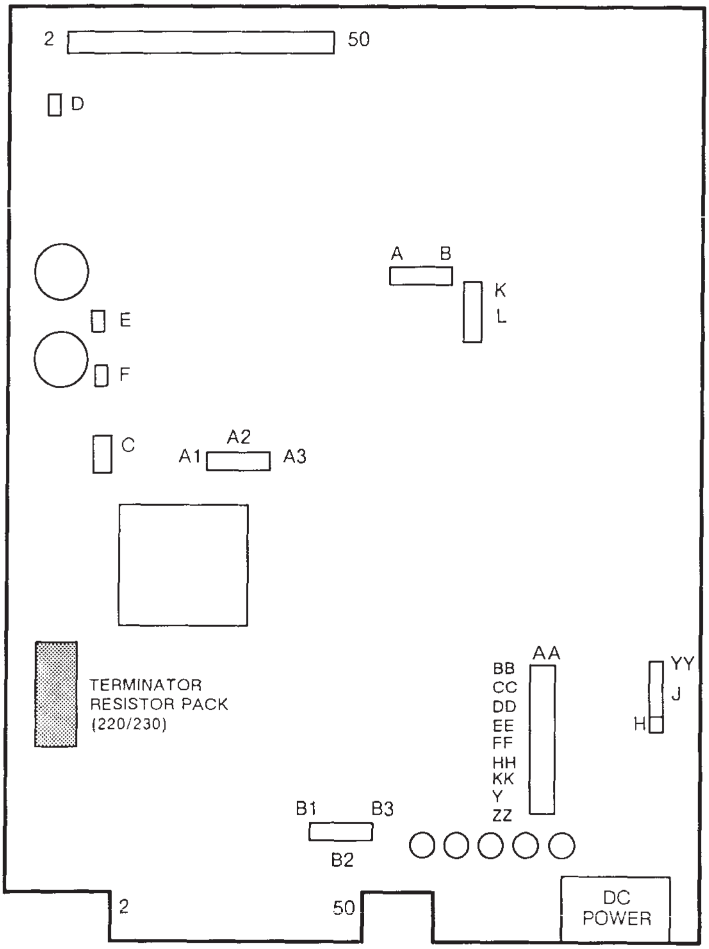
Archive Standalone Controller (SAC)

Sun–2/50/120/130/160/170 & Sun–3/50/75

370–1026


2
50
D
A
B
K
L
E
F
C
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

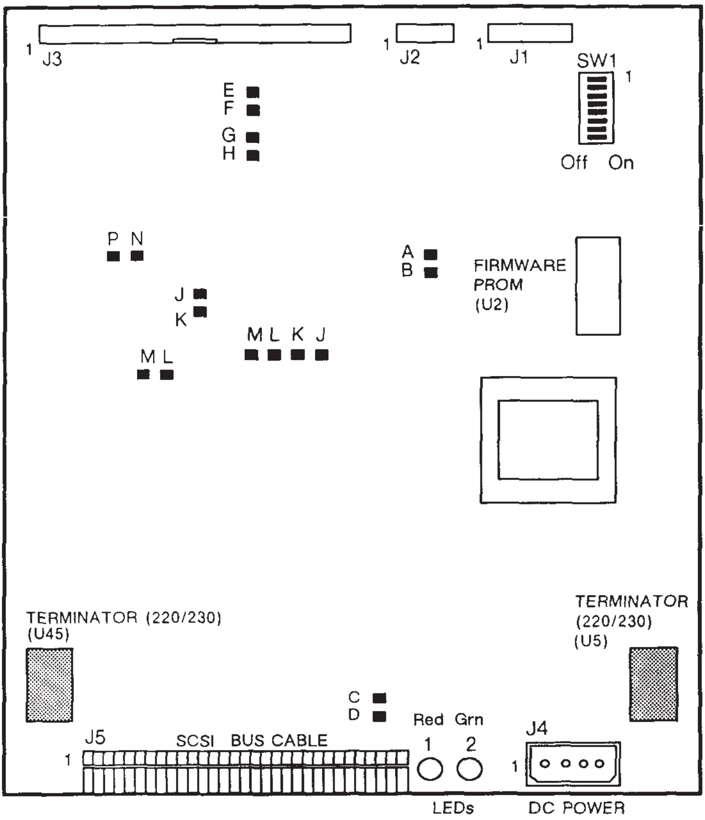
JUMPER	SETTING	DESCRIPTION
AA	Off	Format Selection QIC–11/24
BB	Off	
CC*	Off/On	
DD	Off	
EE	Off	
FF	Off	
HH	Off	
KK	Off	Power on clear
Y	Off	Sun–2/120/170
	On	Sun–2 Shoebox
ZZ	On	
A B	B On	
A1 A2 A3	A1–A2 On	
B1 B2 B3	B1–B2 On	
YY J	Off	
K L	L On	
C	Off	
D	Off	
E	Off	
F	Off	

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

Note: This board is used with the Basic Drive (370–1024, 370–1043) in Multibus products and the Sun–2 Shoebox.

Emulex MT02 Controller

Sun–3/50/60/75/110/140/150/160/180/260
Sun–3/460/470
Sun–4/110/150/260/280 & Sun386i
370–1061, 370–1235



1
J3
1
J2
1
J1
SW1
1
Off
On
E
F
G
H
P
N
A
B
FIRMWARE
PROM
(U2)
J
K
M L K J
M L
TERMINATOR (220/230)
(U45)
TERMINATOR
(220/230)
(U5)
C
D
Red
Grn
1
2
J4
J5
SCSI BUS CABLE
1
1
LEDs
DC POWER

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.

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 6	On Off	Archive Drive (Scorpion)
	5 6	On On	Wangtek Drive (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 * C–D *	In Out	EPROM Memory size select
E–F *	In Out	Hi/Lo write current (Archive Drive) 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.

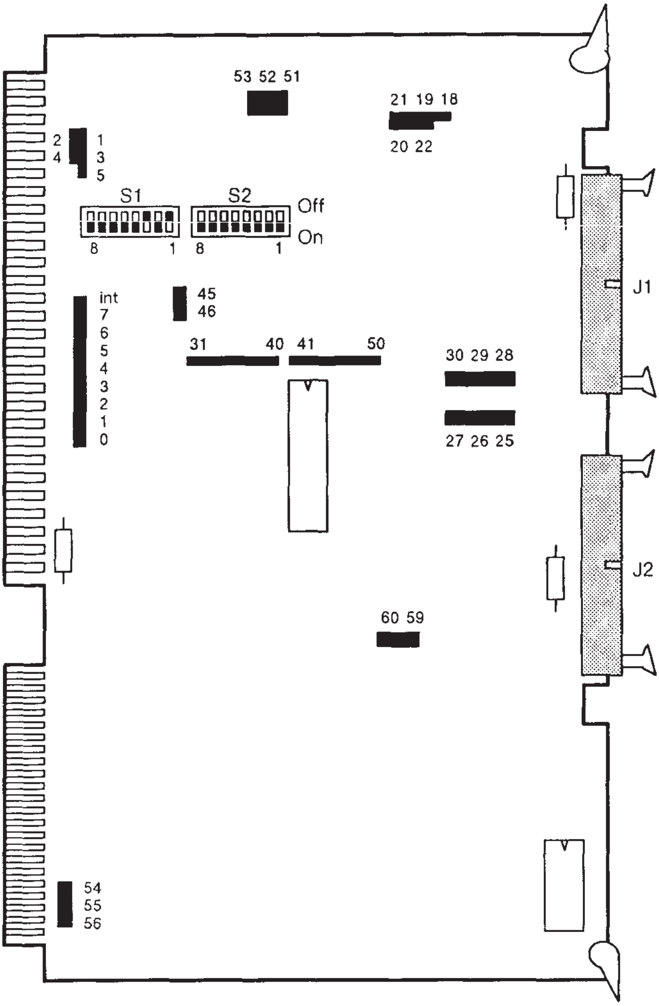
Notes

1. 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.
2. Reference the Sun–3 Emulex MT02 Controller configuration Procedures, 813–2011–XX.
3. Reference the 60 Mbyte Streaming Tape Drive with SCSI Controller Configuration Procedures, 814–1019–XX.

Ciprico Tapemaster Controller

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

370–0502



53 52 51
21 19 18
20 22
2
4
1
3
5
S1
S2
Off
On
8
1
8
1
int
7
6
5
4
3
2
1
0
45
46
31
40
41
50
30 29 28
27 26 25
J1
J2
60 59
54
55
56

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)

370–0502
Jumper Settings

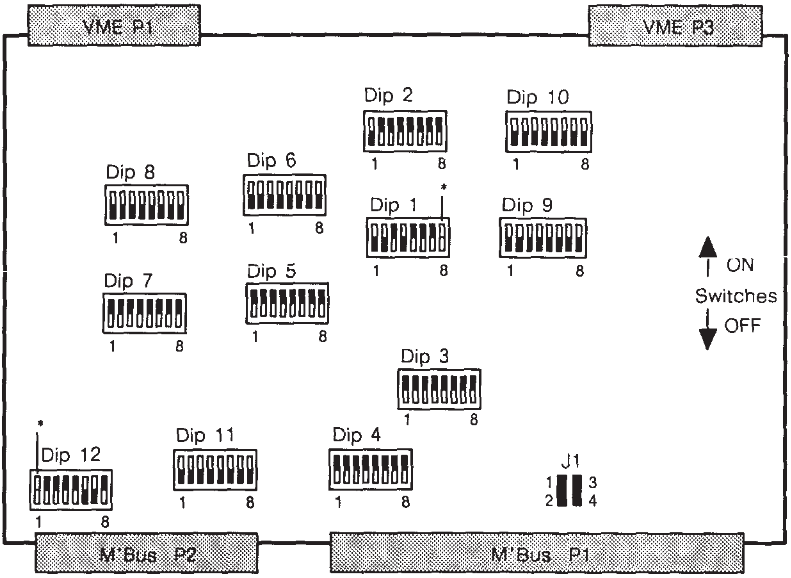
JUMPER PINS	SETTING	DESCRIPTION	
1,2	Out	Parallel arbitration (BPRO)	
3–4 5	In Out	Enable CBRQ	
15,16	Hardwired	Select 16–bit address mode	
18–19 20–21 22	Hardwired Hardwired Out	Non–maintenance mode (Normal mode)	
25,26 27	Hardwired Out	Check odd parity	
28,29 30	Hardwired Out	Generate odd parity	
31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

Sun–2/100U

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

VME–Multibus Adapter with Tapemaster

501–1156

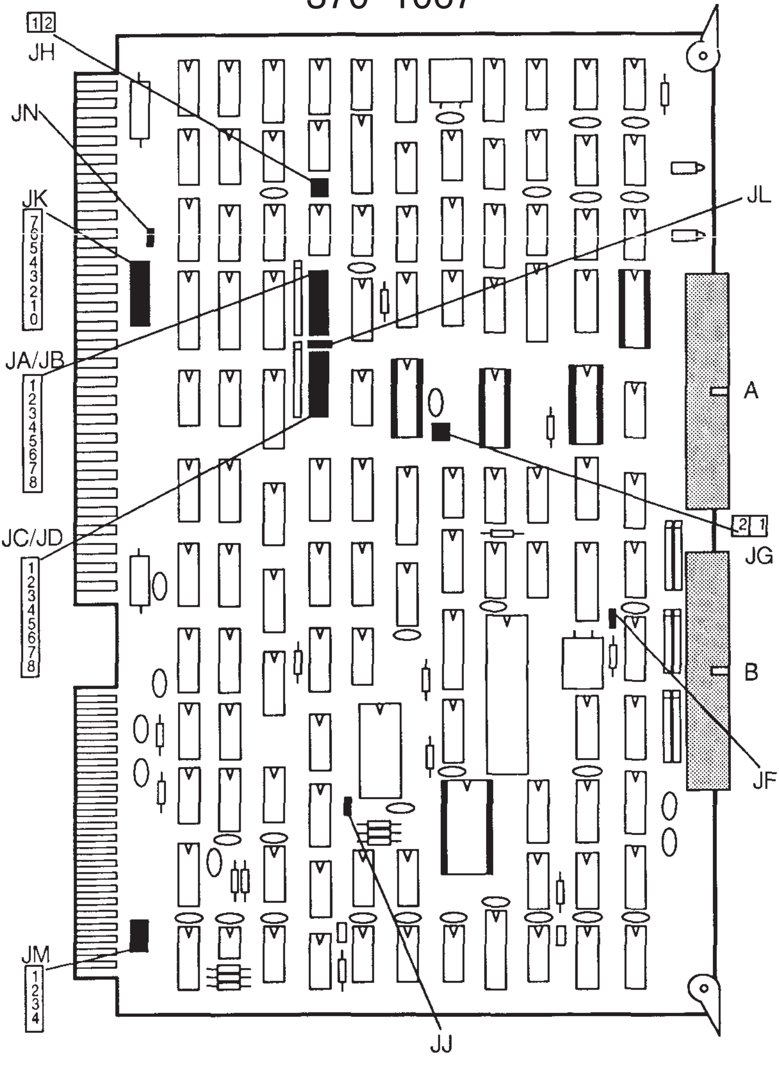

VME P1
VME P3
Dip 2
Dip 10
Dip 8
Dip 6
Dip 1
Dip 9
Dip 7
Dip 5
Dip 3
Dip 12
Dip 11
Dip 4
J1
1 2 3 4
1 8
*
ON
Switches
OFF
M'Bus P2
M'Bus P1

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 = 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	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 = A0, Interrupt Vector = 0x60)
tm1 = OFF (I–O Address = A2, Interrupt Vector = 0x61)

Xylogics 472 Tape Controller

Sun–2/120/130/160/170
Sun–3/160/180/260/280/460/470/480
Sun–4/260/280
370–1067


1 2
JH
JN
JK
7 6 5 4 3 2 1 0
JA/JB
1 2 3 4 5 6 7 8
JC/JD
1 2 3 4 5 6 7 8
JM
1 2 3 4
JL
A
2 1
JG
B
JF
JJ

370–1067
Jumper Settings

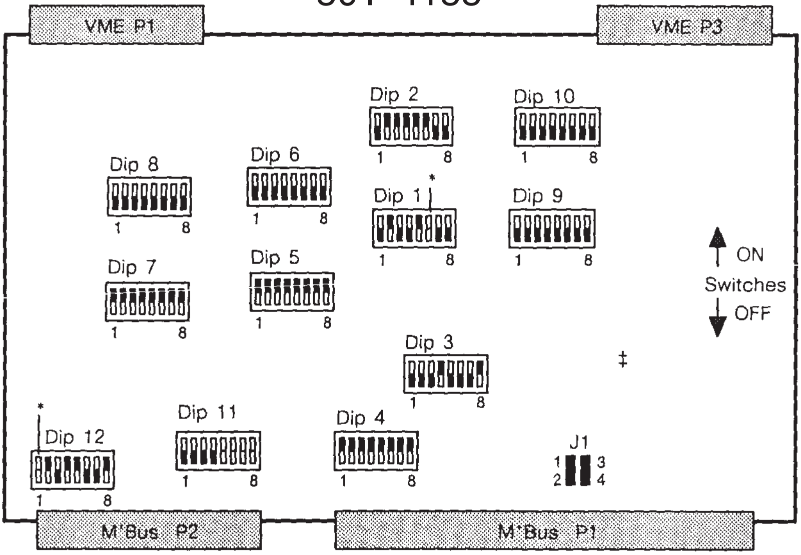
JUMPER	PINS	SETTING	DESCRIPTION	
JF	N/A	Out	All Sun–2 Multibus Systems (20–bit address)	
		In	All Sun–2,3,4 VME Systems (24–bit address)	
JM	1	*	Select ADR0x17	All IN for 12–bit addressing and all OUT for 20–bit addressing
	2	*	Select ADR0x16	
	3	*	Select ADR0x15	
	4	*	Select ADR0x14	
JG	1	Out		
	2	In	8KB FIFO Butter 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	* *	Select Interrupt Level–0	
	1	* *	Select Interrupt Level–1	
	2	* *	Select Interrupt Level–2	
	3	In	Select Interrupt Level–3 ← Factory Setting	
	4	* *	Select Interrupt Level–4	
	5	* *	Select Interrupt Level–5	
	6	* *	Select Interrupt Level–6	
	7	* *	Select Interrupt Level–7	
			* * ONLY the desired interrupt level should be jumpered, all other jumpers should be Out.	
JL	N/A	Out	Select 16–Bit I–O Address	
JN	N/A	Out	Select Parallel DMA Priority	
JA to JB	JA JB		Selects the “high–order” byte of I–O Address	
	1 to 1	Out	ADR0xF	Selects High–Order Byte = 0xEE
	2 to 2	Out	ADR0xE	
	3 to 3	Out	ADR0xD	
	4 to 4	In	ADR0xC	
	5 to 5	Out	ADR0xB	
	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	Set as “First Controller” device (xtc0). I–O Address = 0x60
	2 to 2	Out	ADR0x6	
	3 to 3	Out	ADR0x5	
	4 to 4	In	ADR0x4	
	5 to 5	In	ADR0x3	
	6 to 6	In	ADR0x2	
	7 to 7	In	ADR0x1	
	8 to 8	In	ADR0x0	
	1 to 1	In	ADR0x7	Set as “Second Controller” device (xtc1). I–O Address = 0x68
	2 to 2	Out	ADR0x6	
	3 to 3	Out	ADR0x5	
	4 to 4	In	ADR0x4	
	5 to 5	Out	ADR0x3	
	6 to 6	In	ADR0x2	
	7 to 7	In	ADR0x1	
	8 to 8	In	ADR0x0	

VME–Multibus Adapter with Xylogics 472

501–1155


VME P1
VME P3
Dip 2
Dip 10
Dip 8
Dip 6
Dip 1
Dip 9
Dip 7
Dip 5
Dip 3
Dip 12
Dip 11
Dip 4
1
8
*
ON
Switches
OFF
‡
J1
1
2
3
4
M'Bus P2
M'Bus P1

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	OFF	OFF	OFF	OFF	Sets Address Bits A23 Thru 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					

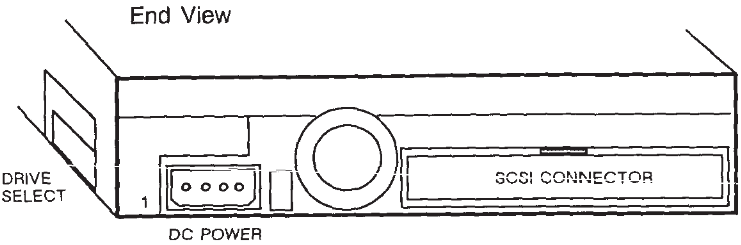
* xtc0 = ON (I–O Address = 0x60, Interrupt Vector = 0x64)
xtc1 = OFF (I–O Address = 0x68, Interrupt Vector = 0x65)

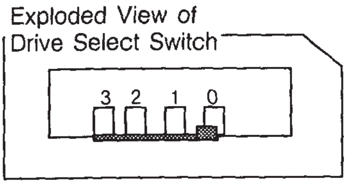
Note: When set to 24–bit, will fail to boot from tape and will fail Extended Diagnostic XT on 3/160/180/260/280 and 4/260/280 (PROM bug).

1.4MB Floppy Diskette

Sony MP–F17W–XX

Sun386i	Sun–3/80, Sun–4/60
370–1150 White Bezel	370–1207 No Bezel


End View
DRIVE SELECT
1
DC POWER
SCSI CONNECTOR


Exploded View of Drive Select Switch
3
2
1
0

Note: Reference the Sun–3/80 Internal Diskette Drive Installation Manual, 813–1065–XX.

Communication

3Com Multibus Ethernet 2
Sun–2 Multibus Ethernet. 4
VME–Multibus Adapter with Sun–2 Ethernet. . . . 6
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VME–Multibus Adapter with SCP 12
Asynchronous Line Multiplexor (370–1099) 14
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Systech Cross–Reference Tables 21
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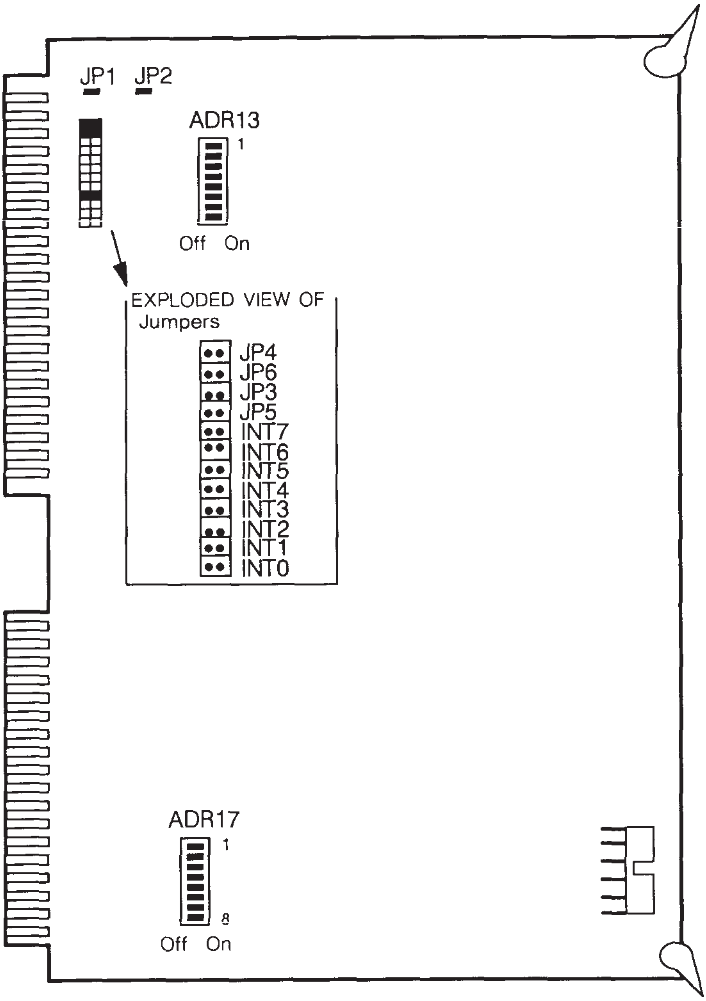
Multiprotocol Communication Processor (MCP) . 24
SunLink Channel Adapter–LCP. 26
SunLink Channel Adapter–IBD 30
SunLink Channel Adapter–CIO 32
SunLink High–Speed Serial Interface (HSI) 34
Etherlink I 36
Etherlink II 37
Etherlink/MC 38
Fibercom Workstation Transceiver 40

3Com Multibus Ethernet

2/100/120/150/170

370–0288


JP1
JP2
ADR13
1
Off On
EXPLODED VIEW OF Jumpers
JP4
JP6
JP3
JP5
INT7
INT6
INT5
INT4
INT3
INT2
INT1
INT0
ADR17
1
8
Off On

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 0xE0000

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 17

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

Second Board
(ec1)
Base address is 0xE2000

DIP SWITCH ADR 13

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

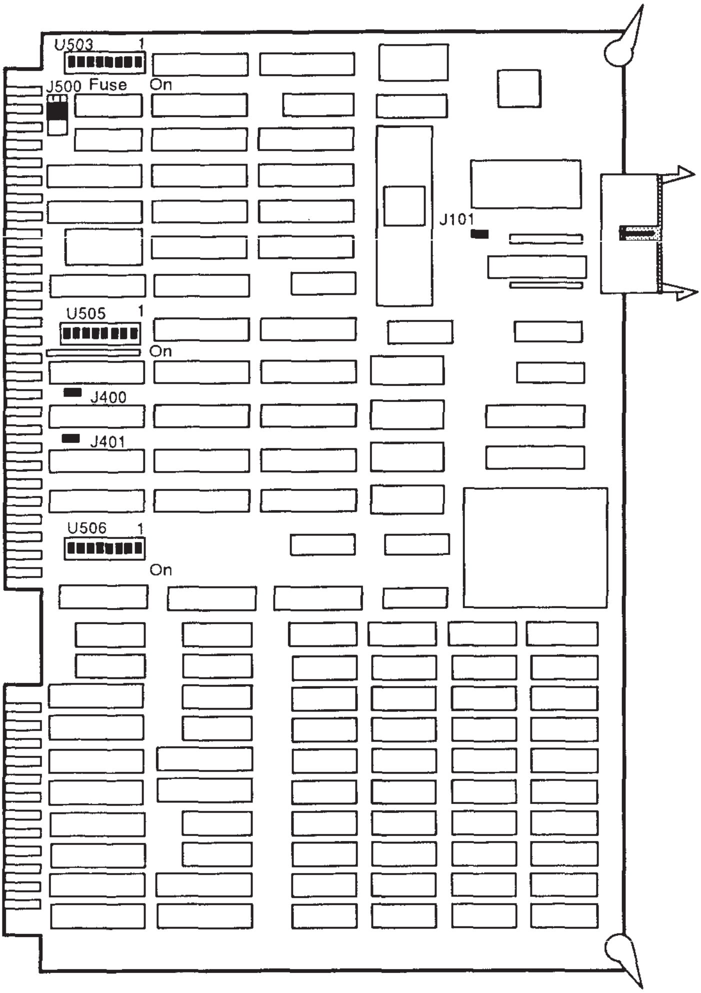
DIP SWITCH ADR 17

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

Sun–2 Multibus Ethernet

2/120/170

501–1004


U503
1
J500
Fuse
On
J101
U505
1
On
J400
J401
U506
1
On

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				
OFF	X	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

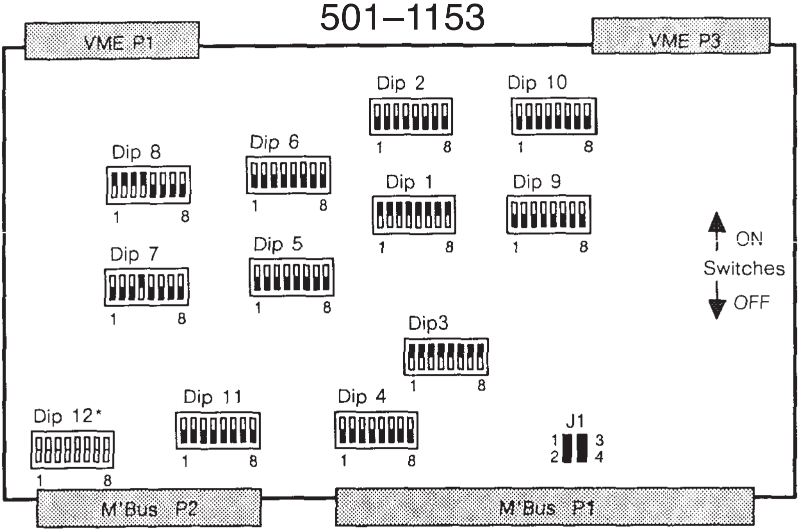
U506

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

VME–Multibus Adapter with Sun–2 Ethernet

Sun–2/130/160
Sun–3/110/140/150/160/180/260/280/460/470/480
Sun–4/110/150/260/280/330

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	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	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 Thru A20
U12*	OFF OFF	ON OFF	OFF ON	ON OFF	OFF OFF	OFF ON	OFF ON	ON ON	Interrupt Vector = 0x75 Interrupt Vector = 0x1B
J1	PINS 1–2		IN	If BCLK is desired					
	PINS 3–4		IN	If CCLK is desired					

* For OS Version 3.0 and above, use 0x75. For OS Versions below 3.0, use 0x1B.

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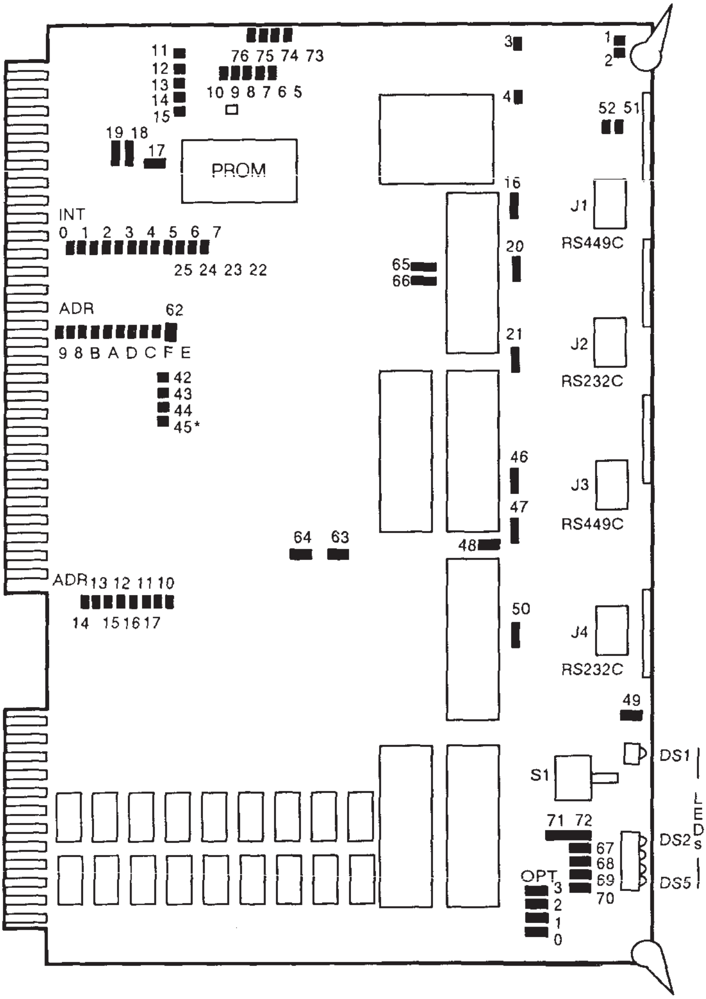
SunLink
Communications Processor (SCP)
Sun–2/120/130/160/170
Sun–3/110/140/150/160/180/260/280/460/470/480
Sun–4/260/280
370–1049



76 75 74 73
11
12
13
14
15
10 9 8 7 6 5
19 18
17
PROM
3
4
1
2
52 51
16
J1
RS449C
INT
0 1 2 3 4 5 6 7
25 24 23 22
65
66
20
ADR
62
9 8 B A D C F E
21
J2
RS232C
42
43
44
45*
46
J3
47
RS449C
64 63
48
ADR 13 12 11 10
14 15 16 17
50
J4
RS232C
49
DS1
S1
LEDS
71 72
67
68
69
70
DS2
DS5
OPT
3
2
1
0

* See important note for jumper 45

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	Any	ADR–F bit compare
12	Any	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

Notes

1. LED DS5 is the least significant bit (bit 0). LED DS2 is the most significant bit (bit 3).
2. Reference the SunLink Communication Processor Installation and Configuration Guide, 800–1398–XX.

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

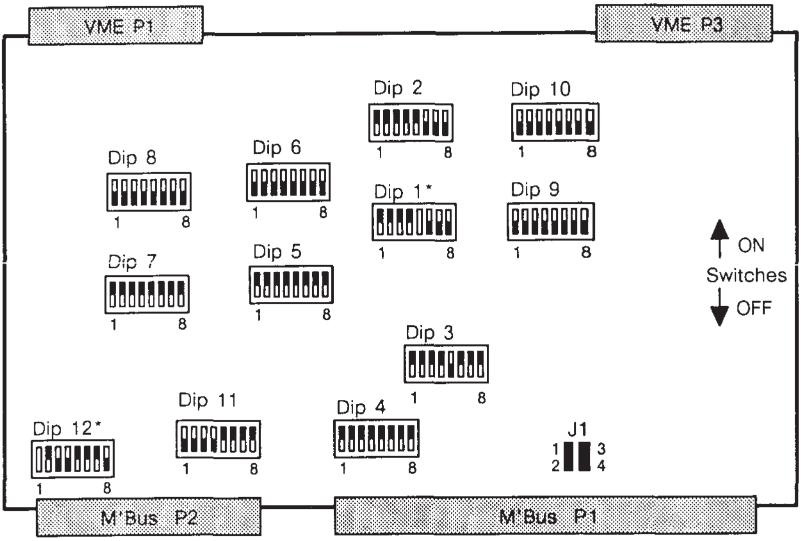
* Jumper 45 is OUT for the DCP0 board at address 800 and IN for the DCP1 board at address 810.

370–1049
Jumper Settings (Continued)

JUMPER	SETTING	DESCRIPTION
ADR10	Any	Address compare
11	Any	Address compare
12	Any	Address compare
13	Any	Address compare
14	Any	Address compare
15	Any	Address compare
16	Any	Address compare
17	Any	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

VME–Multibus Adapter with SCP

501–1158


VME P1
VME P3
Dip 2
1 8
Dip 10
1 8
Dip 8
1 8
Dip 6
1 8
Dip 1*
1 8
Dip 9
1 8
ON
Switches
OFF
Dip 7
1 8
Dip 5
1 8
Dip 3
1 8
Dip 11
1 8
Dip 4
1 8
Dip 12*
1 8
J1
1 2 3 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	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, U2, 5, OFF and U12, 1, OFF.

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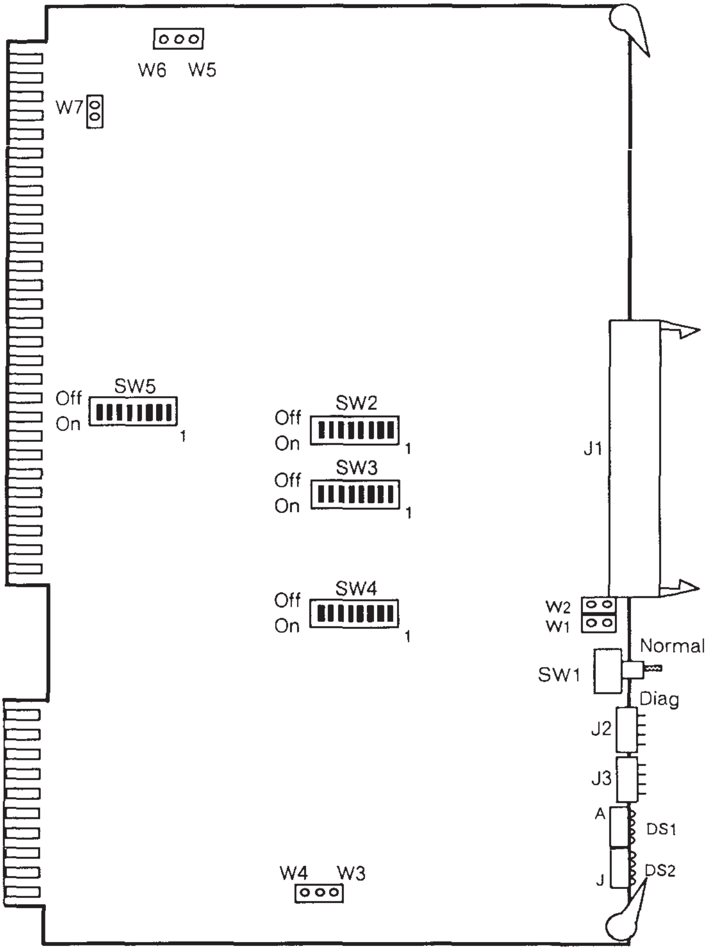
Asynchronous Line Multiplexer

Sun–2/120/130/160/170

Sun–3/150/160/280/260/280/460/470/480

Sun–4/260/280

370–1099


W6 W5
W7
Off
On
SW5
1
SW2
Off
On
1
SW3
Off
On
1
SW4
Off
On
1
J1
W2
W1
Normal
SW1
Diag
J2
J3
A
DS1
J
DS2
W4 W3

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

Note: Reference Sun–3/180 16–Channel Asynchronous Line Multiplexer Configuration Procedures, 813–2008–XX and Asynchronous Line Multiplexer Configuration Procedures, 813–2003–XX.

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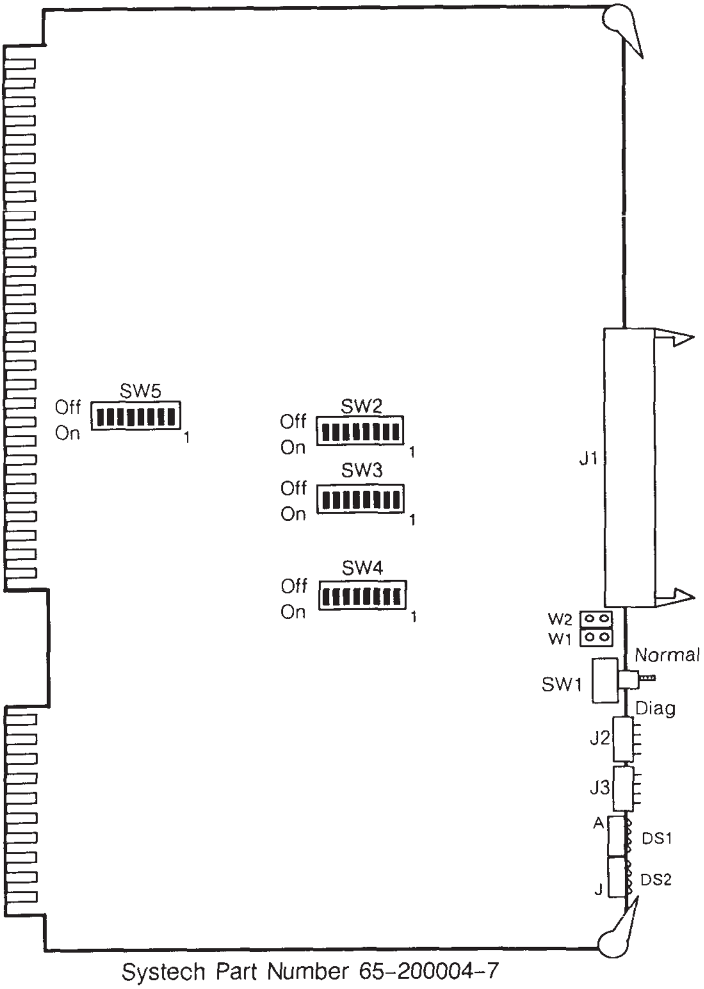
Asynchronous Line Multiplexer

Sun–2/120/130/160/170

Sun–3/150/160/280/260/280/460/470/480

Sun–4/260/280

370–1047


SW5
Off
On
1
SW2
Off
On
1
SW3
Off
On
1
SW4
Off
On
1
J1
W2
W1
Normal
SW1
Diag
J2
J3
A
DS1
J
DS2

Systech Part Number 65-200004-7

370–1047

Switch Settings

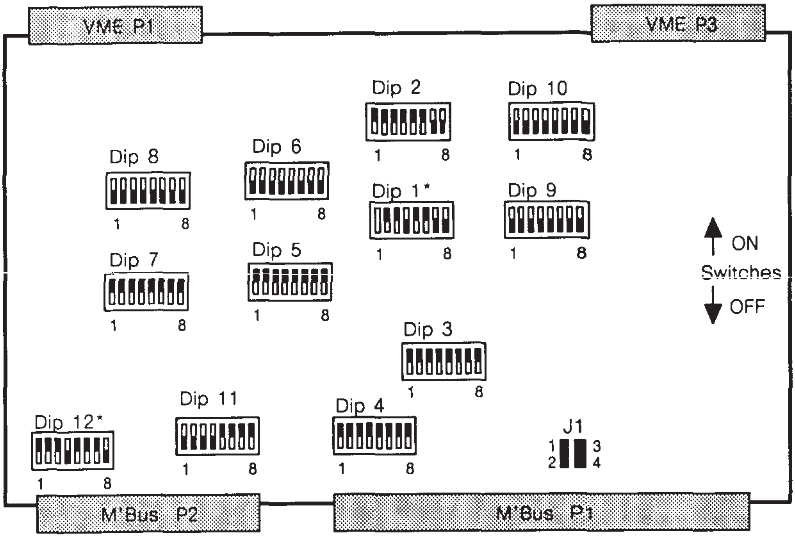
mti0 Defaults

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.

VME–Multibus Adapter with ALM

501–1157 & 501–1165


VME P1
VME P3
Dip 2
Dip 10
Dip 8
Dip 6
Dip 1*
Dip 9
Dip 7
Dip 5
Dip 3
Dip 11
Dip 4
Dip 12*
J1
1 2 3 4
1 8
ON
Switches
OFF
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	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	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	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.

Systech Cross–Reference Tables

Tables A and B provide reference information for Systech boards packaged in kits.

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

Note: 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 B

SUN VME KIT P/N	SUN PCB KIT P/N	DESCRIPTION
501–1157–01	370–1039	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

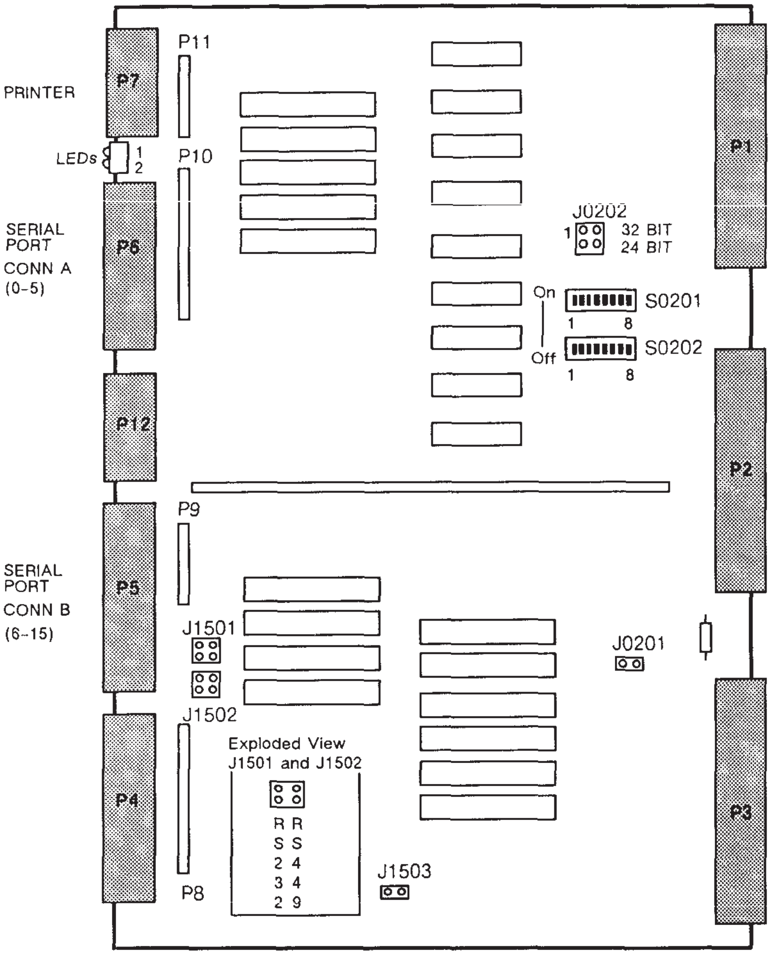
Note: Table B describes the boards in a Sun VME assembly kit. This assembly contains an ALM board set, a VME–Multibus Adapter PCB, and frame. Column 1 lists the Sun VME assembly part number. Columns 2 and 3 provide the part numbers and a description of the ALM channel and the VME–Multibus Adapter PCB 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.

Asynchronous Line Multiplexor–2 (ALM–2)

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

Sun–4/110/150/260/280/330

501–1203


PRINTER
P7
P11
LEDs 1 2
P10
P1
J0202
1
32 BIT
24 BIT
SERIAL PORT
CONN A
(0-5)
P6
On
Off
S0201
1 8
S0202
1 8
P12
P2
P9
SERIAL PORT
CONN B
(6-15)
P5
J1501
J1502
J0201
P4
P3
Exploded View
J1501 and J1502
R R
S S
2 4
3 4
2 9
J1503
P8

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 24 Bit	In Out	VME Address bus size
J1501	RS–232 RS–449	In Out	Enables RS–232 for ALM–2
J1502	RS–232 RS–449	In Out	Enables RS–232 for ALM–2
J1503	1–2	In	Test jumper for oscillator

Address Select Switches

DIP SWITCH	PINS	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 A16–17 (0x1030000)
S0201	3–8	On	VME address A18–A23

Notes

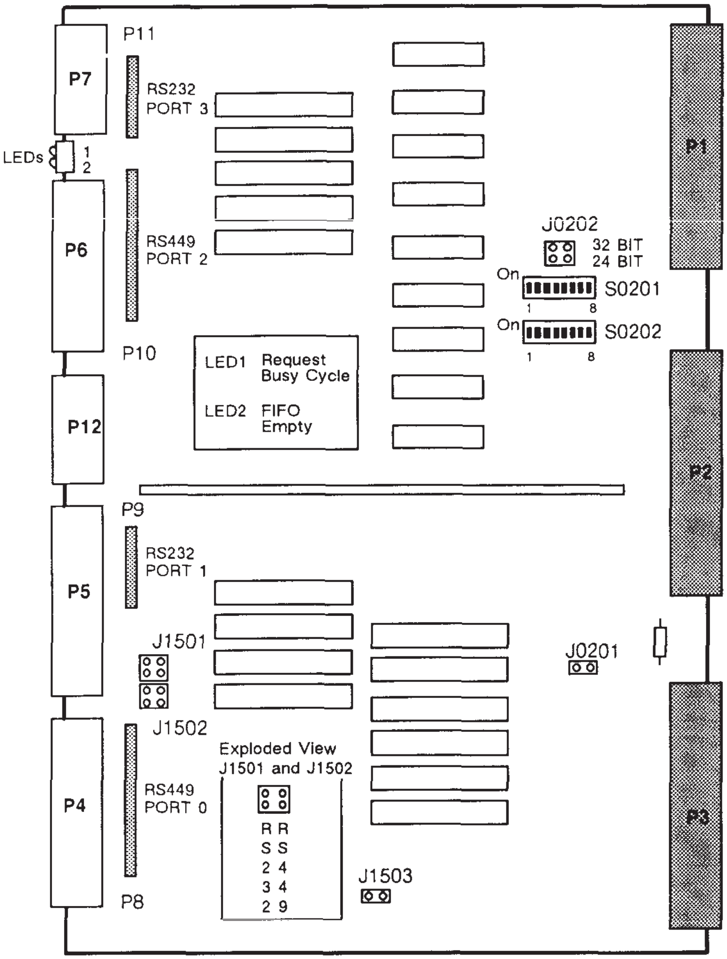
1. For Sun–3/110/140/150/160/180 use with 501–1163–09, 501–1134–06, or 501–1164–09 or greater CPU revision. All 501–1208 and 501–1209 revisions are useable.
2. Reference 16–Channel Asynchronous Line Multiplexor–2 Configuration Procedures, 813–2042–XX.

Multiprotocol Communication Processor (MCP)

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

Sun–4/260/280/330

501–1221


P11
P7
RS232
PORT 3
LEDs
1
2
P6
RS449
PORT 2
P10
P12
LED1 Request Busy Cycle
LED2 FIFO Empty
J0202
32 BIT
24 BIT
On
S0201
1 8
On
S0202
1 8
P1
P2
P3
P9
P5
RS232
PORT 1
J1501
J1502
J0201
Exploded View
J1501 and J1502
RS449
PORT 0
R R
S S
2 4
3 4
2 9
J1503
P4
P8

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	PINS	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

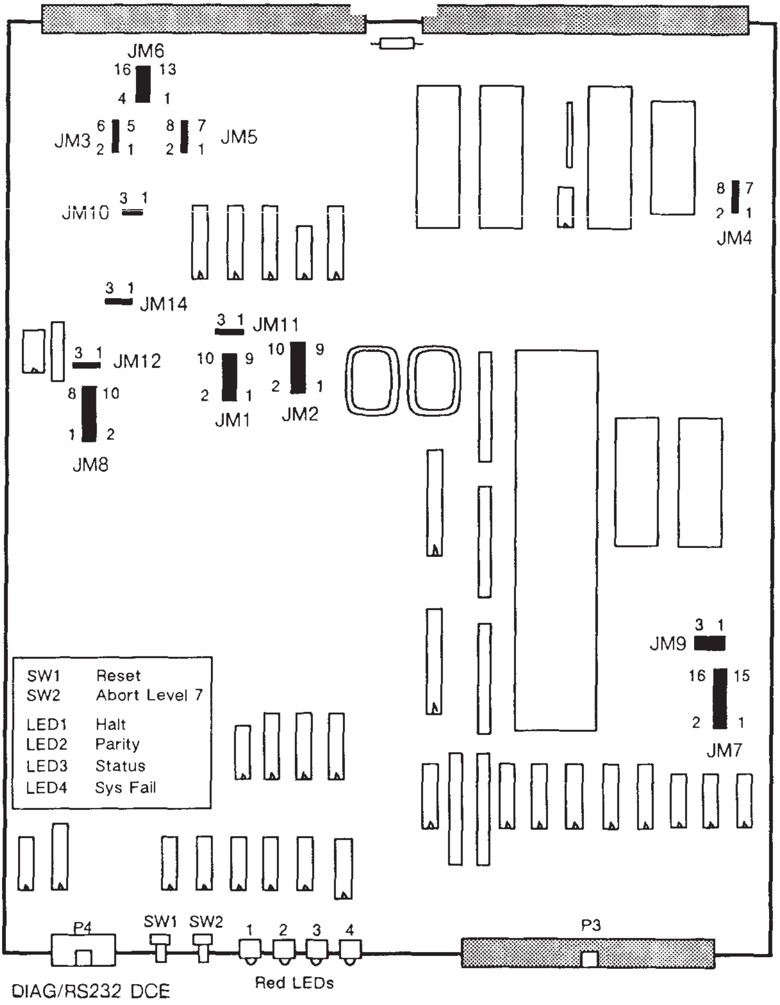
Notes

1. For Sun–3/110/140/150/160/180 use with 501–1163–09, 501–1164–09, or 501–1134–06 or greater CPU revision. All 501–1208 and 501–1209 revisions are useable.
2. Reference the SunLink Multiprotocol Communication Processor Configuration Procedures, 813–2032–XX.

SunLink Channel Adapter–LCP

Sun–2/130/160
Sun–3/160/180/260/280/460/470/480
Sun–4/260/280

370–1128, 501–1460


JM6
16
13
4
1
JM3
6
5
2
1
8
7
2
1
JM5
JM10
3
1
8
7
2
1
JM4
3
1
JM14
3
1
JM11
3
1
JM12
10
9
2
1
JM1
10
9
2
1
JM2
8
10
1
2
JM8
3
1
JM9
16
15
2
1
JM7
SW1 Reset
SW2 Abort Level 7
LED1 Halt
LED2 Parity
LED3 Status
LED4 Sys Fail
P4
SW1
SW2
1
2
3
4
P3
DIAG/RS232 DCE
Red LEDs

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)

Note: Assemblies 370–1128 and 501–1460 are made up of three boards: the LCP, IBD, and CIO. Do not disassemble the board set.

370–1128, 501–1460
Jumper Settings (Continued)

JUMPER	PINS	SETTING	DESCRIPTION
JM07	1–2 Others	In Out	Local PROM DRACK delay (gives 100ns)
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)

Notes
1. For Sun–3/110/140/150/160/180 use with 501–1163–09, 501–1134–06, or 501–1164–09 or greater CPU revision. All 501–1208 and 501–1209 revisions are useable.
2. In Sun–3/2XX systems with multiple SCA boards, the CPU revision must be 501–1100–08, 501–1206–06, or greater.
3. Reference SunLink Channel Adapter Configuration Procedures, 813-2040-XX.

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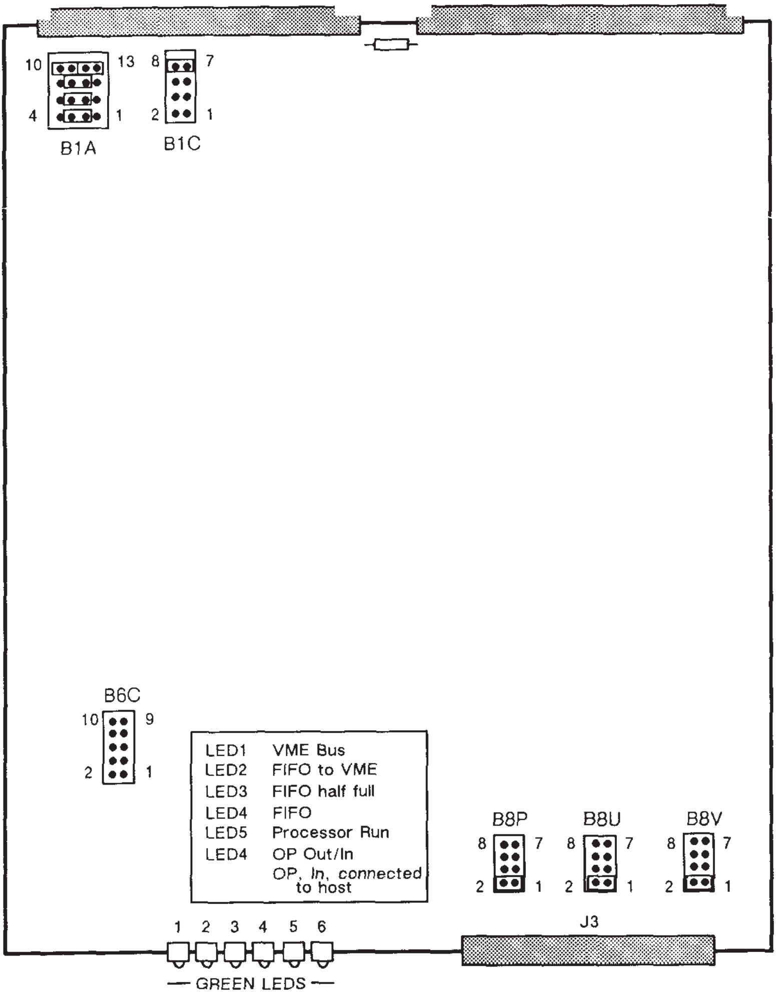
SunLink Channel Adapter–IBD

Sun–2/130/160
Sun–3/160/180/260/280/460/470/480
Sun–4/260/280

370–1128, 501–1460


10
13
4
1
B1A
8
7
2
1
B1C
B6C
10
9
2
1
B8P
B8U
B8V
8
7
2
1
J3
1 2 3 4 5 6
— GREEN LEDS —

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

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

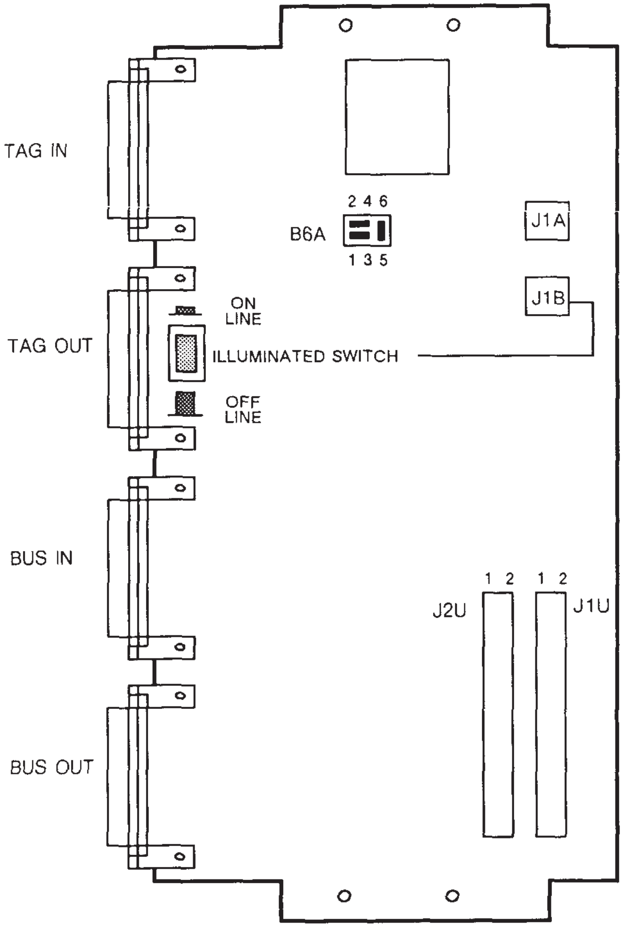
JUMPER	PINS	SETTINGS	DESCRIPTION
B1C	7–8 Others	In Out	VME Bus request level BR gives level 3
B1A	2–3 6–7 10–11 13–14 15–16 Others	In In In In In Out	Bus Grant In/Out BG0/BG3 gives level 3
B6C	All	Out	VME Bus data transfer timeout
B8P	1–2 3–4 5–6 7–8	In Out Out Out	Local Processor external bus page selection 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

Notes
1. For Sun–3/110/140/150/160/180 use with 501–1163–09, 501–1134–06, or 501–1164–09 or greater CPU revision. All 501–1208 and 501–1209 revisions are useable.
2. In Sun–3/2XX systems with multiple SCA boards, the CPU revision must be 501–1100–08, 501–1206–06, or greater.
3. Reference the SunLink Channel Adapter Configuration Procedures, 813–2040–XX.

SunLink Channel Adapter–CIO

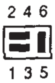
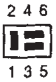
Sun–2/130/160
Sun–3/160/180/260/280/460/470/480
Sun–4/260/280

370–1128, 501–1460


TAG IN
TAG OUT
BUS IN
BUS OUT
2 4 6
B6A
1 3 5
J1A
J1B
ON LINE
ILLUMINATED SWITCH
OFF LINE
1 2
1 2
J2U
J1U

Note: The jumpers on this board are not accessible or visible without disassembling the board set. Only at the customer's request, disassemble the board set and 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		Channel to mainframe priority select Out/In (gives Select–Out) Factory setting
B6A	1–2 3–5 4–6		Channel to mainframe priority select (gives Select–In)

Notes

1. For Sun–3/110/140/150/160/180 use with 501–1163–09, 501–1134–06, or 501–1164–09 or greater CPU revision. All 501–1208 and 501–1209 revisions are useable.
2. In Sun–3/2XX systems with multiple SCA boards, the CPU revision must be 501–1100–08, 501–1206–06, or greater.
3. Reference the SunLink Cannel Adapter Configuration Procedures, 813–2040–XX.

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’ Cable, Bus Out/Tag Out	370–1130–02	370–1130–03
8’ Cable, Bus In/Tag In	370–1129–02	370–1129–03
5’ Cable, Bus Out/Tag Out	370–1131	None
5’ Cable, Bus In/Tag In	370–1132	None
RS232 Cable (20 FT)	None	530–1364
SunLink Channel Adapter Bd.	370–1128	501–1460

Note: Do NOT use the cables and loopback connectors listed below.

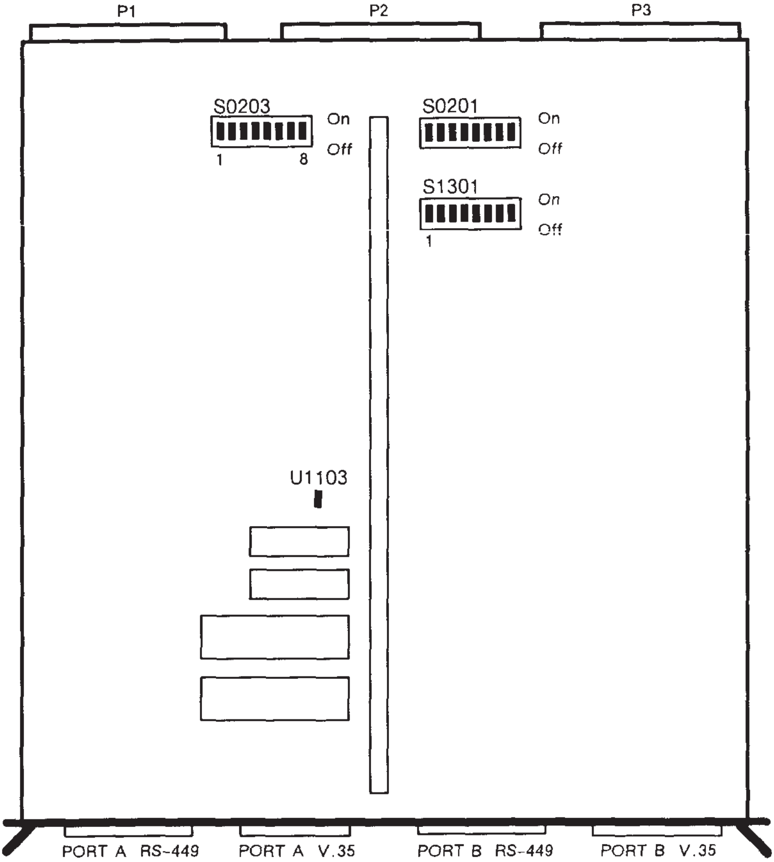
Cables	Loopback Connector
370–1129–01 and –02	370–1134–01 and –02
370–1130–01 and –02	
370–1131–01 and –02	
370–1131–01 and –02	

SunLink High–speed Serial Interface (HSI)

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

Sun–4/110/150/260/280/330

501–1338


P1
P2
P3
S0203
On
Off
1
8
S0201
On
Off
S1301
On
Off
1
U1103
PORT A RS-449
PORT A V.35
PORT B RS-449
PORT B V.35

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.

501–1338
Switch & Jumper Settings

DIP SWITCH	SWITCH	SETTING	DESCRIPTION
SW0201*	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.

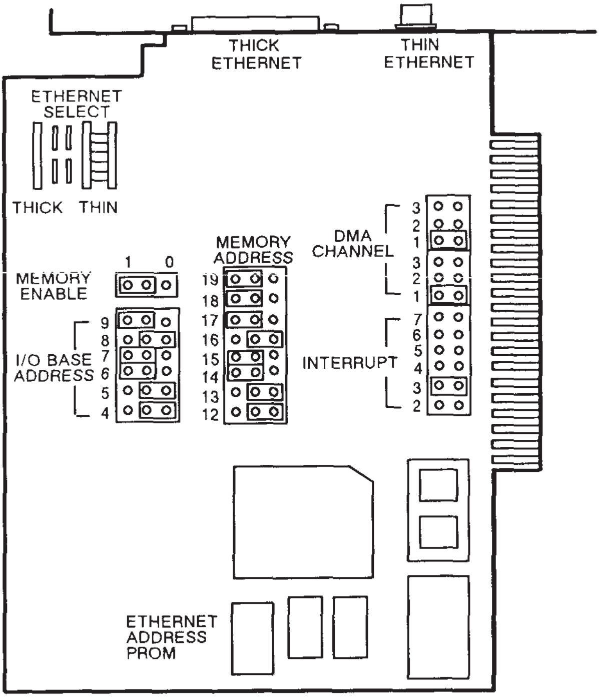
Jumper U1103

PINS	SETTING	DESCRIPTION
1–2	In	Clock enable

Etherlink I

3COM 3C501

370–1111


THICK ETHERNET
THIN ETHERNET
ETHERNET SELECT
THICK
THIN
MEMORY ENABLE
1
0
I/O BASE ADDRESS
9
8
7
6
5
4
MEMORY ADDRESS
19
18
17
16
15
14
13
12
DMA CHANNEL
3
2
1
3
2
1
INTERRUPT
7
6
5
4
3
2
ETHERNET ADDRESS PROM

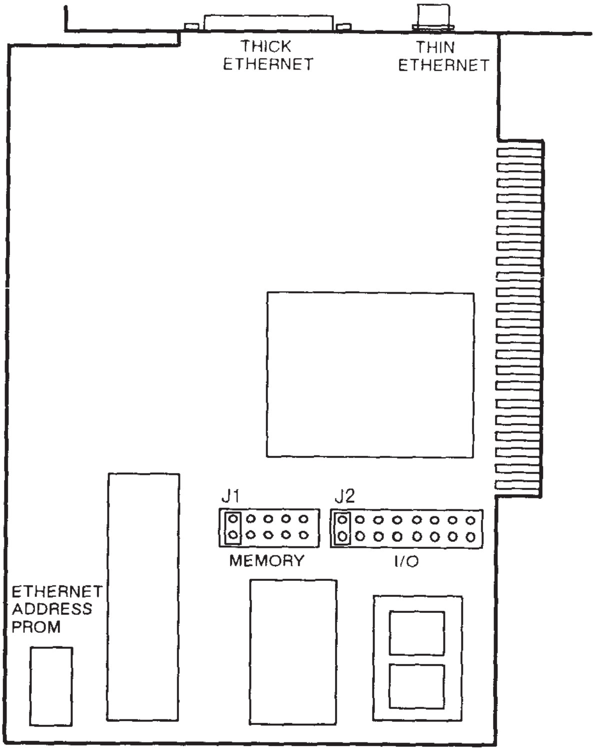
JUMPER	SETTING	DESCRIPTION
Memory Enable	1	EtherStart ROM Installed
I/O Base Address	4–9	I/O Base Address (000H–3F0H) Address bits 4–9
Memory Address	12–19	Memory base address (00000H – FF000H) Address bits 12–19
DMA Channel	1–3	DMA Channel Select
Interrupt	2-7	Interrupt Channel

Note: Reference the Etherlink I Installation Guide, 814–5000–XX.

Etherlink II

3COM 3C503

370–1180


THICK ETHERNET
THIN ETHERNET
J1
J2
MEMORY
I/O
ETHERNET ADDRESS PROM

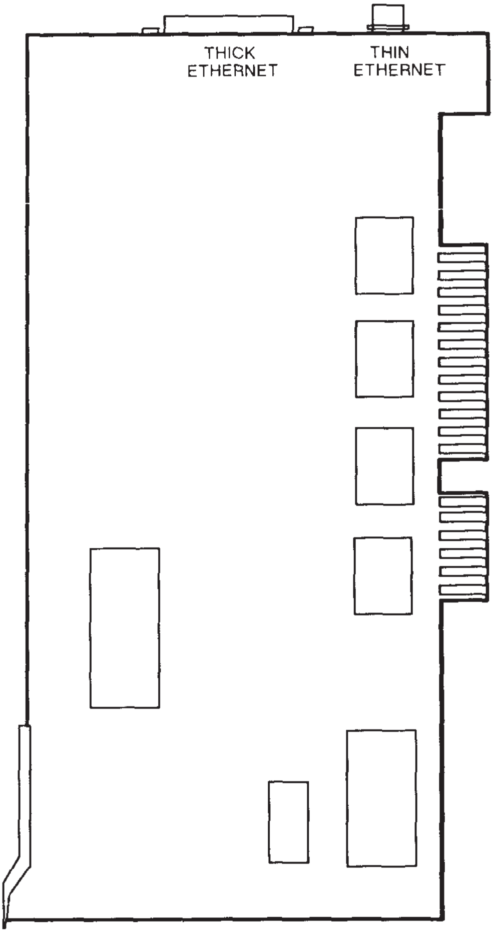
JUMPER	SETTING	DESCRIPTION
J1	Disable DC000H D8000H CC000H C8000H	Memory select/ Base address
J2	300H 310H 330H 350H 280H 2A0H 2E0H	I/O Base Address

Note: Reference the Etherlink II Installation Guide, 814–5005–XX.

Etherlink/MC

3COM 3C523

370–1181



Notes

1. There are NO user selectable switches/jumpers on this board. Configuration parameters are set in the software file ETH523SYS.
2. Reference the Etherlink/MC Installation Guide, 814–5006–XX.

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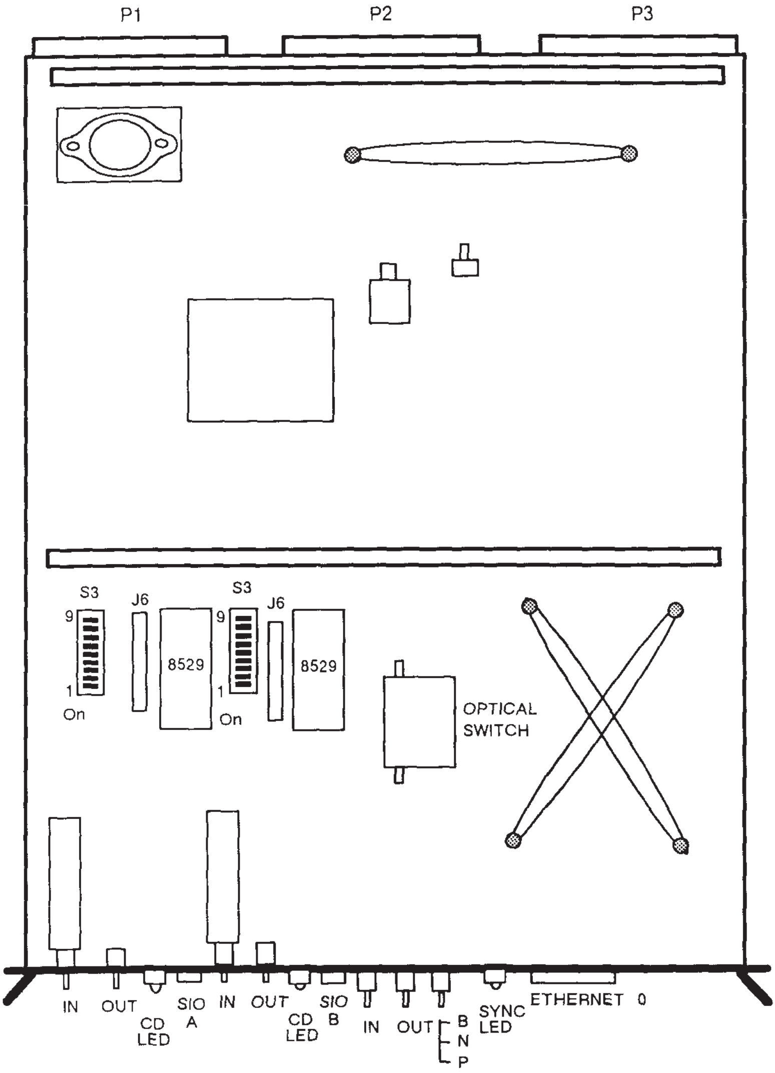
Fiberoptic Ethernet Controller Workstation Transceiver

Fibercom 027–10062

370–8012


P1
P2
P3
S3
9
1
On
J6
8529
S3
9
1
On
J6
8529
OPTICAL SWITCH
IN
OUT
CD LED
SIO A
IN
OUT
CD LED
SIO B
IN
OUT
B
N
P
SYNC LED
ETHERNET 0

370–8012
Switch Settings

Dip Switch 3

RTS Setting

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

Transmit Carrier Control

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

Clear To Send Delay

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

* Factory Setting

370–8012
Switch Settings

Transmit Timing Source

DIP	SETTING	DESCRIPTION
6	On*	Async
7	Off*	
8	Off*	
9	Off*	
6	On	External
7	Off	
8	Off	
9	On	
6	Off	Received
7	Off	
8	Off	
9	Off	
6	Off	300 Hz
7	Off	
8	Off	
9	Off	
6	Off	600 Hz
7	On	
8	Off	
9	Off	

DIP	SETTING	DESCRIPTION
6	Off	1200 Hz
7	Off	
8	On	
9	Off	
6	Off	2400 Hz
7	Off	
8	On	
9	On	
6	Off	4800 Hz
7	On	
8	Off	
9	Off	
6	Off	9600 Hz
7	On	
8	Off	
9	On	
6	Off	19200 Hz
7	On	
8	On	
9	Off	

* Factory Setting

SCSI

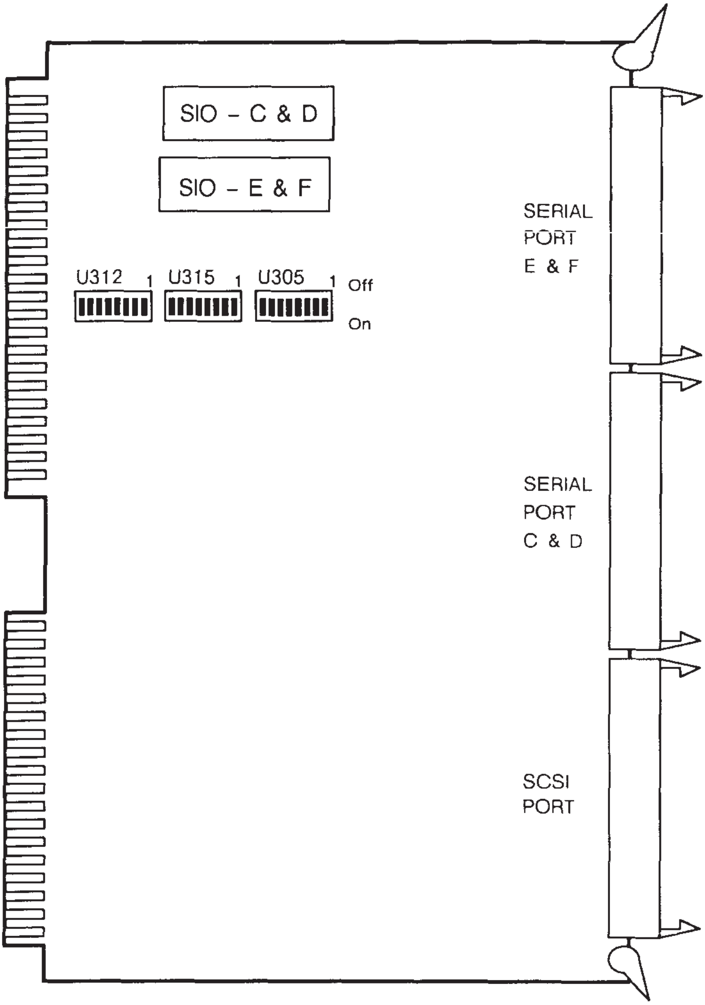
SCSI HOST ADAPTERS

Sun–2 Multibus SCSI 2
Sun–2 VME SCSI 4
Sun–3 VME SCSI 6
Sun–3/E SCSI/Ethernet 8
Sun–4/330 SCSI–Out Terminator Board 10

Sun–2 Multibus SCSI

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

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

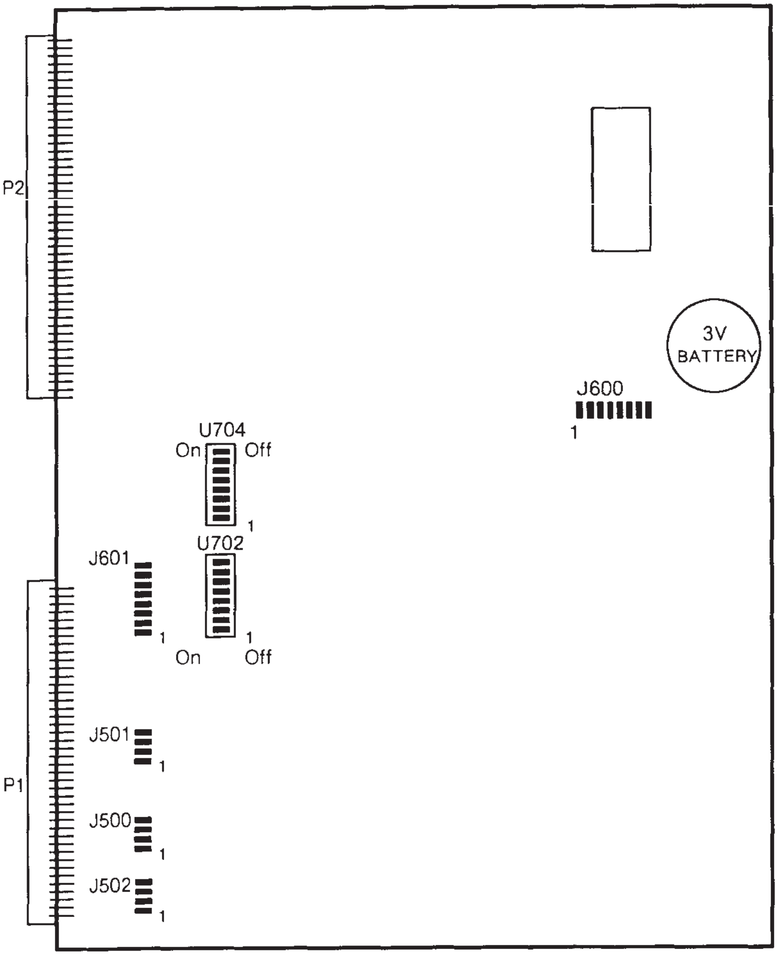
Sun–2 VME SCSI

2/50/130/160

3/75/140/150/160/180/260/280

4/260/280

501–1045


P2
3V
BATTERY
J600
1
U704
On
Off
1
U702
J601
1
1
1
On
Off
J501
1
P1
J500
1
J502
1

Note: Reference the Backplane Section for 3x2 adaptors and slot assignments.

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	Not Used
	5–8	On	Address A12–A15
U704*	1–5	On	Address A16–A23
	6	Off	
	7–8	On	

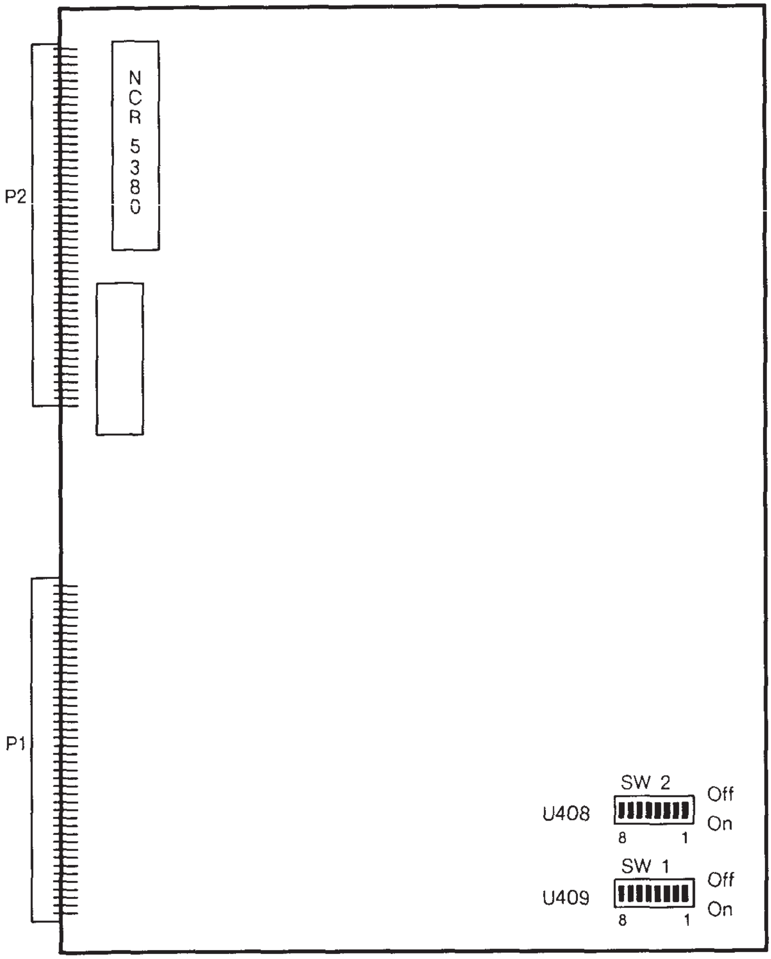
* U702 and U704 set the base address to 0x200000 for the first SCSI.

Sun–3 VME SCSI

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

Sun–4/260/280/330/390

501–1236


NCR 5380
P2
P1
SW 2
U408
Off
On
8
1
SW 1
U409
Off
On
8
1

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	N/A
	7	On	N/A
	8	On	N/A

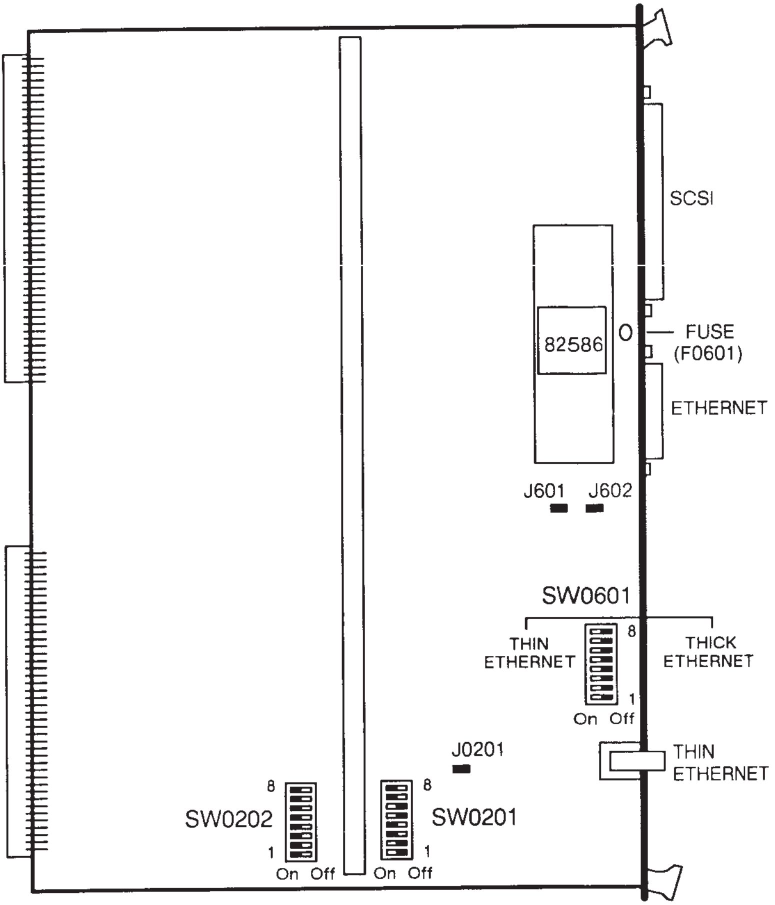
* SW1 and SW2 set the address to 0X200000 for the first SCSI.

† SW2, Switch 2, OFF, sets the address to 0x204000 for the second SCSI.

Notes
1. Do not use the original release of this board (501–1120–XX).
2. Use this board in Sun–3/1XX with 501–1074–22, 501–1094–22, 501–1134–06, 501–1163–09, 501–1164–09, or greater. All 501–1208 and 501–1209 can be used.
3. When used with a Channel Adapter (370–1128 and 501–1460), the board revision must be 501–1236–02 or the assembly must be 501–1170–06, 501–1217–03, or greater.
4. Reference the Sun–3 Small Computer Systems Interface Configuration Procedures, 813–2007–XX.

Sun–3/E SCSI/Ethernet

501–8027


SCSI
82586
FUSE
(F0601)
ETHERNET
J601
J602
SW0601
THIN ETHERNET
THICK ETHERNET
8
1
On Off
J0201
THIN ETHERNET
8
SW0202
1
On Off
8
SW0201
1
On Off

Note: The fuse is not field replaceable

501–8027
Switch & Jumper Settings

DIP SWITCH	DIP	SETTING	DESCRIPTION
SW0601	1–7	On	Enable thin Ethernet
SW0601	1–7	Off	Enable standard Ethernet*
SW0201	1	Off	24/32–bit addressing † §
SW0201	2	Off	Not used
SW0201	3	On	A18 address decode
SW0201	4	On	A19 address decode
SW0201	5	Off	A20 address decode
SW0201	6	Off	A21 address decode
SW0201	7	On	A22 address decode
SW0201	8	On	A23 address decode
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

* Designed for use with Level 2 transceivers only.

† SW0201 and SW0202 set the base address of the SCSI to 0x300000.

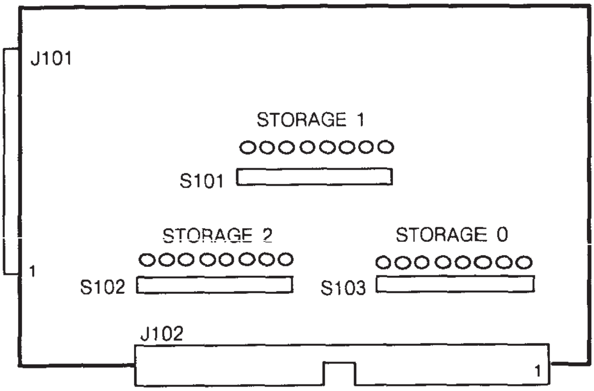
§ Under diag, use 310000 as the controller base address.

JUMPER	PINS	SETTING	DESCRIPTION
J0201	1–2	In	Clock enable

Sun–4/330 Terminator Board

Sun–4/330

501–1416


J101
STORAGE 1
S101
STORAGE 2
STORAGE 0
1
S102
S103
J102
1

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.

Backplane

CARDCAGE INFORMATION 2
  Sun–2/120 8
  Sun–2/170 9
  Sun–2/130/160 10
  Sun–2/50, Sun–3/50, Sun–3/75 11
  Sun 3/50 & 3/60 12
  Sun–3/110/140 & Sun 4/110 12
  Sun–3/150 & Sun–4/150 13
  Sun–3/160/180/260/280 & Sun–4/260/280 . . 14
  Sun–3/470 & Sun–4/370 15
  Sun–4/330 16
  Sun–4/390 17
BOARD INSTALLATION 18
  SCSI Adapter Assemblies 24
  Sun–2/50 25
  Sun–2/130/160 26
  Sun–2/120 28
  Sun–2/170 29
  Sun–3/50, Sun–3/75, Sun–3/60 31
  Sun–3/110/140 33
  Sun–3/150 34
  Sun–3/160 36
  Sun–3/180 38
  Sun–3/260 46
  Sun–3/280 48
  Sun–3/460 56
  Sun–3/470 58
  Sun–3/480 62
  Sun–4/110 68
  Sun–4/150 69
  Sun–4/260 70
  Sun–4/280 72
  Sun–4/260 & Sun–4/280 with Double–Height Backpanel 80
  Sun–4/330 90

This section contains Sun cardcage and board installation information. Cardcage Information contains bus signal charts and cardcage layout illustrations. Board Installation contains VME board installation notes, notes for board and board based products, slot assignment charts, and board part number charts. The part number charts immediately follow each grouping of slot assignment charts.

Cardcage Information

VMEbus Backplane

Cardcage slot numbers are stamped, printed, or labeled on the sheet metal near the left card ejectors (top for deskside models). 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

501–1439 12–Slot Backplane

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 501–1439 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 function of the 501–1439 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

501–1354 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

501–1498 16–Slot Backplane

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 501–1498 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 function of the 501–1498 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 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

In the charts below each backplane slot that shares an adjacent P2 bus is marked with the same letter.

