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Sun-3/460 and 3/480

Cardcage Slot Assignments and Back-plane Configuration Procedures

CAUTION

This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

WARNING There is a Lithium Battery (BBCV2), Matsushita Electric Type No. BR2325, located on the Sun CPU Board. This battery is NOT a customer replaceable part. The battery is marked as follows: "Warning— Replace battery with MATSUSHITA ELECTRIC or PANASONIC Part No. BR2325 only. Use of another battery may present a risk of fire or explosion." The battery may explode if mistreated. Do not dispose of in fire, attempt to recharge or disassemble the battery.

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Preface

This document contains information on the assignment of cardcage slots in the Sun-3/460 and 3/480 systems, precautions to take in the removal and replacement of the cards and special notes regarding the placement of the cards. The chapter *Slot Assignment Precautions*, explains removal and replacement procedures for cards with or without springfingers. Separate chapters are provided for the Sun-3/460, 3/480 and 3/480 with reserved slots. These chapters contain the subsection *Cardcage Slot Assignments* which include a table that describes the location of the cards and how the backplane jumpers are to be configured for the various options available. Appendix A contains notes regarding the ALM-2 and MCP products. Appendix B contains additional instructions on using the assignment tables. Appendix C contains information on the SCSI Adapters.

1
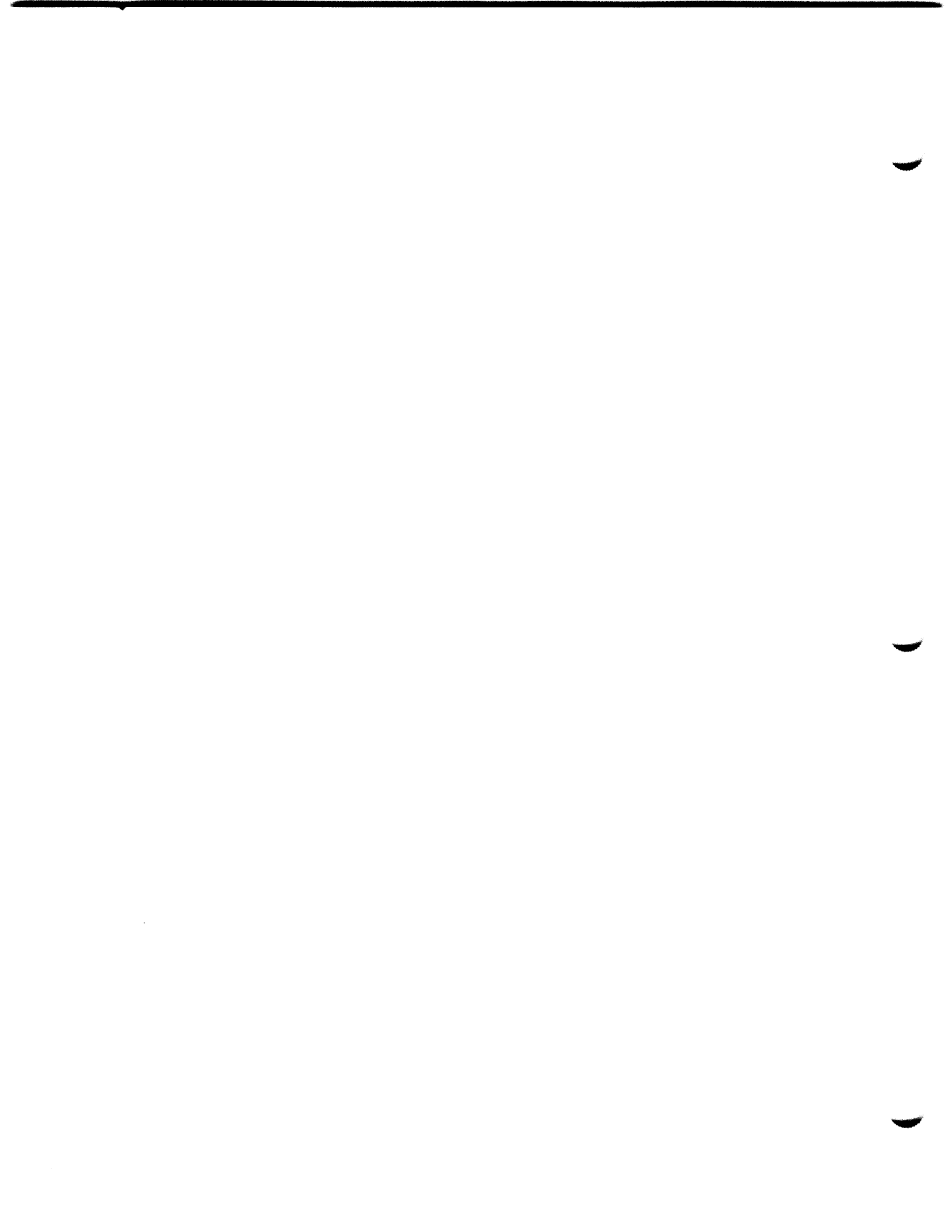
Slot Assignment Precautions
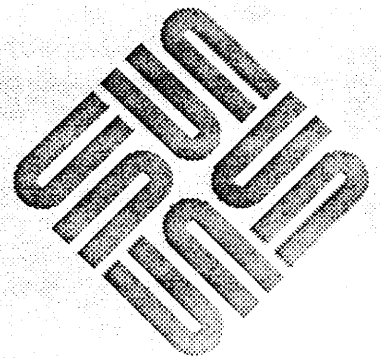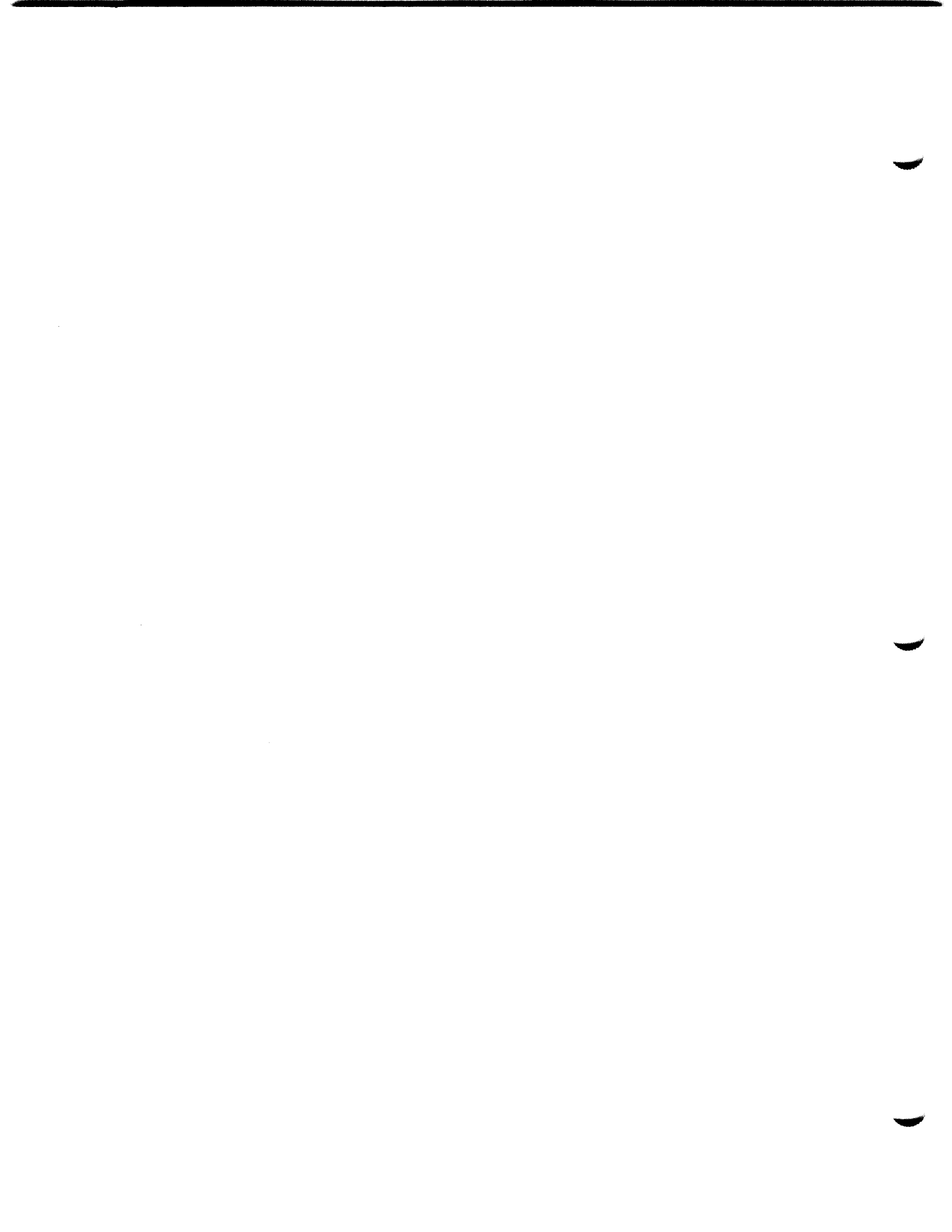
Slot Assignment Precautions