3–Slot VMEbus Backplane, 501–1127

Slot	1	2	3
P2 Bus	A	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	A	B	C	D	E	E	E

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	A	B	B	B	B	C	C	C	D	E

12–Slot VMEbus Backplane, 501–1439

Slot	1	2	3	4	5	6	7	8	9	10	11	12
	A	A	A	A	A	A	A	B	C	D	D	D

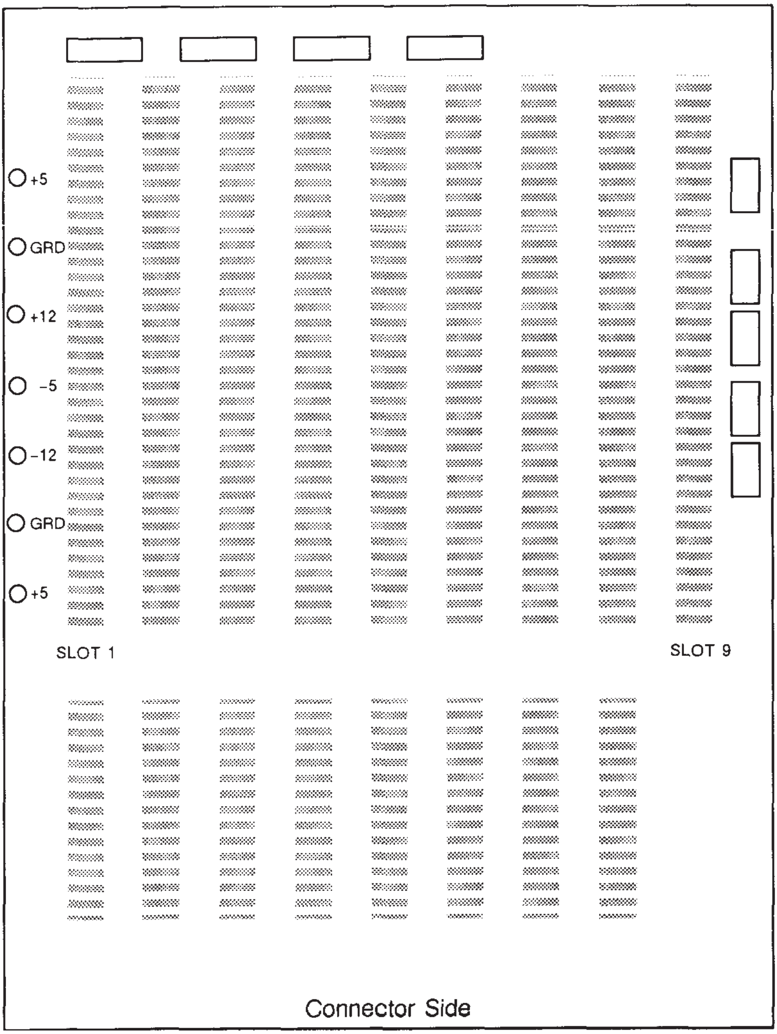
5–Slot VMEbus Backplane, 501–1354

Slot	1	2	3	4	5	6	7
	A	B	B	C	D	A	A

Sun–2/120

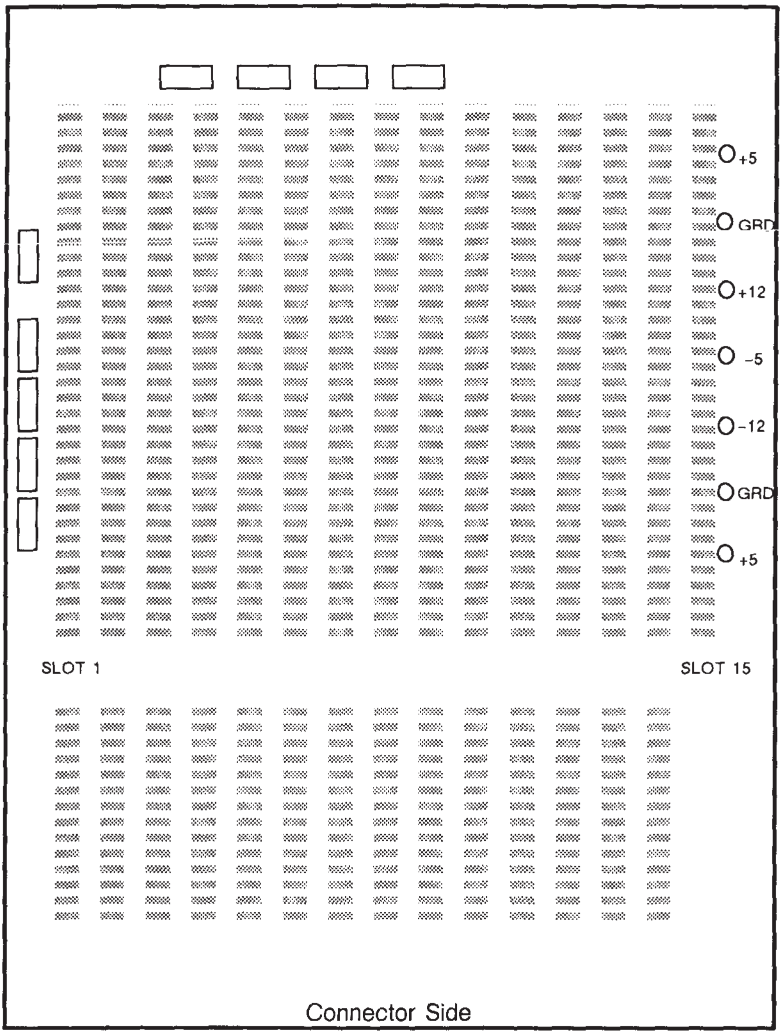
501–1090 (Prime)

501–1150 (Non–Prime)


+5
GRD
+12
-5
-12
GRD
+5
SLOT 1
SLOT 9
Connector Side

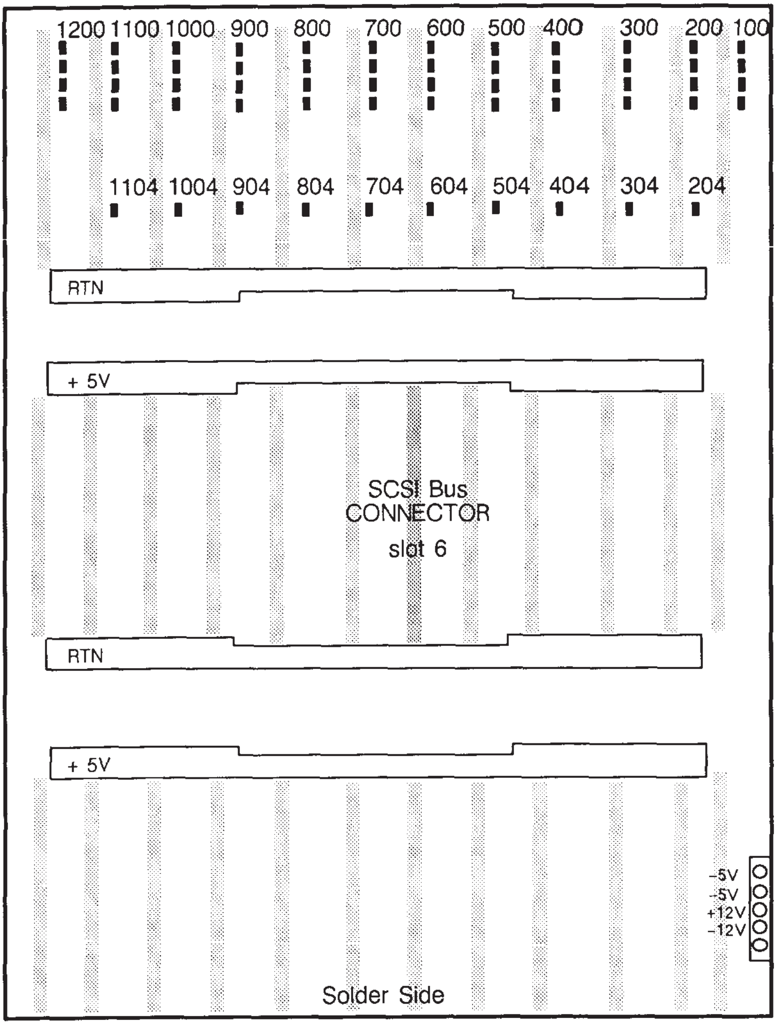
Sun–2/170

501–1050 (Prime)
501–1150 (Non–Prime)


+5
GRD
+12
-5
-12
GRD
+5
SLOT 1
SLOT 15
Connector Side

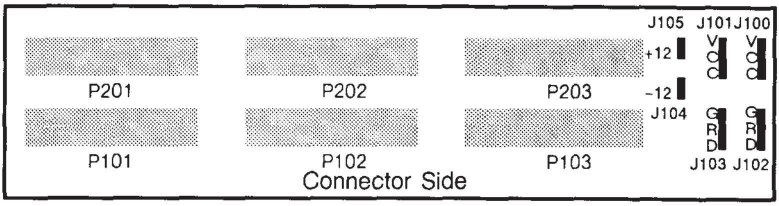
Sun–2/130/160

501–1053, 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

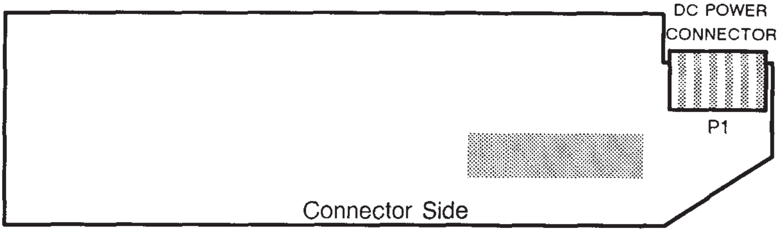
Sun–2/50

501–1042


J105
J101
J100
+12
-12
J104
V C C
V C C
G R D
G R D
J103
J102
P201
P202
P203
P101
P102
P103
Connector Side

Sun–3/50

501–1109

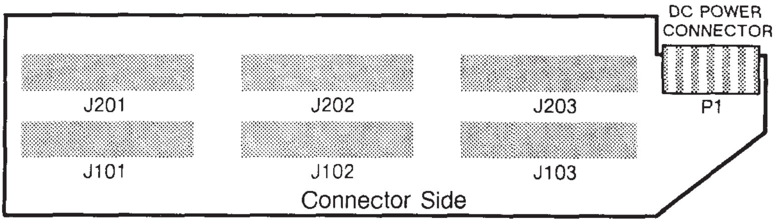

DC POWER CONNECTOR
P1
Connector Side

P1 Power Pinouts

1 –5	2 –12	3 +12	4–8 GND	9–12 +5

Sun–3/75

501–1093

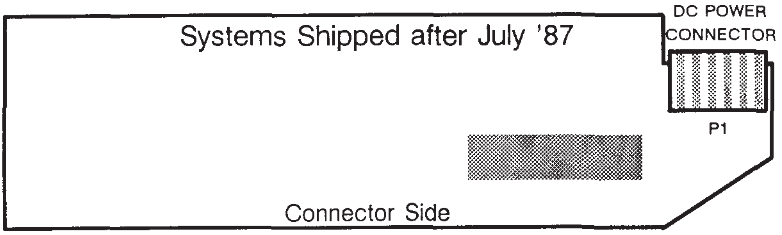

DC POWER CONNECTOR
P1
J201
J202
J203
J101
J102
J103
Connector Side

P1 Power Pinouts

1 –5	2 PFail	3 +12	4–8 GND	9–12 +5

Sun–3/50 & 3/60

501–1277

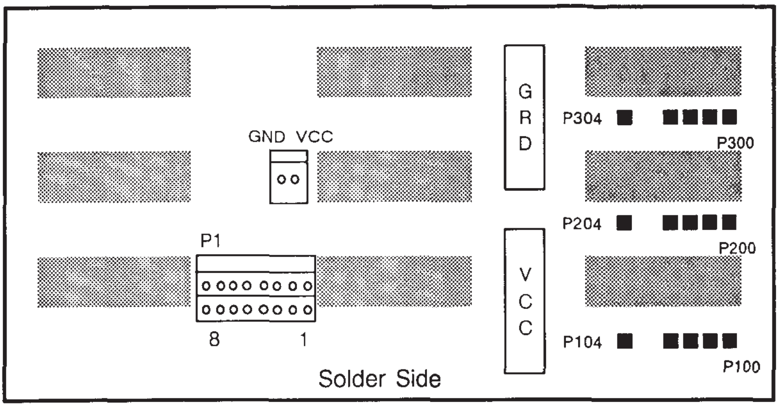

Systems Shipped after July '87
DC POWER CONNECTOR
P1
Connector Side

P1 Power Pinouts

1 –5	2 –12	3 +12	4–8 GND	9–12 +5

Sun–3/110/140 & Sun 4/110

501–1127 (Pressfit)

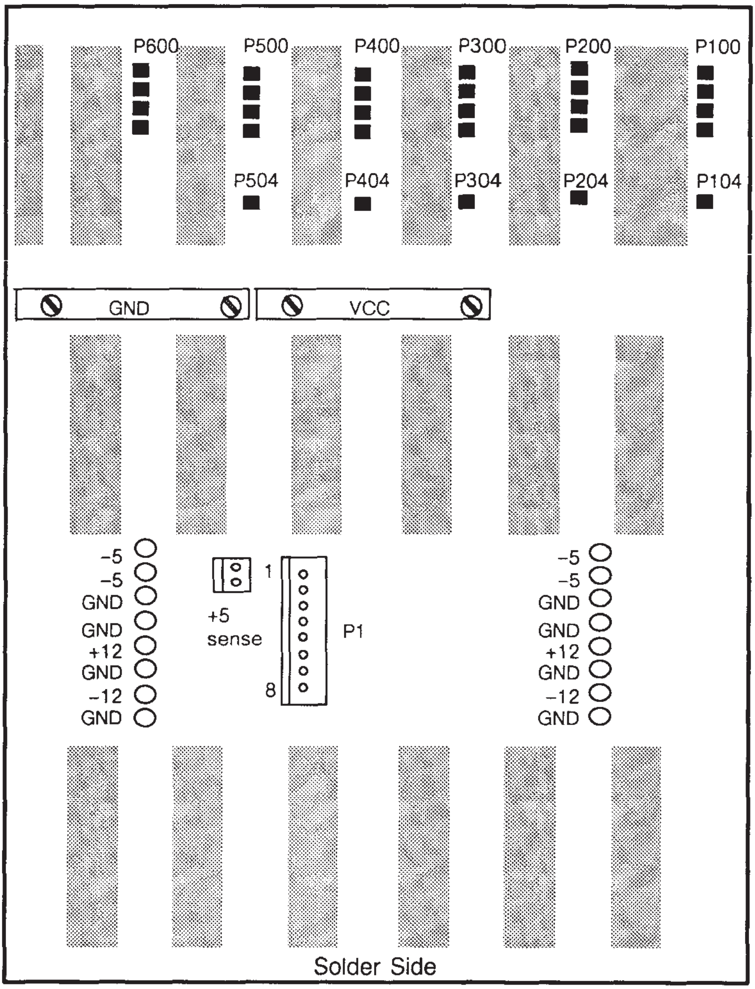

G R D
P304
P300
GND VCC
P204
P200
P1
V C C
8
1
P104
P100
Solder Side

P1 Power Pinouts

1–2 –5	3–4 GND	5 +12	6 GND	7 –12	8 GND

Sun–3/150 & 4/150

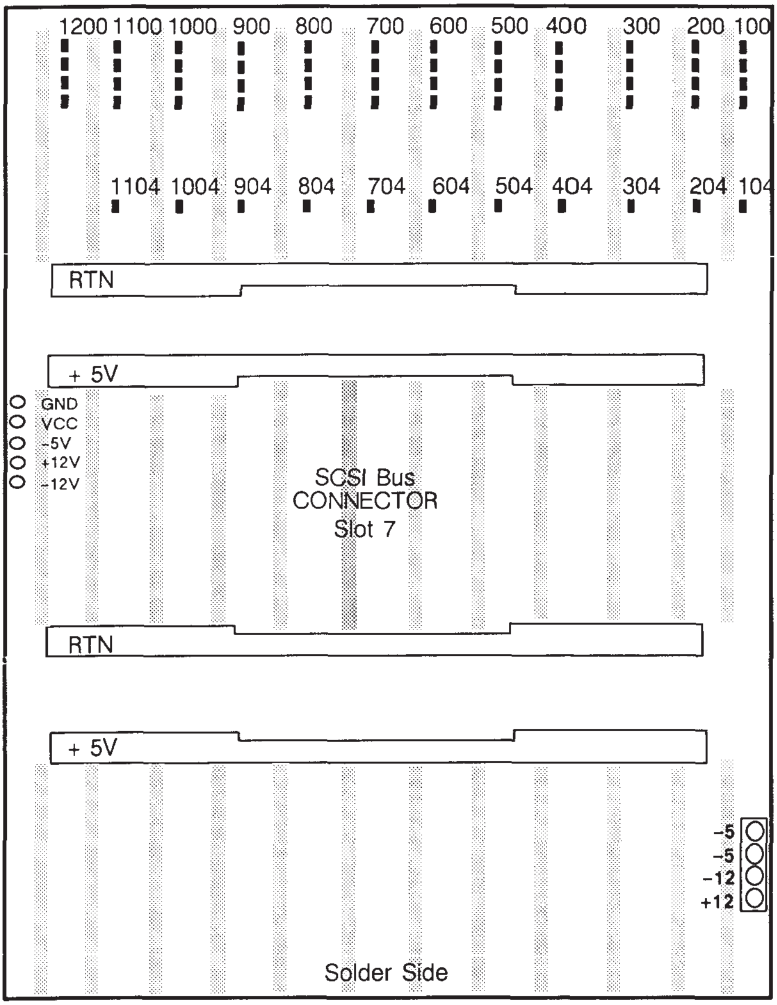
501–1128 (Pressfit)


P600
P500
P400
P300
P200
P100
P504
P404
P304
P204
P104
GND
VCC
–5
–5
GND
GND
+12
GND
–12
GND
+5
sense
1
8
P1
–5
–5
GND
GND
+12
GND
–12
GND
Solder Side

P1 Power Pinouts

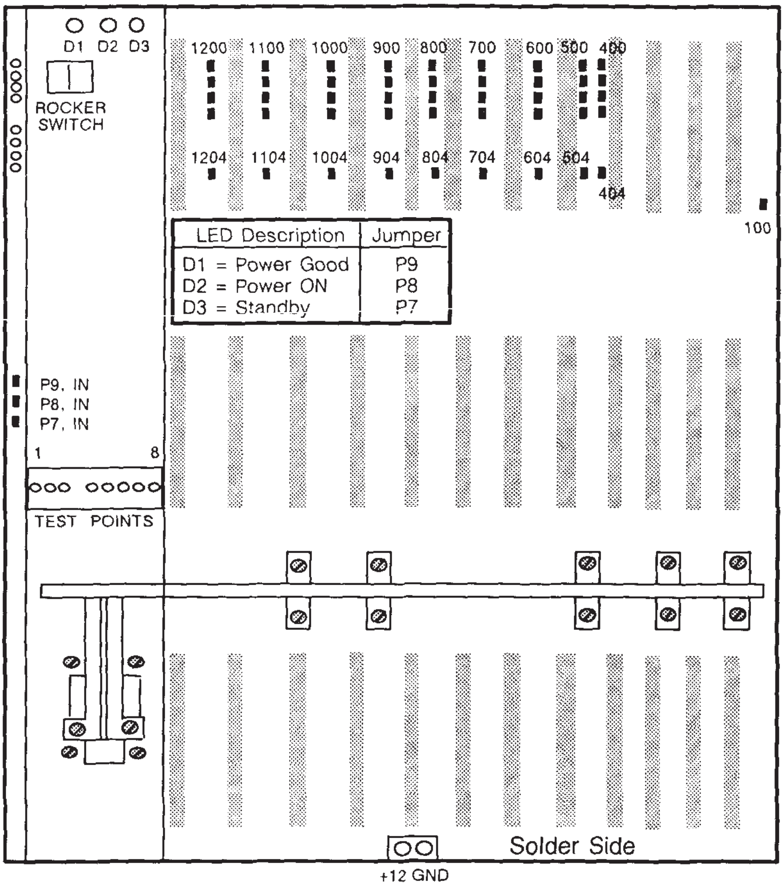
1–2	3–4	5	6	7	8
–5	GND	+12	GND	–12	GND

Sun–3/160/180/260/280/460/480
Sun–4/260/280
501–1092, 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

Sun–3/470 & Sun–4/370

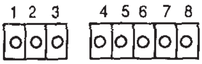
501–1439 (Pressfit)



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

D1 D2 D3
ROCKER SWITCH
1200
1100
1000
900
800
700
600
500
400
1204
1104
1004
904
804
704
604
504
404
100
P9, IN
P8, IN
P7, IN
1
8
TEST POINTS
Solder Side
+12 GND

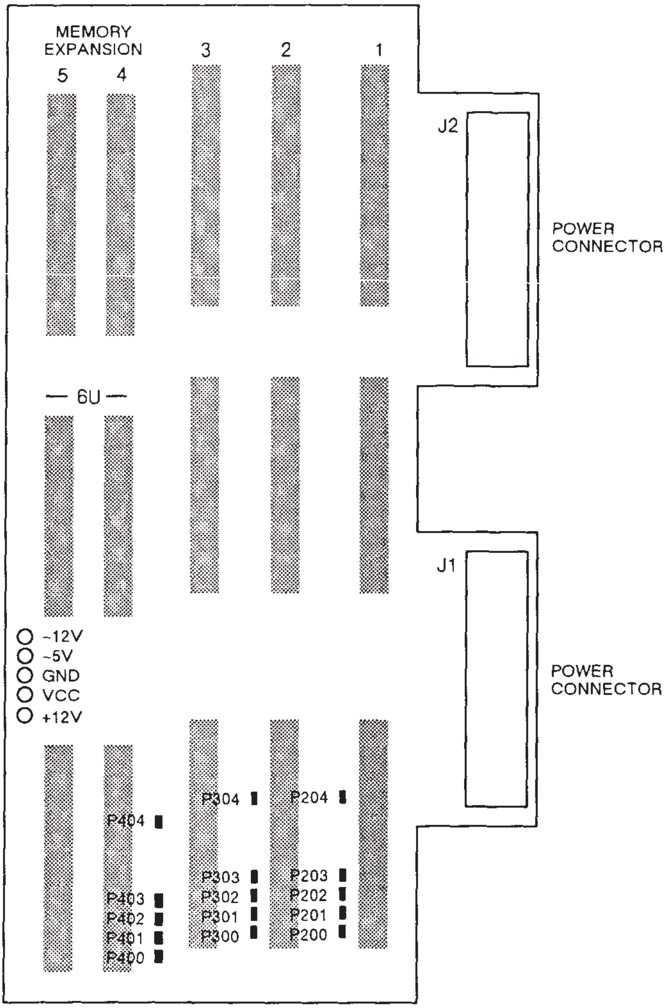
Test Points Description



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

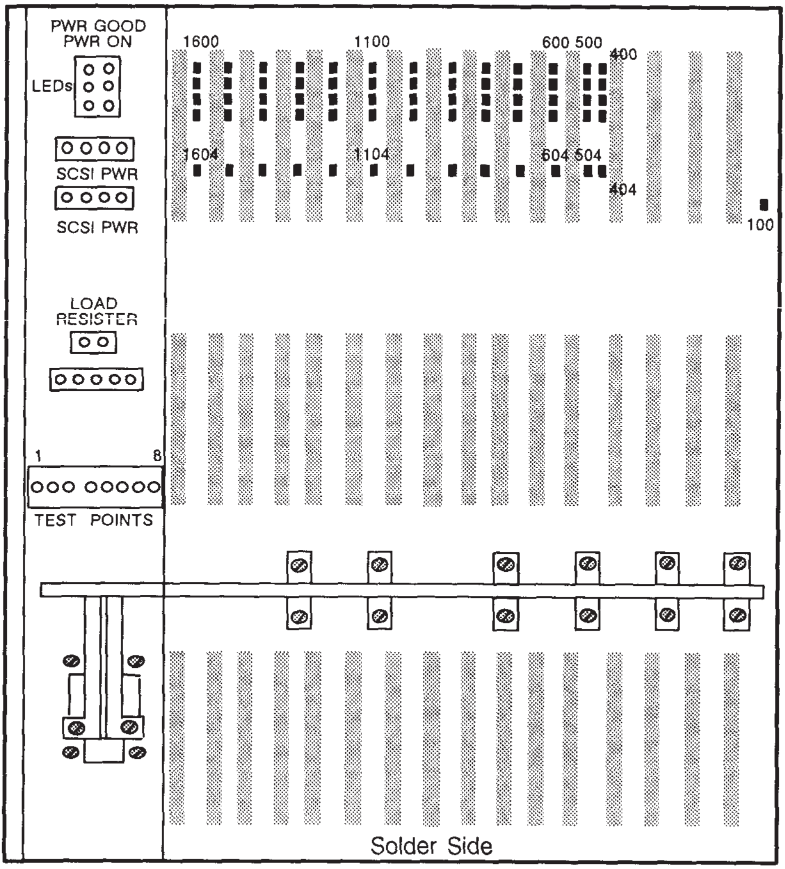
Sun–4/330 Backplane

501–1354

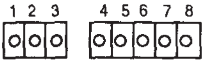

MEMORY
EXPANSION
5
4
3
2
1
J2
POWER
CONNECTOR
6U
J1
POWER
CONNECTOR
-12V
-5V
GND
VCC
+12V
P304
P204
P404
P303
P302
P301
P300
P203
P202
P201
P200
P403
P402
P401
P400

Sun–4/390

501–1498 (Pressfit)


PWR GOOD
PWR ON
LEDs
SCSI PWR
SCSI PWR
LOAD RESISTER
1
8
TEST POINTS
1600
1100
600 500
400
1604
1104
604 504
404
100
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

Board Installation

Slot Assignment Charts

The backplane slot assignment chart for each system shows the PCB slot assignments in order of descending priority. The “A,B,C...” designations on the charts correspond to the preferred location for a specific board. “A” is the most preferred location. If A” is the only designation, the board must be placed in that slot.

VMEbus Board Installation Notes

Installing and Removing VME Boards

1. Install backplane jumpers in locations BG0, BG1, and BG2.
2. To install any board:
    a. Configure jumpers in backplane locations BG3 and IACK. The IACK jumper for slot 6 does not physically exist on the 501–1128 backplane. The IACK jumper for slot 12 does not exist on the 501–1092, 501–1117, 501–1053, and 501–1085 backplanes.
    b. Remove the external filler panel and air restrictor from the slot.
3. To remove any board:
    a. Install backplane jumpers BG3 and IACK.
    b. Install an air restrictor and the external filler panel.

VME to Multibus Adapter Board Based Products

Use adapter board subassembly 501–1054–04, Rev. A or greater, to avoid signal contention on the “P2” bus. This change was effective September 1985.

ECC Memory Boards 501–1102, 501–1254, 501–1451, & 501–1576

1. **501–1092 or 501–1117 Backplanes.** For P2 bus termination, install a single system Memory board in slot 6 with a with a 220/270 Terminating Resistor Network, Sun part number 120–1613–01, installed at location F–34 or F–54.

   To install expansion memory boards in slots 2, 3, 4 and 5, remove the Terminating Resistor Network from location F–34 or F–54.

2. **501–1439 or 501–1498 Backplanes.** Install a 220/270 Terminating Resistor Network, Sun part number 120–1613–01, at location F–34 or F–54, on the memory board installed in slot 1.

   If placement results in memory boards on both sides of the CPU, remove the Terminating Resistor Network at location 0–23 (U1411) on the Sun–4300 CPU. Install a Terminating Resistor Network on memory boards in slot 1 and slot 7.

MAPKIT

1. Each MAPKIT option uses two slots.
2. The BG3 and IACK jumpers on the backplane are OUT for the slot that contains the MAPKIT board nearest to slot 1 and IN for the other slot.
3. Installing a 1/2” Tape Controller or an SMD Controller in an unused slot between the CPU and the MAPKIT option may affect the MAPKIT data throughput rate.

ALM–1, 501–1157 (Pedestal Systems)

The ALM requires two slots. Before installing the ALM:

1. Remove any board in slot 11 and install BG3 and IACK jumpers on the backplane.
2. Remove outside filler panels covering slots 11 and 12 and the air restrictors in these slots.

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.

BOARD	ALM–1	ALM–2 & MCP
1	88	8b
2	89	8a
3	8a	89
4	8b	88

3. Because of the conflict with the interrupt vector, no more than four ALM–1, ALM–2, or MCP boards may be installed.
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.

Sun–3/260 and Sun–4/260

1. Do not install an air restrictor in slot 2.
2. Non–memory board options should not be installed in slots 2 through 5 using the standard left to right sequence. Slot 2 should be left empty to aid in system cooling unless it is absolutely necessary to use it.
3. Sun–3/160 systems that have been upgraded to Sun–3/260 or Sun–4/260 systems must have FCOs 807–0068 and 808–0067 installed.

Xylogics 450 SMD Controller

1. Xylogics 450–based products are not available when ordering Sun–3/200 or Sun–4/200 series systems.
2. Xylogics 450 is not supported with the 900MB drive, and cannot be mixed with the Xylogics 451 in any 900MB configuration.

Xylogics 7053

1. The Xylogics 7053 cannot be mixed with the Xylogics 450.
2. Systems using Sun–2 SCSI, 501–1138, or Sun–3 SCSI, 501–1217, may mix a maximum of one 451 and two 7053s.
3. Systems using Sun–2 SCSI, 501–1167, may mix a maximum of one 451 and two 7053s.
4. System using Sun–2 SCSI, 501–1149, or Sun–3 SCSI, 501–1170, may mix a maximum of one 451 and one 7053.

SunLink Channel Adapter

1. The SCA occupies 2 slots. The BG3 and IACK jumpers must be removed from both backplane 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.

CG5 with GP2

1. The CG5 communicates with the GP2 over the P2 Bus bus, which must be enabled on the CG5 by a hardware switch setting (SW3300–5, ON).
2. The CG5 can only be installed in slots 5 and 6 of the 501–1128 backplane and in slots 11 or 12 of the 501–1092 , 501–1117, or 501–1439 backplanes.

CG5 with GP+ or GP

1. The CG5 must have its P2 bus disabled (SW3300–5 OFF).
2. The CG5 can only be installed in slots 2–9 of the 501–1092, 501–1117, or 501–1128 backplanes and in slots 5 or 6 of the 501–1128 backplane. If the CG5 is installed in slots 5 and 6 of the 501–1128, or slots 10, 11, or 12, of the 501–1099, 501–1117 or 501–1439, additional signals provided by the CG5, but not used by the GP or GP+, may cause problems.

CG5 without GP2

The CG5 P2 bus (SW3300–5, OFF) must be disabled.

CG9 with GP2

The CG9 communicates with the GP2 over the P2 bus that must be enabled on the CG9 by a hardware switch setting (SW3–1, OFF). The CG9 can only be installed in slots 5 or 6 of the 501–1128 backplane and in slots 11 or 12 of the 501–1092, 501–1117, or 501–1439 backplanes.

CG9 without GP2

The CG9 must have its P2 bus disabled (SW3–1, ON).

GP2

The GP2 does not function with the Sun–2 Color Board, Sun–3 Color Board, or the Graphics Buffer.

Sun SCSI Assemblies

1. For systems that do not use a SCSI host adapter, use the slot assignment charts based on systems using 501–1138 or 501–1217 SCSI Assembly.
2. Option 160A, 3x2 adapter, 501–1269, has P2 bus connections. Option 160B, 3x2 adapter, 501–1191, has no P2 bus connections. There is no external connector on these options.
3. The 501–1167 Sun–2 SCSI Adapter Assembly has P2 bus connections and an external cable assembly. The Sun–3 SCSI is not supported in this adapter assembly.
4. The 501–1217 SCSI Assembly will not function with the internal SCSI subsystem in the Sun–3/160/260 or Sun–4/260. The internal SCSI subsystem interfaces through the J2/P1 and J2/P3 VMEbus connector. These signals are not connected on the 501–1217 assembly.
5. A maximum of two SCSI–3 Host Adapters can be installed.
6. The 501–1220 3x2 adapter has no connection to P2 rows A and C and has an external 50–pin connector.

Sun–2/130 and Sun–2/160

Installing either a 1/2” tape or SMD disk controller in an unused slot to the left of the SCSI host adapter may adversely impact the functionality of the SCSI subsystem.

TAAC–1

1. The TAAC–1 occupies 3 slots. The BG3 and IACK jumpers must be installed for all three backplane slots.
2. Sun 3/160 systems that use the TAAC–1 must have FCO 807–0071 installed.

FDDI

The FDDI is not supported in systems using a second Ethernet controller.

Sun VME 3x2 Adapter Assemblies with SCSI Host Adapter

Assy # w SCSI	Includes SCSI #	Includes Blank Assy #	P2 Rows A + C	SCSI Connection
501–1149	501–1045	500–1269	Yes	Internal
501–1167	501–1045	500–1059	Yes	External
501–1170	501–1236	500–1269	Yes	Internal
501–1138	501–1045	500–1220	No	External
501–1217	501–1236	500–1220	No	External

Sun 3x2 Adapter Assemblies

Option #	Assy #	Adapter #	P2 Rows A + C
160A	501–1269	500–1269	Yes
160B	501–1191	500–1220	No
160B	501–1191	500–1437	No
None	501–1220	500–1220	No

Memory Boards with SCSI

Assy #	Memory Board #	Description	SCSI Host
501–1172	501–1121	3/75 0MB	501–1045
501–1147	501–1079	2/50 0MB	501–1045

Memory Boards that can use a SCSI Host Adapter

Memory Board #	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

BOARD NAME	SLOT	POSITION
	1	2
Sun CPU [1]	A	
Sun Memory Expansion [2]		A

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

Sun–2/130/160

SHUNTS		BOARD	BACKPLANE SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	CPU [1]	A											
In	In	Mem Expansion [2]		A										
Out	Out	GP [3]			A									
In	In	Graphics Buffer				A								
In	Out	VME Color [4]					A							
Out	N/A	ALM [5]											A	A
Out	Out	VME SCSI Ctlr [6]						A						
Out	Out	1st SCP			A	B	C	D	E					
Out	Out	2nd SCP				A	B	C	D	E				
Out In	Out In	1st MAPKIT			A	A B	C B	C D	E D	E F	G F	G		
Out In	Out In	2nd MAPKIT					A	A B	C B	C D	E D	E F	G F	G
Out	Out	1st 1/2” Tape Ctlr [7]			A	B	C	D	E	F	G	H	I	J
Out	Out	2nd 1/2” 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	VME Sky FPP					A	B	C	D	E	F	G	H
Out	Out	2nd Ethernet Ctlr			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			

Note: Reference the Cardcage Slot Assignments and Backplane Configuration Procedures, 813–2004–XX.

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.
4	501–1014 501–1116	Sun–2 Color Sun–3 Color
5	501–1157–01 370–1040 370–1047 370–1048	ALM–1 Assy MTI–1600 Board Set MTI–1600 Controller MTI–1600 USART
	501–1157–02 370–1097 370–1099 370–1100	ALM–1 Assy 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

9–Slot Backplane

BOARD NAME		BACKPLANE SLOT POSITION								
		1	2	3	4	5	6	7	8	9
CPU [1]		A								
1st Memory Expansion [2]			A							
2nd Memory Expansion [2]				A						
3rd Memory Expansion [2]					A					
4th Memory Expansion [2]						A				
Sun ALM–8 [3]	Controller [3]							A		
	USART Board [3]						A			
Video [4]						B	A			
1st SCP								A	B	
2nd SCP									A	B
SCSI Controller					B	A		C	D	E
1st Ethernet [5]				A	B	C		D	E	F
2nd Ethernet [5]					A	B		C	D	E
1st 1/2” Tape Ctlr [6]								A	B	C
2nd 1/2” Tape Ctlr [6]									A	B
1st Xylogics 450 SMD Ctlr [7]								A	B	C
2nd Xylogics 450 SMD Ctlr [7]									A	B
Sky FFP								A	B	C
Color Processor				F	E	D		C	B	A

Note: Reference the Cardcage Slot Assignments and Backplane Configuration Procedures, 813–2004–XX.

Sun–2/170

15–Slot Backplane

BOARD		BACKPLANE SLOT POSITION														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CPU [1]		A														
1st Memory Expansion [2]			A													
2nd Memory Expansion [2]				A												
3rd Memory Expansion [2]					A											
4th Memory Expansion [2]						A										
Video [4]							A									
1st SCP								A								
2nd SCP									A							
SCSI Controller					B	A		C	D	E						
1st Ethernet [5]				A	B	C		D	E	F						
2nd Ethernet [5]					A	B		C	D	E	F	G				
1st 1/2” Tape Ctlr [6]								A	B	C	D	E	F			
2nd 1/2” Tape Ctlr [6]									A	B	C	D	E	F		
1st Xylogics 450 SMD Ctlr [7]								A	B	C	D	E	F	G	H	
2nd Xylogics 450 SMD Ctlr [7]									A	B	C	D	E	F	G	H
Sky FPP								A	B	C	D	E	F	G	H	I
Color Processor																A
ALM–14 [8]	Controller [8]							A	B	C	D	E	F	G	H	I
	USART [8]								A	B	C	D	E	F	G	H

Note: Reference the Cardcage Slot Assignments and Backplane Configuration Procedures, 813–2004–XX.

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	MTI–800 Board Set MTI–800 Controller MTI–800 USART
	370–1098 370–1099 370–1102	MTI–850B Board Set MTI–850B Controller MTI–850B USART
4	501–1003 501–1052	Monochrome Video Monochrome Video
5	501–0288 501–1004	3Com 3C400 Ethernet Sun–2 Ethernet
6	370–0502 370–1067	1/2” CPC Tapemaster Assy 1/2” Xylogics 472 Assy
7	370–1012	Xylogics 450 SMD Ctlr The 370–1082 is NOT supported in the Sun–2/120 or Sun–2/170.
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

BOARD NAME	SLOT
Sun CPU [1]	1

Sun–3/75

BOARD NAME	SLOT	POSITION
	1	2
Sun CPU [1]	A	
Sun Memory Expansion [2]		A

Sun–3/60

BOARD NAME	SLOT
Sun CPU [1]	1

Sun–3/50

NOTE #	PART#	BOARD
1	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–3/75

NOTE #	PART#	BOARD
1	501–1074	2MB Sun 3100 CPU
	501–1094	4MB Sun 3100 CPU
	501–1163	2MB Sun 3100 CPU
	501–1164	4MB Sun 3100 CPU
2	501–1121	0MB Memory
	501–1111	2MB Memory
	501–1122	4MB Memory
	501–1172*	0MB Memory w/Sun–2 VME SCSI
	501–1045	Sun–2 VME SCSI

* The 501–1236, Sun–3 VME SCSI, is not supported.

Sun–3/60

NOTE #	PART#	BOARD
1	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	Mono Frame Buffer
	501–1248	CG4 P4 Color Frame Buffer

Sun–3/110/140 Backplane

SHUNTS		BOARD	SLOT POSITION		
BG3	IACK		1	2	3
Out	Out	CPU [1]	A		
In	In	1st 4MB Memory Expansion [2]		A	
In	In	2nd 4MB Memory Expansion [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 In	Out In	MAPKIT		A	A
Out	Out	VME SCSI Controller [3]		B	A
In	Out	HSI		A	B
Out	Out	2nd Ethernet Controller		B	A
Out	Out	FDDI		B	A
In	Out	1st IPC [4]		B	A
In	Out	2nd IPC [4]		A	

Note: Reference the Cardcage Slot Assignments and Backplane Configuration Procedures, 813–2004–XX.

Sun–3/150

SHUNTS		BOARD	SLOT POSITION					
BG3	IACK		1	2	3	4	5	6
Out	Out	CPU [1]	A					
In	In	1st Memory Exp [2]		A				
In	In	FPA				A		
In	In	2nd Memory Exp [2]			A			
In	In	3rd Memory Exp [2]				A		
Out	Out	GP [5]					A	
In	In	Graphics Buffer						A
In	In	TAAC–1				A	A	A
Out	N/A	ALM–1						A
Out	Out	1st SCP		A	B	C	D	E
Out	Out	2nd SCP			A	B	C	D
Out	Out	1st MCP		A	B	C	D	E
Out	Out	2nd MCP			A	B	C	D
Out	Out	3rd MCP				A	B	C
Out	Out	4th MCP					A	B
Out	Out	1st ALM–2		A	B	C	D	E
Out	Out	2nd ALM–2			A	B	C	D
Out	Out	3rd ALM–2				A	B	C
Out	Out	4th ALM–2					A	B
Out	Out	SunLink Channel Adapter		A	A	C	C	
Out	Out				B	B	D	D
Out	Out	1st MAPKIT		A	A	C	C	
In	In				B	B	D	D
Out	Out	2nd MAPKIT				A	A	
In	In						B	B
Out	Out	VME SCSI Ctlr [3]		A	B	C	D	E
Out	Out	VME Color [6]		A	B	C	D	E
In	Out	HSI		A	B	C	D	E
In	Out	2nd Ethernet Ctlr		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	E

Note: Reference the Cardcage Slot Assignments and Backplane Configuration Procedures, 813–2004–XX.

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Sun–3/160

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	CPU 1	A											
In	In	1st Memory Exp[2]					A							
In	In	2nd Memory Exp[2]				A								
In	In	3rd Memory Exp[2]			A									
In	In	FPA						A						
Out	Out	GP[5]										A		
In	In	Graphics Buffer											A	
In	In	TAAC–1										A	A	A
Out	N/A	ALM–1											A	A
Out	Out	VME SCSI Ctlr[7]							A					
Out	Out	VME SCSI Ctlr[12]							A	B	C	D	E	F
Out	Out	VME SCSI Ctlr[12]								A	B	C	D	E
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	D	E	F	G	H	I
Out	Out	4th MCP		B				A	C	D	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	D	E	F	G	H	I
Out	Out	4th ALM–2		B				A	C	D	E	F	G	H
Out Out	Out Out	1st SunLink Channel Adapter		A	A B	C B	C D	E D	E F	G F	G H	I H	I J	J
Out Out	Out Out	2nd SunLink Channel Adapter				A	A B	C B	C D	E D	E F	G F	G H	H
Out In	Out In	1st MAPKIT Option		A	A B	C B	C D	E D	E F	G F	G H	I H	I J	J
Out In	Out In	2nd MAPKIT Option				A	A B	C B	C D	E D	E F	G F	G H	H
In	Out	HSI		E	A	B	C	D	F	G	H	I	J	K

Sun–3/160 (Cont.)

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	2nd Ethernet Ctlr		E	A	B	C	D	F	G	H	I	J	K
Out	Out	FDDI		E	A	B	C	D	F	G	H	I	J	K
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 1/2” Tape Ctlr [8]							A	B	C	D	E	F
Out	Out	2nd 1/2” Tape Ctlr [8]								A	B	C	D	E
Out	Out	1st SMD Ctlr [9]							A	B	C	D	E	F
Out	Out	2nd SMD Ctlr [9]								A	B	C	D	E
Out	Out	1st VME SMD Ctlr							A	B	C	D	E	F
Out	Out	2nd VME SMD Ctlr								A	B	C	D	E
In	Out	VME Color [10]		K	A	B	C	D	E	F	G	H	I	J

Notes
1. For systems without VME SCSI, use charts for Sun–3/180, using 501–1138 or 501–1217 SCSI Assembly.
2. Reference the Cardcage Slot Assignment and Backplane Configuration Procedures, 813–2004–XX.

3/180

Using 501–1167 SCSI Assy

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	1st Memory Exp [2]		A										
In	In	2nd Memory Exp [2]			A									
In	In	3rd Memory Exp [2]				A								
In	In	FPA						A						
Out	Out	GP [5]										A		
In	In	Graphics Buffer											A	
In	In	TAAC–1										A	A	A
Out	N/A	1st ALM–1												A
Out	Out	2nd ALM–1											A	
Out	Out	3rd ALM–1										A		
Out	Out	VME SCSI Ctlr [11]							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	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	Out Out	1st SunLink Channel Adapter		A	A B	C B	C D	D		E	E F	G F	G H	H
Out Out	Out Out	2nd SunLink Channel Adapter				A	A B	B		C	C D	E D	E F	F
Out In	Out In	1st MAPKIT Option		A	A B	C B	C D	D		E	E F	G F	G H	H

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Using 501–1167 SCSI Assy (Cont.)

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	2nd MAPKIT				A	A B	B		C	C D	E D	E F	F
In	Out	VME Color [10]		A	B	C	D	E		F	G	H	I	J
In	Out	HSI		A	B	C	D	E		F	G	H	I	J
Out	Out	2nd Ethernet Ctlr		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 1/2” Tape Ctlr [8]								A	B	C	D	E
Out	Out	2nd 1/2” Tape Ctlr [8]									A	B	C	D
Out	Out	1st SMD Ctlr [9]								A	B	C	D	E
Out	Out	2nd SMD Ctlr 9									A	B	C	D
Out	Out	1st VME SMD Ctlr							A	B	C	D	E	F
Out	Out	2nd VME SMD Ctlr								A	B	C	D	E
Out	Out	4th VME SMD Ctlr									A	B	C	D
Out	Out	3rd VME SMD Ctlr										A	B	C

Notes

1. For systems without VME SCSI, use charts for Sun–3/180, using 501–1138 or 501–1217 SCSI Assembly.
2. Reference the Cardcage Slot Assignment and Backplane Configuration Procedures, 813–2004–XX.

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Using 501 –1138 or 501–1217 SCSI Assy

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	1st Memory Exp [2]		A										
In	In	2nd Memory Exp [2]			A									
In	In	3rd Memory Exp [2]				A								
In	In	FPA						A						
Out	Out	GP [5]										A		
In	In	Graphics Buffer											A	
In	In	TAAC–1										A	A	A
Out	N/A	1st ALM–1												A
Out	Out	2nd ALM–1											A	
Out	Out	3rd ALM–1										A		
Out	Out	1st SCP		A	B	C	D							
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	Out Out	SunLink Channel Adapter		A	A B	C B	C D	E D	E F	G F	G H	I H	I J	J
Out Out	Out Out	SunLink Channel Adapter				A	A B	C B	C D	E D	E F	G F	G H	H
Out In	Out In	1st MAPKIT Option		A	A B	C B	C D	E D	E F	G F	G H	I H	I J	J
Out In	Out In	2nd MAPKIT Option				A	A B	C B	C D	E D	E F	G F	G H	H

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Using 501 –1138 or 501–1217 SCSI Assy (Continued)

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	VME SCSI Ctlr [3]		A	B	C	D	E	F	G	H	I	J	K
In	Out	VME Color [10]		A	B	C	D	E	F	G	H	I	J	K
In	Out	HSI		A	B	C	D	E	F	G	H	I	J	K
Out	Out	2nd Ethernet Ctlr		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
Out	Out	1st 1/2” Tape Ctlr [8]		A	B	C	D	E	F	G	H	I	J	K
Out	Out	2nd 1/2” Tape Ctlr [8]			A	B	C	D	E	F	G	H	I	J
Out	Out	1st SMD Ctlr [9]		A	B	C	D	E	F	G	H	I	J	K
Out	Out	2nd SMD Ctlr [9]			A	B	C	D	E	F	G	H	I	J
Out	Out	1st VME SMD Ctlr		A	B	C	D	E	F	G	H	I	J	K
Out	Out	2nd VME SMD Ctlr			A	B	C	D	E	F	G	H	I	J
Out	Out	3rd VME SMD Ctlr				A	B	C	D	E	F	G	H	I
Out	Out	4th VME SMD Ctlr					A	B	C	D	E	F	G	H

Notes

1. For systems without VME SCSI, use charts for Sun–3/180, using 501–1138 or 501–1217 SCSI Assembly.
2. Reference the Cardcage Slot Assignment and Backplane Configuration Procedures, 813–2004–XX.

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Using 501 –1138 or 501–1217 SCSI Assy

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	CPU [1]	A											
In	In	1st Memory Exp [2]		A										
In	In	2nd Memory Exp [2]			A									
In	In	3rd Memory Exp [2]				A								
In	In	FPA						A						
Out	Out	GP [5]										A		
In	In	Graphics Buffer											A	
In	In	TAAC–1										A	A	A
Out	N/A	1st ALM–1												A
Out	Out	2nd ALM–1											A	
Out	Out	3rd ALM–1										A		
Out	Out	1st SCP		A	B	C	D							
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	Out Out	1st SunLink Channel Adapter		A	A B	C B	C D	D				E	E F	F
Out Out	Out Out	2nd SunLink Channel Adapter				A	A B	B				C	C D	D
Out In	Out In	1st MAPKIT Option		A	A B	C B	C D	D				E	E F	F

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Using 501 –1138 or 501–1217 SCSI Assy

Slots 7,8,9 reserved for non–Sun boards that use P2 (Cont.)

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	2nd MAPKIT				A	A					C	C	
In	In	Option					B	B					D	D
Out	Out	VME SCSI Ctlr [3]		A	B	C	D	E				F	G	H
In	Out	VME Color [10]		A	B	C	D	E				F	G	H
In	Out	HSI		A	B	C	D	E				F	G	H
Out	Out	2nd Ethernet Ctlr		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
Out	Out	1st 1/2" Tape Ctlr [8]		A	B	C	D	E				F	G	H
Out	Out	2nd 1/2" Tape Ctlr [8]			A	B	C	D				E	F	G
Out	Out	1st SMD Ctlr [9]		A	B	C	D	E				F	G	H
Out	Out	2nd SMD Ctlr [9]			A	B	C	D				E	F	G
Out	Out	1st VME SMD Ctlr		A	B	C	D	E				F	G	H
Out	Out	2nd VME SMD Ctlr			A	B	C	D				E	F	G
Out	Out	3rd VME SMD Ctlr				A	B	C				D	E	F
Out	Out	4th VME SMD Ctlr					A	B				C	D	E

Notes

1. For systems without VME SCSI, use charts for Sun–3/180, using 501–1138 or 501–1217 SCSI Assembly.
2. Reference the Cardcage Slot Assignment and Backplane Configuration Procedures, 813–2004–XX.

Sun–3/110/140/150/160/180

NOTE #	PART#	BOARD
1	501–1074	2MB Sun 3004 CPU
	501–1094	4MB Sun 3004 CPU
	501–1134	Sun–3/110 CPU
	501–1163	2MB Sun 3004 CPU
	501–1164	4MB Sun 3004 CPU
	501–1208	4MB Sun 3004 CPU
	501–1209	Sun–3/110 CPU
2	501–1131	2MB Memory
	501–1132	4MB Memory
		Thie 501–1131 is NOT supported in the Sun–3/110 or the Sun–3/150.
3	501–1138	Sun–2 VME SCSI Assy
	501–1217	Sun–3 VME SCSI Assy
4	501–1125	SunIPC w/o 80287
	501–1214	SunIPC w 80287
5	501–1055	Graphics Processor
	501–1139	Graphics Processor +
	501–1268	Graphics Processor 2
6	501–1116	Sun–3 Color
	501–1267	CG5 Color
7	501–1149	Sun–2 VME SCSI Assy
	501–1170	Sun–3 VME SCSI Assy
8	501–1155	1/2” Xylogics 472 Assy
	501–1156	1/2” CPC Tapemaster Assy
9	501–1154	Xylogics 450 SMD Ctlr Assy
	501–1166	Xylogics 451 SMD Ctlr Assy
10	501–1014	Sun–2 Color
	501–1116	Sun–3 Color
	501–1267	CG5 Color
11	501–1167	Sun–2 VME SCSI Assy
12	501–1217	Sun–3 VME SCSI Assy

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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	1st Memory Exp[2]						A						
In	In	2nd Memory Exp[2]				A								
In	In	3rd Memory Exp[2]			A									
In	In	4th Memory Exp[2]		A										
In	In	FPA					A							
Out	Out	GP[3]										A		
In	In	Graphics Buffer											A	
In	In	TAAC–1										A	A	A
Out	N/A	1st ALM–1											A	A
Out	Out	VME SCSI Ctlr[4]							A					
Out	Out	VME SCSI Ctlr[11]							A	B	C	D	E	F
Out	Out	VME SCSI Ctlr[11]								A	B	C	D	E
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	Out Out	1st SunLink Channel Adapter		A	A B	C B	C		D	D E	F E	F G	H G	H
Out Out	Out Out	2nd SunLink Channel Adapter				A	A		B	B C	D C	D E	F E	F
Out In	Out In	1st MAPKIT Option		A	A B	C B	C		D	D E	F E	F G	H G	H

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SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out In	Out In	2nd MAPKIT Option				A	A		B	B C	D C	D E	F E	F
In	Out	HSI		D	A	B	C		E	F	G	H	I	J
Out	Out	2nd Ethernet Ctlr		D	A	B	C		E	F	G	H	I	J
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 [5]		D	A	B	C		E	F	G	H	I	J
In	Out	2nd IPC [5]		C		A	B		D	E	F	G	H	I
In	Out	3rd IPC [5]		B			A		C	D	E	F	G	H
In	Out	4th IPC [5]		A					B	C	D	E	F	G
Out	Out	1st 1/2” Tape Ctlr [6]							A	B	C	D	E	F
Out	Out	2nd 1/2” Tape Ctlr [6]								A	B	C	D	E
Out	Out	1st SMD Ctlr [7]							A	B	C	D	E	F
Out	Out	2nd SMD Ctlr [7]								A	B	C	D	E
Out	Out	1st VME SMD Ctlr							A	B	C	D	E	F
Out	Out	2nd VME SMD Ctlr								A	B	C	D	E
In	Out	VME Color [8]		J	A	B	C		D	E	F	G	H	I
In	Out	CG9 Color											A	B

Notes
1. For systems without VME SCSI, use charts for Sun–3/280, using 501–1138 or 501–1217 SCSI Assembly.
2. Reference the Cardcage Slot Assignment and Backplane Configuration Procedures, 813–2004–XX.

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Using SCSI Assy 501–1167

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	1st Memory Exp [2]						A						
In	In	2nd Memory Exp [2]		A										
In	In	3rd Memory Exp [2]			A									
In	In	4th Memory Exp [2]				A								
In	In	FPA					A							
Out	Out	Graphics Processor [3]										A		
In	In	Graphics Buffer											A	
In	In	TAAC–1										A	A	A
Out	N/A	1st ALM–1												A
Out	Out	2nd ALM–1											A	
Out	Out	3rd ALM–1										A		
Out	Out	VME SCSI Ctlr [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	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	Out Out	1st SunLink Channel Adapter		A	A B	C B	 C			D	D E	F E	F G	 G
Out Out	Out Out	2nd SunLink Channel Adapter				A	A			B	B C	D C	D E	 E
Out In	Out In	1st MAPKIT Option		A	A B	C B	C			D	D E	F E	F G	 G

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Using SCSI Assy 501–1167 (Continued)

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out In	Out In	2nd MAPKIT Option				A	A			B	B C	D C	D E	E
In	Out	VME Color		A	B	C	D			E	F	G	H	I
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	2nd Ethernet Ctlr		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 [5]		A	B	C	D			E	F	G	H	I
In	Out	2nd IPC [5]			A	B	C			D	E	F	G	H
In	Out	3rd IPC [5]				A	B			C	D	E	F	G
In	Out	4th IPC [5]					A			B	C	D	E	F
Out	Out	1st 1/2” Tape Ctlr [6]								A	B	C	D	E
Out	Out	2nd 1/2” Tape Ctlr [6]									A	B	C	D
Out	Out	1st SMD Ctlr [7]								A	B	C	D	E
Out	Out	2nd SMD Ctlr [7]									A	B	C	D
Out	Out	1st VME SMD Ctlr							A	B	C	D	E	F
Out	Out	2nd VME SMD Ctlr								A	B	C	D	E
Out	Out	3rd VME SMD Ctlr									A	B	C	D
Out	Out	4th VME SMD Ctlr										A	B	C

Notes

1. For systems without VME SCSI, use charts for Sun–3/280, using 501–1138 or 501–1217 SCSI Assembly.
2. Reference the Cardcage Slot Assignment and Backplane Configuration Procedures, 813–2004.

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Using 501–1138 or 501 –1217 SCSI Assy

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	1st Memory Exp [2]						A						
In	In	2nd Memory Exp [2]		A										
In	In	3rd Memory Exp [2]			A									
In	In	4th Memory Exp [2]				A								
In	In	FPA					A							
Out	Out	GP [3]										A		
In	In	Graphics Buffer											A	
In	In	TAAC–1										A	A	A
Out	N/A	1st ALM–1												A
Out	Out	2nd ALM–1											A	
Out	Out	3rd ALM–1										A		
Out	Out	1st SCP		A	B	C	D		E					
Out	Out	2nd SCP			A	B	C		D	E				
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	Out Out	1st SunLink Channel Adapter		A	A B	C B	C		D	D E	F E	F G	H G	H
Out Out	Out Out	2nd SunLink Channel Adapter				A	A		B	B C	D C	D E	F E	F
Out In	Out In	1st MAPKIT Option		A	A B	C B	C		D	D E	F E	F G	H G	H

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Using 501–1138 or 501 –1217 SCSI Assy (Cont.)

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out In	Out In	2nd MAPKIT Option				A	A		B	B C	D C	D E	F E	F
Out	Out	VME SCSI Ctlr [9]		A	B	C	D		E	F	G	H	I	J
In	Out	VME Color [8]		A	B	C	D		E	F	G	H	I	J
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	2nd Ethernet Ctlr		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
In	Out	1st IPC [5]		A	B	C	D		E	F	G	H	I	J
In	Out	2nd IPC [5]			A	B	C		D	E	F	G	H	I
In	Out	3rd IPC [5]				A	B		C	D	E	F	G	H
In	Out	4th IPC [5]					A		B	C	D	E	F	G
Out	Out	1st 1/2” Tape Ctlr [6]		A	B	C	D		E	F	G	H	I	J
Out	Out	2nd 1/2” Tape Ctlr [6]			A	B	C		D	E	F	G	H	I
Out	Out	1st SMD Ctlr [7]		A	B	C	D		E	F	G	H	I	J
Out	Out	2nd SMD Ctlr [7]			A	B	C		D	E	F	G	H	I
Out	Out	1st VME SMD Ctlr		A	B	C	D		E	F	G	H	I	J
Out	Out	2nd VME SMD Ctlr			A	B	C		D	E	F	G	H	I
Out	Out	3rd VME SMD Ctlr				A	B		C	D	E	F	G	H
Out	Out	4th VME SMD Ctlr					A		B	C	D	E	F	G

Notes

1. For systems without VME SCSI, use charts for Sun–3/280, using 501–1138 or 501–1217 SCSI Assembly.
2. Reference the Cardcage Slot Assignment and Backplane Configuration Procedures, 813–2004–XX.

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Using 501–1138 or 501–1217 SCSI Assy

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	CPU [1]	A											
In	In	1st Memory Exp [2]						A						
In	In	2nd Memory Exp [2]		A										
In	In	3rd Memory Exp [2]			A									
In	In	4th Memory Exp [2]				A								
In	In	FPA					A							
Out	Out	GP [3]										A		
In	In	Graphics Buffer											A	
In	In	TAAC–1										A	A	A
Out	N/A	1st ALM–1												A
Out	Out	2nd ALM–1											A	
Out	Out	3rd ALM–1										A		
Out	Out	1st SCP		A	B	C	D					E	F	G
Out	Out	2nd SCP			A	B	C					D	E	F
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					D	D	
Out	Out	Channel Adapter			B	B							E	E

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Using 501–1138 or 501–1217 SCSI Assy

Slots 7,8,9 reserved for non–Sun boards that use P2 (Cont.)

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out Out	Out Out	2nd SunLink Channel Adapter				A	A					B	B C	C
Out In	Out In	1st MAPKIT Option		A	A B	C B	C					D	D E	E
Out In	Out In	2nd MAPKIT Option				A	A					B	B C	C
Out	Out	VME SCSI Ctlr [9]		A	B	C	D					E	F	G
In	Out	VME Color [8]		A	B	C	D					E	F	G
In	Out	1st HSI		A	B	C	D					E	F	G
In	Out	2nd HSI			A	B	C					D	E	F
Out	Out	2nd Ethernet Ctlr		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 [5]		A	B	C	D					E	F	G
In	Out	2nd IPC [5]			A	B	C					D	E	F
In	Out	3rd IPC [5]				A	B					C	D	E
In	Out	4th IPC [5]					A					B	C	D
Out	Out	1st 1/2" Tape Ctlr [6]		A	B	C	D					E	F	G
Out	Out	2nd 1/2" Tape Ctlr [6]			A	B	C					D	E	F
Out	Out	1st SMD Ctlr [7]		A	B	C	D					E	F	G
Out	Out	2nd SMD Ctlr [7]			A	B	C					D	E	F
Out	Out	1st VME SMD Ctlr		A	B	C	D					E	F	G
Out	Out	2nd VME SMD Ctlr			A	B	C					D	E	F
Out	Out	3rd VME SMD Ctlr				A	B					C	D	E
Out	Out	4th VME SMD Ctlr					A					B	C	D

Notes

1. For systems without VME SCSI, use charts for Sun–3/280, using 501–1138 or 501–1217 SCSI Assembly.
2. Reference the Cardcage Slot Assignment and Backplane Configuration Procedures, 813–2004–XX.

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	501–1149 501–1170	Sun–2 VME SCSI Assy Sun–3 VME SCSI Assy
5	501–1125 501–1214	SunIPC w/o 80287 SunIPC w 80287
6	501–1155 501–1156	1/2” Xylogics 472 Assy 1/2” CPC Tapemaster Assy
7	501–1154 501–1166	Xylogics 450 SMD Ctlr Assy Xylogics 451 SMD Ctlr Assy
8	501–1014 501–1116 501–1267	Sun–2 Color Sun–3 Color CG5 Color
9	501–1138 501–1217	Sun–2 VME SCSI Assy Sun–3 VME SCSI Assy
10	501–1167	Sun–2 VME SCSI Assy
11	501–1217	Sun–3 VME SCSI Assy

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SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out In	Out In	Sun 3400 CPU	A	A										
In	In	1st ECC Mem Bd [1]						A						
In	In	FPA					A							
In	In	2nd ECC Mem Bd [1]					A							
In	In	3rd ECC Mem Bd [1]				A								
In	In	4th ECC Mem Bd [1]			A									
Out	Out	GP [2]										A		
In	In	Graphics Buffer											A	
In	In	TAAC–1										A	A	A
Out	N/A	1st ALM–1												A
Out	Out	VME SCSI Ctlr [3]							A					
Out	Out	VME SCSI Ctlr [9]							A	B	C	D	E	F
Out	Out	VME SCSI Ctlr [9]								A	B	C	D	E
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	Out Out	1st SunLink Channel Adapter			A	A B	B		C D	C D	E F	E F	G H	G H
Out Out	Out Out	2nd SunLink Channel Adapter						A	A B	C B	C D	E D	E F	G F
Out In	Out In	1st MAPKIT Option			A	A B	B		C	C D	E D	E F	G F	G

3/460 (Cont.)

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out In	Out In	2nd MAPKIT Option							A	A B	C B	C D	E D	E
In	Out	VME Color [4]			A	B	C		D	E	F	G	H	I
In	Out	CG9											A	B
Out	Out	2nd Ethernet Ctlr			A	B	C		D	E	F	G	H	I
Out	Out	FDDI			A	B	C		D	E	F	G	H	I
Out	Out	FDDI				A	B		C	D	E	F	G	H
In	Out	1st IPC [5]			A	B	C		D	E	F	G	H	I
In	Out	2nd IPC [5]				A	B		C	D	E	F	G	H
In	Out	3rd IPC [5]					A		B	C	D	E	F	G
In	Out	4th IPC [5]							A	B	C	D	E	F
Out	Out	1st 1/2” Tape Ctlr [6]							A	B	C	D	E	F
Out	Out	2nd 1/2” Tape Ctlr [6]								A	B	C	D	E
Out	Out	1st SMD Disk Ctlr [7]							A	B	C	D	E	F
Out	Out	2nd SMD Disk Ctlr [7]								A	B	C	D	E

Notes

1. For systems without VME SCSI, use charts for Sun–3/480, using 501–1138 or 501–1217 SCSI Assembly.
2. Reference the Cardcage Slot Assignment and Backplane Configuration Procedures, 813–2004–XX.

3/470

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	Sun 3400 CPU				A	A							
In	In	1st ECC Mem Bd [1]	A											
In	In	2nd ECC Mem Bd [1]		A										
In	In	3rd ECC Mem Bd [1]			A									
In	In	FPA						A						
In	In	4th ECC Mem Bd [1]							A					
Out	Out	GP [2]										A		
In	In	Graphics Buffer											A	
In	In	TAAC–1										A	A	A
Out	N/A	1st ALM–1											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	Out Out	1st SunLink Channel Adapter						A	A B	C B	C D	E D	E F	F
Out Out	Out Out	2nd SunLink Channel Adapter								A	A B	C B	C D	D
Out In	Out In	1st MAPKIT Option						A	A B	C B	C D	E D	E F	F
Out In	Out In	2nd MAPKIT Option								A	A B	C B	C D	D
Out	Out	VME SCSI Ctlr [9]						A	B	C	D	E	F	G
Out	Out	VME SCSI Ctlr [9]						A	B	C	D	E	F	G

3/470 (Cont.)

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	VME SCSI Ctlr [9]							A	B	C	D	E	F
Out	Out	2nd Ethernet Ctlr						A	B	C	D	E	F	G
Out	Out	FDDI						A	B	C	D	E	F	G
Out	Out	FDDI							A	B	C	D	E	F
In	Out	1st IPC [5]						A	B	C	D	E	F	G
In	Out	2nd IPC [5]							A	B	C	D	E	F
In	Out	3rd IPC [5]								A	B	C	D	E
In	Out	4th IPC [5]									A	B	C	D
Out	Out	1st 1/2” Tape Ctlr [6]						A	B	C	D	E	F	G
Out	Out	2nd 1/2” Tape Ctlr [6]							A	B	C	D	E	F
Out	Out	1st SMD Disk Ctlr [7]						A	B	C	D	E	F	G
Out	Out	2nd SMD Disk Ctlr [7]							A	B	C	D	E	F
Out	Out	3rd SMD Disk Ctlr [7]								A	B	C	D	E
Out	Out	4th SMD Disk Ctlr [7]									A	B	C	D
In	Out	VME Color [4]						A	B	C	D	E	F	G
In	Out	CG9											A	B

3/470 with the 501–1105 FPA

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 ECC Mem Bd [1]							A					
In	In	FPA						A						
In	In	2nd ECC Mem Bd [1]	A											
In	In	3rd ECC Mem Bd [1]		A										
In	In	4th ECC Mem Bd [1]			A									
Out	Out	GP [2]										A		
In	In	Graphics Buffer											A	
In	In	TAAC–1										A	A	A
Out	N/A	1st ALM–1												A
Out	Out	1st SCP								A	B	C	D	E
Out	Out	2nd SCP									A	B	C	D
Out	Out	1st MCP								A	B	C	D	E
Out	Out	2nd MCP									A	B	C	D
Out	Out	3rd MCP										A	B	C
Out	Out	4th MCP											A	B
Out	Out	1st ALM–2								A	B	C	D	E
Out	Out	2nd ALM–2									A	B	C	D
Out	Out	3rd ALM–2										A	B	C
Out	Out	4th ALM–2											A	B
Out Out	Out Out	1st SunLink Channel Adapter								A	A B	C B	C D	D
Out Out	Out Out	2nd SunLink Channel Adapter										A	A B	B
Out In	Out In	1st MAPKIT Option								A	A B	C B	C D	D
Out In	Out In	2nd MAPKIT Option										A	A B	B
Out	Out	VME SCSI Ctlr [9]								A	B	C	D	E
Out	Out	VME SCSI Ctlr [9]						A	B	C	D	E	F	G
Out	Out	VME SCSI Ctlr [9]							A	B	C	D	E	F

3/470 with 501–1105 FPA (Cont.)

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	2nd Ethernet Ctlr								A	B	C	D	E
Out	Out	FDDI						A	B	C	D	E	F	G
Out	Out	FDDI							A	B	C	D	E	F
In	Out	1st IPC [5]								A	B	C	D	E
In	Out	2nd IPC [5]									A	B	C	D
In	Out	3rd IPC [5]										A	B	C
In	Out	4th IPC [5]											A	B
Out	Out	1st 1/2” Tape Ctlr [6]								A	B	C	D	E
Out	Out	2nd 1/2” Tape Ctlr [6]									A	B	C	D
Out	Out	1st SMD Disk Ctlr [7]								A	B	C	D	E
Out	Out	2nd SMD Disk Ctlr [7]									A	B	C	D
Out	Out	3rd SMD Disk Ctlr [7]										A	B	C
Out	Out	4th SMD Disk Ctlr [7]											A	B
In	Out	VME Color [4]								A	B	C	D	E
In	Out	CG9											A	B

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Using 501–1138 or 501–1217 SCSI Assy

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out In	Out In	Sun 3400 CPU	A	A										
In	In	1st Memory Exp [1]						A						
In	In	FPA					A							
In	In	2nd Memory Exp [1]			A									
In	In	3rd Memory Exp [1]				A								
In	In	4th Memory Exp [1]					A							
Out	Out	GP [2]										A		
In	In	Graphics Buffer											A	
In	In	TAAC–1										A	A	A
Out	N/A	1st ALM–1												A
Out	Out	2nd ALM–1											A	
Out	Out	3rd ALM–1										A		
Out	Out	1st SCP			A	B	C		D	E	F	G	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	Out Out	1st SunLink Channel Adapter			A	A B	B		C	C D	E D	E F	G F	G
Out Out	Out Out	2nd SunLink Channel Adapter							A	A B	C B	C D	E D	E
Out In	Out In	1st MAPKIT Option			A	A B	B		C	C D	E D	E F	G F	G

3/480

Using 501–1138 or 501–1217 SCSI Assy (Cont.)

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out In	Out In	2nd MAPKIT Option							A	A B	C B	C D	E D	E
Out	Out	VME SCSI Ctlr [8]			A	B	C		D	E	F	G	H	I
In	Out	VME Color [4]			A	B	C		D	E	F	G	H	I
In	Out	CG9											A	B
Out	Out	2nd Ethernet Ctlr			A	B	C		D	E	F	G	H	I
Out	Out	FDDI			A	B	C		D	E	F	G	H	I
Out	Out	FDDI				A	B		C	D	E	F	G	H
In	Out	1st IPC [5]			A	B	C		D	E	F	G	H	I
In	Out	2nd IPC [5]				A	B		C	D	E	F	G	H
In	Out	3rd IPC [5]					A		B	C	D	E	F	G
In	Out	4th IPC [5]							A	B	C	D	E	F
Out	Out	1st 1/2” Tape Ctlr [6]			A	B	C		D	E	F	G	H	I
Out	Out	2nd 1/2” Tape Ctlr [6]				A	B		C	D	E	F	G	H
Out	Out	1st SMD Disk Ctlr [7]			A	B	C		D	E	F	G	H	I
Out	Out	2nd SMD Disk Ctlr [7]				A	B		C	D	E	F	G	H
Out	Out	3rd SMD Disk Ctlr [7]					A		B	C	D	E	F	G
Out	Out	4th SMD Disk Ctlr [7]							A	B	C	D	E	F

Notes

1. For systems without VME SCSI, use charts for Sun–3/480, using 501–1138 or 501–1217 SCSI Assembly.
2. Reference the Cardcage Slot Assignment and Backplane Configuration Procedures, 813–2004–XX.

3/480

Using 501–1138 or 501–1217 SCSI Assy

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 In	Out In	Sun 3400 CPU	A	A										
In	In	1st Memory Exp [1]						A						
In	In	FPA					A							
In	In	2nd Memory Exp [1]			A									
In	In	3rd Memory Exp [1]				A								
In	In	4th Memory Exp [1]					A							
Out	Out	GP [2]										A		
In	In	Graphics Buffer											A	
In	In	TAAC–1										A	A	A
Out	N/A	1st ALM–1												A
Out	Out	2nd ALM–1											A	
Out	Out	3rd ALM–1										A		
Out	Out	1st SCP			A	B	C					D	E	F
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	Out Out	1st SunLink Channel Adapter			A	A B	B					C	C D	D
Out Out	Out Out	2nd SunLink Channel Adapter										A	A B	B

3/480

Using 501–1138 or 501–1217 SCSI Assy

Slots 7,8,9 reserved for non–Sun boards that use P2 (Cont.)

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	1st MAPKIT			A	A						C	C	
In	In	Option					B	B					D	D
Out	Out	2nd MAPKIT										A	A	
In	In	Option											B	B
Out	Out	VME SCSI Ctlr [8]			A	B	C					D	E	F
In	Out	VME Color [4]			A	B	C					D	E	F
In	Out	CG9											A	B
Out	Out	2nd Ethernet Ctlr			A	B	C					D	E	F
Out	Out	FDDI			A	B	C					D	E	F
Out	Out	FDDI				A	B					C	D	E
In	Out	1st IPC [5]			A	B	C					D	E	F
In	Out	2nd IPC [5]				A	B					C	D	E
In	Out	3rd IPC [5]					A					B	C	D
In	Out	4th IPC [5]										A	B	C
Out	Out	1st 1/2” Tape Ctlr [6]			A	B	C					D	E	F
Out	Out	2nd 1/2” Tape Ctlr [6]				A	B					C	D	E
Out	Out	1st SMD Disk Ctlr [7]			A	B	C					D	E	F
Out	Out	2nd SMD Disk Ctlr [7]				A	B					C	D	E
Out	Out	3rd SMD Disk Ctlr [7]					A					B	C	D
Out	Out	4th SMD Disk Ctlr [7]										A	B	C

Notes

1. For systems without VME SCSI, use charts for Sun–3/480, using 501–1138 or 501–1217 SCSI Assembly.
2. Reference the Cardcage Slot Assignment and Backplane Configuration Procedures, 813–2004–XX.

Sun–3/460/470/480

NOTE #	PART#	BOARD
	501–1443 501–1518 501–1374 501–1247 501–1446	P4 CG4 Color Frame Buffer (DB13W3) P4 CG8 24–bit Color Frame Buffer (DB13W3) {Ibis} P4 CG6 Graphics Accelerator (DB13W3) {Lego} P4 Mono Frame Buffer FPA+
1	501–1102 501–1451 501–1576	8MB Memory 32MB Memory 16MB Memory
2	501–1055 501–1139 501–1268	Graphics Processor (GP) Graphics Processor Plus (GP+) Graphics Processor 2 (GP2)
3	501–1149 501–1170	Sun–2 VME SCSI Assy Sun–3 VME SCSI Assy
4	501–1014 501–1116 501–1267	Sun–2 Color Frame Buffer Sun–3 Color Frame Buffer CG5 Color Frame Buffer
5	501–1125 501–1214	SunIPC w/o 80287 SunIPC w 80287
6	501–1155 501–1156	1/2” Xylogics 472 Assy 1/2” CPC Tapemaster Assy
7	501–1154 501–1166 501–1249	Xylogics 450 SMD Ctlr Assy Xylogics 451 SMD Ctlr Assy Xylogics 7053 SMD Ctlr Assy
8	501–1138 501–1217	Sun–2 VME SCSI Assy Sun–3 VME SCSI Assy
9	501–1217	Sun–3 VME SCSI Assy

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Sun–4/110

SHUNTS		BOARD	BACKPLANE SLOT POSITION		
BG3	IACK		1	2	3
Out	Out	Sun–4100 CPU [1]	A	A*	
Out	Out	MCP			A
Out	Out	Sun ALM–2			A
In	Out	Sun VME Color [2]			A
In	Out	HSI			A
Out	Out	2nd Ethernet Ctlr			A
Out	Out	FDDI			A

*The Sun–4100 CPU physically occupies two slots. Install jumpers at locations P203 and P204.

Note: Reference the Cardcage Slot Assignments and Backplane Configuration Procedures, 813–2004–XX.

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 [5]					A	
In	In	GB						A
In	In	TAAC–1				A	A	A
Out	Out	1st ALM–2			A			
Out	Out	2nd ALM–2				A		
Out	Out	3rd ALM–2					A	
Out	Out	4th ALM–2						A
In	In	VME Color [2]			A	B	C	D
In	Out	CG9						A
In	Out	1st HSI			A	B	C	D
In	Out	2nd HSI				A	B	C
Out	Out	2nd Ethernet Ctlr			A	B	C	D
Out	Out	1st FDDI			A	B		C
Out	Out	2nd FDDI				A		

*The Sun–4100 CPU physically occupies two slots. Install jumpers jumpers at locations P203 and P204.

Note: Reference the Cardcage Slot Assignments and Backplane Configuration Procedures for Sun4/150 Systems, 813–2054–XX.

Sun–4/260

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	CPU[3]	A											
In	In	1st Memory Exp[4]						A						
In	In	2nd Memory Exp[4]					A							
In	In	3rd Memory Exp[4]				A								
In	In	4th Memory Exp[4]			A									
Out	Out	GP[5]										A		
In	In	GB											A	
In	In	TAAC–1										A	A	A
Out	N/A	1st ALM–1											A	A
Out	Out	VME SCSI Ctlr[6]							A					
Out	Out	VME SCSI Ctlr[11]							A	B	C	D	E	F
Out	Out	VME SCSI Ctlr[11]								A	B	C	D	E
Out	Out	1st MCP		A										
Out	Out	2nd MCP			A	B	C		D	E				
Out	Out	3rd MCP				A	B		C	D	E			
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	Out Out	1st SunLink Channel Adapter		A	A B	C B	C		D	D E	F E	F G	H G	H
Out Out	Out Out	2nd SunLink Channel Adapter				A	A		B	B C	D C	D E	F E	F
Out In	Out In	1st MAPKIT Option		A	A B	C B	C		D	D E	F E	F G	H G	H
Out In	Out In	2nd MAPKIT Option				A	A		B	B C	D C	D E	F E	F

Sun–4/260 (Continued)

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
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	2nd Ethernet Ctlr		D	A	B	C		E	F	G	H	I	J
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
Out	Out	1st 1/2” Tape Ctlr [7]							A	B	C	D	E	F
Out	Out	2nd 1/2” 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	VME Color [2]		J	A	B	C		D	E	F	G	H	I
In	Out	CG9 Color											A	B
Out	Out	1st VME SMD Ctlr							A	B	C	D	E	F
Out	Out	2nd VME SMD Ctlr								A	B	C	D	E

Notes

1. For systems without VME SCSI, use charts for Sun–4/280, using 501–1138 or 501–1217 SCSI Assembly.
2. Reference the Cardcage Slot Assignment and Backplane Configuration Procedures, 813–2004–XX

Sun–4/280

Using 501–1167 SCSI Assy

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	CPU [3]	A											
In	In	1st Memory Exp [4]						A						
In	In	2nd Memory Exp [4]		A										
In	In	3rd Memory Exp [4]			A									
In	In	4th Memory Exp [4]				A								
Out	Out	GP [5]										A		
In	In	GB											A	
In	In	TAAC–1										A	A	A
Out	N/A	1st ALM–1												A
Out	N/A	2nd ALM–1											A	
Out	N/A	3rd ALM–1										A		
Out	Out	VME SCSI Ctlr [10]							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							
Out	Out	2nd ALM–2			A	B	C			D				
Out	Out	3rd ALM–2				A	B			C	D			
Out	Out	4th ALM–2					A			B	C	D	E	F
Out Out	Out Out	1st SunLink Channel Adapter		A	A B	C B	C			D	D E	F E	F G	G
Out Out	Out Out	2nd SunLink Channel Adapter				A	A		B	B	C	C	D	D
Out In	Out In	1st MAPKIT		A	A B	C B	C			D	D E	F E	F G	G

Sun–4/280

Using 501–1167 Assy (Cont.)

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	2nd MAPKIT				A	A			B	B	C	C	
In	In	Option											D	D
In	Out	VME Color		A	B	C	D			E	F	G	H	I
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	2nd Ethernet Ctlr		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
Out	Out	1st 1/2” Tape Ctlr [7]								A	B	C	D	E
Out	Out	2nd 1/2” Tape Ctlr [7]									A	B	C	D
Out	Out	1st SMD Ctlr [8]								A	B	C	D	E
Out	Out	2nd SMD Ctlr [8]									A	B	C	D
Out	Out	1st VME SMD Ctlr							A	B	C	D	E	F
Out	Out	2nd VME SMD Ctlr								A	B	C	D	E
Out	Out	3rd VME SMD Ctlr									A	B	C	D
Out	Out	4th VME SMD Ctlr										A	B	C

Notes

1. For systems without VME SCSI, use charts for Sun–4/280, using 501–1138 or 501–1217 SCSI Assembly.
2. Reference the Cardcage Slot Assignment and Backplane Configuration Procedures, 813–2004–XX

Sun–4/280

Using 501–1138 or 501–1217 SCSI Assy

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	CPU[3]	A											
In	In	1st Memory Exp[4]						A						
In	In	2nd Memory Exp[4]		A										
In	In	3rd Memory Exp[4]			A									
In	In	4th Memory Exp[4]				A								
Out	Out	GP[5]										A		
In	In	GB											A	
In	In	TAAC–1										A	A	A
Out	N/A	1st ALM–1												A
Out	N/A	2nd ALM–1											A	
Out	N/A	3rd ALM–1										A		
Out	Out	1st 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	Out Out	1st SunLink Channel Adapter		A	A B	C B	C		D	D E	F E	F G	H G	H
Out Out	Out Out	2nd SunLink Channel Adapter				A	A		B	B E	D E	D G	F G	F
Out In	Out In	1st MAPKIT Option		A	A B	C B	C		D	D E	F E	F	G	G
Out In	Out In	2nd MAPKIT Option				A	A		B	B C	D C	D E	F E	F

Sun–4/280

Using 501–1138 or 501–1217 SCSI Assy (Cont.)

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	VME SCSI Ctlr [9]		A	B	C	D		E	F	G	H	I	J
In	Out	VME Color [2]		A	B	C	D		E	F	G	H	I	J
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	2nd Ethernet Ctlr		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
Out	Out	1st 1/2” Tape Ctlr [7]		A	B	C	D		E	F	G	H	I	J
Out	Out	2nd 1/2” 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
Out	Out	1st VME SMD Ctlr		A	B	C	D		E	F	G	H	I	J
Out	Out	2nd VME SMD Ctlr			A	B	C		D	E	F	G	H	I
Out	Out	3rd VME SMD Ctlr				A	B		C	D	E	F	G	H
Out	Out	4th VME SMD Ctlr					A		B	C	D	E	F	G

Notes

1. For systems without VME SCSI, use charts for Sun–4/280, using 501–1138 or 501–1217 SCSI Assembly.
2. Reference the Cardcage Slot Assignment and Backplane Configuration Procedures, 813–2004–XX

Sun–4/280

Using 501–1138 or 501–1217 SCSI Assy

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	CPU [3]	A											
In	In	1st Memory Exp [4]						A						
In	In	2nd Memory Exp [4]		A										
In	In	3rd Memory Exp [4]			A									
In	In	4th Memory Exp [4]				A								
Out	Out	GP [5]										A		
In	In	GB											A	
In	In	TAAC–1										A	A	A
Out	N/A	1st ALM–1												A
Out	N/A	2nd ALM–1											A	
Out	N/A	3rd ALM–1										A		
Out	Out	MCP 1st		A	B	C	D							
Out	Out	MCP 2nd			A	B	C					D	E	F
Out	Out	MCP 3rd				A	B					C	D	E
Out	Out	MCP 4th					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	Out Out	1st SunLink Channel Adapter		A	A B	C B	C					D	D E	E
Out Out	Out Out	2nd SunLink Channel Adapter				A	A					B	B C	C
Out In	Out In	1st MAPKIT Option		A	A B	C B	C					D	D E	E

Sun–4/280

Using 501–1138 or 501–1217 SCSI Assy

Slots 7,8,9 reserved for non–Sun boards that use P2 (Cont.)

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	2nd MAPKIT				A	A					B	B	
In	In	Option											C	C
Out	Out	VME SCSI Ctlr [9]		A	B	C	D					E	F	G
In	Out	VME Color [2]		A	B	C	D							
In	Out	1st HSI		A	B	C	D					E	F	G
In	Out	2nd HSI			A	B	C					D	E	F
Out	Out	2nd Ethernet Ctlr		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
Out	Out	1st 1/2” Tape Ctlr [7]		A	B	C	D					E	F	G
Out	Out	2nd 1/2” Tape Ctlr [7]			A	B	C					D	E	F
Out	Out	1st SMD Ctlr [8]		A	B	C	D					E	F	G
Out	Out	2nd SMD Ctlr [8]			A	B	C					D	E	F
Out	Out	1st VME SMD Ctlr		A	B	C	D					E	F	G
Out	Out	2nd VME SMD Ctlr			A	B	C					D	E	F
Out	Out	3rd VME SMD Ctlr				A	B					C	D	E
Out	Out	4th VME SMD Ctlr					A					B	C	D

Notes

1. For systems without VME SCSI, use charts for Sun–4/280, using 501–1138 or 501–1217 SCSI Assembly.
2. Reference the Cardcage blot Assignment and Backplane Configuration Procedures, 813–2004–XX

Sun–4/110/150/260/280

NOTE #	PART#	BOARD
1	501–1199	Sun 4100 CPU 8MB w/o FPU
	501–1237	Sun 4100 CPU 8MB w FPU
	501–1462	Sun 4100 CPU 16MB w/o FPU
	501–1463	Sun 4100 CPU 16MB w FPU
	501–1464	Sun 4100 CPU 32MB w/o FPU
	501–1465	Sun 4100 CPU 32MB w FPU
	501–1486	Sun–4 CPU 8MB w/o FPU
	501–1485	Sun–4 CPU 0MB w FPU
	501–1512	Sun–4 CPU (–04 FAB), 8MB w/o FPU
	501–1513	Sun–4 CPU (–04 FAB), 8MB w FPU
	501–1514	Sun–4 CPU (–04 FAB), 16MB w/o FPU
	501–1515	Sun–4 CPU (–04 FAB), 16MB w FPU
	501–1516	Sun–4 CPU (–04 FAB), 32MB w/o FPU
	501–1517	Sun–4 CPU (–04 FAB), 32MB w FPU
	501–1247	P4 Mono Frame Buffer
	501–1248	P4 Color Frame Buffer
	501–1314	256KB SIMM Module
	501–1466	1MB SIMM Module
2	501–1116	Sun–3 Color
	501–1267	CG5 Color The Sun–2 Color Board is not supported.
3	501–1274	Sun 4200 CPU
4	501–1102	8MB Memory
	501–1254	32MB Memory
	501–1576	16MB Memory
5	501–1055	Graphics Processor
	501–1139	Graphics Processor +
	501–1268	Graphics Processor 2
6	501–1149	Sun–2 VME SCSI Assy
	501–1170	Sun–3 VME SCSI Assy
7	501–1155	1/2” Xylogics 472 Assy The 501–1156, CPC 1/2” Tapemaster Assy is not supported.

Sun–4/110/150/260/280 (Cont.)

NOTE #	PART#	BOARD
8	501–1154 501–1166	Xylogics 450 SMD Ctlr Assy Xylogics 451 SMD Ctlr Assy
9	501–1138 501–1217	Sun–2 VME SCSI Assy Sun–3 VME SCSI Assy
10	501–1167	Sun–2 VME SCSI Assy
11	501–1217	Sun–3 VME SCSI Assy

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	CPU [3]	A	A										
In	In	1st Memory Exp [4]						A						
In	In	2nd Memory Exp [4]					A							
In	In	3rd Memory Exp [4]				A								
In	In	4th Memory Exp [4]			A									
Out	Out	GP [5]										A		
In	In	GB											A	
In	In	TAAC–1										A	A	A
Out	N/A	1st ALM–1											A	A
Out	Out	VME SCSI Ctlr [6]							A					
Out	Out	VME SCSI Ctlr [11]							A	B	C	D	E	F
Out	Out	VME SCSI Ctlr [11]								A	B	C	D	E
Out	Out	1st MCP			A	B	C		D	E				
Out	Out	2nd MCP				A	B		C	D	E			
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	
Out Out	Out Out	1st SunLink Channel Adapter			A	A B	B		C	C D	E D	E F	G F	G
Out Out	Out Out	2nd SunLink Channel Adapter							A	A B	C B	C D	E D	E
Out In	Out In	1st MAPKIT Option			A	A B	B		C	C D	E D	E F	G F	G
Out In	Out In	2nd MAPKIT Option							A	A B	C B	C D	E D	E

Sun–4/260
with Double–Height Backpanel (Continued)

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
In	Out	1st HSI			D	A	B		C	E	F	G	H	I
In	Out	2nd HSI		C		A	B		D	E	F	G	H	I
Out	Out	2nd Ethernet Ctlr			A	B	C		D	E	F	G	H	I
Out	Out	FDDI		D	A	B	C		E	F	G	H	I	J
Out	Out	FDDI		C		A	B		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 1/2” Tape Ctlr [7]							A	B	C	D	E	F
Out	Out	2nd 1/2” 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	VME Color [2]			A	B	C		D	E	F	G	H	I
In	Out	CG9											A	B
Out	Out	1st VME SMD Ctlr							A	B	C	D	E	F
Out	Out	2nd VME SMD Ctlr								A	B	C	D	E

Notes

1. For systems without VME SCSI, use charts for Sun–4/280, using 501–1138 or 501–1217 SCSI Assembly.
2. Reference the Cardcage Slot Assignment and Backplane Configuration Procedures, 813–2071–XX.

Sun–4/280

with Double–Height Backpanel

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	CPU [3]	A											
In	In	1st Memory Exp [4]						A						
In	In	2nd Memory Exp [4]		A										
In	In	3rd Memory Exp [4]			A									
In	In	4th Memory Exp [4]				A								
Out	Out	GP [5]										A		
In	In	GB											A	
In	In	TAAC–1										A	A	A
Out	N/A	1st ALM–1												A
Out	N/A	2nd ALM–1											A	
Out	N/A	3rd ALM–1										A		
Out	Out	1st 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	Out Out	1st SunLink Channel Adapter			A	A B	 B		C	C D	E D	E F	G F	G
Out Out	Out Out	2nd SunLink Channel Adapter							A	A	C B	C B	E D	E D
Out In	Out In	1st MAPKIT Option			A	A B	 B		C	C	E D	E D	G F	G F

Sun–4/280

with Double–Height Backpanel (Cont.)

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out In	Out In	2nd MAPKIT Option							A	A B	C B	C D	E D	E
Out	Out	VME SCSI Ctlr [10]			A	B	C		D	E	F	G	H	I
In	Out	VME Color			A	B	C		D	E	F	G	H	I
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	2nd Ethernet Ctlr			A	B	C		D	E	F	G	H	I
Out	Out	FDDI		A	B	C	D		E	F	G	H	I	J
Out	Out	FDDI			A	B	C		D	E	F	G	H	I
In	Out	1st IPC [6]				D	E		A	B	C	F	G	H
In	Out	2nd IPC [6]			C	D	E			A	B	F	G	H
In	Out	3rd IPC [6]			B	C	D				A	E	F	G
In	Out	4th IPC [6]			A	B	C					D	E	F
Out	Out	1st 1/2” Tape Ctlr [7]			A	B	C		D	E	F	G	H	I
Out	Out	2nd 1/2” Tape Ctlr [7]				A	B		C	D	E	F	G	H
Out	Out	1st SMD Ctlr [8]			A	B	C		D	E	F	G	H	I
Out	Out	2nd SMD Ctlr [8]				A	B		C	D	E	F	G	H
Out	Out	1st VME SMD Ctlr							A	B	C	D	E	F
Out	Out	2nd VME SMD Ctlr								A	B	C	D	E
Out	Out	3rd VME SMD Ctlr									A	B	C	D
Out	Out	4th VME SMD Ctlr										A	B	C

Notes

1. For systems without VME SCSI, use charts for Sun–4/280, using 501–1138 or 501–1217 SCSI Assembly.
2. Reference the Cardcage Slot Assignment and Backplane Configuration Procedures, 813–2071–XX.

Sun–4/280
with Double–Height Backpanel and Sun–2 501–1167 SCSI Assy

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out	Out	CPU [3]	A											
In	In	1st Memory Exp [4]						A						
In	In	2nd Memory Exp [4]		A										
In	In	3rd Memory Exp [4]			A									
In	In	4th Memory Exp [4]				A								
Out	Out	GP [5]										A		
In	In	GB											A	
In	In	TAAC–1										A	A	A
Out	N/A	1st ALM–1												A
Out	N/A	2nd ALM–1											A	
Out	N/A	3rd ALM–1										A		
Out	Out	VME SCSI Ctlr [10]							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	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	Out Out	1st SunLink Channel Adapter			A	A B	B			C	C D	E D	E F	F
Out Out	Out Out	2nd SunLink Channel Adapter								A	A B	C B	C D	D
Out In	Out In	1st MAPKIT Option			A	A B	B			C	C D	E D	E F	F

Sun–4/280

with Double–Height Backpanel and Sun–2, 501–1167 SCSI Assy (Cont.)

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out In	Out In	2nd MAPKIT Option								A	A B	C B	C D	D
In	Out	VME Color [2]			A	B	C			D	E	F	G	H
In	Out	1st HSI		A	B	C				D		E	F	G
In	Out	2nd HSI			A	8				C		D	E	F
Out	Out	2nd Ethernet Ctlr			A	B	C			D	E	F	G	H
Out	Out	FDDI		A	B	C	D			E	F	G	H	I
Out	Out	FDDI			A	B	C			D	E	F	G	H
In	Out	1st IPC [6]			A	B	C			D	E	F	G	H
In	Out	2nd IPC [6]				A	B			C	D	E	F	G
In	Out	3rd IPC [6]					A			B	C	D	E	F
In	Out	4th IPC [6]								A	B	C	D	E
Out	Out	1st 1/2” Tape Ctlr [7]								A	B	C	D	E
Out	Out	2nd 1/2” Tape Ctlr [7]									A	B	C	D
Out	Out	1st SMD Ctlr [8]								A	B	C	D	E
Out	Out	2nd SMD Ctlr [8]									A	B	C	D
Out	Out	1st VME SMD Ctlr		A	B	C				D	E	F	G	H
Out	Out	2nd VME SMD Ctlr			A	B				C	D	E	F	G
Out	Out	3rd VME SMD Ctlr				A				B	C	D	E	F
Out	Out	4th VME SMD Ctlr								A	B	C	D	E

Notes

1. For systems without VME SCSI, use charts for Sun–4/280, using 501–1138 or 501–1217 SCSI Assembly.
2. Reference the Cardcage Slot Assignment and Backplane Configuration Procedures, 813–2071–XX.

Sun–4/280

with Double–Height Backpanel

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	CPU [3]	A											
In	In	1st Memory Exp [4]						A						
In	In	2nd Memory Exp [4]		A										
In	In	3rd Memory Exp [4]			A									
In	In	4th Memory Exp [4]				A								
Out	Out	GP [5]										A		
In	In	GB											A	
In	In	TAAC–1										A	A	A
Out	N/A	1st ALM–1												A
Out	N/A	2nd ALM–1											A	
Out	N/A	3rd ALM–1										A		
Out	Out	1st 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	Out Out	1st SunLink Channel Adapter			A	A B	B					C	C D	D
Out Out	Out Out	2nd SunLink Channel Adapter										A	A B	B
Out In	Out In	1st MAPKIT Option			A	A B	B					C	C D	D

Sun–4/280

with Double–Height Backpanel (Cont.)

Slots 7,8,9 reserved for non–Sun boards that use P2 (Cont.)

SHUNTS		BOARD	SLOT POSITION											
BG3	IACK		1	2	3	4	5	6	7	8	9	10	11	12
Out In	Out In	2nd MAPKIT Option										A	A B	B
Out	Out	VME SCSI Ctlr [9]			A	B	C					D	E	F
In	Out	VME Color [2]			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	2nd Ethernet Ctlr			A	B	C					D	E	F
Out	Out	FDDI		A	B	C	D					E	F	G
Out	Out	FDDI			A	B	C					D	E	F
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 1/2” Tape Ctlr [7]			A	B	C					D	E	F
Out	Out	2nd 1/2” 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
Out	Out	1st VME SMD Ctlr		A	B	C	D					E	F	G
Out	Out	2nd VME SMD Ctlr			A	B	C					D	E	F
Out	Out	3rd VME SMD Ctlr				A	B					C	D	E
Out	Out	4th VME SMD Ctlr					A					B	C	D

Notes

1. For systems without VME SCSI, use charts for Sun–4/280, using 501–1138 or 501–1217 SCSI Assembly.
2. Reference the Cardcage Slot Assignment and Backplane Configuration Procedures, 813–2071–XX.

Sun–4/260/280

with Double–Height Backpanel

NOTE #	PART#	BOARD
2	501–1116 501–1267	CG3 Color Frame Buffer CG5 Color Frame Buffer The Sun–2 Color Board is not supported.
3	501–1522 501–1491	Sun 4200 CPU Sun 4200 CPU w FPU 2
4	501–1102 501–1576 501–1254 501–1451	8MB Memory 16MB Memory 32MB Memory 32MB Memory
5	501–1055 501–1139 501–1268	Graphics Processor Graphics Processor + Graphics Processor 2
6	501–1149 501–1170	Sun–2 VME SCSI Assy Sun–3 VME SCSI Assy
7	501–1155	1/2” Xylogics 472 Assy The 501–1156, CPC 1/2” Tapemaster Assy is not supported.
8	501–1154 501–1166	Xylogics 450 SMD Ctlr Assy Xylogics 451 SMD Ctlr Assy
9	501–1138 501–1217	Sun–2 VME SCSI Assy Sun–3 VME SCSI Assy
10	501–1167	Sun–2 VME SCSI Assy
11	501–1217	Sun–3 VME SCSI Assy

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Sun–4/330

5–Slot Backplane

SHUNTS		BOARD	SLOT POSITION						
			9U			6U		3U	
BG3	IACK		1	2	3	4	5	4	5
Out	Out	Sun 4300 CPU [1]	A						
Out	Out	VME SCSI Ctlr [5]		A	B				
Out	Out	MCP		B	A				
Out	Out	ALM–2		B	A				
Out	Out	GP2		B	A				
Out	Out	CG5 Color		B	A				
Out	Out	2nd Ethernet Controller		B	A				
Out	Out	IPC [2]		B	A				
Out	Out	FDDI		B	A				
NA	NA	1st 8MB Expansion Memory [3]						A	
NA	NA	2nd 8MB Expansion Memory							A
NA	NA	1st 16MB Expansion Memory [4]						A	
NA	NA	2nd 16MB Expansion Memory							A
In	Out	CG9 Color			A				

Sun–4/330

NOTE #	PART#	BOARD
1	501–1316 501–1544	8MB Sun–4300 CPU {Stingray} 1MB SIMM Module
	501–1443 501–1518 501–1374 501–1247	P4 CG4 Color Frame Buffer (DB13W3) P4 CG8 24–bit Color Frame Buffer (DB13W3) {Ibis} P4 CG6 Graphics Accelerator (DB13W3) {Lego} P4 Mono Frame Buffer
2	501–1125 501–1214	SunIPC w/o 80287 SunIPC w 80287
3	501–1436 501–1544	8MB Memory Board 1MB SIMM Module
4	501–1317 501–1544	16MB Memory Board 1MB SIMM Module
5	501–1217	Sun–3 VME SCSI Assy

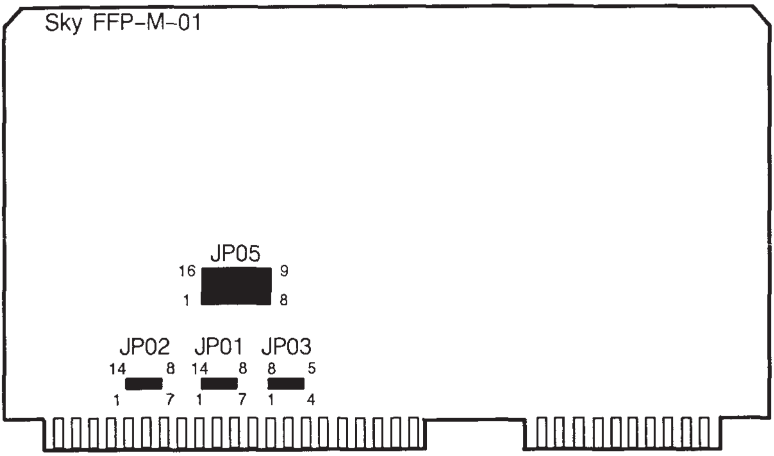
Miscellaneous

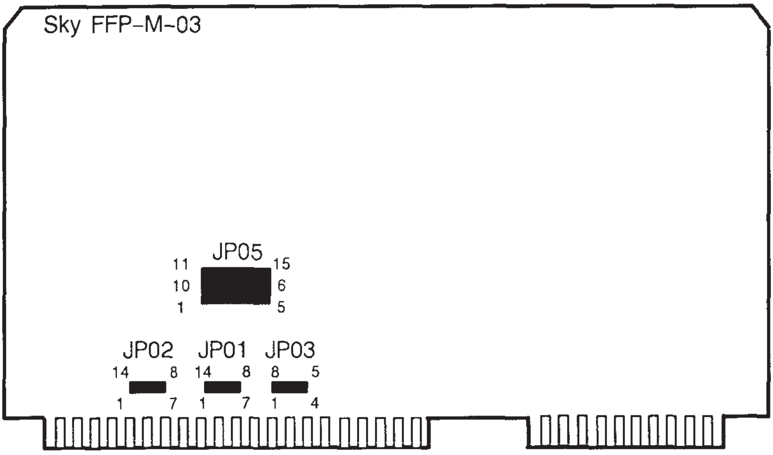
Sky Floating Point Processor (Multibus) 2
Sky Floating Point Processor (VME) 4
Floating Point Accelerator (FPA) 6
Floating Point Accelerator Plus (FPA+) 8
Floating Point Accelerator (FPX Sun386i) 9
Floating Point Unit–2 (FPU2) 10
Floating Point Unit (S Bus) 11
SunIPC 12
MAPKIT 14
Type–4 Keyboard 16

Sky Floating Point Processor (Multibus)

Sun–2/120/170

370–1021


Sky FFP-M-01
JP05
16
9
1
8
JP02
14
8
1
7
JP01
14
8
1
7
JP03
8
5
1
4


Sky FFP-M-03
JP05
11
15
10
6
1
5
JP02
14
8
1
7
JP01
14
8
1
7
JP03
8
5
1
4

Note: Both versions have the same part number.

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 4–5	Wirewrap Wirewrap	
JP03	2–3 4–5 6–7	In In In	Set for no interrupts*

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

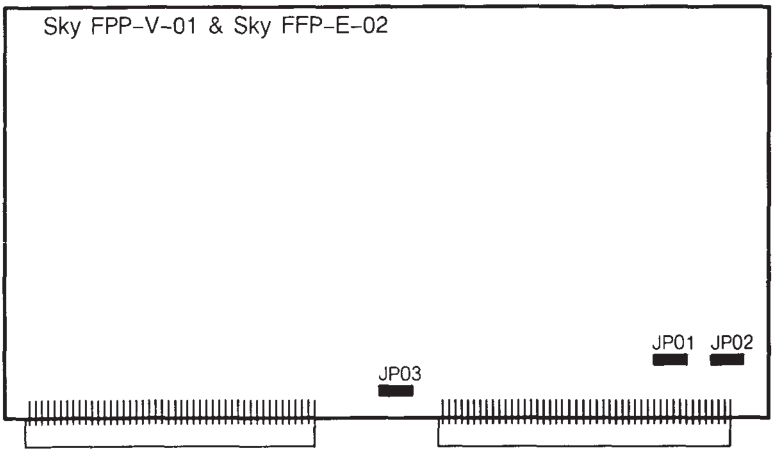
BOARD	PINS	SETTING
M–03	10–11	In
	9–12	In
	8–13	In
	7–14	In
	6–15	In

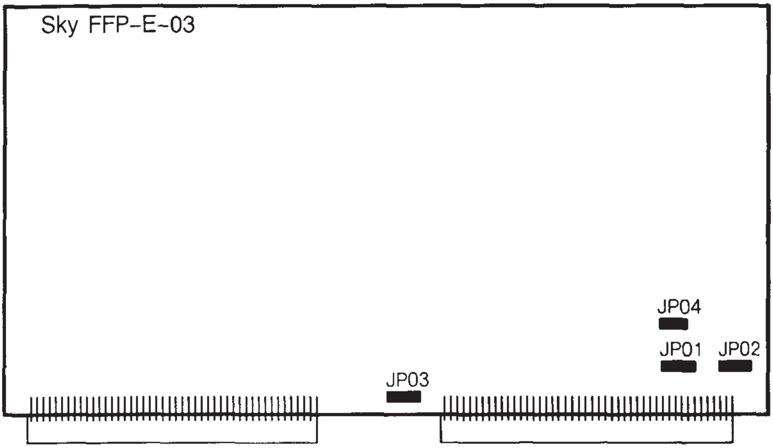
Note: Reference the Sky Board Configuration Procedures for the Sun–2/120/170, 813–2014–XX.

Sky Floating Point Processor (VME)

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

Notes
1. All three versions have the same part number.
2. Reference the Sky Board Configuration Procedures for the Sun–2/130/160, 813–2015–XX.

370–1029
Jumper Settings

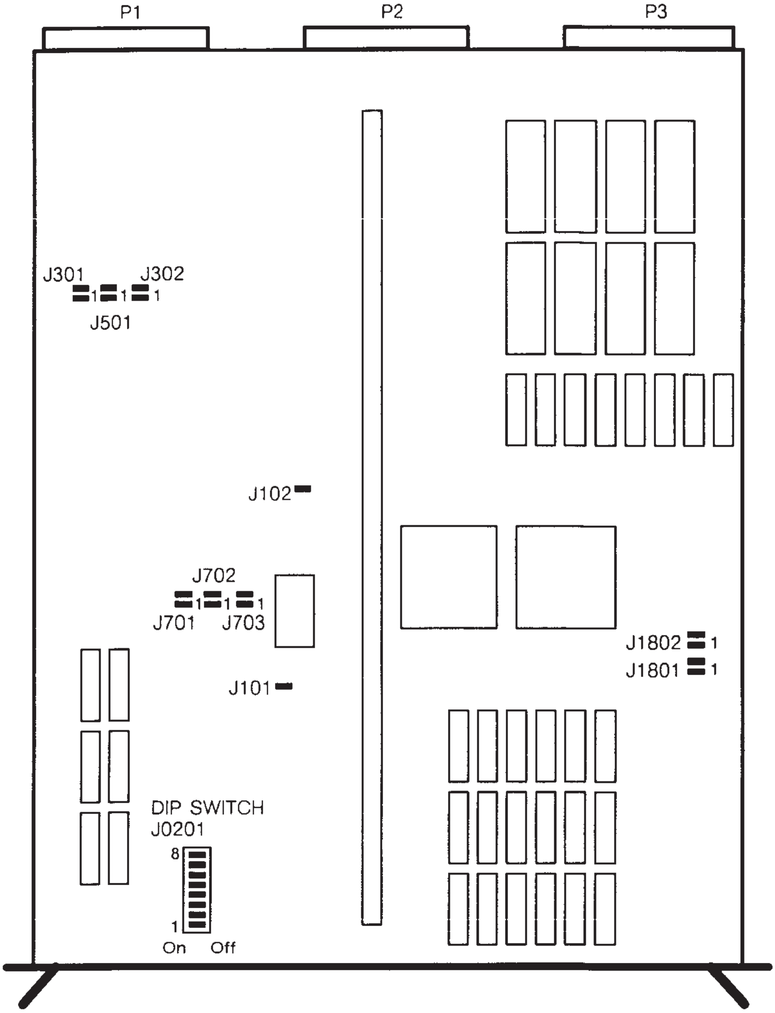
Sky FPP–V–01 & Sky FFP–E–02

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


P1
P2
P3
J301
J302
1
1
1
J501
J102
J702
1
1
1
J701
J703
J1802
1
J1801
1
J101
DIP SWITCH
J0201
8
1
On
Off

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.