Springfingers are metal strips that are installed between the edge of the PC board and the outer panel to reduce RFI emissions. Serrated metal "fingers" protrude from either side of the strip.

Installation of a board WITHOUT springfingers may affect RFI emissions and may therefore affect FCC compliance. Sun will no longer be responsible for FCC compliance if non-springfingered boards are added to a system originally shipped WITH springfingers and FCC approval.

If a board WITH springfingers is installed next to a board WITHOUT springfingers, the insulator shield on the outside of the fingers MUST be present to prevent possible shorting of component leads to the springfingers.

If a logic enclosure contains boards WITH and WITHOUT springfingers, use the following guidelines:

☐ Before removing a board WITHOUT springfingers, remove the board to the left of it (or below it for desktop models) if that board is equipped WITH springfingers and an outer insulator shield

☐ To replace any filler panel equipped WITH springfingers, pull out the air restrictor panel far enough to allow the springfingers to lay against the panel. Push both units into place simultaneously and fasten with the appropriate fasteners. This procedure makes replacement of the filler panels easier and reduces the chance of damage to the springfingers.

☐ Always install a board WITHOUT springfingers first, and then replace the board WITH springfingers and insulator shield in the slot to the left of it (or below it).

If a board WITH springfingers is installed next to a board or filler panel also equipped WITH springfingers, the outside insulator shields should be removed.

Ensure that the insulator strip between the inner side of the springfingers and the PC board is intact at all times.

When removing and replacing boards with springfingers, check the condition of the insulator strip/shield(s) and replace if damaged. These parts can be obtained in kit number 560-1183-02. The insulator itself is P/N 330-1100-01.

Call your Sun service hotline number with any questions, or for information on how to obtain additional insulator strips or shields. Information on the hotline numbers are provided in 800-3400 .

Printed circuit boards contain components sensitive to damage from electrostatic discharge that may occur, for example, when you walk across a carpet and then touch the board. If a grounding device is available, wear it when handling the board. Otherwise, place your hand on a conductive surface that is grounded to a common earth ground (such as the metal screw or plate on the AC wall receptacle), to discharge any static electricity from your body before handling the board.

2

Sun-3/460S
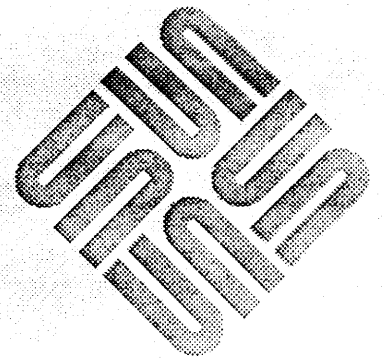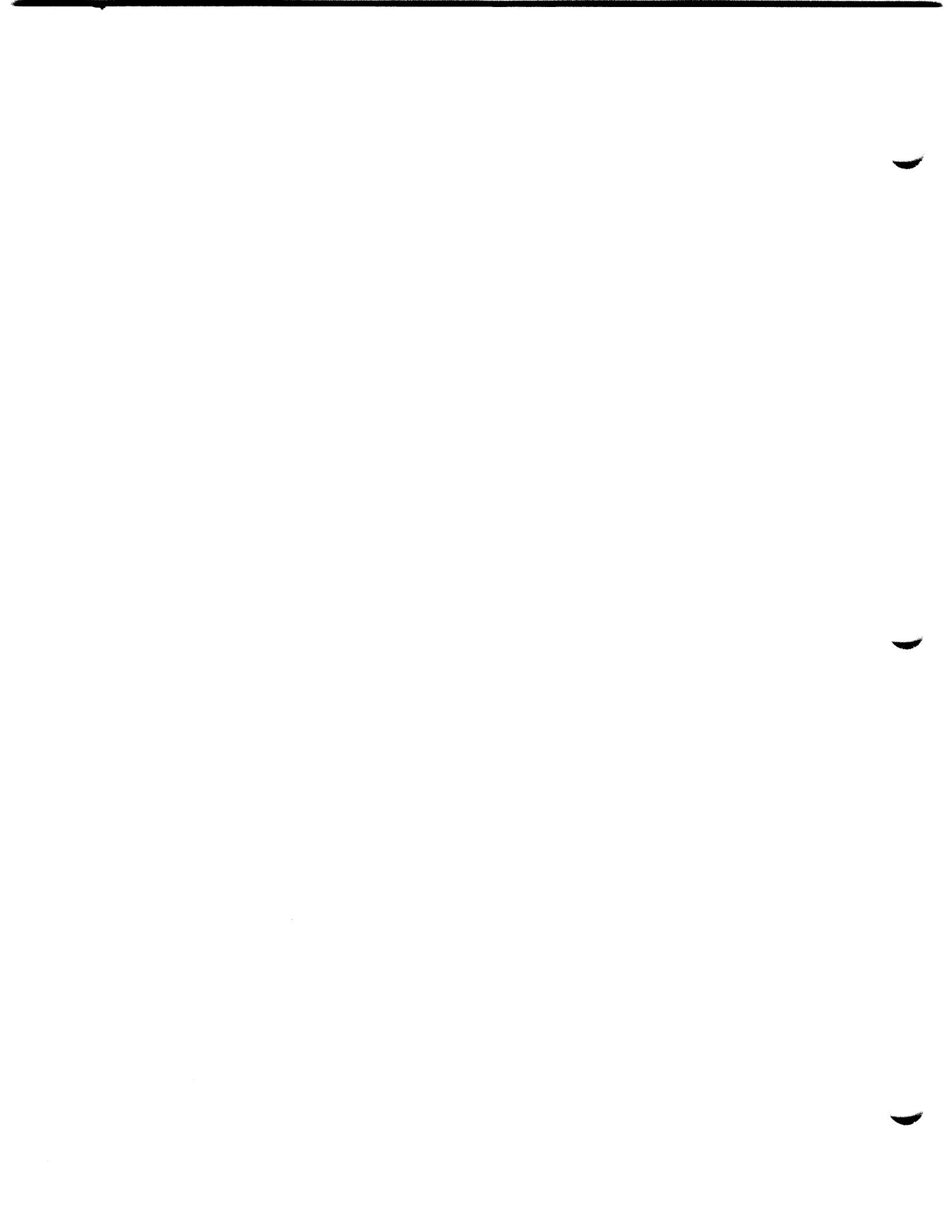
Sun-3/460S

NOTE   *Sun-3/460 systems are the result of upgrading an existing 3/260 system and are not available as factory ordered machines.*
Table 2-1 vertically lists PCB slot priority assignments for the Sun-3/460M/460HM/460C/460G/460S in order of descending priority. Horizontal slot designations "A", "B", "C", etc., correspond to the preferred location for the specific board, with "A" being the most preferable location. If the only designation is "A", the board MUST be placed in that slot. Boards must be installed in descending order starting with the CPU board. If the boards are not installed in the proper order, the system may lose performance or functionality.

For further explanation, Appendix B gives a step-by-step example on how to use the slot assignment tables.

1. FOR ALL SLOTS: Install backplane jumpers in locations PX00, PX01 and PX02."X" represents the slot number. Slot order in the 12-slot deskside pedestal begins with slot 1 at the left-most side of the pedestal when you are looking at the unit from the back.

2. TO INSTALL ANY BOARD: Configure backplane jumpers PX03 and PX04 per below table. "X" represents the slot number.

3. TO REMOVE ANY BOARD: Install for the affected slot: backplane jumpers at locations PX03 & PX04, outside filler panel and air flow restricter. P1204 for Slot 12 does not physically exist on the backplane.

4. The Sun 3X2 VME Adapter Boards for the Sun SCSI Controller are not architecture-dependent. They have the following descriptions:

   • 501-1059 Sun-2 3X2 Adapter has P2 bus connections. It is Option 160A in the Sun sales catalogs.

   • 501-1191 Sun-3 3X2 Adapter does not have P2 bus connections. It is Option 160B in the Sun sales catalogs.
   See Appendix C for details on the SCSI Adapter.

Table 2-1   *Sun-3/460X Cardcage Slot Assignments and Backplane Configuration*

BACKPLANE JUMPERS BG3 PX03	IACK PX04	BOARD NAME	1	Φ 2	# 3	# 4	# 5	6	7	8	9	# 10	# 11	# 12
OUTΦ	OUTΦ	Sun 3400 CPU BoardΦ	A											
IN	IN	1st Sun Memory Board@†						A						
IN	IN	501-1105 Sun FPA∀					A							
IN	IN	2nd Sun Memory Board@†				B	A							
IN	IN	3rd Sun Memory Board@†			B	A								
IN	IN	4th Sun Memory Board@†			A									
OUT	OUT	Sun GP †∇										A		
IN	IN	501-1058 Sun GB #											A	
IN	IN	TAAC-1 Ω†										A	Ω	Ω
OUT	N/A**	501-1157 Sun ALM-1 ** #∞											**	A
OUT	OUT	Sun VME SCSI Board†							A					
OUT	OUT	1st 501-1158 Sun SCP*#			A	B	C		D	E	F	G	H	I
OUT	OUT	2nd 501-1158 Sun SCP*#				A	B		C	D	E	F	G	H
OUT	OUT	1st 501-1221 Sun MCP *∞			A	B	C		D	E	F	G	H	I
OUT	OUT	2nd 501-1221 Sun MCP *∞				A	B		C	D	E	F	G	H
OUT	OUT	3rd 501-1221 Sun MCP *∞					A		B	C	D	E	F	G
OUT	OUT	4th 501-1221 Sun MCP *∞							A	B	C	D	E	F
OUT	OUT	1st 501-1203 ALM-2 ∞			A	B	C		D	E	F	G	H	I
OUT	OUT	2nd 501-1203 ALM-2 ∞				A	B		C	D	E	F	G	H
OUT	OUT	3rd 501-1203 ALM-2 ∞					A		B	C	D	E	F	G
OUT	OUT	4th 501-1203 ALM-2 ∞							A	B	C	D	E	F
OUT	OUT	1st 370-1128 SunLink Channel Adapter *∂			A	A B	B		C	C D	E D	E F	G F	G
OUT	OUT	2nd 370-1128 SunLink Channel Adapter *∂							A	A B	C B	C D	E D	E
§	§	1st 501-1202 MAPKIT§*			A	A B	B		C	C D	E D	E F	G F	G
§	§	2nd 501-1202 MAPKIT§*							A	A B	C B	C D	E D	E
IN	OUT	Sun VME Color †@@∇			A	B	C		D	E	F	G	H	I
OUT	OUT	501-1153 2nd Ethr Ctlr #‡			A	B	C		D	E	F	G	H	I