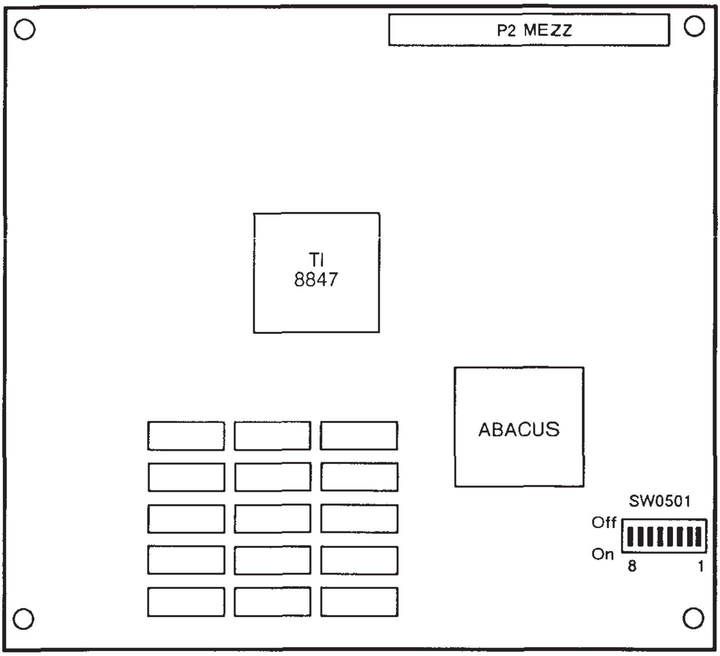
DIP SWITCH J0201 – Bus Time Out							
1	2	3	4	5	6	7	8
ON	ON	OFF	ON	OFF	ON	ON	ON

Notes
1. Board revisions lower than 501–1105–07 may fail the stand–alone diagnostics Fpa3.diag or the Fpa3.exec.
2. Reference the Sun Floating Point Accelerator Board Configuration Procedures, 813–2012–XX.

FPA+

Sun–3/460/470/480

501–1446

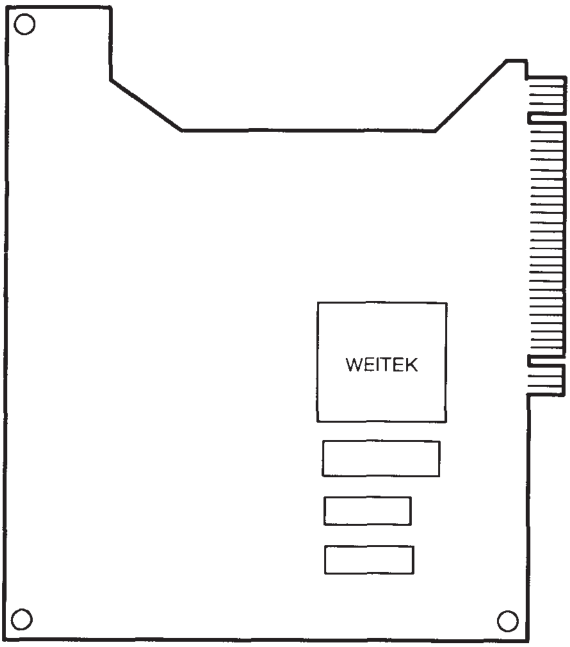

P2 MEZZ
TI
8847
ABACUS
SW0501
Off
On
8
1

SWITCH	SETTING	DESCRIPTION
1 2 3 4	On Off On On	Timeout Internal = 4.8 MS
5 6 7 8	Off Off Off Off	Retry = 256

FPx

Sun386i/150/250

501–1453

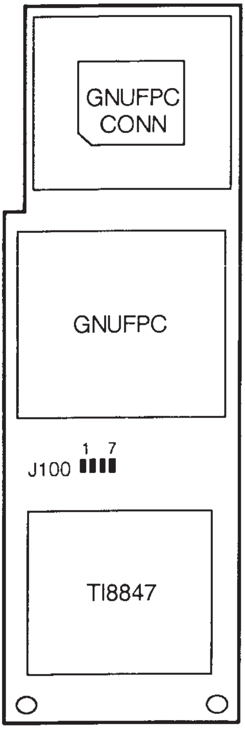


Notes

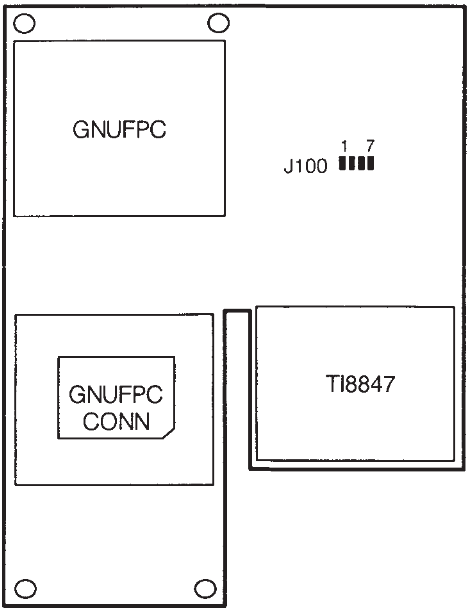
1. There are NO jumpers on the FPx.
2. Install the FPx in slot 1 or 2.
3. Reference the Sun386i FPx Installation Guide, 814–5023–XX.

FPU2

501–1387
Sun–4/110/150


GNUFPC
CONN
GNUFPC
1 7
J100
TI8847

501–1384
Sun–4/260/280


GNUFPC
1 7
J100
GNUFPC
CONN
TI8847

4/110/150 Option Parts	
Brackets (2)	340–1743
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

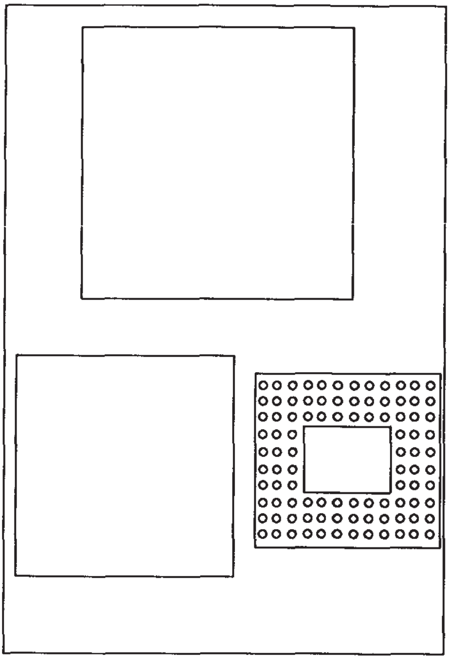
Notes:

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. Reference the FPU–2 Daughter Board Installation Manual for Sun–4/100 Systems, 800–3067.

FPU S Bus

Sun–4/60

501–1454



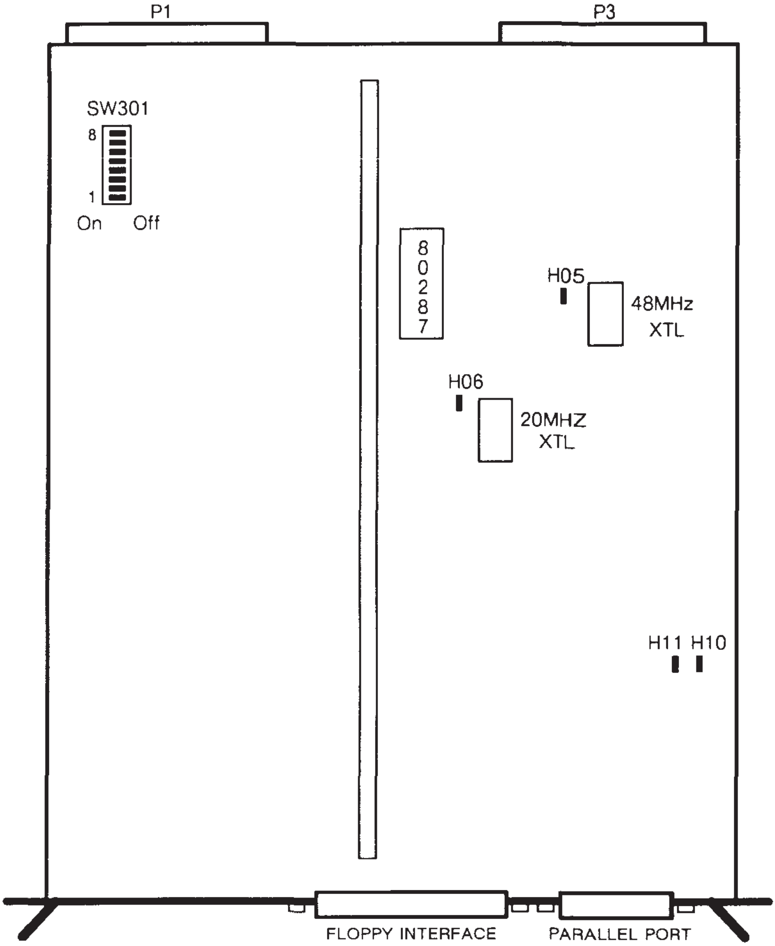
Note: There are NO jumpers on the FPU board.

SunIPC™

Sun–2/130/160
Sun–3/110/140/150/160/180/260/280/460/470/480
Sun–4/260/280/330

501–1125 & 501–1214

w 80287 w/o 80287


P1
P3
SW301
8
1
On
Off
80287
H05
48MHz XTL
H06
20MHZ XTL
H11
H10
FLOPPY INTERFACE
PARALLEL PORT

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*
	In	For 501–1125*
H11 1–2	Out	Enable XTAL1

* The 501–1214 board has a 80287 FPC. 501–1125 does NOT have an 80287 FPC.

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

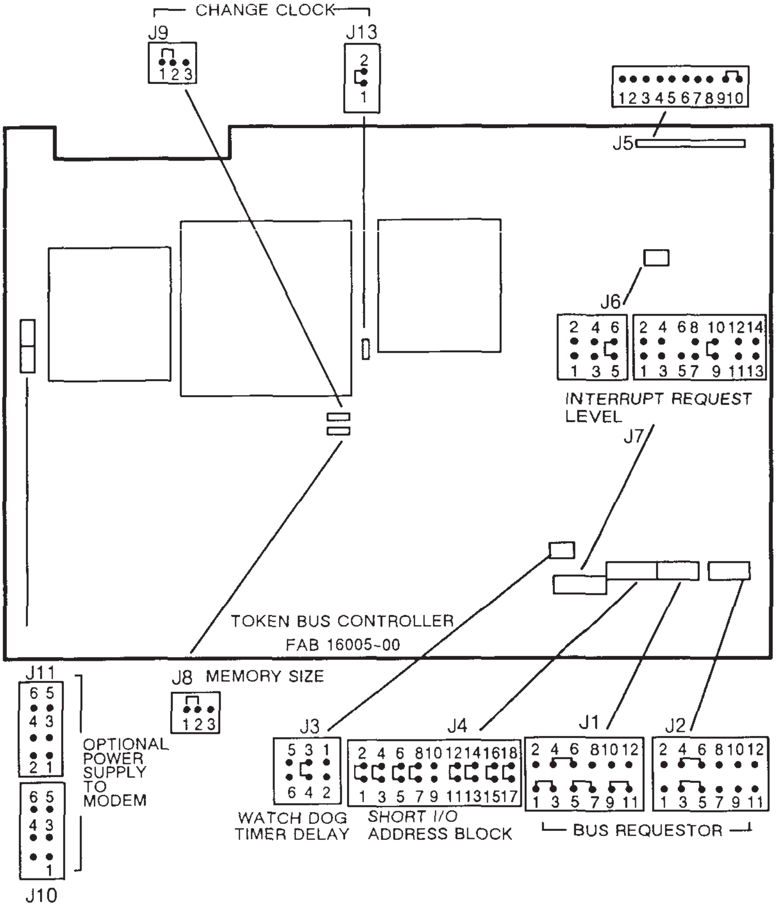
Notes

1. For Sun–3/2XX, use CPU 501–1100–08, 501–1206–06, or higher revisions of these boards.
2. Boards with Aeroscientific Fab date code 8639 may randomly exhibit “interrupt level 2” errors.

MAPKIT

Sun–2/130/160
Sun–3/110/140/150/160/180/260/280/460/470/480
Sun–4/260/280

501–1202*


CHANGE CLOCK
J9
1 2 3
J13
2
1
1 2 3 4 5 6 7 8 9 10
J5
J6
2 4 6
1 3 5
2 4 6 8 10 12 14
1 3 5 7 9 11 13
INTERRUPT REQUEST LEVEL
J7
TOKEN BUS CONTROLLER
FAB 16005-00
J11
6 5
4 3
2 1
OPTIONAL POWER SUPPLY TO MODEM
6 5
4 3
1
J10
J8 MEMORY SIZE
1 2 3
J3
5 3 1
6 4 2
WATCH DOG TIMER DELAY
J4
2 4 6 8 10 12 14 16 18
1 3 5 7 9 11 13 15 17
SHORT I/O ADDRESS BLOCK
J1
2 4 6 8 10 12
1 3 5 7 9 11
J2
2 4 6 8 10 12
1 3 5 7 9 11
BUS REQUESTOR

* 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

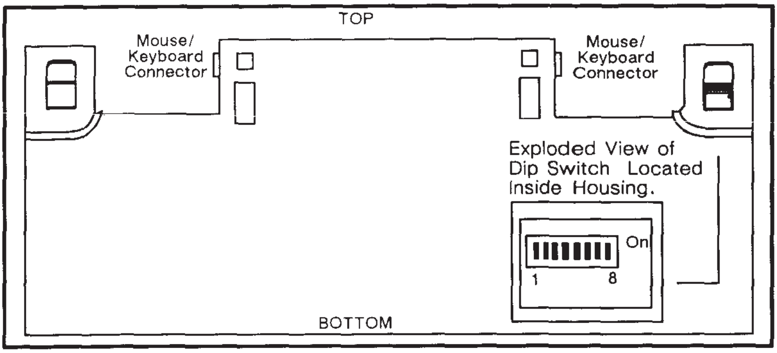
Note: Reference the Sun MAPkit Board Configuration Procedures, 813–2029–XX.

Type–4 Keyboard

Sun–3, Sun–4, Sun386i

320–1005 (U.S.), 320–1006 (Germany) 320–1006 (Germany), 320–1007 (Swiss) 320–1008 (Belgium/France), 320–1009 (UK)

UNDERSIDE OF KEYBOARD


TOP
Mouse/ Keyboard Connector
Mouse/ Keyboard Connector
Exploded View of Dip Switch Located Inside Housing.
On
1
8
BOTTOM

	DIP SWITCH								
DESCRIPTION	1	2	3	4	5	6	7	8	CODE
Sun–3/4 w ≥ 4.0 or 386i	Off	–	–	–	–	–	–	–	–
Sun–3 w ≤ 3.5	On	–	–	–	–	–	–	–	–
Unspecified Default to US	–	–	–	–	–	–	–	–	00
United States	–	–	–	–	–	–	–	On	01
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	–	0A
Swedish/Finnish	–	–	–	–	On	–	On	On	0B
Swiss French	–	–	–	–	On	On	–	–	0C
Swiss German	–	–	–	–	On	On	–	On	0D
United Kingdom	–	–	–	–	On	On	On	–	0E

Troubleshooting

This section is divided by tabs to provide reference information for troubleshooting CPUs, Disk drives and Disk controllers, Tape drives and Tape controllers, and Communication pin–outs.

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Sun–2/50/130/160

Self–Test Error Codes

7 LEDs 0	SYSTEM ACTIVITY	PROBLEM BOARD
● ● ● ● ● ● ● ●	A reset sets LEDs to this state	CPU or Monitor PROM bad
○ ○ ○ ○ ○ ○ ○ ○	After complete power–up sequence	System seems to be OK
○ ○ ○ ○ ● ○ ○ ○	Non–maskable interrupt level obtainable	System running OK
○ ○ ○ ○ ○ ○ ● ○	Entering user watchdog routine	Software BUG
○ ○ ○ ● ○ ○ ○ ●	Testing Context Register	CPU Board
○ ○ ● ○ ○ ○ ○ ●	Testing constant data in Segment Maps	CPU Board
○ ○ ● ○ ○ ○ ● ●	Testing data lines in Segment Maps	CPU Board
○ ○ ● ○ ○ ○ ● ○	Testing address dependency in Segment Maps	CPU Board
○ ○ ● ● ○ ○ ○ ●	Testing constant data in Page Maps	CPU Board
○ ○ ● ● ○ ○ ● ●	Testing data lines in Page Maps	CPU Board
○ ○ ● ● ○ ○ ● ○	Testing address dependency in Page Maps	CPU Board
○ ● ○ ○ ○ ○ ○ ○	Testing PROM contents	CPU or Monitor PROM bad
○ ● ○ ● ○ ○ ○ ○	Test SCC IC's	CPU Board
○ ● ● ● ○ ○ ○ ○	Sizing Memory before constant test	Check CPU then EXP Memory
○ ● ● ● ○ ○ ○ ●	Testing constant data in Memory	Check CPU then EXP Memory
○ ● ● ● ○ ○ ● ○	Testing address dependency in Memory	Check CPU then EXP Memory
○ ● ● ● ● ● ● ●	Testing Parity circuitry	Check CPU then EXP Memory
● ○ ○ ○ ○ ○ ○ ●	Testing Timer IC	CPU Board
○ ○ ○ ○ ○ ○ ○ ●	Finished Self–Test setting up to BOOT	CPU then EXP Memory
○ ○ ○ ○ ○ ○ ● ●	After local Memory verified	CPU Board

Sun–2/50/130/160

Self–Test Error Codes (Continued)

7 LEDs 0	SYSTEM ACTIVITY	PROBLEM BOARD
○ ○ ○ ○ ○ ● ● ●	After Diagnostics while setting up	CPU Board
● ● ● ● ○ ○ ○ ●	Setting up memory after Diagnostics	CPU then EXP Memory
● ● ● ● ○ ○ ● ○	Setting up Maps after Diagnostics	CPU Board
● ● ● ● ○ ○ ● ●	Setting up Frame Buffer	CPU then check video jumpers
● ● ● ● ○ ● ○ ○	Setting up NMI or Keyboard	CPU Board

SUN–2/120/170

Self–Test Error Codes

7 LEDs 0	SYSTEM ACTIVITY	PROBLEM BOARD
● ● ● ● ● ● ● ●	Resets set LEDs	CPU Board
○ ○ ○ ○ ○ ○ ○ ●	Initial state on power–up	CPU Board (MMU)
○ ○ ○ ○ ○ ○ ● ●	After local memory verified	CPU Board
○ ○ ○ ○ ○ ● ● ●	After diags, while setting up	CPU Board
○ ○ ○ ○ ○ ○ ○ ○	After reset processing in monitor	CPU Board
○ ○ ○ ○ ● ○ ○ ○	Blinking off and on while NMI ok	CPU Board
○ ○ ○ ○ ○ ○ ● ○	Entering user watchdog routine	CPU Board
○ ○ ○ ● ○ ○ ○ ●	Testing context registers	CPU Board
○ ○ ● ○ ○ ○ ○ ●	Testing constant data in segMap	CPU Board
○ ○ ● ○ ○ ○ ● ●	Testing data lines in segMap	CPU Board
○ ○ ● ○ ○ ● ○ ●	Testing alternating data in segMap	CPU Board
○ ○ ● ○ ○ ○ ● ○	Testing address–dependency in segMap	CPU Board
○ ○ ● ● ○ ○ ○ ●	Testing constant data in pgMap	CPU Board
○ ○ ● ● ○ ○ ● ●	Testing data lines in pgMap	CPU Board
○ ○ ● ● ○ ○ ● ○	Testing address–dependency in pgMap	CPU Board
○ ○ ● ● ○ ● ○ ●	Testing alternating data in pgMap	Check CPU then EXP Memory
○ ● ● ● ○ ○ ○ ○	Sizing memory before const test	CPU Board (MMU)
○ ● ● ● ○ ○ ○ ●	Testing constant data in memory	Memory
○ ● ● ● ○ ○ ● ○	Testing address–dependency in memory	Memory
○ ● ● ● ● ● ● ●	Testing parity circuity	Memory
● ○ ○ ○ ○ ○ ○ ●	Testing timer chip	CPU Board

Sun–3/50

Self–Test Error Codes

7 LEDs 0	SYSTEM ACTIVITY	PROBLEM BOARD
● ● ● ● ● ● ● ●	A reset sets LEDs to this state	CPU or PROMs bad
○ ○ ○ ○ ○ ○ ○ ○	Test 0 checking CPU to SCC path	CPU Board (SCC)
● ○ ○ ○ ○ ○ ○ ○	Test 1 checking the boot PROM	Boot PROM
● ● ○ ○ ○ ○ ○ ○	Test 3 checking the Context Register	CPU Board (MMU)
○ ○ ● ○ ○ ○ ○ ○	Test 4 Segment Map RAM Rd/ Wr Test	CPU Board (MMU)
● ○ ● ○ ○ ○ ○ ○	Test 5 checking Segment Map RAM	CPU Board (MMU)
○ ● ● ○ ○ ○ ○ ○	Test 6 checking Page Map RAM	CPU Board (MMU)
● ● ● ○ ○ ○ ○ ○	Test 7 checks memory data path	CPU Board
○ ○ ○ ● ○ ○ ○ ○	Test 8 checks bus error detection	CPU Board
● ○ ○ ● ○ ○ ○ ○	Test 9 checks interrupt capabilities	CPU Board
○ ● ○ ● ○ ○ ○ ○	Test 10 checking MMU read access	CPU Board
● ● ○ ● ○ ○ ○ ○	Test 11 checking MMU write access	CPU Board
○ ○ ● ● ○ ○ ○ ○	Test 12 writing to invalid page	CPU Board
● ○ ● ● ○ ○ ○ ○	Test 13 tries to write to protected page	CPU Board
○ ● ● ● ○ ○ ○ ○	Test 14 performs parity error check	CPU Board
● ● ● ● ○ ○ ○ ○	Test 15 performs parity error check	CPU Board
○ ○ ○ ○ ● ○ ○ ○	Test 16 performs memory tests	CPU Board
○ ○ ○ ○ ○ ○ ○ ●	Self–tests have found an error	CPU Board
○ ○ ○ ○ ○ ○ ● ○	An Exception Class error was found	CPU Board
○ ○ ○ ○ ○ ● ○ ○	Self–test done,UNIX in boot–state (LED is blinking)	CPU Board

Sun–3/60

Self–Test Error Codes

7 LEDs 0	SYSTEM ACTIVITY	PROBLEM BOARD
○ ○ ○ ○ ○ ○ ○ ●	PROM checksum test	CPU
○ ○ ○ ○ ○ ○ ● ●	Context register test	CPU Board
○ ○ ○ ○ ○ ● ○ ○	Segment Map rd/wr test	Boot PROM
○ ○ ○ ○ ○ ● ○ ●	Segment Map address test	CPU Board
○ ○ ○ ○ ○ ● ● ○	Page Map test	CPU Board
○ ○ ○ ○ ○ ● ● ●	Memory path data test	CPU Board
○ ○ ○ ○ ● ○ ○ ○	NXM buss error test	CPU Board
○ ○ ○ ○ ● ○ ○ ●	Interrupt test	CPU Board
○ ○ ○ ○ ● ○ ● ○	TOD clock interrupt test	CPU Board
○ ○ ○ ○ ● ○ ● ●	MMU protection/status test	CPU Board
○ ○ ○ ○ ● ● ● ○	Parity error test (#1)	CPU Board
○ ○ ○ ○ ● ● ● ●	Parity error test (#2)	CPU Board
○ ○ ○ ● ○ ○ ○ ○	Memory test	CPU Board
● ○ ○ ○ ○ ○ ○ ○	Error found	CPU Board
○ ● ○ ○ ○ ○ ○ ○	Exception class error found	CPU Board
○ ○ ● ○ ○ ○ ○ ○	Self–test done (LED flashing)	CPU Board
● ● ● ● ● ● ● ●	Reset	CPU Board

Sun–3/75/140/150/160/180

Self–Test Error Codes

7 LEDs 0	SYSTEM ACTIVITY	PROBLEM BOARD
● ● ● ● ● ● ● ●	A reset sets LEDs to this state	CPU or PROMs bad or +5VDC is low
● ○ ○ ○ ○ ○ ○ ○	Test 0x01 checking the boot PROM	Boot PROM
○ ● ○ ○ ○ ○ ○ ○	Test 0x02 checking DVMA Register	CPU Board
● ● ○ ○ ○ ○ ○ ○	Test 0x03 checking the Context Register	CPU Board (MMU)
○ ○ ● ○ ○ ○ ○ ○	Test 0x04 Segment Map RAM Rd/ Wr Test	CPU Board (MMU)
● ○ ● ○ ○ ○ ○ ○	Test 0x05 checking Segment Map RAM	CPU Board (MMU)
○ ● ● ○ ○ ○ ○ ○	Test 0x06 checking Page Map RAM	CPU Board (MMU)
● ● ● ○ ○ ○ ○ ○	Test 0x07 checks memory data path	CPU Board
○ ○ ○ ● ○ ○ ○ ○	Test 0x08 checks bus error detection	CPU Board
● ○ ○ ● ○ ○ ○ ○	Test 0x09 checks interrupt capabilities	CPU Board
○ ● ○ ● ○ ○ ○ ○	Test 0x0A performs TOD clock interrupt test	CPU Board
● ● ○ ● ○ ○ ○ ○	Test 0x0B checking MMU protection and status	CPU Board (MMU)
○ ○ ● ● ○ ○ ○ ○	Test 0x0C performs parity error check	CPU Board
● ○ ● ● ○ ○ ○ ○	Test 0x0D performs parity error check	CPU Board
○ ● ● ● ○ ○ ○ ○	Test 0x0E performs memory tests	CPU Board
○ ○ ○ ○ ○ ○ ○ ●	Self–tests have found an error	CPU Board
○ ○ ○ ○ ○ ○ ● ○	An Exception Class error was found	CPU Board
○ ○ ○ ○ ○ ● ○ ○	Self–test done,UNIX in boot–state (LED is blinking)	CPU Board

Sun–3/110

Self–Test Error Codes

7 LEDs 0	SYSTEM ACTIVITY	PROBLEM BOARD
● ● ● ● ● ● ● ●	A reset sets LEDs to this state	CPU or PROMs bad or +5VDC is low
● ○ ○ ○ ○ ○ ○ ○	Test 0x01 checking the boot PROM	Boot PROM
○ ● ○ ○ ○ ○ ○ ○	Test 0x02 checking DVMA Register	CPU Board
● ● ○ ○ ○ ○ ○ ○	Test 0X03 checking the Context Register	CPU Board (MMU)
○ ○ ● ○ ○ ○ ○ ○	Test 0x04 Segment Map RAM Rd/ Wr Test	CPU Board (MMU)
● ○ ● ○ ○ ○ ○ ○	Test 0x05 checking Segment Map RAM	CPU Board (MMU)
○ ● ● ○ ○ ○ ○ ○	Test 0x06 checking Page Map RAM	CPU Board (MMU)
● ● ● ○ ○ ○ ○ ○	Test 0x07 checks memory data path	CPU Board
○ ○ ○ ● ○ ○ ○ ○	Test 0x08 checks bus error detection	CPU Board
● ○ ○ ● ○ ○ ○ ○	Test 0x09 checks interrupt capabilities	CPU Board
○ ● ○ ● ○ ○ ○ ○	Test 0x0A performs TOD clock interrupt test	CPU Board
● ● ○ ● ○ ○ ○ ○	Test 0x0B checking MMU protection and status	CPU Board (MMU)
○ ○ ● ● ○ ○ ○ ○	Test 0x0C performs parity error check	CPU Board
● ○ ● ● ○ ○ ○ ○	Test 0x0D performs parity error checks	CPU Board
○ ● ● ● ○ ○ ○ ○	Test 0x0E performs memory tests	CPU Board
○ ○ ○ ○ ○ ○ ○ ●	Self–tests have found an error	CPU Board
○ ○ ○ ○ ○ ○ ● ○	An Exception Class error was found	CPU Board
○ ○ ○ ○ ○ ● ○ ○	Self–test done,UNIX in boot–state (LED is blinking)	CPU Board

Sun–3/260/280

Self–Test Error Codes

7 LEDs 0	SYSTEM ACTIVITY	PROBLEM BOARD
● ● ● ● ● ● ● ●	A reset sets LEDs to this state	CPU or PROMs bad or +5VDC is low
● ○ ○ ○ ○ ○ ○ ○	Test 0x01 checking PROM checksum	Boot PROM
○ ● ○ ○ ○ ○ ○ ○	Test 0x02 checking DVMA Register	CPU Board
● ● ○ ○ ○ ○ ○ ○	Test 0x03 checking the Context Register	CPU Board (MMU)
○ ○ ● ○ ○ ○ ○ ○	Test 0x04 Segment Map RAM wr/ rd test	CPU Board (MMU)
● ○ ● ○ ○ ○ ○ ○	Test 0x05 checking Segment Map RAM	CPU Board (MMU)
○ ● ● ○ ○ ○ ○ ○	Test 0x06 checking Page Map RAM	CPU Board (MMU)
● ● ● ○ ○ ○ ○ ○	Test 0x07 performs memory path data test	CPU or Memory Board
○ ○ ○ ● ○ ○ ○ ○	Test 0x08 is nonexistent memory bus error test	CPU or Memory Board
● ○ ○ ● ○ ○ ○ ○	Test 0x09 checks interrupt capabilities	CPU Board
○ ● ○ ● ○ ○ ○ ○	Test 0x0A performs TOD clock interrupt test	CPU Board
● ● ○ ● ○ ○ ○ ○	Test 0x0B checking MMU protection and status	CPU Board (MMU)
○ ○ ● ● ○ ○ ○ ○	Test 0x0C performs ECC error test	CPU or Memory Board
● ○ ● ● ○ ○ ○ ○	Test 0x0D performs cache data 3 pattern test	CPU Board
○ ● ● ● ○ ○ ○ ○	Test 0x0E performs cache tag 3 pattern test	CPU Board
● ● ● ● ○ ○ ○ ○	Test 0x0F performs memory tests	CPU or Memory Board
○ ● ○ ○ ● ● ● ●	Initializing MMU	CPU Board
○ ○ ○ ○ ○ ○ ○ ●	Self–tests have found an error	CPU or Memory Board
○ ○ ○ ○ ○ ○ ● ○	An Exception Class error was found	CPU or Memory Board
○ ○ ○ ○ ○ ● ○ ○	Self–test done,UNIX in boot–state (LED is blinking)	CPU or Memory Board

Sun–3/460/470/480

Self–Test Error Codes

7 LEDs 0	SYSTEM ACTIVITY	PROBLEM BOARD
● ○ ○ ○ ○ ○ ○ ○	Test 0x01 transmit character test OK (not error condition)	CPU to Terminal Port A OK
○ ○ ○ ○ ○ ○ ○ ●	Value 0x80 error in SCC Port A, B write/write/read test	CPU to Terminal Port A and B (SCC)
○ ● ○ ○ ○ ○ ○ ●	Value 0x82 error in system enable register read test	CPU Board
○ ○ ○ ● ○ ○ ○ ●	Value 0x88 error in memory read/write tests	CPU Board (MMU)
● ○ ○ ● ○ ○ ○ ●	Value 0x89 error in memory address tests	CPU Board (MMU)
○ ● ○ ● ○ ○ ○ ●	Value 0x8A error in memory 3–pattern tests	CPU Board (MMU)
● ● ○ ● ○ ○ ○ ●	Value 0x8B error in marching 0s, 1s on memory	CPU Board
○ ○ ● ● ○ ○ ○ ●	Value 0x8C error in read byte alignment tests	CPU Board
● ○ ● ● ○ ○ ○ ●	Value 0x8D error in write byte alignment tests	CPU Board
○ ● ● ● ○ ○ ○ ●	Value 0x8E error in parity memory no error tests	P2 MEZZ Mem Board
● ● ● ● ○ ○ ○ ●	Value 0x8F error in parity memory forced error tests	P2 MEZZ Mem Board
○ ○ ○ ○ ● ○ ○ ●	Value 0x90 error in write/write/ read I/O mapper	CPU Board
● ○ ○ ○ ● ○ ○ ●	Value 0x91 error in I/O mapper RAM tests	CPU Board
○ ● ○ ○ ● ○ ○ ●	Value 0x92 error in 3–pattern I/O mapper RAM test	CPU Board
● ● ○ ○ ● ○ ○ ●	Value 0x93 error in bus error register test	CPU Board
○ ○ ● ○ ● ○ ○ ●	Value 0x94 error in level 1 interrupt test	CPU Board
● ○ ● ○ ● ○ ○ ●	Value 0x95 error in level 2 interrupt test	CPU Board
○ ● ● ○ ● ○ ○ ●	Value 0x96 error in level 3 interrupt test	CPU Board
● ● ● ○ ● ○ ○ ●	Value 0x97 error in TOD clock interrupt test	CPU Board
○ ○ ○ ● ● ○ ○ ●	Value 0x98 error in central cache tag write/write/read tests	CPU Board
● ○ ○ ● ● ○ ○ ●	Value 0x99 error in central cache tag RAM address test	CPU Board

Sun–3/460/470/480

Self–Test Error Codes

7 LEDs 0	SYSTEM ACTIVITY	PROBLEM BOARD
○ ● ○ ● ● ○ ○ ●	Value 0x94 error in central cache tag Ram 3–pattern test	CPU Board
● ● ○ ● ● ○ ○ ○	Value 0x9B error in central cache data RAM write/write/read test	CPU Board
○ ○ ● ● ● ○ ○ ●	Value 0x9C error in central cache data RAM address test	CPU Board
● ○ ● ● ● ○ ○ ●	Value 0x9D error in central cache data RAM 3–pattern test	CPU Board
○ ● ● ● ● ○ ○ ●	Value 0x9E error in central cache data RAM read byte alignment	CPU Board
● ● ● ● ● ○ ○ ●	Value 0x9F error in central cache data RAM write byte alignment	CPU Board
● ○ ● ○ ○ ● ○ ●	Value 0xA5 error in IOC tag RAM write/write/read tests	CPU Board
○ ● ● ○ ○ ● ○ ●	Value 0xA6 error in IOC tag RAM address test	CPU Board
● ● ● ○ ○ ● ○ ●	Value 0xA7 error in IOC tag RAM 3–pattern test	CPU Board
○ ○ ○ ● ○ ● ○ ●	Value 0xA8 error in IOC data RAM write/write/read test	CPU Board
● ○ ○ ● ○ ● ○ ●	Value 0xA9 error in IOC data RAM address test	CPU Board
○ ● ○ ● ○ ● ○ ●	Value 0xAA error in IOC data RAM 3–pattern test	CPU Board
● ● ○ ● ○ ● ○ ●	Value 0xAB error in IOC data RAM read byte alignment test	CPU Board
○ ○ ● ● ○ ● ○ ●	Value 0xAC error in IOC data RAM write byte alignment test	CPU Board
● ○ ● ● ○ ● ○ ●	Value 0xAD error in ECC 'no error' test	CPU Board
○ ● ● ● ○ ● ○ ●	Value 0xAE error in ECC forced CE test	CPU Board
● ● ● ● ● ○ ● ○	Value 0xAF error in ECC forced UE test	CPU Board
○ ○ ○ ○ ● ● ○ ●	Value 0xB0 error in central cache read hit test	CPU Board
● ○ ○ ○ ● ● ○ ●	Value 0xB1 error in central cache invalid read miss toot	CPU Board
○ ● ○ ○ ● ● ○ ●	Value 0xB2 error in central cache valid read miss test	CPU Board

Sun–3/460/470/480

Self–Test Error Codes

7 LEDs 0	SYSTEM ACTIVITY	PROBLEM BOARD
● ● ○ ○ ● ● ○ ●	Value 0xB3 error in central cache write miss test	CPU Board
○ ○ ● ○ ● ● ○ ●	Value 0xB4 error in central cache write miss, no writeback test	CPU Board
● ○ ● ○ ● ● ○ ●	Value 0xB5 error in central cache write miss, writeback test	CPU Board
○ ● ● ○ ● ● ○ ●	Value 0xB6 error in central cache cross–invalid read miss test	CPU Board
● ● ● ○ ● ● ○ ●	Value 0xB7 error in central cache line cross write miss writeback test	CPU Board
○ ○ ○ ● ● ● ○ ●	Value 0xB8 error in central cache writeback timeout test	CPU Board
● ○ ○ ● ● ● ○ ●	Value 0xB9 error in block copy text (source:cache hit,dest:cache miss)	CPU Board
○ ● ○ ● ● ● ○ ●	Value 0xBA error in block copy test (source:cache hit,dest:cache hit)	CPU Board
● ● ○ ○ ● ● ○ ●	Value 0xBB error in block copy test (source:cache hit,dest:cache miss)	CPU Board
○ ○ ● ● ● ● ○ ●	Value 0xBC error in block copy test (source:cache hit,dest:cache hit)	CPU Board
● ○ ● ● ● ● ○ ●	Value 0xBD error in memory write/ write/read test (central cache on)	CPU Board
● ● ● ● ● ○ ● ●	Value 0xBE error in memory write/ write/read test (central cache and 68030 on)	CPU Board
● ● ○ ● ● ● ● ●	Value 0xBF error in VME/DVMA loopback test	CPU Board
○ ○ ○ ○ ○ ○ ● ●	Value 0xC0 error in IOC read hit test	CPU Board
● ○ ○ ○ ○ ○ ● ●	Value 0xC1 error in IOC invalid read miss test	CPU Board
○ ● ○ ○ ○ ○ ● ●	Value 0xC2 error in IOC write hit test	CPU Board
● ● ○ ○ ○ ○ ● ●	Value 0xC3 error in IOC write miss, no writeback test	CPU Board
○ ○ ● ○ ○ ○ ● ●	Value 0xC4 error in IOC write miss, writeback test	CPU Board
● ○ ● ○ ○ ○ ● ●	Value 0xCS error in IOC read miss, writeback test	CPU Board
○ ● ● ○ ○ ○ ● ●	Value 0xC6 error in IOC valid write hit (central cache match, unmod) test	CPU Board

Sun–3/460/470/480

Self–Test Error Codes

7 LEDs 0	SYSTEM ACTIVITY	PROBLEM BOARD
● ● ● ○ ○ ○ ● ●	Value 0xC7 error in IOC invalid write miss (central cache match, unmod) test	CPU Board
○ ○ ○ ● ○ ○ ● ●	Value 0xC8 error in IOC invalid read miss (central cache match, unmod) test	CPU Board
● ○ ○ ● ○ ○ ● ●	Value 0xC9 error in IOC invalid read miss (central cache match, mod) test	CPU Board
○ ● ○ ● ○ ○ ● ●	Value 0xCA error in IOC valid read miss (central cache match) writeback test	CPU Board
● ● ○ ● ○ ○ ● ●	Value 0xCB error in IOC (valid, mod) flush test	CPU Board
○ ○ ● ● ○ ○ ● ●	Value 0xCC error in IOC (valid, not modified) flush test	CPU Board
● ○ ● ● ○ ○ ● ●	Value 0xCD error in IOC (not valid, not modified) flush test	CPU Board
○ ● ● ● ○ ○ ● ●	Value 0xCE error in IO mapper invalid page test	CPU Board
● ● ● ● ○ ○ ● ●	Value 0xCF error in IOC write miss, writeback test	CPU Board
○ ○ ○ ○ ● ○ ● ●	Value 0xD0 error in IOC invalid read miss test	CPU Board
● ○ ○ ○ ● ○ ● ●	Value 0xD1 error in IOC write miss test	CPU Board
○ ● ○ ○ ● ○ ● ●	Value 0xD2 error in IOC random data block write test	CPU Board
● ● ○ ○ ● ○ ● ●	Value 0xD3 error in IOC random data block read (central cache off) test	CPU Board
○ ○ ● ○ ● ○ ● ●	Value 0xD4 error in IOC random data block read (central cache on) test	CPU Board
○ ○ ○ ○ ○ ● ● ●	Value 0xE0 error in P4 video RAM write/write/read test	P4 Video Board
● ○ ○ ○ ○ ● ● ●	Value 0xE1 error in P4 video RAM address test	P4 Video Board
○ ● ○ ○ ○ ● ● ●	Value 0xE2 error in P4 video 3–pattern test	P4 Video Board
● ● ○ ○ ○ ● ● ●	Value 0xE3 error in P4 video RAM read byte alignment test	P4 Video Board
○ ○ ● ○ ○ ● ● ●	Value 0xE4 error in P4 video RAM byte alignment test	P4 Video Board

Sun–4/110/150

Self–Test Error Codes

7 LEDs 0	SYSTEM ACTIVITY	PROBLEM BOARD
● ● ● ● ● ● ● ●	A reset sets LEDs to this state	CPU or PROMs bad or +5V low
● ○ ○ ○ ○ ○ ○ ○	Test 0x01 checks PROM checksum	CPU Board (Boot PROM)
○ ● ○ ○ ○ ○ ○ ○	Test 0x02 checks the context register	CPU Board
● ● ○ ○ ○ ○ ○ ○	Test 0x03 performs segment Map tests	CPU Board
○ ○ ● ○ ○ ○ ○ ○	Test 0x04 checks page Map RAM	CPU Board
● ○ ● ○ ○ ○ ○ ○	Test 0x05 performs software traps tests	CPU Board (MMU)
○ ● ● ○ ○ ○ ○ ○	Test 0x06 performs interrupt register test	CPU Board (MMU)
● ● ● ○ ○ ○ ○ ○	Test 0x07 performs software interrupts tests	CPU Board (IU)
○ ○ ○ ● ○ ○ ○ ○	Test 0x08 performs TOD clock interrupt test	CPU Board
● ○ ○ ● ○ ○ ○ ○	Test 0x09 checks video memory	CPU Board
○ ● ○ ● ○ ○ ○ ○	Test 0x0A performs P4 color Map test	P4 Board
● ● ○ ● ○ ○ ○ ○	Test 0x0B runs limited main Memory tests	CPU Board
○ ○ ● ● ○ ○ ○ ○	Test 0x0C performs MMU read/write tests	CPU Board
● ○ ● ● ○ ○ ○ ○	Test 0x0D=MMU write to protected page test	CPU Board (MMU)
○ ● ● ● ○ ○ ○ ○	Test 0x0E performs MMU read invalid page test	CPU Board (MMU)
● ● ● ● ○ ○ ○ ○	Test 0x0F performs MMU write invalid page tests	CPU Board (MMU)
○ ○ ○ ○ ● ○ ○ ○	Test 0x10 performs main Memory, space control timeout test	CPU Board (MMU)
● ○ ○ ○ ● ○ ○ ○	Test 0x11 performs range and size error tests	CPU Board
○ ● ○ ○ ● ○ ○ ○	Test 0x12 performs parity circut test	CPU Board
● ● ○ ○ ● ○ ○ ○	Test 0x13 tests cache tag memory	CPU Board

Sun–4/110/150

Self–Test Error Codes (Continued)

7 LEDs 0	SYSTEM ACTIVITY	PROBLEM BOARD
○ ○ ● ○ ● ○ ○ ○	Test 0x14 performs SCSI/DMA tests	CPU Board
● ○ ● ○ ● ○ ○ ○	Test 0x15 runs main Memory tests	CPU Board
○ ○ ○ ○ ○ ○ ○ ●	Self–tests have found an Error	CPU Board
○ ○ ○ ○ ○ ○ ● ○	An exception class error is found	CPU Board
○ ○ ○ ○ ○ ● ○ ○	Self–tests done, UNIX in boot state (LED is blinking)	CPU Board

Sun–4/260/280

Self–Test Error Codes

7 LEDs 0	SYSTEM ACTIVITY	PROBLEM BOARD
● ● ● ● ● ● ● ●	A reset sets LEDs to this state	CPU or PROMs bad or +5VDC is low
● ○ ○ ○ ○ ○ ○ ○	Test 0x01 checks PROM checksum	CPU Board (Boot PROM)
○ ● ○ ○ ○ ○ ○ ○	Test 0x02 checks UDVMA enable register	CPU Board
● ● ○ ○ ○ ○ ○ ○	Test 0x03 checks UDVMA Map	CPU Board
○ ○ ● ○ ○ ○ ○ ○	Test 0x04 checks the context Register	CPU Board (MMU)
● ○ ● ○ ○ ○ ○ ○	Test 0x05 performs Segment Map RAM	CPU Board (MMU)
○ ● ● ○ ○ ○ ○ ○	Test 0x06 checks page Map RAM	CPU Board (MMU)
● ● ● ○ ○ ○ ○ ○	Test 0x07 performs Software traps test	CPU Board
○ ○ ○ ● ○ ○ ○ ○	Test 0x08 performs interrupt Register test	CPU Board
● ○ ○ ● ○ ○ ○ ○	Test 0x09 performs Software Interrupts test	CPU Board
○ ● ○ ● ○ ○ ○ ○	Test 0x0A performs TOD clock interrupt test	CPU Board
● ● ○ ● ○ ○ ○ ○	Test 0x0B checks Video Memory	CPU Board
○ ○ ● ● ○ ○ ○ ○	Test 0x0C performs limited main Memory tests	CPU or Memory Board
● ○ ● ● ○ ○ ○ ○	Test 0x0D performs MMU read/ write tests	CPU Board (MMU)
○ ● ● ● ○ ○ ○ ○	Test 0x0E performs MMU write to protected page test	CPU Board (MMU)
● ● ● ● ○ ○ ○ ○	Test 0x0F performs MMU read invalid page tests	CPU Board (MMU)
○ ○ ○ ○ ● ○ ○ ○	Test 0x10 performs MMU write invalid page test	CPU Board (MMU)
● ○ ○ ○ ● ○ ○ ○	Test 0x11 performs main Memory timeout test	CPU Board
○ ● ○ ○ ● ○ ○ ○	Test 0x12 performs control space timeout test	CPU Board
● ● ○ ○ ● ○ ○ ○	Test 0x13 performs range error test	CPU Board

Sun–4/110/150

Self–Test Error Codes (Continued)

7 LEDs 0	SYSTEM ACTIVITY	PROBLEM BOARD
○ ○ ● ○ ● ○ ○ ○	Test 0x14 performs size error test	CPU Board
● ○ ● ○ ● ○ ○ ○	Test 0x15 test ECC circuits	Memory Board
○ ● ● ○ ● ○ ○ ○	Test 0x16 tests cache tag Memory	CPU Board
● ● ● ○ ● ○ ○ ○	Test 0x17 tests cache data Memory	CPU Board
○ ○ ○ ● ● ○ ○ ○	Test 0x18 is cache write/read hit/ miss verify test	CPU Board
● ○ ○ ● ● ○ ○ ○	Test 0x19 is cache write/read/ flush verify test	CPU Board
○ ● ○ ● ● ○ ○ ○	Test 0x1A runs main Memory tests	Memory Board
○ ○ ○ ○ ○ ○ ○ ●	Self–tests have found an error	CPU or Memory Board
○ ○ ○ ○ ○ ○ ● ○	An exception class error is found	CPU or Memory Board
○ ○ ○ ○ ○ ● ○ ○	Self–tests done, UNIX in boot state (LED is blinking)	CPU or Memory Board

Sun–4/330/370/390

Self–Test Error Codes

7 LEDs 0	SelfTest being Performed
○ ○ ○ ○ ○ ○ ○ ○	LED Loop Test
○ ○ ○ ○ ○ ○ ○ ●	Initialize SCC UART
○ ○ ○ ○ ○ ○ ● ○	“BOOT PROM Selftest” Message
○ ○ ○ ○ ○ ○ ● ●	EPROM Checksum Test
○ ○ ○ ○ ○ ● ○ ○	Context Register Read–Write Test
○ ○ ○ ○ ○ ● ○ ●	Segment Map Tests
○ ○ ○ ○ ○ ● ● ○	Page Map Tests
○ ○ ○ ○ ○ ● ● ●	Software Traps Test
○ ○ ○ ○ ● ○ ○ ○	Interrupt Tests (Software and Register)
○ ○ ○ ○ ● ○ ○ ●	TOD Interrupt Test
○ ○ ○ ○ ● ○ ● ○	Video Memory Tests
○ ○ ○ ○ ● ○ ● ●	Main Memory Tests
○ ○ ○ ○ ● ● ○ ○	MMU Read Access/Modified Bits Test
○ ○ ○ ○ ● ● ○ ●	MMU Write Access/Modified Bits Test
○ ○ ○ ○ ● ● ● ○	MMU Write to Write=Protected Page Test
○ ○ ○ ○ ● ● ● ●	MMU Read Not–Writeable Invalid Page Test
○ ○ ○ ● ○ ○ ○ ○	MMU Read Writeable Invalid Page Test
○ ○ ○ ● ○ ○ ○ ●	MMU Write Not–Writeable Invalid Page Test
○ ○ ○ ● ○ ○ ● ○	MMU Write Writeable Invalid Page Test
○ ○ ○ ● ○ ○ ● ●	Main Memory Timeout Test
○ ○ ○ ● ○ ● ○ ○	Control Space Timeout Test
○ ○ ○ ● ○ ● ○ ●	Range Error Test
○ ○ ○ ● ○ ● ● ○	Size Error Test
○ ○ ○ ● ○ ● ● ●	Parity Memory Test
○ ○ ○ ● ● ○ ○ ○	CPU Cache Tag RAM Tests
○ ○ ○ ● ● ○ ○ ●	CPU Cache Data RAM Tests
○ ○ ○ ● ● ○ ● ○	CPU Cache Functional Tests
○ ○ ○ ● ● ○ ● ●	VME Loopback Tests
○ ○ ○ ● ● ● ○ ○	IOC Tag RAM Tests
○ ○ ○ ● ● ● ○ ●	IOC Data RAM Tests
○ ○ ○ ● ● ● ● ○	IOC Functional Tests

Sun386i/150/250

Self–Test Error Codes

SUB-SYSTEM	TEST	7 LEDs 0	ERROR	FRU COMPONENT
0	1	○ ○ ○ ● ○ ○ ○ ○	Fatal	CPU Board (80386)
0	2	○ ○ ● ○ ○ ○ ○ ○	Warning	” (LED register)
0	3	○ ○ ● ● ○ ○ ○ ○	Fatal	” (Boot PROM)
0	4	○ ● ○ ○ ○ ○ ○ ○	Warning	” (Serial Port)
0	5	○ ● ○ ● ○ ○ ○ ○	Warning	” (Parallel Port)
0	6	○ ● ● ○ ○ ○ ○ ○	Fatal	” (NVRAM)
0	7	○ ● ● ● ○ ○ ○ ○	Fatal	” (ID PROM)
1	0	○ ○ ○ ○ ○ ○ ○ ●	Fatal	CPU Board (82380)
1	1	○ ○ ○ ● ○ ○ ○ ●	Fatal	” (82380)
1	2	○ ○ ● ○ ○ ○ ○ ●	Fatal	” (82380)
1	3	○ ○ ● ● ○ ○ ○ ●	Fatal	” (82380)
1	4	○ ● ○ ○ ○ ○ ○ ●	Fatal	” (82380)
1	5	○ ● ○ ● ○ ○ ○ ●	Fatal	” (82380)
1	6	○ ● ● ○ ○ ○ ○ ●	Fatal	” (82380)
1	7	○ ● ● ● ○ ○ ○ ●	Warning	” (Ethernet Controller)
2	0	○ ○ ○ ○ ○ ○ ● ○	Fatal	CPU Board (82380)
2	1	○ ○ ○ ● ○ ○ ● ○	Fatal	” (82380)
2	2	○ ○ ● ○ ○ ○ ● ○	Fatal	” (82380)
2	3	○ ○ ● ● ○ ○ ● ○	Fatal	” (82380)
2	4	○ ● ○ ○ ○ ○ ● ○	Fatal	” (82380)
2	5	○ ● ○ ● ○ ○ ● ○	Fatal	” (82380)
2	6	○ ● ● ○ ○ ○ ● ○	Fatal	” (82380)
2	7	○ ● ● ● ○ ○ ● ○	Warning	” (SCSI Bus Controller)
3	0	○ ○ ○ ○ ○ ○ ● ●	Non–error	CPU Board (82380)
3	1	○ ○ ○ ● ○ ○ ● ●	Fatal	” (82380)
3	2	○ ○ ● ○ ○ ○ ● ●	Warning	” (Floppy Disk Controller)
3	3	○ ○ ● ● ○ ○ ● ●	Fatal	” (System Bus)
3	4	○ ● ○ ○ ○ ○ ● ●	Fatal	” (System Bus)
3	5	○ ● ○ ● ○ ○ ● ●	Fatal	” (MUSCI ASIC)
4	0	○ ○ ○ ○ ○ ● ○ ○	Fatal	Memory Bd. (System Bus Slot 1)
4	1	○ ○ ○ ● ○ ● ○ ○	Fatal	”
4	2	○ ○ ● ○ ○ ● ○ ○	Fatal	”
4	3	○ ○ ● ● ○ ● ○ ○	Fatal	”
4	4	○ ● ○ ○ ○ ● ○ ○	Fatal & Warning	” (Cache)
4	5	○ ● ○ ● ○ ● ○ ○	Fatal & Warning	” (Cache)
4	6	○ ● ● ○ ○ ● ○ ○	Fatal & Warning	” (Cache)

Sun386i/150/250

Self–Test Error Codes (Continued)

SUB-SYSTEM	TEST	7 LEDs 0	ERROR	FRU COMPONENT
5	0	○ ○ ○ ○ ○ ● ○ ●	Fatal	Memory Bd. (System Bus Slot 2)
5	1	○ ○ ○ ● ○ ● ○ ●	Fatal	”
5	2	○ ○ ● ○ ○ ● ○ ●	Fatal	”
5	3	○ ○ ● ● ○ ● ○ ●	Fatal	Memory Bd. (System Bus Slot 2)
5	4	○ ● ○ ○ ○ ● ○ ●	Fatal & Warning	” (Cache)
5	5	○ ● ○ ● ○ ● ○ ●	Fatal & Warning	” (Cache)
5	6	○ ● ● ○ ○ ● ○ ●	Fatal & Warning	” (Cache)
6	0	○ ○ ○ ○ ○ ● ● ○	Fatal	Memory Bd. (System Bus Slot 3)
6	1	○ ○ ○ ● ○ ● ● ○	Fatal	”
6	2	○ ○ ● ○ ○ ● ● ○	Fatal	”
6	3	○ ○ ● ● ○ ● ● ○	Fatal	”
6	4	○ ● ○ ○ ○ ● ● ○	Fatal & Warning	” (Cache)
6	5	○ ● ○ ● ○ ● ● ○	Fatal & Warning	” (Cache)
6	6	○ ● ● ○ ○ ● ● ○	Fatal & Warning	” (Cache)
7	0	○ ○ ○ ○ ○ ● ● ●	Fatal	Memory Bd. (System Bus Slot 4)
7	1	○ ○ ○ ● ○ ● ● ●	Fatal	”
7	2	○ ○ ● ○ ○ ● ● ●	Fatal	”
7	3	○ ○ ● ● ○ ● ● ●	Fatal	”
7	4	○ ● ○ ○ ○ ● ● ●	Fatal & Warning	” (Cache)
7	5	○ ● ○ ● ○ ● ● ●	Fatal & Warning	” (Cache)
7	6	○ ● ● ○ ○ ● ● ●	Fatal & Warning	” (Cache)
8	0	○ ○ ○ ○ ● ○ ○ ○	Warning	Video Bd. (VRAM)
8	1	○ ○ ○ ● ● ○ ○ ○	Warning	” (VRAM)
8	2	○ ○ ● ○ ● ○ ○ ○	Warning	” (Color LUT)
8	3	○ ○ ● ● ● ○ ○ ○	Warning	” (All)
8	4	○ ● ○ ○ ● ○ ○ ○	Warning	” (Mouse/Kbd SCC)
9	0	○ ○ ○ ○ ● ○ ○ ●	Warning	Mouse/Keyboard (Kbd)
10	0	○ ○ ○ ○ ● ○ ● ○	Warning	Floppy Disk
11	0	○ ○ ○ ○ ● ○ ● ●	Warning	SCSI Hard Disk (Bootable Device)
11	1	○ ○ ○ ● ● ○ ● ●	Warning	” (Controller)
12	0	○ ○ ○ ○ ● ● ○ ○	Warning	SCSI Tape Drive (Bootable Device)
12	1	○ ○ ○ ● ● ● ○ ○	Warning	” (Controller)
13	0	○ ○ ○ ○ ● ● ○ ●	Warning	Ethernet (Bootable Device)

DISK

DISK DRIVES

ESMD

Hitachi DK815–10 2
Fujitsu M2361A 3
NEC D2363 8

DISK CONTROLLERS

ESDI

Emulex MD21 11

ESMD

Xylogics 450/451 17
Xylogics 7053 19

Hitachi DK815–10

Status LEDs in Status Mode

Mode Switch Set To		Status LED 0	Status LED 1	Status LED 2	Status LED 3	Status LED 4	Status LED 5
0	0	Unit Ready	Seek Error	Unit Selected 0	Reserved 0	Unit Selected 1*	Reserved 1*
0	1	Write On Read Check	Control Check	Index Check	Transition Check	Capable Check	Multi–Head Check
0	2	HDA Sequence Check	Interface Check	Initial Seek	Over-shoot Check	Access Timeout Check	Address Over
0	3	Voltage Check	Thermal Alarm	Check MPU Check	Data Encode/ Decode Check	Servo Offtrack	

* Dual port option only

Note: Reference the DK815–10 Winchester Disk Drive OEM Manual, 875–1000–XX.

Fujitsu M2361 A

Drive Status and State

Table 1 describes the drive state information indicated by two 7–segment LEDs in accordance with the position of the toggle State Switch. The Write/Read Check State,Access State, and DE Sequence State are described on the following pages.

STATE SWITCH POSITION		UPPER (ST 0)	CENTER (ST 1)	LOWER (ST 2)
LED	STATE BIT	WRITE/READ CHECK STATE	ACCESS STATE	DE SEQUENCE STATE
LP1	1	Index Check	DE Sequence Check	DE Sequence Latch 1
	2	Control Check	Access Timeout Check	DE Sequence Latch 2
	4	Multi–Head Check	Over Shoot Check	DE Sequence Latch 4
	8	Head Short Check	Rezero Mode Latch	Hall Alarm
LP2	1	Write Current on Read Check	Servo Latch	Motor At Speed
	2	Write Transition Check	Linear Mode Latch	Inhibit DE Seq. Recycle
	4	Delta I Write Check	Control Latch	Unit Ready
	8	Servo Off–Track	Wait Latch	Access Busy

Table 1. State Switch and State Indicators

Use the information from Table 1 in conjunction with the flow charts in Chapter 5 of the Fujitsu M2361A Mini–Disk Drive Customer Engineering Manual, 800–1423, to determine the failing assembly. This information can also be used to troubleshoot the Fujitsu M2351A disk drive.

Fujitsu M2361 A

Write/Read Check State (ST 0)

The Write/Read Check State indicates fault status during a Write or Read operation. When a fault status occurs in the drive, the Fault signal in the Unit Status is issued as a summary to the controller. The controller issues a Fault Clear Signal to clear the Write/Read Check State.

Index Check (Status 0)	The Index signal not detected where it should be or is detected where it should not be during a Read/Write operation.
Control Check (Status 1)	Caused by the following conditions: 1. Write and Read Gate are issued at the same time. 2. Write operation during offset mode 3. Write Gate issued in the write protect mode.
Multi–Head Check (Status 2)	Two or more head ICs are selected simultaneously.
Head Short Check (Status 3)	Abnormal current sensed in the Write Select line during a write operation.
Write Current on Read Ck. (Status 4)	Write current sensed during a read operation.
Write Transition Check (Status 5)	Write current is not switched for writing data. The detection continues from byte–8 after Write Gate is true until the end of the Write operation.
Delta I Write Check (Status 6)	Abnormal write current sensed in the inner head or outer head.
Servo Off–Track (Status 7)	Indicates the following fault conditions. 1. The head is +/–100 micro–inches off the desired track during the Write/Read operation. 2. Write/Read Gate is received by the drive during not On Cylinder status, Heads in Motion, or Seek Error.

Fujitsu M2361 A

Access State (ST 1)

The Access State indicates the access status of the head in Seek and RTZ operation and the Start/Stop sequence of the spindle motor.

DE Sequence Check (Status 0)	An Abnormal start/stop sequence of the DE occurred in the drive. One of the following errors occurred as DE SEQ advanced: 1. Initial State Good (Motor At Speed and Hall Alarm not present), Does not result in State 1. 2. Run State Good (not Hall Alarm and Motor At Speed are sent out). Can not be obtained for approximately 40 seconds in State 3. 3. Run State Good goes off during State 6. Cannot be cleared by the Fault Clear Switch on the operator panel or the Fault Clear signal on the interface. Cleared by stopping rotation of the spindle. Latches 4, 2 and 1 of DE SEQ represent the DE SEQ status shown in Table 2.
Access Time–Out Check (Status 1)	During an RTZ or Seek operation, On Cylinder failed to appear within 250 ms +/– 30% after Access Start. Cleared by an RTZ operation.
Overshoot Check (Status 2)	Heads go past the desired track during a Seek or RTZ operation, or go into the Guard Band or ID Position during a Seek operation. The heads are moving at an abnormal speed during the RTZ operation. Cleared by an RTZ operation.
Rezero Mode Latch (Sta. 3) Servo Latch (Status 4) Linear Mode Latch (Sta. 5) Control Latch (Status 6) Wait Latch (Status 7)	These latches observe the sequence of seek and RTZ operations. When an error occurs during a seek or RTZ, the contents of these latches is frozen. Cleared by RTZ operation. The relationship between Access state and the contents of the latches is shown in Table 3.

Fujitsu M2361 A

DE Sequence Latches

STATE No.	LATCH 4	LATCH 2	LATCH 1	STATUS
0	0	0	0	Wait status
1	0	0	1	Start/Stop switch on the operator panel is set to Start.
3	0	1	1	Spindle motor starts rotating.
2	0	1	0	Sequence Rezero starts approximately 40 seconds after State 3.
6	1	1	0	Sequence Rezero is completed and seek operation is possible.
7	1	1	1	DE Stop Sequence State results and the head begins to return to the home position (Go Home).
5	1	0	1	Go Home operation is completed and the spindle motor stops rotating.
4	1	0	0	Approximately 40 seconds following State 5. (Returns to State 0).

Table 2. Contents of DE Sequence Latches

Fujitsu M2361 A

DE SEQ Latches 1, 2, and 4	Indicates Start/Stop status of DE. See Table 4.
Hall Alarm	All output signals from the hall–elements used to detect the pole position of the rotor in the spindle motor are high or low level simultaneously.
Motor At Speed	Spindle motor rotating at 3,600 RPM +/–2%.
Inhibit DE Sequence	Recycle Run State Good goes false while the DE Sequence Latch is in State 7. Stop sequence of the DE may be inhibited hereafter, Cleared by switching Off the drive power or pushing the Start switch to Off.
Unit Ready	Drive has reach the rated rotational speed and heads are positioned on track.
Access Busy	Heads are in motion performing Seek, RTZ, or Offset operation.

Table 3. Description of DE Sequence State (ST2) Latches

LATCHES					STATE	Mode
Rezero Mode	Servo	Linear Mode	Control	Wait		
0	0	0	0	1	Wait State	Reset
0	0	0	0	0	State RTZ	RTZ
1	0	0	0	0	Move In	
1	0	0	1	0	Turn Around	
1	0	1	1	0	Move Out	
0	0	1	1	0	RTZ Linear Mode	
0	1	1	1	0	On Track	
0	1	0	1	0	Accelerate	Seek
0	1	0	0	0	Decelerate	
0	1	1	0	0	Seek Linear Mode	
0	1	1	1	0	On Track	

Table 4. Access States

NEC D2363 Disk Drive

Fault Line Error Codes

STATE	STATE	FAULT	DESCRIPTION
Power On Initialize	1	1	Voltage fault
	1	2	ROM fault
	1	4	Fault latch
Stop Mode	2	1	Voltage fault
Start Wait	3	1	Voltage fault
Motor Initiating	4	1	Voltage fault
	4	3	Motor not up to speed
	4	4	No rotation
Motor Speed Up	5	1	Voltage fault
	5	2	Motor speed too slow
	5	3	Motor speed too high
	6	1	Voltage fault
Motor Speed OK	6	2	Motor speed loss
	6	3	Motor over speed
Lock Servo PLO	7	1	Voltage fault
	7	2	Motor speed loss
	7	4	Lost index
	7	5	Inner guard band (IGB) not found
Recalibrate Out	8	1	Voltage fault
	8	4	Lost Index
	8	5	Outer Guard Band (OGB) not found
	8	6	No N linearity found
	8	7	No half track found
	8	8	No Q linearity found
	8	9	No difference found
	8	A	Not at target velocity
	8	B	Too slow not found
	8	C	Over shoot check
	8	D	Overshoot check (Time out)

NEC D2363 Disk Drive

Fault Line Error Codes (Continued)

STATE	STATE	FAULT	DESCRIPTION
Recalibrate In	9	1	Voltage fault
	9	4	Lost index
	9	5	OGB not found
	9	9	No linearity found
	9	C	Over shoot check
	9	D	Over shoot check (Time out)
Ready (On Cylinder)	A	1	Voltage fault
	A	2	Loss of motor speed
	A	3	Motor speed over
	A	4	Lost index
	A	C	Off track
Move Out	B	1	Voltage fault
	B	4	Lost index
	B	9	No differences found
	B	C	Over shoot check
	B	D	Over shoot check (Time out)
	B	E	Over travel (OGB)
	B	F	Over travel (IGB)
Interface Check	C	1	Over cylinder
	C	3	Tag 1 while not ready
Move In	D	1	Voltage fault
	D	4	Lost index
	D	9	No difference=0 found
	D	C	Over shoot check
	D	D	Over shoot check (Time out)
	D	E	Over travel (OGB)
	D	F	Over travel (IGB)

NEC D2363 Disk Drive

Fault Line Error Codes (Continued)

STATE	STATE	FAULT	DESCRIPTION
Seek Calibration	E	1	Seek unsuccessful
	E	2	Seek speed too high*
	E	3	Seek speed too low*
	E	4	Not PLO good in offset
	E	5	Off track in offset seek
	E	6	Offset command while Not on Cylinder state
	E	7	RTZ unsuccessful*
Fault Detected	F	1	Protect violation or read.write
	F	2	(Unit not ready or non on cylinder), write
	F	3	Write clock fault
	F	4	Off track write
	F	5	Write.MARS unsafe
	F	6	Read.MARS unsafe

* These “errors” do not send a “Seek Error” report to the system. They only appear on the Status Display.

MD21 Disk Controller

Extended Sense Key Codes

HEX CODE	ERROR	DESCRIPTION
00	No Sense	No Sense Key information is reported for the designated LUN. This code occurs for a successfully completed command.
01	Recovered Error	The last command was completed successfully, with some recovery action performed by the Target.
02	Not Ready	The addressed LUN cannot be accessed. Operator intervention may be required.
03	Media Error	The command terminated with a nonrecoverable error condition probably caused by a flaw in the media or by an error in the recorded data.
04	Hardware Error	A nonrecoverable hardware error (e.g., controller failure, device failure, parity error, etc.) was detected while the Target was performing the command or while the Target was performing a self–test operation.
05	Illegal	There was an illegal parameter in the Request command or in the additional required parameters supplied as data for some related commands. If the error is detected in the Command Descriptor Block, the controller will not alter the Media.
06	Unit Attention	The addressed LUN has been reset. This error is reported the first time any command is issued after the condition is detected. The requested command is not performed. This condition is cleared when the next command is issued by the same Initiator. UNIT ATTENTION is reported to all SCSI devices that subsequently issue commands to the LUN.
08	Reserved	This key is reserved.

Note: MD21 errors are reported in the form:

```
sd: sense key = (extended sense key code)
    error = (extended sense error code)
```

MD21 Disk Controller

Extended Sense Key Codes (Continued)

HEX CODE	ERROR	DESCRIPTION
07	Data Protect	A write operation was attempted on a write–protected device.
08	Reserved	This key is reserved.
09	Vendor Unique	A Vendor Unique error condition occurred. The corresponding nonextended error class and code are specified in Byte 12 of the Extended Sense Byte.
0A	Copy/Compare Aborted	A COPY or COMPARE command was aborted because an error condition was detected on the source and/or destination device.
0B	Aborted Command	The Target aborted the command. The Initiator may recover by trying to execute the command again.
0E	Miscompare	Used by the Verify command to indicate the source data did not match the data read from the disk.

Note: Reference the MD21/S2 Disk Controller Technical Manual, and the Emulex SCSI Disk Controller Programming Reference Manual. There are no Sun part numbers for these manuals.

MD21 Disk Controller

Nonextended Sense Error Code (Continued)

HEX CODE	ERROR	DESCRIPTION
00	No Sense	The controller detected no error during execution of the previous command.
02	No Seek Complete	The controller could not seek to the specified logical block within an allotted time.
03	Write Fault	The controller determined that the Attention line from the disk drive was asserted during a write operation.
04	Drive Not Ready	The disk drive is not ready.
05	Drive Not Selected	The drive associated with the specified LUN could not be addressed.
06	No Track	The controller could not rezero the disk drive.
10	ID Field CRC Error	The sector ID field could not be read after the number of retry attempts specified in the MODE SELECT command.
11	Uncorrectable Data Error	A block could not be written or read after the number of retry attempts specified in the MODE SELECT command.
12	ID Field Addr Mark not Found	The controller could not locate the address mark for a sector leader.
13	Data Addr Mark not Found	The controller could not locate the address mark for a sector header.
14	Block Not Found	The block sequence is improper, or a block is missing.
15	Seek Error	A miscompare occurred between the cylinder address of the data header and the address specified in the CDB of the command.
17	Recovered Read Error (with retries)	The controller encountered an error. It recovered the data using retries.
18	Recovered Read Error (with ECC)	The controller encountered an error. It recovered the data using ECC correction.

MD21 Disk Controller

Extended Sense Key Codes (Continued)

HEX CODE	ERROR	DESCRIPTION
19	Defect List	The controller encountered an error while accessing one of the Defect Lists.
1A	Parameter Overrun	The Parameter List Length specified in the CDB by the Initiator is too large for the controller.
1C	Primary Defect List Not Found	The controller could not locate the manufacturer's defect list.
1D	Compare Error	One or more bytes did not compare when the VERIFY or READ BUFFER command was issued.
20	Invalid Command	The Initiator issued a command that cannot be executed, or is not applicable.
21	Invalid Block Address	The addressed block was not valid.
22	Illegal Function for Device Type	The addressed LUN is unable to perform the requested function.
24	Illegal Field In CDB	A field in the Command Descriptor Block is reserved and contains a value other than zero or, the value in the field is incorrect.
25	Invalid LUN	The LUN specified in the Command Descriptor Block or SCSI IDENTIFY message is not support by the controller.
26	Illegal Field in Parameter List	A field in the Parameter List is reserved and contains a value other than zero or the value in the field is incorrect.
27	Write Protected	The disk is write protected. The outstanding WRITE command is aborted.
28	Medium Change	When the controller detects a media changed condition, it sets the Sense Key/ Error Code to UNIT ATTENTION/MEDIA CHANGED (06h/28h). A media changed condition occurs when the controller detects a drive offline condition, and then detects the drive come online.

MD21 Disk Controller

Extended Sense Key Codes (Continued)

HEX CODE	ERROR	DESCRIPTION
29	Power Up or Reset	The controller was reset by a SCSI Bus Reset, Bus Device Reset Message, or Power On Reset condition. After the controller detects the condition, it reports this error when the first command (except the INQUIRY command) is issued to it. The controller clears this condition when the next command is issued to it by the same Initiator, and reports the UNIT ATTENTION Sense Key to all SCSI devices that subsequently issue a command to it.
2A	Mode Select Changed	The MODE SELECT parameters for this device have been changed by another Initiator and may affect current operations. After the controller detects the condition, it reports the error when the first command (except the INQUIRY command) is issued to it. The controller clears this condition when the next command is issued to it by the same Initiator. The controller reports the UNIT ATTENTION Sense Key to all SCSI devices that subsequently issue a command to it.
31	Format Failed	The FORMAT UNIT command encountered an error while attempting to access on the defect lists.
32	No Defect Spare Location Available	No alternate tracks remain on the addressed LUN. This error condition may occur during the processing of a FORMAT UNIT or REASSIGN BLOCK command.
40	RAM Failure	The controller detected a RAM memory error during a SEND DIAGNOSTIC text operation.
43	Message Reject	The Initiator responded with a MESSAGE REJECT to a message sent by the controller.

MD21 Disk Controller

Extended Sense Key Codes (Continued)

HEX CODE	ERROR	DESCRIPTION
44	SCSI Hardware/ Firmware Error	The SCSI Firmware detected an internal firmware or hardware error and was unable to complete the current command.
45	Select/Reselect Failed Error	The SCSI firmware detected a timeout error while attempting a Selection or Reselection.
47	Parity Error	A parity error occurred on the SCSI Bus and the controller was unable to recover the data.
48	Initiator Detected Error	The Initiator sent an INITIATOR DETECTED ERROR message and the controller was unable to recover from the error.
49	Inappropriate/ Illegal Message Error	The Initiator sent an inappropriate or illegal SCSI Message to the controller.

Xylogics 450/451 Disk Controller

Completion Code Description

CODE	TYPE	DEFINITION
00	Status	Successful Completion
01	Hard	Interrupt Pending
02	------	Reserved
03	Hard	Busy Conflict
04	Hard	Operation Timeout
05	Hard	Header Not Found
06	Hard	Hard ECC Error
07	Hard	Illegal Cylinder Address
08, 09	------	Reserved
0A	Hard	Illegal Sector Address
0B, 0C	------	Reserved
0D	Hard	Last Sector Too Small
0E	Hard	Slave ACK Error (Non–Existent Memory)
0F, 10, 11	------	Reserved
12	Hard	Cylinder and Head/Header Error
13	Soft	Auto Seek Retry Successful
14	Hard	Write Protect Error
15	------	Reserved
16	Hard	Drive Not Ready
17	Hard	Sector Count Zero
18	Hard	Drive Faulted
19	Hard	Illegal Sector Size
1A	Hard	Self Test A
1B	Hard	Self Test B
1C	Hard	Self Test C
1D	------	Reserved
1E	Hard	Soft ECC Error
1F	Soft	Soft ECC Error Recovered
20	Hard	Illegal Head Error
21	Hard	Disk Sequencer Error
22, 23, 24	------	Reserved
25	Hard	Seek Error

Note: Xylogics 450/451 errors are reported in the form:
“xy: error (Completion Code) cmd (Command)”.

Xylogics 450/451 Disk Controller

Command Description

HEX VALUE	COMMAND
0	No Operation (NOP)
1	Write
2	Read
3	Write Track Headers
4	Read Track Headers
5	Seek
6	Drive Reset
7	Write Format
8	Read Header, Data, and ECC
9	Read Drive Status
A	Write Header, Data, and ECC
B	Set Drive Size
C	Self Test
D	DMA Test
E	Maintenance Buffer Load
F	Maintenance Buffer Dump

Note: Xylogics 450/451 errors are reported in the form:
“xy: error (Completion Code) cmd (Command)”.

Xylogics 7053 Disk Controller

Completion Code Type Descriptions

CODE	DESCRIPTION
No Action/Status Only (00)	Status only. These completion codes require no action.
Non–retryable Programming Errors (10–20)	This group of errors is usually encountered while debugging drivers. They should not occur in a normal operating system environment.
Successfully Recovered Soft Errors (30–33)	Status only. If some errors recur often, the operating system should try to map out the sectors involved. Allowing these errors to recur degrades performance.
Hard Errors/Retry (40–48)	Transfer failed. Retry the operation. If several retries fail, manual intervention is required or the operating system may crash.
Hard Errors – Reset/Retry (60–64)	Transfer failed. Software should issue a Drive Reset command to the drive in use before retrying the operation.
Fatal Hardware Error (70–71)	Hardware failed. Manual intervention or a Controller Reset may be the only recovery approach.
Miscellaneous Errors (80)	Soft ECC
Requires Manual Intervention (90)	Manually remove the write–protection.

Notes

1. Xylogics 7053 errors are reported in the form:
   “xd: error (Completion Code) cmd (Command)”
2. Reference the Model 7053 Users Manual, 875–1013–01.

Xylogics 7053 Disk Controller

Completion Code Descriptions

CODE	COMPLETION CODE	DESCRIPTION
00	Successful Completion	Not an error. The IOPB is complete.
10	Illegal Cylinder Address	Host software specified a cylinder address greater than the maximum number specified in the last Set Drive Parameters command for this drive.
11	Illegal Head Address	Host software specified a head address greater than the maximum head address specified in the last Set Drive Parameters command for this drive.
12	Illegal Sector Address	Host software specified a sector address greater than the maximum sector number specified in the last Set Drive Parameters command for this drive.
13	Count Zero	Host software issued the 7053 an IOPB that required a count, but the count was zero. Read, Write, and Format commands require a valid count.
14	Unimplemented	Occurs on all reserved commands.
15	Illegal Field Length 1	Refer to Model 7053 User's Manual
16	Illegal Field Length 2	
17	Illegal Field Length 3	
18	Illegal Field Length 4	
1A	Illegal Field Length 6	
1B	Illegal Field Length 7	
1C	Illegal Scatter/Gather Length	The linked list specified a number of words to transfer that does not agree with the amount of data contained in the requested number of sectors for transfer.

Xylogics 7053 Disk Controller

Completion Code Descriptions (Continued)

CODE	COMPLETION CODE	DESCRIPTION
1D	Not Enough Sectors Per Track	The format routine was unable to format since too few sectors were actually available on the track.
1E	Next IOPB Alignment Error	The Next IOPB Address did not start on a 16–bit boundary. The 7053 does not execute the NIOPB.
1F	Scatter/Gather Address Alignment Error	A Scatter/Gather address did not start on a 16–bit boundary.
20	Scatter/Gather with Auto ECC Error	A Scatter/Gather operation resulted in a correctable ECC error. Due to Scatter/Gather boundaries, the 7053 did not automatically correct the error, but reverted to ECC Mode 0.
30	Soft ECC Corrected	The 7053 detected and corrected one or more ECC errors during a disk read in ECC Mode 2.
31	ECC Error Ignored	The 7053 detected, but ignored, an ECC error (during a Read command in ECC Mode 1) and continued the transfer.
32	Auto Seek Retry Recovered	The 7053 completed the transfer successfully. During the transfer, it recovered from an error by resetting the drive.
33	Soft Retry Recovered	The 7053 encountered an error while executing this command. A retry due to RBC being set or a zero latency read was successful.
40	Hard Data ECC Error	The 7053 detected a hard data ECC error in the data field during a Read command. Retry the previous Read operation.
41	Header Not Found	The 7053 cannot find the requested sector. The controller searches for one disk revolution plus one sector to locale the header.

Xylogics 7053 Disk Controller

Completion Code Descriptions (Continued)

CODE	COMPLETION CODE	DESCRIPTION
42	Drive Not Ready	The selected drive is not ready, but not faulted. Issue a Drive Reset. Causes include: 1. Drive not up–to–speed. 2. Drive hardware error. 3. Bad or improperly connected cable(s). 4. Specified Unit Number drive is not connected to the 7053.
43	Operation Timeout	The 7053 did not complete the IOPB within a two second timeout period.
44	VMEDMA Timeout	The DMA controller did not complete its task within the allotted time limit. One reason could be that memory did not respond in time.
45	Disk Sequencer Error	The disk sequencer did not complete its task within the allotted time limit. The 7053 cannot send or receive the appropriate signals from the selected drive.
46	FIFO Parity	The transfer failed. The 7053 detected a FIFO parity error.
47	Dual Port Busy	The 7053 timed out while waiting for the port on a dual ported drive. The timeout is two seconds.
48	Header ECC Error	The 7053 found a header match, but the Header ECC did not compare.
49	Read Verify	Data read from the disk did not match data read from memory.
4A	Fatal VMEDMA Error	The VMEDMA stopped for no apparent reason. The count for the address overflowed and there was no bus error.
4B	VMEbus Error	The VME BERR* signal was asserted while the 7053 was bus master.

Xylogics 7053 Disk Controller

Completion Code Descriptions (Continued)

CODE	COMPLETION CODE	DESCRIPTION
60	Drive Faulted	The selected drive is faulted. Issue a Drive Reset.
61	Header Error/Cylinder	The cylinder address did not match during a sector search. Check the cylinder address and retry the operation.
62	Header Error/Head	The head address did not match during a sector search.
63	Drive Not On–Cylinder	At some point during the transfer, the 7053 expected the drive to be on–cylinder, and it was not.
64	Seek Error	The disk drive reported a seek error.
70	Illegal Sector Size	The disk drive sector size is not large enough to hold the header, data, and specified field lengths.
71	Firmware Failure	Flag settings or counter values are inconsistent with the firmware routines being executed.
80	Soft ECC Error	The 7053 detected a correctable error in the data field of the current sector during a Read operation in ECC Mode 0. Software must perform the final correction.

Tape

TAPE DRIVES

CDC 1/2” 2
Fujitsu 1/2” 4

CONTROLLERS

1/4” Tape

Emulex MT02 7

1/2” Tape

Ciprico Tapemaster 10
Xylogics 472 11

CDC 1/2” Tape Drive

Self–Test Procedure

SELF–TEST 01

1. Thread a write enabled tape onto the takeup reel.
2. Press the LOGIC ON button.
3. Press TEST button.
4. Press the EXECUTE button to start self test 1.

SELF–TEST 91

1. Thread a write enabled tape onto the takeup reel.
2. Press and hold the CE button.
3. Press TEST button.
4. Release the CE button.
5. Press the STEP button to increment the LED display to 09.
6. Press the TEST button to increment the LED display to 90.
7. Press the STEP button to increment the LED display to 91.
8. Press the EXECUTE button to start self test 1.

TEST 91 CONTINUOUS LOOP MODE

1. Thread a write enabled tape onto the takeup reel.
2. Press and hold the CE button.
3. Press TEST button.
4. Release the CE button.
5. Press the STEP button to increment the LED display to 09.
6. Press the TEST button to increment the LED display to 90.
7. Press the STEP button to increment the LED display to 91.
8. Press and hold the CE button.
9. Press the EXECUTE button to increment the LED display to 00.
10. Release the CE button.
11. Press the STEP button to increment the LED display to 01.
12. Press the EXECUTE button to start self test 91 in a continuous loop.

Note: Reference the CDC Streaming Tape Unit 92181 Field Service Manual. There is no Sun part number for this manual.

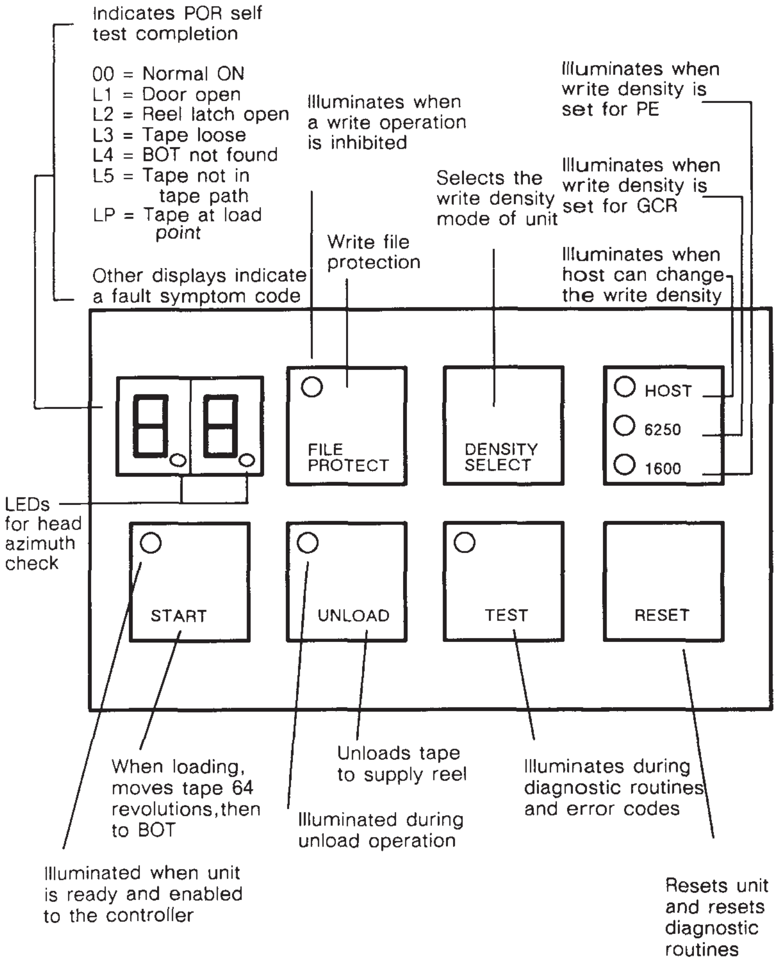
CDC 1/2” Tape Drive

Off–Line Diagnostic Error Codes

Fault Code	Description	Fault Code	Description
01	Read envelope fault	33	Tape positioning fault
02	Read amplitude tolerance fault	34	BOT positioning fault
03	ID fault	35	Positioning fault
04	Low speed write errors	36	Speed fault
05	Low speed read errors	37	Pump power–up
06	High speed write errors	38 to 46	Not Used
07	High speed read errors	47	Velocity correction fault
08	Noise in IBG	48	Unload fault
09	Reserved for future use	49	Not Used
10	Operator door open	50	Irrecoverable device health check fault
11	Absence of tape	51	Recoverable device health check fault
12	Load fault	52	Speed calculation fault
13	Tape threaded incorrectly	53	Arithmetic error
14	BOT location fault	54	Erase/write current fault
15	Load/unload aborted operator	55	Load/rewind timeout error
16	Diag. tape is write protected	56	Processor communication fault
17	Ran off end of tape	57	Device illogical fault
18	Tape already loaded	58	Recoverable formatter health check fault
19	Reserved for future use	59	Irrecoverable formatter health check fault
20	File tension sensor fault	60	Irrecoverable operator health panel
21	Take–up tension sensor fault	61	Recoverable operator health panel fault
22	Unable to tension tape		
23	Unable to re–establish tension		
24	High tension fault		
25	Low tension fault		
26	Servo fault		
27	No coarse tachs		
28	Tension recovery problem		
29	Absence of tape		
30	Up ramp fault		
31	Down ramp fault		
32	Stoplock over–run		

Fujitsu 1/2” Tape Drive

Operator Panel Layout


Indicates POR self test completion
00 = Normal ON
L1 = Door open
L2 = Reel latch open
L3 = Tape loose
L4 = BOT not found
L5 = Tape not in tape path
LP = Tape at load point
Other displays indicate a fault symptom code
Illuminates when a write operation is inhibited
Write file protection
Selects the write density mode of unit
Illuminates when write density is set for PE
Illuminates when write density is set for GCR
Illuminates when host can change the write density
FILE PROTECT
DENSITY SELECT
HOST
6250
1600
LEDs for head azimuth check
START
UNLOAD
TEST
RESET
When loading, moves tape 64 revolutions, then to BOT
Unloads tape to supply reel
Illuminated during unload operation
Illuminates during diagnostic routines and error codes
Illuminated when unit is ready and enabled to the controller
Resets unit and resets diagnostic routines

Fujitsu 1/2” Tape Drive

Self–Test Procedures

1. Thread a write enabled tape onto the takeup reel.
2. Press and hold the TEST button.
3. Press START button.
4. Release the TEST button.
5. Press the START button to increment the LED display to 01.
6. Press the TEST button to start self test 01 through 42.

Operator Panel Diagnostic Routines

CODE	FUNCTION
00	No operation
01	Load and run default test routine from code 10 to 42.
02	Load
03	Rewind
04	Unload
05	Retension
06	Run routine 10 – 19
09	Ignore door switch
10	Check reset test
11	LSI scan test
12	Time sensor test
13	Block format test
14	LWR test GCR high/low
15	LWR test PE high/low
16	Mask/error track test by LWR GCR, high speed
17	Mask/error track test by LWR GCR, low speed
18	Mask/error track test by LWR PE, high speed
19	Mask/error track test by LWR PE, low speed

Note: Reference the Fujitsu M244X Streaming Tape Drive CE Manual, 800–1409–01.

Fujitsu 1/2” Tape Drive

Operator Panel Diagnostic Routines (Continued)

CODE	FUNCTION
20	Tacho counter test (QCTRH, QCTRL)
21	Read level test by GCR high speed
22	Feed through test by PE low speed
23	GCR identification burst test
24	PE identification burst test low speed
25	PE identification burst test high speed
26	GCR/low/normal/combination command test
27	GCR/low/long/combination command test
28	GCR/high/normal/combination command test
29	GCR/high/long/combination command test
30	PE/low/normal/combination command test
31	PE/low/long/combination command test
32	PE/high/normal/combination command test
33	PE/high/long/combination command test
34	GCR error detection/correction test
35	PE error detection/correction test
36	Tape mark detection test
37	BOT test by GCR
38	BOT test by PE
39	Command sequence test by GCR
40	Command sequence test by PE
41	Data security erase test
42	Unload and offline
90	BOT/EOT sensor gain adjustment
91	Azimuth adjustment
92	PE read amplifier adjustment
93	EC level/device type set
94	Device parameter set
95	Reserved for tension test
96	Reserved for idler erase test
97	Buffer parameter settings
99	Run initial diagnostics and reset diagnostics mode

MT02 Tape Controller

Sense Key Errors

HEX CODE	ERROR	DESCRIPTION
00	No Sense	There is no Sense Key information to be reported for the designated LUN. This code occurs for a successful command or for a command that was checked because the FM or EOM bit in the Extended Sense (Byte 02) was set to 1.
01	Recoverable Error	The last command was completed successfully with some recovery action performed.
02	Not Ready	The addressed LUN cannot be accessed. Operator intervention may be required.
03	Media Error	The command terminated with a non–recoverable error condition which was probably caused by a flaw in the media or by an error in the recorded data.
04	Hardware Error	A non–recoverable hardware error was detected.
05	Illegal Request	An illegal parameter in the command or in the additional parameters was supplied as data for some commands.
06	Unit Attention	A Unit Attention condition occurred. This error is reported the first time any command is issued after the condition is detected and the requested command is not performed. This condition is cleared when the next I/O is issued by the same host adapter.
07	Data Protect	A write operation was attempted on a write protected device either because the cartridge is in the SAFE state.
08	Blank Check	The MT02 Controller encountered the end–of–recorded media (lack of data). This condition is not the same as the physical EOM.

MT02 Tape Controller

Sense Error Class/Code (Continued)

HEX CODE	TARGET ERROR	DESCRIPTION
19	Bad Block Found	A block cannot be read correctly after 16 retry attempts.
1C	File Mark Detected (Vendor Unique)	A file mark block was encountered during a read operation. The outstanding Read and Verify commands are terminated and the tape is repositioned just after the file mark block.
1D	Compare Error	One or more bytes did not compare when the Verify command was issued.

HEX CODE	SYSTEM RELATED ERROR	DESCRIPTION
20	Invalid Command	The issued command cannot be implemented, or is not applicable.
30	Unit Attention	A Unit Attention condition occurred. The removable media may have been changed, or the addressed LUN has been reset (by the Bus Device Reset message) since the last command was issued to the addressed LUN. This error is reported the first time any command is issued after the condition is detected and the requested command is not performed. This condition is cleared when the next I/O is issued by the same host adapter.
31	Command Timeout	Command execution was not completed by the MT02 before a predetermined, command–specific time limit expired.
33	Append Error	A write operation to the tape device was attempted before the end–of–media was reached.
34	Read End–of–Media	A read operation to the tape device was attempted past the end–of–media position.

MT02 Tape Controller

Sense Key Errors (Continued)

HEX CODE	ERROR	DESCRIPTION
09	Vendor Unique	A Vendor–Unique error condition occurred. The corresponding Error Class and Error Code are specified in Byte 08 of the Extended Sense Byte.
0A	Copy Aborted	A Copy command was aborted because an error condition was detected on the source or destination device.
0B	Aborted Command	The Target aborted the command. The Initiator may recover by trying the command again.
0C	Reserved	
0D	Volume Overflow	A buffered device has reached the end–of–media and data which has not been written to tape remains in the buffer. A Recover Buffered Data command can be issued to read the unwritten data from the buffer.
0E	Miscompare	Used by the Verify command to indicate that the source data did not match the data read from the tape.
0F	Reserved	

Ciprico Tapemaster Controller

CODE	DESCRIPTION OF ERROR
00	No unrecoverable error
01	Timed out waiting for expected data busy false.
02	Timed out waiting for expected data busy false formatter busy false and ready true.
03	Timed out waiting for expected ready false.
04	Timed out waiting for expected ready true.
05	Timed out waiting for expected data busy true.
06	A memory time–out occurred during a system memory reference.
07	A blank tape was encountered where data was expected.
08	An error occurred in the micro–diagnostic.
09	An unexpected EOT was encountered during a forward operation or during a rewind operation.
0A	A hard or soft error occurred which could not be eliminated by retry.
0B	A read overflow or write underflow occurred. This error indicates that the FIFO was empty when data was requested by the tape during a write or full when the tape presented a byte during a read.
0C	Not used
0D	A read parity error occurred on the byte interface between the drive and controller.
0E	An error was detected while calculating a checksum on the PROM.
0F	A tape time–out occurred because the tape drive did not supply an expected read or write strobe. This normally occurs when attempting to read a larger record than was written.
10	Tape not ready
11	A write was attempted on a tape without a write–enable ring.
12	Not used
13	The diagnostic jumper was not installed while attempting to execute a diag command.
14	An attempt was made to link from a command which does not allow linking.
15	An unexpected file mark was encountered during a tape read.
16	An error in specifying a parameter was detected by the Tapemaster. The usual cause is an entry in the byte count field which is zero or too large.
17	Not used
18	An unidentifiable hardware error occurred. Consult factory.
19	A streaming read or write operation was terminated by the operating system or disk.

Xylogics 472 1/2” Tape Controller

CODE	DESCRIPTION OF ERROR/TROUBLESHOOTING TIPS
00	Not an error
01	Interrupt pending. An operation is attempted while an interrupt is pending.
03	Busy conflict. A register write is attempted while the controller is busy.
04	Operation timeout. The controller did not complete the operation within the timeout period (usually a few seconds). Check the jumpering on the controller, make sure the board is seated properly in an appropriate slot, and check the switch settings of the VME–MB adapter, if applicable. Check the backplane configuration, (VME only).
06	Uncorrectable data. Data error reported on a read command (after four retries of the operation).
0E	Slave acknowledge error (non–existent memory). The memory addressed by the controller fails to respond within the slave acknowledge timeout period. Validate the memory address or memory itself and retry.
14	Write protect error. A write operation is attempted on a write–protected tape reel.
15	Unimplemented Command. Usually reported by the software. Check the device driver,
16	Drive Off–line. The controller cannot perform the requested operation if the drive is not on–line. If the tape is properly loaded and the drive on–line indicator is On, check the cables.
1A–1C	Self test failure – A, B, C. Controller failed the self test diagnostic. Check indicator LED on board (Diag Busy). On POR the self test LED is On briefly and then goes Off. If the LED stays on, self test A, B, or C has failed. Replace the controller.

Xylogics 472 1/2” Tape Controller (Continued)

CODE	DESCRIPTION OF ERROR/TROUBLESHOOTING TIPS
1D	Tape mark failure. A tape mark is not detected during a write tape mark operation. Check the setup of the tape drive and the condition of the tape. Run the tape drive self–diagnostic to check the drive's ability to sense tape marks.
1E	Tape mark detected. A tape mark is detected on a Read operation. No data is transferred. Check the data cable from the controller to the drive. Check for proper seating on the read formatter board, the buffer card, and the processor card. Check the proper positioning of the read amplifier. Verify tape operation with self–diagnostic.
1F	Corrected data. Tape drive error correction corrected a single track error during a Read operation.
22	Record length short. Record length is shorter than expected. Result is part of the buffer is not used. Run Read/Write tests on the drive with the known good tape.
23	Record length long. The requested file is longer than expected, Only requested byte count is transferred. This may appear to be a recovered operation, however, the rest of the data is not transferred.
30	Reverse into BOT. A beginning of tape mark is detected while tape is moving in the reverse direction. The tape motion stops. Check tape, run self–diagnostics.
31	EOT detected. An end of tape mark is passed in the forward direction. Check tape, run self–diagnostics.
32	ID burst detected. A PE or GCR identification burst is detected while reading or writing from BOT. In the host mode, software can change before start of an operation. This change can also be set at the drive during load time. Check drive parameters for operation.
33	Data late detected. Indicates system bus contention. The FIFO underflowed during a write operation, or the FIFO overflowed during a read operation. Check the data path and configuration, especially when there are other bus masters.

Communication

CPU Serial/Parallel Ports 2
CPU Keyboard and Mouse 3
Color Frame Buffer (386i) 3
Black & White Frame Buffer (386i) 3
CPU Audio Port (4/60) 4
Ethernet 4
ALM–1 5
ALM–2 5
MCP 6
SCP 6
HSI 7
VME SCSI 8

CPU RS–232/RS–423 Port B,C,D (9–Pin D–Sub, Female)

PIN	SIGNAL	PIN	SIGNAL
1	DCD	5	GND
2	RxD	6	DSR
2	TxD	7	RTS
4	DTR	8	CTS
9	Unused		

CPU RS–232/RS–423 Ports A & B (25–Pin D–Sub, Female)

PIN	SIGNAL	PIN	SIGNAL
2	TxD	8	DCD
3	RxD	15	TxC
4	RTS	17	RxC
5	CTS	20	DTR
6	DSR	24	TxCO
7	GND	25	–5 vdc

Sun386i CPU RS–232/RS–423 Port A (25–Pin D–Sub, Male)

PIN	SIGNAL	PIN	SIGNAL
2	TxD	15	TxC
3	RxD	17	RxC
4	RTS	20	DTR
5	CTS	22	RI
6	DSR	24	TxCO
7	GND	25	–5 vdc
8	DCD		

Sun386i CPU Parallel Port (37–Pin D–Sub, Female)

PIN	SIGNAL	PIN	SIGNAL
1	STR	14	AUTOFXDT
2	Data Bit 0	15	ERROR
3	Data Bit 1	16	INIT
4	Data Bit 2	17	SLCTIN
5	Data Bit 3	18	GND
6	Data Bit 4	19	GND
7	Data Bit 5	20	GND
8	Data Bit 6	21	GND
9	Data Bit 7	22	GND
10	ACK	23	GND
11	BUSY	24	GND
12	PE	25	GND
13	SLCT		

CPU Keyboard and Mouse
(8–Pin Mini–Din)

PIN	SIGNAL	PIN	SIGNAL
1	GND	5	TxD (Keyboard)
2	GND	6	RxD (Keyboard)
3	VCC	7	TxD (Mouse) *
4	RXD (Mouse)	8	VCC

* Can be configured as transmit on the 501–1316 (4/330) and 501–1401 (3/80) CPUs.

CPU Keyboard and Mouse
(15–Pin D–Sub, Female)

PIN	SIGNAL	PIN	SIGNAL
1	RxD (Keyboard)	8	GND
2	GND	9	GND
3	TxD (Keyboard)	10	VCC
4	GND	11	VCC
5	RxD (Mouse)	12	VCC
6	GND	14	VCC
7	TxD (Mouse)	15	VCC

Color FB Video/Keyboard/Mouse (386i)
(DB21W4)

PIN	SIGNAL	PIN	SIGNAL
1	TxD (Mouse)	14	GND
3	RxD (Keyboard	A1	Red
8	TxDB	A2	Green
10	GND	A3	Blue
12	GND	A4	C sync

Black and White FB Video/Keyboard/Mouse (386i)
(DB 15–Pin, Male)

PIN	SIGNAL	PIN	SIGNAL
1	TxD (Mouse)	9	GND
2	RxD (KyBd)	10	GND
3	TxD (KyBd)	11	GND
4	Vcc (KyBd)	12	Vcc (KyBd)
5	V sync	13	GND
6	H sync	14	GND
7	V out	15	V out
8	TxDB		

CPU Audio Port (4/60) (8–Pin Mini Din)

PIN	SIGNAL	PIN	SIGNAL
1	L In–1 (ISDN)	5	L Out–2 (ISDN)
2	L In–2 (ISDN)	6	S In
3	S In–2	7	Shield
4	L Out–1 (ISDN)	8	Ser–2

Ethernet (15–Pin D–Sub, Female)

PIN	SIGNAL	PIN	SIGNAL
2	E.COL+	9	E.COL–
3	E.TXD+	10	E.TXD–
5	E.RXD+	12	E.RXD–
6	GND	13	+12vdc
7	+5vdc*		

* Not used, jumper selectable on some boards

ALM–1 RS232 Ports 0–15 (25–Pin D–Sub, Female)

PIN	SIGNAL	PIN	SIGNAL
1	FG	7	GND
2	TxD	8	DCD
3	RxD	15	TxC
4	RTS	7	RxC
5	CTS	20	DTR
6	DSR		

ALM–2 RS232 Port 4–15 (25–Pin D–Sub, Female)

PIN	SIGNAL	PIN	SIGNAL
2	TxD	8	DCD
3	RxD	20	DTR
7	GND		

ALM–2 RS–232/RS–423 Ports 0–3 and MCP RS–232/RS–423 Port 2

(25–Pin D–Sub, Female)

PIN	SIGNAL	PIN	SIGNAL
2	TxD	8	DCD
3	RxD	15	TxC
4	RTS	17	RxC
5	CTS	20	DTR
6	DSR	24	TxCO
7	GND		

ALM–2 Parallel Port (37–Pin D– Sub, Female)

PIN	SIGNAL	PIN	SIGNAL
1	SREB	12	PE
2	Data Bit 0	12	SLCT
3	Data Bit 1	18	GND
4	Data Bit 2	9	GND
5	Data Bit 3	20	GND
6	Data Bit 4	21	GND
7	Data Bit 5	22	GND
8	Data Bit 6	23	GND
9	Data Bit 7	24	GND
10	ACK		

MCP RS–449 Port 0 & 1 (37–Pin D–Sub, Female)

PIN	SIGNAL	PIN	SIGNAL
4	SD–	22	SD+
5	ST–	23	ST+
6	RD–	24	RD+
7	RS–	25	RS+
8	RT–	26	RT+
9	CS–	27	CS+
11	DM–	29	DM+
12	TR–	30	TR+
13	RR–	31	RR+
17	TT–	35	TT+
19	GND		

SCP RS449 Ports 0 & 2 (37–Pin D–Sub, Female)

PIN	SIGNAL	PIN	SIGNAL
1	Shield	20	RC
3	TT–	21	TT+
4	SD–	22	SD+
5	ST–	23	ST+
6	RD–	24	RD+
7	RS–	25	RS+
8	RT–	26	RT+
9	CS–	27	CS+
11	DM–	29	DM+
12	TR–	30	TR+
13	RR–	31	RR+
17	TT–	35	TT+
19	SG	37	SC

SCP RS232 Ports 1 & 3 (25–Pin D–Sub, Male)

PIN	SIGNAL	PIN	SIGNAL
1	FG	8	DCD
2	TxD	15	TxD
3	RxD	17	RxD
4	RTS	29	DTR
5	CTS	24	TXC
6	DSR	25	+5vdc
7	GND		

HSI RS449/RS422 Port A & B (37–Pin D–Sub, Female)

PIN	SIGNAL	PIN	SIGNAL
4	SD–	22	SD+
5	ST–	23	ST+
6	RD–	24	RD+
7	RS–	25	RS+
8	RT–	26	RT+
9	CS–	27	CS+
11	DM–	29	DM+
12	TR–	30	TR+
13	RR–	31	RR+
17	TT–	35	TT+
19	SG	37	SG

HSI V.35 Port A & B (25–Pin D–Sub, Female)

PIN	SIGNAL	PIN	SIGNAL
2	SG	11	DSR
3	TXD+	15	TXD–
4	RXD+	16	RXD–
5	TT+	17	TT–
6	TXC+	18	TXC–
7	RXC+	19	RXC–
9	RTS	20	CTS
10	DCD	21	DTR
11	DSR		

SCSI Connector Pinouts

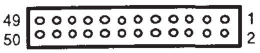
SCSI SIGNAL	DD–50P	MINI MICRO	DD–50SA
–DB(0)	2	26	34
–DB(1)	4	27	2
–DB(2)	6	28	19
–DB(3)	8	29	36
–DB(4)	10	30	4
–DB(5)	12	31	21
–DB(6)	14	32	38
–DB(7)	16	33	6
–DB(P)	18	34	23
GND	20	GND	40
GND	22	GND	8
GND	24	NC*	25
TERMPWR	26	38	42
GND	28	NC*	10
GND	30	GND	27
–ATN	32	41	44
GND	34	GND	12
BSY	36	43	29
–ACK	38	44	46
–RST	40	45	14
–MSG	42	46	31
–SEL	44	47	48
–C/D	46	48	16
–REQ	48	49	33
–I/O	50	50	50

SCSI SIGNAL	DD–50P	MINI MICRO	DD–50SA
GND	1	1	1
GND	3	2	18
GND	5	3	35
GND	7	4	3
GND	9	5	20
GND	11	6	37
GND	13	7	5
GND	15	8	22
GND	17	9	39
GND	19	10	7
GND	21	11	24
GND	23	NC	41
GND	25	NC	9
GND	27	NC	26
GND	29	15	43
GND	31	16	11
GND	33	17	28
GND	35	18	45
GND	37	19	13
GND	39	20	30
GND	41	21	47
GND	43	22	15
GND	45	23	32
GND	47	24	49
GND	49	25	17

*NC = Not connected

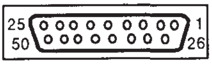
Connector Types

DD-50P



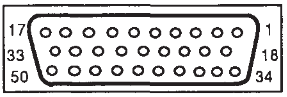
50-Pin, Male

Mini-Micro



50-Pin, Female

DD-50SA



50-Pin, Female

Operating Systems

The System Hardware and Operating System Dependency tables in this section are compiled by Software Information Services to illustrate support of hardware and software products by the Sun Operating System (SunOS) level in which the products were introduced. Key hardware features and software product support are shown in the left–hand column of each table. The Sun system and corresponding SunOS level(s) in which the product is supported are shown across the top of each table.

Support for the Sun–3/80 and Sun–3/400 series is introduced in this issue of the hardware and software release dependency tables. Because of the different kernel required by the Motorola 68030 architecture, support for these systems is shown under the “Sun3x” heading of the Sun–3 system family. Support for the new Sun–4 SPARCsystem 300 family and SPARCstation I are not included in this release.

Key	Translation
x	Available and supported in this SunOS release
BT	Requires extra boot tape

Operating Systems

System Hardware and Operating System Dependencies 3
  Unbundled Software Products 4
  Bundled Software Products 4
  Bug Fixes and Improvements 5
  SunLink Communications Software Products . 6
Disk Controller Base Addresses 7

System Hardware and Operating System Dependencies

FEATURE	Sun–4		Sun–3						Sun–2					386i
	Rel 4.0.3	Rel 4–3.2	Sun3x 4.0.3	Rel 4.0.3	Rel 3.5	Rel 3.4	Rel 3.3	Rel 3.2	Rel 4.0.3	Rel 3.5	Rel 3.4	Rel 3.3	Rel 3.2	Rel 4.0.1
System Hardware Architecture:														
Sun–2/xx									x	x	x	x	x	
Sun–3/60				x	x	BT								
Sun–3/E				x	x	BT								
Sun–3/50/75/100/200				x	x	x	x	x						
Sun–4/110 & Sun–4/2xx	x	x												
Sun–4/3xx	x													
Sun–3/80 & Sun–3/4xx			x											
System Hardware Features:														
ALM2	x	x	x	x	x									
32MB Memory Bd.	x		x											
900MB Disk	x	x	x	x	x									
327MB SCSI	x	x	x	x	x									
Double buffering	x		x	x	x				x	x				
Operating System Installation:														
Remote tape installation	x	x	x	x	x	x	x	x	x	x	x	x		
Diskless Sun–2 & Sun–3 installation on a Sun–3 Server			x	x	x	x	x	x	x	x	x	x		
Diskless Sun–3 & Sun–4 installation on a Sun–4 Server*	x	x	x	x										
Diskless Sun–2 , Sun–3 & Sun–4 installation on Sun–2**, Sun–3, Sun–4 Servers	x		x	x				x						
Sunupgrade from 4.0 to 4.0.3	x			x				x						

* Sun–4 servers running Sys4–3.2 can support Sun–3 clients running SunOS Release 3.5.

** Sun–2 servers strongly discouraged.

Bundled Software Products

FEATURE	Sun–4		Sun–3						Sun–2					386i
	Rel 4.0.3	Rel 4–3.2	Sun3x 4.0.3	Rel 4.0.3	Rel 3.5	Rel 3.4	Rel 3.3	Rel 3.2	Rel 4.0.3	Rel 3.5	Rel 3.4	Rel 3.3	Rel 3.2	Rel 4.0.1
FORTRAN–77					x	x	x*	x		x	x	x*	x	
pc (Pascal)					x	x	x*	x		x	x	x*	x	
SunView Rel. 1.0	x		x	x					x					
SunView Rel. 1.5												x		
SunView Rel. 1.7		x			x	x				x	x			
SunView Rel. 1.75	x			x					x					

* Uses the version for SunOS 3.2

Bug Fixes and Improvements

FEATURE	Sun–4		Sun–3					Sun–2					386i
	Rel 4.0	Rel 4–3.2	Rel 4.0	Rel 3.5	Rel 3.4	Rel 3.3	Rel 3.2	Rel 4.0	Rel 3.5	Rel 3.4	Rel 3.3	Rel 3.2	Rel 4.0
QIC–24 Distribution Media (Sun–3/Sun–4)	x	x	x										
SunPro make	x	x	x	x	x			x	x	x			
filemerge	x		x	x	x								
Subnets	x		x	x	x	x		x	x	x	x		
SCSI Disconnect/ Reconnect*	x		x	x	x	x		x	x	x	x		
SunOS Release 3.3 bug fixes	x		x	x	x	x	x	x	x	x			
SunOS Release 3.4 kernel bug fixes	x		x	x	x			x	x	x			
SunOS Release 3.4 SunView bug fixes	x	x	x	x	x			x	x	x			
SunOS Release 3.5 bug fixes	x		x	x				x	x				

* No SCSI–3 support on Sun–2 systems

Unbundled Software Products

FEATURE	Sun–4		Sun–3						Sun–2					386i
	Rel 4.0.3	Rel 4–3.2	Sun3x 4.0.3	Rel 4.0.3	Rel 3.5	Rel 3.4	Rel 3.3	Rel 3.2	Rel 4.0.3	Rel 3.5	Rel 3.4	Rel 3.3	Rel 3.2	Rel 4.0.1
NeWS Rel. 1.1	x	x	x	x	x	x	x	x	x	x	x	x		
NSE Rel. 1.0		x			x	x	x			x	x	x		
Cross–Compilers Rel. 2.0														
Sun–2 to Sun–3 or Sun–4										x	x	x	x	
Sun–3 to Sun–2 or Sun–4					x	x	x	x						
Sun–4 to Sun–2 or Sun–3		x												
Sun FORTRAN Rel. 1.0					x	x	x	x		x	x	x	x	
Sun FORTRAN Rel. 1.05		x												
Sun FORTRAN Rel. 1.1	x			x					x					
Sun FORTRAN Rel. 1.1R														x
Sun FORTRAN Rel. 1.2	x		x	x										
Sun Pascal Rel. 1.05		x												
Sun Pascal Rel. 1.1	x		x	x					x					x
SunINGRES Rel. 5.1	x			x	x	x	x	x	x	x	x	x	x	
SunUNIFY Rel. 3.0	x	x		x	x	x	x	x	x	x	x	x	x	x
SunSimplify Rel. 1.1	x	x		x	x	x	x	x	x	x	x	x	x	x
SunAlis Rel. 2.1					x	x	x	x		x	x	x	x	
SunGKS Rel. 2.2.1*	x		x	x	x	x	x	x	x	x	x	x	x	
Sun58TE Rel. 1.0	x		x	x										
SunPHIGS Rel. 1.0*	x		x	x	x				x	x				
Modula–2 Rel. 2.0					x	x	x	x		x	x	x	x	
Modula–2 Rel. 2.1	x		x	x										x
SunPaint Rel. 1.0**			x	x	x	x			x	x	x			
SunWrite Rel. 1.0**			x	x	x	x	x	x	x	x	x	x	x	
Sun Draw Rel. 1.0**			x	x	x	x	x	x	x	x	x	x	x	
PC–NFS Rel. 3.0		x			x	x	x	x						
PC–NFS Toolkit		x			x	x	x	x						
SunIPC Rel. 1.2	x		x		x	x	x	x		x	x	x	x	
Sun Common Lisp Rel.2.1	x	x		x	x	x	x	x	x	x	x	x	x	
Sun Common Lisp Rel. 3.0	x	x		x	x	x	x	x						
SPE 1.0 for SCLisp Rel. 2.1	x	x		x	x	x	x	x						
TranScript Rel 2.1	x		x	x	x	x	x	x		x	x	x	x	x
SunTrac Rel. 1.2	x		x	x	x	x	x	x	x	x	x	x	x	x
DosWindows Rel. 1.0	x		x	x					x					x
TAAC Rel. 2.3			x											
TAAC Rel. 2.3 Upgrade					x	x	x	x						

* Applications produce graphics only under Sunview (1) in Rel. 4.0.3. NeWS is not currently supported.

** These releases run under SunOS 4.0.3 in a “compatibility” mode.

SunLink Communications Software Products

FEATURE	Sun–4		Sun–3						Sun–2					386i
	Rel 4.0.3	Rel 4–3.2	Sun3x 4.0.3	Rel 4.0.3	Rel 3.5	Rel 3.4	Rel 3.3	Rel 3.2	Rel 4.0.3	Rel 3.5	Rel 3.4	Rel 3.3	Rel 3.2	Rel 4.0.1
IBM Connectivity Products:														
BSCRJE Rel. 5.0					x	x		x		x	x		x	
BSCRJE Rel. 6.0	x		x	x					x					
SCA Rel. 5.0					x	x		x						
SCA Rel 6.0	x			x										
Local 3270 Rel. 5.0					x	x		x		x	x		x	
Local 3270 Rel. 6.1	x			x										
SNA 3270 Rel. 5.0					x	x		x						
SNA 3270 Rel. 5.1		x												
SNA Peer–to–Peer Rel. 5.0					x	x		x						
SNA Peer–to–Peer Rel. 6.0	x		x	x					x					
SNA 3270 Rel. 6.1	x			x					x					x
CG3270 Rel. 6.1	x		x	x					x					
DEC Connectivity Products:														
DNI Release 5.0					x	x		x		x	x		x	
DNI Release 5.1		x												
TE100 Rel.4.0					x	x		x						
TE100 Rel.5.1		x												
TE100 Rel. 6.0	x		x	x					x					x
TE3278	x		x	x					x					
DNI Rel.6.0	x		x	x					x					x
Standards:														
DDN Rel 5.0					x	x		x		x	x		x	
OSI Rel.5.2					x	x		x		x	x		x	
MHS Rel. 5.2					x	x		x		x	x		x	
X.25 Rel. 5.1		x												
X.25 Rel. 5.2					x	x		x		x	x		x	
x.25 Rel. 6.0	x		x	x					x					x
Wide Area Networks:														
IR Rel. 5.0					x	x		x		x	x		x	
IR Rel. 6.0	x		x	x					x					x
MCP Rel. 5.0					x	x		x		x	x		x	
MCP Rel. 6.0	x		x*	x					x					

* Not supported on Sun–3/80

Disk Controller Base Addresses

Sun–2

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

Host Adapter	UNIX Device	Multibus Address		VMEbus Address	
		1st	2nd	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

SMD & ESMD Disk Drive Default Drive Type Parameters

Default Drive Type	DISK DRIVE MODEL		
0	M2351		
1	CDC–9720–368	Hitachi–DK815–10	M2312
2	M2322/M2284	NEC 02363	
3	M2333	M2361	

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

Diagnostics

This section contains general guidelines for using the diagnostics utilities available on Sun systems. Currently, there are five types of testing: 1) Self–Test Diagnostics, 2) Extended Diagnostics, 3) Sun386i Hardware Diagnostics, 4) Diagnostic Executive, and 5) NETDIAG.

Table of Contents

Self–Test Diagnostics 2
Extended Diagnostics 3
Sun386i Hardware Diagnostics 4
Diagnostic Executive. 5
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1.2 Diagnostic Executive Tape Table of Contents 12
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NETDIAG 18

Self–Test Diagnostic

The Self–Test diagnostic has two versions depending on whether the system is in the diag mode or not. To place a Sun–3 or a Sun–4 into diag mode, turn the “diag” switch on the back panel of the CPU board to the ON mode. Sun–2 systems and some Desktop Sun–3 and Sun–4 systems do not have this capability.

The jumper or NVRAM parameter changes required to put the Sun386i CPU board in diag mode or in by–pass mode are described in the CPU Configuration Section. By–pass mode allows you to skip most of the Self–Tests and get to the monitor prompt.

When the system is not in diag mode, the CPU runs through a basic set of tests and reports errors on the diagnostic LEDs on the board itself. The meanings of the failure patterns of these LEDs are not always consistent between machine types. Consult the appropriate Field Service manual and the Troubleshooting Section of this Handbook.

When the system is placed in diag mode, the tests are more extensive and include a complete memory check (which can be time consuming in machines with 8 or more megabytes of memory). When the system is in diag mode, Sun recommends connecting an ASCII terminal to port A to access additional information about Self–Test failures. Use full duplex, 9600 baud, XON/XOFF, 8bits/1 stop bit, and no parity with a null modem type cable.

Extended Diagnostics

The limited diagnostics built into the PROM on CPU boards in the Sun–3, Sun–4, and Sun386i product lines are designed to verify a working boot path so that more comprehensive diagnostics can be loaded. The Sun–2 product line does not include this feature.

To execute most of these tests, enter “x” in response to the boot PROM prompt:

```
>x
```

A menu displays the tests available for the machine being tested and the user is prompted to select a test for execution. To return to the PROM monitor, enter “q” to the Extended Diagnostics prompt.

Unfortunately, PROM space is a limited resource and some tests have been removed in newer boot PROM versions to make room for more boot and display device drivers. This change occurred approximately at the 2.8 boot PROM level, and deleted some memory, video and controller tests.

The boot path tests are no longer accessed through the Extended Diagnostics menu. They are executed directly from the boot PROM prompt using the command:

>b * *device*()

where device is the appropriate disk or tape device to be tested.

In the SPARCstation 1, (Sun–4/60), the prom monitor has changed considerably to take advantage of the FORTH programming language. Refer to the EPROM and NVRAM Information in the CPU section of Configurations for more information.

Sun386i Hardware Diagnostics

The Sun386i Hardware Diagnostics are a diagnostic tool for non–technical Sun386i users. These diagnostics are also called The Doctor.

The Hardware Diagnostics are an automated subset of the tests that the Exec can perform. These tests are used by Manufacturing, Field Engineers, and Customers to find a FRU level failure. Interaction with the Hardware Diagnostic is limited to the absolute minimum necessary for complete testing. When a problem is found, the diagnostic prints an error indication, reports the probable subsystem that needs help, and returns control to the PROM monitor.

To execute the Hardware Diagnostics, halt the system if it is running UNIX and install the Diagnostic diskette in the floppy drive. Recycle the system power. The floppy should become the default boot device and load the Diagnostic.

The system will now be sized to decide which tests to invoke by asking questions about anything it finds that conflicts with the configuration information stored in NVRAM. All the tests are then displayed with an indication of which tests will be executed.

Select the tests with the return key and toggle the Yes/No choice with the space key. When the last return is entered, the Diagnostic gives you one last chance to verify the configuration. The tests are then run to completion or until an error is encountered.

Diagnostic Executive

The Diagnostic Executive (Exec) is the latest release of diagnostics for Sun systems and replaces the previous series of Stand–alone Diagnostics. The Exec provides a more complete and consistent platform for running tests on individual hardware by allowing each test to be executed from a main menu. The Exec itself is essentially a multi–tasking operating system that is booted from the PROM monitor. This allows several different tests to be executed at once, more closely simulating a UNIX environment than can be done by stand–alone tests.

Due to the variety and complexity of the Exec formats, individual tests will not be discussed here. Refer to the Sun Diagnostic Executive User Manuals for complete descriptions of the Sun–2, Sun–3, and Sun–4 diagnostics. Refer to the Sun386i Field Service Manual for information on the 386i diagnostic executive.

The available Exec tape and document assembly part numbers are listed below.

1.0 Exec (obsolete, replaced by 1.1 Exec)

1.1 Exec (68010 and 68020)
1/4–inch Tape and Document Assembly, 790–2604
1/2–inch Tape and Document Assembly, 790–2605

1.2 Exec (SPARC)
1/4–inch Kit, Tape and Document Assembly, 790–3019
1/2–inch Kit, Tape and Document Assembly, 790–3020

1.2 Exec (68020 and 68030)
1/4–inch Kit, Tape and Document Assembly, 790–3017
1/2–inch Kit, Tape and Document Assembly, 790–3018

1.19 Sun386i Exec
1/4–inch Tape, Floppy, & Document Assy. 790–2763–01

1.26 Sun386i Exec
1/4–inch Tape, Floppy, & Document Assy, 790–2763–02

Diagnostic Executive (Continued)

Depending on the system, the Exec is loaded from the places listed below:

1) directly from tape for Sun–2, Sun–3, and Sun–4
2) from a local disk
3) from a server over the ethernet
4) from a floppy diskette for Sun386i

Tables of Contents for 1.0, 1.1, 1.2 Exec, and Sun386i are included at the end of this section as a reference.

Using the Exec

Since the Exec does not run under the UNIX environment, the system must be halted and running under control of the PROM monitor before attempting to load the Exec. Always power cycle or perform a K2 reset to ensure that memory is cleared before attempting to load the Exec.

To use any of the individual tests, load the Exec and call up the tests from the “Diagnostics” menu. In the following descriptions, replace the italicized words, *tape*, *net*, or *disk* with the appropriate device being accessed (as in ar, st, mt, or xt for *tape*, sd or xy for *disk*, and ec, ie, le, or gn for *net*).

Type boot instructions at the “greater than” (>) prompt.

To load and run the Exec from a local tape drive: enter:

>b *tape*(,,N)

where N is 0 for a Sun–2 architecture machine and 1 for a Sun–3 machine. This ensures that the correct boot block is loaded for the machine under test. Then supply the boot number for the Exec binary by entering:

Boot: *tape*(,,5)

Diagnostic Executive (Continued)

At this point, the Exec is loaded into memory and the menu is displayed. Please note that it takes some time to load each test because the tape drive must seek to the appropriate tape file and then load it.

To boot the Exec from a disk: From a local disk or from a file server in the case of a diskless client, boot the Exec by name from the monitor prompt. Enter:

```
>b /stand/exec
```

providing the Exec resides in /stand on the boot disk (or /pub/stand on a server running 3.X). Diskless booting of the Exec from a 4.0 server is supported in the 1.2 release. It is not supported in the 1.0 or 1.1 releases.

To load and run the Exec on a Sun386i: Insert the floppy diskette or 1/4” tape into the appropriate drive and power cycle the machine.

To boot the Exec from a server over the network:

When the machine under test is not a client of that server, enter:

```
>b net(,N)/stand/exec
```

where N is the hexadecimal form of the server's Internet host number. For this to work, yellow pages has to have the correct entry for the ethernet address of the booting machine in the ethers data base.

Diagnostic Executive (Continued)

To install the Exec on a local 3.X disk: First determine where the Exec will reside. The typical choice is /stand. On standalone systems, if there isn't enough disk space in the root partition, the files can be loaded on and booted from any partition with space. The entire suite of tests requires about 3MB. For installation other than /stand on a 3.X system, first install a boot block on the chosen partition.

For example, to use /usr/stand (/dev/*disk*0g), log in as super user and enter:

```
# cd /usr/mdec
# installboot bootdisk /dev/rdisk0g
# cp /boot /usr
```

Now go to the directory where the diags will be loaded, pull the extract_diags script from the tape and run it. Enter:

```
# cd /usr/stand
# mt –f /dev/nrtape0 rew
# mt –f /dev/nrtape0 fsf 3
# tar xvf /dev/nrtape0
# extract_exec tape0
```

To boot from a partition other than disk0a: Enter:

```
>b disk(,,N)stand/exec
```

where N corresponds to the disk partition where the Exec resides. In this case, N would equal 6 for partition g.

Diagnostic Executive (Continued)

To install the Exec on a local 4.X disk: It is not necessary to run installboot on a 4.0 stand–alone machine to make a partition other than “a” bootable. Use the procedure described above to extract the diags from the release tape but boot the Exec from the PROM monitor prompt as follows.

```
>b –a
 . . . . . . . . . . . . . . . . . . .
 . . . . . . . . . . . . . . . . . . .
root filesystem type ( 4.2 nfs ) : 4.2
root device (xy%d[a–h] sd%d[a–h] xd%d[a–h] ) : sd0g
```

At this point the main menu of the Exec and the message below is displayed.

```
Can't open file 'sd(0,0,0)diags'.
```

Change the “load” variable in the Environmental menu by entering the Environmental menu and typing the command:

```
load=sd(0,0,6)/stand/
```

At this point the Exec reads the diags file and any tests residing in /usr/stand are available for use under the Exec. This example can be altered to fit any pathname on any partition where there is room, with /home (sd0h) being a likely candidate on a 4.0 system.

Loopback cables and/or plugs are necessary for most serial port tests, so errors will occur if the proper connections don't exist. The loopback cables are described at the end of this section.

1.0 Diagnostic Executive Tape

Sun–2 and Sun–3

Table of Contents

NAME	FILE # (HEX)	DESCRIPTION
Sun–2 Boot Block	0	Load before booting Exec on Sun–2
Sun–3 Boot Block	1	Load before booting Exec on Sun–3
Table of Contents	2	Contains list of contents of tape
extract exec	3	Script to copy diagnostics to disk
Copyright	4	Textfile containing copyright notice
exec	5	The Diagnostic Executive, works with Sun–2s and Sun–3s
diags	6	Diagnostic Menu and File name (used by Exec)
color2.exec	7	Sun–2 Color Diagnostic
color3.exec	8	Sun–3 Color Diagnostic
cpu3.exec	9	Sun–3 CPU Diagnostic
ether.exec	A	Sun Ethernet Diagnostic
fpa3.exec	B	Sun–3 FPA Diagnostic
kb.exec	C	Sun Keyboard Diagnostic
mem.exec	D	Sun Memory Diagnostic
mouse.exec	E	Sun Mouse Diagnostic
scsi3.exec	F	Sun–3 SCSI Diagnostic
sky2.exec	10	Sun–2 SKY Diagnostic
smd.exec	11	Sun SMD Diagnostic
tape.exec	15	1/2” Tape Diagnostic
video3.exec	12	Sun–3 Video Diagnostic
vidmon.exec	13	Sun Video Monitor Diagnostic
vme3.exec	1A	Sun–3 VME Diagnostic
netcon	1B	Network Console Program
logfile	1C	Error Log File
tarfile	1F	tar archive of remaining tape contents and data source for extract_exec

1.1 Diagnostic Executive Tape

Sun–2 and Sun–3

Table of Contents

NAME	FILE # (HEX)	DESCRIPTION
Sun–2 Boot Block	0	Load before booting Exec on Sun–2
Sun–3 Boot Block	1	Load before booting Exec on Sun–3
Table of Contents	2	Contains list of contents of tape
extract exec	3	Script to copy diagnostics to disk
Copyright	4	Textfile containing copyright notice
exec	5	The Diagnostic Executive, works with Sun–2s and Sun–3s
diags	6	Diagnostic Menu and File name used by Exec
color2.exec	7	Sun–2 Color Diagnostic
color3.exec	8	Sun–3 Color Diagnostic
cpu.exec	9	Sun CPU Diagnostic
eeptool.exec	A	EEPROM programming tool
ether.exec	B	Sun Ethernet Diagnostic
exectest.exec	C	Exec Verification Suite
fpa.exec	D	Sun–3 FPA Diagnostic
gp1.exec	E	Graphics Processor Diagnostic
kb.exec	F	Sun Keyboard Diagnostic
mcp.exec	10	Sun ALM2/MCP Board Diagnostic
mem.exec	11	Sun Memory Diagnostic
mouse.exec	12	Sun Mouse Diagnostic
mti.exec	13	Sun MTI/ALM Board Diagnostic
scsisub.exec	14	Sun SCSI Diagnostic
sky2.exec	15	Sky 2 Diagnostic
smd.exec	16	Sun SMD Diagnostic
tape.exec	17	1/2” Tape Diagnostic
video.exec	18	Sun Video Diagnostic
vidmon.exec	19	Sun Video Monitor Diagnostic
vme3.exec	14	Sun–3 VME Diagnostic
netcon	17	Network ConsoleProgram
logfile	18	Error Log File
eccmem3.diag	1D	Standalone ECC memory diagnostic
cache3.diag	1E	Standalone cache memory diagnostic
tarfile	1A	tar archive of remaining tape contents and data source for extract exec
Copyright	19	Textfile containing copyright notice

1.2 Diagnostic Executive Tape

Sun–3

Table of Contents

NAME	FILE # (HEX)	DESCRIPTION
tpboot020	0	enables Sun–3 boot from tape
tpboot030	1	enables Sun–3/400 Series, Sun 3/80 boot from tape
toc	2	Contains list of contents of tape
extract–exec	3	Script to copy diagnostics to disk
Copyright	4	Texfile containing copyright notice
exec	5	SunDiag Exec for Sun–3 architecture
exec3x	6	SunDiag Exec for Sun3/400 Series and 3/80
diags	7	Diagnostic Menu and File names (used by Exec)
cg6.4exec	8	P4 Low–Eng Graphics Accelerator
cg8.4.exec	9	P4 24–Bit Frame Buffer Board Diagnostic
cg9.4.exec	10	VME 24–Bit Frame Buffer Board Diagnostic
color.exec	11	Generic VME Color Board Diagnostic
cpcache.exec	12	Sun–3/400 Series Cache Diagnostic
cpu4.exec	13	Sun CPU Diagnostic
eeptool.exec	14	EEPROM programming tool
espscsi.exec	15	ESP SCSI Diagnostic
ether2.exec	16	Sun Ethernet Diagnostic
ether2.exec	17	Ethernet II Diagnostic
exectest.exec	18	Exec Verification Suite
fdc.exec	19	On–Board Floppy Disk Controller Diagnostic
fddi.exec	20	FDDI Board Diagnostic
fpa.exec	21	Sun–3 Floating Point Accelerator Diagnostic
fpa–plug.exec	22	Sun–3/80 Floating Point AcceleratorPlus Diag
gp1.exec	23	Graphics Processor1/Graphics Buffer Diag
gp2.exec	24	Graphics Processor2 Diagnostic
hss.exec	25	High Speed Serial Board Diagnostic
iocache.exec	26	Sun–3/400 Series I/O Cache Diagnostic
ipi.exec	27	IPI Disk Subsystem Diagnostic
kb.exec	28	Sun Keyboard Diagnostic
mcp.exec	29	Sun ALM2/MCP Board Diagnostic
mem.exec	30	Sun Memory Diagnostic
mempar.exec	31	Sun 3/80 Parity Memory Diagnostic
mouse.exec	32	Sun Mouse Diagnostic
mti.exec	33	Sun MTI/ALM Board Diagnostic
scsisub.exec	34	SCSI Subsystem Diagnostic
smd.exec	35	Sun SMD Diagnostic

1.2 Diagnostic Executive Tape

Sun–4

Table of Contents

NAME	FILE # (HEX)	DESCRIPTION
tpboot.sun4	0	enables boot from tape
Copyright	1	Textfile containing copyright notice
toc	2	Contains list of contents of tape
extract–exec	3	Script to copy diagnostics to disk
Copyright	4	Texfile containing copyright notice
exec4	5	SunDiag Exec for Sun–4 architecture
diags4	6	Diagnostic Menu and File names (used by Exec)
cg6.4exec	7	P4 Low–Eng Graphics Accelerator
cg8.4.exec	8	P4 24–Bit Frame Buffer Board Diagnostic
cg9.4.exec	9	VME 24–Bit Frame Buffer Board Diagnostic
color4.exec	10	Generic VME Color Board Diagnostic
cpu4.exe	11	Sun CPU Board Diagnostic
eeptool4.exec	12	EEPROM programming tool
ether4.exec	13	Sun Ethernet Diagnostic
ether2.4.exec	14	Ethernet II Board Diagnostic
exectest.exec	15	Exec Verification Suite
fddi4.exec	16	FDDI Board Diagnostic
gp1.4.exec	18	Graphics Processor1/Graphics Buffer Diag
gp2.4.exec	19	Graphics Processor2 Diagnostic
hss4.exec	20	High Speed Serial Board Diagnostic
ipi4.exec	21	IPI Disk Subsystem Diagnostic
kb4.exec	22	Sun Keyboard Diagnostic
mcp4.exec	23	Sun ALM2/MCP Board Diagnostic
mem4.exec	24	Sun Memory Diagnostic
mouse4.exec	25	Sun Mouse Diagnostic
mti4.exec	26	Sun MTI/ALM Board Diagnostic
scsisub4.exec	27	Sun SCSI Subsystem Diagnostic
smd4.exec	28	Sun SMD Diagnostic
tape4.exec	29	Pertec 1/2–inch Tape Diagnostic
video4.exec	30	Sun Video Circuit Diagnostic
vidmon4.exec	31	Sun Video Monitor Diagnostic
vme4.exec	32	Sun VME Diagnostic
netcon4	33	Network Console Program
logfile	34	Error Log File
eccmem3.diag	35	Standalone ECC Memory Diagnostic
cache4.diag	36	Standalone Cache Memory Diagnostic

1.2 Diagnostic Executive (Continued)

NAME	FILE # (HEX)	DESCRIPTION
taac.exec	36	TAAC–1 Accelerator Diagnostic
tape.exec	37	Pertec 1/2–inch Tape Diagnostic
video.exec	38	Sun Video Diagnostic
vidmon.exec	39	Sun Video Monitor Diagnostic
vme3.exec	40	Sun VME Diagnostic
netcon	41	Network Console Program
logfile	42	Error Log File
eccmem3.diag	43	Standalone ECC Memory Diagnostic
cache3.diag	44	Standalone Cache Memory Diagnostic

1.19 Sun386i Diagnostic Executive Diskette

Sun386i

Table of Contents

NAME	DESCRIPTION
cpu	CPU Diagnostic Menu
flp	Floppy Diagnostic Menu
mem	Memory Diagnostic Menu
vid	Video Diagnostic Menu
Disk	Fixed Disk Diagnostic Menu
tape	Cartridge Tape Diagnostic Menu
eth	Ethernet Diagnostic Menu
fp	Floating–Point Diagnostic Menu
kb	Keyboard Diagnostic Menu
mou	Mouse Diagnostic Menu

Loopback Connectors

RS232

PART #	SYSTEM BOARDS	CONNECT PINS
540–1281–XX	CPU,SCSI,SCP,ALM	2–3 4–5 6–20
540–1558–XX	CPU, SCSI, ALM, ALM–2 SCP, MCP	2–3 4–5 6–8–20 17–24

RS449

PART #	SYSTEM BOARDS	CONNECT PINS
540–1559–XX	MCP, SCP	4–6 22–24 7–9 25–27 11–12–13 29–30–31 17–8 35–26
540–1309–XX	SCP	4–6 7–9 11–12 17–8 22–24 25–27 29–30 35–26

Parallel Port

PART #	SYSTEM BOARDS	CONNECT PINS
540–1560–XX	ALM–2	1–10 12–2–4–6–8 13–3–5–7–9
501–1196–XX	IPC, Sun386i/150/250	5–15 6–13 7–12 8–10 9–11

Loopback Connectors (Continued)

SCSI

PART #	SYSTEM BOARDS	CONNECT PINS
501–1344	Sun–3/50,Sun–3/60 Sun386i/150/250	38–16 36–14 44–12 32–10 48–8 42–6 46–4 50–2 40–18

Serial Port A

PART #	SYSTEM BOARDS	CONNECT PINS
501–1343–XX	Sun386i/150/250	2–3 4–5 6–7

Color Frame Buffer Keyboard/Mouse

PART #	SYSTEM BOARDS	CONNECT PINS
501–1341–XX	Sun386i/150/250	1–8 2–3

Monochrome Frame Buffer Keyboard/Mouse

PART #	SYSTEM BOARDS	CONNECT PINS
501–1342–XX	Sun386i/150/250	1–8 2–3

NETDIAG

The NETDIAG Network Diagnostic is a window–based tool that looks at Sun networks. It is primarily designed for use by System Administrators, but there may be situations when Field Engineers use NETDIAG to troubleshoot a network problem.

NETDIAG provides textual and graphic information about network members, connections, relationships, and activity. Unlike the Sun Diagnostic Executive system, NETDIAG runs under the SunOS operating system. The window–based user interface calls individual tests that invoke separate programs. The NETDIAG system also contains a complete on–line help facility.

The NETDIAG tape and documentation assembly part numbers are listed below.

1/4–inch Tape and Documents Assembly, 790–2705
- 1/4–inch Tape
- Read This First
- User's Manual

1/2–inch Tape and Documents Assembly, 790–2706
- 1/2–inch Tape
- Read This First
- User’s Manual

NETDIAG (Cont.)

NETDIAG Tape Contents

TAPE NO.	FILE
0	Copyright Notice
1	NETDIAG for MC68020–based systems (Sun–3)
2	NETDIAG for MC68010–based systems (Sun–2)

NETDIAG Basic Directory Contents

README	next.netdiag	size.netdiag
gateway.netdiag	ping.netdiag	track.netdiag
netdiag	proto.netdiag	wrap.netdiag
netdiag.advise	route.netdiag	*netdiag.remote–optional*
netdiag.help	rstat.netdiag	*netdiag.test–optional*

Parts Breakdowns

This section contains field replaceable unit (FRU) part numbers and descriptions for Sun Systems, Racks and Options. In addition, the Miscellaneous section provides hardware information and a listing of Sun hardware manuals.

Symbols and Abbreviations

The symbols used to describe part status are listed below.

★	Return Required. Whenever this part is replaced, return the failed part for repair.
¤→	Obsolete. These part numbers are no longer available.
Ⓐ▶	Alternate Part. These parts may be substituted for ordered parts when standard parts are not available in Logistic Centers. Field personnel should order the standard part only. If shortages occur, Logistics determines whether or not to ship alternates.
(Ref only)=	Reference only. These are top–level parts that serve as a reference for Sun Repair Center and Depot Center personnel. Field personnel should not order these parts and will not receive them if ordered.
FRU	Field Replaceable Unit
CRU	Customer Replaceable Unit
DRU	Depot Replaceable Unit
MSS	Mass Storage Subsystem
MSP	Mass Storage Pedestal
ESM	External Storage Module
EEM	External Expansion Module

Ilustrated Parts Breakdowns

NS	Not Shown indicates the part is not illustrated.
•	A dot before the part number indicates the part belongs to the higher assembly.

Class Codes

The first three digits of a Sun part number are the class code. Representative hardware class codes are listed below.

CLASS CODES	HARDWARE DESCRIPTION
270–xxxx–xx	Bare, unstuffed PCB FAB
300–xxxx–xx	Power Supply
330–xxxx–xx	Plastic part
340–xxxx–xx	Sheet metal part
370–xxxx–xx	Vendor purchased part
500–xxxx–xx	Stuffed, untested PCB
501–xxxx–xx	Stuffed, tested PCB
530–xxxx–xx	Cable
540–xxxx–xx	Assembly

Ordering Parts

Because parts data changes rapidly, inaccuracies in part number information may occur. Please verify part numbers with your local support group before ordering parts. While some sheet metal parts, such as covers, panels, and mounting brackets, are listed in the Parts Breakdowns, these parts are not considered FRUs.

Systems

MULTIBUS

Sun–2/100U 2
Sun–2/150U 5
Sun–2/120 8
Sun–2/170 12

VME

Sun–2/50 15
Sun–2/130 & 2/160 18
Sun–3/50 & 3/60 23
Sun–3/75 28
Sun–3/110 31
Sun–3/140 35
Sun–3/150 38
Sun–3/160/260 & 4/260 41
Sun–3/460 49
Sun–3/180/280 & 4/280 52
Sun–3/470 & 4/370 59
Sun–4/110/150 68
Sun–4/330 75
Sun–4/390 80

Sun386i

Sun386i/150/250 81

DESKTOP

Sun–3/80 84
Sun–4/60 88

Sun–2/100U System

Monitor/Keyboard/Mouse

17” Monochrome Monitor

540–1015 (Ref only)

- 530–0421, Internal AC Cable
- 530–1044, Internal Video Cable
- ★ 360–0484, Monitor

19” Color Monitor

★ 360–1002

- 180–1097, AC Power Cord
- 530–0492, External Cable (4 each)

13” Color Monitor (Barco)

★ 360–0595

- 180–1097, AC Power Cord
- 530–0492, External Cable (4 each)

VT–100 Keyboard

540–1014 (Ref only)

- ★ 320–0292, Keyboard PCB
- 530–1030, Keyboard Cable

Parallel Mouse & Pad

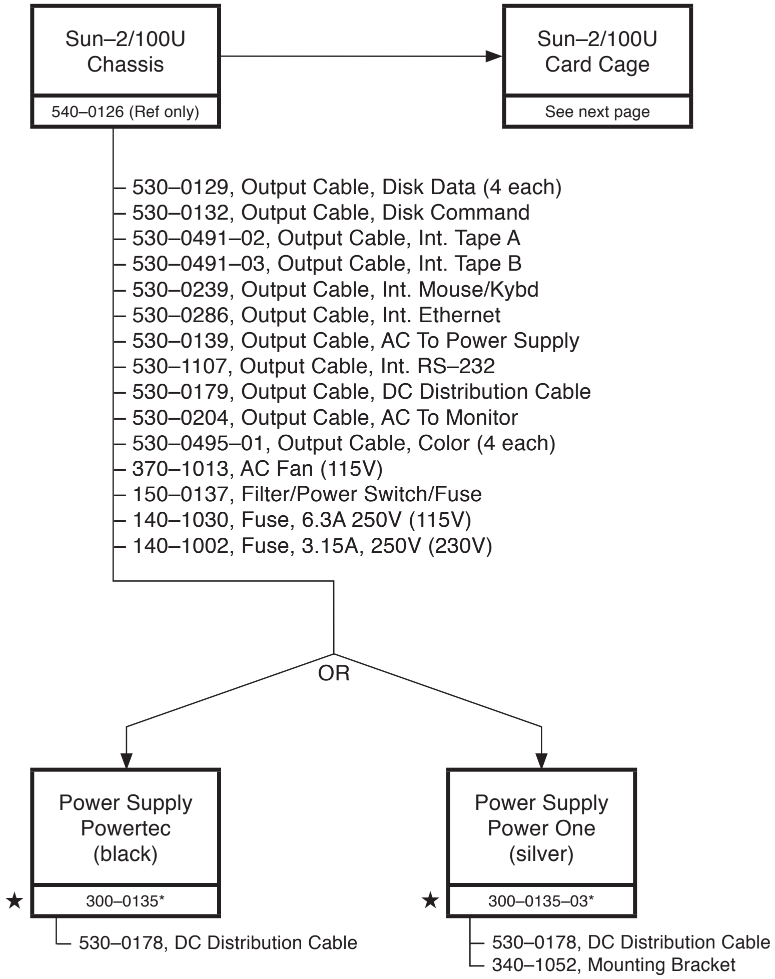
★ 550-0306

Klunker Keyboard

550–0111 ←¤

- 320–0112, Keyboard
- 530–0115, Cable

Sun–2/100U Chassis


Sun–2/100U Chassis
540–0126 (Ref only)
Sun–2/100U Card Cage
See next page
530–0129, Output Cable, Disk Data (4 each)
530–0132, Output Cable, Disk Command
530–0491–02, Output Cable, Int. Tape A
530–0491–03, Output Cable, Int. Tape B
530–0239, Output Cable, Int. Mouse/Kybd
530–0286, Output Cable, Int. Ethernet
530–0139, Output Cable, AC To Power Supply
530–1107, Output Cable, Int. RS–232
530–0179, Output Cable, DC Distribution Cable
530–0204, Output Cable, AC To Monitor
530–0495–01, Output Cable, Color (4 each)
370–1013, AC Fan (115V)
150–0137, Filter/Power Switch/Fuse
140–1030, Fuse, 6.3A 250V (115V)
140–1002, Fuse, 3.15A, 250V (230V)
OR
Power Supply Powertec (black)
★ 300–0135*
530–0178, DC Distribution Cable
Power Supply Power One (silver)
★ 300–0135–03*
530–0178, DC Distribution Cable
340–1052, Mounting Bracket

* When replacing power supply, ensure that the replacement is by the same manufacturer. These power supplies use different mounting hardware.

Sun–2/100U Card Cage

DESCRIPTION	PART NUMBER
Card Cage (Includes Backplane)	340–0332
Sun–1 CPU, (68000 uP Based)	★ 501–0001
Sun–2 CPU, Non–Prime (68010 uP Based)	★ 501–1007
Sun–1 Memory Expansion, 1MB (68000 CPU)	★ 501–0147
Sun–2 Memory Expansion, 1MB, Non–Prime	★ 501–1013
Sun–2 Memory Expansion, 4MB, Prime	★ 501–1232
Sun–1 Video Board	★ 501–0059
Sun–2 Color Board	★ 501–0461
Ethernet Board, 3Com	★ 370–0288
Xylogics 450 SMD Controller Board	★ 370–1012
Xylogics 440 SMD Controller Board	★ 370–1002 ←¤
Interphase 2180 SMD Controller Board	★ 370–0217 ←¤
Sun 1/4” Tape Controller Board	★ 501–0526
Tapemaster 1/2” Tape Controller Board (CDC, 1600 bpi)	★ 370–0502

Sun–2/150U Systems
Monitor/Keyboard/Mouse

17” Monochrome Monitor

540–1016 (Ref only)

- 180–1097, AC Power Cord
- 530–1041, External Video Cable
- 530–1002, B/W Video Cable – Philips
- 530–1003, Internal AC Harness
- ★ 360–0484, Monitor (FRU)

13” Color Monitor (Barco)

★ 360–0595

- 180–1097, AC Power Cord
- 530–0492, External Cable (4 each)

19” Color Monitor

★ 360–1002

- 180–1097, AC Power Cord
- 530–0492, External Cable (4 each)

VT–100 Keyboard

540–1014

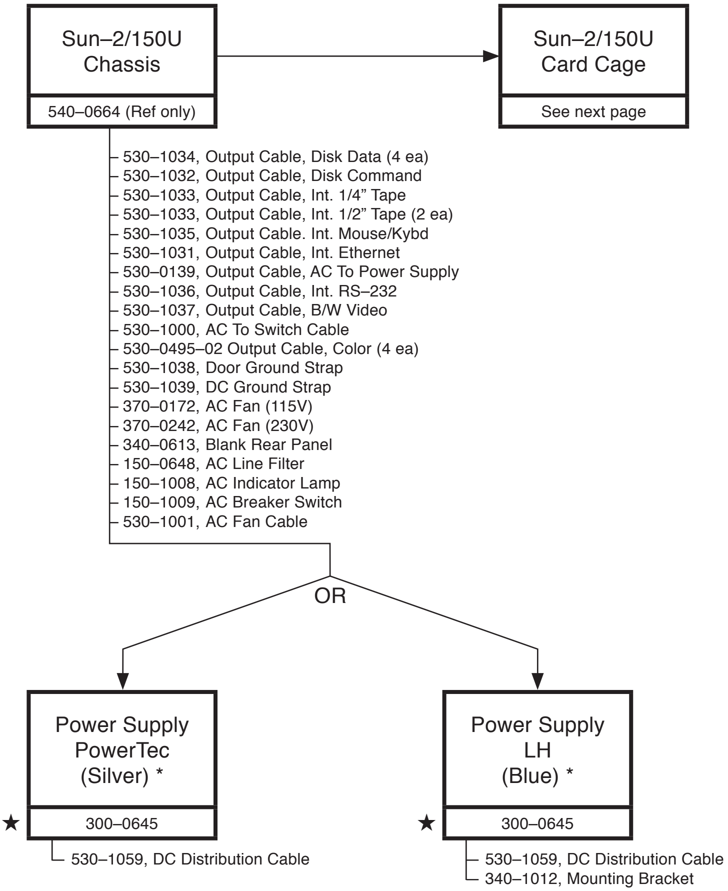
- ★ 320–0292, Keyboard PCB
- 530–1030, Keyboard Cable
- 530–1042, Kybd Extension Cable

Parallel Mouse & Pad

★ 550-0306

- 530–1040, Mouse Extension

Sun–2/150U Chassis


Sun–2/150U
Chassis
540–0664 (Ref only)
Sun–2/150U
Card Cage
See next page
530–1034, Output Cable, Disk Data (4 ea)
530–1032, Output Cable, Disk Command
530–1033, Output Cable, Int. 1/4” Tape
530–1033, Output Cable, Int. 1/2” Tape (2 ea)
530–1035, Output Cable. Int. Mouse/Kybd
530–1031, Output Cable, Int. Ethernet
530–0139, Output Cable, AC To Power Supply
530–1036, Output Cable, Int. RS–232
530–1037, Output Cable, B/W Video
530–1000, AC To Switch Cable
530–0495–02 Output Cable, Color (4 ea)
530–1038, Door Ground Strap
530–1039, DC Ground Strap
370–0172, AC Fan (115V)
370–0242, AC Fan (230V)
340–0613, Blank Rear Panel
150–0648, AC Line Filter
150–1008, AC Indicator Lamp
150–1009, AC Breaker Switch
530–1001, AC Fan Cable
OR
Power Supply
PowerTec
(Silver) *
★ 300–0645
530–1059, DC Distribution Cable
Power Supply
LH
(Blue) *
★ 300–0645
530–1059, DC Distribution Cable
340–1012, Mounting Bracket

* These power supplies are not interchangeable; they require different mounting hardware.

Sun–2/150U Card Cage

DESCRIPTION	PART NUMBER
Card Cage (Includes Backplane)	340–0664
Sun–2 CPU, Non–Prime (68010 uP Based)	★ 501–1007
Sun–1 Memory Expansion, 1MB	★ 501–0147
Sun–2 Memory Expansion, 1MB, Non–Prime	★ 501–1013
Sun–2 Memory Expansion, 4MB, Prime	★ 501–1232
Sun–1 Video Board	★ 501–0059
Sun–2 Color Board	★ 501–0461
3Com Ethernet Board	★ 370–0288
Xylogics 450 SMD Controller Board	★ 370–1012
Xylogics 440 SMD Controller Board	★ 370–1002 ←¤
Interphase 2180 SMD Controller Board	★ 370–0217 ←¤
Sun 1/4” Tape Controller Board	★ 501–0526
Tapemaster 1/2” Tape Controller Board (CDC, 1600 bpi)	★ 370–0502

Sun–2/120 System
Monitor/Keyboard/Mouse

19” Mono. TTL Monitor

¤→ 540–1005

365–1037

- 180–1097, AC Power Cord (115V)
- 530–1125, External Video Cable

13” Color Monitor (Barco)

★ 360–0595

- 180–1097, AC Power Cord (115V)
- 530–0492, External Cable (4 each)

19” Mono. TTL Monitor w/OCLI

★ 540–1029

- 180–1097, AC Power Cord (115V)
- 530–1125, External Video Cable

19” Color Monitor

★ 360–1002

- 180–1097, AC Power Cord (115V)
- 530–0492, External Cable (4 each)

Sun–2 Keyboard

★ 540–1006

- 320–1000, Keyboard PCB
- 530–1069, Keyboard Cable

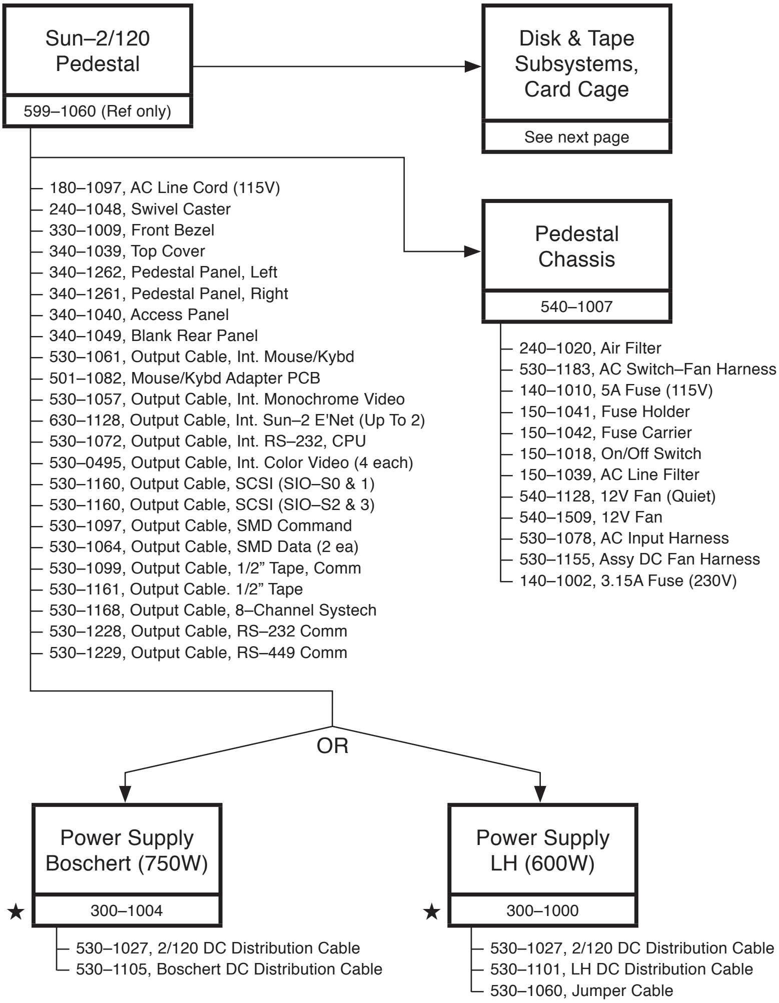
Serial Mouse & Pad

★ 550–1000 ←¤

★ 370–1090

- 130–1078, In–Line Coupler
- 530–1062, Mouse Extension Cable

Sun–2/120 Pedestal



Sun–2/120 Pedestal
599–1060 (Ref only)

- 180–1097, AC Line Cord (115V)
- 240–1048, Swivel Caster
- 330–1009, Front Bezel
- 340–1039, Top Cover
- 340–1262, Pedestal Panel, Left
- 340–1261, Pedestal Panel, Right
- 340–1040, Access Panel
- 340–1049, Blank Rear Panel
- 530–1061, Output Cable, Int. Mouse/Kybd
- 501–1082, Mouse/Kybd Adapter PCB
- 530–1057, Output Cable, Int. Monochrome Video
- 630–1128, Output Cable, Int. Sun–2 E'Net (Up To 2)
- 530–1072, Output Cable, Int. RS–232, CPU
- 530–0495, Output Cable, Int. Color Video (4 each)
- 530–1160, Output Cable, SCSI (SIO–S0 & 1)
- 530–1160, Output Cable, SCSI (SIO–S2 & 3)
- 530–1097, Output Cable, SMD Command
- 530–1064, Output Cable, SMD Data (2 ea)
- 530–1099, Output Cable, 1/2” Tape, Comm
- 530–1161, Output Cable. 1/2” Tape
- 530–1168, Output Cable, 8–Channel Systech
- 530–1228, Output Cable, RS–232 Comm
- 530–1229, Output Cable, RS–449 Comm

Disk & Tape Subsystems, Card Cage
See next page

Pedestal Chassis
540–1007

- 240–1020, Air Filter
- 530–1183, AC Switch–Fan Harness
- 140–1010, 5A Fuse (115V)
- 150–1041, Fuse Holder
- 150–1042, Fuse Carrier
- 150–1018, On/Off Switch
- 150–1039, AC Line Filter
- 540–1128, 12V Fan (Quiet)
- 540–1509, 12V Fan
- 530–1078, AC Input Harness
- 530–1155, Assy DC Fan Harness
- 140–1002, 3.15A Fuse (230V)

OR

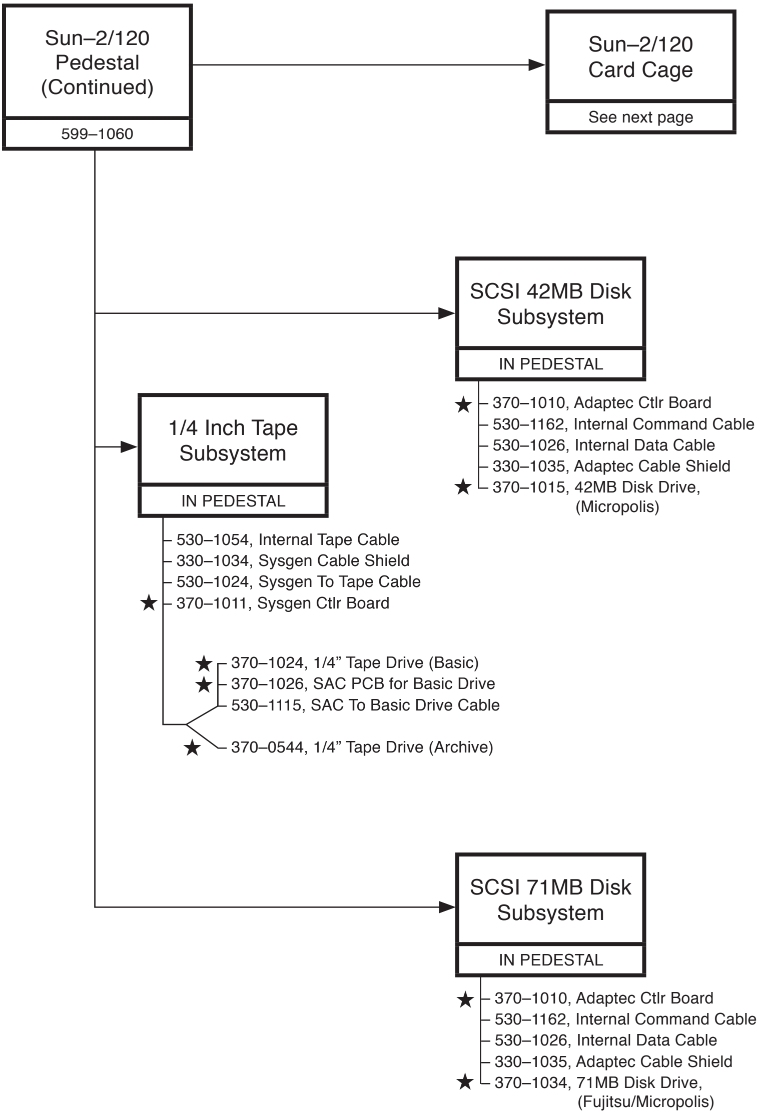
Power Supply Boschert (750W)
★ 300–1004

- 530–1027, 2/120 DC Distribution Cable
- 530–1105, Boschert DC Distribution Cable

Power Supply LH (600W)
★ 300–1000

- 530–1027, 2/120 DC Distribution Cable
- 530–1101, LH DC Distribution Cable
- 530–1060, Jumper Cable

Sun–2/120 Pedestal


Sun–2/120 Pedestal (Continued)
599–1060
Sun–2/120 Card Cage
See next page
SCSI 42MB Disk Subsystem
IN PEDESTAL
★ 370–1010, Adaptec Ctlr Board
530–1162, Internal Command Cable
530–1026, Internal Data Cable
330–1035, Adaptec Cable Shield
★ 370–1015, 42MB Disk Drive, (Micropolis)
1/4 Inch Tape Subsystem
IN PEDESTAL
530–1054, Internal Tape Cable
330–1034, Sysgen Cable Shield
530–1024, Sysgen To Tape Cable
★ 370–1011, Sysgen Ctlr Board
★ 370–1024, 1/4” Tape Drive (Basic)
★ 370–1026, SAC PCB for Basic Drive
530–1115, SAC To Basic Drive Cable
★ 370–0544, 1/4” Tape Drive (Archive)
SCSI 71MB Disk Subsystem
IN PEDESTAL
★ 370–1010, Adaptec Ctlr Board
530–1162, Internal Command Cable
530–1026, Internal Data Cable
330–1035, Adaptec Cable Shield
★ 370–1034, 71MB Disk Drive, (Fujitsu/Micropolis)

Sun–2/120 Card Cage

DESCRIPTION	PART NUMBER
Card Cage	540–1018 (Ref only)
Sun–2/120 Backplane, Prime	501–1049
Sun–2/120 Backplane, Non–Prime	501–1090 ←¤
Sun–2 CPU, Non–Prime	★ 501–1007
Sun–2 CPU, Prime	★ 501–1051
Sun–2 Color Board	★ 501–0461
Sun–2 Memory Expansion, 1MB, Non–Prime	★ 501–1013
Sun–2 Memory Expansion, 1MB, Prime	★ 501–1048
Sun–2 Memory Expansion, 4MB	★ 501–1232
Sun–2 Video Board, Non–Prime	★ 501–1003
Sun–2 Video Board, Prime	★ 501–1052
Ethernet Board (Up To 2) — Sun–2*	★ 501–1004
OR — 3Com*	★ 370–0288
Xylogics SMD Controller Board (Model 450)	★ 370–1012
Tapemaster 1/2” Tape Controller Board (CDC, 1600 bpi)	★ 370–0502
8–Channel Systech Communications Multiplexer (2 board set) †	★ 370–1039 (Set)
SCP Communications Processor Board	★ 370–1049
8–Channel Systech Communications Multiplexer (2 board set) †	★ 370–1098 (Set)
SCP Communications Processor Board	★ 370–1049
Sun–2 SCSI Board	★ 501–1006
Floating Point Processor (Sky FPP)	★ 370–1021

* Always replace an Ethernet board with a board by the same manufacturer.

† See Systech Cross–Reference Tables in the Communications sections of Configurations.

Sun–2/170 System

Monitor/Keyboard/Mouse

19” Mono. TTL Monitor

★ 540–1005
- 180–1097, AC Power Cord (115V)
- 530–1125, External Video Cable

13” Color Monitor (Barco)

★ 360–0595
- 180–1097, AC Power Cord (115V)
- 530–0492, External Cable (4 ea)

19” Mono. TTL Monitor w/OCLI

★ 540–1029
- 180–1097, AC Power Cord (115V)
- 530–1125, External Video Cable

19” Color Monitor

★ 360–1002
- 180–1097, AC Power Cord (115V)
- 530–0492, External Cable (4 ea)

Sun–2 Keyboard

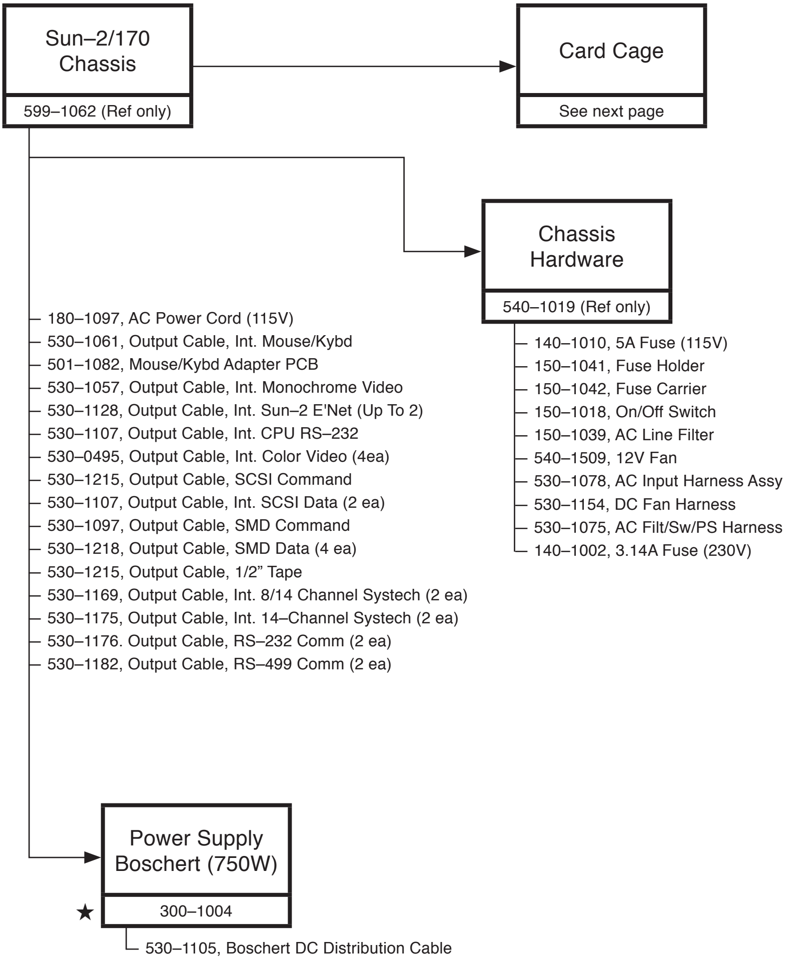
540–1006
- 320–1000, Keyboard PCB
- ★ 530–1069, Keyboard Cable

Serial Mouse & Pad

★ 550–1000 ←¤

★ 370–1090
- 130–1078, In–Line Coupler
- 530–1062, Mouse Extension Cable

Sun–2/170 Chassis


Sun–2/170 Chassis
599–1062 (Ref only)
Card Cage
See next page
Chassis Hardware
540–1019 (Ref only)
Power Supply Boschert (750W)
★ 300–1004

- 180–1097, AC Power Cord (115V)
- 530–1061, Output Cable, Int. Mouse/Kybd
- 501–1082, Mouse/Kybd Adapter PCB
- 530–1057, Output Cable, Int. Monochrome Video
- 530–1128, Output Cable, Int. Sun–2 E'Net (Up To 2)
- 530–1107, Output Cable, Int. CPU RS–232
- 530–0495, Output Cable, Int. Color Video (4ea)
- 530–1215, Output Cable, SCSI Command
- 530–1107, Output Cable, Int. SCSI Data (2 ea)
- 530–1097, Output Cable, SMD Command
- 530–1218, Output Cable, SMD Data (4 ea)
- 530–1215, Output Cable, 1/2” Tape
- 530–1169, Output Cable, Int. 8/14 Channel Systech (2 ea)
- 530–1175, Output Cable, Int. 14–Channel Systech (2 ea)
- 530–1176. Output Cable, RS–232 Comm (2 ea)
- 530–1182, Output Cable, RS–499 Comm (2 ea)

Chassis Hardware 540–1019 (Ref only):

- 140–1010, 5A Fuse (115V)
- 150–1041, Fuse Holder
- 150–1042, Fuse Carrier
- 150–1018, On/Off Switch
- 150–1039, AC Line Filter
- 540–1509, 12V Fan
- 530–1078, AC Input Harness Assy
- 530–1154, DC Fan Harness
- 530–1075, AC Filt/Sw/PS Harness
- 140–1002, 3.14A Fuse (230V)

Power Supply Boschert (750W) 300–1004:

- 530–1105, Boschert DC Distribution Cable

Sun–2/170 Card Cage Assembly

DESCRIPTION	PART NUMBER
Card Cage	540–1017 (Ref only)
Sun–2/170 Backplane, Prime	501–1150
└ Sun–2/170 Backplane, Non–Prime (Obs)	501–1050 ←¤
Sun–2 CPU, Non–Prime	★ 501–1007
Sun–2 CPU, Prime	★ 501–1051
Sun–2 Memory Expansion, 1MB, Non–Prime	★ 501–1013
Sun–2 Memory Expansion, 1MB, Prime	★ 501–1048
Sun–2 Memory Expansion, 4MB	★ 501–1232
Sun–2 Video Board, Non–Prime	★ 501–1003
Sun–2 Video Board, Prime	★ 501–1052
Sun–2 Color Board	★ 501–0461
Ethernet Board (Up To 2) — Sun–2*	★ 501–1004
OR 3Com*	★ 370–0288
Xylogics SMD Controller Board (Model 450)	★ 370–1012
Tapemaster 1/2” Tape Controller Board (CDC, 1600 bpi)	★ 370–0502
Xylogics 1/2” Tape Controller Board (Model 472) (6250 bpi)	★ 370–1067
SCP Communications Processor Board	★ 370–1049
14–Channel Systech Communications Multiplexer (2 board set) †	★ 370–1040 (Set)
14–Channel Systech Communications Multiplexer (2 board set) †	★ 370–1096 (Set)
Sun–2 SCSI Board	★ 501–1006
Floating Point Processor (Sky FPP)	★ 370–1021

* Always replace an Ethernet board with a board by the same manufacturer.

† See Systech Cross–Reference Tables in the Communications sections of Configurations.

Sun–2/50 System
Monitor/Keyboard/Mouse

19” Mono. ECL Monitor w/o OCLI

★ 540–1062

★ 540–1240 ◀Ⓐ

- 180–1097, AC Power Cord (115V)
- 180–1010, Monitor to Base Power Cable, Retractable
- 180–1017, Monitor to Base Power Cable
- 530–1109, Ext. Video Cable

Sun–2 Keyboard

★ 540–1006

- 320–1000, Keyboard PCB
- 530–1068, Ext Keyboard Cable (12 Ft)

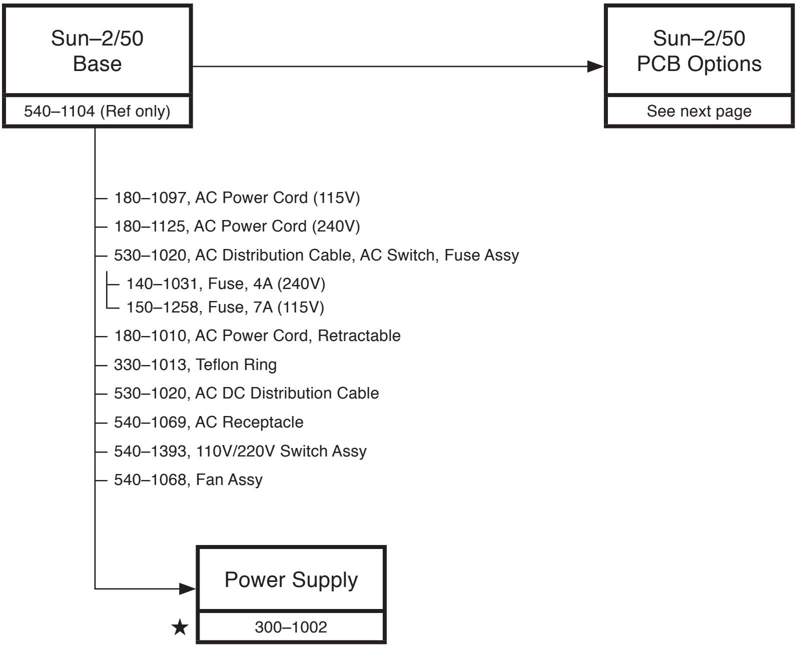
Serial Mouse & Pad

★ 370–1090

★ 550–1000 ←¤

- 130–1078, In–Line Coupler
- 530–1062, Mouse Extension Cable

Sun–2/50 Base Assembly



Sun–2/50
Base
540–1104 (Ref only)
Sun–2/50
PCB Options
See next page
Power Supply
★
300–1002

- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- 530–1020, AC Distribution Cable, AC Switch, Fuse Assy
  - 140–1031, Fuse, 4A (240V)
  - 150–1258, Fuse, 7A (115V)
- 180–1010, AC Power Cord, Retractable
- 330–1013, Teflon Ring
- 530–1020, AC DC Distribution Cable
- 540–1069, AC Receptacle
- 540–1393, 110V/220V Switch Assy
- 540–1068, Fan Assy

Sun–2/50 PCB Options

DESCRIPTION	PART NUMBER
Backplane, Sun–2/50	501–1042
2/50 CPU Board, 1MB	★ 501–1141
2/50 CPU Board, 1MB, (Obs)	★ 599–1182 ←¤
2/50 CPU Board, 1MB, (Obs)	★ 540–1101 ←¤
2/50 CPU Board, 1MB, (Obs)	★ 501–1005 ←¤
2/50 CPU Board, 2MB	★ 501–1142
2/50 CPU Board, 2MB, (Obs)	★ 599–1183 ←¤
2/50 CPU Board, 2MB, (Obs)	★ 599–1078 ←¤
2/50 CPU Board, 4MB	★ 501–1143
2/50 CPU Board, 4MB, (Obs)	★ 599–1184 ←¤
2/50 CPU Board, 4MB, (Obs)	★ 599–1076 ←¤
2/50 Memory Expansion Board, 1MB	★ 501–1020
2/50 Memory Expansion Board, 1MB, (Obs)	★ 599–1069 ←¤
2/50 Memory Expansion Board, 2MB	★ 501–1046
2/50 Memory Expansion Board, 2MB, (Obs)	★ 599–1067 ←¤
2/50 Memory Expansion Board, 3MB	★ 501–1067
2/50 Memory Expansion Board, 3MB, (Obs)	★ 599–1092 ←¤
2/50 Memory Expansion Board, 4MB	★ 501–1047
2/50 Memory Expansion Board, 4MB, (Obs)	★ 599–1068 ←¤
SCSI Disk Controller Board Mounted On VME Assy	★ 501–1147
├ SCSI Disk Controller Board, Sun–2 VME*	★ 501–1045
└ 2/50 Memory Expansion Board, Blank*	★ 501–1079
Sky Floating Point Processor Board Mounted On VME Assy	501–1148
├ Sky Floating Point Processor Board*	★ 370–1029
└ 2/50 Memory Expansion Board, Blank*	★ 501–1079

* When ordering replacement boards, order the individual boards and not the entire assembly.

Sun–2/130 & 2/160 Systems

Monitor–Keyboard–Mouse

19” Mono. ECL Monitor w/o OCLI

- ★ 365–1016 (115V)
- ★ 365–1014 (240V)
- ★ 540–1240
  - 180–1097, AC Power Cord (115V)
  - 180–1125, AC Power Cord (240V)
  - ¤→ 530–1133, replaced by 530–1336
  - 530–1336, Ext, Video Cable, 5M
  - 140–1022, Fuse, 1.6A (115V)
  - 150–1051, Fusecarrier (240V)
  - 140–1034, Fuse, 2A (240V)

19” Greyscale Monitor

- ★ 365–1010 (115V)
- ★ 365–1009 (240V)
- ★ 540–1514
  - 180–1097, AC Power Cord (115V)
  - 180–1125, AC Power Cord (240V)
  - 530–1308, Ext. Video Cable, 5M
  - 140–1022, Fuse, 1.6A (115V)
  - 150–1051, Fusecarrier (240V)
  - 140–1034, Fuse, 2A (240V)

19” Mono. ECL Monitor w/OCLI

- ★ 540–1357
  - 180–1097, AC Power Cord (115V)
  - 180–1125, AC Power Cord (240V)
  - ¤→ 530–1133, replaced by 530–1336
  - 530–1336, Ext, Video Cable, 5M
  - 140–1022, Fuse, 1.6A (115V)
  - 150–1051, Fusecarrier (240V)
  - 140–1034, Fuse, 2A (240V)

19” Color Monitor

- ★ 365–1000 (115V)
- ★ 365–1006 (240V)
- ★ 540–1094 ◀Ⓐ
  - 180–1097, AC Power Cord (115V)
  - 180–1125, AC Power Cord (240V)
  - 530–1307, Ext. Video Cable, 5M
  - 530–1138, Ext Video Cable (Old Style)
  - 140–1022, Fuse, 1.6A (115V)
  - 150–1051, Fusecarrier (240V)
  - 140–1034, Fuse, 2A (240V)

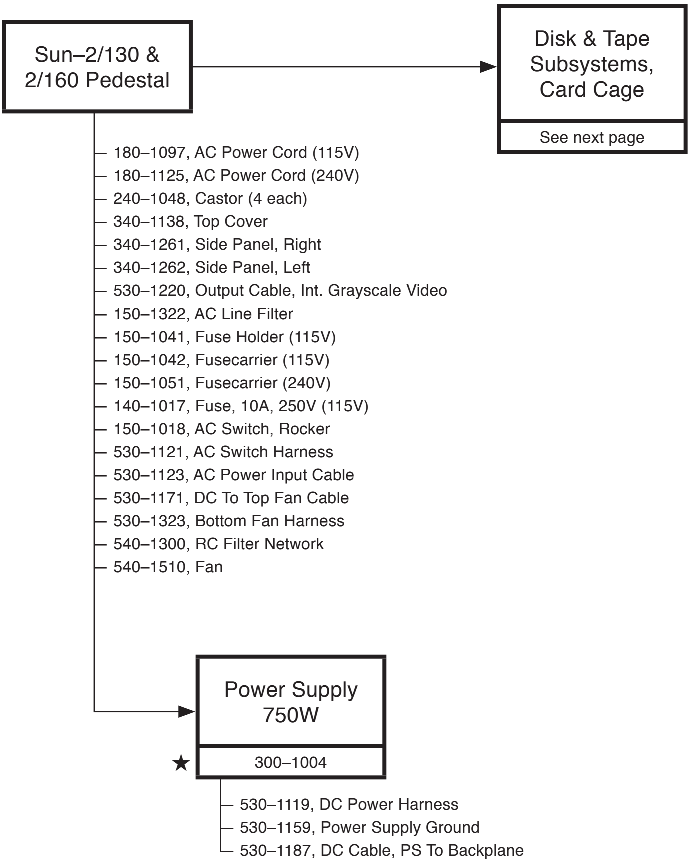
Serial Mouse & Pad

- ★ 370–1090
- ★ 550–1000 ←¤
  - 130–1078, Coupler
  - 530–1062, Extension Cable
  - 540–1107, Mouse House

Sun–2 Keyboard

- 540–1006 (FRU)
  - 530–1069, Keyboard Cable
  - ★ 320–1000, Keyboard PCB, Microswitch

Sun–2/130 & 2/160 Pedestals



Sun–2/130 & 2/160 Pedestal

- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- 240–1048, Castor (4 each)
- 340–1138, Top Cover
- 340–1261, Side Panel, Right
- 340–1262, Side Panel, Left
- 530–1220, Output Cable, Int. Grayscale Video
- 150–1322, AC Line Filter
- 150–1041, Fuse Holder (115V)
- 150–1042, Fusecarrier (115V)
- 150–1051, Fusecarrier (240V)
- 140–1017, Fuse, 10A, 250V (115V)
- 150–1018, AC Switch, Rocker
- 530–1121, AC Switch Harness
- 530–1123, AC Power Input Cable
- 530–1171, DC To Top Fan Cable
- 530–1323, Bottom Fan Harness
- 540–1300, RC Filter Network
- 540–1510, Fan

Disk & Tape Subsystems, Card Cage

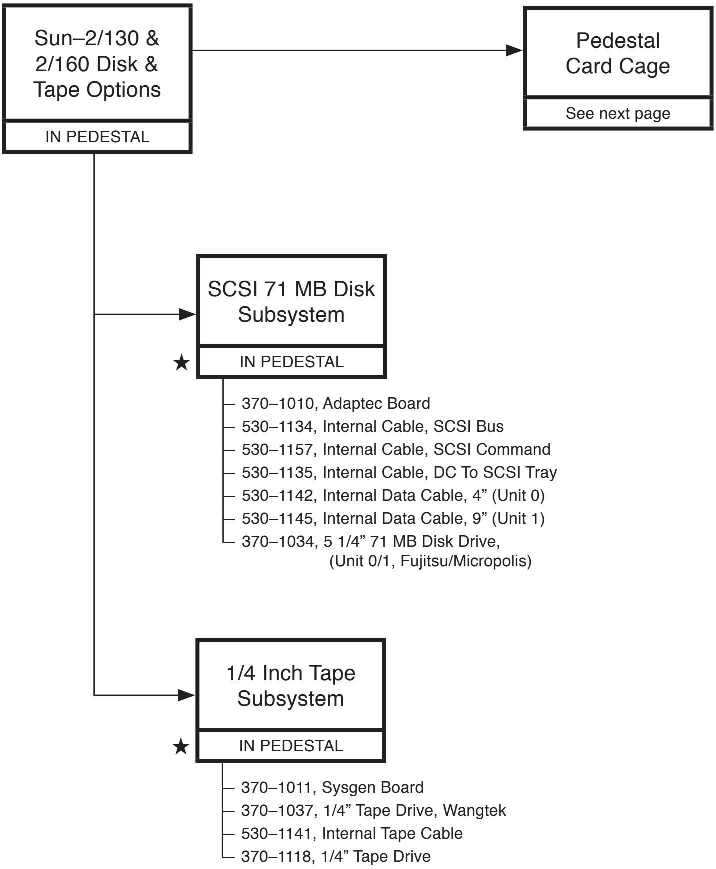
See next page

Power Supply 750W

★ 300–1004

- 530–1119, DC Power Harness
- 530–1159, Power Supply Ground
- 530–1187, DC Cable, PS To Backplane

Sun–2/130 & 2/160 Tape & Disk Options



- **Sun–2/130 & 2/160 Disk & Tape Options** — IN PEDESTAL
  - **Pedestal Card Cage** — See next page
  - ★ **SCSI 71 MB Disk Subsystem** — IN PEDESTAL
    - 370–1010, Adaptec Board
    - 530–1134, Internal Cable, SCSI Bus
    - 530–1157, Internal Cable, SCSI Command
    - 530–1135, Internal Cable, DC To SCSI Tray
    - 530–1142, Internal Data Cable, 4” (Unit 0)
    - 530–1145, Internal Data Cable, 9” (Unit 1)
    - 370–1034, 5 1/4” 71 MB Disk Drive, (Unit 0/1, Fujitsu/Micropolis)
  - ★ **1/4 Inch Tape Subsystem** — IN PEDESTAL
    - 370–1011, Sysgen Board
    - 370–1037, 1/4” Tape Drive, Wangtek
    - 530–1141, Internal Tape Cable
    - 370–1118, 1/4” Tape Drive

Sun–2/130 & 2/160 Card Cage

DESCRIPTION	PART NUMBER
CARD CAGE	540–1017
Sun–2/130 & 2/160 Backplane	501–1085
Sun–2/130 & 2/160 CPU Board, 1MB	★ 501–1144
Sun–2/130 & 2/160 CPU Board, 1MB	★ 501–1168 ←¤
Sun–2/130 & 2/160 CPU Board, 1MB	★ 501–1125 ←¤
Sun–2/130 & 2/160 CPU Board, 2MB	★ 501–1145
Sun–2/130 & 2/160 CPU Board, 2MB	★ 501–1169 ←¤
Sun–2/130 & 2/160 CPU Board, 4MB	★ 501–1146
Sun–2/130 & 2/160 CPU Board, 4MB	★ 501–1170 ←¤
Sun–2/130 & 2/160 Memory Expansion Board, 1MB	★ 501–1070
Sun–2/130 & 2/160 Memory Expansion Board, 1MB	★ 501–1115 ←¤
Sun–2/130 & 2/160 Memory Expansion Board, 1MB	★ 501–1113 ←¤
Sun–2/130 & 2/160 Memory Expansion Board, 2MB	★ 501–1096
Sun–2/130 & 2/160 Memory Expansion Board, 2MB	★ 501–1163 ←¤
Sun–2/130 & 2/160 Memory Expansion Board, 3MB	★ 501–1071
Sun–2/130 & 2/160 Memory Expansion Board, 3MB	★ 501–1116 ←¤
Sun–2/130 & 2/160 Memory Expansion Board, 3MB	★ 501–1114 ←¤
Sun–2/130 & 2/160 Memory Expansion Board, 4MB	★ 501–1097
Sun–2/130 & 2/160 Memory Expansion Board, 4MB	★ 501–1164 ←¤
Sun–2 VME Color Board	★ 501–1014
Sun–3 VME Color Board	★ 501–1116 ◀Ⓐ
Graphics Processor (GP)	★ 501–1055
Graphics Buffer (GB)	★ 501–1058
Xylogics 450 SMD Disk Option *	★ 501–1154
├─ VME To Multibus Adapter Board	★ 501–1054
├─ Xylogics 450 Controller Board	★ 370–1012
├─ Output Cable, SMD Disk Data	530–1147
└─ Output Cable, SMD Disk Command	530–1148
Tapemaster 1/2–Inch Tape Option (1600 bpi Drive) *	★ 501–1156
├─ VME To Multibus Adapter Board	★ 501–1187
├─ Tapemaster Controller Board	★ 370–0502
└─ Output Cable, Int. 1/2" Tape, 1600/6250 bpi (2 ea)	★ 530–1165
Xylogics 472 1 /2–Inch Tape Option (6250 bpi Drive) *	★ 501–1155
├─ VME To Multibus Adapter Board	★ 501–1187
├─ Xylogics 472 Tape Controller Board	★ 370–1067
└─ Output Cable, Int. 1/2" Tape, 1600/6250 bpi (2 ea)	530–1165

Sun–2/130 & 2/160 Card Cage Options

DESCRIPTION	PART NUMBER
VME To Eurocard Adapter (3X2) Assembly	★ 501–1059
VME To Eurocard Adapter (3X2) Assembly	★ 540–1108 ←¤
VME To Multibus Adapter Assembly	★ 501–1054
VME To Multibus Adapter Assembly	★ 540–1250 ←¤
2nd Ethernet Option *	★ 501–1153
├ VME To Multibus Adapter Board	★ 501–1054
├ Sun–2 Ethernet Board	★ 501–1004
└ Output Cable, Int. Ethernet (2nd PCB)	530–1173
16–Channel VME ALM Communications Assembly †	★ 501–1157
├ Systech MTI 1600 ALM Board Set	370–1040 (Ref only)
OR Systech MTI 1650 ALM Board Set	370–1097 (Ref only)
├ Output Cable, ALM Controller	530–1251
├ Output Cable, ALM J2–J5 (4 ea)	530–1252
├ Output Cable, ALM 5–Conductor Power	530–1255
├ Loopback Test Plug, RS–232	540–1281
└ Loopback Test Plug, RS–232	540–1558
SCP & VSCP Option (SunLink) *	★ 501–1158
├ VME To Multibus Adapter Board	★ 501–1054
├ Systech SCP–8804	★ 370–1049
├ Output Cable, SCP RS–232 Long	530–1178
├ Output Cable, SCP RS–232 Short	530–1179
├ Output Cable, SCP RS–449 Long	530–1180
├ Output Cable, SCP RS–449 Short	530–1181
├ Loopback Test Plug, RS–232	540–1281
└ Loopback Test Plug, RS–449	540–1309
Sun–2 VME SCSI Option *	★ 501–1149
├ 3X2 Adapter Board	★ 501–1059
└ Sun–2 VME SCSI Board	★ 501–1045
Floating Point Option *	★ 501–1151
├ 3X2 Adapter Board	★ 501–1059
└ Sky Floating Point Processor Board	★ 370–1029
Filler Panel, 1–Slot	540–1443
Filler Panel, 2–Slot	340–1182 ←¤
Filter Panel, 3–Slot	340–1180 ←¤

* Always return the entire board set. Do not replace individual boards.

† See Systech Cross–Reference Tables in the Communication Section of Configurations.