Table 2-1   *Sun-3/460X Cardcage Slot Assignments and Backplane Configuration— Continued*

BACKPLANE JUMPERS		BOARD NAME	BACKPLANE SLOT POSITION											
BG3	IACK			Φ	#	#	#					#	#	#
P X 0 3	P X 0 4		1	2	3	4	5	6	7	8	9	10	11	12
IN	OUT	1st Sun IPC*†			A	B	C		D	E	F	G	H	I
IN	OUT	2nd Sun IPC*†				A	B		C	D	E	F	G	H
IN	OUT	3rd Sun IPC*†					A		B	C	D	E	F	G
IN	OUT	4th Sun IPC*†							A	B	C	D	E	F
OUT	OUT	1st 1/2" Tape Ctlr†#							A	B	C	D	E	F
OUT	OUT	2nd 1/2" Tape Ctlr†#								A	B	C	D	E
OUT	OUT	1st SMD Ctlr†#&							A	B	C	D	E	F
OUT	OUT	2nd SMD Ctlr†#&								A	B	C	D	E

These notes contains information on the configuration of the backplane and special rules for changing the card slot assignments. The notes refer to the parenthesized symbols such as "†" or "‡", on the slot assignment table (Table 2-1) for the Sun-3/460C/460M/460HM/460G/460S.

Φ   The Sun 3400 CPU board occupies two cardcage slots. To install a CPU do one of the following:

1.   Remove any board already residing in slot 2. Jumpers are required in locations P203 and P204 on the backplane.

2.   If slot 2 is empty, remove its blank filler panel and air restrictor.

The second cardcage slot is used by the CPU to physically accomodate two classes of options (P4-based and P2 MEZZ-based). Please contact your local sales office for a list of available options. Refer to an option's installation manual for specific connectivity issues.

∀   For systems with two or more ECC Memory Expansion Boards, before installing a post-sale 501-1446 FPA+ Option into slot 5, move the Memory Board installed in slot 5 to the next open preferred slot, as defined by this slot assignment table.

∞   **Important Notes about ALM and MCP products:**

1.   Because of the release of the Sun-ALM-2, references to Sun's previously released product, known only as the ALM, have now been changed. The ALM will now be referred to as the Sun-ALM-1.

2.   If you are using the ALM-2 with the MCP or ALM-1, please see Appendix A, *Notes Regarding the ALM-2 and MCP Products.*

∂   **Important Cautions about the SunLink Channel Adapter:**

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1. Each Channel Adapter assembly occupies two slots. The **BG3** and **IACK** backplane jumpers *must* be removed for *both slots*.

2. If after selecting a slot for the Channel Adapter assembly an unused slot exists between the CPU (Slot 2) and the Channel Adapter, neither a 1/2 inch Tape Controller nor an SMD Disk Controller may occupy this empty slot. If this advice is not followed, the Channel Adapter's data throughput rate may be affected.

@   FOR SLOT 6: An ECC Memory Board must ALWAYS reside in Slot 6, and it MUST have 220/270Ω Terminating Resistor Network, Sun P/N 120-1613, installed for P2 bus termination at location 34-F for (501-1102) or 54-F for (501-1451).

   FOR MEMORY BOARD INSTALLATION IN SLOTS 3, 4, or 5: Remove the Terminating Resistor Network from location 34-F for (501-1102) or 54-F for (501-1451).

*   Consult your Sun sales office concerning software considerations for and availability of this unbundled product.

Ω Since the TAAC-1 consumes three slot spaces, TO INSTALL IT, YOU MUST REMOVE any boards already residing in slots 10, 11, and 12, and install jumpers at locations P1103, P1104, and P1203 on the backplane.

‡   The "2nd Ethr Ctlr" board is the interface for the second Ethernet network. The interface for the first network resides on the CPU board.

§   Each MAPKIT option occupies two slots. The "BG3" and "IACK" jumpers on the backplane are OUT for the slot that contains the MAPKIT board that is nearest Slot 1 (far left when facing system rear). The "BG3" and "IACK" jumpers on the backplane are IN for the other slot. One slot between the CPU and the MAPKIT option may be left empty after you have selected the most preferable position for the MAPKIT option. DO NOT install a 1/2" Tape Controller or an SMD Controller in the unused slot; doing so may affect the MAP-KIT data throughput rate.

@@
   The 501-1014 Sun-2 Color board may be transferred from another system and used in place of the 501-1116 Sun CG3 Color board. Note that the Sun-2 Color board is no longer available when ordering new Sun systems.

∇ When installing the 501-1268 Graphics Processor 2 (GP2): The Graphics Processor 2 will not function when the following options are installed.

       501-1058 Graphics Buffer
       501-1116 Sun-3 Color Board (CG3)
       501-1014 Sun-2 Color Board

   When installing the 501-1267 CG5 Color Board with the 501-1268 Graphics Processor 2 (GP2) installed:

1. The Graphics Processor 2 (GP2) communicates with the CG5 over a private P2 bus which MUST BE ENABLED on the CG5 board by a

hardware switch setting.   Refer to *Configuration Procedures for the Sun GP2 and CG5 Boards* (813-2059).

2.   The CG5 board can only be installed in slots 11(A) and 12(B) where (A) and (B) denote slot priority. (A) denotes the highest priority and (B) denotes the next highest priority.

3.   Since the 501-1157 Sun ALM-1 consumes two slot spaces (slots 11 and 12), it cannot be used with any multiple-board graphics option.

When installing the 501-1267 CG5 Color Board **without** the 501-1268 Graphics Processor 2 (GP2) installed:

1.   The 501-1267 CG5 color board may be used in place of the 501-1116 Sun-3 CG3 color board. If you are installing the CG5 board with either the 501-1055 Graphics Processor or the 501-1139 Graphics Processor Plus, the CG5 board MUST BE installed in slots 3-9 only.