Sun–3/50 & 3/60 Systems

Monitor

19” Mono. ECL Monitor w/o OCLI

* 3/60 & 3/50 Flat Top
† 3/50 Dimple Base

★	365–1016 *	(115V)
★	365–1014 *	(240V)
★	540–1062 w/o Base †	(115V/240V) ◀Ⓐ
★	540–1240 w Base †	(115V/240V)

- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- ¤→ 530–1133, replaced by 530–1336
- 530–1336, Video Cable, 5M
- 530–1359, Video Cable, 1.2M
- 140–1022, Fuse, 1.6A (115V)
- 150–1051, Fusecarrier (240V)
- 140–1034, Fuse, 2A (240V)

19” Greyscale Monitor

★	365–1010	(115V)
★	365–1009	(240V)
★	540–1514	(115V/240V)

- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- 530–1308, Ext. Video Cable, 5M
- 530–1363, Ext. Video Cable, 1.22M
- 140–1022, Fuse, 1.6A (115V)
- 150–1051, Fusecarrier (240V)
- 150–1215, Fuse, 2A (240V)

19” Mono. ECL Monitor w/OCLI

	365–1013	(115V)
	365–1011	(240V)
★	540–1358	(115V/240V) ◀Ⓐ
★	540–1357	(115V/240V)

- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- ¤→ 530–1133, replaced by 530–1336
- 530–1336, Video Cable, 5M
- 530–1359, Video Cable, 1.2M
- 140–1022, Fuse, 1.6A (115V)
- 150–1051, Fusecarrier (240V)
- 150–1215, Fuse, 2A (240V)

19” Color Monitor

	365–1006	(115V)
★	540–1094	(115/240V)
★	365–1000	(115V) ◀Ⓐ

- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- 530–1307, Ext. Video Cable, 5M
- 530–1362, Ext. Video Cable, 1.2M
- 140–1022, Fuse, 1.6A (115V)
- 150–1051, Fusecarrier (240V)
- 140–1034, Fuse, 2A (240V)

16” Color Monitor

	365–1020	(115V)
★	365–1022	(240V)

- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- 530–1362, Ext. Video Cable, 1.22M
- 530–1307, Ext. Video Cable, 5M

Sun–3/50 & 3/60 Systems

Keyboard and Mouse

Sun–3 Keyboard & Mouse

Sun–3 Keyboard w RJ11

- ★ 370–1095
- ★ 370–1063 ←¤

Sun–3 Mouse w RJ11 & Pad

- ★ 370–1091
- ★ 370–1058 ←¤

Sun–4 Mouse w RJ11 & Pad

- ★ 365–1042
  - ★ 370–1169, M4 200 CPI Mouse
  - ¤→ 370–1171, M4 200 CPI .062” Pad
  - 370–1215, M4 200 CPI .032” Pad

Type–4 Keyboard & Mouse

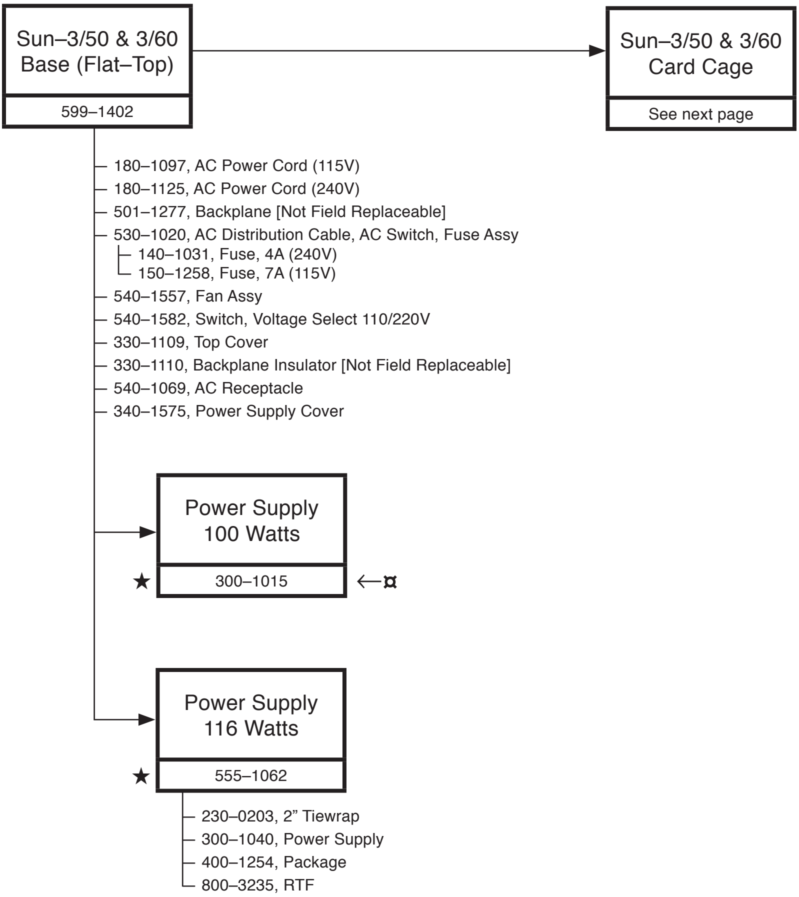
Type–4 Keyboard w Mini Din

- ★ 320–1005
  - 530–1442, 2.0M Mini Din – Mini Din
  - 530–1443, 4.6M Mini Din – Mini Din
  - 530–1478, 2.0M DB15 – Mini Din
  - 530–1479, 4.6M DB15 – Mini Din

Sun–4 Mouse w Mini Din & Pad

- ★ 370–1161
  - ★ 370–1170, M4 200 CPI Mouse
  - 370–1215, M4 200 CPI Pad
  - 580–1193, Package

Sun–3/50 & 3/60 (Flat–Top)



Sun–3/50 & 3/60 Base (Flat–Top) 599–1402 → **Sun–3/50 & 3/60 Card Cage** See next page

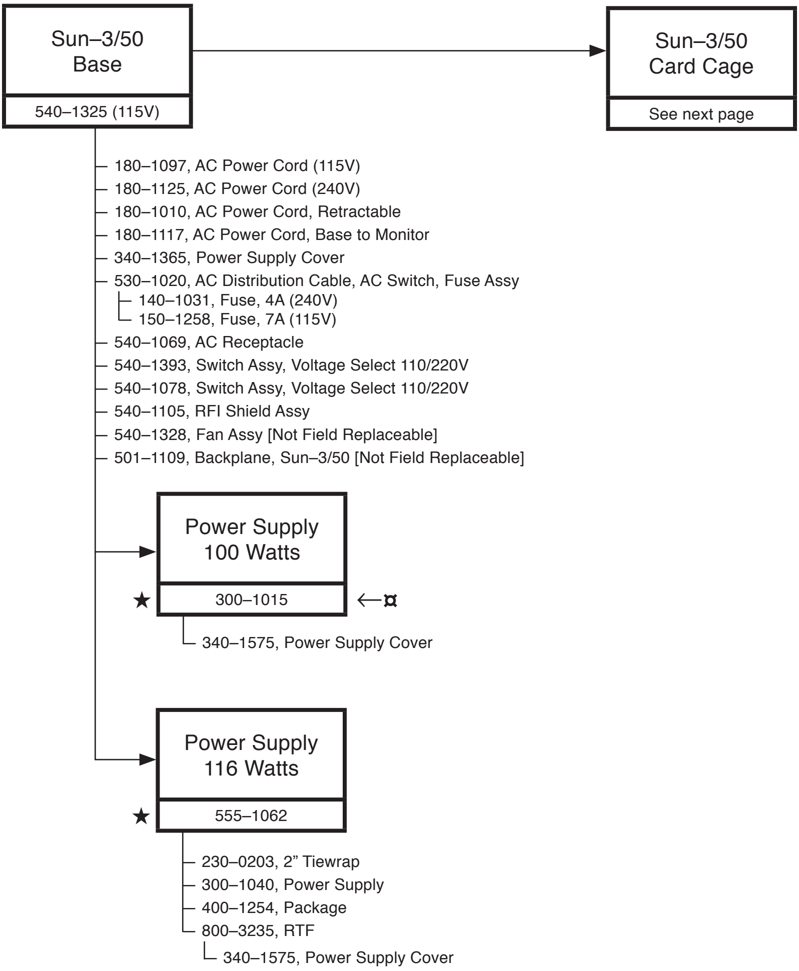
- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- 501–1277, Backplane [Not Field Replaceable]
- 530–1020, AC Distribution Cable, AC Switch, Fuse Assy
  - 140–1031, Fuse, 4A (240V)
  - 150–1258, Fuse, 7A (115V)
- 540–1557, Fan Assy
- 540–1582, Switch, Voltage Select 110/220V
- 330–1109, Top Cover
- 330–1110, Backplane Insulator [Not Field Replaceable]
- 540–1069, AC Receptacle
- 340–1575, Power Supply Cover

→ **Power Supply 100 Watts** ★ 300–1015 ←¤

→ **Power Supply 116 Watts** ★ 555–1062

- 230–0203, 2” Tiewrap
- 300–1040, Power Supply
- 400–1254, Package
- 800–3235, RTF

Sun–3/50 Base Assembly



Sun–3/50
Base
540–1325 (115V)
Sun–3/50
Card Cage
See next page
Power Supply
100 Watts
★ 300–1015 ←¤
Power Supply
116 Watts
★ 555–1062

Sun–3/50 Base — 540–1325 (115V)

- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- 180–1010, AC Power Cord, Retractable
- 180–1117, AC Power Cord, Base to Monitor
- 340–1365, Power Supply Cover
- 530–1020, AC Distribution Cable, AC Switch, Fuse Assy
  - 140–1031, Fuse, 4A (240V)
  - 150–1258, Fuse, 7A (115V)
- 540–1069, AC Receptacle
- 540–1393, Switch Assy, Voltage Select 110/220V
- 540–1078, Switch Assy, Voltage Select 110/220V
- 540–1105, RFI Shield Assy
- 540–1328, Fan Assy [Not Field Replaceable]
- 501–1109, Backplane, Sun–3/50 [Not Field Replaceable]

Sun–3/50 Card Cage — See next page

Power Supply 100 Watts — ★ 300–1015 ←¤

- 340–1575, Power Supply Cover

Power Supply 116 Watts — ★ 555–1062

- 230–0203, 2” Tiewrap
- 300–1040, Power Supply
- 400–1254, Package
- 800–3235, RTF
  - 340–1575, Power Supply Cover

Sun–3/50 Card Cage

DESCRIPTION	PART NUMBER
3/50 CPU Board, 2MB, w/o FPA	★ 501–1112 ←¤
3/50 CPU Board, 2MB, w/o FPA	★ 599–1220 ←¤
3/50 CPU Board, 4MB, w/o FPA	★ 501–1162
3/50 CPU Board, 4MB, w/o FPA	★ 599–1219 ←¤
3/50 CPU Board, 2MB, w/FPA	★ 599–1267 ←¤
3/50 CPU Board, 4MB, w/FPA	★ 501–1207
3/50 CPU Board, 4MB, w/FPA	★ 599–1268 ←¤
Loopback Test Plug, CPU SCSI Port	501–1344

Sun–3/60 Card Cage

3/60 CPU Board. 4MB, w /B & W Video	★ 501–1205
3/60 CPU Board, 4MB, w/o B & W Video	★ 501–1322
3/60 CPU Board, 0MB, w / B & W Video	★ 501–1334
3/60 CPU Board, 0MB, w/o B & W Video	★ 501–1345
Loopback Test Plug, CPU SCSI Port	501–1344
3/60 SIMM 1MB	★ 501–1239
3/60 Color Frame Buffer	★ 501–1210
P4 Monochrome Frame Buffer	★ 501–1247
P4 CG6 Color Frame Buffer {Lego}	★ 501–1374
P4 CG6 Color Frame Buffer {Lego}	★ 501–1532

Sun–3/75 System
Monitor–Keyboard–Mouse

19” Mono. ECL Monitor w/o OCLI

★ 365–1016 (115V)
★ 365–1014 (240V)
★ 540–1062
★ 540–1240 ◀Ⓐ

- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- 530–1242, Ext. Video Cable, 1M
- 530–1359, Ext. Video Cable, 1.2M
- 140–1022, 1.6A Fuse (115V)
- 150–1215, Fuse, 1.6A (240)
- 150–1051, Fusecarrier (240V)

19” Mono. ECL Monitor w/OCLI

★ 540–1358
★ 540–1357 ◀Ⓐ

- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- 530–1242, Ext. Video Cable, 1M
- 530–1359, Ext. Video Cable, 1.2M
- 140–1022, 1.6A Fuse (115V)
- 150–1215, Fuse, 1.6A (240)
- 150–1051, Fusecarrier (240V)

Sun–3 Keyboard & Mouse

Sun–3 Keyboard w RJ11

★ 370–1095
★ 370–1063 ←¤

Sun–3 Mouse w RJ11 & Pad

★ 370–1091
★ 370–1058 ←¤

Sun–4 Mouse w RJ11 & Pad

★ 365–1042

- ★ 370–1169, M4 200 CPI Mouse
- ¤→ 370–1171, M4 200 CPI .062” Pad
- 370–1215, M4 200 CPI .032” Pad

Type–4 Keyboard & Mouse

Type–4 Keyboard w Mini Din

★ 320–1005

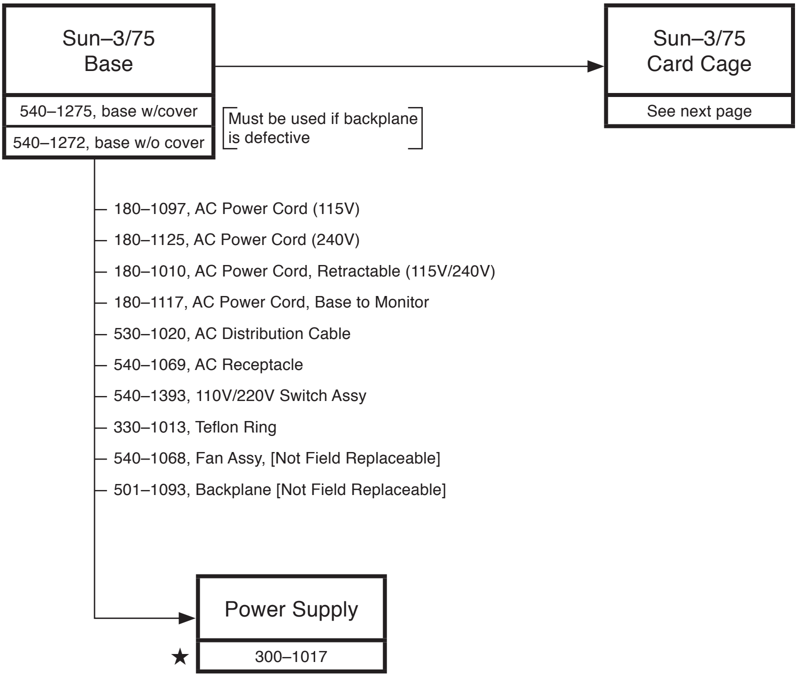
- 530–1442, 2.0M Mini Din – Mini Din
- 530–1443, 4.6M Mini Din – Mini Din
- 530–1478, 2.0M DB15 – Mini Din
- 530–1479, 4.6M DB15 – Mini Din

Sun–4 Mouse w Mini Din & Pad

★ 370–1161

- ★ 370–1170, M4 200 CPI Mouse
- 370–1215, M4 200 CPI Pad
- 580–1193, Package

Sun–3/75 Base Assembly



Sun–3/75 Base

540–1275, base w/cover

540–1272, base w/o cover

Must be used if backplane is defective

Sun–3/75 Card Cage

See next page

- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- 180–1010, AC Power Cord, Retractable (115V/240V)
- 180–1117, AC Power Cord, Base to Monitor
- 530–1020, AC Distribution Cable
- 540–1069, AC Receptacle
- 540–1393, 110V/220V Switch Assy
- 330–1013, Teflon Ring
- 540–1068, Fan Assy, [Not Field Replaceable]
- 501–1093, Backplane [Not Field Replaceable]

Power Supply

★ 300–1017

Sun–3/75 Card Cage Options

DESCRIPTION	PART NUMBER
3/75 CPU Board, 2MB, w/FPP, 12MHz	★ 501–1074 ←¤
3/75 CPU Board, 2MB, w/FPP, 12MHz	★ 599–1177 ←¤
3/75 CPU Board, 2MB, w/FPP, 12MHz	★ 501–1094 ←¤
3/75 CPU Board, 2MB, w/FPP, 12MHz	★ 599–1178 ←¤
3/75 CPU Board, 2MB, w/FPP, 16MHz	★ 501–1163 ←¤
3/75 CPU Board, 4MB, w/FPP, 16MHz	★ 501–1164
3/75 Memory Expansion Board, 2MB (Replaced by 501–1122)	★ 501–1111 ←¤
3/75 Memory Expansion Board, 2MB	★ 599–1240 ←¤
3/75 Memory Expansion Board, 4MB	★ 501–1122
3/75 Memory Expansion Board, 4MB	★ 599–1241 ←¤
Sun–2 VME SCSI Option, Assy †	★ 501–1172
Sun–2 VME SCSI Board †	★ 501–1045
3/75 Memory Expansion Board, Blank	★ 501–1121
3/75 Memory Expansion Board, Blank	★ 501–1121

† When ordering replacement boards, order the individual boards and not the entire assembly.

Sun–3/110

Monitor

15” Color Monitor

★ 360–1015

- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- 530–1307, Ext. Video Cable, 5M
- 530–1362, Ext. Video Cable, 1.2M

19” Greyscale Monitor

★ 365–1010 115V
★ 365–1009 240V
★ 540–1514

- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- 530–1308, Ext. Video Cable, 5M
- 530–1362, Ext. Video Cable, 1.2M
- 140–1022, Fuse, 1.6A (115V)
- 150–1051, Fusecarrier (240V)
- 140–1034, Fuse, 2A (240V)

19” Color Monitor

★ 540–1094
★ 365–1000 ◀Ⓐ

- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- 530–1307, Ext. Video Cable, 5M
- 530–1362, Ext. Video Cable, 1.2M
- 140–1022, Fuse, 1.6A (115V)
- 150–1051, Fusecarrier (240V)
- 140–1034, Fuse, 2A (240V)

Sun–3/110
Keyboard and Mouse

Sun–3 Keyboard & Mouse

Sun–3 Keyboard w RJ11

- ★ 370–1095
- ★ 370–1063 ←¤

Sun–3 Mouse w RJ11 & Pad

- ★ 370–1091
- ★ 370–1058 ←¤

Sun–4 Mouse w RJ11 & Pad

- ★ 365–1042
  - ★ 370–1169, M4 200 CPI Mouse
  - ¤→ 370–1171, M4 200 CPI .062” Pad
  - 370–1215, M4 200 CPI .032” Pad

Type–4 Keyboard & Mouse

Type–4 Keyboard w Mini Din

- ★ 320–1005
  - 530–1442, 2.0M Mini Din – Mini Din
  - 530–1443, 4.6M Mini Din – Mini Din
  - 530–1478, 2.0M DB15 – Mini Din
  - 530–1479, 4.6M DB15 – Mini Din

Sun–4 Mouse w Mini Din & Pad

- ★ 370–1161
  - ★ 370–1170, M4 200 CPI Mouse
  - 370–1215, M4 200 CPI Pad
  - 580–1193, Package

Sun–3/110 Base Assembly

Sun–3/110 Base → **Sun–3/110 Card Cage** (See next page)

- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- 180–1117, AC Power Cord, Base to Monitor
- 150–1042, Fuse Carrier (115V)
- 140–1019, Fuse, 15A (115V)
- 150–1051, Fuse Carrier (240V)
- 140–1030, Fuse, 6.3A (240V)
- 330–1067, Cover (2 ea, 42 CM X 11 CM)
- 330–1069, Bezel
- 330–1071, Side Panel (2 ea, 42 CM X 59 CM)
- 330–1144, Backplane Shield
- 340–1545, Air Filter Assy
- 330–1089, Screw Cover (8 ea)
- 540–1419, Fan Tray Assy
  - 501–1193, Fan PCB
  - 540–1455, Fan Assy (3 ea)

→ **Power Supply**

★ 300–1022

- 340–1451, Power Supply Cover
- ¤→ 370–1106, AC Module, replaced by 370–1178
- 370–1178, AC Module, (Switch, Fuse, Filter)

Sun–3/110 Card Cage

DESCRIPTION	PART NUMBER
CARD CAGE	540–1385
Sun 3–Slot Backplane	501–1127
Sun–3 CPU Board, 4MB, Color CPU {Prism}	★ 501–1134 ◀Ⓐ
Sun–3 CPU Board, 4MB, Color CPU {Prism}	★ 501–1209
Sun–3 Memory Expansion Board, 4MB	★ 501–1132
Sun–3 VME Color Board (Double Buffer)	★ 501–1089
Sun–3 VME Color Board 1K x 1K	★ 501–1319
SCP & VSCP Option (SunLink Assy)	★ 501–1158
├ VME To Multibus Adapter Board	★ 501–1054
├ SCP Board	★ 370–1049
├ Test Plug, RS–232	540–1281
├ Test Plug, RS–449	540–1309
├ Output Cable, SCP RS–232 Long	530–1178
├ Output Cable, SCP RS–232 Short	530–1179
├ Output Cable, SCP RS–449 Long	530–1180
└ Output Cable, SCP RS–449 Short	530–1181
ALM–2	★ 501–1203
├ Cable (x2)	530–1334
├ DCA Assembly	★ 540–1526
├ Wall Bracket	340–1587
├ Rack Bracket	340–1569
├ Loopback Test Plug, Printer Port	540–1560
└ Loopback Test Plug, RS232/RS423	540–1558
MCP	★ 501–1221
├ Loopback Test Plug, RS–232/RS–423	540–1560
└ Loopback Test Plug, RD–232/RS–423	540–1558
SunLink High–speed Serial Interface Board (HSI)	★ 501–1338
├ HSI to DSU Cable, V.35	530–1425
├ Loopback Plug, V.35	530–1426
└ Loopback Plug, RS–449/RS–422	530–1430
Sun–2 VME SCSI Option Assy	★ 501–1138
├ 3X2 Adapter Board, w/o P2A+C	★ 501–1220
└ Sun–2 VME SCSI Board	★ 501–1045
Sun–3 VME SCSI Assy	★ 501–1217
├ 3X2 Adapter Board, w/o P2A+C	★ 501–1220
└ Sun–3 VME SCSI Board	★ 501–1236
Floating Point Accelerator (FPA)	★ 501–1105
SunIPC w/80287	★ 501–1125
├ Printer Port Loopback Test Plug	501–1196
└ External I/O Cable	370–1125
SunIPC w/o 80287	★ 501–1214
├ Printer Port Loopback Test Plug	501–1196
└ External I/O Cable	370–1125
MAPKIT Assy	501–1202

Sun–3/140

Monitor–Keyboard–Mouse

19” Mono. ECL Monitor w/OCLI

- ★ 540–1358
- ★ 540–1357 ◀Ⓐ
  - 180–1097, AC Power Cord (115V)
  - 180–1125, AC Power Cord (240V)
  - ¤→ 530–1133, replaced by 530–1336
  - 530–1336, Video Cable, 5M
  - 530–1359, Video Cable, 1.2M
  - 140–1022, 1.6A Fuse (115V)
  - 150–1051, Fusecarrier (240V)
  - 140–1034, Fuse, 2A (240V)

19” Mono. ECL Monitor w/o OCLI

- ★ 365–1016 (240V)
- ★ 365–1014 (115V)
- ★ 540–1240
  - 180–1097, AC Power Cord (115V)
  - 180–1125, AC Power Cord (240V)
  - ¤→ 530–1133, replaced by 530–1336
  - 530–1336, Video Cable, 5M
  - 530–1359, Ext. Video Cable, 1.2M
  - 140–1022, 1.6A Fuse (115V)
  - 150–1051, Fusecarrier (240V)
  - 140–1034, Fuse, 2A (240V)

Sun–3 Keyboard & Mouse

Sun–3 Keyboard w RJ11

- ★ 370–1095
- ★ 370–1063 ←¤

Sun–3 Mouse w RJ11 & Pad

- ★ 370–1091
- ★ 370–1058 ←¤

Sun–4 Mouse w RJ11 & Pad

- ★ 365–1042
  - ★ 370–1169, M4 200 CPI Mouse
  - ¤→ 370–1171, M4 200 CPI .062” Pad
  - 370–1215, M4 200 CPI .032” Pad

Type–4 Keyboard & Mouse

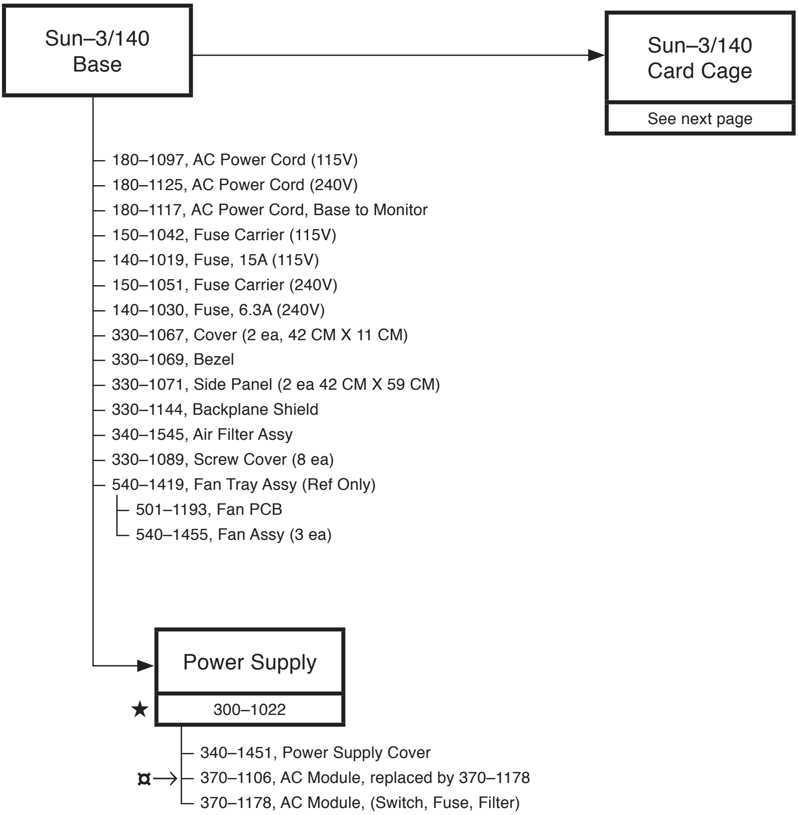
Type–4 Keyboard w Mini Din

- ★ 320–1005
  - 530–1442, 2.0M Mini Din – Mini Din
  - 530–1443, 4.6M Mini Din – Mini Din
  - 530–1478, 2.0M DB15 – Mini Din
  - 530–1479, 4.6M DB15 – Mini Din

Sun–4 Mouse w Mini Din & Pad

- ★ 370–1161
  - ★ 370–1170, M4 200 CPI Mouse
  - 370–1215, M4 200 CPI Pad
  - 580–1193, Package

Sun–3/140 Base Assembly



- Sun–3/140 Base
  - → Sun–3/140 Card Cage — See next page
  - 180–1097, AC Power Cord (115V)
  - 180–1125, AC Power Cord (240V)
  - 180–1117, AC Power Cord, Base to Monitor
  - 150–1042, Fuse Carrier (115V)
  - 140–1019, Fuse, 15A (115V)
  - 150–1051, Fuse Carrier (240V)
  - 140–1030, Fuse, 6.3A (240V)
  - 330–1067, Cover (2 ea, 42 CM X 11 CM)
  - 330–1069, Bezel
  - 330–1071, Side Panel (2 ea 42 CM X 59 CM)
  - 330–1144, Backplane Shield
  - 340–1545, Air Filter Assy
  - 330–1089, Screw Cover (8 ea)
  - 540–1419, Fan Tray Assy (Ref Only)
    - 501–1193, Fan PCB
    - 540–1455, Fan Assy (3 ea)
  - → Power Supply ★ 300–1022
    - 340–1451, Power Supply Cover
    - ¤→ 370–1106, AC Module, replaced by 370–1178
    - 370–1178, AC Module, (Switch, Fuse, Filter)

Sun–3/140 Card Cage

DESCRIPTION	PART NUMBER
CARD CAGE	540–1309
Sun 3–Slot Backplane	501–1127
Sun–3 CPU Board, 4MB {Carrera}	★ 501–1164
Sun–3 CPU Board, 4MB {Carrera}	★ 501–1208
Sun–3 Memory Expansion Board, 4MB {Carrera}	★ 501–1132
Sun–3 VME Color Board (Double Buffer)	★ 501–1089
Sun–3 VME Color Board 1K x 1K	★ 501–1319
Ethernet	★ 501–1153
SCP & VSCP Option (SunLink Assy)	★ 501–1158
├ VME To Multibus Adapter Board	★ 501–1054
├ SCP Board	★ 370–1049
├ Test Plug, RS–232	540–1281
├ Test Plug, RS–449	540–1309
├ Output Cable, SCP RS–232 Long	530–1178
├ Output Cable, SCP RS–232 Short	530–1179
├ Output Cable, SCP RS–449 Long	530–1180
└ Output Cable, SCP RS–449 Short	530–1181
ALM–2	★ 501–1203
├ Cable (x2)	530–1334
├ DCA Assembly	★ 540–1526
├ Wall Bracket	340–1587
├ Rack Bracket	340–1569
├ Loopback Test Plug, Printer Port	540–1560
└ Loopback Test Plug, RS232/RS423	540–1558
MCP	★ 501–1221
├ Loopback Test Plug, RS–232/RS–423	540–1560
└ Loopback Test Plug, RD–232/RS–423	540–1558
SunLink High–speed Serial Interface Board (HSI)	★ 501–1338
├ HSI to DSU Cable, V.35	530–1425
├ Loopback Plug, V.35	530–1426
└ Loopback Plug, RS–449/RS–422	530–1430
Sun–2 VME SCSI Option Assy	★ 501–1138
├ 3X2 Adapter Board, w/o P2A+C	★ 501–1220
└ Sun–2 VME SCSI Board	★ 501–1045
Sun–3 VME SCSI Assy	★ 501–1217
├ 3X2 Adapter Board, w/o P2A+C	★ 501–1220
└ Sun–3 VME SCSI Board	★ 501–1236
Floating Point Accelerator (FPA)	★ 501–1105
SunIPC w/80287	★ 501–1125
├ Printer Port Loopback Test Plug	501–1196
└ External I/O Cable	370–1125
SunIPC w/o 80287	★ 501–1214
├ Printer Port Loopback Test Plug	501–1196
└ External I/O Cable	370–1125
MAPKIT Assy	501–1202

Sun–3/150 System

Monitor–Keyboard–Mouse

19” Mono. ECL Monitor w/OCLI

- ★ 540–1358
- ★ 540–1357 ◀Ⓐ
  - 180–1097, AC Power Cord (115V)
  - 180–1125, AC Power Cord (240V)
  - ¤→ 530–1133, replaced by 530–1336
  - 530–1336, Video Cable, 5M
  - 140–1022, Fuse, 1.6A (115V)
  - 150–1051, Fusecarrier (240V)
  - 140–1034, Fuse, 2A (240V)

19” Mono. ECL Monitor w/o OCLI

- ★ 365–1016 (240V)
- ★ 365–1014 (115V)
- ★ 540–1240
  - 180–1097, AC Power Cord (115V)
  - 180–1125, AC Power Cord (240V)
  - ¤→ 530–1133, replaced by 530–1336
  - 530–1336, Video Cable, 5M
  - 140–1022, Fuse, 1.6A (115V)
  - 150–1051, Fusecarrier (240V)
  - 140–1034, Fuse, 2A (240V)

Sun–3 Keyboard & Mouse

Sun–3 Keyboard w RJ11

- ★ 370–1095
- ★ 370–1063 ←¤

Sun–3 Mouse w RJ11 & Pad

- ★ 370–1091
- ★ 370–1058 ←¤

Sun–4 Mouse w RJ11 & Pad

- ★ 365–1042
  - ★ 370–1169, M4 200 CPI Mouse
  - ¤→ 370–1171, M4 200 CPI .062” Pad
  - 370–1215, M4 200 CPI .032” Pad

Type–4 Keyboard & Mouse

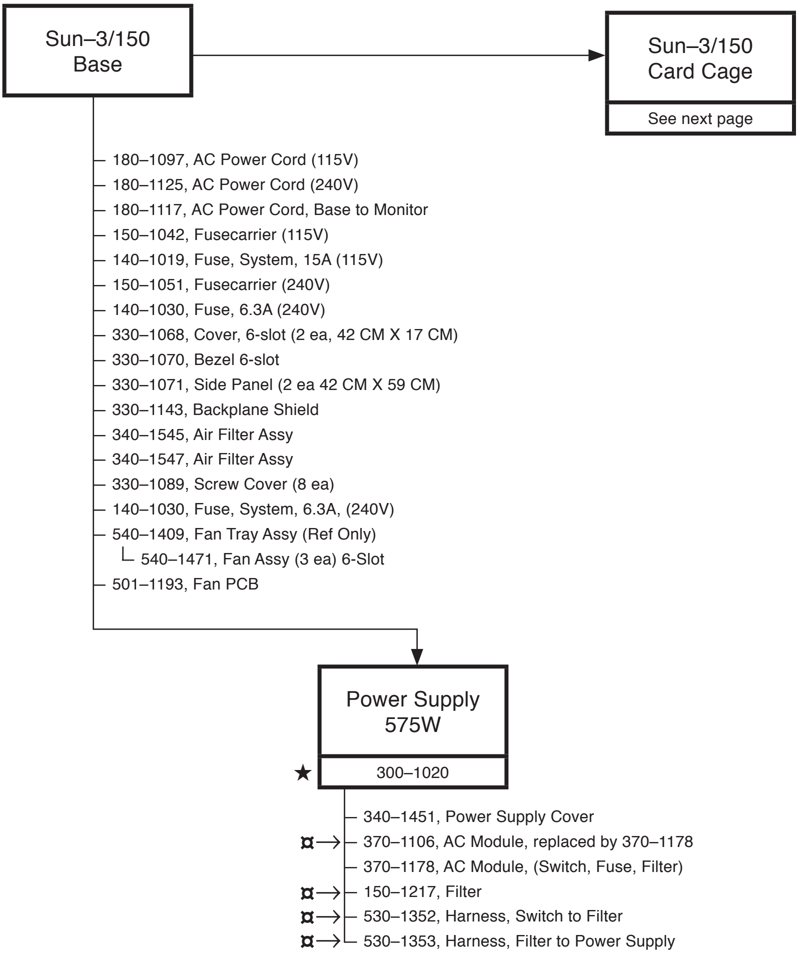
Type–4 Keyboard w Mini Din

- ★ 320–1005
  - 530–1478, 2.0M DB15 – Mini Din
  - 530–1479, 4.6M DB15 – Mini Din

Sun–4 Mouse w Mini Din & Pad

- ★ 370–1161
  - ★ 370–1170, M4 200 CPI Mouse
  - 370–1215, M4 200 CPI Pad
  - 580–1193, Package

Sun–3/150 Base Assembly



Sun–3/150 Base → Sun–3/150 Card Cage (See next page)

- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- 180–1117, AC Power Cord, Base to Monitor
- 150–1042, Fusecarrier (115V)
- 140–1019, Fuse, System, 15A (115V)
- 150–1051, Fusecarrier (240V)
- 140–1030, Fuse, 6.3A (240V)
- 330–1068, Cover, 6-slot (2 ea, 42 CM X 17 CM)
- 330–1070, Bezel 6-slot
- 330–1071, Side Panel (2 ea 42 CM X 59 CM)
- 330–1143, Backplane Shield
- 340–1545, Air Filter Assy
- 340–1547, Air Filter Assy
- 330–1089, Screw Cover (8 ea)
- 140–1030, Fuse, System, 6.3A, (240V)
- 540–1409, Fan Tray Assy (Ref Only)
  - 540–1471, Fan Assy (3 ea) 6-Slot
- 501–1193, Fan PCB

Power Supply 575W

★ 300–1020

- 340–1451, Power Supply Cover
- ¤→ 370–1106, AC Module, replaced by 370–1178
- 370–1178, AC Module, (Switch, Fuse, Filter)
- ¤→ 150–1217, Filter
- ¤→ 530–1352, Harness, Switch to Filter
- ¤→ 530–1353, Harness, Filter to Power Supply

* To replace AC Module, 370–1106, with AC Module 370–1178, remove Filter, 150–1217.

Sun–3/150 Card Cage

DESCRIPTION	PART NUMBER
CARD CAGE	540–1382
Sun 6–Slot Backplane	501–1128
Sun–3 CPU Board, 4MB {Carrera}	★ 501–1164
Sun–3 CPU Board, 4MB {Carrera}	★ 501–1208
Sun–3 Memory Expansion Board, 4MB {Carrera}	★ 501–1132
Sun–3 VME Color Board (Double Buffer)	★ 501–1089
Sun–3 VME Color Board 1K x 1K	★ 501–1319
Ethernet	★ 501–1153
SCP & VSCP Option (SunLink Assy)	★ 501–1158
├─ VME To Multibus Adapter Board	★ 501–1054
├─ SCP Board	★ 370–1049
├─ Test Plug, RS–232	540–1281
├─ Test Plug, RS–449	540–1309
├─ Output Cable, SCP RS–232 Long	530–1178
├─ Output Cable, SCP RS–232 Short	530–1179
├─ Output Cable, SCP RS–449 Long	530–1180
└─ Output Cable, SCP RS–449 Short	530–1181
ALM–2	★ 501–1203
├─ Cable (x2)	530–1334
├─ DCA Assembly	★ 540–1526
├─ Wall Bracket	340–1587
├─ Rack Bracket	340–1569
├─ Loopback Test Plug, Printer Port	540–1560
└─ Loopback Test Plug, RS232/RS423	540–1558
MCP	★ 501–1221
├─ Loopback Test Plug, RS–232/RS–423	540–1560
└─ Loopback Test Plug, RD–232/RS–423	540–1558
SunLink High–speed Serial Interface Board	501–1338
├─ HSI to DSU Cable, V.35	530–1425
├─ Loopback Plug, V.35	530–1426
└─ Loopback Plug, RS–449/RS–422	530–1430
Sun–2 VME SCSI Option Assy	★ 501–1138
├─ 3X2 Adapter Board, w/o P2A+C	★ 501–1220
└─ Sun–2 VME SCSI Board	★ 501–1045
Sun–3 VME SCSI Assy	★ 501–1217
├─ 3X2 Adapter Board, w/o P2A+C	★ 501–1220
└─ Sun–3 VME SCSI Board	★ 501–1236
Floating Point Accelerator (FPA)	★ 501–1105
SunIPC w/80287	★ 501–1125
├─ Printer Port Loopback Test Plug	501–1196
└─ External I/O Cable	370–1125
SunIPC w/o 80287	★ 501–1214
├─ Printer Port Loopback Test Plug	501–1196
└─ External I/O Cable	370–1125
MAPKIT Assy	501–1202

Sun–3/160/260/460 & 4/260 Systems

Monitor

19” Mono. ECL Monitor w/o OCLI

3/160 Only

- ★ 365–1016 (115V)
- ★ 365–1014 (240V)
- ★ 540–1240
  - 180–1097, AC Power Cord (115V)
  - 180–1125, AC Power Cord (240V)
  - ¤→ 530–1133, replaced by 530–1336
  - 530–1336, Ext. Video Cable, 5M
  - 530–1359, Ext. Video Cable, 1.2M
  - 140–1022, Fuse, 1.6A (115V)
  - 150–1051, Fusecarrier (240V)
  - 140–1034, Fuse, 2A (240V)

19” Grayscale Monitor

- ★ 365–1010 (115V)
- ★ 365–1009 (240V)
- 540–1514
  - 180–1097, AC Power Cord (115V)
  - 180–1125, AC Power Cord (240V)
  - 530–1308, Ext. Video Cable, 5M
  - 530–1363, Ext. Video Cable, 1.2M
  - 140–1022, 1.6A Fuse (115V)
  - 150–1051, Fusecarrier (240V)
  - 140–1034, Fuse, 2A (240V)

19” Mono. ECL Monitor w/OCLI

3/160 Only

- ★ 540–1357
  - 180–1097, AC Power Cord (115V)
  - 180–1125, AC Power Cord (240V)
  - ¤→ 530–1133, replaced by 530–1336
  - 530–1336, Ext. Video Cable, 5M
  - 530–1359, Ext. Video Cable, 1.2M
  - 140–1022, Fuse, 1.6A (115V)
  - 150–1051, Fusecarrier (240V)
  - 140–1034, Fuse, 2A (240V)

19” Hi–Res Monitor

3/260 & 4/260 Only

- ★ 365–1005 (115V)
- ★ 365–1007 (240V)
- ★ 540–1427
  - 180–1097, AC Power Cord (115V)
  - 180–1125, AC Power Cord (240V)
  - 530–1242, Ext. Video Cable, 1M
  - 530–1336, Ext. Video Cable, 5M
  - 530–1359, Ext. Video Cable, 1.2M
  - 140–1022, 1.6A Fuse (115V)
  - 150–1051, Fusecarrier (240V)
  - 140–1034, Fuse, 2A (240V)

19” Color Monitor

- ★ 365–1000 (115V)
- ★ 365–1006 (240V)
- ★ 540–1094 ◀Ⓐ
  - 180–1097, AC Power Cord (115V)
  - 180–1125, AC Power Cord (240V)
  - 530–1307, Ext. Video Cable, 5M
  - 530–1362, Ext. Video Cable, 1.2M
  - 140–1022, Fuse, 1.6A (115V)
  - 150–1051, Fusecarrier (240V)
  - 140–1034, Fuse, 2A (240V)

Sun–3/160/260/460 & 4/260 Systems

Keyboard and Mouse

Sun–3 Keyboard & Mouse

Sun–3 Keyboard w RJ11

★ 370–1095
★ 370–1063 ←¤

Sun–3 Mouse w RJ11 & Pad

★ 370–1091
★ 370–1058 ←¤

Sun–4 Mouse w RJ11 & Pad

★ 365–1042
- ★ 370–1169, M4 200 CPI Mouse
- ¤→ 370–1171, M4 200 CPI .062" Pad
- 370–1215, M4 200 CPI .032" Pad

Type–4 Keyboard & Mouse

Type–4 Keyboard w Mini Din

★ 320–1005
- 530–1478, 2.0M DB15 – Mini Din
- 530–1479, 4.6M DB15 – Mini Din

Sun–4 Mouse w Mini Din & Pad

★ 370–1161
- ★ 370–1170, M4 200 CPI Mouse
- 370–1215, M4 200 CPI Pad
- 580–1193, Package

Sun–3/160/260/460 & 4/260 Systems

Sun–3/160/260 & 4/260 Pedestals

- 180–1097, AC Power Cord, (115V)
- 180–1125, AC Power Cord (240V)
- 240–1048, Castor (4 ea)
- 340–1138, Top Cover
- 330–1066, Front Bezel Assy
- 340–1261, Side Panel, Right
- 340–1262, Side Panel, Left
- 140–1019, Fuse, 15A (115V/240V)
- 140–1030, Fuse, 6.3A (240V)
- 150–1129, AC Line Filter
- 150–1041, Fuse Holder (115V/240V)
- 150–1042, Fusecarrier (115V)
- 150–1051, Fusecarrier (240V)
- 150–1018, AC Switch, Rocker, illuminated
- 150–1216, AC Switch, Rocker Non–illuminated
- 150–1230, AC Receptacle Assy
- 330–1076, Cable Shield, Back Panel
- 530–1207, AC Filter – Switch – Fuse Harness
- 530–1231, AC Receptacle – Filter Harness
- 540–1510. Fan Assy, Upper Chassis (x2)
- 530–1171, replaced by 530–1322 ⟵¤
- 530–1322, DC Fan Cable, Upper Chassis
- 540–1596, 6–Fan Tray Assy (Low Profile, Full Screen)
  - 540–1572 Fan Assy
  - 530–1357, DC Harness, Fan Power
- 530–1357, DC Harness, Fan Power
- 540–1555, 6–Fan Tray Assy ⟵¤
  - 540–1510, Fan Assy (Full Height)
  - 530–1357, DC Harness, Fan Power
- 540–1584 6–Fan Tray Assy (Low Profile with Finger Guards on each Fan)
  - 540–1572 Fan Assy (Low Profile)
  - 530–1357, DC Harness, Fan Power
- 540–1581 6–Fan Tray Assy (No Fan Guards) ⟵¤
  - 540–1510, Fan Assy (Full Height)
  - 530–1357, DC Harness, Fan Power
- 540–1082, 4–Fan Tray Assy ⟵¤
  - 540–1252, Fan Assy, replaced by 540–1510
  - 540–1510, Fan Assy, (Full Height)
  - 530–1357, DC Harness, Fan Power

3/160 850W Power Supply

★ 300–1016

★ 300–1024

- 530–1206, DC Harness (+5)
- ¤⟶ 530–1201, replaced by 530–1324
- 530–1324, DC Power Harness (+12,–12,+5,–5)

3/260 & 4/260 850W Power Supply

★ 300–1024

- 530–1206, DC Harness (+5)
- ¤⟶ 530–1201, replaced by 530–1324
- 530–1324, DC Power Harness (+12,–12,+5,–5)

Sun–3/160/260/460 & 4/260 Internal Disk Options

SCSI 71 MB Disk Subsystem

IN PEDESTAL

- ★ 370–1010, Adaptec Board
- 530–1134, Internal Cable, SCSI Bus
- 530–1135, Internal Cable, DC to SCSI Tray
- 530–1157, Internal Cable, SCSI Command
- 530–1142, Internal Data Cable, 4” (Unit 0)
- 530–1145, Internal Data Cable, 9” (Unit 1)
- ★ 370–1034, 5 1/4” 71MB Disk Drive,

SCSI 141 MB Disk Subsystem

IN PEDESTAL

- ★ 370–0552, ESDI Controller Board
- 530–1134, Internal Cable, SCSI Bus
- 530–1135, Internal Cable, DC To SCSI Tray
- 530–1157, Internal Cable, SCSI Command
- 530–1142, Internal Data Cable, 39CM (Unit 0)
- 530–1145, Internal Data Cable, 62CM (Unit 1)
- ★ 370–0551, 5 1/4” 141MB Disk Drive,

SCSI 327 MB Disk Subsystem

IN PEDESTAL

- ★ 370–0552, ESDI Controller Board
- 530–1134, Internal Cable, SCSI Bus
- 530–1135, Internal Cable, DC To SCSI Tray
- 530–1157, Internal Cable, SCSI Command
- 530–1142, Internal Data Cable, 39CM (Unit 0)
- 530–1145, Internal Data Cable, 62CM (Unit 1)
- ★ 370–1133, 5 1/4” 327MB Disk Drive

Sun–3/160/260/460 & 4/260 Internal Disk Options

1/4 Inch Tape Subsystem (Emulex)

IN PEDESTAL

- ★ 370–1061, Emulex Controller Board
- ★ 370–1076, 1/4” Tape Drive, No Format Board
- ★ 370–1103, 1/4” Tape Drive, No Format Board ◀Ⓐ
- 530–1141, Internal Tape Cable

1/4 Inch Tape Subsystem (Sysgen)

IN PEDESTAL

- ★ 370–1011, Sysgen Ctlr Board
- ★ 370–1037, 1/4” Tape Drive
- ★ 370–1112, 1/4” Tape Drive ◀Ⓐ
- 530–1141, Internal Tape Cable
- 370–1112, 1/4” Tape Drive

Sun–3/160/260 & 4/260 Card Cage

DESCRIPTION	PART NUMBER
CARD CAGE	370–1086
Sun 12–Slot Backplane	501–1117
Sun 12–Slot Backplane	501–1092 ←¤
Sun–3 CPU Board, 2MB, 3/160 {Carrera}	★ 501–1163 ←¤
Sun–3 CPU Board, 2MB, 3/160 {Carrera}	★ 599–1177 ←¤
Sun–3 CPU Board, 4MB, 3/160 {Carrera}	★ 501–1164
Sun–3 CPU Board, 4MB, 3/160 {Carrera}	★ 599–1178 ←¤
Sun–3 CPU Board, 4MB, 3/160 {Carrera}	★ 501–1208 ◀Ⓐ
Sun–3 CPU Board, 3/260 {Sirius}	★ 501–1100
Sun–3 CPU Board, 3/260 {Sirius}	★ 501–1206 ◀Ⓐ
Sun–4 CPU Board, 4/260 {Sunrise}	★ 501–1274
Sun–4 CPU Board, 4/260 {Sunrise}	★ 501–1129 ←¤
Memory Expansion Board, 2MB, 3/160	★ 501–1131 ←¤
Memory Expansion Board, 4MB, 3/160	★ 501–1132
Memory Expansion Board, 4MB, 3/160	★ 501–1180 ←¤
Memory Expansion Board, 8MB ECC, 3/260, 4/260	★ 501–1102
Memory Expansion Board, 32MB ECC, 4/260	★ 501–1254
Sun–2 VME Color Board	★ 501–1014
Graphics Processor (GP)	★ 501–1055
Graphics Processor Plus (GP+)	★ 501–1139 ◀Ⓐ
Graphics Buffer (GB)	★ 501–1058
Sun–3 VME Color Board	★ 501–1116
TAAC-1 †	★ 501–1383
├ Color Cable, 50CM	★ 530–1415
├ POP PCB [DRU]	★ 501–1331
└ DFB PCB [DRU]	★ 501–1330
TAAC-1 †	★ 501–1447
├ Color Cable, 50CM	★ 530–1415
├ POP PCB [DRU]	★ 501–1448
├ DFB PCB [DRU]	★ 501–1449
└ Daughter Board	★ 501–1456
CG5 Color Frame Buffer	★ 501–1267
GP2 Graphics Processor	★ 501–1268
Xylogics 450 SMD Disk Option †	★ 501–1154
├ VME To Multibus Adapter Assy for 450	★ 501–1186
├ Xylogics 450 Controller Board	★ 370–1012
├ Output Cable, SMD Disk Data	530–1147
└ Output Cable, SMD Disk Command	530–1148

† Replace an entire VME assembly, do not replace the individual boards or board sets.

Sun–3/160/260 & 4/260 Card Cage (Cont.)

DESCRIPTION	PART NUMBER
Xylogics 451 SMD Disk Option Assy †	★ 501–1166
├─ VME To Multibus Adapter Assy for 451	★ 501–1186
├─ Xylogics 451 Controller Board	★ 370–1082
├─ Output Cable, SMD Disk Data	530–1147
└─ Output Cable, SMD Disk Command	530–1148
Xylogics 7053	★ 501–1249
├─ External Disk Command Cable, Mass Storage Pedestal	530–1331
├─ External Disk Data Cable, Mass Storage Pedestal	530–1330
├─ External Disk Command Cable, 892MB Disk	530–1354
├─ External Disk Data Cable, 892MB Disk	530–1355
└─ External Disk Daisy Chain Cable, 892MB Disk	530–1356
Xylogics 472 1/2–Inch Tape Option (6250 bpi Drive) Assy †	★ 501–1155
├─ VME To Multibus Adapter Assy (Option 161C)	★ 501–1187
├─ Xylogics 472 Tape Controller Board	★ 370–1067
└─ Output Cable, Int. 1/2” Tape, 1600/6250 bpi (2 ea)	530–1165
Tapemaster 1/2–Inch Tape Option (1600 bpi Drive) Assy †	★ 501–1156
├─ VME To Multibus Adapter Assy (Option 161C)	★ 501–1187
├─ Tapemaster Controller Board	★ 370–0502
└─ Output Cable, Int. 1/2” Tape, 1600/6250 bpi (2 ea)	530–1165
2nd Ethernet Option Assy †	★ 501–1153
├─ VME To Multibus Adapter Board	★ 501–1054
├─ Sun–2 Ethernet Board	★ 501–1004
└─ Output Cable, Int. Ethernet (2nd PCB)	530–1173
VME To Multibus Adapter Assembly	★ 501–1054
VME To Multibus Adapter Assembly	★ 540–1250 ←¤
3X2 Adapter, w/P2 (Option 160A)	★ 501–1269
3X2 Adapter, w/o P2 (Option 160B)	★ 501–1191
16–Channel VME ALM Communications Assembly †	★ 501–1157
├─ Output Cable, ALM Controller	530–1251
├─ Output Cable, ALM J2–J5 (4 ea)	530–1252
├─ Loopback Test Plug, RS–232	540–1281
└─ Loopback Test Plug, RS–232	540–1558
ALM–2	★ 501–1203
├─ Cable (x2)	530–1334
├─ DCA Assembly	540–1526
├─ Wall Bracket	340–1587
├─ Rack Bracket	340–1569
├─ Loopback Test Plug, Printer Port	540–1560
└─ Loopback Test Plug, RS–232/RS–423	540–1558
Multiprotocol Communication Processor (MCP)	★ 501–1221
├─ Loopback Test Plug, RS–232/RS–423	540–1560
└─ Loopback Test Plug, RD–232/RS–423	540–1558

† Replace an entire VME assembly, do not replace the individual boards or board sets.

Sun–3/160/260 & 4/260 Card Cage (Cont.)

DESCRIPTION	PART NUMBER
SCP & VSCP Option (SunLink Assy) †	★ 501–1158 ◀Ⓐ
├ VME To Multibus Adapter Board	★ 501–1054
├ SCP Board	★ 370–1049
├ Test Plug, RS–232	540–1281
├ Test Plug, RS–449	540–1309
├ Output Cable, SCP RS–232 Long	530–1178
├ Output Cable, SCP RS–232 Short	530–1179
├ Output Cable, SCP RS–449 Long	530–1180
└ Output Cable, SCP RS–449 Short	530–1181
SunLink Channel Adapter †	★ 370–1128 ←¤
SunLink Channel Adapter †	★ 501–1460
├ Loopback Test Cable	370–1134 ←¤
├ Loopback Test Cable	530–1515
├ Bus Terminator Plug	370–1135 ←¤
├ Bus Terminator Plug	530–1516
├ Tag Terminator Plug	370–1136 ←¤
├ Tag Terminator Plug	530–1517
├ 8' Cable, Tag Out/Bus Out	370–1130 ←¤
├ 5' Cable, Tag Out/Bus Out	370–1131 ←¤
├ 8' Cable, Tag Out/Bus Out	530–1514
├ 8' Cable, In Out/Bus In	370–1129 ←¤
├ 5' Cable, In Out/Bus In	370–1132 ←¤
├ 8' Cable, In Out/Bus In	530–1513
└ RS232 Cable, (20')	530–1364
SunLink High–speed Serial Interface Board	501–1338
├ HSI to DSU Cable, V.35	530–1425
├ Loopback Plug, V.35	530–1426
└ Loopback Plug, RS–449/RS–422	530–1430
Sun–2 VME SCSI Option Assy †	★ 501–1149
├ 3X2 Adapter Board	★ 501–1059
└ Sun–2 VME SCSI Board †	★ 501–1045
Sun–3 VME SCSI Assy	★ 501–1170
├ 3X2 Adapter Board	★ 501–1059
└ Sun–3 VME SCSI Board	★ 501–1236
Floating Point Accelerator	★ 501–1105
SunIPC w/80287	★ 501–1125
├ Printer Port Loopback Test Plug	501–1196
└ External I/O Cable	370–1125
SunIPC w/o 80287	★ 501–1214
├ Printer Port Loopback Test Plug	501–1196
└ External I/O Cable	370–1125
MAPKIT Assy	501–1202

† Replace an entire VME assembly, do not replace the individual boards or board sets.

Sun–3/460 Card Cage

DESCRIPTION	PART NUMBER
CARD CAGE	370–1086
Sun 12–Slot Backplane	501–1117
Sun 12–Slot Backplane	501–1092 ←¤
Sun–3400 CPU, 0MB {Pegasus}	★ 501–1299
	★ 501–1550
Sun–3 Memory Expansion Board, 8MB ECC	★ 501–1102
Sun–3 Memory Expansion Board, 32MB ECC	★ 501–1451
Sun–2 VME Color Board	★ 501–1014
Graphics Processor (GP)	★ 501–1055
Graphics Processor Plus (GP+)	★ 501–1139 ◀Ⓐ
Graphics Buffer (GB)	★ 501–1058
Sun–3 VME Color Board	★ 501–1116
TAAC-1 †	★ 501–1383
├─ Color Cable, 50CM	★ 530–1415
├─ POP PCB [DRU]	★ 501–1331
└─ DFB PCB [DRU]	★ 501–1330
TAAC-1 †	★ 501–1447
├─ Color Cable, 50CM	530–1415
├─ POP PCB [DRU]	★ 501–1448
├─ DFB PCB [DRU]	★ 501–1449
└─ Daughter Board	★ 501–1456
P4 Mono Frame Buffer	★ 501–1247
P4 MG3 Mono Frame Buffer	★ 501–1402
CG5 Color Frame Buffer	★ 501–1267
GP2 Graphics Processor	★ 501–1268
P4 CG4 Color Framebuffer (BNC)	★ 501–1248
P4 CG6 Color Framebuffer (DB13W3) {Lego}	★ 501–1374
P4 CG6 Color Framebuffer (DB13W3) {Lego}	★ 501–1532
P4 CG8 24–Bit Color Framebuffer (BNC) {IBIS}	★ 501–1518
P4 CG8 24–Bit Color Framebuffer (BNC) {IBIS}	★ 501–1371 ←¤
CG9 Color Frame Buffer {Crane}	★ 501–1434
Xylogics 450 SMD Disk Option †	★ 501–1154
├─ VME To Multibus Adapter Assy for 450	★ 501–1186
├─ Xylogics 450 Controller Board	★ 370–1012
├─ Output Cable, SMD Disk Data	530–1147
└─ Output Cable, SMD Disk Command	530–1148

† Replace an entire VME assembly, do not replace the individual boards or board sets.

Sun–3/460 Card Cage (Cont.)

DESCRIPTION	PART NUMBER
Xylogics 451 SMD Disk Option Assy †	★ 501–1166
├ VME To Multibus Adapter Assy for 451	★ 501–1186
├ Xylogics 451 Controller Board	★ 370–1082
├ Output Cable, SMD Disk Data	530–1147
└ Output Cable, SMD Disk Command	530–1148
Xylogics 7053	★ 501–1249
├ External Disk Command Cable, Mass Storage Pedestal	530–1331
├ External Disk Data Cable, Mass Storage Pedestal	530–1330
├ External Disk Command Cable, 892MB Disk	530–1354
├ External Disk Data Cable, 892MB Disk	530–1355
└ External Disk Daisy Chain Cable, 892MB Disk	530–1356
Xylogics 472 1/2–Inch Tape Option (6250 bpi Drive) Assy †	★ 501–1155
├ VME To Multibus Adapter Assy (Option 161C)	★ 501–1187
├ Xylogics 472 Tape Controller Board	★ 370–1067
└ Output Cable, Int. 1/2” Tape, 1600/6250 bpi (2 ea)	530–1165
Tapemaster 1/2–Inch Tape Option (1600 bpi Drive) Assy †	★ 501–1156
├ VME To Multibus Adapter Assy (Option 161C)	★ 501–1187
├ Tapemaster Controller Board	★ 370–0502
└ Output Cable, Int. 1/2” Tape, 1600/6250 bpi (2 ea)	530–1165
2nd Ethernet Option Assy †	★ 501–1153
├ VME To Multibus Adapter Board	★ 501–1054
├ Sun–2 Ethernet Board	★ 501–1004
└ Output Cable, Int. Ethernet (2nd PCB)	530–1173
VME To Multibus Adapter Assembly	★ 501–1054
VME To Multibus Adapter Assembly	★ 540–1250 ←¤
3X2 Adapter, w/P2 (Option 160A)	★ 501–1269
3X2 Adapter, w/o P2 (Option 160B)	★ 501–1191
16–Channel VME ALM Communications Assembly †	★ 501–1157
├ Output Cable, ALM Controller	530–1251
├ Output Cable, ALM J2–J5 (4 ea)	530–1252
├ Loopback Test Plug, RS–232	540–1281
└ Loopback Test Plug, RS–232	540–1558
ALM–2	★ 501–1203
├ Cable (x2)	530–1334
├ DCA Assembly	540–1526
├ Wall Bracket	340–1587
├ Rack Bracket	340–1569
├ Loopback Test Plug, Printer Port	540–1560
└ Loopback Test Plug, RS–232/RS–423	540–1558
Multiprotocol Communication Processor (MCP)	★ 501–1221
├ Loopback Test Plug, RS–232/RS–423	540–1560
└ Loopback Test Plug, RD–232/RS–423	540–1558

† Replace an entire VME assembly, do not replace the individual boards or board sets.

Sun–3/460 Card Cage (Cont.)

DESCRIPTION	PART NUMBER
SCP & VSCP Option (SunLink Assy) †	★ 501–1158 ◀Ⓐ
├─ VME To Multibus Adapter Board	★ 501–1054
├─ SCP Board	★ 370–1049
├─ Test Plug, RS–232	540–1281
├─ Test Plug, RS–449	540–1309
├─ Output Cable, SCP RS–232 Long	530–1178
├─ Output Cable, SCP RS–232 Short	530–1179
├─ Output Cable, SCP RS–449 Long	530–1180
└─ Output Cable, SCP RS–449 Short	530–1181
SunLink Channel Adapter †	★ 370–1128 ←¤
SunLink Channel Adapter †	★ 501–1460
├─ Loopback Test Cable	370–1134
├─ Loopback Test Cable	530–1515
├─ Bus Terminator Plug	370–1135
├─ Bus Terminator Plug	530–1516
├─ Tag Terminator Plug	370–1136
├─ Tag Terminator Plug	530–1517
├─ 8’ Cable, Tag Out/Bus Out	370–1130
├─ 5’ Cable, Tag Out/Bus Out	370–1131 ←¤
├─ 8’ Cable, Tag Out/Bus Out	530–1514
├─ 8’ Cable, In Out/Bus In	370–1129
├─ 5’ Cable, In Out/Bus In	370–1132 ←¤
├─ 8’ Cable, In Out/Bus In	530–1513
└─ RS232 Cable, (20’)	530–1364
SunLink High–speed Serial Interface Board	★ 501–1338
├─ HSI to DSU Cable, V.35	530–1425
├─ Loopback Plug, V.35	530–1426
└─ Loopback Plug, RS–449/RS–422	530–1430
Sun–2 VME SCSI Option Assy †	★ 501–1149
├─ 3X2 Adapter Board	★ 501–1059
└─ Sun–2 VME SCSI Board †	★ 501–1045
Sun–3 VME SCSI Assy	★ 501–1170
├─ 3X2 Adapter Board	★ 501–1059
└─ Sun–3 VME SCSI Board	★ 501–1236
Floating Point Accelerator	★ 501–1105
SunIPC w/80287	★ 501–1125
├─ Printer Port Loopback Test Plug	501–1196
└─ External I/O Cable	370–1125
SunIPC w/o 80287	★ 501–1214
├─ Printer Port Loopback Test Plug	501–1196
└─ External I/O Cable	370–1125
MAPKIT Assy	★ 501–1202

† Replace an entire VME assembly, do not replace the individual boards or board sets.

Sun–3/180/280 & 4/280 Systems

Monitor

19” Mono. ECL Monitor w/o OCLI 3/160 Only

- ★ 365–1016 (115V)
- ★ 365–1014 (240V)
- ★ 540–1240
  - 180–1097, AC Power Cord (115V)
  - 180–1125, AC Power Cord (240V)
  - ¤→ 530–1133, replaced by 530–1336
  - 530–1336, Ext. Video Cable, 5M
  - 530–1359, Ext. Video Cable, 1.2M
  - 140–1022, Fuse, 1.6A (115V)
  - 150–1051, Fusecarrier (240V)
  - 140–1034, Fuse, 2A (240V)

19” Grayscale Monitor

- ★ 365–1010 (115V)
- ★ 365–1009 (240V)
- 540–1514
  - 180–1097, AC Power Cord (115V)
  - 180–1125, AC Power Cord (240V)
  - 530–1308, Ext. Video Cable, 5M
  - 530–1363, Ext. Video Cable, 1.2M
  - 140–1022, 1.6A Fuse (115V)
  - 150–1051, Fusecarrier (240V)
  - 140–1034, Fuse, 2A (240V)

19” Mono. ECL Monitor w/OCLI 3/160 Only

- ★ 540–1357
  - 180–1097, AC Power Cord (115V)
  - 180–1125, AC Power Cord (240V)
  - ¤→ 530–1133, replaced by 530–1336
  - 530–1336, Ext. Video Cable, 5M
  - 530–1359, Ext. Video Cable, 1.2M
  - 140–1022, Fuse, 1.6A (115V)
  - 150–1051, Fusecarrier (240V)
  - 140–1034, Fuse, 2A (240V)

19” Hi–Res Monitor 3/260/280 & 4/260/280 only

- ★ 365–1005 (115V)
- ★ 365–1007 (240V)
- ★ 540–1427
  - 180–1097, AC Power Cord (115V)
  - 180–1125, AC Power Cord (240V)
  - 530–1242, Ext. Video Cable, 1M
  - 530–1336, Ext. Video Cable, 5M
  - 530–1359, Ext. Video Cable, 1.2M
  - 140–1022, 1.6A Fuse (115V)
  - 150–1051, Fusecarrier (240V)
  - 140–1034, Fuse, 2A (240V)

19” Color Monitor

- ★ 365–1000 (115V)
- ★ 365–1006 (240V)
- ★ 540–1094 ◀Ⓐ
  - 180–1097, AC Power Cord (115V)
  - 180–1125, AC Power Cord (240V)
  - 530–1307, Ext. Video Cable, 5M
  - 530–1362, Ext. Video Cable, 1.2M
  - 140–1022, Fuse, 1.6A (115V)
  - 150–1051, Fusecarrier (240V)
  - 140–1034, Fuse, 2A (240V)

Sun–3/180/280 & 4/280 Systems
Keyboard and Mouse

Sun–3 Keyboard & Mouse

Sun–3 Keyboard w RJ11
★ 370–1095
★ 370–1063 ←¤

Sun–3 Mouse w RJ11 & Pad
★ 370–1091
★ 370–1058 ←¤

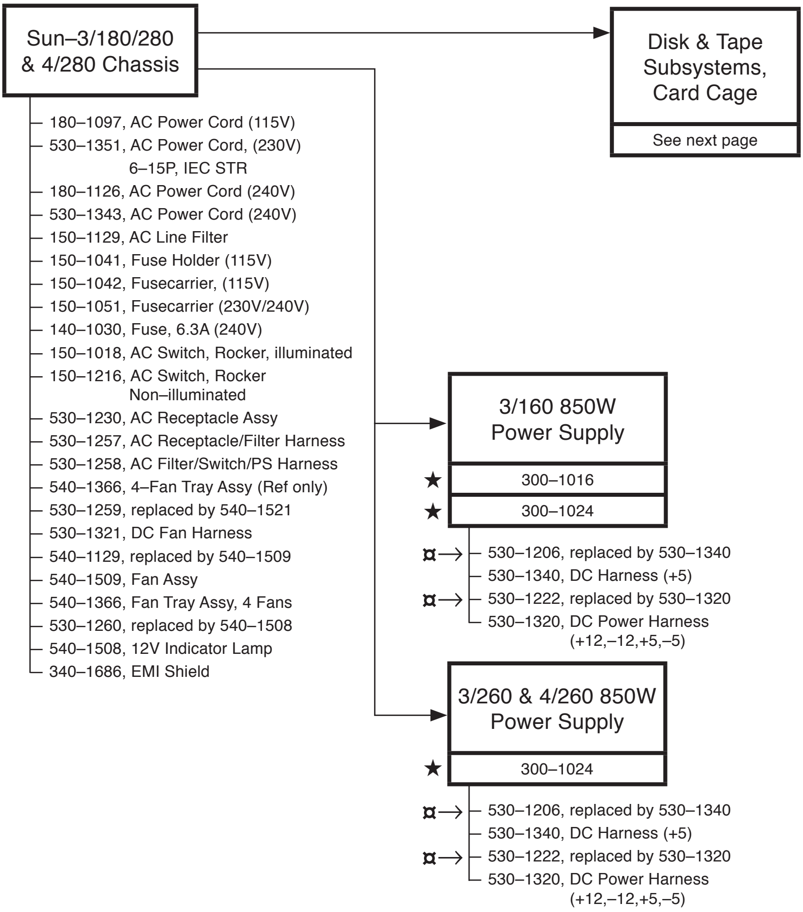
Sun–4 Mouse w RJ11 & Pad
★ 365–1042
- ★ 370–1169, M4 200 CPI Mouse
- ¤→ 370–1171, M4 200 CPI .062” Pad
- 370–1215, M4 200 CPI .032” Pad

Type–4 Keyboard & Mouse

Type–4 Keyboard w Mini Din
★ 320–1005
- 530–1478, 2.0M DB15 – Mini Din
- 530–1479, 4.6M DB15 – Mini Din

Sun–4 Mouse w Mini Din & Pad
★ 370–1161
- ★ 370–1170, M4 200 CPI Mouse
- 370–1215, M4 200 CPI Pad
- 580–1193, Package

Sun–3/180/280 & 4/280 Chassis



Sun–3/180/280 & 4/280 Chassis

- 180–1097, AC Power Cord (115V)
- 530–1351, AC Power Cord, (230V) 6–15P, IEC STR
- 180–1126, AC Power Cord (240V)
- 530–1343, AC Power Cord (240V)
- 150–1129, AC Line Filter
- 150–1041, Fuse Holder (115V)
- 150–1042, Fusecarrier, (115V)
- 150–1051, Fusecarrier (230V/240V)
- 140–1030, Fuse, 6.3A (240V)
- 150–1018, AC Switch, Rocker, illuminated
- 150–1216, AC Switch, Rocker Non–illuminated
- 530–1230, AC Receptacle Assy
- 530–1257, AC Receptacle/Filter Harness
- 530–1258, AC Filter/Switch/PS Harness
- 540–1366, 4–Fan Tray Assy (Ref only)
- 530–1259, replaced by 540–1521
- 530–1321, DC Fan Harness
- 540–1129, replaced by 540–1509
- 540–1509, Fan Assy
- 540–1366, Fan Tray Assy, 4 Fans
- 530–1260, replaced by 540–1508
- 540–1508, 12V Indicator Lamp
- 340–1686, EMI Shield

Disk & Tape Subsystems, Card Cage

See next page

3/160 850W Power Supply

★ 300–1016

★ 300–1024

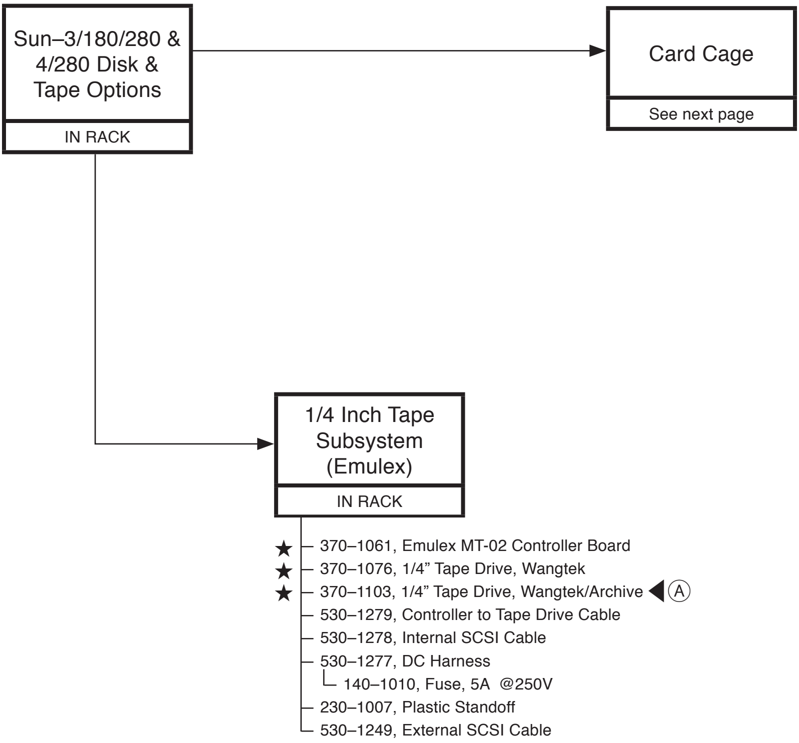
- ¤→ 530–1206, replaced by 530–1340
- 530–1340, DC Harness (+5)
- ¤→ 530–1222, replaced by 530–1320
- 530–1320, DC Power Harness (+12,–12,+5,–5)

3/260 & 4/260 850W Power Supply

★ 300–1024

- ¤→ 530–1206, replaced by 530–1340
- 530–1340, DC Harness (+5)
- ¤→ 530–1222, replaced by 530–1320
- 530–1320, DC Power Harness (+12,–12,+5,–5)

Sun–3/180/280 & 4/280 Tape & Disk Options


Sun–3/180/280 & 4/280 Disk & Tape Options
IN RACK
Card Cage
See next page
1/4 Inch Tape Subsystem (Emulex)
IN RACK

- ★ 370–1061, Emulex MT-02 Controller Board
- ★ 370–1076, 1/4” Tape Drive, Wangtek
- ★ 370–1103, 1/4” Tape Drive, Wangtek/Archive ◀ Ⓐ
- 530–1279, Controller to Tape Drive Cable
- 530–1278, Internal SCSI Cable
- 530–1277, DC Harness
  - 140–1010, Fuse, 5A @250V
- 230–1007, Plastic Standoff
- 530–1249, External SCSI Cable

Sun–3/180/280 & 4/280 Card Cage

DESCRIPTION	PART NUMBER
CARD CAGE	370–1086
Sun 12–Slot Backplane	501–1117
Sun 12–Slot Backplane	501–1092 ←¤
Sun–3 CPU Board, 2MB, {Carrera}	★ 501–1074 ←¤
Sun–3 CPU Board, 4MB {Carrera}	★ 599–1094 ←¤
Sun–3 CPU Board, 2MB {Carrera}	★ 501–1163
Sun–3 CPU Board, 4MB {Carrera}	★ 599–1164
Sun–3 CPU Board, 4MB {Carrera}	★ 501–1178 ←¤
Sun–3 CPU Board, 4MB {Carrera}	★ 501–1208 ◀Ⓐ
Sun–3 CPU Board, 3/280 {Sirius}	★ 501–1100
Sun–3 CPU Board, 3/280 {Sirius}	★ 501–1206 ◀Ⓐ
Sun–4 CPU Board, 4/280 {Sunrise}	★ 501–1274
Sun–4 CPU Board, 4/280 {Sunrise}	★ 501–1129 ←¤
Sun–3 Memory Expansion Board, 2MB, 3/180	★ 501–1131 ←¤
Sun–3 Memory Expansion Board, 4MB, 3/180	★ 501–1132
Sun–3 Memory Expansion Board, 4MB, 3/180	★ 501–1180 ←¤
Sun–4 Memory Expansion Board, 8MB ECC, 4/280	★ 501–1102
Sun–4 Memory Expansion Board, 32MB ECC, 4/280 ONLY	★ 501–1254
Sun–2 VME Color Board	★ 501–1014 ◀Ⓐ
Sun–3 VME Color Board	★ 501–1116
Graphics Processor (GP)	★ 501–1055
Graphics Processor Plus (GP+)	★ 501–1139 ◀Ⓐ
VME Graphics Buffer	★ 501–1058
Sun–3 VME Color Board (Double Buffer)	★ 501–1089
Sun–3 VME Color Board 1K x 1K	★ 501–1319
TAAC-1 †	★ 501–1383
├ Color Cable, 50 CM	530–1415
├ POP PCB [DRU]	★ 501–1331
└ DFB PCB [DRU]	★ 501–1330
TAAC-1 †	★ 501–1447
├ Color Cable, 50 CM	530–1415
├ POP PCB [DRU]	★ 501–1448
├ DFB PCB [DRU]	★ 501–1449
└ Daughter Board	★ 501–1456
CG5 Color Board	★ 501–1267
GP2	★ 501–1268

† Replace an entire VME assembly, do not replace the individual boards or board sets.

Sun–3/180/280 & 4/280 Card Cage (Cont.)

DESCRIPTION	PART NUMBER
Xylogics 450 SMD Disk Option Assy	★ 501–1154
├─ VME To Multibus Adapter Assy for 450	★ 501–1186
├─ Xylogics 450 Controller Board	★ 370–1012
├─ Output Cable, SMD Disk Data	530–1147
├─ Output Cable, SMD Disk Command	530–1148
├─ Data Cable, 892MB Disk Drive	530–1378
├─ Command Cable, 892MB Disk Drive	530–1379
└─ Daisy Chain Cable, 892MB Disk Drive	530–1356
Xylogics 451 SMD Disk Option Assy	★ 501–1166
├─ VME To Multibus Adapter Assy for 451	★ 501–1186
├─ Xylogics 451 Controller Board	★ 370–1082
├─ Output Cable, SMD Disk Data	530–1147
├─ Output Cable, SMD Disk Command	530–1148
├─ Data Cable, 892MB Disk Drive	530–1378
├─ Command Cable, 892MB Disk Drive	530–1379
└─ Daisy Chain Cable, 892MB Disk Drive	530–1356
Xylogics 7053	501–1249
├─ External Disk Command Cable, 892MB Disk	530–1354
├─ External Disk Data Cable, 892MB Disk	530–1355
├─ External Disk Daisy Chain Cable, 892MB Disk	530–1356
├─ External Disk Command Cable, 575MB Disk	530–1331
└─ External Disk Data Cable, 575MB Disk	530–1330
Xylogics 472 1/2–Inch Tape Option (6250 bpi Drive) Assy †	★ 501–1155
├─ VME To Multibus Adapter Assy for 472	★ 501–1187
├─ Xylogics 472 Tape Controller Board	★ 370–1067
└─ Output Cable, Int. 1/2" Tape, 1600/6250 bpi (2 ea)	530–1165
Tapemaster 1/2–Inch Tape Option (1600 bpi Drive) Assy 1"	★ 501–1156
├─ VME To Multibus Adapter Assy for Tapemaster	★ 501–1187
├─ Tapemaster Controller Board	★ 370–0502
└─ Output Cable, Int. 1/2" Tape, 1600/6250 bpi (2 ea)	530–1165
2nd Ethernet Option Assy †	★ 501–1153
├─ VME To Multibus Adapter Board	★ 501–1054
├─ Sun–2 Ethernet Board	★ 501–1004
└─ Output Cable, Int. Ethernet (2nd PCB)	530–1173
VME To Multibus Adapter Assembly	★ 501–1054
└─ VME To Multibus Adapter Assembly	540–1250
3X2 Adapter, w/P2 (Option 160A)	★ 501–1059
3X2 Adapter, w/o P2 (Option 160B)	★ 501–1191

† Replace an entire VME assembly, do not replace the individual boards or board sets; see the Systech Cross–Reference Table in the Communication section of Configurations.

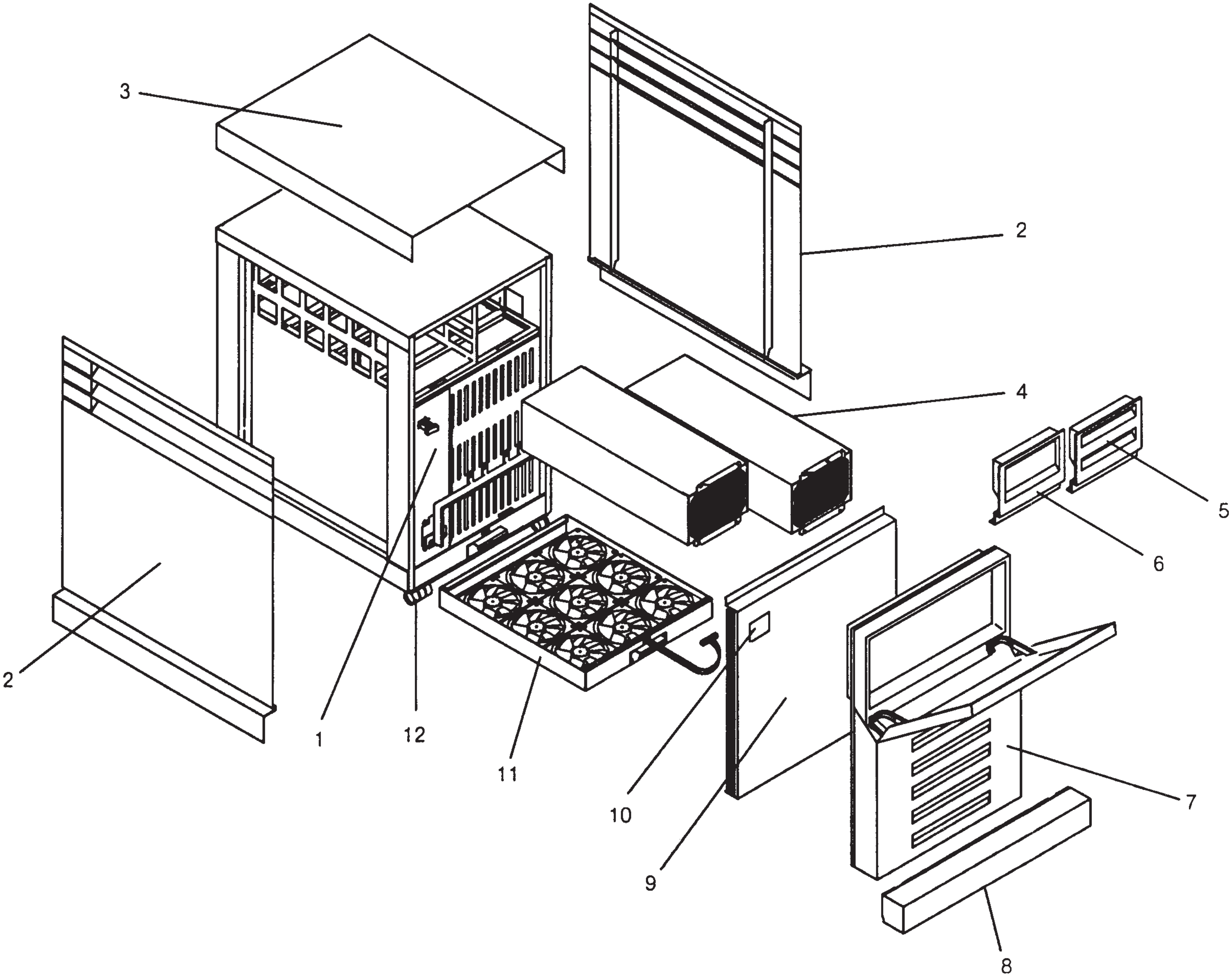
Sun–3/180/280 & 4/280 Card Cage (Cont.)

DESCRIPTION	PART NUMBER
16-Channel VME ALM Communications Board †	★ 501–1165
├ Output Cable, ALM Controller	530–1251
├ Output Cable, ALM J2–J5 (4 ea)	530–1252
├ Output Cable, ALM 5–Conductor Power	530–1295
├ Loopback Test Plug, RS–232	540–1281
├ Loopback Test Plug, RS–232	540–1558
└ 16–Channel USART Panel	★ 811–1100
ALM–2	★ 501–1203
├ Cable (x2)	530–1334
├ DCA Assembly	★ 540–1526
├ Wall Bracket	340–1587
├ Rack Bracket	340–1569
├ Loopback Test Plug, Printer Port	540–1560
└ Loopback Test Plug, RS–232/RS–423	540–1558
Multiprotocol Communication Processor (MCP)	★ 501–1221
├ Loopback Test Plug, RS–232/RS–423	540–1560
└ Loopback Test Plug, RS–449	540–1558
SunLink Channel Adapter †	★ 370–1128 ←¤
SunLink Channel Adapter †	★ 501–1460
├ Loopback Test Cable	370–1134
├ Bus Terminator Plug	370–1135
├ Tag Terminator Plug	370–1136
├ 8’ Cable, Bus/Tag Out	370–1130
├ 5’ Cable, Bus/Tag Out	370–1131 ←¤
├ 8’ Cable, Bus/Tag In	370–1129
├ 5’ Cable, Bus/Tag In	370–1132 ←¤
└ RS232 Cable, (20')	530–1364
Sun–2 VME SCSI Option Assy †	★ 501–1138
├ 3X2 Adapter Board	★ 501–1220
└ Sun–2 VME SCSI Board	501–1045
Sun–3 VME SCSI Assy	★ 501–1217
├ 3X2 Adapter Board	★ 501–1220
└ Sun–3 VME SCSI Board	★ 501–1236
VME Floating Point Accelerator Board (FPA)	★ 501–1105
VME Sun IPC Board	★ 501–1125
SunIPC w/80287	★ 501–1125
├ Printer Port Loopback Test Plug	501–1196
└ External I/O Cable	370–1125
SunIPC w/o 80287	★ 501–1214
├ Printer Port Loopback Test Plug	501–1196
└ External I/O Cable	370–1125
MAPKIT Assy	501–1202

† Replace an entire VME assembly, do not replace the individual boards or board sets; see the Systech Cross–Reference Table in the Communication section of Configurations.

Sun–3/470 and Sun–4/370

12–Slot Office Pedestal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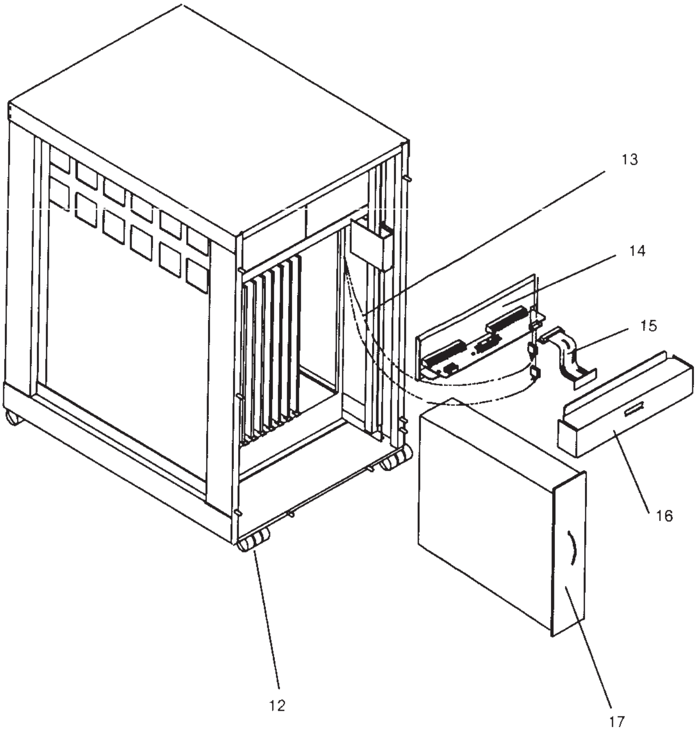
Sun–3/470 & Sun–4/370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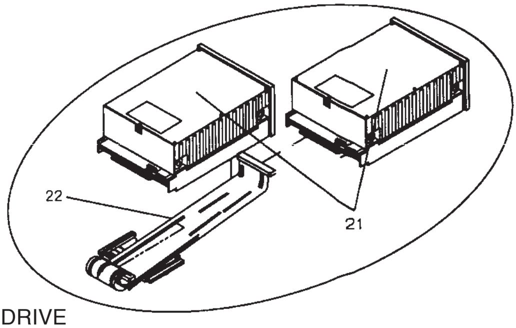
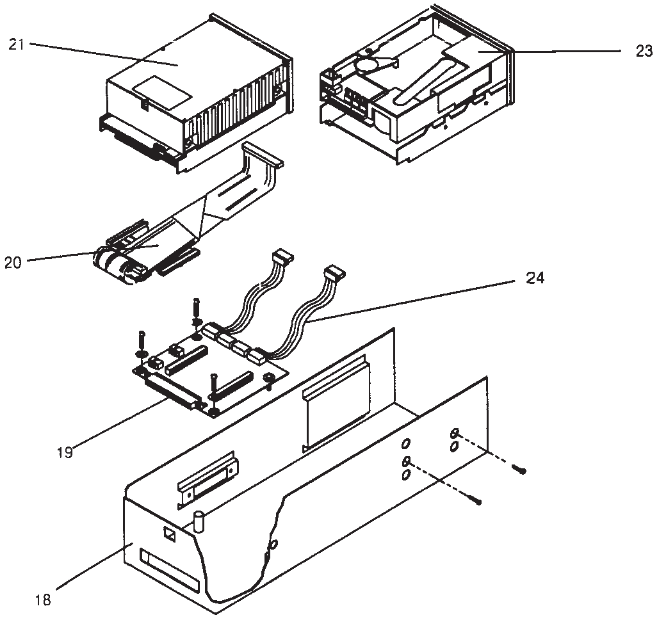
Sun–3/470 & Sun–4/370
Assembly 4 – Peripheral Tray

DUAL DISK DRIVES



DISK DRIVE and TAPE DRIVE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Sun–3/470 & Sun–4/370
Parts List

CODE	PART NUMBER	DESCRIPTION
1	501–1439	12–Slot Backplane
2	340–1877	Side Cover ⟵¤
2	540–1846	Side Cover
3	340–1898	Top Cover
4		Refer to Assembly 4 – Peripheral Tray (Code 18–24)
5	330–1192	Bezel Insert, Disc Tray or Blank Tray
6	330–1210	Bezel Insert, Tape Tray
7	540–1731	Front Bezel Assembly
NS	240–0558	• Miniball receptacle
NS	240–0557	• Miniball fastener
8	540–1849	Front Bumper
9	340–1871	Front EMI Shield (w/o switch assy)
10	540–1748	Switch Assembly
NS	330–1212	• Plastic Remote Switch
NS	330–1213	• Plastic Remote Switch Block
NS	340–1336	• Remote Switch Housing
11	540–1751	Fan Tray Assembly (FRU)
NS	530–1482	• Fan tray DC Wire Harness
NS	540–1732	• Fan Assembly (single fan)
12	240–8503	Caster ⟵¤
12	340–2129	Caster
NS	340–1878	Rear Bezel ⟵¤
NS	540–1848	Rear Bezel
NS	540–1749	Rear Bumper
13	530–1480	Backplane–to–Interface PCB DC Wire Harness
14	501–1493	Interface PCB (SCSI Bus & DC Power)
NS	140–1019	• 15 Amp Fuse
15	530–1494	SCSI Bus Internal Command Cable, 25.4 CM
16	340–1892	SCSI PCB Cover
17	300–1047	925W Power Supply
18	340–1903	Peripheral Tray Base
19	501–1496	Peripheral Tray Interface PCB
20	530–1498	Internal SCSI Bus Cable, 83.5 CM*
21	370–1153	327MB Embedded Disk Drive
21	370–1230	327MB Embedded Disk Drive
22	530–1500	Internal SCSI Bus Cable, 83.5 CM[†]
23	370–1206	150MB Embedded Tape Drive
23	370–1247	60MB Tape & MT02
24	530–1499	Peripheral Tray DC Harness

*Tape only and Disk with Tape option trays use internal SCSI cable 530–1498.

† Disc only, Dual Disk, and Empty option trays use internal SCSI cable 530–1500.

Sun–3/470 & Sun–4/3/0

Keyboard and Mouse

Type–4 Keyboard & Mouse

Type–4 Keyboard w Mini Din

- ★ 320–1005
  - 530–1478, 2.0M DB15 – Mini Din
  - 530–1479, 4.6M DB15 – Mini Din

Sun–4 Mouse w Mini Din & Pad

- ★ 370–1161
  - ★ 370–1170, M4 200 CPI Mouse
  - 370–1215, M4 200 CPI Pad
  - 580–1193, Package

Sun–3/470/480 Card Cage

DESCRIPTION	PART NUMBER
Sun 12–Slot Backplane (Sun–3/470)	501–1439
Sun 12–Slot Backplane (Sun–3/480)	501–1117
Sun 12–Slot Backplane (Sun–3/480)	501–1092 ←¤
Sun–3400 CPU, 0MB (Pegasus)	★ 501–1299 ←¤
Sun–3400 CPU, 0MB (Pegasus)	★ 501–1550
Sun–3 Memory Expansion Board, 8MB ECC	★ 501–1102
Sun–3 Memory Expansion Board, 32MB ECC	★ 501–1451
Sun–2 VME Color Board	★ 501–1014
Graphics Processor (GP)	★ 501–1055
Graphics Processor Plus (GP+)	★ 501–1139 ◀Ⓐ
Graphics Buffer (GB)	★ 501–1058
Sun–3 VME Color Board	★ 501–1116
TAAC–1 †	★ 501–1383
├─ Color Cable, 50 CM	★ 501–1415
├─ POP PCB [DRU]	★ 501–1331
└─ DFB PCB [DRU]	★ 501–1330
TAAC–1 †	★ 501–1447
├─ Color Cable, 50 CM	★ 501–1415
├─ POP PCB [DRU]	★ 501–1448
├─ DFB PCB [DRU]	★ 501–1449
└─ Daughter Board	501–1456
P4 Mono Frame Buffer	★ 501–1247
P4 MG3 Mono Frame Buffer	★ 501–1402
CG5 Color Frame Buffer	★ 501–1267
GP2 Graphics Processor	★ 501–1268
P4 CG4 Color Frame Buffer (BNC)	★ 501–1248
P4 CG6 Color Frame Buffer (DB13W3) {Lego}	★ 501–1374
P4 CG6 Color Frame Buffer (DB13W3) {Lego}	★ 501–1532
P4 CG8 24–Bit Color Frame Buffer (BNC) {IBIS}	★ 501–1371
P4 CG8 24–Bit Color Frame Buffer (DB13W3) {IBIS}	★ 501–1518
CG9 Color Frame Buffer {Crane}	★ 501–1434
Xylogics 450 SMD Disk Option Assy †	★ 501–1154
├─ VME To Multibus Adapter Assy for 450	★ 501–1186
├─ Xylogics 450 Controller Board	★ 501–1012
├─ Output Cable, SMD Disk Data	501–1147
└─ Output Cable, SMD Disk Command	501–1148

† Replace an entire VME assembly, do not replace the individual boards or board sets.

Sun–3/470/480 Card Cage (Cont.)

DESCRIPTION	PART NUMBER
Xylogics 451 SMD Disk Option Assy †	★ 501–1166
├ VME To Multibus Adapter Assy for 451	★ 501–1186
├ Xylogics 451 Controller Board	★ 370–1082
├ Output Cable, SMD Disk Data	530–1147
└ Output Cable, SMD Disk Command	530–1148
Xylogics 7053	★ 501–1249
├ External Disk Command Cable, Mass Storage Pedestal	530–1331
├ External Disk Data Cable, Mass Storage Pedestal	530–1330
├ External Disk Command Cable, 892MB Disk	530–1354
├ External Disk Data Cable, 892MB Disk	530–1355
└ External Disk Daisy Chain Cable, 892MB Disk	530–1356
Xylogics 472 1/2–Inch Tape Option (6250 bpi Drive) Assy †	★ 501–1155
├ VME To Multibus Adapter Assy (Option 161C)	★ 501–1187
├ Xylogics 472 Tape Controller Board	★ 370–1067
└ Output Cable, Int. 1/2” Tape, 1600/6250 bpi (2 ea)	530–1165
Tapemaster 1/2–Inch Tape Option (1600 bpi Drive) Assy †	★ 501–1156
├ VME To Multibus Adapter Assy (Option 161C)	★ 501–1187
├ Tapemaster Controller Board	★ 370–0502
└ Output Cable, Int. 1/2” Tape, 1600/6250 bpi (2 ea)	530–1165
2nd Ethernet Option Assy †	★ 501–1153
├ VME To Multibus Adapter Board	★ 501–1054
├ Sun–2 Ethernet Board	★ 501–1004
└ Output Cable, Int. Ethernet (2nd PCB)	530–1173
VME To Multibus Adapter Assembly	★ 501–1054
VME To Multibus Adapter Assembly	★ 540–1250 ←¤
3X2 Adapter, w/P2 (Option 160A)	★ 501–1269
3X2 Adapter, w/o P2 (Option 160B)	★ 501–1191
16–Channel VME ALM Communications Assembly †	★ 501–1157
├ Output Cable, ALM Controller	530–1251
├ Output Cable, ALM J2–J5 (4 ea)	530–1252
├ Loopback Test Plug, RS–232	540–1281
└ Loopback Test Plug, RS–232	540–1558
ALM–2	501–1203
├ Cable (x2)	530–1334
├ DCA Assembly	540–1526
├ Wall Bracket	340–1587
├ Rack Bracket	340–1569
├ Loopback Test Plug, Printer Port	540–1560
└ Loopback Test Plug, RS–232/RS–423	540–1558
Multiprotocol Communication Processor (MCP)	★ 501–1221
├ Loopback Test Plug, RS–232/RS–423	540–1560
└ Loopback Test Plug, RD–232/RS–423	540–1558

† Replace an entire VME assembly, do not replace the individual boards or board sets.

Sun–3/470/480 Card Cage (Cont.)

DESCRIPTION	PART NUMBER
SCP & VSCP Option (SunLink Assy) †	501–1158
├─ VME To Multibus Adapter Board	★ 501–1054
├─ SCP Board	★ 370–1049
├─ Loopback Test Plug, RS–232	540–1281
├─ Loopback Test Plug, RS–449	540–1309
├─ Output Cable, SCP RS–232 Long	530–1178
├─ Output Cable, SCP RS–232 Short	530–1179
├─ Output Cable, SCP RS–449 Long	530–1180
├─ Output Cable, SCP RS–449 Short	530–1181
└─16–Channel USART Panel	★ 811–1100
SunLink Channel Adapter †	★ 370–1128 ←¤
SunLink Channel Adapter †	★ 501–1460
├─ Loopback Test Cable	370–1134
├─ Bus Terminator Plug	370–1135
├─ Tag Terminator Plug	370–1136
├─ 8' Cable, Bus/Tag Out	370–1130
├─ 5' Cable, Bus/Tag In	370–1131 ←¤
├─ 8' Cable, Bus/Tag Out	370–1129
├─ 5' Cable, Bus/Tag In	370–1132 ←¤
└─ RS232 Cable, (20')	530–1364
SunLink High–speed Serial Interface Board	★ 501–1338
├─ HSI to DSU Cable, V.35	530–1425
├─ Loopback Plug, V.35	530–1426
└─ Loopback Plug, RS–449/RS–422	530–1430
Sun–2 VME SCSI Option Assy †	★ 501–1149
├─ 3X2 Adapter Board	★ 501–1059
└─ Sun–2 VME SCSI Board †	★ 501–1045
Sun–3 VME SCSI Assy	★ 501–1170
├─ 3X2 Adapter Board	★ 501–1059
└─ Sun–3 VME SCSI Board	501–1236
Floating Point Accelerator	★ 501–1105
SunIPC w/80287	★ 501–1125
├─ Printer Port Loopback Test Plug	501–1196
└─ External I/O Cable	370–1125
SunIPC w/o 80287	★ 501–1214
├─ Printer Port Loopback Test Plug	501–1196
└─ External I/O Cable	370–1125
MAPKIT Assy	501–1202

† Replace an entire VME assembly, do not replace the individual boards or board sets.