2.   The CG5 board MUST HAVE its private P2 bus disabled when the 501-1268 Graphics Processor 2 (GP2) **is not** installed. Refer to *Configuration Procedures for the Sun GP2 and CG5 Boards* (813-2059).

∇   When installing the 501-1434 CG9 board with the 501-1268 Graphics Processor 2 (GP2) installed:

1.   The Graphics Processor 2 (GP2) communicates with the CG9 over a private P2 bus which **MUST BE ENABLED** on the CG9 board by a hardware switch setting. Refer to the Installation and Configuration Guide for the CG9 Color Frame Buffer, Part Number 800-3627.

2.   The CG9 board can only be installed in slots 11 (A) or 12 (B) where A and B denote the slot priority. A denotes the highest priority and B denotes the next highest priority.

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†   These boards have one of the following descriptions:

501-1102 Sun 8 MB ECC Memory Board
501-1451 Sun 32 MB ECC Memory Board

501-1055 Graphics Processor
501-1139 Graphics Processor Plus
501-1268 Graphics Processor 2

501-1156 CPC 1/2" Tape Ctlr. (1600 BPI)
501-1155 Xylogics 472 1/2" Tape Ctlr. (6250 BPI)

501-1154 Xylogics 450 SMD Ctlr.
501-1166 Xylogics 451 SMD Ctlr.
501-1249 Xylogics 7053 SMD Ctlr.

501-1149 Sun-2 SCSI Ctlr.
501-1170 Sun-3 SCSI Ctlr.

501-1014 Sun-2 Color
501-1116 Sun-3 (CG3) Color
501-1267 Sun CG5 Color
501-1434 Sun CG9 Color

501-1125 Sun IPC (without 80287)
501-1214 Sun IPC (with 80287)
501-1383 TAAC-1
501-1447 TAAC-1

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** Since the 501-1157 Sun ALM-1 uses two slot spaces, TO INSTALL IT, YOU MUST:

1. REMOVE any board already residing in slot 11 and install jumpers at locations P1103 and P1104 on the backplane;

2. REMOVE any outside filler panel(s) covering slots 11 and 12;

3. REMOVE any air restrictors installed in these slots.

FOR SLOTS 3 THROUGH 5: If you wish to install a "VME-to-Multibus Adapter Board" based product (such as the SCP), you MUST USE adapter board subassembly Revision 501-1054-04, Rev A (Sep. 1985) or later to avoid signal contention on the "P2 Memory" bus.

FOR SLOTS 11 AND 12: If any combination of Graphics option boards is installed in slots 10 and 11 and you wish to install a "VME to Multibus Adapter Board" based product, you MUST USE Adapter board subassembly revision 501-1054-04 REV A Sep. 1985) or later to avoid signal contention on the "GP/GB" bus.

& The 501-1154 Xylogics 450 SMD Controller is a valid alternative when it is transferred from another system. The Xylogics 450-based products are not available when ordering new Sun-3/400 Series systems.

1. The maximum number of SMD disk drive controller boards (Xylogics 450 & 451) or (Xylogics 7053 & 451), allowed in a 3/460 system is two.

2. A combination of Xylogics 450 and Xylogics 7053 boards must **not** be used in the 3/460 system.

3
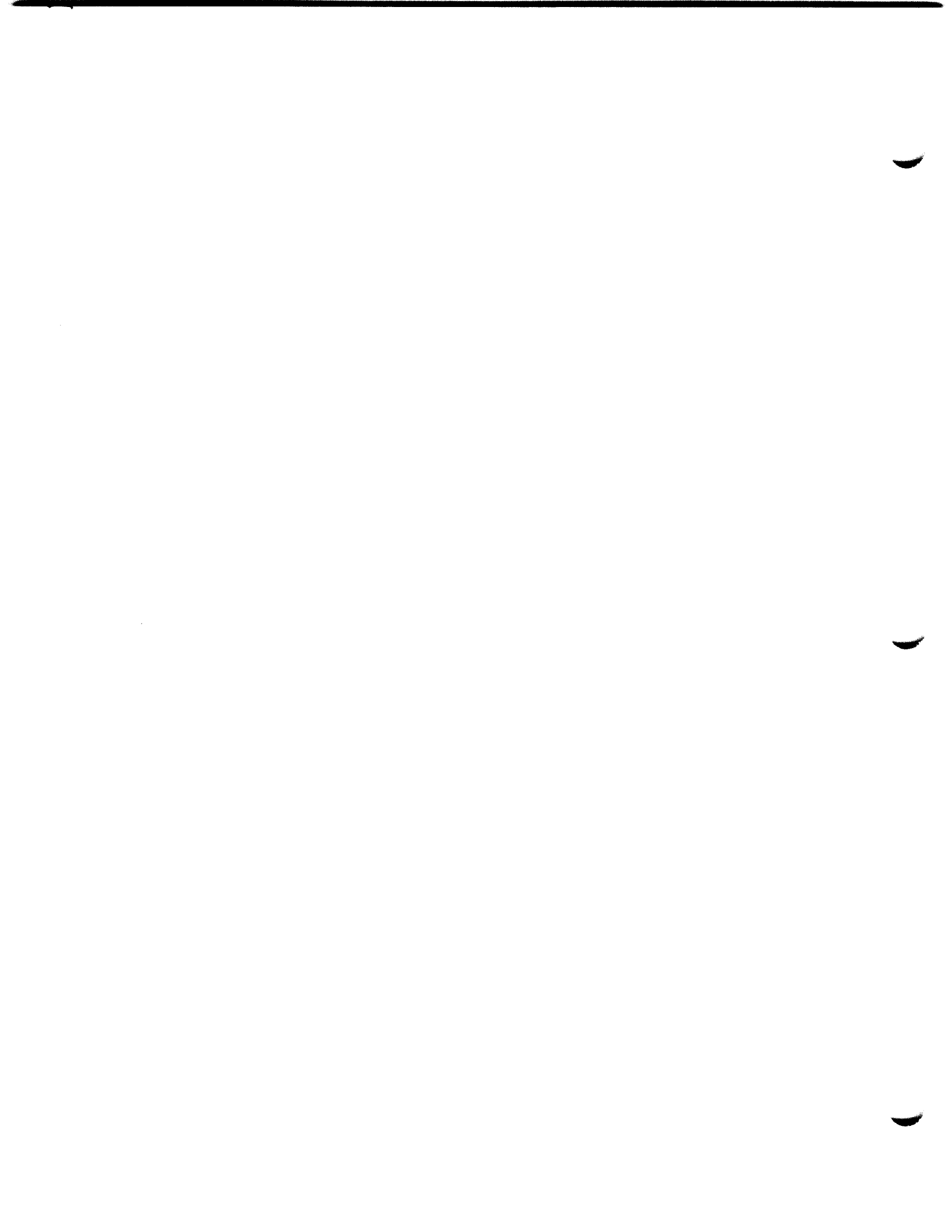
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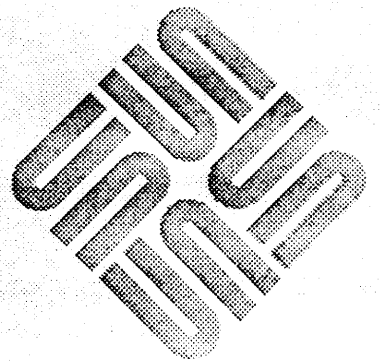
Sun-3/480S