Sun–4/110 & 4/150 Systems

Monitor

19” Mono. ECL Monitor w/o OCLI 3/160 Only

★ 365–1016 (115V)
★ 365–1014 (240V)
★ 540–1240

- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- ¤→ 530–1133, replaced by 530–1336
- 530–1336, Ext. Video Cable, 5M
- 530–1359, Ext. Video Cable, 1.2M
- 140–1022, Fuse, 1.6A (115V)
- 150–1051, Fusecarrier (240V)
- 140–1034, Fuse, 2A (240V)

19” Grayscale Monitor

★ 365–1010 (115V)
★ 365–1009 (240V)
540–1514

- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- 530–1308, Ext. Video Cable, 5M
- 530–1363, Ext. Video Cable, 1.2M
- 140–1022, 1.6A Fuse (115V)
- 150–1051, Fusecarrier (240V)
- 140–1034, Fuse, 2A (240V)

16” Color Monitor

365–1020 (115V)
★ 365–1022 (240V)
360–1015 (115V) *

- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- 530–1362, Ext. Video Cable, 1.2M
- 530–1307, Ext. Video Cable, 5M

*With upgrade only

19” Hi–Res Monitor 3/260/280 & 4/260/280 only

★ 365–1005 (115V)
★ 365–1007 (240V)
★ 540–1427

- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- 530–1242, Ext. Video Cable, 1M
- 530–1336, Ext. Video Cable, 5M
- 530–1359, Ext. Video Cable, 1.2M
- 140–1022, 1.6A Fuse (115V)
- 150–1051, Fusecarrier (240V)
- 140–1034, Fuse, 2A (240V)

19” Color Monitor

★ 365–1000 (115V)
★ 365–1006 (240V)
★ 540–1094 ◀Ⓐ

- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- 530–1307, Ext. Video Cable, 5M
- 530–1362, Ext. Video Cable, 1.2M
- 140–1022, Fuse, 1.6A (115V)
- 150–1051, Fusecarrier (240V)
- 140–1034, Fuse, 2A (240V)

Sun–4/110 & 4/150 Systems
Keyboard and Mouse

Sun–3 Keyboard & Mouse

Sun–3 Keyboard w RJ11
★ 370–1095
★ 370–1063 ←¤

Sun–3 Mouse w RJ11 & Pad
★ 370–1091
★ 370–1058 ←¤

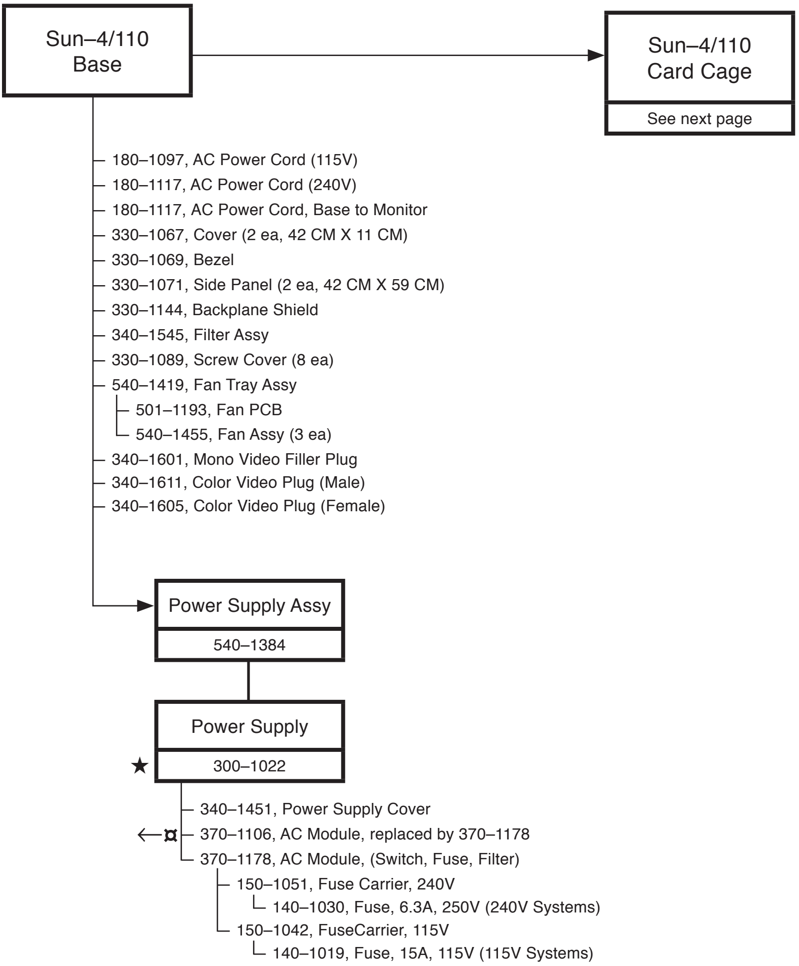
Sun–4 Mouse w RJ11 & Pad
★ 365–1042
- ★ 370–1169, M4 200 CPI Mouse
- ¤→ 370–1171, M4 200 CPI .062” Pad
- 370–1215, M4 200 CPI .032” Pad

Type–4 Keyboard & Mouse

Type–4 Keyboard w Mini Din
★ 320–1005
- 530–1478, 2.0M DB15 – Mini Din
- 530–1479, 4.6M DB15 – Mini Din

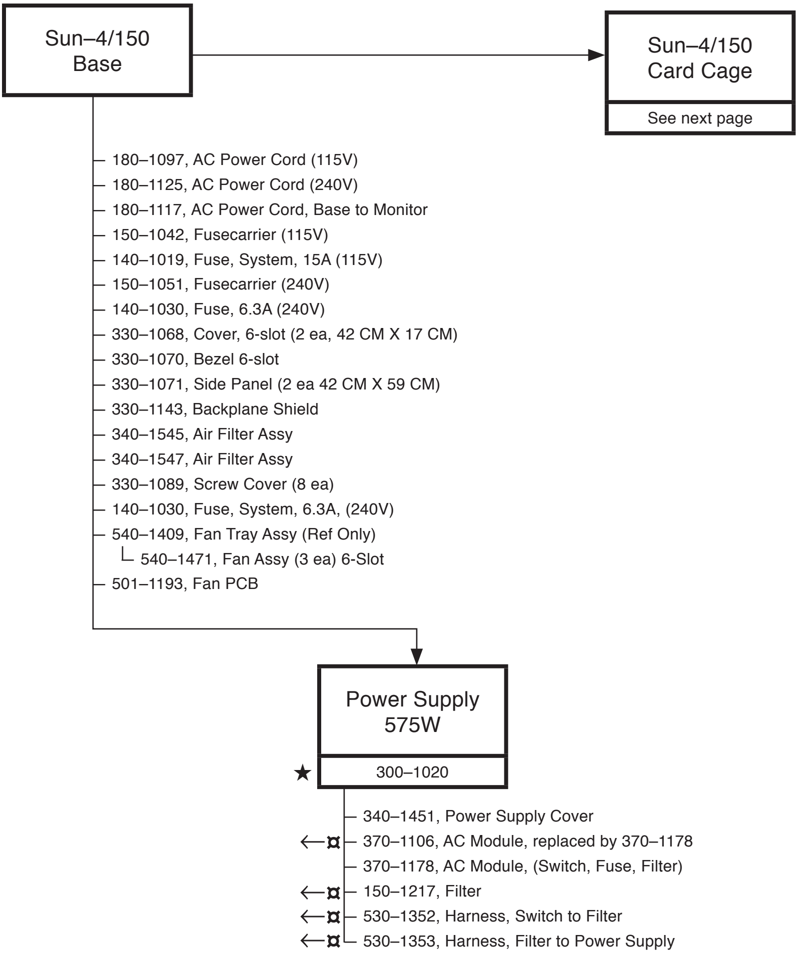
Sun–4 Mouse w Mini Din & Pad
★ 370–1161
- ★ 370–1170, M4 200 CPI Mouse
- 370–1215, M4 200 CPI Pad
- 580–1193, Package

Sun–4/110 Base Assembly



- Sun–4/110 Base → Sun–4/110 Card Cage (See next page)
  - 180–1097, AC Power Cord (115V)
  - 180–1117, AC Power Cord (240V)
  - 180–1117, AC Power Cord, Base to Monitor
  - 330–1067, Cover (2 ea, 42 CM X 11 CM)
  - 330–1069, Bezel
  - 330–1071, Side Panel (2 ea, 42 CM X 59 CM)
  - 330–1144, Backplane Shield
  - 340–1545, Filter Assy
  - 330–1089, Screw Cover (8 ea)
  - 540–1419, Fan Tray Assy
    - 501–1193, Fan PCB
    - 540–1455, Fan Assy (3 ea)
  - 340–1601, Mono Video Filler Plug
  - 340–1611, Color Video Plug (Male)
  - 340–1605, Color Video Plug (Female)
  - → Power Supply Assy, 540–1384
    - ★ Power Supply, 300–1022
      - 340–1451, Power Supply Cover
      - ←¤ 370–1106, AC Module, replaced by 370–1178
      - 370–1178, AC Module, (Switch, Fuse, Filter)
        - 150–1051, Fuse Carrier, 240V
          - 140–1030, Fuse, 6.3A, 250V (240V Systems)
        - 150–1042, FuseCarrier, 115V
          - 140–1019, Fuse, 15A, 115V (115V Systems)

Sun–4/150 Base Assembly



- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- 180–1117, AC Power Cord, Base to Monitor
- 150–1042, Fusecarrier (115V)
- 140–1019, Fuse, System, 15A (115V)
- 150–1051, Fusecarrier (240V)
- 140–1030, Fuse, 6.3A (240V)
- 330–1068, Cover, 6-slot (2 ea, 42 CM X 17 CM)
- 330–1070, Bezel 6-slot
- 330–1071, Side Panel (2 ea 42 CM X 59 CM)
- 330–1143, Backplane Shield
- 340–1545, Air Filter Assy
- 340–1547, Air Filter Assy
- 330–1089, Screw Cover (8 ea)
- 140–1030, Fuse, System, 6.3A, (240V)
- 540–1409, Fan Tray Assy (Ref Only)
  - 540–1471, Fan Assy (3 ea) 6-Slot
- 501–1193, Fan PCB

Power Supply 575W, ★ 300–1020

- 340–1451, Power Supply Cover
- ←¤ 370–1106, AC Module, replaced by 370–1178
- 370–1178, AC Module, (Switch, Fuse, Filter)
- ←¤ 150–1217, Filter
- ←¤ 530–1352, Harness, Switch to Filter
- ←¤ 530–1353, Harness, Filter to Power Supply

* When AC Module, 370–1106, is replaced with AC Module, 370–1178, remove the Filter,150–1217.

Sun–4/110 Card Cage

DESCRIPTION	PART NUMBER
CARD CAGE	540–1385
3–Slot Backplane (PressFit)	501–1127
Sun–4 CPU Board, 8MB w/o FPU	★ 501–1199
Sun–4 CPU Board, 8MB w FPU	★ 501–1237
Sun–4 CPU Board, 16MB w/o FPU	★ 501–1462
Sun–4 CPU Board, 16MB w FPU	★ 501–1463
Sun–4 CPU Board, 32MB w/o FPU	★ 501–1464
Sun–4 CPU Board, 32MB w FPU	★ 501–1465
Sun–4 CPU Board, (–04 FAB), 8MB w/o FPU	★ 501–1512
Sun–4 CPU Board, (–04 FAB), 8MB w FPU	★ 501–1513
Sun–4 CPU Board, (–04 FAB), 16MB w/o FPU	★ 501–1514
Sun–4 CPU Board, (–04 FAB), 16MB w FPU	★ 501–1515
Sun–4 CPU Board, (–04 FAB), 32MB w/o FPU	★ 501–1516
Sun–4 CPU Board, (–04 FAB), 32MB w FPU	★ 501–1517
Loopback Test Plug, CPU SCSI Port	501–1344
Sun–4 Memory Expansion Module, 256K SIMM	★ 501–1314
Sun–4 Memory Expansion Module, 1MB SIMM	★ 501–1466
Sun–3 VME Color Board	★ 501–1116
Sun–3 VME Color Board (Double Buffer)	★ 501–1089
Sun–3 VME Color Board 1K x 1K	★ 501–1319
P4 Mono Frame Buffer	★ 501–1247
P4 Color Frame Buffer	★ 501–1248
CG5 Color Frame Buffer	★ 501–1267
P4 CG6 Color Frame Buffer {Lego}	★ 501–1374
P4 Color Frame Buffer, 24–bit (BNC) {IBIS}	★ 501–1371 ←¤
P4 CG8 24–Bit Color Frame Buffer (DB13W3) {IBIS}	★ 501–1518
ALM–2	★ 501–1203
├─ Cable (x2)	530–1334
├─ DCA Assembly	★ 540–1526
├─ Wall Bracket	340–1587
├─ Rack Bracket	340–1569
├─ Loopback Test Plug, Printer Port	540–1560
└─ Loopback Test Plug, RS–232/RS–423	540–1558
Multiprotocol Communication Processor (MCP)	★ 501–1221
├─ Loopback Test Plug, RS–232/RS–423	530–1560
└─ Loopback Test Plug, RS–449	530–1558
SunLink High–speed Serial Interface Board	★ 501–1338
├─ HSI to DSU Cable, V.35	530–1425
├─ Loopback Plug, V.35	530–1426
└─ Loopback Plug, RS–449/RS–422	530–1430

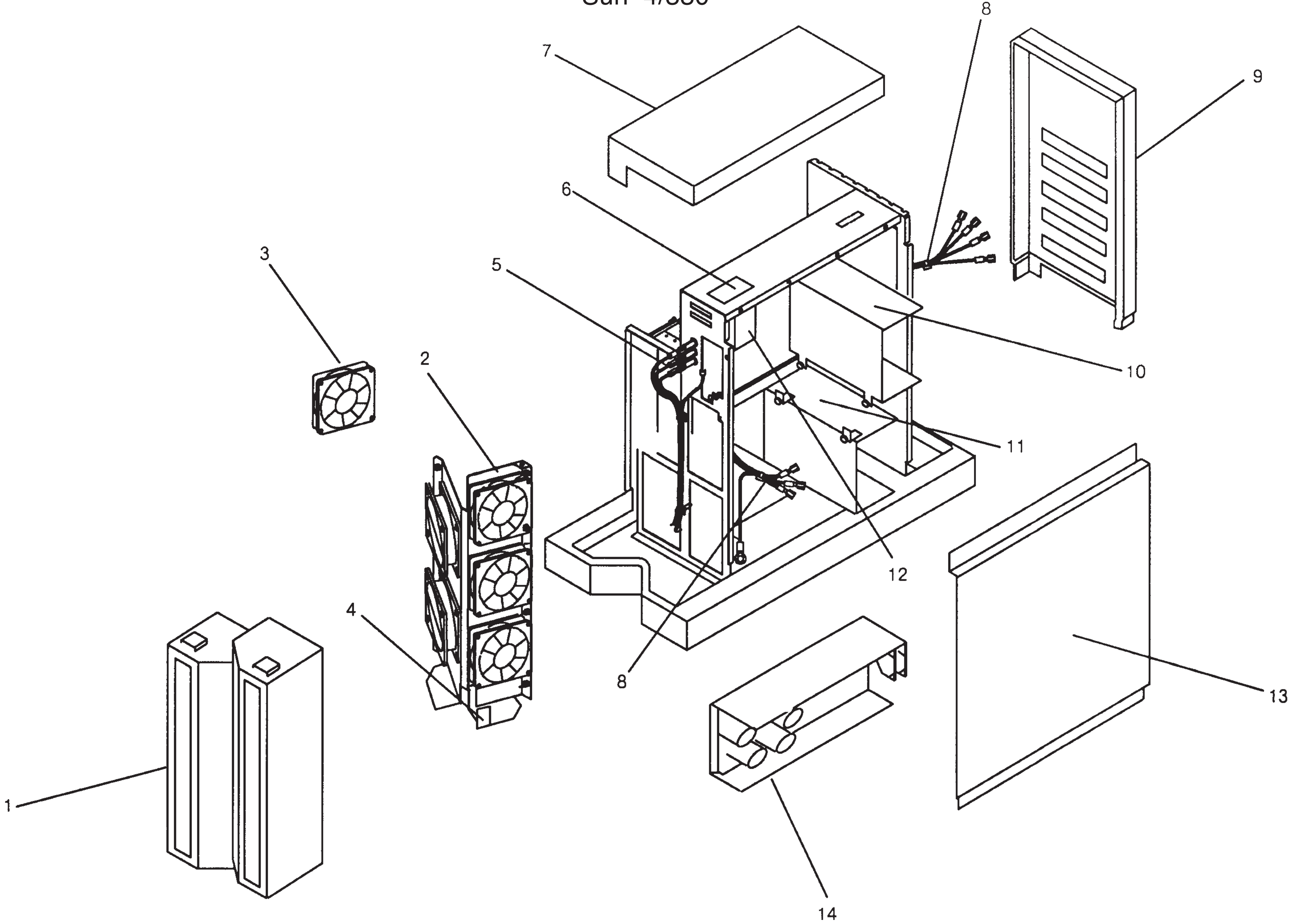
Sun–4/150 Card Cage

DESCRIPTION	PART NUMBER
CARD CAGE	540–1382
6–Slot Backplane (PressFit)	501–1128
Sun–4 CPU Board, 8MB w/o FPU	★ 501–1199
Sun–4 CPU Board, 8MB w FPU	★ 501–1237
Sun–4 CPU Board, 16MB w/o FPU	★ 501–1462
Sun–4 CPU Board, 16MB w FPU	★ 501–1463
Sun–4 CPU Board, 32MB w/o FPU	★ 501–1464
Sun–4 CPU Board, 32MB w FPU	★ 501–1465
Sun–4 CPU Board, (–04 FAB), 8MB w/o FPU	★ 501–1512
Sun–4 CPU Board, (–04 FAB), 8MB w FPU	★ 501–1513
Sun–4 CPU Board, (–04 FAB), 16MB w/o FPU	★ 501–1514
Sun–4 CPU Board, (–04 FAB), 16MB w FPU	★ 501–1515
Sun–4 CPU Board, (–04 FAB), 32MB w/o FPU	★ 501–1516
Sun–4 CPU Board, (–04 FAB), 32MB w FPU	★ 501–1517
Loopback Test Plug, CPU SCSI Port	501–1344
Sun–4 Memory Expansion Module, 256K SIMM	★ 501–1314
Sun–4 Memory Expansion Module, 1MB SIMM	★ 501–1466
P4 Mono Frame Buffer	★ 501–1247
P4 CG4 Color Frame Buffer	★ 501–1248
CG5 Color Board	★ 501–1267
Sun–3 VME Color Board	★ 501–1116
GP2	★ 501–1268
TAAC–1	★ 501–1383
├─ Color Cable. 50 CM	★ 501–1415
├─ POP PCB [DRU]	★ 501–1331
└─ DFB PCB [DRU]	★ 501–1330
TAAC–1	★ 501–1447
├─ Color Cable, 50 CM	★ 501–1415
├─ POP PCB [DRU]	★ 501–1448
├─ DFB PCB [DRU]	★ 501–1449
└─ Daughter Board Board	★ 501–1456
P4 CG6 Color Frame Buffer (DB13W3) {Lego}	★ 501–1374
P4 CG6 Color Frame Buffer (DB13W3) {Lego}	★ 501–1532
P4 CG8 24–Bit Color Frame Buffer (BNC) {IBIS}	★ 501–1371 ←¤
P4 CG8 24–Bit Color Frame Buffer (DB13W3) {IBIS}	★ 501–1518
CG9 Color Frame Buffer	★ 501–1434

Sun–4/150 Card Cage (Cont.)

DESCRIPTION	PART NUMBER
CARD CAGE	540–1385
ALM–2	★ 501–1203
├ Cable (x2)	530–1334
├ DCA Assembly	540–1526
├ Wall Bracket	340–1587
├ Rack Bracket	340–1569
├ Loopback Test Plug, Printer Port	540–1560
└ Loopback Test Plug, RS–232/RS–423	540–1558
Multiprotocol Communication Processor (MCP)	501–1221
├ Loopback Test Plug, RS–232/RS–423	530–1560
└ Loopback Test Plug, RS–449	530–1558
SunLink High–speed Serial Interface Board	★ 501–1338
├ HSI to DSU Cable, V.35	530–1425
├ Loopback Plug, V.35	530–1426
└ Loopback Plug, RS–449/RS–422	530–1430

Sun–4/330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Sun–4/330

Parts List

CODE	PART NUMBER	DESCRIPTION
1	330–1178	Rear Cover
NS	330–1180	Cable Retainers
2	530–1470	Fan and Bracket Assembly
NS	530–1468	• Fan Harness *
3	540–1788	• Fan Assembly
4	540–1811	• AC Receptacle
5	530–1470	AC Input Harness
6	340–1772	SCSI Terminator Access Panel
NS	501–1432	• SCSI IN Terminator PCB
NS	501–1416	• SCSI OUT Terminator PCB
NS	120–1608	• 220/330 Terminator
NS	530–1434	External SCSI Cable 45 CM (mini50–mini50)
7	540–1789	Top Cover Assembly
8	530–1469	AC Harness, internal
9	540–1787	Front Cover Assembly
10	540–1757	Upper Drive Tray Assy
NS	340–1800	• Tape Filler Panel
11	540–1758	Lower Drive Tray Assy
NS	370–1230	327MB Embedded Disk
NS	370–1205	150MB Embedded Tape
	530–1466	Internal SCSI Cable
12	150–1129	AC Line Filter
13	340–1792	Left Cover
NS	340–1793	Right Cover
NS	340–1677	6U Filler Panel
NS	340–1784	6U Side Cover
NS	340–1676	3U Top Cover
NS	501–1354	Backplane
NS	340–1790	Caster Mount
NS	240–1604	Caster Stem
NS	240–1605	Caster
NS	150–1323	AC On/Off Switch
10	300–1034	520W Power Supply
NS	530–1465	DC Wire Harness

Note: Wire harnesses, 530–1465, 530–1468, and 530–1469, are NOT field repairable or replaceable. Wire Harness, 530–1469, is routed between two sections of sheetmetal that are riveted in place. The Chassis must be repaired at the depot if these harnesses require servicing,

Sun–4/330

Parts List (Continued)

CODE	PART NUMBER	DESCRIPTION
NS	240–1592	#4–40 x 1/4” Screw
NS	240–1612	#2–56 x 1/4” Screw
NS	240–1574	#8–32 x 3/8” Screw
NS	240–1187	#6–32 x 1/2” Screw
NS	240–1575	#6–32 x 3/8” Screw
NS	240–1185	#6–32 x 1/4” Screw
NS	240–1589	#6–32 x 7/8” Screw Plastic
NS	240–1649	#8 x 7/8” Screw
NS	240–1650	#8 x 2” Screw
NS	240–1597	M3.5 0.6 x 6mm Screw
NS	240–1185	M3 x 6mm SEM Screw
NS	240–1598	M6 1.0x16mm Screw
NS	240–1035	#6 Lockwasher
NS	240–1061	#4 Kepnut
NS	240–1579	Dowel 5/16 x 1/2”
NS	240–1616	Clip Fastener
NS	240–1600	Standoff

Sun–4/330
Keyboard and Mouse

Type-4 Keyboard & Mouse

Type–4 Keyboard w Mini Din

- ★ 320–1005
  - 530–1478, 2.0M DB15 – Mini Din
  - 530–1479, 4.6M DB15 – Mini Din

Sun–4 Mouse w Mini Din & Pad

- ★ 370–1161
  - ★ 370–1170, M4 200 CPI Mouse
  - 370–1215, M4 200 CPI Pad
  - 580–1193, Package

Sun–4/390

SPARCserver 390 Chassis

- 150–1397, Indicator LED
- 180–1189, 230V Power Cord
- 180–1190, 240V Power Cord
- 230–0203, Cabletie. 4”
- 240–1287, M2.5 0.45 x 16MM Screw
- 240–1372, M4 0.7 x 10MM SEM Screw
- 240–1411, M3 0.5 x 12MM Screw
- 240–1621, M3 0.5 x 8MM Screw
- 300–1047, Power Supply, 925W
- 340–1833, Front RFI Shield
- 501–1498, 16–slot Backplane
- 530–1534, SCSI Power Cable, Ext
- 530–1474, SCSI Bus Cable, 73CM, Int
- 530–1507, SCSI Power Cable, Int
- 540–1719, Blower Assy
  - 540–1840, Centrifugal Fan Assy (x2)
  - 530–1560, Cable, 32.5CM, Fan to Terminal (x2)
  - 530–1561, Cable, 86.5CM, AC Input to Terminal
  - 150–1393, Capacitor (x2)
  - 240–1614, Terminal Block
- 540–1869, Load Resistor Assy

Sun386i Monitor Options

Monitor–Keyboard–Mouse

150/250 14” Color	Low Resolution (1024 x 786)
360–1033	(115V) [FCC–A]
360-1034	(240V) [FCC–A]
360–1035	(115V) [FCC–B]
360–1036	(240V) [FCC–B]

- 530–1370, AC Power Cord (115V)
- 530–1366, Keyboard Cable, Color
- 140–1034, Fuse, 2A (240V)
- 150–1051, Fusecarrier (240V)
- 501–1286, Color Frame Buffer, 1024 x 786
- ¤→ 320–1003, Type–4 Keybd, Domestic
- 320–1005, Type–4 Keybd, Domestic
- 370–1161, Optical Mouse/Pad

150/250 16” Color	High Resolution (1152 x 900)
365–1020	(115V)
365–1022	(240V)

- 530–1370, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- 530–1366, Keyboard Cable, Color
- 140–1034, Fuse, 2A (240V)
- 150–1051, Fusecarrier (240V)
- 501–1243, Color Frame Buffer, 1152 x 900
- ¤→ 320–1003, Type–4 Keyboard, Domestic
- 320–1005, Type–4 Keyboard, Domestic
- 370–1161, Optical Mouse/Pad

150/250 15” Mono	Low Resolution (1024 x 768)
360–1026	(115V)
360–1038	(240V)

- 360–1038, AC Power Cord (240V)
- 530–1370, AC Power Cord (115V)
- 530–1383, Monitor/Keyboard Cable
- 501–1433, Mono FB 1024 x 786
- 501–1568, Mono FB 1024x786
- 320–1005, Type–4 Keybd, Domestic
- 370–1161, Optical Mouse/Pad

150/250 19” Color	High Resolution (1152 x 900)
365–1000	(115V)
365–1006	(240V)

- 530–1370, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- 530–1366, Keyboard Cable, Color
- 140–1034, Fuse, 2A (240V)
- 150–1051, Fusecarrier (240V)
- 501–1243, Color Frame Buffer, 1152 x 900
- ¤→ 320–1003, Type–4 Keyboard, Domestic
- 320–1005, Type–4 Keyboard, Domestic
- 370–1161, Optical Mouse/Pad

150/250 19” Mono. ECL w/o OCLI	High Resolution (1152 x 900)
365–1016	(115V)
365–1014	(240V)

- 530–1370, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- 530–1383, Monitor/Keyboard Cable
- 140–1034, Fuse, 2A (240V)
- 150–1051, Fusecarrier (240V)
- 501–1244, Mono FB 1152 x 900
- 501–1567, Mono FB 1152 x 900
- ¤→ 320–1003, Type–4 Keyboard, Domestic
- 320–1005, Type–4 Keyboard, Domestic
- 370–1161, Optical Mouse/Pad

Sun386i Chassis Assembly

Sun386i Chassis

- 150 → Chassis 150
- 250 → Chassis 250
- 230–1115, Clip, Quarter Turn
- 330–1118, Rear Bezel
- 350–1001, Assy, Front Bezel
- 350–1005, Assy, Dress Panel, Right
- 350–1006, Assy, Dress Panel, Top
- 350–1007, Assy, Cover, Left
- 370–1150, 3 1/2” Floppy Drive
- ¤→ 370–1184, Fan, 12VDC, replaced by 370–1168 or 370–1271
- 370–1158, Fan, 12VDC
- 370–1271, Fan, 12VDC
- 530–1375, Floppy/Disk DC Harness
- 530–1377, Floppy Data Cable
- 530–1380, Fan, DC Harness
- 540–1612, Speaker Assembly
- 540–1613, DC Power Indicator LED
- 555–1006, 265W Power Supply (FRU)
  - 300–1032, Power Supply ←¤
  - 300–1046, Power Supply
- 530–1370, AC Power Cord (115V)
- 530–1411 AC Power Cord (UK)
- 530–1410, AC Power Cord (Shuko)

Chassis 150

- 501–1241, 20 MHz CPU Board
- 501–1414, 20 MHz CPU Board
- 501–1298, 8MB Memory Bd.
- 501–1325, 4MB Memory Bd.
- 555–1054, 0MB Memory Bd. (FRU)
  - 501–1375, 1MB SIMM Module
  - 501–1424, 1MB SIMM Module
- 501–1441, 8MB Dynamic Mem Bd.
- 501–1394, 4MB Dynamic Mem Bd.
- 501 1423, 0MB Dynamic Mem Bd. (FRU)
  - 501–1424, 1MB SIMM Module
- 501–1482, 0MB XP Cache
  - 501–1510, 1MB SIMM Module
  - 501–1424, 1MB SIMM Module
  - 501–1375, 1MB SIMM Module

Chassis 250

- 501–1324, 20 MHz CPU Board
- 501–1413 25 MHz CPU Bd.
- 501–1298, 8MB Memory Bd.
- 501–1325, 4MB Memory Bd.
- 555–1054, 0MB Memory Bd.
  - 501–1375, 1MB SIMM Module
  - 501–1424, 1MB SIMM Module
- 501–1482, 0MB XP Cache
  - 501–1510, 1MB SIMM Module
  - 501–1424, 1MB SIMM Module
  - 501–1375, 1MB SIMM Module

Sun386i Chassis Internal Disk Options

91MB Subsystem

RR110, 112

- 555–1004, 91MB Disk Drive (FRU)
  - 330–1146, Disk Bracket
  - 330–1158, Disk Handle
  - 370–1229, Disk Drive
- 530–1376, SCSI Cable, Internal
- 530–1381, SCSI Terminator, External

327MB Subsystem

RR111, 114

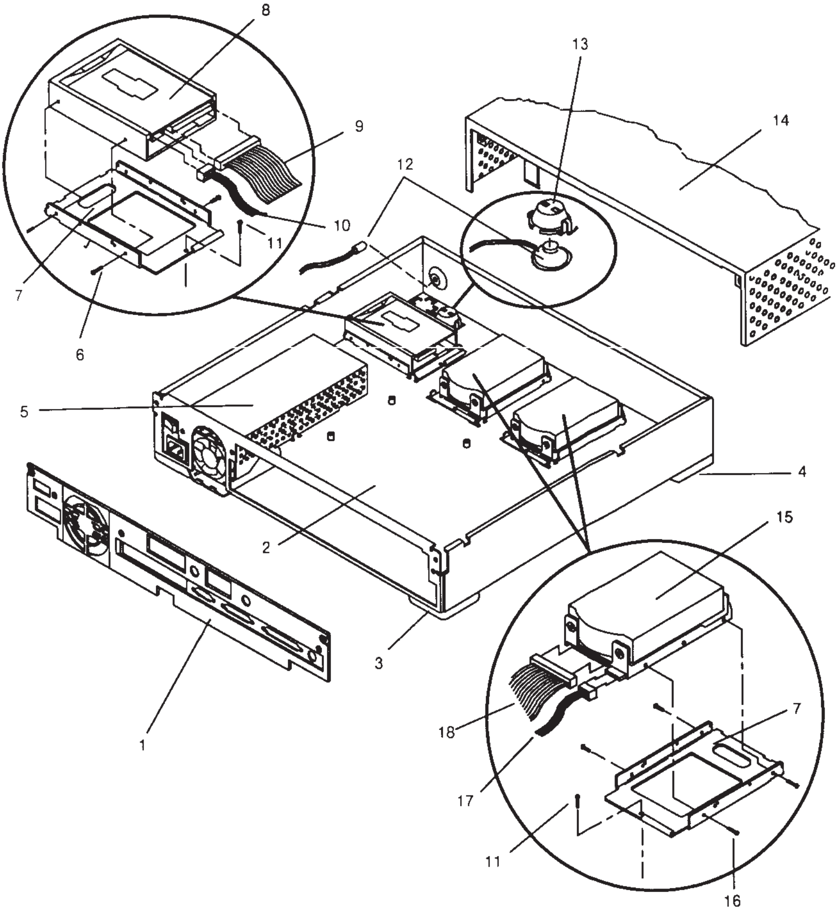
- 555–1059, 327MB Disk Drive (FRU)
  - 330–1146, Disk Bracket
  - 330–1158, Disk Handle
  - 370–1229, Disk Drive
- 530–1376, SCSI Cable, Internal
- 530–1381, SCSI Terminator, External

155MB Subsystem

RR113, 115

- 555–1059, 155MB Disk Drive (FRU)
  - 330–1146, Disk Bracket
  - 330–1158, Disk Handle
  - 370–1229, Disk Drive
- 530–1376, SCSI Cable, Internal
- 530–1381, SCSI Terminator, External

Sun–3/80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Sun–3/80

Parts List

CODE	PART NUMBER	DESCRIPTION
1	540–1710	Rear Panel Assembly
2	540–1701	Base Assembly
NS	230–1140	• LED Mounting Clip
3	330–1214	• Front Foot
4	330–1167	• Rear Foot
5	300–1038	Power Supply
6	240–1530	Screw, M3 x 6MM
7	340–1768	Drive Mounting Bracket
8	370–1207	Floppy Drive
9	530–1452	Floppy Drive Command Cable
10	530–1441	Floppy Drive Power Cable
11	240–1141	Screw, M4 x 10MM
12	540–1703	Speaker and LED Assembly
13	330–1165	Speaker Housing
14	540–1702	Top Cover Assembly
NS	230–1141	• Tinnerman Clip
15	370–1200	100MB Disk Drive
16	240–1531	Screw, #6–32 x 1/4”
17	530–1453	DC Power Harness
18	530–1451	Disk Command Cable
NS	340–1858	Color Frame Buffer Rear Panel
NS	340–1859	Blank Rear Panel

Sun–3/80
Keyboard and Mouse

Type–4 Keyboard & Mouse

Type–4 Keyboard
w Mini Din
★ 320–1005

- 530–1478, 2.0M DB15 – Mini Din
- 530–1479, 4.6M DB15 – Mini Din

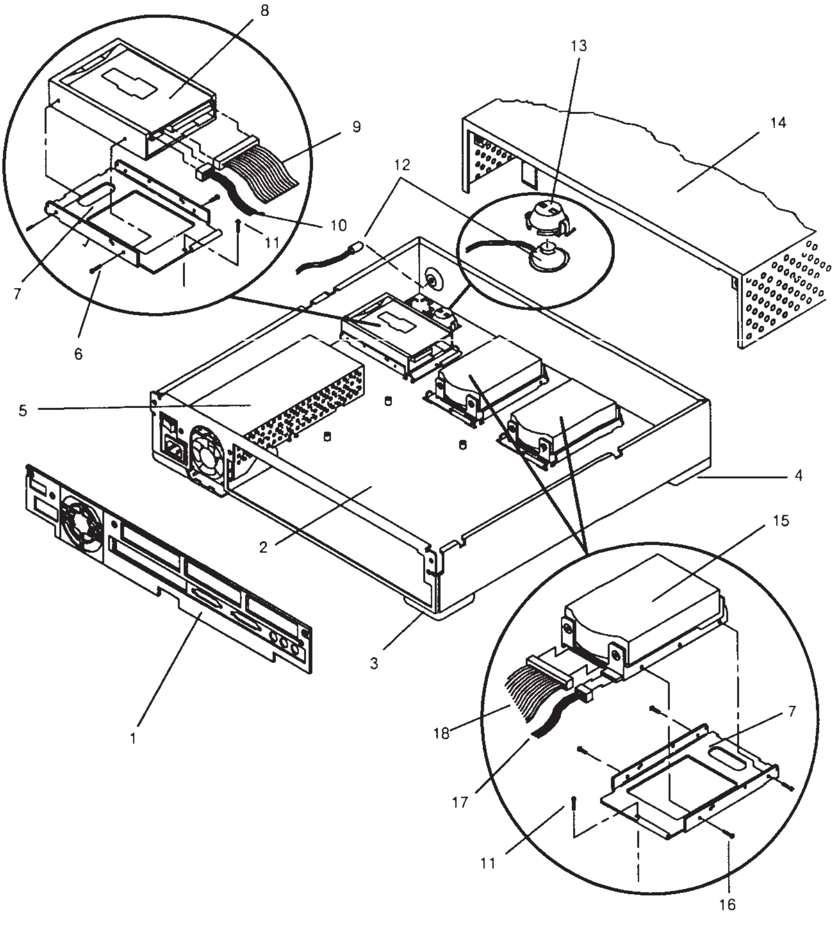
Sun–4 Mouse
w Mini Din & Pad
★ 370–1161

- ★ 370–1170, M4 200 CPI Mouse
- 370–1215, M4 200 CPI Pad
- 580–1193, Package

Sun–3/80 Card Cage Options

DESCRIPTION	PART NUMBER
Sun–3/80 CPU	501–1401
└ SIMM Module, 1MB	501–1408
P4 CG4 Color Frame Buffer (DB13W3)	501–1443
P4 CG4 Color Frame Buffer (DB13W3) with Rear Panel	501–1505
├ Color Cable, 1.2M (DB13W3–DB13W3)	530–1440
├ Color Cable, 15 Ft (DB13W3–DB13W3)	530–1509
├ Color Adapter Cable (DB13W3 – 4x BNC)	530–1446
└ Color Frame Buffer Rear Panel	340–1858
P4 CG8 24–bit Color Frame Buffer (DB13W3) {IBIS}	501–1518
P4 CG8 24–bit Color Frame Buffer (DB13W3) {IBIS} with Rear Panel	501–1577
├ Color Cable, 1.2M (DB13W3–DB13W3)	530–1440
├ Color Cable, 15 Ft (DB13W3–DB13W3)	530–1509
├ Color Adapter Cable (DB13W3 – 4x BNC)	530–1446
└ Color Frame Buffer Rear Panel	340–1858
P4 CG6 Color Frame Buffer (DB13W3) {Lego}	501–1374
P4 CG6 Color Frame Buffer (DB13W3) {Lego}	501–1532
├ Color Cable, 1.2M (DB13W3–DB13W3)	530–1440
├ Color Cable, 15 Ft (DB13W3–DB13W3)	530–1509
├ Color Adapter Cable (DB13W3 – 4x BNC)	530–1446
└ Color Frame Buffer Rear Panel	340–1858
P4 MG3 Mono Framer Buffer (DB13W3 & DB9) {Seam}	501–1402
├ Color Cable, 1.2M (DB13W3–DB13W3)	530–1440
├ Color Cable, 15 Ft (DB13W3–DB13W3)	530–1509
├ Color Adapter Cable (DB12W3 – 4x BNC)	530–1446
├ Mono Cable, 1.2M (DB9 – DB9)	530–1359
└ Mono Cable, 4.6M (DB9 – DB9)	530–1336

Sun–4/60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Sun–4/60

Parts List

CODE	PART NUMBER	DESCRIPTION
1	540–1708	Rear Panel Assembly
2	540–1701	Base Assembly
NS	230–1140	• LED Mounting Clip
3	330–1214	• Front Foot
4	330–1167	• Rear Foot
5	300–1038	Power Supply
6	240–1530	Screw, M3 x 6MM
7	340–1768	Drive Mounting Bracket
8	370–1207	Floppy Drive
9	530–1452	Floppy Drive Command Cable
10	530–1441	Floppy Drive Power Cable
11	240–1141	Screw, #6–32 x 1/4”
12	540–1703	Speaker and LED Assembly
13	330–1165	Speaker Housing
14	540–1702	Top Cover Assembly
NS	230–1141	• Tinnerman Clip
15	370–1200	100MB Disk Drive
16	240–1531	Screw, M4 x 10MM
17	530–1453	DC Power Harness
18	530–1451	Disk Command Cable

Sun–4/60

Keyboard and Mouse

Type–4 Keyboard & Mouse

Type–4 Keyboard w Mini Din

★ **320–1005**

- 530–1478, 2.0M DB15 – Mini Din
- 530–1479, 4.6M DB15 – Mini Din

Sun–4 Mouse w Mini Din & Pad

★ **370–1161**

- ★ 370–1170, M4 200 CPI Mouse
- 370–1215, M4 200 CPI Pad
- 580–1193, Package

Sun–4/60

Card Cage Options

DESCRIPTION	PART NUMBER
Sun–4/60 CPU	★ 501–1382
└ SIMM Module, 1MB	★ 501–1408
S4 FPU	★ 501–1454
S4 Ethernet Board	★ 501–1450
S4 CG4 Color Frame Buffer	★ 501–1415
├ Color Cable, 1.2M (DB13W3–DB13W3)	530–1440
├ Color Cable, 15 Ft (DB13W3–DB13W3)	530–1509
└ Color Adapter Cable (DB13W3 – 4x BNC)	530–1446
S4 Mono Frame Buffer (LC)	★ 501–1455
├ Mono Cable. 1.2M (DB9–DB9)	530–1359
└ Mono Cable, 4.6M (DB9–DB9)	530–1336
S4 Mono Frame Buffer (ECL)	★ 501–1419
├ Mono Cable, 1.2M (DB9–DB9)	530–1359
└ Mono Cable, 4.6M (DB9–DB9)	530–1336
S4 CG6 Graphics Accelerator {Lego}	★ 501–1481
├ Color Cable, 1.2M (DB13W3–DB13W3)	530–1440
├ Color Cable, 15 Ft (DB13W3–DB13W3)	530–1509
└ Color Adapter Cable (DB13W3 – 4x BNC)	530–1445

Racks

Sun Full–Height Rack (76”) 3
Sun Half–Height Rack. 4
Sun 56” Server System Cabinet & Expansion System. 5

Sun Full–Height Rack (76")

Sun
Full–Height Rack

370–1053 w door (Ref only) ←¤

370–1105, w/o door (Rel only)

- 540–1285, Key Switch Assy
- 530–1303, Remote Keyswitch Cable
- ★ 300–1011, Power Sequencer, 115V
- ★ 370–1027, Power Sequencer, 230V ←¤
- ★ 370–1155, Power Sequencer 230V
- ★ 370–1126, Power Sequencer 240V ←¤
- ★ 370–1156, Power Sequencer 240V
- 530–1343, Power Cable, Server, 240V
- 530–1347, Power Cable, Eagle XP, 240V
- 530–1346, Power Cable, GCR 1/2”, 240V
- 530–1344, Power Cable, Fan Assy, 240V
- 180–1149, Receptacle, IEC–309, 240V, 32A
- 370–1045, Blower Assy
- 540–1428, Fan Assy, 115V
- 370–0550, Fan, 115V
- 540–1503, Fan Assy, 230V
- 540–1568, Fan Assy, 240V
- 370–1124, Fan, 230V/240V
- 530–1298, Power Cable, Fan Assy, 115V
- 530–1351, Power Cable. Server, 230V
- 530–1349, Power Cable, Eagle XP, 230V
- 530–1348, Power Cable, GCR 1/2”, 230V
- 530–1328, Power Cable, Fan Assy, 230V
- 530–1350, Power Cable, CDC 1/2”, 230V
- 340–1284, Panel, Keyswitch, 7” X 19” ←¤
- 340–1285, Panel, 7” X 19” 170 Rack
- 340–1286, Panel, 3.5” X 19” 170 Rack
- 340–1287, Panel, 24.5” X 19” 170 Rack
- 340–1441, Panel, Keyswitch, 1.5” X 19”
- 340–1442, Panel, GCR Filler, 1.5” X 19”
- 340–1485, Panel, Filler, Back Side
- 340–1487, 3/180 Panel, with Cable
- 340–1489, Hatch Panel, 1.75” X 19”
- 340–1490, Front Filler Panel, 10.5” X 19”
- 340–1554, Panel, 19.6” X 19”
- 340–1583, Bracket, Support Rail
- 340–1584, Support Rail
- 340–1595, Panel, Perforated, 20” X 19”
- 340–1597, Panel. 5.25 X 19”
- 340–1662, Panel, Front, 900MB Disk
- 340–1700, Panel, Front, 3.5” X 19”, 40MM Deep
- 340–1701, Panel, Front, 10.5” X 19”, 40MM Deep
- 340–1715, Window Cover for 240–1662

Sun Half–Height Rack

Sun
Half–Height
Rack

370–1060 (Ref only)

- 340–1468, Plug, Half–Height Rack, Front Door
- 370–1080, Mount Kit, CDC Horizontal
- 370–1093, AC Outlet Strip, (115V only)
- 370–1114, Cover, 1/2” Tape Operator Panel
- 370–1115, Panel 1/2” Tape Operators
- 530–1256, Cable, Internal, 1/2” Tape Command
- 530–1378, External SMD Tape Command Cable
- 530–1379, External SMD Data Cable
- 540–1397, Assy, Panel Half–Height Rack, No Tape

56” Server System Cabinet and Expansion System

56” Server System Cabinet
and Expansion System

- 230–1166, Cable Tie 5.5”, Reuseable
- 230–1170, Cable Tie 10”, Reuseable
- 230–1177, Snap In Clip
- 230–1181, Leveler Foot
- 240–1207, #10–32 x 1/2” Sem Screw
- 240–1372, M4 0.7 x 10MM Sem Screw
- 240–1373. M4 0.7 Kepnut
- 240–1655. #10–32 x 3/4” Screw
- 240–1630, #6–32 Ballstud
- 340–1840, Top Panel
- 340–1845, Rear Panel
- 340–1848, Side Panel
- 340–1881, Hinge Bracket
- 340–1884, Anti–Tilt Panel
- 340–1913, Filler Panel, 5.2” x 19”
- 340–2047, Kick Panel
- 340–1885, Side Restraint Bracket, upper
- 340–1886, Side Restraint Bracket, lower
- 340–2057, 16–slot Chassis Support Rail, Right
- 340–1835, 16–slot Chassis Support Rail, Left
- 370–1155, 230V Power Sequencer
- 370–1156, 240V Power Sequencer
- 370–1210, Caster
- 530–1503, Remote Keyswitch Cable
- 540–1718, Frame Assy
- 540–1857, Vented Panel Assy
- 540–1858. Upper Panel Assy, 1/2” & 1/4” Tape
- 540–1859, Cap Panel Assy
- 540–1285, Keyswitch Assy

External Peripheral Options

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Sun–2 External Peripheral Options

OPTION	DESCRIPTION	50	100	120	130	150	160	170
55	71MB Disk Subsystem (Sun–2 Shoebox)	X						
55EX	71MB Disk Expansion (Sun–2 Shoebox)	X						
56	71MB Disk Subsystem with 1/4” Cartridge Tape	X						
61	65MB SMD Single Disk (Fatbox)							X
62	65MB SMD Single Disk Expansion (Fatbox)							X
63	130MB SMD Single Disk Subsystem (Fatbox)							X
63	130MB SMD Single Disk (2/120 Disk Pedestal)			X	X		X	
64	130MB SMD Single Disk Expansion (Fatbox).							X
64	130MB SMD Single Disk Expansion (2/120 Disk Pedestal)			X	X		X	
65	130MB SMD Single Disk with 1/4” Tape (Fatbox)							X
65	Dual 130MB SMD Disk (2/120 Disk Pedestal)			X	X		X	
66	130MB SMD Single Disk			X				X
67	130MB SMD Single Disk Expansion			X				X
73	1/4” Tape Drive Subsystem (D84TC)							X
474	380 SMD Single Disk		X			X		
474EX	380 SMD Single Disk Expansion		X			X		
601/63	130MB SMD Single Disk Mass Storage Pedestal			X	X		X	
602/64	130MB SMD Single Disk Expansion Mass Storage Pedestal			X	X		X	
603/65	Dual 130MB SMD Disk Mass Storage Pedestal			X	X		X	
605	280MB SMD Single Disk Mass Storage Pedestal			X	X		X	
606	Dual 280MB SMD Disk Mass Storage Pedestal			X	X		X	
620/621 & 68/69	380MB SMD Single Disk (Eagle)			X	X	X	X	X
625/626 & 70/71	575MB SMD Single Disk (Eagle–XP)				X		X	X
670/75	1600 bpi 1/2” Tape Drive (CDC)			X	X		X	X
675/78	6250 bpi 1/2” Tape Drive (Fujitsu)							X
D84	65MB SMD Single Disk		X			X		
D84EX	65MB SMD Single Disk Expansion (Fatbox)			X			X	
D84TC	65MB SMD Single Disk with 1/4” Tape (Fatbox)		X			X		
D169	133MB SMD Single Disk (19” Rack)		X			X		
D169EX	133MB SMD Single Disk Expansion (19” Rack)		X			X		
LW1	LazerWriter I Printer	X	X	X	X	X	X	X
LW2	LazerWriter II Printer	X	X	X	X	X	X	X
TC	1/4” Tape Subsystem (Fatbox)					X		
TR	1600 BPI 1/2” Tape Drive (CDC)		X			X		

Sun–3 External Peripheral Options

OPTION	DESCRIPTION	50	60	75	80	110	140	150	160	180	260	280	460	470	480
190	SunDials Assembly	X	X	X	X	X	X	X	X	X	X	X	X	X	X
501/503	71MB Single Disk MSS (Sun–3 Shoebox)	X	X	X		X	X	X							
504X	141MB Single Disk MSS (Sun–3 Shoebox)		X	X		X	X	X	X		X				
505X	141MB Single Disk MSS (Sun–3 Shoebox)	X	X	X		X	X	X							
506X	327MB Single Disk MSS (Sun–3 Shoebox)	X	X			X	X		X		X				
507X	327MB Single Disk Expansion MSS (Sun–3 Shoebox)	X	X			X	X								
509X	Dual 327MB Disk Expansion MSS (Sun–3 Shoebox)	X	X			X	X								
510X	Dual 327MB Disk MSS (Sun–3 Shoebox)	X	X			X	X								
511	71MB Single Disk with 1/4” Tape MSS (Sun–3 Shoebox)	X	X	X		X	X	X							
514X	141MB Single Disk with 1/4” Tape MSS (Sun–3 Shoebox)	X	X	X		X	X	X	X		X				
516X	327MB Single Disk with 1/4” Tape MSS (Sun–3 Shoebox)	X	X			X	X	X	X		X				
526	327MB Single Disk External Storage Module (P–Box)				X										
527	Expansion 327MB Disk External Storage Module (P–Box)				X										
530	Dual 327MB Disk Expansion Storage Module (P–Box)				X										
539	327MB Disk & 150MB 1/4” Tape ESM (P–Box)				X										
550	104MB SCSI Desktop Disk Pack														
601/63	130MB SMD Single Disk Mass Storage Pedestal								X		X				
602/64	130MB SMD Single Disk Expansion MSS								X		X				
603/65	Dual 130MB SMD Disk Mass Storage Subsystem								X		X				
605	280MB SMD Single Disk Mass Storage Subsystem								X		X				
606	Dual 280MB SMD Disk Mass Storage Subsystem								X		X				
615	688MB ESMD Disk Mass Storage Pedestal								X		X		X	X	
616	Dual 688MB ESMD Disks Mass Storage Pedestal								X		X		X	X	
620/621 & 68/69	380MB SMD Single Disk (Eagle)									X		X			
625/626 & 70/71	575MB SMD Single Disk (Eagle–XP)									X		X			
629	892MB SMD Single Disk Subsystem									X		X			
630	892MB SMD Single Disk Expansion									X		X			

Sun–3 External Peripheral Options (Continued)

OPTION	DESCRIPTION	50	60	75	80	110	140	150	160	180	260	280	460	470	480
631	Dual 892MB SMD Disk Subsystem									X		X			
641	892MB ESMD Disk Subsystem									X		X	X		X
642	Dual 892MB ESMD Disk Subsystem									X		X	X		X
643	Three 892MB ESMD Disk Subsystem									X		X	X		X
644	Four 892MB ESMD Disk Subsystem									X		X	X		X
645	Expansion 892MB ESMD Disk Subsystem (without Tray)									X		X	X		X
646	Expansion 892MB ESMD Disk Subsystem (with Tray)											X	X		X
647	Dual 892MB Disks with Dual SMD–4											X	X		X
650X	60MB 1/4” Tape Subsystem														X
660	150MB 1/4” Tape Backup Pack				X										
670/75	1600 bpi 1/2” Tape Drive (CDC)								X	X	X	X			X
675/78	6250 bpi 1/2” Tape Drive (Fujitsu)								X	X	X	X			
730	688MB Expansion Disk													X	
731	688MB Expansion Disk Subsystem with SMD–4													X	
733	Three 688MB Expansion Disk Subsystem with SMD–4													X	
LW1	LazerWriter I Printer	X	X	X		X	X	X	X	X	X	X	X	X	X
LW2	LazerWriter II Printer	X	X	X		X	X	X	X	X	X	X	X	X	X
SunIPC FPY 1	Single Floppy Drive Subsystem					X	X		X	X	X	X			
SunIPC FPY 2	Dual Floppy Drive Subsystem					X	X		X	X	X	X			

Sun–4 Supported External Peripheral Options

OPTION	DESCRIPTION	60	110	150	260	280	330	370	390
190	SunDials Assembly	X	X	X	X	X	X	X	X
505X	141MB Single Disk MSS (Sun–3 Shoebox)		X						
506X	327MB Single Disk MSS (Sun–3 Shoebox)		X		X				
507X	327MB Single Disk Expansion MSS (Sun–3 Shoebox)		X						
509X	Dual 327MB Disk Expansion MSS (Sun–3 Shoebox)		X						
510X	Dual 327MB Disk MSS (Sun–3 Shoebox)		X						
511	71MB Single Disk with 1/4” MSS (Sun–3 Shoebox)								
514X	141MB Single Disk with 1/4” Tape MSS /Sun–3 Shoebox)		X						
516X	327MB Single Disk with 1/4” Tape MSS (Sun–3 Shoebox)		X		X				
526	327MB Single Disk External Storage Module (P–Box)	X					X		
527	Expansion 327MB Disk External Storage Module (P–Box)	X							
530	Dual 327MB Disk Expansion Storage Module (P–Box)	X					X		
539	327MB Disk & 150MB 1/4” Tape ESM (P–Box)	X					X		
550	104MB SCSI Desktop Disk Pack	X							
605	280MB SMD Single Disk Mass Storage Pedestal				X				
606	Dual 280MB SMD Disk Mass Storage Pedestal				X				
615	688MB ESMD Disk Mass Storage Pedestal				X				
616	Dual 688MB ESMD Disks Mass Storage Pedestal				X				
625/626 & 70/71	575MB SMD Single Disk (Eagle–XP)					X			
629	892MB SMD Single Disk Subsystem					X			
630	892MB SMD Single Disk Expansion					X			
631	Dual 892MB SMD Disk Subsystem					X			
641	892MB ESMD Disk Subsystem					X			
642	Dual 892MB ESMD Disk Subsystem					X			
643	Three 892MB ESMD Disk Subsystem					X			
644	Four 892MB ESMD Disk Subsystem					X			
645	Expansion 892MB ESMD Disk Subsystem (w/ Tray)					X			
646	Expansion 892MB ESMD Disk Subsystem (with Tray)								
647	Dual 892MB Disks with Dual SMD–4								
650X	60MB 1/4” Tape Subsystem						X		
660	150MB 1/4” Tape Backup Pack	X					X		
675/78	6250 bpi 1/2” Tape Drive (Fujitsu)				X	X			
730	688MB Expansion Disk						X	X	
731	688MB Expansion Disk Subsystem with SMD–4						X	X	
733	Three 688MB Expansion Disk Subsystem with SMD–4						X	X	

Sun–4 External Peripheral Options (Continued)

OPTION	DESCRIPTION	60	110	150	260	260	330	370	390
LW1	LazerWriter I Printer	X	X	X	X	X	X	X	X
LW2	LazerWriter II Printer	X	X	X	X	X	X	X	X
SunIPC FPY 1	Single Floppy Drive Subsystem		X		X	X		X	X
SunIPC FPY 2	Dual Floppy Drive Subsystem		X		X	X		X	X

Sun386i/150/250 Peripherals Options

OPTION	DESCRIPTION
RR110,112	91MB Disk Drive in System Box
RR111, 114	327MB Disk Drive in System Box
RR127	Empty Peripheral Expansion Box
RR128	Expansion Box with 1/4” Tape
RR129	Expansion Box with 1/4” Tape and 327MB Disk
RR131	155MB Disk Add–On
RR132	1/4” Tape Drive Add–On
RR133	91MB Disk Add–On
RR134	327MB Disk Add–On

Option 55 & 55EX

85MB Single Disk Subsystem
Mass Storage Subsystem (Sun–2 Shoebox)

Shoebox
85MB Disk Drive

- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- DC Fan Assy
- 370–1010, Adaptec Disk Controller Board
- 370–1034, 85MB Disk Drive
- Internal Disk Command Cable (use 530–1157)
- Internal Disk Data Cable (use 530–1145)
- Internal SCSI Bus Cable
- 530–1186, External SCSI Flat Ribbon Cable, 15' ←¤
- 530–1185, External SCSI Flat Ribbon Cable, 3' ←¤
- 530–1249, External SCSI Flat Ribbon Cable, 1M
- 530–1250, External SCSI Flat Ribbon Cable. 3M
- **Power Supply Assy 150W** — 540–1301
    - 300–1015, Power Supply, 150W
    - 530–1199, DC Harness
    - 540–1302, AC Filter

Options 56

85MB Disk Subsystem & 60MB Tape Subsystem
Mass Storage Subsystem (Sun–2 Shoebox)

Shoebox
85MB Disk Drive

- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- DC Fan Assy
- 370–1010, Adaptec Disk Controller Board
- 370–1011, Sysgen Tape Controller Board
- 370–1026, Archive SAC Controller Board
- 370–1034, 85MB Disk Drive
- 370–1043, Archive 9050B 60MB Tape Drive
- Internal Disk Command Cable (use 530–1157)
- Internal Disk Data Cable (use 530–1145)
- Internal Tape Command Cable (use 530–1103)
- 530–1186, External SCSI Flat Ribbon Cable, 15' ←¤
- 530–1185, External SCSI Flat Ribbon Cable, 3' ←¤
- 530–1249, External SCSI Flat Ribbon Cable, 1M
- 530–1250, External SCSI Flat Ribbon Cable. 3M
- → **Power Supply Assy 150W**
  540–1301
  - 300–1015, Power Supply, 150W
  - 530–1199, DC Harness
  - 540–1302, AC Filter

Option 61
65MB SMD Single Disk with 1/4” Tape
(D84TC)

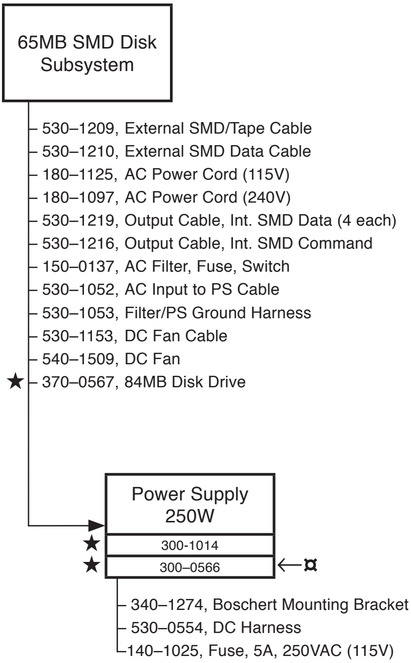
65MB SMD Disk Subsystem

- 530–1209, External SMD/Tape Cable
- 530–1210, External SMD Data Cable
- 530–1209, External Tape Cable
- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- ★ 370–0567, 84MB Disk Drive
- ★ 370–1011, Sysgen Controller Board
- 530–1103, Archive/Sysgen Cable
- 150–0137, AC Filter, Fuse, Switch
- 530–1052, AC Input to PS Cable
- 530–1053, Filter/PS Ground Harness
- 530–1153, DC Fan Cable
- 540–1509, DC Fan
- ★ 370–1024, 1/4” Tape Drive, Basic
- ★ 370–1026, SAC PCB For Basic Drive
- 530–1115, SAC To Basic Drive Cable
- 540–1051, Disk & Tape Panel (Ref)
    - 530–1219, Output Cable, Int. SMD Data (4 ea)
    - 530–1216, Rack To Drive Cable, SCSI Command
    - 530–1108, Output Cable, Int. SMD Command

Power Supply 250W

- ★ 300-1014
- ★ 300–0566 ←¤
    - 530–0554, DC Harness
    - 340–1274, Boschert Mounting Bracket
    - 530–1104, DC Cable, PS To Archive/Sysgen
    - 140–1024, Fuse, 5A, 230VAC (115V)

Option 62
65MB SMD Single Disk Expansion
(D84EX)



65MB SMD Disk Subsystem

- 530–1209, External SMD/Tape Cable
- 530–1210, External SMD Data Cable
- 180–1125, AC Power Cord (115V)
- 180–1097, AC Power Cord (240V)
- 530–1219, Output Cable, Int. SMD Data (4 each)
- 530–1216, Output Cable, Int. SMD Command
- 150–0137, AC Filter, Fuse, Switch
- 530–1052, AC Input to PS Cable
- 530–1053, Filter/PS Ground Harness
- 530–1153, DC Fan Cable
- 540–1509, DC Fan
- ★ 370–0567, 84MB Disk Drive

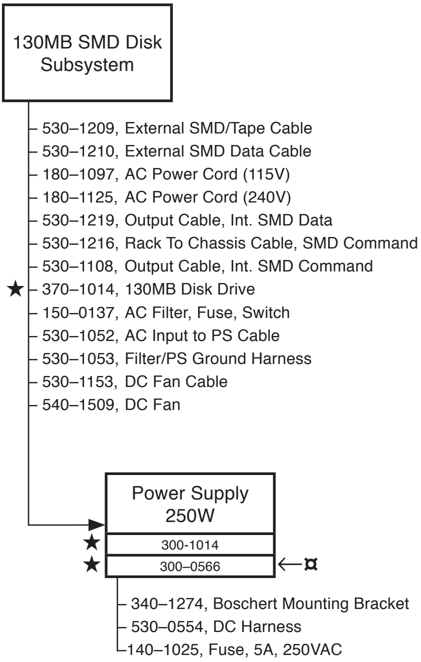
Power Supply 250W

- ★ 300-1014
- ★ 300–0566 ←¤

- 340–1274, Boschert Mounting Bracket
- 530–0554, DC Harness
- 140–1025, Fuse, 5A, 250VAC (115V)

Option 63

130MB SMD Single Disk Subsystem (Fatbox)



130MB SMD Disk Subsystem

- 530–1209, External SMD/Tape Cable
- 530–1210, External SMD Data Cable
- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- 530–1219, Output Cable, Int. SMD Data
- 530–1216, Rack To Chassis Cable, SMD Command
- 530–1108, Output Cable, Int. SMD Command
- ★ 370–1014, 130MB Disk Drive
- 150–0137, AC Filter, Fuse, Switch
- 530–1052, AC Input to PS Cable
- 530–1053, Filter/PS Ground Harness
- 530–1153, DC Fan Cable
- 540–1509, DC Fan

Power Supply 250W

★ 300-1014

★ 300–0566 ←¤

- 340–1274, Boschert Mounting Bracket
- 530–0554, DC Harness
- 140–1025, Fuse, 5A, 250VAC

Option 63
130MB SMD Single Disk
(2/120 Disk Pedestal)

Disk Pedestal

- 530–1079, External SMD Command Cable ←¤
- 530–1080, External SMD Data Cable ←¤
- 530–1209, External SMD Command Cable
- 530–1210, External SMD Data Cable
- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- 240–1048, Swivel Caster, (4 ea)
- 330–1009, Bezel, Front
- 340–1039, Top Cover
- 340–1262, Pedestal Panel. Left
- 340–1261, Pedestal Panel, Right
- 530–1063, Output Cable, Int. SMD Command
- 530–1064, Output Cable, Int. SMD Data (2 each)
- 530–1097, Output Cable, Int. SMD Command Out
- 240–1020, Air Filter
- 140–1010, Fuse, 5A, 250V, Slow Blow (115V)
- 150–1041, Fuse Holder (115V)
- 150–1042, Fuse Carrier (115V)
- 150–1039, AC Line Filter
- 150–1018, AC Switch, Rocker, Illuminated
- ★ 370–1014, 130MB Disk Drive
- 530–1014, AC Input to Switch Cable
- 530–1076, AC Switch to PS Cable
- 530–1078, AC Input Cable
- 530–1156, DC Fan Cable
- 540–1509, DC Fan (2 ea)
- 540–1128, DC Fan (Quiet)
- **Power Supply 250W**
  - ★ 300-1014
  - ★ 300–0566 ←¤
    - 340–1276, Boschert Mounting Bracket
    - 530–0554, DC Harness

Option 64

130MB SMD Single Disk Expansion (Fatbox)

Disk Pedestal

- 530–1079, External SMD Command Cable ←¤
- 530–1080, External SMD Data Cable ←¤
- 530–1209, External SMD Command Cable
- 530–1210, External SMD Data Cable
- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- 240–1048, Swivel Caster, (4 ea)
- 330–1009, Bezel, Front
- 340–1039, Top Cover
- 340–1262, Pedestal Panel, Left
- 340–1261, Pedestal Panel, Right
- 530–1063, Output Cable, Int. SMD Command
- 530–1064, Output Cable, Int. SMD Data (2 each)
- 240–1020, Air Filter
- 140–1010, Fuse, 5A, 250V, Slow Blow (115V)
- 150–1041, Fuse Holder (115V)
- 150–1042, Fuse Carrier (115V)
- 150–1039, AC Line Filter
- 150–1018, AC Switch, Rocker
- ★ 370–1014, 130MB Disk Drive
- 530–1014, AC Input to Switch Cable
- 530–1076, AC Switch to PS Cable
- 530–1078, AC Input Cable
- 530–1156, DC Fan Cable
- 540–1509, DC Fan (2 each)
- 540–1128, DC Fan (Quiet)
- → **Power Supply 250W**
  - ★ 300-1014
  - ★ 300–0566 ←¤
    - 340–1276, Boschert Mounting Bracket
    - 530–0554, DC Harness

Option 64
130MB SMD Single Disk Expansion
(2/120 Disk Pedestal)

Disk Pedestal

- 530–1079, External SMD Command Cable ⟵¤
- 530–1080, External SMD Data Cable ⟵¤
- 530–1209, External SMD Command Cable
- 530–1210, External SMD Data Cable
- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- 240–1048, Swivel Caster, (4 ea)
- 330–1009, Bezel, Front
- 340–1039, Top Cover
- 340–1262, Pedestai Panel, Left
- 340–1261, Pedestal Panel, Right
- 530–1063, Output Cable, Int. SMD Command
- 530–1064, Output Cable, Int. SMD Data (2 each)
- 240–1020, Air Filter
- 140–1010, Fuse, 5A, 250V, Slow Blow (115V)
- 150–1041, Fuse Holder (115V)
- 150–1042, Fuse Carrier (115V)
- 150–1039, AC Line Filter
- 150–1018, AC Switch, Rocker
- ★ 370–1014, 130MB Disk Drive
- 530–1014, AC Input to Switch Cable
- 530–1076, AC Switch to PS Cable
- 530–1078, AC Input Cable
- 530–1156, DC Fan Cable
- 540–1509, DC Fan (2 each)
- 540–1128, DC Fan (Quiet)
- → **Power Supply 250W**
  - ★ 300-1014
  - ★ 300–0566 ⟵¤
    - 340–1276, Boschert Mounting Bracket
    - 530–0554, DC Harness

Option 65

130MB SMD Single Disk with 1/4” Tape (Fatbox)

130MB SMD Disk Subsystem

- 530–1209, External SMD/Tape Cable (2 ea)
- 530–1210, External SMD Data Cable
- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- ★ 370–1014, 130MB Disk Drive
- 150–0137, AC Filter, Fuse, Switch
- 530–1052, AC Input to PS Cable
- 530–1053, Filter/PS Ground Harness
- 530–1153, DC Fan Cable
- 540–1509, DC Fan
- ★ 370–1011, Sysgen Controller Board
- 530–1103, SAC to Sysgen Cable
- ★ 370–1024, 1/4” Tape Drive, Basic
- ★ 370–1026, SAC PCB for Basic Drive
- 530–1115, SAC to Basic Drive Cable
- 540–1051, Disk & Tape Panel (Ref)
  - 530–1219, Output Cable, Int. SMD Data
  - 530–1216, Rack To Drive Cable, SCSI
  - 530–1108, Output Cable, Int. SMD Command
- **Power Supply 250W**
  - ★ 300-1014
  - ★ 300–0566 ←¤
    - 340–1274, Boschert Mounting Bracket
    - 530–0554, DC Harness
    - 530–1104, DC Cable, PS to SMD Disk
    - 140–1025, Fuse, 5A, 250VAC (115V)

Option 65

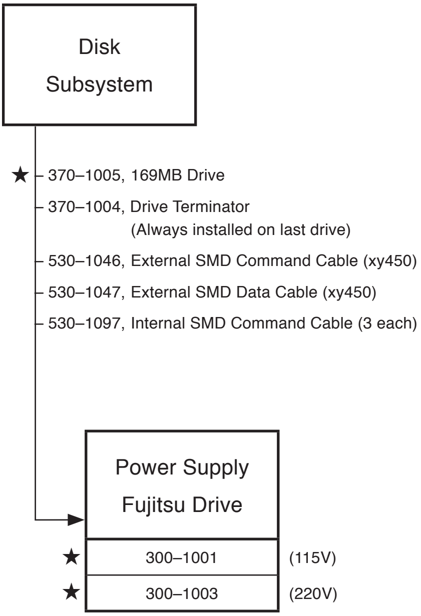
Dual 130MB SMD Disk
(2/120 Disk Pedestal)

Disk Pedestal

- 530–1079, External SMD Command Cable ⟵¤
- 530–1080, External SMD Data Cable ⟵¤
- 530–1209, External SMD Command Cable
- 530–1210, External SMD Data Cable
- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- 240–1048, Swivel Caster, (4 ea)
- 330–1009, Bezel, Front
- 340–1039, Top Cover
- 340–1262, Pedestal Panel, Left
- 340–1261, Pedestal Panel, Right
- 530–1097, Output Cable, Int. SMD Command In
- 530–1064, Output Cable, Int. SMD Data (2 each)
- 530–1063, Output Cable, Int. SMD Command Out
- 240–1020, Air Filter
- 140–1010, Fuse, 5A, 250V, Slow Blow (115V)
- 150–1041, Fuse Holder (115V)
- 150–1042, Fuse Carrier (115V)
- 150–1039, AC Line Filter
- 150–1018, AC Switch, Rocker
- ★ 370–1014, 130MB Disk Drive (2 each)
- 530–1014, AC Input to Switch Cable
- 530–1076, AC Switch to PS Cable
- 530–1078, AC Input Cable
- 530–1156, DC Fan Cable
- 540–1509, DC Fan (2 each)
- 540–1128, DC Fan (Quiet)
- 530–1094, AC PS To PS
- → **Power Supply 250W**
  - ★ 300-1014 (2 each)
  - ★ 300–0566 (2 each) ⟵¤
    - 340–1276, Boschert Mounting Bracket (2 each)
    - 530–0554, DC Harness (2 each)

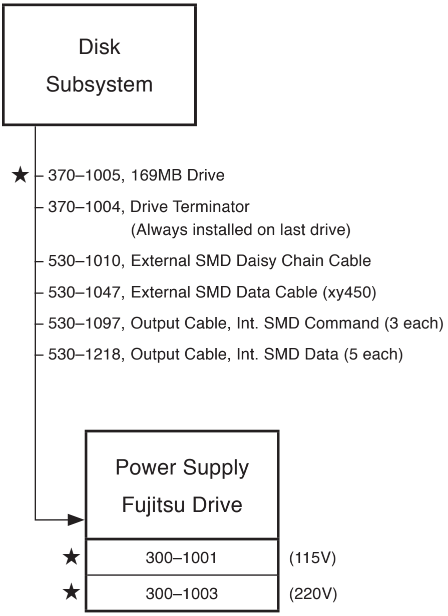
Option 66

130MB SMD Single Disk


Disk Subsystem
★ 370–1005, 169MB Drive
370–1004, Drive Terminator (Always installed on last drive)
530–1046, External SMD Command Cable (xy450)
530–1047, External SMD Data Cable (xy450)
530–1097, Internal SMD Command Cable (3 each)
Power Supply Fujitsu Drive
★ 300–1001 (115V)
★ 300–1003 (220V)

Option 67

130MB SMD Single Disk Expansion


Disk Subsystem
★ 370–1005, 169MB Drive
370–1004, Drive Terminator
(Always installed on last drive)
530–1010, External SMD Daisy Chain Cable
530–1047, External SMD Data Cable (xy450)
530–1097, Output Cable, Int. SMD Command (3 each)
530–1218, Output Cable, Int. SMD Data (5 each)
Power Supply Fujitsu Drive
★ 300–1001 (115V)
★ 300–1003 (220V)

Option 73

1/4” Tape Drive Subsystem

(D84TC)

1/4” Tape Subsystem

- 530–1209, External Cable, Tape (2 ea)
- 530–1216, Cable, SCSI
- 180–1097, AC Power Cord, (115V)
- 180–1125, AC Power Cord (240V)
- ★ 370–1011, Sysgen Controller Board
- 530–1103, Archive/Sysgen Cable
- 150–0137, AC Filter, Fuse, Switch
- 530–1052, AC Input to PS Cable
- 530–1053, Filter/PS Ground Harness
- 530–1153, DC Fan Cable
- 540–1509, DC Fan
- ★ 370–1024, 1/4” Tape Drive, Basic
- 370–1026, SAC PCB for Basic Drive
- 530–1115, SAC to Basic Drive Cable
- 540–1051, Disk and Tape Panel (Ref)
  - 530–1219, Output Cable, Int. SMD Data
  - 530–1216, Output Cable, Int SCSI
  - 530–1108, Output Cable. Int. SMD Command

Power Supply 250W

- ★ 300-1014
- ★ 300–0566 ←¤
  - 340–1274, Boschert Mounting Bracket
  - 530–0554, DC Harness
  - 530–1104, DC Cable, PS To Archive/Sysgen
  - 140–1025, Fuse, 5A, 250VAC(115V)

Option 190
SunDials

SunDials Assy

- 595–1737, SunDials Assy, 115V
  - 260–3257, Template
  - 300–1053, Power Supply, 115V
  - 370–1223, Dialbox & Bale
  - 530–1525, DB9 – DB15 – Din5 Cable, 2M
- 595–1773, SunDials Assy, 240V
  - 260–3257, Template
  - 300–1054, Power Supply, 240V
  - 370–1223, Dialbox & Bale
  - 530–1525, DB9 – DB15 – Din5 Cable, 2M
  - 530–1125, Power Cord, 240V
- 555–1067, FRU, Power Supply, 115V
  - 300–1053, Power Supply, 115V
- 555–1068, FRU, Power Supply, 220V
  - 300–1054, Power Supply, 240V
  - 180–1125, Power Cord, 240V
- 555–1066, FRU, Cable Assy
  - 530–1525, DB9 – DB15 – Din5 Cable, 2M
- 555–1065, FRU, Dialbox, Bale, & Cable Assy
  - 370–1223, Dialbox & Bale
  - 530–1525, DB9 – DB15 – Din5 Cable, 2M

Option 474

380MB SMD Single Disk

Disk Subsystem

- 340–1430, Disk Drive Cover
- 340–1470, Head Lock Cover
- ★ 370–1003, 380 MB Disk Drive (Fujitsu Eagle)
- 370–1004, Drive Terminator (Always installed on last drive)
- 530–1209, External SMD/Command Cable (xy450)
- 530–1210, External SMD Data Cable (xy450)
- 530–1046, Output Cable, Int. SMD Command (2 each)
- 530–1047, Output Cable, Int. SMD Data
- 540–1396, Rear Cover Assy
  - 340–1431, Rear Cover
  - 530–1244, Internal Command Cable
  - 530–1245, Internal Data Cable
- 540–1046, SMD Disk Panel
  - 340–1340, Panel, SMD Cable
  - 530–1097, SMD Command Cable
  - 530–1218, SMD Data Cable

Option 474EX

380MB SMD Single Disk Expansion

Disk Expansion

- 340–1430, Disk Drive Cover
- 340–1470, Head Lock Cover
- 370–1003, 380 MB Disk Drive (Ref Only)
- 370–1004, Drive Terminator
  (Always installed on last drive)
- 530–1209, External SMD/Command Cable
- 530–1210, External SMD Data Cable
- 530–1010, Output Cable, Int. SMD Command (2 ea)
- 530–1047, Output Cable, Int. SMD Data
- 540–1396, Rear Cover Assy
  - 340–1431, Rear Cover
  - 530–1244, Internal Command Cable
  - 530–1245, Internal Data Cable
- 540–1046, SMD Disk Panel
  - 340–1340, Panel, SMD Cable
  - 530–1097, SMD Command Cable
  - 530–1218, SMD Data Cable
- 530–1347, Power Cord, IEC Plug to Ring Lugs (240V)
- 530–1349, Power Cord, NEMA 6–15P to Ring Lugs (230V)

Options 501/503

71MB Single Disk
Mass Storage Subsystem (Sun–3 Shoebox)

Shoebox
71MB Disk Drive

- 140–1002, Fuse, Miniature. 3A, 250V (240V)
- 150–1034, Fuse, 3A, 250V, Slow Blow (115V) (240V)
- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- 340–1375, Cover Assy, Top
- 340–1401, Disk Mounting Bracket
- ★ 370–1010, Adaptec Controller Board
- 370–1034, 85MB Disk Drive
- ★ 530–1233, SCSI Input Cable
- 530–1234, SCSI Data Cable
- 530–1235, Adaptec To Disk Drive Cable
- 530–1249, External SCSI Cable. 1M
- 530–1250, External SCSI Cable, 3M
- 530–1334, External SCSI Cable, 2.4M
- 540–1406, AC Switch
- 540–1411, replaced by 540–1512
- 540–1511, 110V/220V Switch Assy
- 540–1512, 12V Fan Assy (180MM Cable)
- 540–1752, 12V Fan Assy (65MM Cable)
- **Power Supply 170W**
  - ★ 300–1028 ←¤
    - 530–1326, DC Harness ←¤
    - 530–1325, AC Harness (Todd Supply) ←¤
- **Power Supply 130W**
  - 555–1076
    - 300–1045, Power Supply
    - 530–1432, DC Harness
    - 811–9015, Faston Adapter Harness (Voltage Select Switch)

Option 504X/505X
141MB Single Disk Subsystem
Mass Storage Subsystem (Sun–3 Shoebox)

Shoebox
141MB Disk Drive

- 140–1002, Fuse, Miniature, 3A, 250V (240V)
- 150–1034, Fuse, 3A, 250V (115V)
- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- 340–1375, Cover Assy, Top
- 340–1401, Disk Mounting Bracket
- ★ 370–0552, MD21 (ESDI) Disk Controller Board ←¤
- ★ 370–1236, MD21 (ESDI) Disk Controller Board
- 370–0551, 141MB Disk Drive
- 530–1233, SCSI Input Cable
- 530–1235, ESDI To Disk Drive Cable
- 530–1249, External SCSI Cable, 1M
- 530–1250, External SCSI Cable, 3M
- 530–1334, External SCSI Cable, 2.4M
- 540–1511, 110V/220V Switch Assy
- 540–1512, 12V Fan Assy (180MM Cable)
- 540–1752, 12V Fan Assy (65MM Cable)
- → **Power Supply 170W** ★ 300–1028 ←¤
  - 530–1326, DC Harness ←¤
  - 530–1325, AC Harness (TODD Supply) ←¤
- → **Power Supply 130W** 555–1076
  - 300–1045, Power Supply
  - 530–1432, DC Harness
  - 811–9015, Faston Adapter Harness (Voltage Select Switch)

Option 506X
327MB Disk
Mass Storage Subsystem (Sun–3 Shoebox)

Shoebox
327MB Disk Drive

- 140–1002, Fuse, Miniature, 3A, 250V (240V)
- 150–1034, Fuse, 3A, 250V (115V)
- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- 340–1375, Cover Assy, Top
- 340–1401, Disk Mounting Bracket
- ★ 370–0552, MD21 (ESDI) Disk Controller Board ⟵¤
- 370–1236, MD21 (ESDI) Disk Controller Board
- ★ 370–1133, 327MB Disk Drive
- 530–1233, SCSI Input Cable
- 530–1234, Disk Data Cable
- 530–1235, Disk Command Cable
- 530–1249, External SCSI Cable, 1M
- 530–1250, External SCSI Cable
- 530–1334, External SCSI Cable, 2.4M
- 540–1406, AC Switch Assy
- 540–1511, 110V/220V Switch Assy
- 540–1512, 12V Fan Assy (180MM Cable)
- 540–1752, 12V Fan Assy (65MM Cable)
- **Power Supply 170W** — ★ 300–1028 ⟵¤
  - 530–1326, DC Harness ⟵¤
  - 530–1325, AC Harness (Todd Supply) ⟵¤
- **Power Supply 130W** — 555–1076
  - 300–1045, Power Supply
  - 530–1432, DC Harness
  - 811–9015, Faston Adapter Harness (Voltage Select Switch)

Option 507X
327MB Disk Expansion
Mass Storage Subsystem (Sun–3 Shoebox)

Shoebox
327MB Disk Drive

- 140–1002, Fuse, Miniature, 3A, 250V (240V)
- 150–1034, Fuse, 3A, 250V (115V)
- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- 340–1375, Cover Assy, Top
- 340–1401, Disk Mounting Bracket
- ★ 370–0552, MD21 (ESDI) Disk Controller Board ←¤
- ★ 370–1236, MD21 (ESDI) Disk Controller Board
- 370–1133, 327MB Disk Drive
- 530–1233, SCSI Input Cable
- 530–1234, Disk Data Cable
- 530–1235, Disk Command Cable
- 530–1249, External SCSI Cable, 1M
- 530–1250, External SCSI Cable, 3M
- 530–1334, External SCSI Cable, 2.4M
- 540–1406, AC Switch Assy
- 540–1511, 110V/220V Switch Assy
- 540–1512, 12V Fan Assy (180MM Cable)
- 540–1752, 12V Fan Assy (65MM Cable)
- **Power Supply 170W**
  ★ 300–1028 ←¤
  - 530–1326, DC Harness ←¤
  - 530–1325, AC Harness (Todd Supply) ←¤
- **Power Supply 130W**
  555–1076
  - 300–1045, Power Supply
  - 530–1432, DC Harness
  - 811–9015, Faston Adapter Harness (Voltage Select Switch)

Option 509X

Dual 327MB Disk Expansion
Mass Storage Subsystem (Sun–3 Shoebox)

Shoebox
Dual 327MB Disk Drives

- 140–1002, Fuse, Miniature, 3A, 250V (240V)
- 150–1034 Fuse, 3A, 250V, Slow Blow (115V) (240V)
- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- 340–1375, Cover Assy, Top
- 340–1401, Disk Mounting Bracket
- 340–1720, Tape Drive/Second Disk Mounting Bracket
- ★ 370–0552, MD21 (ESDI) Disk Controller Board ←¤
- 370–1236, MD21 (ESDI) Disk Controller Board
- 370–1133, 327MB Disk Drive
- 530–1234, SCSI Data Cable
- 530–1233, SCSI Input Cable
- 530–1234, SCSI Data Cable
- 530–1249, External SCSI Cable, 1M
- 530–1250, External SCSI Cable, 3M
- 530–1334, External SCSI Cable, 2.4M
- 530–1406, Second Disk Data Cable
- 530–1407, Disk Command Daisy Chain Cable
- 540–1406, AC Switch Assy
- 540–1511, Switch Assy, Voltage Select 110/220
- 540–1512, 12V Fan Assy (180MM Cable)
- 540–1752, 12V Fan Assy (65MM Cable)
- → **Power Supply 170W** — ★ 300–1028 ←¤
    - 530–1326, DC Harness ←¤
    - 530–1325, AC Harness (Todd Supply) ←¤
- → **Power Supply 130W** — 555–1076
    - 300–1045, Power Supply
    - 530–1432, DC Harness
    - 811–9015, Faston Adapter Harness (Voltage Select Switch)

Option 510X
Dual 327MB Disk
Mass Storage Subsystem (Sun–3 Shoebox)

Shoebox
Dual 327MB Disk Drives

- 140–1002, Fuse, Miniature, 3A, 250V (240V)
- 150–1034, Fuse, 3A, 250V, Slow Blow (115V) (240V)
- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- 340–1375, Cover Assy, Top
- 340–1401, Disk Mounting Bracket
- 340–1720, Tape Drive/Second Disk Mounting Bracket
- ★ 370–0552, MD21 (ESDI) Disk Controller Board ⟵¤
- 370–1236, MD21 (ESDI) Disk Controller Board
- ★ 370–1034, 327MB Disk Drive
- 530–1233, SCSI Input Cable
- 530–1234, SCSI Data Cable
- 530–1235, Adaptec To Disk Drive Cable
- 530–1249, External SCSI Cable, 1M
- 530–1250, External SCSI Cable, 3M
- 530–1334, External SCSI Cable, 2.4M
- 530–1406, Second Disk Data Cable
- 530–1407, Disk Command Daisy Chain Cable
- 540–1406, AC Switch
- 540–1511, Switch Assy, Voltage Select 110/220
- 540–1512, 12V Fan Assy (180MM Cable)
- 540–1752, 12V Fan Assy (65MM Cable)
- → **Power Supply 170W** — ★ 300–1028 ⟵¤
  - 530–1326, DC Harness ⟵¤
  - 530–1325, AC Harness (Todd Supply) ⟵¤
- → **Power Supply 130W** — 555–1076
  - 300–1045, Power Supply
  - 530–1432, DC Harness
  - 811–9015, Faston Adapter Harness (Voltage Select Switch)

Option 511

71MB Single Disk with 1/4” Tape
Mass Storage Subsystem (Sun–3 Shoebox)

Shoebox 71MB Disk Drive

- 140–1034, Fuse, 3A, 250V, (115V)
- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- 340–1375, Cover Assy, Top
- ¤⟶ 340–1376, Tape Drive Mounting Bracket (replaced by 340–1720)
- 340–1720, Tape Drive/Second Disk Mounting Bracket
- ★ 370–1010, Adaptec Controller Board
- ★ 370–1034, 71MB Disk Drive
- ★ 370–1061, MT02 1/4” Tape Controller ⟵¤
- ★ 370–1235, MT02 1/4” Tape Controller
- ★ 370–1076, 1/4” Tape Drive, Wangtek
  OR
  ★ 370–1103, 1/4” Tape Drive, Archive/Wangtek
- 530–1250, External SCSI Cable
- 530–1233, SCSI Input Cable
- 530–1235, Adaptec To Disk Drive Cable
- 530–1234, SCSI Data Cable
- 530–1236, MT–02 To Tape Drive Cable
- 530–1249, External SCSI Cable, 1M
- 530–1334, External SCSI Cable, 2.4M
- 540–1406, AC Switch Assy
- 540–1511, 110V/220V Switch Assy
- 540–1512, 12V Fan Assy (180MM Cable)
- 540–1752, 12V Fan Assy (65MM Cable)
- → **Power Supply 170W**
  - ★ 300–1028 ⟵¤
    - 530–1326, DC Harness ⟵¤
    - 530–1325, AC Harness (Todd Supply) ⟵¤
- → **Power Supply 130W**
  - 555–1076
    - 300–1045, Power Supply
    - 530–1432, DC Harness
    - 811–9015, Faston Adapter Harness (Voltage Select Switch)

Option 514X 141MB Single Disk with 1/4” Tape Mass Storage Subsystem (Sun–3 Shoebox)

Shoebox 141MB Disk Drive

- 140–1002, Fuse, Miniature, 3A, 250V (240V)
- 140–1034, Fuse, 3A, 250V, (115V)
- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- 340–1375, Cover Assy, Top
- ¤→ 340–1376, Tape Drive Mounting Bracket (replaced by 340–1720)
- 340–1401, Disk Mounting Bracket
- 340–1720, Tape Drive/Second Disk Mounting Bracket
- ★ 370–0552, MD21 (ESDI) Disk Controller Board ←¤
- 370–1236, MD21 (ESDI) Disk Controller Board
- ★ 370–0551, 141MB Disk Drive
- ★ 370–1076, 1/4” Tape Drive, Wangtek
  OR
  ★ 370–1103, 1/4” Tape Drive, Archive/Wangtek
- ★ 370–1061, MT02 1/4” Tape Controller ←¤
- ★ 370–1235, MT02 1/4” Tape Controller
- 530–1250, External SCSI Cable
- 530–1233, SCSI Input Cable
- 530–1235, ESDI to Disk Drive Cable
- 530–1234, SCSI Data Cable
- 530–1236, MT–02 To Tape Drive Cable
- 530–1249, External SCSI Cable, 1M
- 530–1334, External SCSI Cable, 2.4M
- 540–1406, AC Switch Assy
- 540–1511, 110V/220V Switch Assy
- 540–1512, 12V Fan Assy (180MM Cable)
- 540–1752, 12V Fan Assy (65MM Cable)
- 540–1752, 12V Fan Assy (65MM Cable)
- → **Power Supply 170W**
  ★ 300–1028 ←¤
  - 530–1326, DC Harness ←¤
  - 530–1325, AC Harness (Todd Supply) ←¤
- → **Power Supply 130W**
  555–1076
  - 300–1045, Power Supply
  - 530–1432, DC Harness
  - 811–9015, Faston Adapter Harness (Voltage Select Switch)

Option 516X

327MB Disk with 1/4” Tape
Mass Storage Subsystem (Sun–3 Shoebox)

Shoebox
327MB Disk Drive

- 140–1002, 3A 250V Miniature Fuse (240V)
- 150–1034, Fuse,3A (115V)
- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- 340–1375, Cover Assy, Top
- ¤→ 340–1376, Tape Drive Mounting Bracket (replaced by 340–1720)
- 340–1401, Disk Mounting Bracket
- ★ 370–0552, MD21 (ESDI) Disk Controller Board ←¤
- 370–1236, MD21 (ESDI) Disk Controller Board
- ★ 370–1133, 327MB Disk Drive
- 370–1061, MT02 1/4” Tape Controller ←¤
- ★ 370–1235, MT02 1/4” Tape Controller
- 340–1720, Tape Drive/Second Disk Mounting Bracket
- 530–1233, SCSI Input Cable
- 530–1234, SCSI Data Cable
- 530–1249, External SCSI Cable, 1M
- 530–1250, External SCSI Cable, 3M
- 530–1334, External SCSI Cable, 2.4M
- 530–1406, Second Disk Data Cable
- 530–1407, Disk Command Daisy Chain Cable
- 540–1406, AC Switch Assy
- 540–1511, Switch Assy, Voltage Select 110/220
- 540–1512, 12V Fan Assy (180MM Cable)
- 540–1752, 12V Fan Assy (65MM Cable)
- → **Power Supply 170W**
  ★ 300–1028 ←¤
  - 530–1326, DC Harness ←¤
  - 530–1325, AC Harness (Todd Supply) ←¤
- → **Power Supply 130W**
  555–1076
  - 300–1045, Power Supply
  - 530–1432, DC Harness
  - 811–9015, Faston Adapter Harness (Voltage Select Switch)

Options 526, 527, 530, 539

External Storage Module (P–box)

External Storage Module

- 300–1031, 120W Power Supply
- 350–1006, Top and Bottom Dress Panel
- 350–1010, Left Dress Panel
- 350–1011, Front Bezel
- 350–1013, Right Dress Panel
- 350–1117, Rear Bezel
- 530–1371, Power Cord 115V/240V
- 530–1381, Terminator
- 530–1409, Internal SCSCI Cable
- 530–1435, External SCSI Cable, DB50–Mini 50, 2.0 M
- 530–1508, External SCSI Cable, DB50–Mini 50, 1.2 M

327MB Disk
555–1005

- 330–1146, Disk Bracket
- 330–1158, Disk Handle
- ★ 370–1153, 327MB Disk Drive
- 370–1230, 327MB Disk Drive

QIC–150 1/4” Tape Drive
370–1206

- 370–1246, 1/4” Tape Drive Assy
- 370–1293, 1/4” Tape Drive Assy

Option 601/63

130MB SMD Single Disk Mass Storage Pedestal

- Mass Storage Pedestal → Power Supply 250W
  - 140–1010, Fuse, 5A, 250V, (115V)
  - 140–1029, Fuse (230/240)
  - ★ 150–1018, AC Switch, Rocker
  - 150–1041, Fuse Holder (115V)
  - 150–1042, Fusecarrier (115V)
  - 150–1051, Fuseholder (230/240)
  - 150–1129, AC Line Filter
  - 180–1097, AC Power Cord (115V)
  - 180–1125, AC Power Cord (240V)
  - 240–1020, Air Filter
  - 240–1048, Swivel Caster (4 each)
  - 330–1086, Front Bezel
  - 340–1138, Top Cover
  - 340–1261, Side Panel, Right
  - 340–1262, Side Panel, Left
  - 370–1014, 130MB Disk Drive
  - 530–1079, External SMD Command Cable ⟵¤
  - 530–1080, External SMD Data Cable ⟵¤
  - 530–1209, External SMD Command Cable
  - 530–1210, External SMD Data Cable
  - 530–1190, Output Cable, Int. SMD Command
  - 530–1191, replaced by 530–1316
  - 530–1192, AC Switch Cable, Lower Chassis
  - 530–1193, replaced by 530–1317
  - 530–1194, AC Power Harness, Upper Chassis
  - 530–1211, Output Cable, Int. SMD Data (Drive 1)
  - 530–1212, Output Cable, Int. SMD Data (Drive 0)
  - 530–1230, AC Receptacle Assy
  - 530–1231, AC Receptable to Filter Harness
  - 530–1232, Front Door GND Strap
  - 530–1316, DC Fan Harness, Lower Chassis
  - 540–1510, DC Fan (2 each)
  - 540–1561, DC Fan (4 each)
  - 530–1317, DC Fan Harness, Upper Chassis
- Power Supply 250W
  - ★ 300–1014
    - 530–1188, Harness, Disk Power
    - 530–1189, Disk Drive DC Power Cable

Option 602/64

130MB SMD Single Disk Expansion Mass Storage Pedestal

Mass Storage Pedestal → **Power Supply 250W**

- **Mass Storage Pedestal**
  - 530–1079, External SMD Command Cable ⟵¤
  - ★ 530–1080, External SMD Data Cable ⟵¤
  - 530–1209, External SMD Command Cable
  - 530–1210, External SMD Data Cable
  - 180–1097, AC Line Cord (115V)
  - 180–1125, AC Line Cord (240V)
  - 240–1048, Swivel Caster (4 each)
  - 330–1066, Front Bezel
  - 340–1138, Top Cover
  - 340–1261, Side Panel, Right
  - 340–1262, Side Panel, Legt
  - 530–1190, Output Cable, Int. SMD Command
  - 530–1211, Output Cable, Int. SMD Data (Drive 1)
  - 530–1212, Output Cable, Int. SMD Data (Drive 0)
  - 240–1020, Air Filter
  - 150–1041, Fuse Holder (115V)
  - 150–1042, Fuse Carrier (115V)
  - 140–1029, Fuse (230/240)
  - 150–1051, Fuseholder (230/240)
  - 150–1129, AC Line Filter
  - 150–1018, AC Switch, Rocker
  - 370–1014, 130MB Disk Drive
  - 530–1230, AC Receptacle Assy
  - 530–1192, AC Switch Cable, Lower Chassis
  - 530–1194, AC Power Harness, Upper Chassis
  - 530–1231, AC Internal Harness
  - 530–1316, DC Fan Harness, Lower Chassis
  - 530–1317, DC Fan Harness, Upper Chassis
  - 540–1510, DC Fan (2 each)
  - 540–1561, DC Fan (4 each)
  - 530–1191, replaced by 530–1316
  - 530–1193, replaced by 530–1317
- **Power Supply 250W**
  - ★ 300–1014
    - 140–1010, Fuse, 5A, 250V, Slow Blow (115V)
    - 530–1188, DC Distribution Harness
    - 530–1189, DC To Disk Drive Cable

Option 603/65

Dual 130MB SMD Disk Mass Storage Pedestal

- **Mass Storage Pedestal**
  - 530–1079, External SMD Command Cable ←¤
  - 530–1080, External SMD Data Cable (2 each) ←¤
  - 530–1209, External SMD Command Cable
  - 530–1210, External SMD Data Cable
  - 180–1097, AC Power Cord (115V)
  - 180–1125, AC Power Cord (240V)
  - 240–1048, Swivel Caster (4 each)
  - 330–1066, Front Bezel
  - 340–1138, Top Cover
  - 340–1261, Side Panel, Right
  - 340–1262, Side Panel, Left
  - 530–1190, Output Cable, Int. SMD Command
  - 530–1211, Output Cable, Int. SMD Data (Drive 1)
  - 530–1212, Output Cable, Int. SMD Data (Drive 0)
  - 240–1020, Air Filter
  - 150–1041, Fuse Holder (115V)
  - 150–1042, Fusecarrier (115V)
  - 140–1010, Fuse, 5A, 250V, (115V)
  - 150–1129, AC Line Filter
  - 150–1018, AC Switch, Rocker
  - ★ 370–1014, 130MB Disk Drive (2 each)
  - 530–1230, AC Receptacle Assy
  - 530–1192, AC Switch Cable, Lower Chassis
  - 530–1194, AC Power Harness, Upper Chassis
  - 530–1231, AC Internal Harness
  - 530–1316, DC Fan Harness, Lower Chassis
  - 530–1232, Front Door Ground Strap
  - 540–1561, DC Fan Assy (4 each)
  - 530–1191, Replaced by 530–1316
  - 530–1193, Replaced by 530–1317
  - 530–1317, DC Fan Harness, Upper Chassis
  - **Power Supply 250W**
    - ★ 300–1014 (2 each)
      - 530–1188, DC Distribution Harness (2 each)
      - 530–1189, DC To Disk Drive Cable (2 each)
      - 530–1195, AC Harness, 2nd Power Supply

Option 605
280MB SMD Single Disk Mass Storage Pedestal

- **Mass Storage Pedestal**
  - 530–1079, External SMD Command Cable, (XY451) ⟵¤
  - 530–1080, External SMD Data Cable, (XY451) ⟵¤
  - 530–1209, External SMD Command Cable
  - 530–1210, External SMD Data Cable
  - 180–1097, AC Power Cord (115V)
  - 180–1125. AC Power Cord (240V)
  - 240–1048, Swivel Caster (4 each)
  - 330–1066, Front Bezel
  - 340–1138, Top Cover
  - 340–1261, Side Panel, Right
  - 340–1262, Side Panel, Left
  - 530–1190, Internal SMD Command Cable ★
  - 530–1191, replaced by 530–1316
  - 530–1193, replaced by 530–1317
  - 530–1211, Internal SMD Data Cable (Drive 1)
  - 530–1212, Internal SMD Data Cable (Drive 0)
  - 150–1041, Fuse Holder (115V)
  - 150–1042, Fusecarrier (115V)
  - 140,1010, 5A, 250V, UL/CSA Fuse (115V)
  - 140–1029, 5A Fuse (240)
  - 150–1051, Fuse Holder (240V)
  - 150–1129, AC Line Filter
  - 150–1018, AC Switch, Rocker, Lighted ⟵¤
  - 150–1216, AC Switch, Rocker, Unlighted
  - 530–1230, AC Receptacle Assy
  - 530–1192, AC Harness, Lower Chassis ⟵¤
  - 530–1194, AC Power Harness, Upper Chassis ⟵¤
  - 530–1231, AC Internal Harness
  - 530–1232, Front Door Ground Strap
  - 530–1316, DC Fan Harness, Lower Chassis
  - 530–1317, DC Fan Harness, Upper Chassis
  - 530–1404, AC Harness, Upper/Lower Chassis
  - 540–1561, DC Fan Assy (4 each)
  - 540–1635, Disk Drive Assy (FRU)
    - 340–1535, Drive Cradle
    - 370–1068, 337MB Disk Drive
    - 580–1169, Packaging
  - **Power Supply 250W**
    - 300–1014
      - 530–1188, DC Distribution Harness
      - 530–1189, DC To Disk Drive Cable

Option 606

Dual 280MB SMD Disk Mass Storage Pedestal

- Mass Storage Pedestal
  - 530–1079, External SMD Command Cable (XY451) ⟵¤
  - 530–1080, External SMD Data Cable (XY451) ⟵¤
  - 530–1209, External SMD Command Cable
  - 530–1210, External SMD Data Cable
  - 180–1097, AC Power Cord (115V)
  - 180–1125, AC Power Cord (240V)
  - 240–1048, Swivel Caster (4 each)
  - 330–1066, Front Bezel
  - 340–1138, Top Cover
  - 340–1261, Side Panel, Right
  - 340–1262, Side Panel, Left
  - 530–1190, Internal SMD Command Cable
  - 530–1211, Internal SMD Data Cable (Drive 1)
  - 530–1212, Internal SMD Data Cable (Drive 0)
  - 240–1020, Air Filter
  - 150–1041, Fuse Holder (115V)
  - 150–1042, Fusecarrier (115V)
  - 140–1029, Fuse, 5A (240V)
  - 150–1051, Fuse Holder (240V)
  - 140–1010, Fuse, 5A, 250V (115V)
  - 150–1129, AC Line Filter
  - 150–1018, AC Switch, Rocker, Lighted ⟵¤
  - 150–1216, AC Switch, Rocker, Unlighted
  - 530–1230, AC Receptacle Assy
  - 530–1192, AC Harness, Lower Chassis ⟵¤
  - 530–1194, AC Power Harness, Upper Chassis ⟵¤
  - 530–1231, AC Internal Harness
  - 530–1316, DC Fan Harness, Lower Chassis
  - 530–1317, DC Fan Harness, Upper Chassis
  - 530–1191, Replaced by 530–1316
  - 530–1193, Replaced by 530–1317
  - 530–1232, Front Door Ground Strap
  - 530–1404, AC Harness, Upper/Lower Chassis
  - 540–1561, DC Fan (4 each)
  - 540–1635, Disk Drive Assy (FRU)
    - 340–1535, Drive Cradle
    - 370–1068, 337MB Disk Drive
    - 580–1169, Packaging
  - Power Supply 250W — ★ 300–1014 (2 each)
    - 530–1188, DC Distribution Harness (2 ea)
    - 530–1189, DC To Disk Drive Cable (2 ea)
    - 530–1195, AC Harness, 2nd Power Supply

Option 615

688MB ESMD Disk Mass Storage Pedestal

Mass Storage Pedestal

- 150–1042, Fusecarrier (115V)
  - 140–1010, 5A, 250V, UL/CSA Fuse (115V)
  - 140–1029, 5A Fuse (240)
  - 150–1041, Fuse Holder (115V)
  - 150–1051, Fuse Holder (240V)
- 150–1129, AC Line Filter
- 150–1216, AC Switch, Rocker, Unlighted
- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- 240–1048, Swivel Caster (4 each)
- 330–1066, Front Bezel
- 340–1138, Top Cover
- 340–1261, Side Panel, Right
- 340–1262, Side Panel, Left
- 530–1190, Internal SMD Command Cable
- 530–1192, AC Harness, Lower Chassis ←¤
- 530–1194, AC Power Harness, Upper Chassis ←¤
- 530–1211, Internal SMD Data Cable (Drive 1)
- 530–1212, Internal SMD Data Cable (Drive 0)
- 530–1316, DC Fan Harness, Lower Chassis
- 530–1317, DC Fan Harness, Upper Chassis
- 530–1230, AC Receptacle Assy
- 530–1231, AC Internal Harness
- 530–1232, Front Door Ground Strap
- 530–1330, External SMD Command Cable (XD7053)
- 530–1331, External SMD Data Cable (XD7053)
- 530–1404, AC Harness, Upper/Lower Chassis
- 540–1561, DC Fan Assy (4 each)
- 540–1768, Disk Drive Assy (FRU)
  - 240–1207, 10–32 x 1/2” Screw (4)
  - 240–1356, M4–0.7 x 16 mm Screw (4)
  - 340–1535, Disk Cradle
  - 370–1197, 688MB Disk Drive
  - 580–1169, Packaging
- **Power Supply 250W**
  - ★ 300–1014
    - 530–1188, DC Distribution Harness
    - 530–1189, DC To Disk Drive Cable

Option 616

Dual 688MB ESMD Disk Mass Storage Pedestal

Mass Storage Pedestal

- 150–1042, Fusecarrier (115V)
  - 140–1010, 5A, 250V, UL/CSA Fuse (115V)
  - 140–1029, 5A Fuse (240)
  - 150–1041, Fuse Holder (115V)
  - 150–1051, Fuse Holder (240V)
- 150–1129, AC Line Filter
- 150–1216, AC Switch, Rocker, Unlighted
- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- 240–1048, Swivel Caster (4 each)
- 330–1066, Front Bezel
- 340–1138, Top Cover
- 340–1261, Side Panel, Right
- 340–1262, Side Panel, Left
- 530–1190, Internal SMD Command Cable
- 530–1192, AC Harness, Lower Chassis ⟵¤
- 530–1194, AC Power Harness, Upper Chassis ⟵¤
- 530–1211, Internal SMD Data Cable (Drive 1)
- 530–1212, Internal SMD Data Cable (Drive 0)
- 530–1316, DC Fan Harness, Lower Chassis
- 530–1317, DC Fan Harness, Upper Chassis
- 530–1230, AC Receptacle Assy
- 530–1231, AC Internal Harness
- 530–1232, Front Door Ground Strap
- 530–1330, External SMD Command Cable (XD7053)
- 530–1331, External SMD Data Cable (XD7053)
- 530–1404, AC Harness, Upper/Lower Chassis
- 540–1561, DC Fan Assy (4 each)
- 540–1768, Disk Drive Assy (FRU)
  - 240–1207, 10–32 x 1/2” Screw (4)
  - 240–1356, M4–0.7 x 16 mm Screw (4)
  - 340–1535, Disk Cradle
  - 370–1197, 688MB Disk Drive
  - 580–1169, Packaging

Power Supply 250W

300–1014 (2 each)

- 530–1188, DC Distribution Harness (2 each)
- 530–1189, DC To Disk Drive Cable (2 each)
- 530–1195, AC Harness, 2nd Power Supply

Options 620/621 & 68/69

380MB SMD Single Disk (Eagle)

Disk Subsystem

- 340–1430, Disk Drive Cover
- 340–1470, Head Lock Cover
- ★ 370–1003, 380 MB Disk Drive (Fujitsu Eagle)
- 370–1004, Drive Terminator
  (Always installed on last drive)
- 530–1209, External SMD Command Cable (XY450)
- 530–1210, External SMD Data Cable (XY450)
- 530–1097, Output Cable, Int. SMD Command
- 530–1218, Output Cable, Int. SMD Data
- 540–1396, Rear Cover Assy
  - 340–1431, Rear Cover
  - 530–1244, Internal Command Cable
  - 530–1245, Internal Data Cable

Option 625/626 & 70/71
575MB SMD Single Disk (Eagle XP)

Disk Subsystem

- 530–1209, External SMD Command Cable (XY451)
- 530–1210, External SMD Data Cable (XY451)
- 530–1097, Output Cable, Int. SMD Command (2 ea)
- 530–1347, Power Cord, IEC Plug to Ring Lugs (240V)
- 530–1349, Cord, NEMA 6–15P to Ring Lugs (230V)
- 530–1218, Output Cable, Int. SMD Data
- 540–1424, Rear Cover Assy
  - 340–1486, Rear Cover
  - 530–1291, Int. Command Cable
  - 530–1292, Int. Data Cable

Disk Drive Chassis

370–1069 (Ref only)

- ★ 811–2022, HDA & Servo Assembly[†]
- ★ 811–2006, Line Blower, (C90L–1370–0900)
- ★ 811–2009, Operator Panel Assy, (N860–3346–T001)
- ★ 811–2012, Logic PCB, (C16B–5327–0290)
- ★ 811–2013, Read Amp PCB, (C16B–5502–0040)
- ★ 811–2004, DC Power Supply, (C16B–5502–0050)
- ★ 811–2015, Interface PCB, (B17B–0230–0010A)
- ★ 811–2010, Power Amp PCB, (B17B–0250–0010A)
- ★ 811–2011, Display Panel PCB, (B17B–0270–0010A)
- ★ 811–2016, Back Panel, (B03B–4825–E010A)
- ★ 811–2007, Disposable Air Filter, (B90L–1570–0001A)
- ★ 811–2008, Fan Sensor, (B90L–1350–0001)
- ★ 811–2017, Fan, (B03B–4825–D030A)
- ★ 811–2005, Slide Guide, (03B–4825–D020A)
- ★ 811–2018, Terminator, (03L–4790–0003A)
- ★ 811–2019, “A” Cable, Shielded, (B660–1954–T904A)
- ★ 811–2020, Cable, Shielded, (B660–1954–T903A)

[†] Replace DE Assembly and Servo Assembly as a matched set due to special alignments.