Table 3-1 vertically lists PCB slot priority assignments for the Sun-3/480S in order of descending priority. Horizontal slot designations "A", "B", "C", etc., correspond to the preferred location for the specific board, with "A" being the most preferable location. If the only designation is "A", the board MUST be placed in that slot. Boards must be installed in descending order starting with the CPU board. If the boards are not installed in the proper order, the system may lose performance or functionality.

For further explanation, Appendix B gives a step-by-step example on how to use the slot assignment tables.

1. FOR ALL SLOTS: Install backplane jumpers in locations PX00, PX01 and PX02."X" represents the slot number.

2. TO INSTALL ANY BOARD: Configure backplane jumpers PX03 and PX04 per above table. "X" represents the slot number.

3. TO REMOVE ANY BOARD: Install for the affected slot: backplane jumpers at locations PX03 & PX04, outside filler panel and air flow restricter. P1204 for Slot 12 does not physically exist on the backplane.

4. The Sun 3X2 VME Adapter Boards for the Sun SCSI Controller are not architecture-dependent. They have the following descriptions:

    •   501-1059 Sun-2 3X2 Adapter has P2 bus connections. It is Option 160A in the Sun sales catalogs.

    •   501-1191 Sun-3 3X2 Adapter does not have P2 bus connections. It is Option 160B in the Sun sales catalogs.

Table 3-1   *Sun-3/480S Cardcage Slot Assignments and Backplane Configuration*

BACKPLANE JUMPERS BG3 (P X 0 3)	IACK (P X 0 4)	BOARD NAME	1	Φ 2	# 3	# 4	# 5	6	7	8	9	# 10	# 11	# 12
OUTΦ	OUTΦ	Sun 3400 CPU BoardΦ	A											
IN	IN	1st Sun Memory Board@†						A						
IN	IN	501-1105 Sun FPA∀					A							
IN	IN	2nd Sun Memory Board@†			A									
IN	IN	3rd Sun Memory Board@†				A								
IN	IN	4th Sun Memory Board@†					A							
OUT	OUT	Sun GP †∇										A		
IN	IN	501-1058 Sun GB #											A	
IN	IN	TAAC-1 Ω										A	Ω	Ω
OUT	N/A	1st 501-1165 Sun ALM-1#∞												A
OUT	OUT	2nd 501-1165 Sun ALM-1#∞											A	
OUT	OUT	3rd 501-1165 Sun ALM-1#∞										A		
OUT	OUT	1st 501-1158 Sun SCP*#			A	B	C		D	E	F	G	H	I
OUT	OUT	2nd 501-1158 Sun SCP*#				A	B		C	D	E	F	G	H
OUT	OUT	1st 501-1221 Sun MCP *∞			A	B	C		D	E	F	G	H	I
OUT	OUT	2nd 501-1221 Sun MCP *∞				A	B		C	D	E	F	G	H
OUT	OUT	3rd 501-1221 Sun MCP *∞					A		B	C	D	E	F	G
OUT	OUT	4th 501-1221 Sun MCP *∞							A	B	C	D	E	F
OUT	OUT	1st 501-1203 ALM-2 ∞			A	B	C		D	E	F	G	H	I
OUT	OUT	2nd 501-1203 ALM-2 ∞				A	B		C	D	E	F	G	H
OUT	OUT	3rd 501-1203 ALM-2 ∞					A		B	C	D	E	F	G
OUT	OUT	4th 501-1203 ALM-2 ∞							A	B	C	D	E	F
OUT	OUT	1st 370-1128 SunLink Channel Adapter *∂			A	A B	B		C	C D	E D	E F	G F	G
OUT	OUT	2nd 370-1128 SunLink Channel Adapter *∂							A	A B	C B	C D	E D	E
§	§	1st 501-1202 MAPKIT§*			A	A B	B		C	C D	E D	E F	G F	G
§	§	2nd 501-1202 MAPKIT§*							A	A B	C B	C D	E D	E
OUT	OUT	Sun VME SCSI Ctlr †			A	B	C		D	E	F	G	H	I

Table 3-1   *Sun-3/480S Cardcage Slot Assignments and Backplane Configuration—Continued*

BACKPLANE JUMPERS		BOARD NAME	BACKPLANE SLOT POSITION											
BG3	IACK													
P X 0 3	P X 0 4		1	Φ 2	# 3	# 4	# 5	6	7	8	9	# 1 0	# 1 1	# 1 2
IN	OUT	Sun VME Color †∇@@			A	B	C		D	E	F	G	H	I
OUT	OUT	501-1153 2nd Ethr Ctlr ‡#			A	B	C		D	E	F	G	H	I
IN	OUT	1st Sun IPC*i†			A	B	C		D	E	F	G	H	I
IN	OUT	2nd Sun IPC*†				A	B		C	D	E	F	G	H
IN	OUT	3rd Sun IPC*†					A		B	C	D	E	F	G
IN	OUT	4th Sun IPC*†							A	B	C	D	E	F
OUT	OUT	1st 1/2" Tape Ctlr †#			A	B	C		D	E	F	G	H	I
OUT	OUT	2nd 1/2" Tape Ctlr †#				A	B		C	D	E	F	G	H
OUT	OUT	1st SMD Ctlr#†&			A	B	C		D	E	F	G	H	I
OUT	OUT	2nd SMD Ctlr#†&				A	B		C	D	E	F	G	H
OUT	OUT	3rd SMD Ctrlr#†&					A		B	C	D	E	F	G
OUT	OUT	4th SMD Ctrlr#†&							A	B	C	D	E	F

These notes contains information on the configuration of the backplane and special rules for changing the card slot assignments. The notes refer to the parenthesized symbols such as "†" or "‡", on the slot assignment table 3-1.