Option 629

892MB SMD Single Disk Subsystem

892MB ESMD
Disk Subsystem

- 340–1628, Mounting Tray ←¤
- 340–1682, Support Bracket, Right
- 340–1689, Support Bracket, Left
- 340–1728, Mounting Tray
- 630–1378, External SMD Command Cable, (XY451)
- 530–1379, External SMD Data Cable, (XY451)
- 555–1008, 892MB Disk Drive FRU
  - 180–1097, AC Power Cord (115V)
  - 240–1655, #10–32 x 3/4” Screw (Qty 3)
  - 240–1666, #8–32 x 5/16” Screw (Qty 16)
  - 340–1712, Stop Bracket, Hitachi DK815–10
  - 340–1683, Slide Rail, NEC
  - 340–1721, Slide Rail, Hitachi
  - 370–1141, 892MB Disk Drive
  - 370–1162, Terminator, Hitachi
  - 370–1163, Terminator, NEC
  - 540–1637, Hardware Kit, NEC
  - 530–1343, AC Power Cord (240V)
  - 530–1351, AC Power Cord (230V)
  - 540–1638, Hardware Kit, Hitachi
  - 580–1179, Packaging
  - 813–1036, Installation Manual
  - 813–2046, Configuration Manual

Option 630
892MB SMD Single Disk Expansion

- 892MB ESMD Disk Subsystem
  - 340–1628, Mounting Tray ←¤
  - 340–1682, Support Bracket, Right
  - 340–1689, Support Bracket, Left
  - 340–1728, Mounting Tray
  - 630–1378, External SMD Command Cable, (XY451)
  - 530–1379, External SMD Data Cable, (XY451)
  - 555–1008, 892MB Disk Drive FRU
    - 180–1097, AC Power Cord (115V)
    - 240–1655, #10–32 x 3/4” Screw (Qty 3)
    - 240–1666, #8–32 x 5/16” Screw (Qty 16)
    - 340–1712, Stop Bracket, Hitachi DK815–10
    - 340–1683, Slide Rail, NEC
    - 340–1721, Slide Rail, Hitachi
    - 370–1141, 892MB Disk Drive
    - 370–1162, Terminator, Hitachi
    - 370–1163, Terminator, NEC
    - 540–1637, Hardware Kit, NEC
    - 530–1343, AC Power Cord (240V)
    - 530–1351, AC Power Cord (230V)
    - 540–1638, Hardware Kit, Hitachi
    - 580–1179, Packaging
    - 813–1036, Installation Manual
    - 813–2046, Configuration Manual

Option 631

Dual 892MB SMD Disk Subsystem

892MB
Dual Disk
Subsystem

- 340–1628, Mounting Tray ←¤
- 340–1682, Support Bracket, Right
- 340–1689, Support Bracket, Left
- 340–1728, Mounting Tray
- 630–1378, External SMD Command Cable, (XY451)
- 530–1379, External SMD Data Cable, (XY451)
- 555–1008, 892MB Disk Drive FRU (2)
  - 180–1097, AC Power Cord (115V)
  - 240–1655, #10–32 x 3/4” Screw (Qty 3)
  - 240–1666, #8–32 x 5/16” Screw (Qty 16)
  - 340–1712, Stop Bracket, Hitachi DK815–10
  - 340–1683, Slide Rail, NEC
  - 340–1721, Slide Rail, Hitachi
  - 370–1141, 892MB Disk Drive
  - 370–1162, Terminator, Hitachi
  - 370–1163, Terminator, NEC
  - 540–1637, Hardware Kit, NEC
  - 530–1343, AC Power Cord (240V)
  - 530–1351, AC Power Cord (230V)
  - 540–1638, Hardware Kit, Hitachi
  - 580–1179, Packaging
  - 813–1036, Installation Manual
  - 813–2046, Configuration Manual

Option 641

892MB ESMD Disk Subsystem

892MB Disk Subsystem		
641ARI	(Ref only)	(115V)
641A	(Ref only)	(115V)
641ARIV3	(Ref only)	(230V)
641ARIV4	(Ref only)	(240V)
641AV3	(Ref only)	(230V)
641AV4	(Ref only)	(240V)

- 340–1628, Mounting Tray ⟵¤
- 340–1682, Support Bracket, Right
- 340–1689, Support Bracket, Left
- 340–1728, Mounting Tray
- 630–1378, External SMD Command Cable, (XY451)
- 530–1379, External SMD Data Cable, (XY451)
- 555–1008, 892MB Disk Drive FRU (2)
  - 180–1097, AC Power Cord (115V)
  - 240–1655, #10–32 x 3/4” Screw (Qty 3)
  - 240–1666, #8–32 x 5/16” Screw (Qty 16)
  - 340–1712, Stop Bracket, Hitachi DK815–10
  - 340–1683, Slide Rail, NEC
  - 340–1721, Slide Rail, Hitachi
  - 370–1141, 892MB Disk Drive
  - 370–1162, Terminator, Hitachi
  - 370–1163, Terminator, NEC
  - 540–1637, Hardware Kit, NEC
  - 530–1343, AC Power Cord (240V)
  - 530–1351, AC Power Cord (230V)
  - 540–1638, Hardware Kit, Hitachi
  - 580–1179, Packaging
  - 813–1036, Installation Manual
  - 813–2046, Configuration Manual

Option 642
Dual 892MB ESMD Disk Subsystem

892MB Dual Disk Subsystem		
642A	(Ref only)	(115V)
642AR1	(Ref only)	(115V)
642AR1V3	(Ref only)	(230V)
642AR1V4	(Ref only)	(240V)
642AV3	(Ref only)	(230V)
642AV4	(Ref only)	(240V)

- 340–1628, Mounting Tray ⟵¤
- 340–1682, Support Bracket, Right
- 340–1689, Support Bracket, Left
- 340–1728, Mounting Tray
- 530–1354, External SMD Command Cable, 2M (XD7053)
- 530–1355, External SMD Data Cable, 2M (XD7053)
- 530–1475, External SMD Data Cbl, CL2, 6M (XD7053)
- 530–1476, External SMD Command Cbl, CL2, 6M (XD7053)
- 555–1008, 892MB Disk Drive FRU (2)
  - 180–1097, AC Power Cord (115V)
  - 240–1655, #10–32 x 3/4” Screw (Qty 3)
  - 240–1666, #8–32 x 5/16” Screw (Qty 16)
  - 340–1712, Stop Bracket, Hitachi DK815–10
  - 340–1683, Slide Rail, NEC
  - 340–1721, Slide Rail, Hitachi
  - 370–1141, 892MB Disk Drive
  - 370–1162, Terminator, Hitachi
  - 370–1163, Terminator, NEC
  - 540–1637, Hardware Kit, NEC
  - 530–1343, AC Power Cord (240V)
  - 530–1351, AC Power Cord (230V)
  - 540–1638, Hardware Kit, Hitachi
  - 580–1179, Packaging
  - 813–1036, Installation Manual
  - 813–2046, Configuration Manual

Option 643

Three 892MB ESMD Disk Subsystem

Three 892MB Disk Subsystem		
643AR1V3	(Ref only)	(230V)
643AR1V4	(Ref only)	(240V)
643AV3	(Ref only)	(230V)
643AV4	(Ref only)	(240V)

- 340–1628, Mounting Tray ⟵¤
- 340–1682, Bracket, Support, Right
- 340–1689, Bracket, Support, Lett
- 340–1728, Mounting Tray
- 530–1354, External SMD Command Cable, 2M (XD7053)
- 530–1355, External SMD Data Cable, 2M (XD7053)
- 530–1356, External SMD Command Daisy Chain Cable
- 530–1475, External SMD Data Cbl, CL2, 6M (XD7053)
- 530–1476, External SMD Command Cbl, CL2, 6M (XD7053)
- 555–1008, 892MB Disk Drive FRU (2)
  - 180–1097, AC Power Cord (115V)
  - 240–1655, #10–32 x 3/4” Screw (Qty 3)
  - 240–1666, #8–32 x 5/16” Screw (Qty 16)
  - 340–1712, Stop Bracket, Hitachi DK815–10
  - 340–1683, Slide Rail, NEC
  - 340–1721, Slide Rail, Hitachi
  - 370–1141, 892MB Disk Drive
  - 370–1162, Terminator, Hitachi
  - 370–1163, Terminator, NEC
  - 540–1637, Hardware Kit, NEC
  - 530–1343, AC Power Cord (240V)
  - 530–1351, AC Power Cord (230V)
  - 540–1638, Hardware Kit, Hitachi
  - 580–1179, Packaging
  - 813–1036, Installation Manual
  - 813–2046, Configuration Manual

Option 644

Four 892MB ESMD Disk Subsystem

Four 892MB Disk Subsystem		
644AR1V3	(Ref only)	(230V)
644AR1V4	(Ref only)	(240V)
644AV3	(Ref only)	(230V)
644AV4	(Ref only)	(240V)

- 340–1628, Mounting Tray ←¤
- 340–1682, Bracket, Support, Right
- 340–1689, Bracket, Support, Lett
- 340–1728, Mounting Tray
- 530–1354, External SMD Command Cable, 2M (XD7053)
- 530–1355, External SMD Data Cable, 2M (XD7053)
- 530–1356, External SMD Command Daisy Chain Cable
- 530–1475, External SMD Data Cbl, CL2, 6M (XD7053)
- 530–1476, External SMD Command Cbl, CL2, 6M (XD7053)
- 555–1008, 892MB Disk Drive FRU (2)
  - 180–1097, AC Power Cord (115V)
  - 240–1655, #10–32 x 3/4” Screw (Qty 3)
  - 240–1666, #8–32 x 5/16” Screw (Qty 16)
  - 340–1712, Stop Bracket, Hitachi DK815–10
  - 340–1683, Slide Rail, NEC
  - 340–1721, Slide Rail, Hitachi
  - 370–1141, 892MB Disk Drive
  - 370–1162, Terminator, Hitachi
  - 370–1163, Terminator, NEC
  - 540–1637, Hardware Kit, NEC
  - 530–1343, AC Power Cord (240V)
  - 530–1351, AC Power Cord (230V)
  - 540–1638, Hardware Kit, Hitachi
  - 580–1179, Packaging
  - 813–1036, Installation Manual
  - 813–2046, Configuration Manual

Option 645
Expansion 892MB ESMD Disk Subsystem (without tray)

Expansion 892MB ESMD Disk Subsystem		
x645A	(Ref only)	(115V)
x645AV3	(Ref only)	(230V)
x645AV4	(Ref only)	(240V)

- 530–1355, External SMD Data Cable, 2M (XD7053)
- 530–1356, External SMD Command Daisy Chain Cable
- 530–1475, External SMD Data Cbl, CL2, 6M (XD7053)
- 530–1476, External SMD Command Cbl, CL2, 6M (XD7053)
- 555–1008, 892MB Disk Drive FRU
  - 180–1097, AC Power Cord (115V)
  - 240–1655, #10–32 x 3/4” Screw (Qty 3)
  - 240–1666, #8–32 x 5/16” Screw (Qty 16)
  - 340–1712, Stop Bracket, Hitachi DK815–10
  - 340–1683, Slide Rail, NEC
  - 340–1721, Slide Rail, Hitachi
  - 370–1141, 892MB Disk Drive
  - 370–1162, Terminator, Hitachi
  - 370–1163, Terminator, NEC
  - 540–1637, Hardware Kit, NEC
  - 530–1343, AC Power Cord (240V)
  - 530–1351, AC Power Cord (230V)
  - 540–1638, Hardware Kit, Hitachi
  - 580–1179, Packaging
  - 813–1036, Installation Manual
  - 813–2046, Configuration Manual

Option 646

Expansion 892MB ESMD Disk Subsystem (with tray)

892MB
Dual Disk
Subsystem

x646AV3	(Ref only)	(230V)
X646AV4	(Ref only)	(240V)

- 340–1628, Mounting Tray
- 340–1682, Bracket, Support, Right
- 340–1689, Bracket, Support, Lett
- 340–1728, Mounting Tray
- 530–1355, External SMD Data Cable, 2M (XD7053)
- 530–1356, External SMD Command Daisy Chain Cable
- 530–1475, External SMD Data Cbl, CL2, 6M (XD7053)
- 530–1476, External SMD Command Cbl, CL2, 6M (XD7053)
- 555–1008, 892MB Disk Drive FRU (2)
    - 180–1097, AC Power Cord (115V)
    - 240–1655, #10–32 x 3/4” Screw (Qty 3)
    - 240–1666, #8–32 x 5/16” Screw (Qty 16)
    - 340–1712, Stop Bracket, Hitachi DK815–10
    - 340–1683, Slide Rail, NEC
    - 340–1721, Slide Rail, Hitachi
    - 370–1141, 892MB Disk Drive
    - 370–1162, Terminator, Hitachi
    - 370–1163, Terminator, NEC
    - 540–1637, Hardware Kit, NEC
    - 530–1343, AC Power Cord (240V)
    - 530–1351, AC Power Cord (230V)
    - 540–1638, Hardware Kit, Hitachi
    - 580–1179, Packaging
    - 813–1036, Installation Manual
    - 813–2046, Configuration Manual

Options 670/75

1600 bpi 1/2” Tape Drive (CDC)

1/2” Tape Subsystem

595–1026 (Ref only)

- 370–0479, 1/2” Tape Drive (1600 bpi)
- 530–1209, External Cable, Tape Command/Data (2 each)
  - 530–1079–10, Cable ⟵¤
- 180–1097, AC Power Cord, (115V)
- 540–1042, Rack Output Panel, Drive to Rear Of Rack (Ref only)
  - 530–1098, Output Cable, Int. 1/2” Tape (2 each)

Options 675/78
6250 bpi 1/2" Tape Drive (Fujitsu)

1/2" Tape Drive (6250 bpi)
★ 370–1062

- 540–1429 Rack Output Panel, Drive to Rear Of Rack, FCC Approved (Ref only)
  - 530–1299, Output Cable A, Internal, 1/2" Tape
  - 530–1301, Output Cable B, Internal 1/2" Tape
- OR
- 540–1368, Rack Output Panel, Drive to Rear Of Rack, Non–FCC (Ref only) ⟵¤
  - 540–1243, Output Cable, Int. 1/2" Tape, Non–FCC (2 each) ⟵¤
- 530–1209, External Cable,Tape Command/Data (2 each)
  - 530–1079, External Cable,Tape Command/Data (2 each) ⟵¤
- 530–1348, Power Cord, NEMA 6–15P to CPC Conn (230V)
- 530–1346, Power Cord, IEC to CPC Conn (240V)

Chassis & Door Assy

- 811–1026, Tape Panel
- ★ 811–1027, Power Supply
- 811–1028, Fuse
- 811–1029, Operator Panel (Red LEDs)
- 811–1030, BOT/EOT Sensor
- ★ 811–1032, File Reel Motor
- 811–1033, Write Enable Sensor
- 811–1034, File Tacho Sensor
- 811–1035, Reel Hub
- 811–1036, Shield Block
- ★ 811–1037, Machine Reel Motor
- 811–1038, Machine Tacho Sensor
- 811–1039, Machine Reel
- 811–1041, Loading Fan
- ★ 811–1042, Head
- 811–1043, Roller Catch
- 811–1044, Filter
- 811–1045, Right Fan
- 811–1046, Left Fan
- 811–1047, Power Switch (Red)
- 811–1058, Tachometer Cup
- 811–1149. Operator Panel Cable
- 555–1055, Assy.
  - 811–1031, Tension Sensor
  - 811–1040, Idler Tacho
  - 811–1048, RPA

Card Cage

- ★ 811–1048, Circuit Board, RPGMU (RPA)
- ★ 811–1049, Circuit Board, WAPMU (WTA)
- ★ 811–1050, Circuit Board, UIJMU (SVA)
- ★ 811–1051, Circuit Board, Buffer (BUF)
- ★ 811–1052, Circuit Board, 512186U (WFM)
- ★ 811–1053, Circuit Board, 512188U (RFM)
- ★ 811–1054, Circuit Board, 532705U (MPU)
- ★ 811–1055, Circuit Board, 532706U (IFU)
- ★ 811–1056, Circuit Board, RKEMU (RDA)
- ★ 811–1057, Circuit Board, 550194U (VFO)

Option 941X

Dual 892MB ESMD Disk Subsystem

Dual 892MB Disk Subsystem		
941AV3	(Ref only)	(230V)
941AV4	(Ref only)	(240V)
941AR1V3	(Ref only)	(230V)
941AR1V4	(Ref only)	(240V)
X941AV3	(Ref only)	(230V)
X941AV4	(Ref only)	(240V)
X941AR1V3	(Ref only)	(230V)
X941AR1V3	(Ref only)	(240V)

- 340–1682, Tray Support Bracket, Right
- 340–1689, Tray Support Bracket, Left
- 340–1728, Mounting Tray
- 530–1354 External SMD Command Cable, 2M (XD7053)
- 530–1355 External SMD Data Cable, 2M (XD7053)
- 530–1475, External SMD Data Cbl, CL2, 6M (XD7053)
- 530–1476, External SMD Command Cbl, CL2, 6M (XD7053)
- 555–1008, 892MB Disk Drive FRU (2)

Option 942X

Dual 892MB ESMD Disk Subsystem

Dual 892MB Disk Subsystem		
921AV3	(Ref only)	(230V)
942AV4	(Ref only)	(240V)
942AR1V3	(Ref only)	(230V)
9412AR1V4	(Ref only)	(240V)
X942AR1V3	(Ref only)	(230V)
X942AR1V4	(Ref only)	(240V)

- 340–1682, Tray Support Bracket, Right
- 340–1689, Tray Support Bracket, Left
- 340–1728, Mounting Tray
- 530–1356, External SMD Command Daisy Chain Cable
- 530–1354, External SMD Command Cable, 2M (XD7053)
- 530–1355, External SMD Data Cable, 2M (XD7053)
- 530– 475, External SMD Data Cbl, CL2, 6M (XD7053)
- 530–1476, External SMD Command Cbl, CL2, 6M (XD7053)
- 555–1008, 892MB Disk Drive FRU (2)
  - 180–1097, AC Power Cord (115V)
  - 240–1655, #10–32 x 3/4” Screw (Qty 3)
  - 240–1666, #8–32 x 5/16” Screw (Qty 16)
  - 340–1712, Stop Bracket, Hitachi DK815–10
  - 340–1683, Slide Rail, NEC
  - 340–1721, Slide Rail, Hitachi
  - 370–1141, 892MB Disk Drive
  - 370–1162, Terminator, Hitachi
  - 370–1163, Terminator, NEC
  - 540–1637, Hardware Kit, NEC
  - 530–1343, AC Power Cord (240V)
  - 530–1351, AC Power Cord (230V)
  - 540–1638, Hardware Kit, Hitachi
  - 580–1179, Packaging
  - 813–1036, Installation Manual
  - 813–2046, Configuration Manual

Option 943X

Three 892MB ESMD Disk Subsystem

Three 892MB Disk Subsystem		
943AV3	(Ref only)	(230V)
943AV4	(Ref only)	(240V)
943AR1V3	(Ref only)	(230V)
943AR1V4	(Ref only)	(240V)
X943AV3	(Ref only)	(230V)
X943AV4	(Ref only)	(240V)
X943AR1V3	(Ref only)	(230V)
X943AR1V4	(Ref only)	(240V)

- 340–1682, Tray Support Bracket, Right
- 340–1689, Tray Support Bracket, Left
- 340–1728, Mounting Tray
- 530–1356, External SMD Command Daisy Chain Cable
- 530–1354, External SMD Command Cable, 2M (XD7053)
- 530–1355, External SMD Data Cable, 2M (XD7053)
- 530– 475, External SMD Data Cbl, CL2, 6M (XD7053)
- 530–1476, External SMD Command Cbl, CL2, 6M (XD7053)
- 555–1008, 892MB Disk Drive FRU (3)
  - 180–1097, AC Power Cord (115V)
  - 240–1655, #10–32 x 3/4” Screw (Qty 3)
  - 240–1666, #8–32 x 5/16” Screw (Qty 16)
  - 340–1712, Stop Bracket, Hitachi DK815–10
  - 340–1683, Slide Rail, NEC
  - 340–1721, Slide Rail, Hitachi
  - 370–1141, 892MB Disk Drive
  - 370–1162, Terminator, Hitachi
  - 370–1163, Terminator, NEC
  - 540–1637, Hardware Kit, NEC
  - 530–1343, AC Power Cord (240V)
  - 530–1351, AC Power Cord (230V)
  - 540–1638, Hardware Kit, Hitachi
  - 580–1179, Packaging
  - 813–1036, Installation Manual
  - 813–2046, Configuration Manual

Option 944X

Four 892MB ESMD Disk Subsystem

Four 892MB Disk Subsystem		
944AV3	(Ref only)	(230V)
9434AV4	(Ref only)	(240V)
944AR1V3	(Ref only)	(230V)
944AR1V4	(Ref only)	(240V)
X944AV3	(Ref only)	(230V)
X944AV4	(Ref only)	(240V)
X944AR1V3	(Ref only)	(230V)
X944AR1V4	(Ref only)	(240V)

- 340–1682, Tray Support Bracket, Right
- 340–1689, Tray Support Bracket, Left
- 340–1728, Mounting Tray
- 530–1356, External SMD Command Daisy Chain Cbl
- 530–1354, External SMD Command Cable, 2M (XD7053)
- 530–1355, External SMD Data Cable, 2M (XD7053)
- 530– 475, External SMD Data Cbl, CL2, 6M (XD7053)
- 530–1476, External SMD Command Cbl, CL2, 6M (XD7053)
- 555–1008, 892MB Disk Drive FRU (4)
  - 180–1097, AC Power Cord (115V)
  - 240–1655, #10–32 x 3/4” Screw (Qty 3)
  - 240–1666, #8–32 x 5/16” Screw (Qty 16)
  - 340–1712, Stop Bracket, Hitachi DK815–10
  - 340–1683, Slide Rail, NEC
  - 340–1721, Slide Rail, Hitachi
  - 370–1141, 892MB Disk Drive
  - 370–1162, Terminator, Hitachi
  - 370–1163, Terminator, NEC
  - 540–1637, Hardware Kit, NEC
  - 530–1343, AC Power Cord (240V)
  - 530–1351, AC Power Cord (230V)
  - 540–1638, Hardware Kit, Hitachi
  - 580–1179, Packaging
  - 813–1036, Installation Manual
  - 813–2046, Configuration Manual

Option 945X

892MB ESMD Expansion Disk Subsystem (without tray)

892MB Expansion Disk Subsystem		
945AV3	(Ref only)	(230V)
945AV4	(Ref only)	(240V)

- 340–1682, Tray Support Bracket, Right
- 340–1689, Tray Support Bracket, Left
- 340–1728, Mounting Tray
- 530–1356, External SMD Command Daisy Chain Cable
- 530–1354, External SMD Command Cable, 2M (XD7053)
- 530–1355, External SMD Data Cable, 2M (XD7053)
- 530– 475, External SMD Data Cbl, CL2, 6M (XD7053)
- 530–1476, External SMD Command Cbl, CL2, 6M (XD7053)
- 555–1008, 892MB Disk Drive FRU (2)
  - 180–1097, AC Power Cord (115V)
  - 240–1655, #10–32 x 3/4” Screw (Qty 3)
  - 240–1666, #8–32 x 5/16” Screw (Qty 16)
  - 340–1712, Stop Bracket, Hitachi DK815–10
  - 340–1683, Slide Rail, NEC
  - 340–1721, Slide Rail, Hitachi
  - 370–1141, 892MB Disk Drive
  - 370–1162, Terminator, Hitachi
  - 370–1163, Terminator, NEC
  - 540–1637, Hardware Kit, NEC
  - 530–1343, AC Power Cord (240V)
  - 530–1351, AC Power Cord (230V)
  - 540–1638, Hardware Kit, Hitachi
  - 580–1179, Packaging
  - 813–1036, Installation Manual
  - 813–2046, Configuration Manual

Option 946X

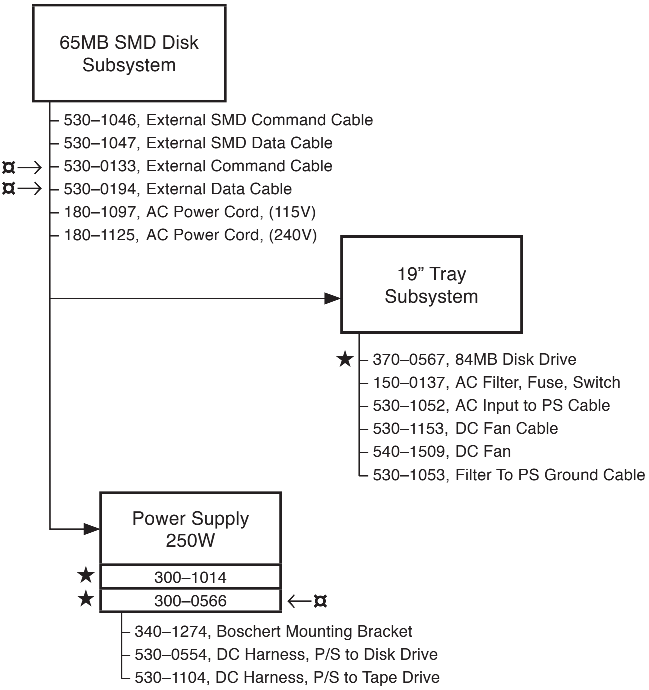
892MB ESMD Expansion Disk Subsystem (with tray)

892MB
Expansion Disk
Subsystem

946AV3	(Ref only)	(230V)
946AV4	(Ref only)	(240V)

- 340–1682, Tray Support Bracket, Right
- 340–1689, Tray Support Bracket, Left
- 340–1728, Mounting Tray
- 530–1356, External SMD Command Daisy Chain Cable
- 530–1354, External SMD Command Cable, 2M (XD7053)
- 530–1355, External SMD Data Cable, 2M (XD7053)
- 530– 475, External SMD Data Cbl, CL2, 6M (XD7053)
- 530–1476, External SMD Command Cbl, CL2, 6M (XD7053)
- 555–1008, 892MB Disk Drive FRU (2)
  - 180–1097, AC Power Cord (115V)
  - 240–1655, #10–32 x 3/4” Screw (Qty 3)
  - 240–1666, #8–32 x 5/16” Screw (Qty 16)
  - 340–1712, Stop Bracket, Hitachi DK815–10
  - 340–1683, Slide Rail, NEC
  - 340–1721, Slide Rail, Hitachi
  - 370–1141, 892MB Disk Drive
  - 370–1162, Terminator, Hitachi
  - 370–1163, Terminator, NEC
  - 540–1637, Hardware Kit, NEC
  - 530–1343, AC Power Cord (240V)
  - 530–1351, AC Power Cord (230V)
  - 540–1638, Hardware Kit, Hitachi
  - 580–1179, Packaging
  - 813–1036, Installation Manual
  - 813–2046, Configuration Manual

Option D84
65MB SMD Single Disk (Fatbox)



65MB SMD Disk Subsystem

- 530–1046, External SMD Command Cable
- 530–1047, External SMD Data Cable
- ¤→ 530–0133, External Command Cable
- ¤→ 530–0194, External Data Cable
- 180–1097, AC Power Cord, (115V)
- 180–1125, AC Power Cord, (240V)

19” Tray Subsystem

- ★ 370–0567, 84MB Disk Drive
- 150–0137, AC Filter, Fuse, Switch
- 530–1052, AC Input to PS Cable
- 530–1153, DC Fan Cable
- 540–1509, DC Fan
- 530–1053, Filter To PS Ground Cable

Power Supply 250W

★ 300–1014

★ 300–0566 ←¤

- 340–1274, Boschert Mounting Bracket
- 530–0554, DC Harness, P/S to Disk Drive
- 530–1104, DC Harness, P/S to Tape Drive

Option D84EX

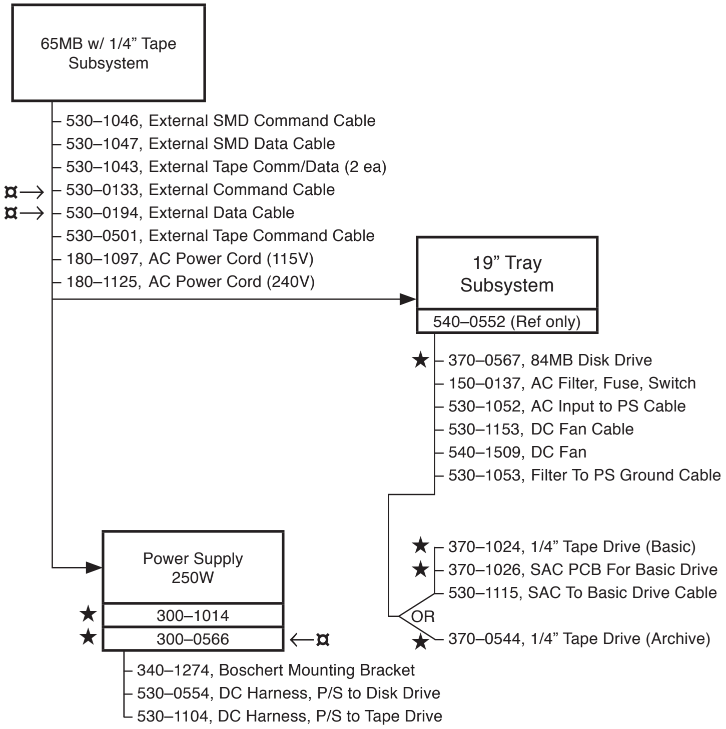
65MB SMD Single Disk Expansion (Fatbox)

65MB SMD Disk Expansion

- 530–1046, External SMD Command Cable
- 530–1047, External SMD Data Cable
- 530–0607, Daisy–Chain SMD Command Cable
- ¤→ 530–0133, External Command Cable
- ¤→ 530–0194, External Data Cable
- 180–1097, AC Power Cord, (115V)
- 180–1125, AC Power Cord, (240V)
- ★ 370–0567, 84MB Disk Drive
- 150–0137, AC Filter, Fuse, Switch
- 530–1052, AC Input to PS Cable
- 530–1153, DC Fan Cable
- 540–1509, DC Fan
- 530–1053, Filter To PS Ground Cable
- Power Supply 250W
  - ★ 300–1014
  - 300–0566 ←¤
    - 340–1274, Boschert Mounting Bracket
    - 530–0554, DC Harness, P/S to Disk Drive
    - 530–1104, DC Harness, P/S to Tape Drive

Option D84TC

65MB SMD Single Disk with 1/4” Tape (Fatbox)



65MB w/ 1/4” Tape Subsystem

- 530–1046, External SMD Command Cable
- 530–1047, External SMD Data Cable
- 530–1043, External Tape Comm/Data (2 ea)
- ¤→ 530–0133, External Command Cable
- ¤→ 530–0194, External Data Cable
- 530–0501, External Tape Command Cable
- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)

19” Tray Subsystem

540–0552 (Ref only)

- ★ 370–0567, 84MB Disk Drive
- 150–0137, AC Filter, Fuse, Switch
- 530–1052, AC Input to PS Cable
- 530–1153, DC Fan Cable
- 540–1509, DC Fan
- 530–1053, Filter To PS Ground Cable

- ★ 370–1024, 1/4” Tape Drive (Basic)
- ★ 370–1026, SAC PCB For Basic Drive
- 530–1115, SAC To Basic Drive Cable

OR

- ★ 370–0544, 1/4” Tape Drive (Archive)

Power Supply 250W

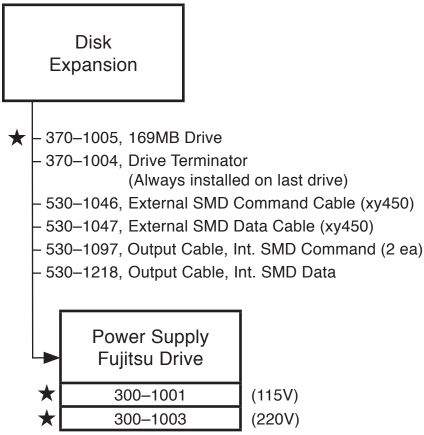
★ 300–1014

★ 300–0566 ←¤

- 340–1274, Boschert Mounting Bracket
- 530–0554, DC Harness, P/S to Disk Drive
- 530–1104, DC Harness, P/S to Tape Drive

Option D169

133MB SMD Single Disk Subsystem (19” Rack)



Disk Expansion

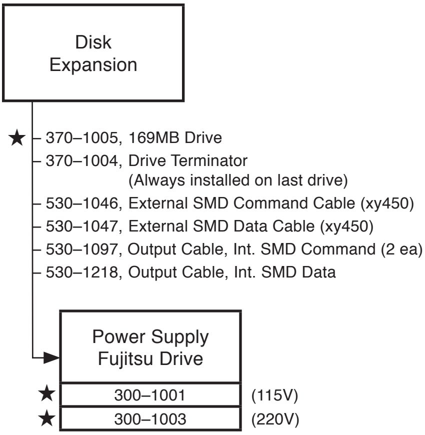
- ★ 370–1005, 169MB Drive
- 370–1004, Drive Terminator (Always installed on last drive)
- 530–1046, External SMD Command Cable (xy450)
- 530–1047, External SMD Data Cable (xy450)
- 530–1097, Output Cable, Int. SMD Command (2 ea)
- 530–1218, Output Cable, Int. SMD Data

Power Supply Fujitsu Drive

- ★ 300–1001 (115V)
- ★ 300–1003 (220V)

Option D169EX

133MB SMD Single Disk Subsystem (19” Rack)


Disk Expansion
★ 370–1005, 169MB Drive
370–1004, Drive Terminator (Always installed on last drive)
530–1046, External SMD Command Cable (xy450)
530–1047, External SMD Data Cable (xy450)
530–1097, Output Cable, Int. SMD Command (2 ea)
530–1218, Output Cable, Int. SMD Data
Power Supply Fujitsu Drive
★ 300–1001 (115V)
★ 300–1003 (220V)

LW1 & LW2

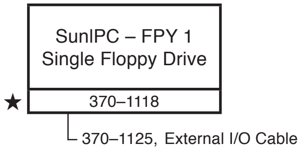
LaserWriter I

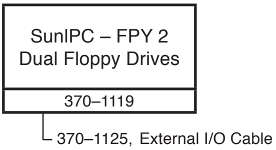
- 540–1271, LaserWriter Assy (240V)
  - 260–1369, Sun Logo
  - 260–2017, Label Kit
  - 370–1042, LaserWriter (FRU)
- 540–1253, LaserWriter Assy (115V)
  - 260–1369, Sun Logo
  - 260–2017, Label Kit
  - 370–1041, LaserWriter (FRU)
- 150–1121, LaserWriter Toner Cartridge
- 530–1172–03, Serial Cable
- 530–1433–01, Serial Cable (386i)

LaserWriter II

- 365–1041, LaserWriter II with packaging (115V) (FRU)
  - 370–1188, Engine, LW2 (115V)
  - 370–1196, PCA, NT Controller
  - 536–1002, Power Cord (115V)
  - 350–1014, Assy, Paper Tray, Ltr/Lgl
    - 330–1160, Paper Tray Base, Ltr/Lgl
    - 330–1161, Paper Tray Top, Ltr/Lgl
- 365–1040, LaserWriter II with packaging (240V) (FRU)
  - 370–1189, Engine, LaserWriter II (240V)
  - 370–1196, PCA, NT Controller
  - 536–1003, Power Cord (240V)
  - 350–1015, Assy, Paper Tray, A4
    - 330–1162, Paper Tray Base, A4
    - 330–1163, Paper Tray Top, A4
- 150–1279, LaserWriter II Toner Cartridge
- 530–1172–03, Serial Cable
- 530–1433–01, Serial Cable (386i)

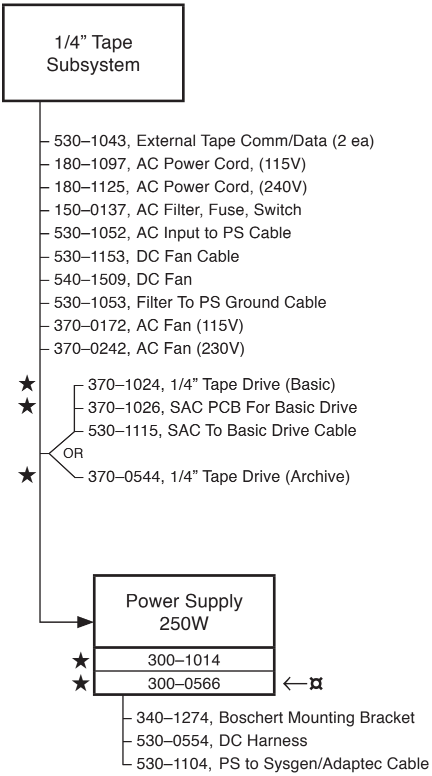
SunIPC Floppy Disk Drive Subsystems


SunIPC – FPY 1
Single Floppy Drive
★
370–1118
370–1125, External I/O Cable


SunIPC – FPY 2
Dual Floppy Drives
370–1119
370–1125, External I/O Cable

Option TC

1/4” Tape Subsystem (Fatbox)



1/4” Tape Subsystem

- 530–1043, External Tape Comm/Data (2 ea)
- 180–1097, AC Power Cord, (115V)
- 180–1125, AC Power Cord, (240V)
- 150–0137, AC Filter, Fuse, Switch
- 530–1052, AC Input to PS Cable
- 530–1153, DC Fan Cable
- 540–1509, DC Fan
- 530–1053, Filter To PS Ground Cable
- 370–0172, AC Fan (115V)
- 370–0242, AC Fan (230V)

- ★ 370–1024, 1/4” Tape Drive (Basic)
- ★ 370–1026, SAC PCB For Basic Drive
- 530–1115, SAC To Basic Drive Cable

OR

- ★ 370–0544, 1/4” Tape Drive (Archive)

Power Supply 250W

- ★ 300–1014
- ★ 300–0566 ←¤

- 340–1274, Boschert Mounting Bracket
- 530–0554, DC Harness
- 530–1104, PS to Sysgen/Adaptec Cable

Option TR

1600 bpi 1/2” Tape Drive (CDC)

1/2” Tape
Subsystem
600–0441 (Ref only)

- 180–1097, AC Power Cord (115V)
- 180–1125, AC Power Cord (240V)
- ★ 370–0479, 1/2” Tape Drive (1600 bpi)
- 530–1043, External Cable, Tape Command/Data (2 each)

Sun386i
Expansion Peripheral Subsystem

Peripheral Expansion Box
RR127

- 300–1031, 120W Power Supply
- 530–1371, Power Cord 115V/240V
- 530–1409, Internal SCSI Cable
- 530–1365, External SCSI Cable
- 350–1011, Front Bezel
- 350–1117, Rear Bezel
- 350–1010, Left Dress Panel
- 350–1013, Right Dress Panel
- 350–1006, Top Dress Pane!
- 340–1960, Filler Panel
- 530–1381, Terminator

91MB Disk Add-On
RR133

- 555–1004, 91MB FRU
  - 330–1146, Disk Bracket
  - 330–1158, Disk Handle
  - 330–1148, Disk Drive

1/4” Tape Drive Add-On
RR132

- 370–1179, 1/4” Tape Drive Assy (FRU)
- 530-1461, Pigtail Connector (FRU)

327MB Disk Add-On
RR134

- 555–1004, 327MB FRU
  - 330–1146, Disk Bracket
  - 330–1158, Disk Handle
  - 330–1148, Disk Drive

155MB Disk Add-On
RR131

- 555–1059, 155MB FRU
  - 330–1146, Disk Bracket
  - 330–1158, Disk Handle
  - 330–1148, Disk Drive

Miscellaneous

Common Hardware – SAE Standard 3
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Common Hardware – SAE Standard

DESCRIPTION						PART NUMBER
Screw,	4–40 X 1/4	–––	Phillips,	–––	Black	240–1108
Screw,	4–40 X 1/4	Pan–Head,	Phillips,	–––	–––	240–0387
Screw,	4–40 X 5/16	–––	Phillips,	–––	–––	240–1159
Screw,	4–40 X 5/16	Pan–Head,	Phillips,	–––	Clear	240–1318
Screw,	4–40 X 3/8	Pan–Head,	Phillips,	–––	Black	240–1196
Screw,	4–40 X 7/16	Pan–Head,	Phillips,	Sem,	Black	240–1285
Screw,	6–32 X 5/32	Pan–Head,	Phillips,	Sem,	Clear	240–1214
Screw,	6–32 X 3/16	ON–Head	Phillips,	Sem,	Clear	240–1137
Screw,	6–32 X 1 /4	Flat–Head 100,	–––	–––	–––	240–0476
Screw,	6–32 X 1/4	Pan–Head,	–––	–––	–––	240–0253
Screw,	6–32 X 1/4	Pan–Head,	–––	–––	Clear	240–1141
Screw,	6–32 X 1/4	Pan–Head,	Phillips,	Sem,	Black	240–1185
Screw,	6–32 X 5/16	Pan–Head,	–––	–––	–––	240–0466
Screw,	6–32 X 3/8	Flat–Head 100,	–––	–––	–––	240–0258
Screw,	6–32 X 3/8	Pan–Head,	Phillips,	Sem,	–––	240–1291
Screw,	6–32 X 3/8	Pan–Head,	Phillips,	Sem,	Black	240–1186
Screw,	6–32 X 1/2	Flat–Head 100,	–––	–––	–––	240–0380
Screw,	6–32 X 1/2	Flat–Head 100,	–––	–––	–––	240–0477
Screw,	6–32 X 1/2	Pan–Head,	Phillips,	–––	Clear	240–1158
Screw,	6–32 X 1/2	Pan–Head,	Phillips,	–––	Black	240–0268
Screw,	6–32 X 1/2	Pan–Head,	Phillips,	Sem,	Black	240–1187
Screw,	6–32 X 5/8	Flat–Head 100,	–––	–––	–––	240–0471
Screw,	6–32 X 5/8	Pan–Head,	Phillips,	Sem,	–––	240–1202
Screw,	6–32 X 3/4	Pan–Head,	Phillips,	–––	Clear	240–1315
Screw,	6–32 X 3/4	Pan–Head,	Phillips,	Sem,	Black	240–1188
Screw,	6–32 X 1 1/2"	Pan–Head,	Phillips,	–––	–––	240–1344
Screw,	6–32 X 2"	Pan–Head,	Phillips,	–––	–––	240–1293
Screw,	6–32 X 2 1/4"	Pan–Head,	Phillips,	–––	Clear	240–1267
Screw,	8–32 X 1/4	Flat–Head 100,	–––	–––	–––	240–0475
Screw,	8–32 X 1/4	Pan–Head,	Phillips,	Sem,	Black	240–1203
Screw,	8–32 X 3/8	Flat–Head 100,	–––	–––	–––	240–0566
Screw,	8–32 X 3/8	Pan–Head,	–––	–––	–––	240–0559
Screw,	8–32 X 3/8	Pan–Head,	Phillips,	Sem,	Clear	240–1204
Screw,	8–32 X 3/8	Pan–Head,	Phillips,	Sem,	Black	240–1189
Screw,	8–32 X 1/2	Flat–Head 100,	Phillips,	Sem,	Black	240–1198
Screw,	8–32 X 1/2	Pan–Head,	Phillips,	Sem,	Black	240–1190
Screw,	8–32 X 1/2	Pan–Head,	Phillips,	–––	–––	240–1371

Common Hardware – SAE Standard

DESCRIPTION						PART NUMBER
Screw,	4–40 X 1/4	–––	Phillips,	–––	Black	240–1108
Screw,	4–40 X 1/4	Pan–Head,	Phillips,	–––	–––	240–0387
Screw,	4–40 X 5/16	–––	Phillips,	–––	–––	240–1159
Screw,	4–40 X 5/16	Pan–Head,	Phillips,	–––	Clear	240–1318
Screw,	4–40 X 3/8	Pan–Head,	Phillips,	–––	Black	240–1196
Screw,	4–40 X 7/16	Pan–Head,	Phillips,	Sem,	Black	240–1285
Screw,	6–32 X 5/32	Pan–Head,	Phillips,	Sem,	Clear	240–1214
Screw,	6–32 X 3/16	ON–Head	Phillips,	Sem,	Clear	240–1137
Screw,	6–32 X 1/4	Flat–Head 100,	–––	–––	–––	240–0476
Screw,	6–32 X 1/4	Pan–Head,	–––	–––	–––	240–0253
Screw,	6–32 X 1/4	Pan–Head,	–––	–––	Clear	240–1141
Screw,	6–32 X 1/4	Pan–Head,	Phillips,	Sem,	Black	240–1185
Screw,	6–32 X 5/16	Pan–Head,	–––	–––	–––	240–0466
Screw,	6–32 X 3/8	Flat–Head 100,	–––	–––	–––	240–0258
Screw,	6–32 X 3/8	Pan–Head,	Phillips,	Sem,	–––	240–1291
Screw,	6–32 X 3/8	Pan–Head,	Phillips,	Sem,	Black	240–1186
Screw,	6–32 X 1/2	Flat–Head 100,	–––	–––	–––	240–0380
Screw,	6–32 X 1/2	Flat–Head 100,	–––	–––	–––	240–0477
Screw,	6–32 X 1/2	Pan–Head,	Phillips,	–––	Clear	240–1158
Screw,	6–32 X 1/2	Pan–Head,	Phillips,	–––	Black	240–0268
Screw,	6–32 X 1/2	Pan–Head,	Phillips,	Sem,	Black	240–1187
Screw,	6–32 X 5/8	Flat–Head 100,	–––	–––	–––	240–0471
Screw,	6–32 X 5/8	Pan–Head,	Phillips,	Sem,	–––	240–1202
Screw,	6–32 X 3/4	Pan–Head,	Phillips,	–––	Clear	240–1315
Screw,	6–32 X 3/4	Pan–Head,	Phillips,	Sem,	Black	240–1188
Screw,	6–32 X 1 1/2"	Pan–Head,	Phillips,	–––	–––	240–1344
Screw,	6–32 X 2"	Pan–Head,	Phillips,	–––	–––	240–1293
Screw,	6–32 X 2 1/4"	Pan–Head,	Phillips,	–––	Clear	240–1267
Screw,	8–32 X 1/4	Flat–Head 100,	–––	–––	–––	240–0475
Screw,	8–32 X 1/4	Pan–Head,	Phillips,	Sem,	Black	240–1203
Screw,	8–32 X 3/8	Flat–Head 100,	–––	–––	–––	240–0566
Screw,	8–32 X 3/8	Pan–Head,	–––	–––	–––	240–0559
Screw,	8–32 X 3/8	Pan–Head,	Phillips,	Sem,	Clear	240–1204
Screw,	8–32 X 3/8	Pan–Head,	Phillips,	Sem,	Black	240–1189
Screw,	8–32 X 1/2	Flat–Head 100,	Phillips,	Sem.	Black	240–1198
Screw,	8–32 X 1/2	Pan–Head,	Phillips,	Sem.	Black	240–1190
Screw,	8–32 X 1/2	Pan–Head,	Phillips,	–––	–––	240–1371

Common Hardware – SAE Standard

DESCRIPTION						PART NUMBER
Screw,	8–32 X 1/2	Button	–––	–––	–––	240–0460
Screw,	8–32 X 1/2	Machine	–––	–––	–––	240–0429
Screw,	8–32 X 1/2	WSH–Head	Hex	–––	Brass	240–1342
Screw,	8–32 X 3/8	Pan–Head,	–––	–––	–––	240–0559
Screw,	8–32 X 3/4	Pan–Head,	Phillips,	–––	Black	240–1131
Screw,	10–32 X 1/4	Pan–Head,	Phillips,	Sem,	–––	240–1294
Screw,	10–32 X 5/16	Flat–Head 100,	Phillips,	–––	Black	240–1199
Screw,	10–32 X 1/2	Pan–Head,	Phillips,	Sem,	Black	240–1207
Lock Nut	#4					240–1061
Lock Nut	#6					240–0254
Lock Nut	#8					240–0257
Hex Nut	2 X 56 X 1/16					240–1281
Hex Nut	3/8					240–1057
Hex Nut	8/32 Brass					240–1183
Hex Bolt	3/8 X 2 X 3/4					240–1056
Flat Washer	#2 Split					240–1283
Flat Washer	#6					240–1036
Flat Washer	#8					240–1358
Flat Washer	3/8” ID X 1' X 3/32 THK					240–1055
Lock Screw Kit, Male						130–1023
Lock Screw Kit, Female						130–0486
Rivit	156 Diameter					240–1331
Tinnerman Clip, Spread “C"						240–0459
Tinnerman Clip, 10–32						240–1016

Common Hardware – Metric Standard

DESCRIPTION	PART NUMBER
SEM, M2.5 X ,45 X 12 mm, Hex, Black	240–1387
SEM, M4 X 0.7 X 10 mm. Hex	240–1372
SEM, M4 X 0.7 X 16 mm, Fujitsu 8” Disk Mounting Screw	240–1356
SEM, M4 X 0.7 X 32 mm, Hywshr	240–1374
SEM, M5 X 0.8 X 12 mm, Hex, w/Lock	240–1383
SEM, M6 X 1 X 16 mm, Hex	240–1368
Kep Nut, M4	240–1373
Hex Nut, M12.7 X 1.5 mm	240–1265

Common Hardware – Miscellaneous

DESCRIPTION	ORDER NUMBER	PART NUMBER
Cable Tie, 4"		230–0203
Cable Tie, 5.5", Reuseable		230–1166
Cable Tie, 10", Reuseable		230–1170
Cable Tie Mount, 1” X 1"		230–0259
Plastic PCB Stand–Off		230–1007
Plastic Card Guide, 6"		230–1028
Plastic Card Guide, 8 1/2"		230–1029
2–Pin Shunt		130–0272
3V Lithium Battery		150–1022
Ethernet Slide Lock		240–0464
Blank 1/4” Tape Cartridge QIC 11/24	BTC	370–0543
Blank 1/2” Tape Reel (BTR)	BTR	370–xxxx
Blank 1/4” Tape (QIC–150)	BTH	370–1203
Springfinger Kit		560–1183

Ethernet Parts

DESCRIPTION	ORDER NUMBER	PART NUMBER
3Com 3c400 Controller		370–0288
3Com 3c100 Transceiver		370–0331
N–series Connector		370–0549
N–series Male Terminator	ETR	370–0368
15–meter Ethernet Coax Cable (obsolete)		370–0363
15–meter Transceiver Drop Cable (obsolete)		370–0364
BNC Tap Block, 3Com 3C139A		370–1074
N–series Tap Block, 3Com 3C139		370–1073
Vampire Tap Block, AMP 228752–1		370–1072
Ethernet Installation Kit, Vampire Tap Tool	ETH–TAP–TOOL	370–1075
3Com 3C101/102 Transceiver (obsolete)		370–1071–01
3Com 3C106 Transceiver		370–1071–02
15–meter Transceiver Drop Cable		530–1241
15–meter Thin Ethernet Cable	TS–15M	530–1253
5–meter Thin Ethernet Cable	TS–5M	530–1280
15–meter Ethernet Coax Cable	ECX	530–1254
BNC Female to N–series Male	TA–M	130–1240
BNC Male Terminator	TT–M	130–1241
BNC “T”,F,M,F	TTC	130–1242
BNC Barrel, Double Female	TBC	130–1243
BNC Terminator, Female	TT–F	130–1244
BNC Female to N–series Female	TA–F	130–1245
If the customer uses the AMP type attachment, an N–series female terminator (not available from Sun), is needed to terminate the coax cable. AMP -----***-------------|Male End| <----Terminator		xxx–xxxx–xx

FUSES

FUSE	DESCRIPTION	SIZE	SUN PART #	VENDOR	VENDOR PART #
1/16A	250V 3AG	.25x1.25"	140–1004–01	Littelfuse	312.062
1/16A	250V 3AG	.25x1.25"	140–1004–01	Bussman	AGC 1/16
1/8A	250V FAST	.25x1.25"	140–1003–01	Littelfuse	312.125
1/8A	250V FAST	.25x1.25"	140–1003–01	Bussman	AGC 1/8
1/2A	250V SLO–BLO	.25x1.25"	140–1012–01	Littelfuse	313.500
3/4A	125V FAST	Submini	140–1024–01	Littelfuse	255.750
3/4A	125V FAST	Submini	140–1024–01	Bussman	GFA 3/4
1A	125V	Submini	140–1027–01	Littelfuse	273 001
1A	250V NORMAL–BLO	.25x1.25"	140–8500–01	Bussman	AGC–1
1A	250V NORMAL–BLO	.25x1.25"	140–8500–01	Littelfuse	314 001
1.5A	125V	Submini	150–1162–01	Littelfuse	273 01.5
1.5A	125V	Submini	150–1383–01	Littelfuse	273 01.5
1.5A	250V	5X20mm	150–1208–01	SOC	MT4–1.51
1.6A	250V NORMAL BLOW	.25x1.25"	140–1022–01	Littelfuse	312 01.6
1.6A	250V NORMAL BLOW	.25x1.25	40–1022–01	BEL	3AG1.6
1.6A	250V NORMAL BLOW	.25x1.25"	140–1022–01	Power Dynamics	19340 1.6A
1.6A	250V NORMAL BLOW	.25x1.25"	140–1022–01	Bussman	AGC 1.6A
1.6A	250V SLOW BLO	5X20mm	150–1215–01	Schurter	034.3119
1.8A	250V SLO–BLO	5X20mm	150–1215–01	Littelfuse	218 01.6
2A	250V 3 AG	.25x1.25"	140–1005–01	Littelfuse	312 002
2A	250V 3AG	.25x1.25"	140–1005–01	Bussman	AGC 2
2A	25V	Submini	140–1028–01	Littelfuse	252 002
2A	250V Slow Blow	5x20mm	140–1034–01	Bussman	GDC–2
2A	250V SLO–BLO	5x20mm	140–1034–01	Littelfuse	218 002
2A	125V FAST	Submini	150–1174–01	Littelfuse	273 002
2A	250V FAST–ACT	.25x1.25"	150–1191–01	MGC	MGC 0002
2A	250V FAST–ACT	.25x1.25"	150–1191–01	Littelfuse	312 002
2.5A	250V SLO–BLO 3AG	.25x1.25"	140–1000–01	Littelfuse	313 02.5
2.5A	250V SLOW BLOW 3AG	.25x1.25"	140–1000–01	Bussman	MDA 2 1/2
2.5A	250V 3AG	.25x1.25"	140–1008–01	Littelfuse	313 003
2.5A	250V 3AG	.25x1.25"	140–1008–01	Bussman	MDA 2 1/2
3A	250V SLO–BLO	.25x1.25"	150–1034–01	Littelfuse	313 003
3A	250V SLOW BLOW	.25x1.25"	150–1034–01	Bussman	MDA–3
3A	250V SLO–BLO	5x20mm	140–1002–01	Littelfuse	218 3.15
3A	250V SLOW BLOW	5x20mm	140–1002–01	Bussman	GDC 3.15
3A	250V	5x20mm	150–1209–01	SOC	MT4–3.0
4A	250V SLOW BLOW	5x20mm	140–1031–01	Schurter	FST 034.3123
4A	250V SLO–BLO	5x20mm	140–1031–01	Littelfuse	218 004

FUSES (Cont.)

FUSE	DESCRIPTION	SIZE	SUN PART #	VENDOR	VENDOR PART #
4A	250V 3AG FAST	.25x1.25"	140–1001–01	Littelfuse	318 004
4A	250V 3AG FAST	.25x1.25"	140–1001–01	Bussman	AGC4AMP
4A	250V 3AB FAST	.25x1.25"	140–1007–01	Littelfuse	312 004
4A	250V 3AB FAST	.25x1.25"	140–1007–01	Bussman	MTH 4
4A	250V SLO–BLO	.25x1.25"	140–1020–01	Littelfuse	313 004
4A	250V SLOW BLOW	.25x1.25"	140–1020–01	BEL	3SB4
4A	250V SLOW BLOW	.25x1.25"	140–1020–01	Power Dynamics	19341–4A
4A	250V SLO–BLO	.25x1.25"	150–1033–01	Littelfuse	313 004
4A	250V SLOW BLOW	.25x1.25"	150–1033–01	Bussman	MDA 4A.250V
5A	250V SLOW BLOW	5X20mm	140–1029–01	Schurter	034.3124
5A	250V SLO–BLO	5X20mm	140–1029–01	Littelfuse	218 005
5A	250V SLO–BLO	.25x1.25"	140–1010–01	Littelfuse	313 005
5A	250V SLOW BLOW	.25x1.25"	140–1010–01	Bussman	MDA (5 AMP)
5A	250V SLOW BLOW	5x20mm	140–1025–01	Schurter	034.3914
5A	250V SLOW BLOW	5x20mm	140–1025–01	BEL	CMTR
5A	250V SLO–BLO	5x20mm	140–1025–01	Littelfuse	218 005
6A	250V	5x20mm	140–1009–01	Littelfuse	212 06.3
6A	250V	5x20mm	140–1009–01	Bussman	GMA 6
6A	250V NORMAL–BLO	.25x1.25"	140–1011–01	Littelfuse	314 006
6A	250V NORMAL–BLO	.25x1.25"	140–1011–01	Bussman	ABC 6A 250V
6A	250V FAST	.25x1.25"	140–1021–01	Littelfuse	312 006
6A	250V FAST	.25x1.25"	140–1021–01	Bussman	MTH–6A
6A	250V FAST	.25x1.25"	140–1021–01	Power Dynamics	19340–6A
6A	250V SLOW BLOW	Unknown	140–1026–01	Bussman	250 (MSL)
6A	250V SLOW BLOW	5x20mm	150–0473	Panel Component	341524
6A	250V SLO–BLO	5x20mm	150–0473	Littelfuse	213 006
6.3A	250V SLOW BLOW	5X20mm	140–1030–01	Schurter	FST 034.3125
6.3A	250V SLO–BLO	5X20mm	140–1030–01	Littelfuse	218 063
7A	250V SLO–BLO	.25x1.25"	150–1258–01	Littelfuse	313 007
7A	250V SLOW BLOW	.25x1.25"	150–1258–01	Bussman	MDQ–7
8A	250V 3AB NORMAL–BLO	.25x1.25"	140–1006–01	Littelfuse	314 008
8A	250V 3AB NORMAL–BLO	.25x1.25"	140–1006–01	Bussman	MTH 8
10A	250V SLO–BLO	.25x1.25"	140–1017–01	Littelfuse	326 010
10A	250V SLOW BLOW	.25x1.25"	140–1017–01	Power Dynamics	19341–10A
12A	250V NORMAL–BLO	.25x1.25"	140–8000–01	Bussman	ABC–12
12A	250V NORMAL–BLO	.25x1.25"	140–8000–01	Littelfuse	314.012
15A	250V NORMAL–BLO	.25x1.25"	140–1019–01	Littelfuse	314 015
15A	250V SLOW BLOW	.25x1.25"	140–1019–01	Bussman	ABC–15A

FUSES (Cont.)

DESCRIPTION	SUN PART #	VENDOR	VENDOR PART #
Fuse Carrier, Domestic	150–1042–01	Schurter	FEK 031.1666
Fuse Carrier, International	150–1051–01	Schurter	031.1663
Fuse Holder, In Line 22–14AWG	140–1023–01	AMP	552844–1
Fuse Holder, In Line 22–14AWG	140–1023–01	Littelfuse	155 020U
Fuse Holder, UL/CSA/VDE	150–1041–01	Schurter	FEU 031.1693
Fuse Holder, R/A for PIG–TAIL	150–1163–01	Littelfuse	281 007
Fuse Holder, R/A for PIG–TAIL	150–1163–01	Power Dynamic	19557
Fuse Holder, 20A,250V,UL,16A,250V	150–1177–01	Schurter	FEU031.1673
Fuse Holder, PNL MT,MICROFUSE STY	150–1179–01	Littelfuse	282 002
Fuse Holder, PNL MT,MICROFUSE STY	150–1179–01	Littelfuse	282 008
Fuse Holder	150–1024–01	Littelfuse	345 001
Fuse Holder, Faston Type	150–1026–01	Littelfuse	571 007
Fuse Holder, Faston Type	150–1026–01	Bussman	HPF
Fuse Holder, Quick Connect	150–1029–01	Bussman	HTA–HH
Fuse Holder, Quick Connect	150–1029–01	Littelfuse	342 858

Hardware Manuals

PART #	DESCRIPTION	
BOARDS:		
CPU:		
800–1615	Sun 501–1164 CPU Board Installation Notes	(3/160/180/140/150)
800–1618	Installation Notes for the Sun 3200 Board Set	(3/260/280)
800–1619	Installation Notes for the Sun 501–1134 CPU Board	(3/110)
800–1684	Installation Notes for the Sun 4200 Board Set	(4/260/280)
800–1685	Sun 3004 CPU Board Functional Overview	(3/140/150/160/180)
800–1952	Field Service Manual for the Sun 4200 Board Set	(4/260/280)
800–2124	Installation Notes for the Sun 4100 Board Set	(4/110/150)
800–2399	Sun 3400 CPU Installation Manual	(3/460/480)
800–2463	Field Service Manual for the Sun 3400 CPU Board	(3/460/480)
800–3119	Installation Notes for the Sun 4300 CPU Board	(4/330)
800–3144	Sun 4300 CPU Field Service Manual	(4/330)
800–3260	Sun 4400 CPU Field Service Manual	(4/4XX)
813–2013	Sun 501–1134 CPU Board Configuration Procedures	(3/110)
813–2017	Sun 501–1206 CPU Board Configuration Procedures	(3/260/280)
813–2031	Sun 4200 CPU Board Configuration Procedures	(4/260/280)
813–2047	Sun 3004 CPU Board Configuration Procedures	(3/140/150/160/180)
813–2049	Sun 4100 CPU Board Configuration Procedures	(4/110/150)
813–2055	Sun 3400 CPU Board Configuration Procedures	(3/460/480)
813–2064	Sun 4300 CPU and Memory Board Config Procedures	(4/330)
MEMORY:		
800–2123	Installation Notes for the 32MB Memory Board	
813–2018	Sun 501–1102 Memory Board configuration Procedures (4MB)	
813–1049	Sun Single Height Parity Memory Installation Procedures	(4/330)
FPA/FPP/FPU:		
800–1104	Sky FPP User Manual	
800–2300	RMF Floating Point Unit Option for the Sun–4/100 Series	
800–3258	Sun FPA+ Board Installation Configuration Manual	
800–3067	FPU–2 Daughter Board Installation Manual for the Sun–4/100 Systems	
800–3116	SW RTF 4.0 FPU2 Beta Patch Tape	
813–1012	Installation Notes for the Sun FPA board	
813–2012	Sun FPA Board Configuration Procedures	
813–2014	Sky FPP Board Configuration Procedures for the Sun 2/120/170 Workstation	
813–2015	Sky FPP Board Configuration Procedures for the Sun–2/130/160 Workstation	
VIDEO/GRAPHICS:		
Sun 3 color (CG3)		
813–2030	Sun 3 Color Board Configuration Procedures	
Sun 3 Color(Double–Buffer)		
813–8108	Configuration Guide for ther Double–Buffered Color Board	
GP+		
813–1023	Graphics Processor Installation Note	
813–2023	Graphics Processor+ Configuration Procedures	

Hardware Manuals

PART #	DESCRIPTION
BOARDS:	
Video Graphics (Cont.)	
GP2/CG5	
800–2059	GP2/CG5 Configuration Guide
800–2328	Software RTF GP2 Release 1.0 FCS
800–2330	Installation Notes for the GP2 and CG5 Boards
800–3620	CG5 Hardware Reference
CG6 {LEGO}	
800–3621	CG6 Hardware installation Manual
800–3624	CG6 2D Software Installation Guide (SunOS 3.5)
800–3625	CG6 Hardware Configuration Manual
800–3626	CG6 Field Service Manual
800–3628	RMF CG6
800–3629	RTF CG6 (SunOS 3.5)
CG8 {IBIS}	
800–3057	4.0–CG8 Beta RTF
800–3058	24–Bit Color Release Notes
800–3814	RTF SunOS Release 4.0.2 (CG8)
CG9 {CRANE}	
800–3616	GPSI Addendum
800–3617	CG9 Hardware Reference
800–3619	CG9 Software Release Notes
800–3627	CG9 Install/Config Guide
TAAC–1	
800–1896	TAAC–1 RTF Release Notes
800–2441	TAAC–1 Software Installation Guide
800–2465	RTF, TAAC–1
813–1045	TAAC–1 Installation, User Diagnostics, and Servicing
813–2057	Configuration Procedures for the TAAC–1 Application Accelerator Board Set
EGA/VGA	
814–1022	SunVGA Users Manual
COMMUNICATIONS:	
SCP	
800–1267	SCP Installation & Configuration Guide, SunLink 1.0
800–1335	RTF SunLink Communication Processor, Sunlink 1.0
800–1398	SCP Installation & Configuration Guide, SunLink 3.0
800–1509	RTF SunLink Communication Processor, Sunlink 3.0
MTI	
800–1294	MTI Board Installation and Service (2/120/170)
813–1007	Installation and Service for the MTI Board

Hardware Manuals

PART #	DESCRIPTION
COMMUNICATIONS (Cont.):	
ALM	
800–1357	VME Multiple Terminal Interface Installation and Service
800–2003	VME ALM Configuration Procedures
813–1001	VME ALM Installation and Service Manual
813–1004	3/180 16–Channel ALM, Installation and Service
813–2008	Sun 3/180 16–Channel ALM Configuration Procedures
ALM–2	
800–2210	RMF ALM–2
800–2235	RTF ALM–2 System Configuration
813–1029	16–Channel ALM–2 Field Service Manual & Installation Notes
813–2029	16–Channel ALM–2 Field Service Manual & Installation Notes
813–2042	16–Channel ALM–2 Configuration Procedures
813–2045	CCSA & Backplane Configuration Procedures for the ALM–2
MCP	
800–1922	SunLink MCP SW Installation and Configuration Guide
800–2035	RTF Software SunLink (5.0) MCP Install Notes and Configuration Procedures
800 2423	RTF Software Sunlink (5.2) MCP
300–2446	Sunlink MCP SW Installation and Configuration Guide (Sunlink 6.0)
800–2447	RTF Software Sunlink 6.0 MCP
813–1033	4–Channel SunLink MCP Installation Notes
813–2032	SunLink MCP Configuration Procedures
813–2043	CCSA & Backplane Configuration Procedures for the MCP
Channel Adapter	
800–1921	SunLink (5.0) Channel Adapter SW Installation and Configuration Guide
800–2043	RTF SunLink (5.0) Channel Adapter Install Notes and Configuration Procedures
800–2078	RMF Hardware Sunlink (5.0) Channel Adapter
800–3011	Sunlink(6.0) Channel Adapter SW Installation and Configuration Guide
800–3012	RTF SunLink(6.0) Channel Adapter Install Notes and Configuration Procedures
813–1034	SunLink Channel Adapter Installation Notes
813–2040	SunLink Channel Adapter Configuration Procedures
813–2041	CCSA & Backplane Configuration Procedures for the Sunlink Channel adapter
HSI	
800–3063	Sunlink High–speed Serial Interface Software Installation and Configuration Guide
813–1046	HSI Installation and Field Service Manual
813–2058	HSI Configuration and Slot Assignment Manual
FDDI	
800–309	Sunlight FDDI Dual–Attach Controller Administration Guide
800–3096	RTF Dual–Attach FDDI Controller
813–2072	CSA and Backplane Configuration Procedures for the FDDI Dual–Attach Controller

Hardware Manuals

PART #	DESCRIPTION
SYSTEMS:	
Sun–2/100U/150U	
800–0400	User's Guide for the Sun Workstation (V.7) (SunOS v.7)
800–0402	Users Guide for the Sun Workstation Mouse subsystem
800–0485	Power Drain Requirements Model – 100U/150U
800–1042	System Managers Manual for the Sun Workstation – 100U/150U (0.4) (SunOS 0.4)
800–1052	Serial Communications Controller Technical Manual (Zilog)
800–1085	System Managers Manual for the Sun Workstation – 100U/150U (1.0) (Sun OS 1.0)
800–1109	System Managers Manual for the Sun Workstation – 100U/150U (1.1) (SunOS 1.1)
800–1226	Release Note Rev Q PROM
Sun–2/120/170	
800– 0485	Power Drain Requirements Model 120/170 (SunOS 1.0)
800–1086	System Managers Manual for the Sun Workstation – 120 (SunOS 1.0)
800–1110	System Managers Manual for the Sun Workstation – 120/170 (SunOS 1.1)
800–1170	Hardware Installation Manual for the Sun–2/1 20
800–1171	Hardware Installation Manual for the Sun–2/170
800–1226	Release Note Rev Q PROM
800–1228	Release Note Rev R PROM
800–1271	Sun 2/120 Diagnostic Manual
Sun–2/50/130/160	
800–1143,	Hardware Installation Manual for the Sun–2/50
800–1144	Hardware Installation Manual for the Sun–2/130 and Sun–2/160
800–1149	RMF Unpacking the Sun–2/50
800–1160	RMF Unpacking the Sun–2/160
800–1188	RTF Installing the Mouse/Keyboard Connector
800–1196,	Installing Rev Q EPROM on the Sun–2/160 Cpu Board
800–1222	Sun–2/50 Field Service Manual
800–1236	Sun 2/160 Diagnostic Manual
800–1258	Field Service Manual for the Sun–2/130 & Sun–2/160
800–1339	Connect Dumb Terminal for a Sun–2/130/160
800–1400	Installation Note for the Sun–2/160: Config Requirements for the GP and GB Bds.
800–1402	Installation Instructions f/t Sun–2/50 SCSI or FPP
Sun–3/50	
800–1500	RTF Loading the Boot Tape in a Sun–3/50 (1.2 PROM)
800–1355	Hardware Installation Manual for the Sun–3/50M
800–1356	Field Service Manual f/t Sun–3/50M DesktopWorkstation
800–2106	Errata: Hardware Installation Manual for the Sun–3/50M
800–2197	Errata: Hardware Installation Manual for the Sun–3/50M

Hardware Manuals

PART #	DESCRIPTION
SYSTEMS (Cont.)	
Sun–3/60	
800–1905	Sun–3/60 Special Release: SW Installation Guide/Change Notes
800–1987	Hardware Installation Manual for the Sun–3/60 Workstation
800–2030	Field Service Maintenance Manual for the Sun–3/60 Workstation
800–2055	Software RTF Sun–3/60 Software Release
800–2128	RTF Sun 3/60 Software Release
800–2233	Errata: Hardware Installation Manual for the Sun–3/60 Workstation
813–1030	SIMM Install Guide for the Sun–3/60 Workstation
813–1031	Color Frame Buffer Board Install Guide for the Sun–3/60 Workstation
Sun–3/75	
800–1312	Sun–3/75 Desktop Sunstation Hardware Installation Manual
Sun–3/80 {Hydra}	
800–3223	Sun–3/80 Installation Guide
800–3224	Sun–3/80 Field Service Manual
800–3225	Sun–3/80 Quick Start Guide
813–1064	Sun–3/80 Internal Hard Disk Installation Manual
813–1065	Sun–3/80 Internal Diskette Drive Installation Manual
Sun–3/110/140	{Prism}
800–1523	Field Service Manual for the Sun 3–Slot Logic Enclosure
800–1526	Sun 3/110 Hardware Installation Manual
800–1616	Sun 3–Slot Logic Enclosure Installation Manual
800–1840	Sun 3–Slot Foot Support Installation
800–1942	Sun 3 Slot Logic Enclosure Installation manual
800–1953	Sun 3–Slot Foot Support Installation
Sun–3/150	
800–1902	Sun 6–Slot Deskside Logic Enclosure Installation Manual
800–1944	Field Service Manual for the 6–Slot Logic Enclosure
800–2179	Hardware RMF 6–Slot PROM Information
813–2038	CSA and Backplane Configuration Procedures for the Sun–3/150
Sun–3/160/180	{Carrera}
800–1258	Field Service Manual for the Sun–3/160 Workstation
800–1314	Hardware Installation Manual for the Sun–3/160 SunStation
800–1945	Installation manual for the Sun 12–Slot Deskside Logic Manual
Sun–3/260/280	{Sirius}
800–1525	Field Service Manual for the Sun–3/260 Workstation
800–1528	Hardware Installation Manual for the Sun–3/260 Workstation

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PART #	DESCRIPTION
SYSTEMS (Cont.):	
Sun–3/460/470/480 {Pegasus}	
800–2399	Sun 3400 CPU Installation Manual
800–2463	Field Service Manual for the Sun 3400 CPU Board
800–3026	Sun 3400 CPU HW Reference Manual
800–3238	Sun 3/470 System Overview
813–2055	Sun 3400 CPU Board Configuration Procedures
813–2056	Sun 3/460+3/480 CSA abd Backplane Configuration Procedures
813–2073	Sun 3/470 CSA and Backplane Configuration Procedure
Sun–4/60 {Campus/SPARCstation I}	
800–4036	Sun–4/60 Installation Guide 800–4094 RTF, Campus I
800–4098	Sun System and Network Manager's Guide (Campus I)
800–4102	Sun System User's Guise (Campusl)
Sun–4/110/150 {Cobra}	
800–1616	Sun 3–Slot Logic Enclosure Installation Manual
800–1840	Sun 3–Slot Foot Support Installation
800–1942	Sun 3 Slot Logic Enclosure Installation Manual
800–1953	Sun 3–Slot Foot Support Installation
800–2124	Installation Notes for the Sun 4100 Board Set
800–2125	Field Service Manual for the Sun 4100 Board Set
800–2234	Hardware RTF Sun–4/110
800–2234	RMF FPU Option for the Sun–4/100 Series Workstation
800–2375	RMF Sun–4/110 Systems
813–1040	Sun P4 Color Frame Buffer Board Installation Manual
813–1041	Sun P4 Monochrome Frame Buffer Board Installation Manual
813–2053	CCSA & BP for the Sun–4/110 (replaced by 813–2004)
813–2054	CCSA & Backplane for the Sun–4/150
Sun–4/330 {Stingray}	
800–3120	Sun–4/330 System Overview Manual
800–3119	Installation Notes f/t Sun 4300 CPU Board
800–3199	Sun 5–Slot enclosure Installation Manual
800–3272	Field Service for the 5–Slot Logic Enxlosure
Sun386i	
800–2214	Sun386i Hardware Configuration Guide
814–0002	Sun386i Field Service Manual
814–1015	327MB Embedded SCSI Configuration Procedures
814–1016	3.5 1.47 MB Floppy Configuration Procedures
814–1017	91MB Embedded SCSI Configuration Procedures
814–1019	60MB streaming Tape Drive with SCSI Controller Configuration Procedures
814–1022	SunVGA Users Manual
814–5003	System Setup and Maintenance
814–5002	OuickStart Pamphlet
814–5011	Sun386i Configuration Guide
814–5015	Board Installation Notes
814–5018	Please Note (Dynamic Memory board)

Hardware Manuals

PART #	DESCRIPTION
SYSTEMS (Cont.):	
Backplane	
813–2004	CCSA and Backplane Configuration Procedures (Sun 3/4/XXX)
813–2025	CCSA and Backplane Configuration Procedures for the Sun–3/140
813–2037	Sun–4/200 CCSA and Backplane Configuration Procedures
813–2038	CCSA and Backplane Configuration Procedures for the Sun–3/150
813–2056	Sun 3/460+3/480 CSA & Backplane Configuration Procedures
813–2071	CCSA and Backplane Configuration Procedures for the Sun–4/200 System with Double–Height Backpanels
PERIPHERALS:	
Sun–2 Shoebox	
800–1259	Sun/50 Mass Storage Installation Manual
800–1292	Sun/50 Mass Storage Service Manual
Sun–3 Shoebox	
800–2329	Errata Sun Mass Storage Subsystem HW Install Manual
813–1010	Sun/3 Mass Storage Subsystem Hardware Installation Manual (71MB)
813–1011	Sun/3 Mass Storage Subsystem Hardware Service Manual (141MB)
813–1020	Sun/3 Mass Storage Subsystem Hardware Installation Manual (141MB)
813–1025	Sun/3 Mass Storage Subsystem Hardware Installation Manual (327MB)
Desktop Storage Packs {Lunchbox}	
800–4109	Desktop Storage Packs Installation Guide
SCSI	
813–1015	Sun 3/XXX SCSI Installation and Service Manual
813–2007	Sun 2 SCSI Configuration Procedures
SCSI Disk	
800–2117	Hardware RMF Formatting and Labeling 327MB Disk Drives
800–2299	RTF, Software Two Disk Subsystem Kernel Configuration (SunOS 3.2–3.5)
813–1011	Sun 3 Mass Storage Subsystem Field Service Manual
813–1013	327MB Disk Drive Install Procedure for the 12–Slot Office Pedestal
813–2021	141MB Disk Drive Configuration Procedures
813–2022	ESDI Disk Controller Configuration Procedures
813–2026	71MB Disk Drive Configuration Procedures
813–2027	71MB Disk Controller Configuration Procedures
813–2048	327MB Disk Drive Configuration Procedures
813–2069	327MB Embedded SCSI Disk Drive Configuration Procedures
813–2070	155MB Embedded SCSI Disk Drive Configuration Procedures

Hardware Manuals

PART #	DESCRIPTION
PERIPERALS (Cont.):	
SMD Disk	
800–1007	Fujitsu M228X Fixed Disk Unit CE Manual
800–1029	Fujitsu M2321/M2322K Customer Engineering Manual
800–1423	Fujitsu 2361A Customer Engineering Manual
800–1867	CDC EMD9720 OEM Manual
800–2046	Sun 900MB Disk Drive Configuration Procedures
800–2176	Hardware RMF Sun 900MB Disk Drive
800–2333	RMF Sun VME/SMD Disk Controller CPU Upgrade
800–2396	RTF VME/SMD Disk Controller for the Sun–3 (1.0 SunFeatures)
800–3082	RTF VME/SMD Disk Controller for the Sun–4 (1.0 SunFeatures)
800–3098	RMF Sun MME/SMD Disk Controller Feature Tape
813–1009	Sun Mass Storage Pedestal Installation Manual (280MB/688MB)
813–1013	Sun 575MB Disk Drive Installation Manual
813–1027	VME/SMD Disk Controller Installation Note
813–1036	Sun 900MB Disk Drive Installation Manual
813–1043	VME/SMD Disk Controller Upgrade Instructions
HI 3–2002	Xylogics 450/451 SMD Controller Configuration Procedures
813–2005	Fujitsu 2361A Disk Drive Configuration Procedures
813–2006	280MByte Disk Drive Configuration Procedures
813–2033	VME/SMD Disk Controller Configuration Procedures
813–2046	Sun 900 MB Disk Drive Configuration Procedures
813–2051	Cardcage Slot Assignments and Backplane Configuration Procedures VME/SMD Disk Controller
813–2062	Configuration Procedures for the 688 MB Disk Drive
1/4 Inch Tape	
800–1036	1/4–Inch Tape Care Handling
800–0415	Sun 1/4–Inch Tape Interface User Manual
800–1315	A Tutorial on 1/4–Inch Tape Drives
813–1016	Sun 3/180 Tape Drive Option Installation and Service
813–1057	150MB Tape Drive Install Procedure for the 12–Slot Office Pedestal
813–1059	60MB Tape Drive Install Procedure for the 12–Slot Office Pedestal
813–2011	Sun 3 Emulex MT02 Controller Configuration Procedures_
1/2 Inch Tape	
800–1409	Fujitsu GCR Tape Drive Customer Engineering Manual
813–1002	Fujitsu GCR Tape Drive Hardware Installation Manual
813–1016	Installation and Service Manual for the Sun–3/180 Tape Drive Option
813–2001	Xylogics 472 Tape controller Configuration Procedures
CDC	
800–1910	RMF Sun–3/200 + CDC 1/2–Inch Tape Drive + Tape Master Controller
GCR	
Front Load	
813–xxxx	Rackmount Front Load tape Drive Installation and Operating Procedures
813–1056	Table Top Front Load Tape Drive Installation and Operating Procedures
813–2074	Front Load Tape Drive Configuration Guide

Hardware Manuals

PART #	DESCRIPTION
PERIPERALS (Cont.):	
LaserWriter (LW I)	
800–1249	Installing the Sun LaserWriter
800–1305	RMF LaserWriter (Transcript 2.0)
800–3029	Transcript (2.0) Installation Guide
LaserWriter (LW II)	
800–3029	Transcript (2.1) Installation Guide (–10)
800–3030	LaserWriter II User's Manual
800–3114	RMF Sun LaserWriter II
ENCLOSURES:	
Racks	
76” Full–Height	
800–1255	Installation Manual for the Sun–2/170 Rackmounted System
800–1362	Installation Manual Addendum for the Sun–3/180 Rackmounted System
800–1555	Installation Manual for the Sun Full–Height Rack System
800–1556	Installation Manual for the Sun Rackmountable Fileservers
800–1645	Hardware RTF 230 Volt North American Full Height Rack
800–1676	Installation Manual for the Sun Rackmountable Fileservers
800–1677	Installation Manual for the Sun Full–Height Rack System
800–1776	Installation Manual for the Sun Rackmountable Fileservers
800–1954	Hardware RTF 240 Volt European Full Height Rack
Half–Height	
800–1970	Errata, Half–Height Rack Installation Manual
813–1014	Installation Manual for the Half–Height Rack 56” Sunrack
800–3259	Sun 56–inch Server System Cabinet and Expansion Cabinet Field Service Manual
800–3265	Sun 16–Slot Logic Enclosure Field Service Manual
Pedestals	
3–Slot	
800–1616	Sun 3 Slot Logic Enclosure Installation Manual
800–1942	Sun 3 Slot Logic Enclosure Installation Manual
800–1953	Sun 3–Slot Foot Support Installation
800–2126	Sun 3 Slot Logic Enclosure Field Service Manual
800–3142	HW Addendum Sun 3 and 6–Slot Enclosure Cable Management Brackets
5–Slot {Stingray}	
800–3199	Sun 5–Slot Enclosure Installation Manual
800–3272	Field Service for the 5–Slot Logic Enclosure
6–Slot	
800–1902	Sun 6–Slot Logic Enclosure Installation Manual
800–1944	Sun 6–Slot Logic Enclosure Field Service Manual
800–1962	Sun 6–Slot Logic Enclosure Installation Manual
800–3142	Hardware Addendum Sun 3 and 6–Slot Enclosure Cable Management Brack
12–Slot	
800–1945	Sun 12–Slot Logic Enclosure Installation Manual
813–2020	12–Slot Power Supply Configuration Procedures

Hardware Manuals

PART #	DESCRIPTION
PERIPERALS (Cont.):	
12–Slot Office Pedestal {Rocky}	
800–3104	12–Slot Office Pedestal Installation Manual
800–3255	12–Slot Office Pedestal Field Service Manual
813–1013	327MB Disk Drive Install Procedure for the 12–Slot Office Pedestal
813–1057	150MB Tape Drive Intall Procedure for the 12–Slot Office Pedestal
813–1059	60MB Tape Drive Install Procedure for the 12–Slot Office Pedestal
DIAGNOSTICS	
Sun Diagnostics	
800–1361	Sun Diagnostics Manual 1.0
800–1470	RTF Sun Diagnostics 2.0
800–1553	Sun Diagnostic Manual 2.0
Diagnostic Executive	
800–1311	Diagnostic Executive Users Guide for Sun–2 and Sun 3
800–2083	RTF Software Diagnostic Executive 1.0
800–2326	Diagnostic Executive Users Guide for Sun 4
800–2327	RTF, Software Diagnostic Executive 1.1 (SPARC)
800–1885	RTF, Software Diagnostic Executive 1.1 (Sun–2 and Sun–3)
800–3273	Diagnostic Executive User's Guide for Sun–3 and Sun–4 (1.2)
800–3288	RTF Software Diagnostic Executive (1.2)
Sysdiag	
800–1529	Sun System Diagnostics Manual
800–1738	Sun System Diagnostics Manual for Sun OS 4.0
800–2111	Sun System Diagnostics Manual for Sun OS 3.5
Sun Diag	
800–3804	Sun Diag Users Guide
800–3817	Sun Diag Users Guide (1.2)
MISCELLEANOUS:	
VMEbus	
800–1487	Users Guide to the Sun–3/100 VMEbus
VME–MB Adapter	
800–1193	Users Manual for the Sun 2 VME–Multibus Adapter Board
MAPKIT	
813–1021	Installation Notes for the Sun MAPKIT Board
813–2029	Sun MAPKIT Board Configuration Procedures
Miscellaneous	Hardware
FF130–01	Sun Microsystems,Inc. Configuration Guide Sun 3 Product Family (1986)
800–1231	Degaussing the Monitor
800–1399	SPARC Architecture Manual
800–1406	Installation Note of Installing a Piercing Tap (a.k.a. vampire)
800–1968	RMF Removing Head–Locking Restraints From the 575MB Disk (obsolete)
800–2156	RMF Sun 4 Optical Mouse
800–2206	ESD Kit Instructions

Hardware Manuals

PART #	DESCRIPTION
Miscellaneous Hardware (Cont.)	
IPC	
814–1002	SunIPC Users Guide
814–1005	NFS for SunIPC
814–3002	RTF SunIPC Release 1.1
814–5001	SunIPC Installation Guide
3E Boards	
800–8027	Sun 3/E SCSI/Ethernet Board Hardware Reference Manual
800–8028	Sun 3/E CPU Hardware Reference Manual(old version)
800–8107	Sun 3/E CPU Hardware Reference Manual
813–8115	RTF Hardware Monitor Power Cord
813–8117	RTF for the Sun 3/E Color Board

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.

Reference tables for power supply specifications and power requirements for Sun products are included at the end of this section.

Fuses

The Fuse chart in the Parts Breakdowns, 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

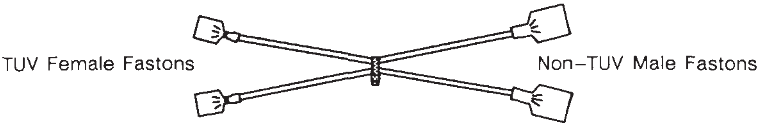
COLOR		DESCRIPTION
White	(Wht)	–5 vdc (2/100/150/120/170 only)
Yellow	(Yel)	–5.2 vdc
Blue	(Blu)	+24 vdc (Fatbox only)
Blue	(Blu)	+12 vdc (except Fatbox)
Brown	(Brn)	–12 vdc
Red	(Red)	+5 vdc
Orange	(Org)	+24 vdc
Orange	(Org)	+12 vdc (4/330)
Green	(Grn)	GND (1/100, 2/100 ONLY)

AC Wire Harnesses

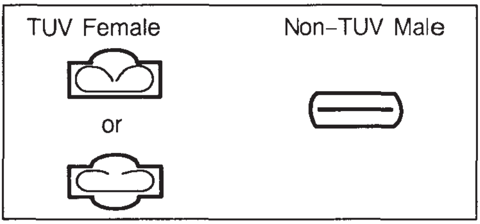
COLOR		DESCRIPTION
Green	(Grn)	AC Ground
White	(Wht)	AC Neutral
Black	(Blk)	AC Line (Hot)
Green/Yellow	(Grn/Yel)	AC Ground
Blue	(Blu)	AC Neutral
Brown	(Brn)	AC Line (Hot)

Adapter Harness

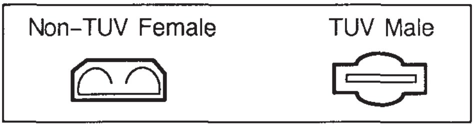
Adapter Harness, 811–9015–01, connects non–TUV approved fastons on AC and DC wire harnesses to the TUV approved fastons cut into production in February 1987. One end of the adapter harness has TUV approved female fastons. The other end of the adapter harness has non–TUV male fastons. The adapter harness is illustrated below.


TUV Female Fastons
Non–TUV Male Fastons

A TUV female faston attaches to a non–TUV male faston.