Φ The Sun 3400 CPU board occupies two cardcage slots. To install a CPU, do one of the following:

1. Remove any board already residing in slot 2. Jumpers are required in locations P203 and P204 on the backplane.

2. If slot 2 is empty, remove its blank filler panel and air restrictor.
The second cardcage slot is used by the CPU to physically accomodate two classes of options (P4-based and P2 MEZZ-based). Please contact your local sales office for a list of available options. Refer to an option's installation manual for specific connectivity issues.

∀ For systems with two or more ECC Memory Expansion Boards, before installing a post-sale 501-1105 FPA Option into slot 5, move the Memory Board installed in slot 5 to the next open preferred slot, as defined by this slot assignment table.

Ω Since the TAAC-1 consumes three slot spaces, TO INSTALL IT, YOU MUST REMOVE any boards already residing in slots 10, 11, and 12, and install jumpers at locations P1103, P1104, and P1203 on the backplane.

∞   Important Notes about ALM and MCP products:

1. Because of the release of the Sun-ALM-2, references to Sun's previously released product, known only as the ALM, have now been changed. The ALM will now be referred to as the Sun-ALM-1.

2. If you are using the ALM-2 with the MCP or ALM-1, please see Appendix A, *Notes Regarding the ALM-2 and MCP Products*.

∂   **Important Cautions about the SunLink Channel Adapter:**

1. Each Channel Adapter assembly occupies two slots. The **BG3** and **IACK** backplane jumpers *must* be removed for *both* slots.

2. If after selecting a slot for the Channel Adapter assembly an unused slot exists between the CPU (Slot 2) and the Channel Adapter, neither a 1/2 inch Tape Controller nor an SMD Disk Controller may occupy this empty slot. If this advice is not followed, the Channel Adapter's data throughput rate may be affected.

@   FOR SLOT 6: An ECC Memory Board must ALWAYS reside in Slot 6, and it MUST have 220/270Ω Terminating Resistor Network, Sun P/N 120-1613, installed for P2 bus termination at location 34-F for (501-1102) or 54-F for (501-1451).

FOR MEMORY BOARD INSTALLATION IN SLOTS 3, 4, or 5: Remove the Terminating Resistor Network from location 34-F for (501-1102) or 54-F for (501-1451).

*   Consult your Sun sales office concerning software considerations for and availability of this unbundled product.

‡   The "2nd Ethr Ctlr" board is the interface for the second Ethernet network. The interface for the first network resides on the CPU board.

FOR SLOTS 3 THROUGH 5: If you wish to install a "VME-to-Multibus Adapter Board" based product (such as the SCP), you MUST USE adapter board subassembly Revision 501-1054-04, Rev A (Sep. 1985) or later to avoid signal contention on the "P2 Memory" bus.
FOR SLOTS 11 AND 12: If any combination of Graphics option boards is installed in slots 10 and 11 and you wish to install a "VME to Multibus Adapter Board" based product, you MUST USE Adapter board subassembly revision 501-1054-04 REV A (Sep. 1985) or later to avoid signal contention on the "GP/GB" bus.

§   Each MAPKIT option occupies two slots. The "BG3" and "IACK" jumpers on the backplane are OUT for the slot that contains the MAPKIT board that is nearest Slot 1 (far left when facing system rear) and IN for the other slot. One slot between the CPU and the MAPKIT option may be left empty after you have selected the most preferable position for the MAPKIT option. DO NOT install a 1/2" Tape Controller or an SMD Controller in the unused slot; doing so may affect the MAPKIT data throughput rate.

@@
The 501-1014 Sun-2 Color board may be transferred from another system and used in place of the 501-1116 Sun-3 Color board. Note that the Sun-2 Color board is no longer available when ordering new Sun systems.

▽ When installing the 501-1268 Graphics Processor 2 (GP2): The Graphics Processor 2 will not function when the following options are installed.

> 501-1058 Graphics Buffer
> 501-1116 Sun-3 Color Board (CG3)
> 501-1014 Sun-2 Color Board

When installing the 501-1267 CG5 Color Board **with** the 501-1268 Graphics Processor 2 (GP2) installed:

1. The Graphics Processor 2 (GP2) communicates with the CG5 over a private P2 bus which **MUST BE ENABLED** on the CG5 board by a hardware switch setting.   Refer to *Configuration Procedures for the Sun GP2 and CG5 Boards* (813-2059).

2. The CG5 board can only be installed in slots 11(A) and 12(B) where (A) and (B) denote slot priority. (A) denotes the highest priority and (B) denotes the next highest priority.

3. Since the 501-1157 Sun ALM-1 consumes two slot spaces (slots 11 and 12), it cannot be used with the combination of a GP2 option with a CG5 option.

When installing the 501-1267 CG5 Color Board **without** the 501-1650 Graphics Processor 2 (GP2) installed:

1. If you are installing the CG5 board with either the 501-1055 Graphics Processor or the 501-1139 Graphics Processor Plus, the CG5 board MUST BE installed in slots 3-9 only.

2. The CG5 board MUST HAVE its private P2 bus disabled when the 501-1650 Graphics Processor 2 (GP2) **is not** installed. Refer to *Configuration Procedures for the Sun GP2 and CG5 Boards* (813-2059).

▽ When installing the 501-1434 CG9 board with the 501-1268 Graphics Processor 2 (GP2) installed:

1. The Graphics Processor 2 (GP2) communicates with the CG9 over a private P2 bus which **MUST BE ENABLED** on the CG9 board by a hardware switch setting. Refer to the Installation and Configuration Guide for the CG9 Color Frame Buffer, Part Number 800-3627.

2. The CG9 board can only be installed in slots 11 (A) or 12 (B) where A and B denote the slot priority. A denotes the highest priority and B denotes the next highest priority.

† These boards have one of the following descriptions:

501-1102 Sun 8 MB ECC Memory Board
501-1451 Sun 32 MB ECC Memory Board

501-1055 Graphics Processor
501-1268 Graphics Processor Plus
501-1650 Graphics Processor 2

501-1156 CPC 1/2" Tape Ctlr. (1600 BPI)
501-1155 Xylogics 472 1/2" Tape Ctlr. (6250 BPI)

501-1138 Sun-2 SCSI Ctlr.
501-1217 Sun-3 SCSI Ctlr.