TUV Female
or
Non–TUV Male

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


Non–TUV Female
TUV Male

Power

POWER SUPPLIES

300–0135 Power Tec 5
300–0135–03 Power One 6
300–0566 Power Tec 7
300–0645 LH Research 8
300–0645 Power Tec 9
300–1000 LH Research 10
300–1001 Fujitsu 11
300–1002 Power Systems 12
300–1003 Fujitsu 13
300–1004 Boschert. 14
300–1014 Boschert. 15
300–1015 Matsushita 16
300–1016 Fuji Electrochemical. 17
300–1016 Pioneer. 18
300–1016 ETA 19
300–1017 Power Systems 20
300–1020 Brown. 21
300–1020 Fuji Electrochemical 22
300–1022 Summit. 23
300–1022 Brown. 24
300–1024 Fuji Electrochemical. 24
300–1025 Power General. 26
300–1028 Cal DC 27
300–1028 Todd Products 28
300–1034 Boschert 29
300–1037 Sony. 30
300–1038 Sony. 31
300–1040 Boschert. 32
300–1042 Zytec 33

Power Continued

POWER SEQUENCERS

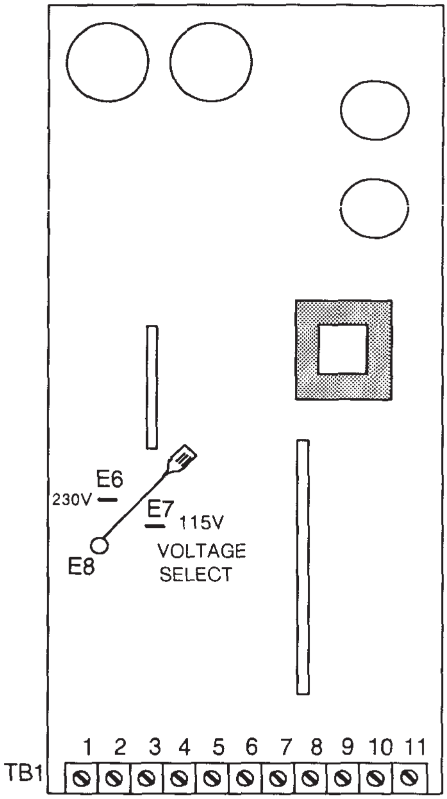
300–1011 Pulizzi Engineering 36
370–1155 Pulizzi Engineering 37
370–1156 Pulizzi Engineering. 38

SPECIFICATIONS

Power Consumption Table 39
Power Requirements Table 41

300–0135

Power Tec 19C–A01–ABC
150 Watts
Sun–1/100U


E6
230V
E7
115V
E8
VOLTAGE
SELECT
1 2 3 4 5 6 7 8 9 10 11
TB1

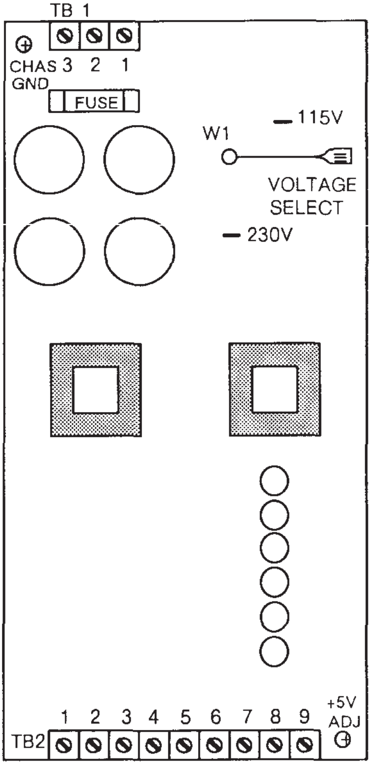
TB1

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

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

300–0135–03

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


TB 1
3
2
1
CHAS GND
FUSE
W1
115V
VOLTAGE SELECT
230V
1 2 3 4 5 6 7 8 9
TB2
+5V ADJ

TB1

1	2	3
Wht	Blk	Grn
NEUT	LINE	GND

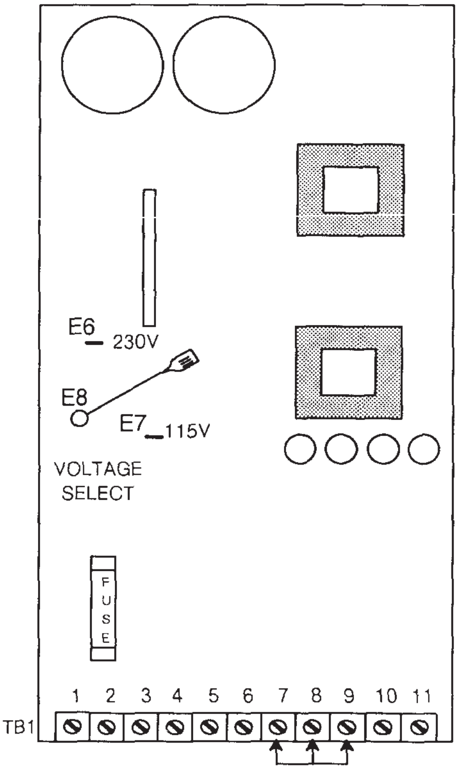
TB2

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

FUSE: 8 Amps @ 250 Volts
Note: Connect wire W1 to 115V for 115 voltage or to 230V for 230 voltage.

300–0566

Power Tec 19C–B00–BS1286
170 Watts
D84, D84TC, D84EX, TC


E6
230V
E8
E7
115V
VOLTAGE
SELECT
FUSE
1 2 3 4 5 6 7 8 9 10 11
TB1

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

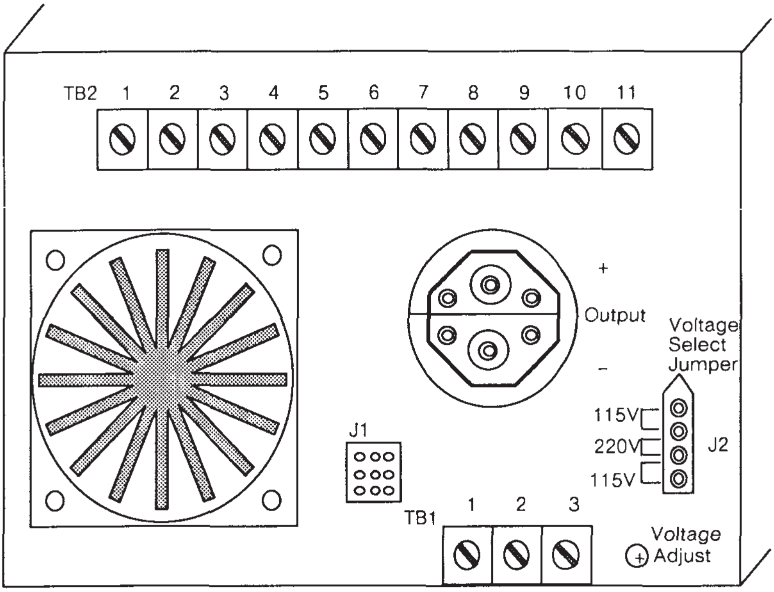
FUSE: 4 Amps @ 250 Volts

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.

300–0645

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


TB2
1
2
3
4
5
6
7
8
9
10
11
+
Output
–
Voltage
Select
Jumper
115V
220V
115V
J2
J1
TB1
1
2
3
Voltage
Adjust

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

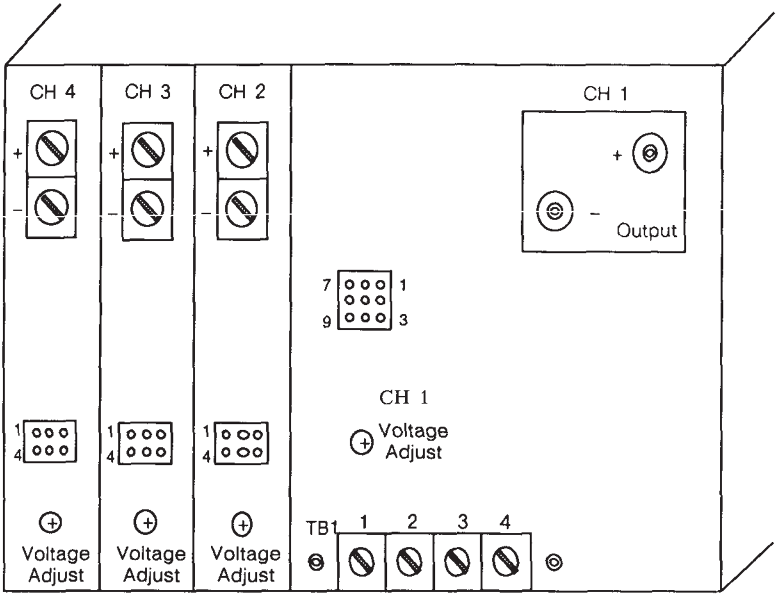
V1 = –5 Volts , 150 Amps
V2 = +12 Volts, 10 Amps
V3 = –12 Volts, 10 Amps
V4 = + 5 Volts , 5 Amps

JUMPER FOR VOLTAGE SELECT (J2)

LH PART NUMBER	USED FOR
46867	115V
46868	230V

300–0645

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


CH 4
CH 3
CH 2
CH 1
+
–
+
–
+
–
+
–
Output
7
1
9
3
1
4
1
4
1
4
CH 1
Voltage Adjust
Voltage Adjust
Voltage Adjust
Voltage Adjust
TB1
1
2
3
4

TB1

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

CH 1 = +5 Volts, 150 Amps

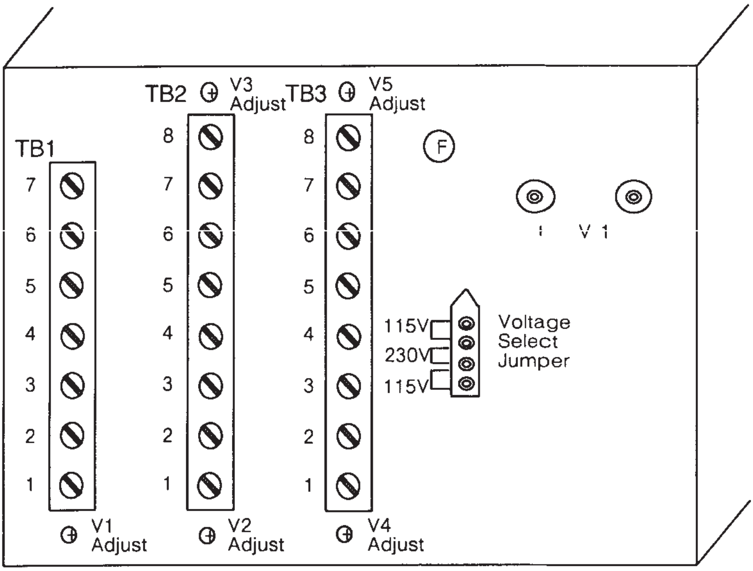
CH 2 = +12 Volts, 10 Amps

CH 3 = –12 Volts, 10 Amps

CH 4 = –5 Volts, 10 Amps

300–1000

LH Research MML45–E1246
600 Watts
Sun–2/120


TB1
TB2
TB3
V3 Adjust
V5 Adjust
V1 Adjust
V2 Adjust
V4 Adjust
8
7
6
5
4
3
2
1
F
V1
115V
230V
115V
Voltage Select Jumper

TB1

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

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

V1 = +5 Volts, 60 Amps
V2 = +12 Volts, 10 Amps
V3 = –12 Volts, 5 Amps
V4 = –5 Volts, 2 Amps
V5 = +24 Volts, 8 Amps

JUMPER FOR VOLTAGE SELECT

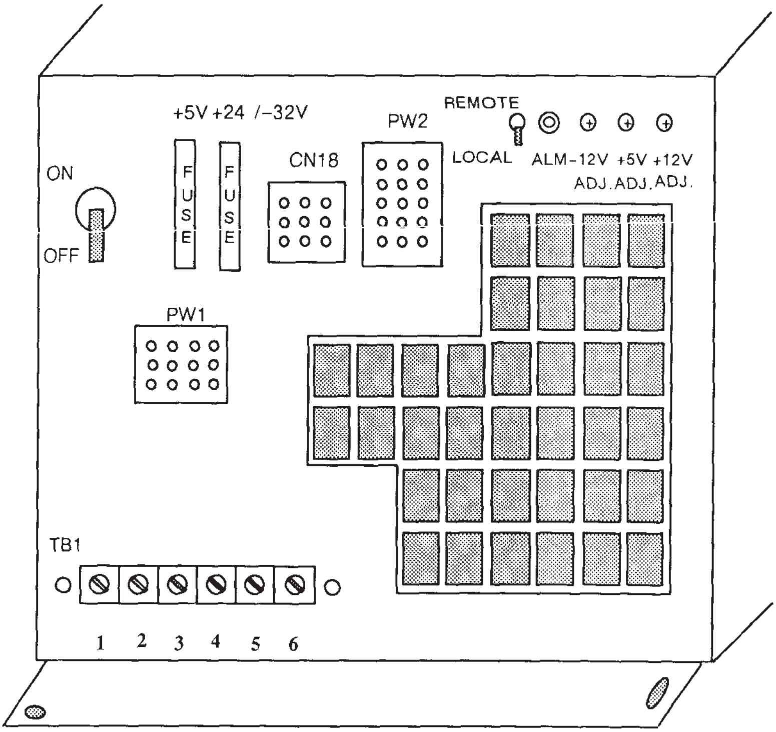
LH PART NUMBER	USED FOR
46867	115V
46868	230V

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.

300–1001

Fujitsu B14L–0300–00118A
.351 KVA
U.S. Version 115V
D169 Disk


+5V +24 /–32V
FUSE
FUSE
ON
OFF
CN18
PW2
REMOTE
LOCAL
ALM -12V +5V +12V
ADJ. ADJ. ADJ.
PW1
TB1
1
2
3
4
5
6

TB1

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

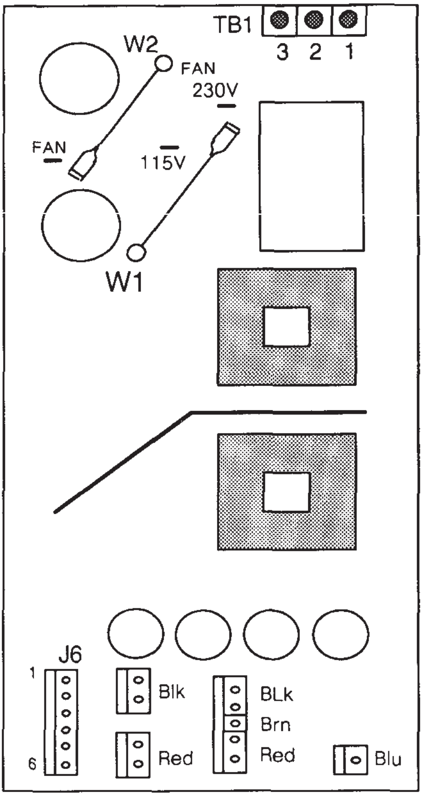
FUSES:

+5V Fuse = 15 Amps @ 250 Volts

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

300–1002

Power Systems PS 1557
Sun–2/50


TB1
3
2
1
W2
FAN
230V
FAN
115V
W1
J6
1
6
Blk
Red
BLk
Brn
Red
Blu

TB1

1	2	3
Blk	Grn	Wht
LINE	GND	NEUT

RED = + 5 Volts , 22 Amps
BLUE = +12 Volts , 1.5 Amps
BROWN = –12 Volts , 500 Amps
BLACK = Common

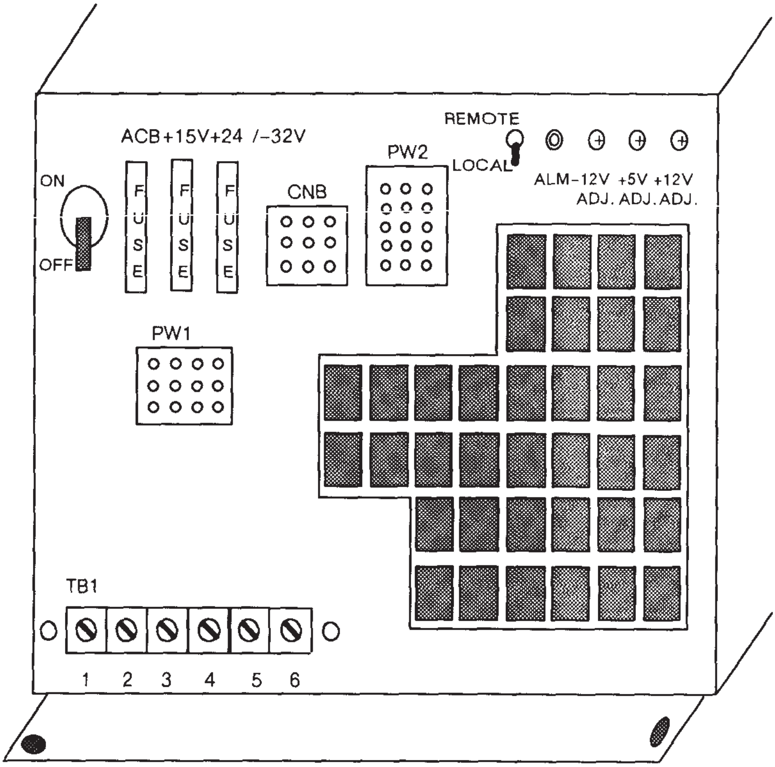
J6 TEST POINTS

1, 2 = Return
3 = –12 Volts
4, 5 = +5 Volts
6 = +12 Volts

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

300–1003

Fujitsu B141–5–1–0030A
.391 KVA
European Version 220V/240V
D169 Disk


ACB+15V+24 /-32V
REMOTE
LOCAL
PW2
ON
OFF
FUSE
FUSE
FUSE
CNB
ALM-12V +5V +12V
ADJ. ADJ. ADJ.
PW1
TB1
1 2 3 4 5 6

TB1

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

FUSES:*

ACB FUSE = 1.3 Amps @ 250 Volts

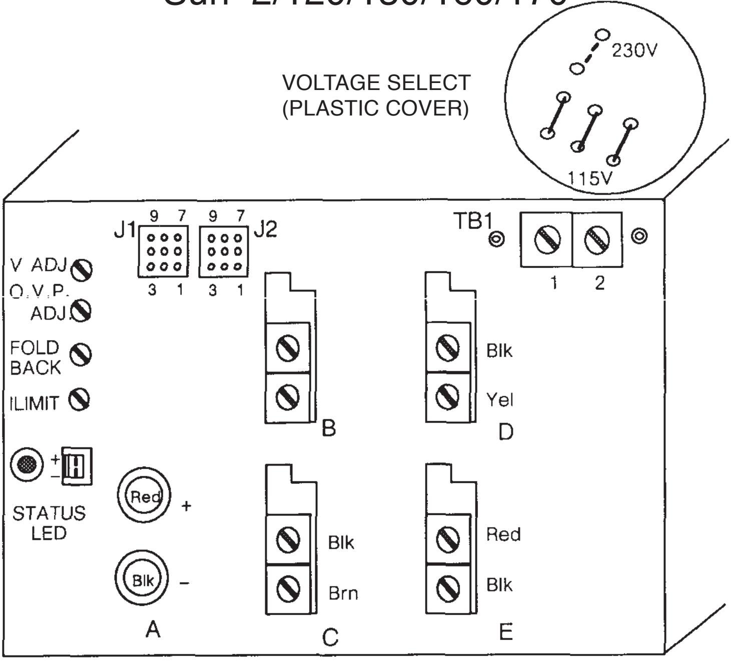
+5V Fuse = 15 Amps @ 250 Volts

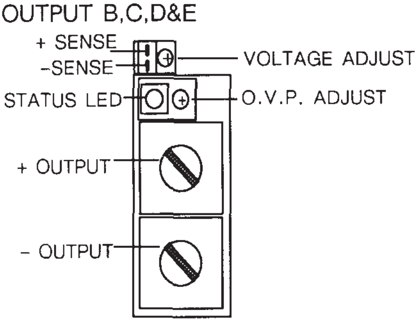
+24/32V Fuse = 15 Amps @ 250 Volts

*Non–standard fuses manufactured by Fujitsu.

300–1004

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


VOLTAGE SELECT
(PLASTIC COVER)
230V
115V
J1
J2
9 7
9 7
3 1
3 1
TB1
1
2
V ADJ
O.V.P.
ADJ.
FOLD
BACK
ILIMIT
+
–
STATUS
LED
Red
+
Blk
–
A
B
C
Blk
Brn
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

A = +5 Volts, 100 Amps

B = +24 Volts, 3 Amps

C = –12 Volts, 3 Amps

D = –5 Volts, 5 Amps

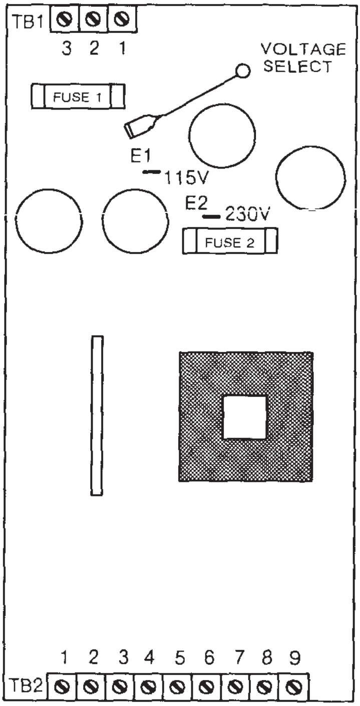
E = +12 Volts, 6 Amps

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.

300–1014

Boschert XL250–3602
250 Watts
Expansion Disk Pedestal
Disk/Tape (Fatbox Subsystems)


TB1
3 2 1
VOLTAGE SELECT
FUSE 1
E1
115V
E2
230V
FUSE 2
1 2 3 4 5 6 7 8 9
TB2

TB1

1	2	3
Blk	Wht	Grn
LINE	NEUT	GND

TB2

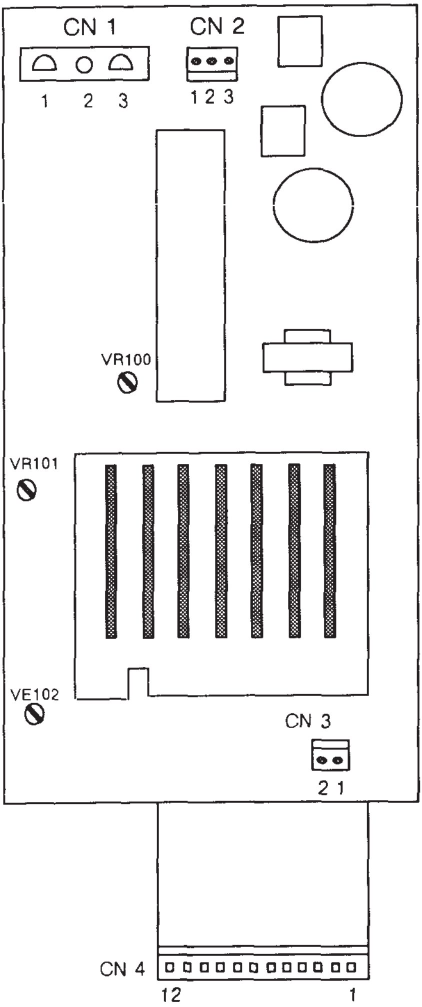
1	2	3	4	5	6	7	8	9
Brn	Red	Blu	Blk	Blk	Blk	Red	Red	
PF	–12 V	+ 12 V	+24	RTN	RTN	RTN	+5 V	+5 V

FUSES:
Fuse 1 = 8 Amps @ 250 Volts
Fuse 2 = 3 Amps @ 250 Volts

Notes
1. Connect wire to E1 for 115 voltage or to E2 for 230 voltage.
2. When used with a 688MB Disk, this power supply must be Rev. F or greater.

300–1015

Matsushita ETX–593C101M
100 Watts
Sun–3/50/60


CN 1
1 2 3
CN 2
1 2 3
VR100
VR101
VE102
CN 3
2 1
CN 4
12
1

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

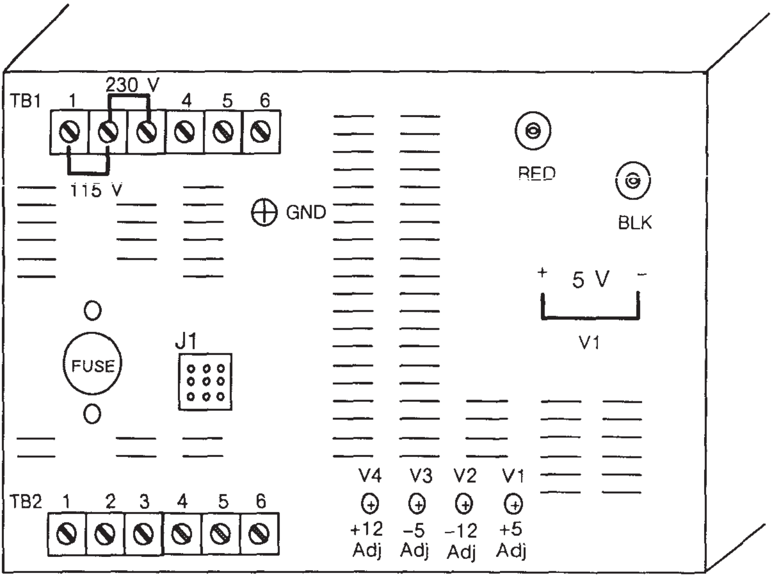
1	2	3	4	5	6
Wht	Brn	Blu	Blk	Blk	Blk
–5.2 V	PWR OK	+ 12 V	GND	GND	GND

CN 4

7	8	9	10	11	12
Blk	Blk	Red	Red	Red	Red
GND	GND	+5V	+5V	+5V	+5V

300–1016

Fuji Electrochemical PEX391
850 Watts
Sun–3/160/180


TB1
1
230 V
4
5
6
115 V
GND
RED
BLK
+ 5 V -
V1
FUSE
J1
TB2
1
2
3
4
5
6
V4
V3
V2
V1
+12 Adj
-5 Adj
-12 Adj
+5 Adj

TB1

1	2	3	4	5	6
			Wht	Blk	
115 V STRAP		220 V STRAP	NEUT	LINE	NOT USED

TB2

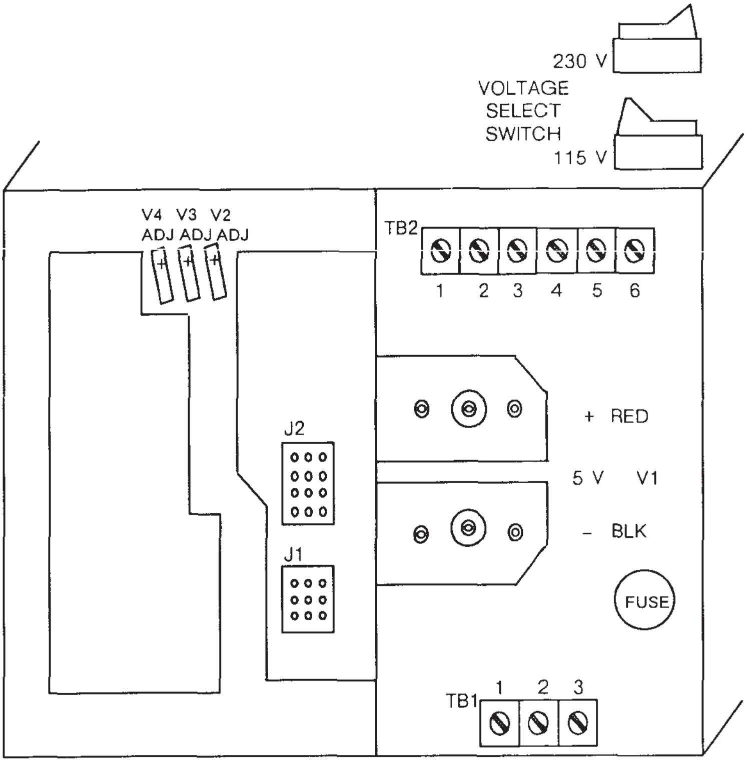
1	2	3	4	5	6
Blu	Blk	Blk	Yel	Blk	Brn
+12 (+)	+12 (–)	–5 (+)	–5 (–)	–12 (+)	–12 (–)
V4		V3		V2	

FUSE: 30 Amps @ 250 Volts

Note: This vendor's power supply is the same as 300–1024.

300–1016

Pioneer PM2975A–3–4
850 Watts
Sun–3/160/180


230 V
VOLTAGE
SELECT
SWITCH
115 V
V4 V3 V2
ADJ ADJ ADJ
TB2
1 2 3 4 5 6
+ RED
5 V V1
– BLK
J2
J1
FUSE
TB1
1 2 3

1	2	3
Wht	Blk	Grn
NEUT	LINE	GND

1	2	3	4	5	6
Blk	Yel	Blk	Brn	Blu	Blk
–5V (+)	–5V (–)	–12V (+)	–12V (–)	+12V (+)	+12V (–)
V4		V3		V2	

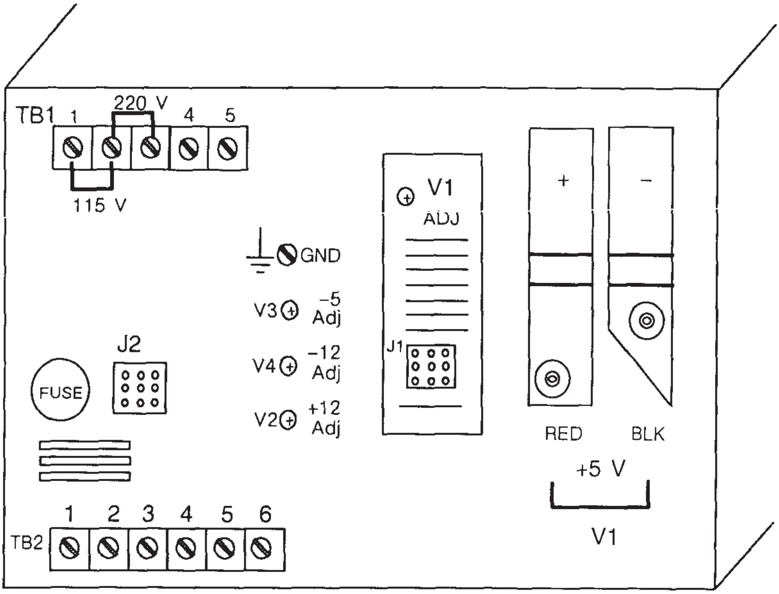
CH 1 = +5 Volts, 150 Amps
CH 2 = +12 Volts, 15 Amps
CH 3 = –12 Volts, 15 Amps
CH 4 = –5 Volts, 15 Amps

FUSE: 20 Amps @ 250 Volts.

Note: Will not physically attach in systems using wire harness, 530–1207–03, Rev 53, or greater (systems shipped after 3/1/87).

300–1016

ETA 804–1212AE
850 Watts
Sun–3/160/180


TB1
1
220 V
4
5
115 V
V1
ADJ
GND
V3
–5
Adj
V4
–12
Adj
V2
+12
Adj
J2
J1
FUSE
+
–
RED
BLK
+5 V
V1
TB2
1
2
3
4
5
6

TB1

1	2	3	4	5
			Wht	Blk
115 V STRAP	220 V STRAP		NEUT	LINE

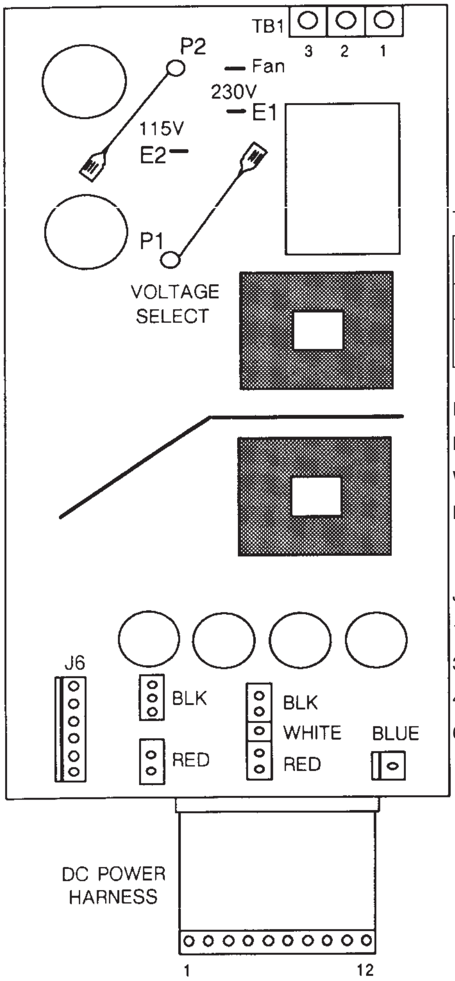
FUSE: 30 Amps @ 250 Volts

TB2

1	2	3	4	5	6
Blu	Blk	Blk	Yel	Blk	Brn
+ 12 (+)	+12 (–)	–5 (+)	–5 (–)	–12 (+)	–12 (–)
V4		V3		V2	

300–1017

Power Systems PS1559
150 Watts
Sun–3/75


TB1
3
2
1
P2
Fan
230V
E1
115V
E2
P1
VOLTAGE SELECT
J6
BLK
RED
BLK
WHITE
RED
BLUE
DC POWER HARNESS
1
12

TB1

1	2	3
Blk	Grn	Wht
LINE	GND	NEUT

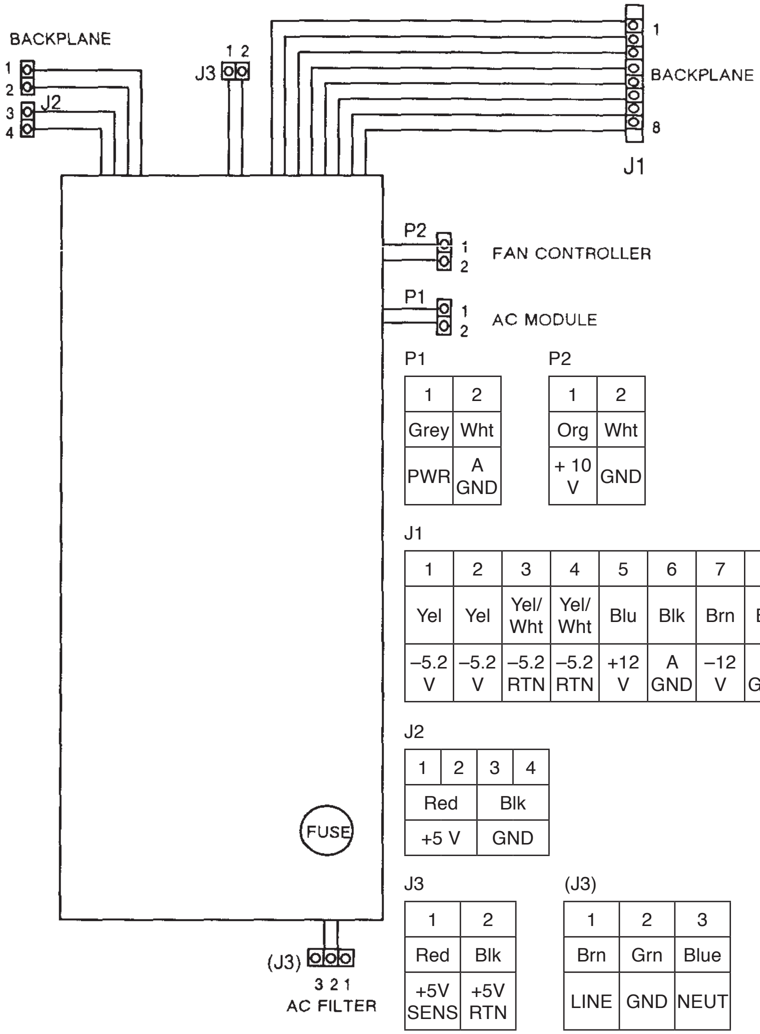
RED = +5 Volts, 25 Amps
BLUE = + 12 Volts, 1.5 Amps
WHITE = –5.2 Volts, 1.5 Amps
BLACK = Common

J6 TEST POINTS
1,2 = Return
3 = –12 Volts
4,5 = +5 Volts
6 = +12 Volts

Note: Connect wire P1 to E2 for 115 voltage or to E1 for 230 voltage.

300–1020

(540–1381–02)
Brown 300–1020
575 Watts
Sun–3/150 & Sun–4/150


BACKPLANE
1
2
3
4
J2
J3
1 2
1
BACKPLANE
8
J1
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

J1

1	2	3	4	5	6	7	8
Yel	Yel	Yel/ Wht	Yel/ Wht	Blu	Blk	Brn	Blk
–5.2 V	–5.2 V	–5.2 RTN	–5.2 RTN	+12 V	A GND	–12 V	A GND

J2

1	2	3	4
Red		Blk	
+5 V		GND	

J3

1	2
Red	Blk
+5V SENS	+5V RTN

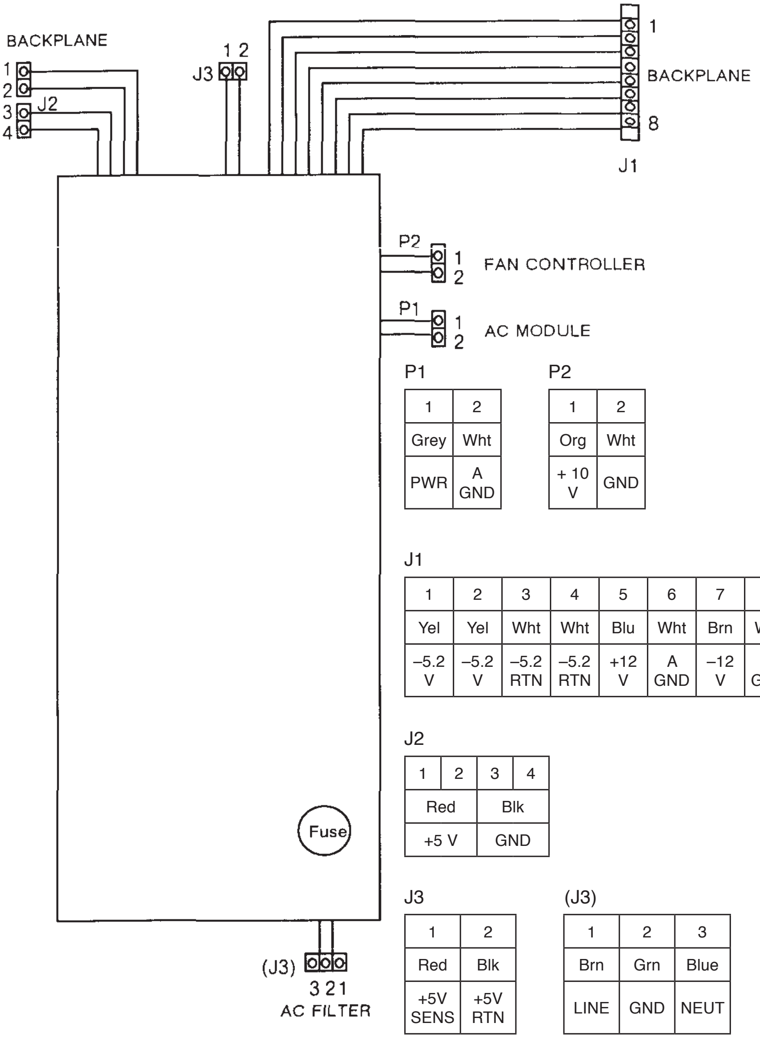
(J3)

1	2	3
Brn	Grn	Blue
LINE	GND	NEUT

FUSE: 10 Amps @ 250V

300–1020

(540–1381–02)
Fuji PE X445–30
575 Watts
Sun–3/150 & Sun–4/150


BACKPLANE
1
2
3
4
J2
1 2
J3
1
BACKPLANE
8
J1
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

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
Red	Blk
+5V SENS	+5V RTN

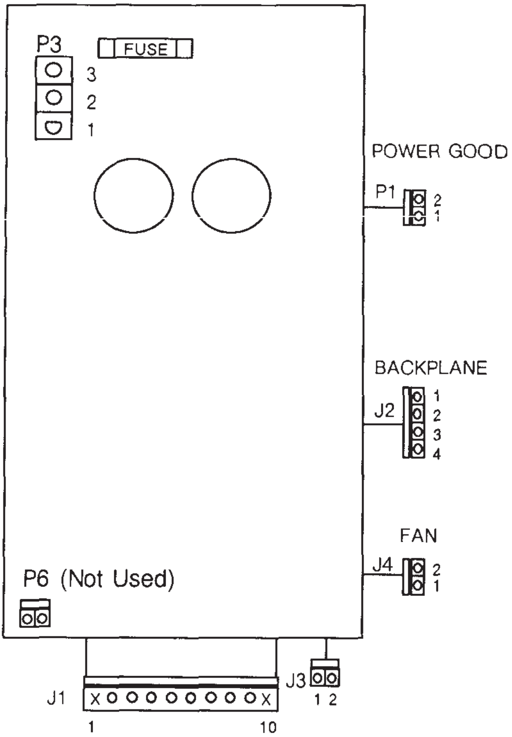
(J3)

1	2	3
Brn	Grn	Blue
LINE	GND	NEUT

FUSE: 10 Amps @ 250V

300–1022

Summit CS0325–9001
325 Watts
Sun–3/110/140 & 4/110


P3
FUSE
3
2
1
POWER GOOD
P1
2
1
BACKPLANE
J2
1
2
3
4
FAN
J4
2
1
P6 (Not Used)
J1
X O O O O O O O O X
1
10
J3
1 2

P3

1	2	3
Wht	Grn	Blk
NEUT	GND	GND

P1

1	2
Grey	Wht/ BLK
PWR	GND

J2

1	2	3	4
Red	Red	Blk	Blk
+5V	+5V	GND	GND

J4

1	2
Org	Wht/ BLK
PWR	GND

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

J3

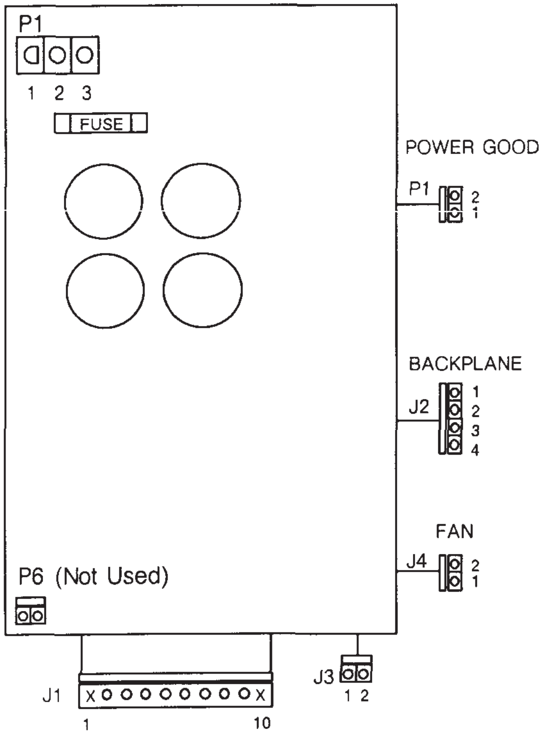
1	2
Grey	Wht/ BLK
PWR	GND

FUSE: 7 Amps @ 250 Volts (Not replaceable: soldered)

Note: Wait at least two minutes after power down or power outage before turning power ON to allow the unit to reset.

300–1022

Brown PS41
325 Watts
Sun–3/110/140 & 4/110


P1
1 2 3
FUSE
POWER GOOD
P1
2
1
BACKPLANE
J2
1
2
3
4
FAN
J4
2
1
P6 (Not Used)
J1
X O O O O O O O O X
1
10
J3
1 2

P3

1	2	3
Wht	Grn	Blk
NEUT	GND	GND

P1

1	2
Grey	Wht/ BLK
PWR	GND

J2

1	2	3	4
Red	Red	Blk	Blk
+5V	+5V	GND	GND

J4

1	2
Org	Wht/ BLK
PWR	GND

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

J3

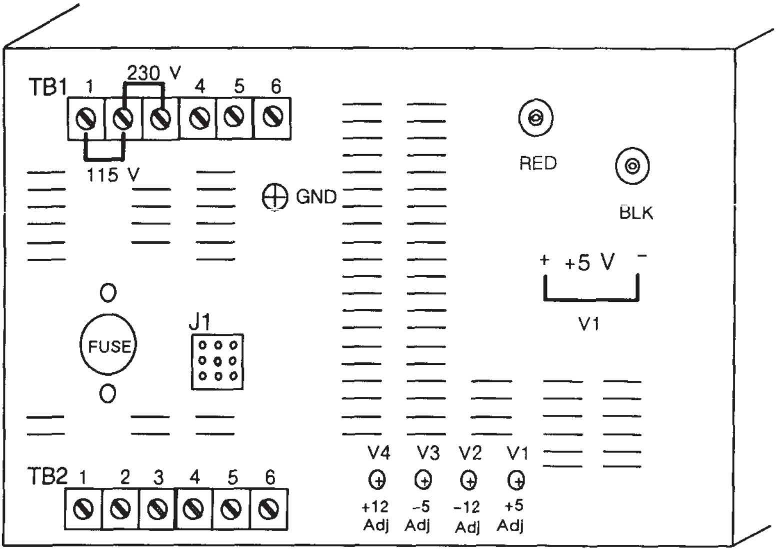
1	2
Grey	Wht/ BLK
PWR	GND

FUSE: 7 Amps @ 250 Volts (Not replaceable: soldered)

Note: Wait at least two minutes after power down or power outage before turning power ON to allow the unit to reset.

300–1024

Fuji Electrochemical PEX391
850 Watts
Sun–3/160/180/260/280 & Sun–4/260/280


TB1
1
230 V
4
5
6
115 V
GND
RED
BLK
+ +5 V −
V1
O
FUSE
O
J1
V4
V3
V2
V1
+12 Adj
-5 Adj
-12 Adj
+5 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

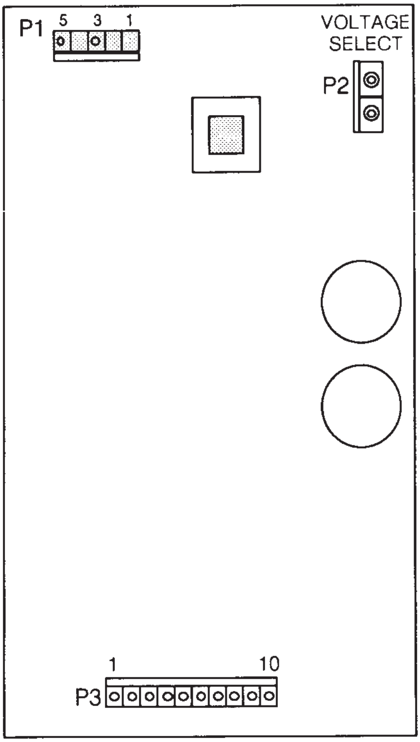
TB2

1	2	3	4	5	6
Blu	Blk	Blk	Yel	Blk	Brn
+ 12 (+)	+12 (–)	–5 (+)	–5 (–)	–12 (+)	–12 (–)
V4		V3		V2	

FUSE: 30 Amps @ 250 Volts

300–1025

Power General 4110–2–8968
100 Watts Sun–2 Shoebox


P1
5
3
1
VOLTAGE SELECT
P2
1
10
P3

P1

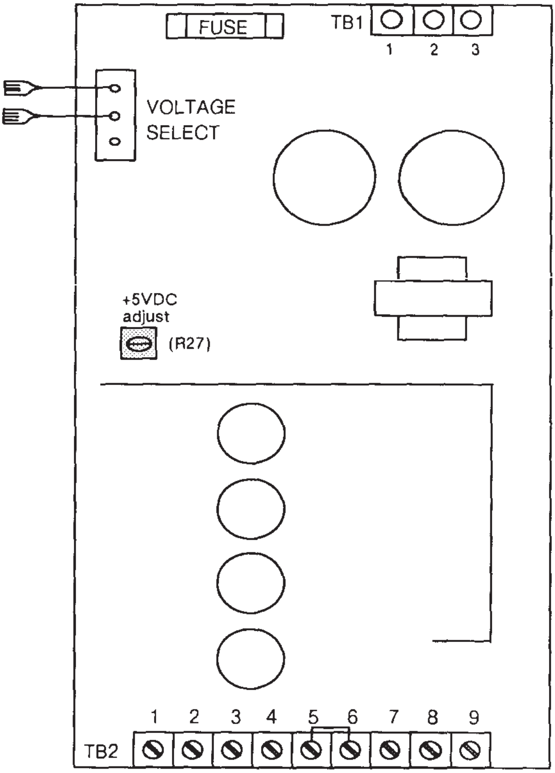
1	3	5
Blu	Brn	––
NEUT	LINE	

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

300–1028

Cal DC LR150–19
170 Watts
Sun–3 Shoebox


FUSE
TB1
1
2
3
VOLTAGE
SELECT
+5VDC
adjust
(R27)
TB2
1
2
3
4
5
6
7
8
9

TB1

1	2	3
Blk	Wht	Grn
LINE	NEUT	GND

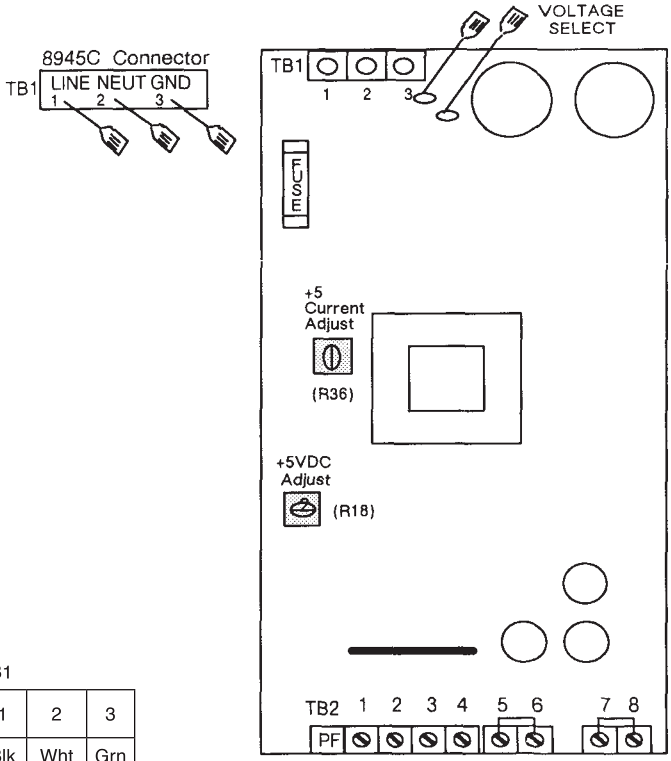
TB2	1	2	3	4	5	6	7	8	9
	Blk	Blk	Blu	Blu	Blk	Blk	Blk	Red	Red
	RTN	RTN	+12 V	+ 12 V	SENS RTN	+5 V RTN	GND	+5 V	+5V SENS

FUSE: 5 Amps @ 250 Volts

Notes
1. Use adapter harness, 811–9015–01, with the 300–1028–01 to adapt the voltage select connectors to fastons on older shoeboxes.
2. TB1 may be hardwired on some revisions of this power supply.

300–1028

Todd Products MDT23–8945A & 8945C
170 Watts
Sun–3 Shoebox


VOLTAGE SELECT
8945C Connector
TB1
LINE NEUT GND
1 2 3
TB1
1 2 3
FUSE
+5 Current Adjust
(R36)
+5VDC Adjust
(R18)
TB2 1 2 3 4 5 6 7 8
PF

TB1

1	2	3
Blk	Wht	Grn
LINE	NEUT	GND

TB2

1	2	3	4	5	6	8	9
Blk	Blk	Blu	Blu	Blk	Blk	Red	Red
RTN	RTN	+12 V	+ 12 V	SENS RTN	+5 V RTN	+5 V	+5V SENS

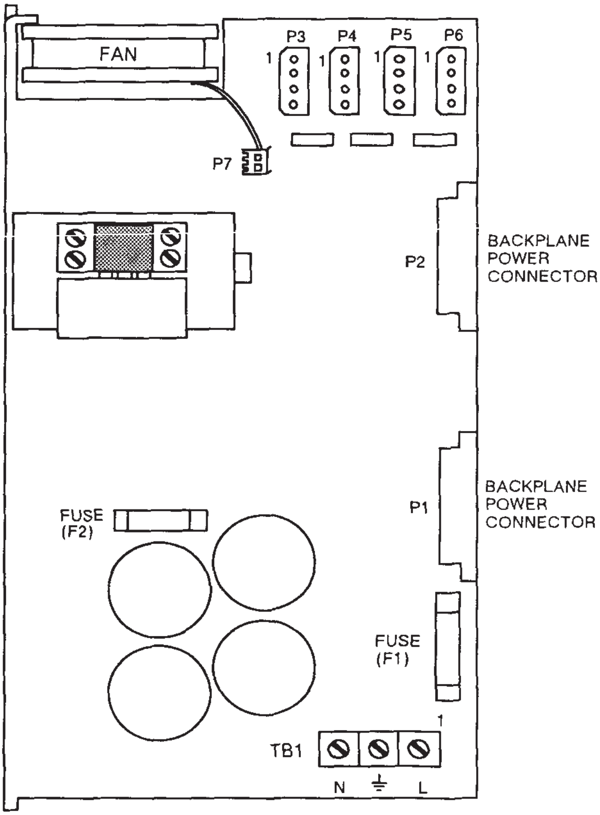
FUSE: 5 Amps @ 250 Volts

Notes

1. Use adapter harness, 811–9015–01, with the 300–1028–01 to adapt the voltage select connectors to fastons on older shoeboxes.
2. TB1 may be hardwired on some revisions of this power supply.

300–1034

Boschert Computer Products XL520–3625
520 Watts
Sun–4/330


FAN
P3
P4
P5
P6
1
1
1
1
P7
P2
BACKPLANE POWER CONNECTOR
P1
BACKPLANE POWER CONNECTOR
FUSE (F2)
FUSE (F1)
TB1
1
N
L

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

FUSES
F1 = 20 Amps @ 250 Volts
F2 = 10 Amps @ 250 Volts

300–1037

Sony 062–0412
35 Watts
Desktop Disk Pack
Desktop Backup Pack

TB1

1	2
Brn	Org
GND	

TB2

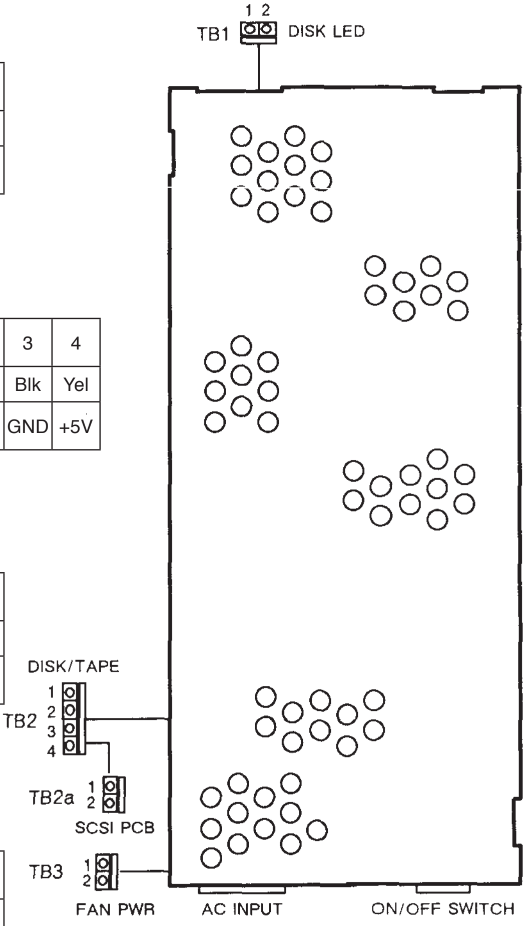
1	2	3	4
Red	Blk	Blk	Yel
+12V	GND	GND	+5V

TB2a

1	2
Blk	Yel
GND	+5V

TB3

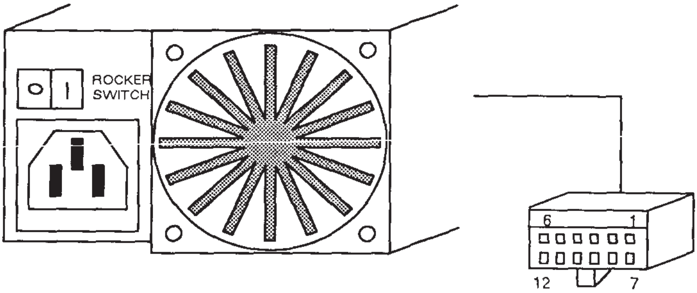
1	2
Blk	Red
GND	12V


1 2
TB1
DISK LED
DISK/TAPE
1
2
3
4
TB2
TB2a
1
2
SCSI PCB
TB3
1
2
FAN PWR
AC INPUT
ON/OFF SWITCH

Note: Use 530–1522 for Disk LED harness.

300–1038

Sony CR–81
85 Watts
Sun–3/80 & Sun–4/60



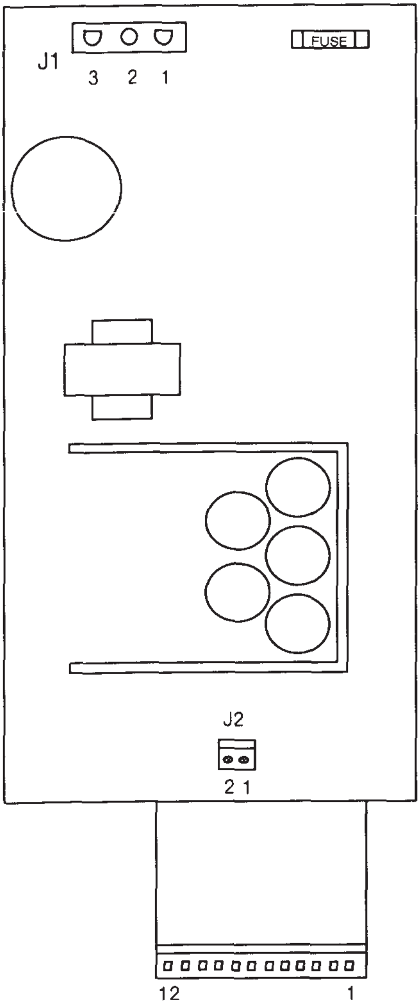
J1

1	2	3	4	5	6	7	8	9	10	11	12
Red	Red	Blk	Blk	Yel	Org	Red	Red	Blk	Blk	Yel	Blu
+5 V	+5 V	GND	GND	+ 12 V	+5 (POR)	+5 V	+5 V	GND	GND	+12 V	–12 V

Note: This power supply is auto voltage selectable.

300–1040

Boschert NFS116–7630
116 Watts
Sun–3/50/60



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

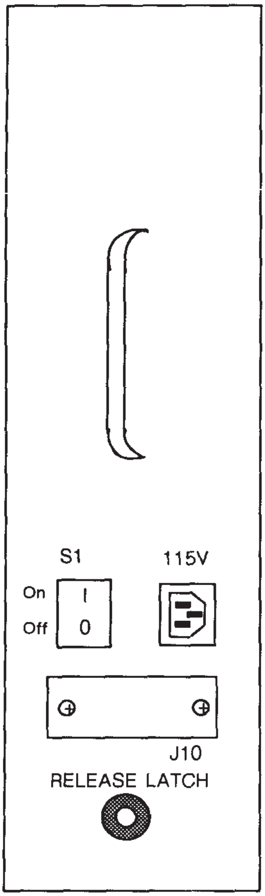
J3

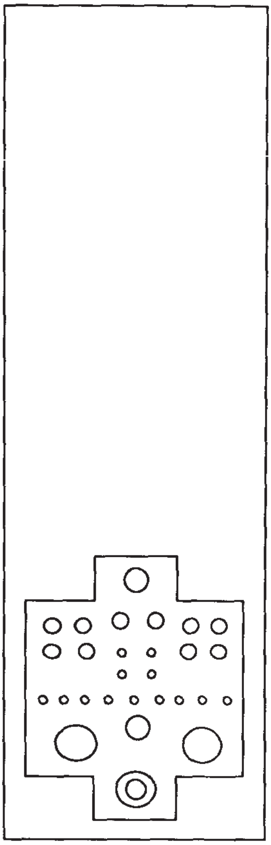
7	8	9	10	11	12
Blk	Blk	Red	Red	Red	Red
GND	GND	+5.1 V	+5.1 V	+5.1 V	+5.1 V

Fuse: 5 Amps @ 250Volts

300–1042

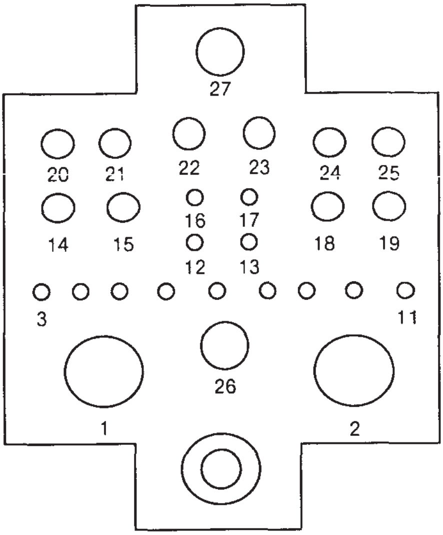
Zytec 22903110
925 Watts
Sun3/470


S1
115V
On
Off
I
0
J10
RELEASE LATCH



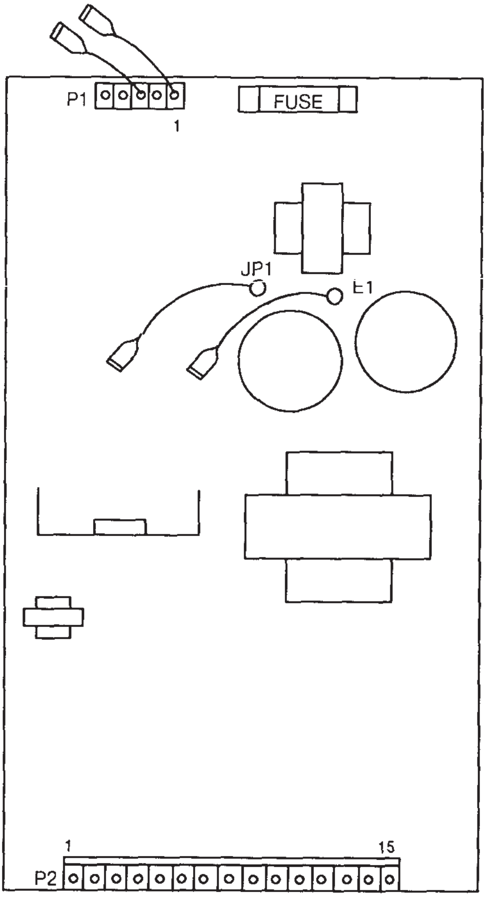
300–1042

Zytec 22903110
925 Watts
Sun3/470


27
20
21
22
23
24
25
16
17
14
15
18
19
12
13
3
11
26
1
2

300–1045

Boschert XL 121–3630
134 Watts
Sun–3 Shoebox



P1

1	2	3	4	5
Brn	––	Blu	––	––
LINE	NEUT	GND		

P2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Blk	Blu	Blu	Blu	Blu	Blk	Blk	Blk	Blk	Blk	Blk	––	Red	Red	Red
RTN	+ 12 V	+ 12 V	+12 V	+ 12 V	RTN	RTN	RTN	RTN	RTN	RTN	N/C	+5V	+5V	5V

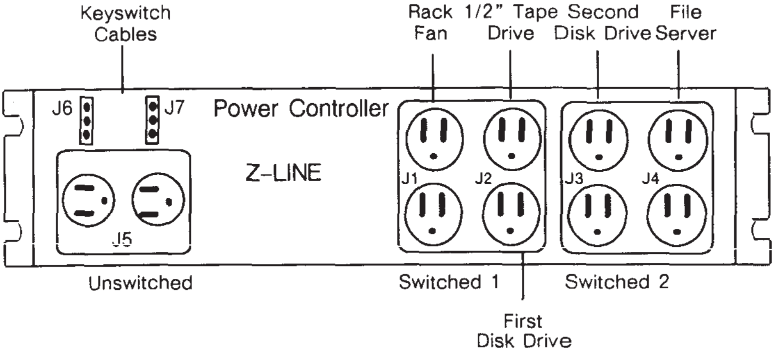
FUSE: 5 Amps @ 250 Volts

Note: Use Power Harness, 530–1432–01, for this power supply.

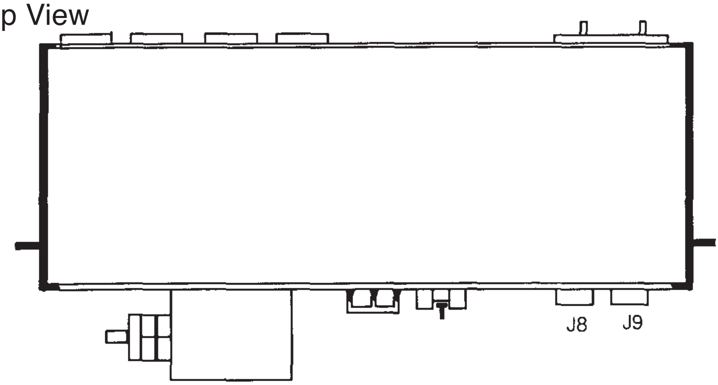
300–1011

Pulizzi Engineering PC874D–472
115 Volt

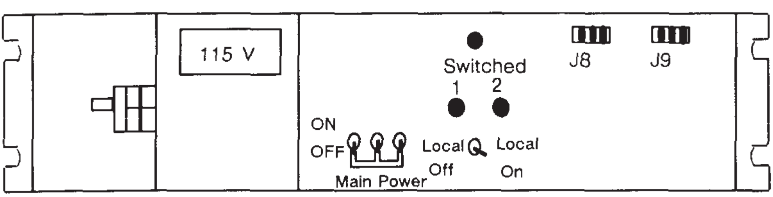
Outlet Side


Keyswitch Cables
Rack Fan
1/2" Tape Drive
Second Disk Drive
File Server
J6
J7
Power Controller
Z-LINE
J1
J2
J3
J4
J5
Unswitched
Switched 1
Switched 2
First Disk Drive

Top View



Control Side

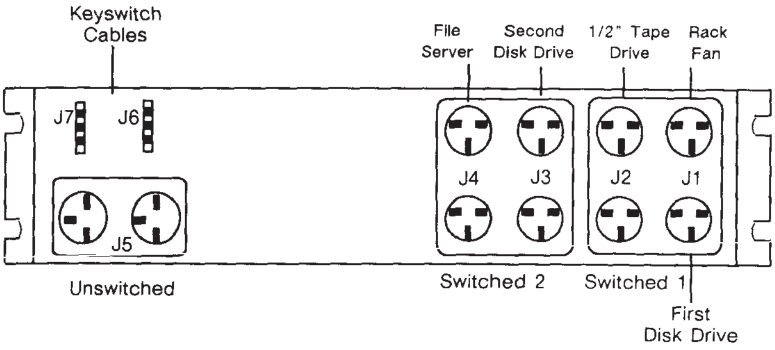

Remote Power Control Bus
115 V
Switched
1
2
J8
J9
ON
OFF
Main Power
Local Off
Local On

Note: Wall outlet requirements: NEMA L5–30R

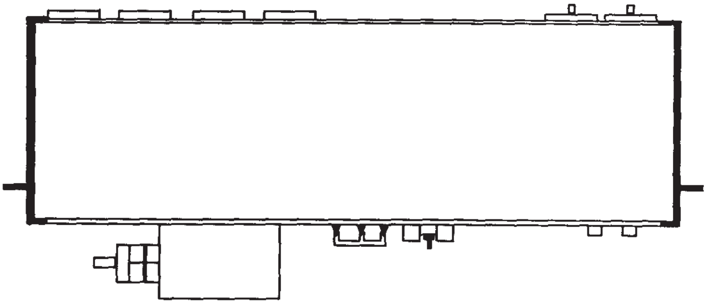
370–1155

370–1127 (Obsolete)
Pulizzi Engineering PC874E–583
230 Volt

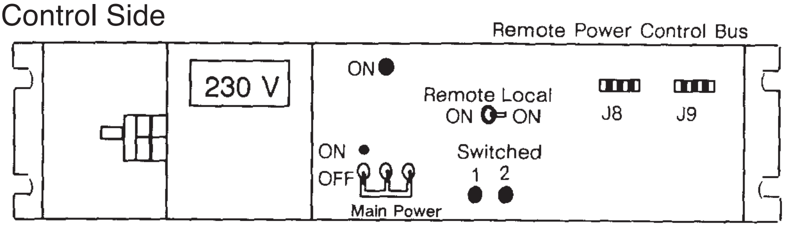
Outlet Side


Keyswitch Cables
File Server
Second Disk Drive
1/2" Tape Drive
Rack Fan
J7
J6
J4
J3
J2
J1
J5
Unswitched
Switched 2
Switched 1
First Disk Drive

Top View



Control Side

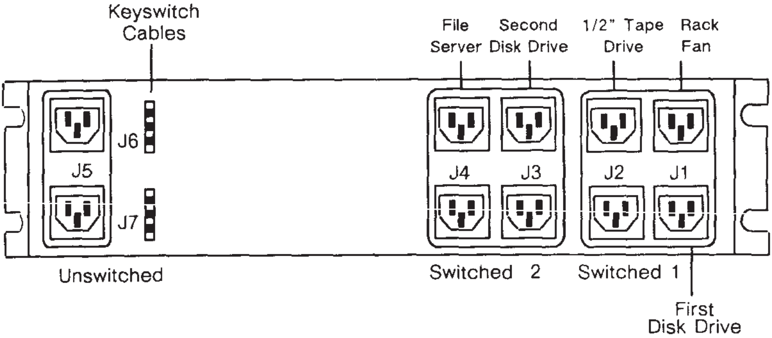

Remote Power Control Bus
230 V
ON
Remote Local
ON ON
J8
J9
ON
OFF
Main Power
Switched
1 2

Notes
1. Wall outlet requirements: NEMA Reference L6–30R.
2. When more than two disk drives are installed in a system, distribute the power between the switch 1 and switched 2 outlets on the power sequencer.

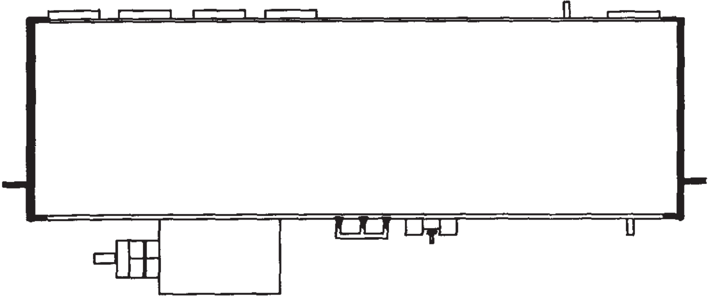
370–1156

370–1126 (Obsolete)
Pulizzi Engineering PC500
West Germany/Intercon
240 Volt

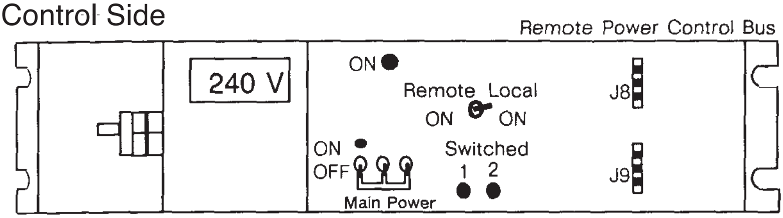
Outlet Side


Keyswitch Cables
File Server
Second Disk Drive
1/2" Tape Drive
Rack Fan
J6
J5
J4
J3
J2
J1
J7
Unswitched
Switched 2
Switched 1
First Disk Drive

Top View



Control Side


Remote Power Control Bus
240 V
ON
Remote Local
ON ON
J8
ON
OFF
Main Power
Switched
1 2
J9

Notes

1. Wall outlet requirements: IEC 309, 32A, 240V, S–Phase.
2. When more than two disk drives are installed in a system, distribute the power between the switched 1 and switched 2 outlets on the power sequencer.

Power Consumption Table

Part #	Manufacturer	Model	+5	–5	+ 12	–12	+24	Power
300–0135	Power Tec	19C–A01–ABC	25	4	4	4		150W
300–0135	Power One	SPL200–41 OOP	35	1.5	4	1.5	2–4	200W
300–0566	Power Tec	19C–B00–B S1286	20		4	4		170W
300–0645	LH	SM24–12Y2Y1Y	150	5	10	10		1000W
300–0645	Power Tec	6M5–BBA–17	150	10	10	10	25A	1000W
300–1000	LH	MML45–E1246	60	2	10	5	8	600W
300–1001	Fujitsu (110v)	B14L–0300–0018A	5–7		.5–1.0	.9–2.5	.3–4.0	351KVA
300–1002	Power Sys.	PS1557	20		4	.5		
300–1003	Fujitsu	B14L–5100–0030A	5–7		.5–1.0	.9–2.5	.3–4.0	391KVA
300–1004	Boschert	XL 750–4616	100	5	10	3	3	750W
300–1014	Boschert	XL250–3606	30		7	4	7	250W
300–1015	Matsushita	ETX–593C10M	7.0–15.0	1.0–2.0	0.5–1.3	n/a	n/a	100W
300–1016	Fuji	PEX391–30	10–120	0–10	0–15	0–5		850W
300–1016	Pioneer (Obs)	PM2975A–3–4	120	10	15	5		850W
300–1016	ETA	804–1212AE	10–120	0–10	0–15	0–5		850W
300–1017	Power Sys.	PS1599	15–25	1.5	1.5			150W
300–1020	Brown	300–1020	5.0–100	8.0	3.0	1.5	1.5	575W
300–1020	Fuji	PEX445–30	5.0–100	8.0	3.0	1.5	1.5	575W
300–1022	Summit	CX0325–9001	60	8.0	3.0	1.5	1.5	325W
300–1022	Brown	PS41	60	8.0	3.0	1.5	1.5	325W
300–1024	Fuji	PEX391–30	10–120	0–10	0–15	0–5		850W
300–1025	Power Gen,	Sun2 Shoebox						100W
300–1028	Cal DC	LR150–19	10		10.5			170W
300–1028	Todd Prod.	MDT223–8945A	5–10	5–10	3–10.5			170W
300–1034	Boschert	XL520–3625	10–70	0.1–4	0–1.5	0–.75		520W
300–1037	Sony	062–0412						35W
300–1038	Sony	CR81	3–12		.4–2	.1		85W
300–1040	Boschert	NFS–7630	20	1		.5		116W
300–1042	Zytec	22903110	150	15	15	10		925W
540–1301	Power Gen	Sun2 Shoebox						100W
540–1367	Sun PS Assy	(300–1024)	10–120	10–120	0–15	0–5		850W
540–1381	Sun PS Assy	(300–10201	5.0–100	8.0	3.0	1.5	1.5	575W
540–1418	Sun PS Assy	(300–1022)	60	8.0	3.0	1.5	1.5	325W

Power Consumption Table (Cont.)

Part #	Manufacturer	Model	Description
300–1011	Pulizzi Engineering	PC874D–472	115 Volt Power Distribution Unit for Sun 76” Rack
370–1155	Pulizzi Engineering	PC874E–583	230 Volt Power Distribution Unit for Sun 76” Rack
370–1156	Pulizzi Engineering	PC500	240 Volt Power Distribution Unit for Sun 76” Rack

Power Requirements Table

Product/Part Assy	Description	+5 vdc Amps	–5.2 vdc Amps	+12 vdc Amps	–12 vdc Amps	Total Watts
CPU Boards						
3/60:						
501–1205	(4MB) w FB	10.1	0.7	*	–	54.1
501–1322	(4MB) w/o FB	9.3	0.3	*	–	50.1
501–1345	(0MB) w/o FB	8.9	0.3	*	–	48.1
3/75:						
501–1163	(2MB)	14.6	0.8	*	–	77.2
501–1164	(4MB)	15.2	0.8	*	–	80.2
501–1208	(4MB)	15.2	0.8	*	–	80.2
3/110:						
501–1134	(4MB)	14.7	4.1	0.15*	–	96.6
501–1209	(4MB)	14.7	4.1	0.15*	–	96.6
3/140/150/160/180:						
501–1163	(2MB)	14.0	0.8	*	–	74.2
501–1164	(4MB)	14.6	0.8	*	–	77.2
501–1208	(4MB)	14.6	0.8	*	–	77.2
3/260/280:						
501–1100		22.5	0.6	*	–	115.6
501–1206		22.5	0.6	*	–	115.6
3/460/470/480:						
4/110/150:						
501–1199	(8MB) w/o FB	13.3	0.1	–	–	67.0
501–1512	w/o FPU					
501–1237	(8MB) w/o FB	13.8	0.1	–	–	69.5
501–1513	w FPU					
4/260/280:						
501–1129		17.2	1.3	0.4*	–	98.0
501–1274		17.2	1.3	0.4*	–	98.0
Memory Boards Expansion						
3/60:						
501–1547	(4MB) SIMM Upgrade					
Standby	0.4	–	–	–	2.0	
3/75:						
501–1111	(2MB)	1.9	–	–	–	9.5
501–1122	(4MB)	2.4	–	–	–	12.0
3/110/140/150/160/180:						
501–1131	(2MB)	1.8	–	–	–	8.5
501–1132	(4MB)	2.3	–	–	–	11.5

Power Requirements Table (Continued)

Product/Part Assy	Description	+5 vdc Amps	–5.2 vdc Amps	+12 vdc Amps	–12 vdc Amps	Total Watts
Memory Boards Expansion (Cont.)						
3/260/280/4/260/280:						
501–1102	(8MB)					
	Standby	10.0	–	–	–	50.0
	Active	12.3	–	–	–	61.5
4/260/280:						
501–1254	(32MB)					
	Standby	9.8	–	–	–	49.0
	Active	14.0	–	–	–	70.0
Video Graphics Boards						
501–1139	Sun GP “Plus”	14.6	–	–	–	73.0
501–1055	Sun GP	16.4	–	–	–	82.0
501–1058	Sun GB	2.1	–	–	–	10.5
501–1210	3/60 Color FB	2.6	–	–	–	13.0
501–1247	P4 Mono FB	0.8	1.2	–	–	10.0
501–1248	P4 Color FB (CG4)	2.6	–	–	–	13.0
501–1014	Sun–2 Color(CG2)	15.0	5.7	–	0.2	107.0
501–1268	GP2	12.1	–	–	–	60.5
501–1267	CG5	8.8	3.2	0.2	0.1	64.2
501–1116	Sun–3 Color(CG3) (single buffered)	8.2	2.9	0.1	0.2	59.0
501–1089	Sun–3 Color(CG3) (double buffered)	8.3	3.1	0.1	0.2	61.2
501–1383	TAAC1	23.9	0.4	0.2	–	123.9
501–1447						
501–1371	CG8	5.5	–	–	–	27.5
SCSI Disk Drives 5–1/4"						
370–1015	(42MB) (ST506)	0.9	–	3	–	26/34
370–1034	(71MB) (ST506)	2.0	–	3.1	–	47.2
370–0551	(141MB) (ESDI)	1.4***	–	2.4	–	35.8
370–1133	(327MB) (ESDI)	1.3****	–	1.9	–	29.3
555–1004	(91 MB) (Embedded)	9.3	–	1.7		26.9
555–1005	(327MB) (Embedded)	2.0	–	2.3		37.6
SCSI Disk Controller Boards						
370–1010 (ST506)	Adaptec (ACB4000)	1.5	–	0.1	–	8.7
370–0552 (ESDI)	Emulex MD–21	1.6+	–	–	–	8.0

Power Requirements Table (Continued)

Product/Part Assy	Description	+5 vdc Amps	–5.2 vdc Amps	+12 vdc Amps	–12 vdc Amps	Total Watts
1/4” Tape Drive						
370–1037	plus formatter	3.0@	–	1.9	_	37.8
370–1076	less formatter	1.0@	–	1.9	–	27.8
SMD Disk Controller Boards						
501–1154	Xylogics 450	8.0	0.6	–	–	43.1
501–1166	Xylogics 451	6.3	0.6	–	–	34.6
501–1249	Xylogics 7053	4.8	–	–	0.6	31.6
1/4” Tape Controller Boards						
370–1011	Sysgen (SC4000)	2.0	_	_	_	10.0
370–1061	Emulex (MT–02)	1.5	–	0.04	–	8.0
1/2” Tape Controller Boards						
501–1156	CPC (1600 BPI)	5.1	–	–	–	25.5
501–1155	XY472 (GCR)	6.0	–	–	–	30.0
Communications Boards						
501–1157	Sun VME ALM	7.1	_	0.6	0.4	47.5
501–1165	Sun VME ALM	7.1	_	0.6	0.4	47.5
ALL**501–1158	Sun SCP	5.6	–	0.2	0.1	31.6
ALL**501–1153	2nd Ethernet Ctlr	5.8	_	*	_	29.0
370–1128	Channel Adapter	8.6	–	–	–	43.0
ALL**501–1203	ALM–2	7.0	0.2	+	+	36.0
ALL**501–1221	MCP	7.3	0.1	+	+	37.0
ALL**501–1223	OEM MAPkit	4.9	–	0.3	0.1	29.3
SCSI Host Adapter/Assy						
501–1045	Sun–2 SCSI	2.8	–	–	–	14.0
501–1045	Sun–2 SCSI (for newer systems)	2.7	–	–	–	13.5
501–1138	Sun–2 SCSI (for newer systems)	2.7	–	–	–	13.5
501–1149	Sun–2 SCSI (for older systems)	2.7	–	–	–	13.5
501–1167	Sun–2 SCSI (for older systems)	2.7	–	–	–	13.5
501–1170	Sun–3 SCSI (for newer systems)	4.8	–	–	–	24.0
501–1217	Sun–3 SCSI (for newer systems)	4.8	–	–	–	24.0

Power Requirements Table (Continued)

Product/Part Assy	Description	+5 vdc Amps	–5.2 vdc Amps	+12 vdc Amps	–12 vdc Amps	Total Watts
Backplane Boards						
501–1109	1 –slot	0.5	–	–	–	2.7
501–1093	2–Slot	1.4	–	–	–	7.0
501–1127	3–Slot	1.3	–	–	–	6.5
501–1128	6–slot	1.3	–	–	–	6.5
501–1092	12–Slot	1.3	–	–	–	6.5
501–1277						
Miscellaneous Boards						
ALL**501–1105	Sun FPA	12.9	–	–	–	64.5
ALL**501–1125	Sun IPC w/o 80287	5.6	–	–	–	28.0
ALL**501–1191	VME 3X2 Adapter (Option 160A)	–	–	–	–	–
ALL**501–1054	VME/MB Adapter (04A or later) (Option 161 A) 601–1214	2.0	–	–	–	10.0
Cooling Subsystems						
3/50/60:						
540–1540	Fan	–	–	0.2	–	2.47
540–1068	Fan	–	–	0.3	–	3.6
12–slot Pedestal:						
540–1252	Fans: each	–	–	(0.33)	–	4.0
	6 per unit:	–	–	2.0	–	24.0
	8 per unit:	–	–	2.7	–	32.4
12-slot Rack:						
540–1129	Fans: each	–	–	(0.4)	–	4.8
	4 per unit:	–	–	1.6	–	19.2
3–slot:540–1419	Fan Tray	–	– (+18 vdc = 0.3A)			5.4
6–slot:540–1409	Fan Tray	–	– (+18 vdc = 1.0A)			18.0
5–slot:						
Keyboard/Mouse						
ALL**370–1063	Sun–3 Keyboard	0.4	–	–	–	2.0
ALL**370–1058	Sun–3 Mouse	0.2	–	–	–	1.0
ALL**370–1058	Sun–4 Mouse	+	–	–	–	0.0
ALL**320–1005	Sun–4 Keyboard	0.32	–	–	–	1.0
Network Option						
ALL*	Ethernet Transceiver*	–	–	0.4	–	4.8

Notes:

- * For each Ethernet cable connection, include the requirement of either a Level 1 or or a Level 2 Ethernet Transceiver Box.
- ** ALL indicates every Sun–3 multislot product except the Sun–75.
- *** Figures for Micropolis 1355 Disk Drive only.
- **** Figures for Micropolis 1558 Disk Drive only.
- + The measured current for the MCP's RS–232 and RS–449 interface ICs and Sun–4 Mouse is less than 20 mA. Values of this magnitude have minimum impact to power budgeting considerations and should be ignored

Upgrades Overview

The SunUpgrades Program exchanges a returned Sun Product for an enhanced replacement product. SunUpgrades offer increased product performance at the lowest possible cost by protecting an existing investment in Sun technology. Each upgrade product defines a specific migration path from one product family (source) to another (destination). This section includes all upgrade products available from Sun. Additional upgrades are announced as they are released. For currently released upgrades contact your local Sun representative.

- Orders are placed by contacting a local Sun Representative
- Unless otherwise noted, all upgrade prices require the return (to Sun) of the replaced parts which become the property of Sun. The customer is responsible for the packaging and return shipment of replaced parts within 15 days of the receipt of the upgrade. Non–returned replacement parts are subject to invoicing at full price less any applicable discount.
- Each upgrade includes the packaging, instructions, and Return Material Authorization (RMA) number necessary to ship replaced parts back to Sun. Within the U.S.A., the return shipping address is:

  Sun Microsystems, Inc.
  1550 Buckeye Drive
  Milpitas, CA 95035
  Attention: Upgrades Department MST2–316
  RMA Number:

  Non–U.S.A. customers can obtain return shipping information by contacting a local Sun Representative.
- Standard warranty applies to all upgrades.

Revision Date –5/89

Order Number	Description

Sun–2 Upgrades

UG20–4	Sun–2/130 or 2/160 to 3/160U (4–MByte)
UG20–8	Sun–2/130 or 2/160 to 3/160U (4–MByte) plus 4–MByte Expansion Memory
	• CPU exchange • Requires SunOS 3.0 or later release • SKY FPP must be replaced with Sun–3 FPA

Sun–3/100 to 3/200

UG200–8	Sun–3/160 to 3/260 (8–MByte)
UG200–16	Sun–3/160 to 3/260 (16–MByte)
	• Pedestal exchange including CPU and Memory • 3/160 requires purchase of 365–1005 high–resolution mono monitor • Not supported: SYSGEN SCSI Tape, 41–MByte and 71–MByte disk drive • Requires SunOS 3.2 or later release • To order systems configured for 240V European operation, append “V4” to the UG order number (e.g. UG200–8V4)
UG200–8	Sun–3/180 to 3/280 (8–MByte)
UG200R–16	Sun–3/180 to 3/280 (16–MByte)
	• CPU and Memory exchange • Requires SunOS 3.2 or later release • Not supported: SYSGEN SCSI Tape, 41–MByte and 71–MByte disk drives

Sun–3/100 to 4/100

UG4/110S8	Sun–140S to 4/110S–8 without FPA
UG4/110M8	Sun–3/140M to 4/110M–8 without FPA
UG4/110C8	Sun–3/110C to 4/110C–8 without FPA
UG4/110G8	Sun–3/110G to 4/110G–8 without FPA
UG4/110SE8	Sun–3/140S to 4/110SE–8 with FPA
UG4/110ME8	Sun–3/140M to 4/110ME–8 with FPA
UG4/110CE8	Sun–3/110C to 4/110CE–8 with FPA
UG4/110GE8	Sun–3/110G to 4/110GE–8 with FPA
	• CPU and memory board replacement • 4/110 CPU uses two slots • Order UPSYS4–3.2 or USS1–(01F,02F,03F, or 04F) at no charge • Sun–3 clients being served by Sun–4 server need Sun–3 OS 3.5 when using Sun–4 OS UPSYS4–3.2. Order UPSYS3 (01F,02F,03F, or 04F). No charge with UPSYS4–3.2 only • Not supported: 41–MByte/71–MByte and SMD disk drives and SYSGEN SCSI Tape • Not compatible: 3/100 Memory, FPA, SCP, MAPKIT, IPC, and SCSI

Sun–3/100 to 4/200

Order Number	Description
UG1004–8	Sun–3/160 to 4/260–8
UG1004–32	Sun–3/160 to 4/260–32
	• Pedestal exchange including CPU and memory • Order UPSYS4–3.2 or USS1–(01F,02F,03F, or 04F) at no charge • Sun–3 clients being served by Sun–4 server need Sun–3 OS 3.5 when using Sun–4 OS UPSYS4.3.2 Order UPSYS3 (01F,02F,03F or 04F) No charge–with UPSYS4–3.2 only • 3/160M requires purchase of 365–1005 high–resolution monitor • Not supported: 41–MByte/71–MByte disk drives, SYSGEN SCSI Tape, and Tapemaster controller (1600BPI) • 1600–BPI tape is supported with 472 controller for backup only • To order systems configured for 240V European operation, append “V4” to the order number, (e.g. UG200–8V4).
UG1004R–8	Sun–3/180 to 4/280–8
UG1004R–32	Sun–3/180 to 4/280–32
	• CPU and memory exchange • Order UPSYS4–3.2 or USS1–(01F,02F,03F, or 04F) at no charge • Sun–3 clients being served by Sun–4 server need Sun–3 OS 3.5 when using Sun–4 OS UPSYS4–3.2 Order UPSYS3 (01F,02F,03F, or 04F) No charge–with UPSYS4–3.2 only • Not supported: 41–MByte/71–MByte disk drives, SYSGEN SCSI Tape, and Tapemaster controller (1600BPI) • 1600–BPI tape is supported with 472 controller for backup only

Sun–3/200 to Sun–4/200

Order Number	Description
UG2004	Sun–3/260 or 3/280 to Sun–4/260 or 4/280 • CPU board replacement • Order UPSYS4–3.2 or USS1–(01F,02F,03F, or 04F) at no charge • Sun–3 clients being served by Sun–4 server need Sun–3 OS 3.5 when using Sun–4 OS UPSYS4–3.2. Order UPSYS3 (10F,02F,03F, or 04F) No charge–with UPSYS4–3.2 only • Sun–3/260s with serial # below 724E2223 require installation of FCO #808–0067 • Not supported: 41–MByte/71–MByte Disk Drives, SYSGEN SCSI Tape and Tapemaster Controller (1600BPI) • 1600–BPI tape is supported with 472 controller for backup only

Other System Upgrades

UG832	8–MByte to 32–MByte Memory Expansion • Upgrades one 8–MByte board (Sun–4 ONLY)
UG832–4	4x8MB Boards Exchange for 1x32MB Board • Free up 3 Expansion Slots (Sun–4 ONLY)
UG325	CG3 to CG5 Color Board • CG5 Supports GP+ or GP2 • Requires SunOS 3.5 or later release
UG525	CG3 to CG5 Color Board upgrade plus GP2 Enhanced Graphics Processor Board • Combines UG325 and X212A products • CG5 Supports GP+ or GP2 • Requires SunOS 3.5 or later release

Controller Upgrades

Order Number	Description
UPG–SMD–4–1–575	450/451 to VME–SMD–4 Controller with 574MB • For Sun 3/160 & 3/180 only • System must have 501–1208–xx CPU
UPG–SMD–4–2–575	450/451 to VME–SMD–4 Controller with 574MB • For Sun 3/260 & 3/280 only
UPG–SMD–4–3–575	450/451 to VME–SMD–4 Controller with 574MB • For Sun 4/260 & 4/280 only • System must have 501–1274–13 CPU or greater. Notes for all of the above • Third and Fourth Drives attached to the SMD–4 Controller must have additional external data cable P/N 530–1330 • Requires SunOS 4.0 or greater
UPG–SMD–4–1 –892	450/451 to VME–SMD–4 Controller with 892MB • For Sun 3/160 & 3/180 only • System must have 501–1208–xx CPU
UPG–SMD–4–2–892	450/451 to VME–SMD–4 Controller with 892MB • For Sun 4/260 & 4/280 only
UPG–SMD–4–3–892	450/451 to VME–SMD–4 Controller with 892MB • For Sun 4/260 & 4/280 only • System must have 501–1274–13 CPU or greater. Notes for all of the above • Third and Fourth Drives attached to the SMD–4 Controller must have additional external data cable P/N 530–1355 • Requires SunOS 4.0 or greater

Tapeless System Upgrades

UPG–SB–T	Shoebox Cartridge Tape Upgrade
UPG–PD–T	Pedestal Cartridge Tape Upgrade
UPG–PD–TS	Pedestal Cartridge Tape Upgrade w/SCSI–2
UPG–RM–Ts	Rack Cartridge Tape Upgrade • Older racks may not have cut–out for drive • For Sun–3 and Sun–4 only

Diskless System Upgrades 141–MByte and 327–MByte

Order Number	Description
UPG–PD–141S	Diskless to 141–MByte Disk for Pedestal
UPG–PD–141TS	Diskless to 141–MByte Disk plus 60–MByte 1/4” Cartridge Tape for Pedestal
UPG–PD–327S	Diskless to 327–MByte Disk
UPG–PD–327TS	Diskless to 327–MByte Disk plus 60–MByte 1/4” Cartridge Tape
UPG–PD–654S	Diskless to (2) 327–MByte Disks
UPG–PD–654TS	Diskless to (2) 327–MByte Disks plus 60 MByte 1/4” Cartridge Tape • Requires SunOS 3.2 or later • For Sun–3 and Sun–4 only

141–MByte Disk Upgrades

UPG–SB–141	71–MByte to 141–MByte Disk for Shoebox
UPG–SB–141T	71–MByte to 141–MByte Disk plus 60–MByte 1/4” Cartridge Tape for Shoebox
UPG–PD–141	41– or 71–MByte to 141–MByte Disk for Pedestal
UPG–PD–141X	Add 2nd 141–MByte Disk to Pedestal
UPG–PD–141T	41– or 71–MByte to 141–MByte Disk plus a 60–MByte 1/4” Cartridge Tape for Pedestal
UPG–PD–141TX	Add 2nd 141–MByte Disk plus 60–MByte 1/4” Cartridge Tape for Pedestal • Requires SunOS 3.2 or later • For Sun–3 and Sun–4 only

280–MByte Disk Upgrades

UPG–EXP–280C	Add 2nd 280–MByte Disk • Requires Xylogics 451 Controller • For Sun–3 and Sun–4 only

327–MByte Disk Upgrades

UPG–SB–327	71– or 141–MByte to 327–MByte Disk for Shoebox
UPG–SB–327T	71– or 141–MByte to 327–MByte Disk plus 60–MByte 1/4” Cartridge Tape for Shoebox
UPG–PD–327	71– or 141–MByte to 327–MByte Disk for Pedestal
UPG–PD–327T	71– or 141–MByte to 327–MByte Disk plus 60–MByte 1/4” Cartridge Tape for Pedestal
UPG–PD–327X	Add a 2nd 327–MByte Disk for Pedestal
UPG–PD–327TX	Add a 2nd 327–MByte Disk plus 60–MByte 1/4” Cartridge Tape for Pedestal
UPG–PD–654 (2)	71– or 141–MByte Disk to (2) 327–MByte Disks
UPG–PD–654T	(2) 71– or 141–MByte Disk to (2) 327–MByte Disks plus 60–MByte 1/4” Cartridge Tape

Order Number Description

327–MByte Disk Upgrades (Cont.)

Notes

- Requires SunOS 3.2 or later
- For Sun–3 and Sun–4 only

688–MByte Disk Upgrades

Order Number	Description
UPG–EXP–688–S4	(1)280MB with 451 to (1)688MB with SMD–4
UPG–EXP–688A–S4	(2)280MB with 451 to (2)688MB with SMD–4
UPG–EXP–688B–S4	(1)280MB with 451 to (2)688MB with SMD–4

- To order systems configured for 240V European operation, append “V4” to the UG order number (e.g. UPG–EXP–688–S4V4)
- Expansion pedestal exchange including disk and controller
- Requires SunOS 4.0 or later
- Supported on Sun 3 & Sun–4 Deskside Products only
- Supported on Sun SMD–4 Controller only
- For Sun 3/160 only
  System CPU must be 501–1208–xx or greater
  Upgrade cannot be installed on a 3/160 system
- For Sun 4/260 only
  System CPU must be 501–1274–13 or greater
- Installed only in mass storage expansion pedestal
- No intermixing of 280MB and 688MB in expansion pedestal
  Maximum of (2) SMD=4 Controllers in system pedestal
  Maximum of (2) Expansion Pedestals per system
  No daisy chaining between expansion pedestals
  Required feature tape/bug fix tape is included
  Required boot PROM Upgrade Kit included as needed except for CPU Upgrade
  Customer Installable

Order Number	Description
UPG–EXP–688	Add a second 688MB to a pedestal with 688MB

- Must be installed by a Sun qualified Field Service Engineer

892–MByte Disk Upgrades

Order Number	Description
UPG–892–J–1–575	575–MByte to 892–MByte Disk
UPG–892–J–1–380	380–MByte to 892–MByte Disk
UPG–892–J–2–575	(2) 575–MByte to (2) 892–MByte Disks
UPG–892–J–2–380	(2) 380–MByte to (2) 892–MByte Disks
	• Includes Disk(s), SMD–4 Controller, Tray, and Cables • Older racks with lower Fan require retrofit
UPG–892–J–1E–575	575–MByte to 892–MByte Expansion Disk
UPG–892–J–1E–380	380–MByte to 892–MByte Expansion Disk
	• Includes Disk and Cables • Older Racks with lower Fan require retrofit • Must have 4SMD–R controller
UPG–892–J–575	575–MByte to 892–MByte Disk
UPG–892–J–380	380–MByte to 892–MByte Disk
	• Includes Disk, Cable, and Tray • Older Racks with lower Fan require retrofit • Must have SMD–4 Controller • Attaching a third or fourth drive to the SMD–4 Controller requires data cable, 530–1330–01.