501-1154 Xylogics 450 SMD Ctlr.
501-1166 Xylogics 451 SMD Ctlr.
501-1249 Xylogics 7053 SMD Ctlr.

501-1014 Sun-2 Color
501-1116 Sun-3 (CG3) Color
501-1267 Sun CG5 Color

501-1125 Sun IPC (without 80287)
501-1214 Sun IPC (with 80287)

501-1383 TAAC-1
501-1447 TAAC-1

& The 501-1154 Xylogics 450 SMD Controller is a valid alternative when transferred from another system. The Xylogics 450-based products are not available when ordering new Sun-3/400 Series products.

1. When mixing Xylogics 451 and Xylogics 7053 controllers in a 3/480 system, the maximum number of Xylogics 451 controllers is one, and the maximum number of Xylogics 7053 controllers is two.

2. Xylogics 450 (P/N 501-1154) and Xylogics 7053 (P/N 501-1249) controller boards may not be mixed in the same cardcage.

3. The maximum number of Xylogics 450 (P/N 501-1154) and/or Xylogics 451 (P/N 501-1166) disk controller boards in a 3/480 system is two.

4

Sun-3/480S with Reserved Slots

4
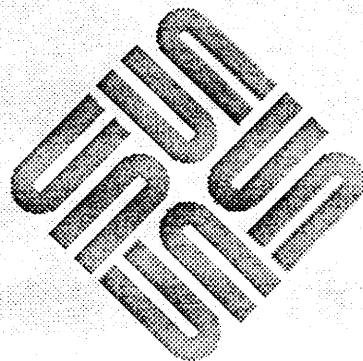
Sun-3/480S with Reserved Slots

NOTE *Table 4-1 reserves slots 7, 8 and 9 for non-Sun boards that use signals on the "P2" bus.*

Table 4-1 vertically lists PCB slot priority assignments for the Sun-3/480S (with reserved slots for non-Sun boards) in order of descending priority. Horizontal slot designations "A", "B", "C", etc., correspond to the preferred location for the specific board, with "A" being the most preferable location. If the only designation is "A", the board MUST be placed in that slot. Boards must be installed in descending order starting with the CPU board. If the boards are not installed in the proper order, the system may lose performance or functionality.

For further explanation, Appendix B gives a step-by-step example on how to use the slot assignment tables.

1. FOR ALL SLOTS: Install backplane jumpers in locations PX00, PX01 and PX02."X" represents the slot number.

2. TO INSTALL ANY BOARD: Configure backplane jumpers PX03 and PX04 per above table. "X" represents the slot number.

3. TO REMOVE ANY BOARD: Install for the affected slot: backplane jumpers at locations PX03 & PX04, outside filler panel and air flow restricter. P1204 for Slot 12 does not physically exist on the backplane.

4. The Sun 3X2 VME Adapter Boards for the Sun SCSI Controller are not architecture-dependent. They have the following descriptions:

   - 501-1059 Sun-2 3X2 Adapter has P2 bus connections. It is Option 160A in the Sun sales catalogs.

   - 501-1191 Sun-3 3X2 Adapter does not have P2 bus connections. It is Option 160B in the Sun sales catalogs.

   See Appendix C for information on SCSI Adapters.

Table 4-1   *Sun-3/480S with Reserved Slots Cardcage Slot Assignments and Backplane Configuration*

| BACKPLANE JUMPERS | | BOARD NAME | BACKPLANE SLOT POSITION | | | | | | | | | | | |
| BG3 | IACK | | | | | | | | | | | | | |
P X 0 3	P X 0 4		1	Φ 2	# 3	# 4	# 5	6	7	8	9	# 1 0	# 1 1	# 1 2
OUTΦ	OUTΦ	Sun 3400CPU BoardΦ	A											
IN	IN	1st Sun Memory Board@†					A							
IN	IN	501-1105 Sun FPA∀					A							
IN	IN	2nd Sun Memory Exp@†		A										
IN	IN	3rd Sun Memory Exp@†				A								
IN	IN	4th Sun Memory Exp@†					A							
OUT	OUT	Sun GP †∀										A		
IN	IN	501-1058 Sun GB #											A	
IN	IN	TAAC-1 Ω†										A	Ω	Ω
OUT	N/A	1st 501-1165 Sun ALM-1#∞												A
OUT	OUT	2nd 501-1165 Sun ALM-1#∞											A	
OUT	OUT	3rd 501-1165 Sun ALM-1#∞										A		
OUT	OUT	1st 501-1158 Sun SCP*#			A	B	C					D	E	F
OUT	OUT	2nd 501-1158 Sun SCP*#				A	B					C	D	E
OUT	OUT	1st 501-1221 Sun MCP *∞			A	B	C					D	E	F
OUT	OUT	2nd 501-1221 Sun MCP *∞				A	B					C	D	E
OUT	OUT	3rd 501-1221 Sun MCP *∞					A					B	C	D
OUT	OUT	4th 501-1221 Sun MCP *∞										A	B	C
OUT	OUT	1st 501-1203 ALM-2 Board ∞			A	B	C					D	E	F
OUT	OUT	2nd 501-1203 ALM-2 Board ∞				A	B					C	D	E
OUT	OUT	3rd 501-1203 ALM-2 Board ∞					A					B	C	D
OUT	OUT	4th 501-1203 ALM-2 Board ∞										A	B	C
OUT	OUT	1st 370-1128 SunLink Channel Adapter *∂			A	A B	B					C	C D	D
OUT	OUT	2nd 370-1128 SunLink Channel Adapter *∂										A	A B	B
§	§	1st 501-1202 MAPKIT§*			A	A B	B					C	C D	D
§	§	2nd 501-1202 MAPKIT§*										A	A B	B

Table 4-1   *Sun-3/480S with Reserved Slots Cardcage Slot Assignments and Backplane Configuration*

| BACKPLANE JUMPERS | | BOARD NAME | BACKPLANE SLOT POSITION | | | | | | | | | | | |
| BG3 | IACK | | | | | | | | | | | | | |
P X 0 3	P X 0 4		1	Φ 2	# 3	# 4	# 5	6	7	8	9	# 10	# 11	# 12
OUT	OUT	VME SCSI Ctlr†			A	B	C					D	E	F
IN	OUT	Sun VME Color †V@@			A	B	C					D	E	F
OUT	OUT	501-1153 2nd Ethr Ctlr ‡#			A	B	C					D	E	F
IN	OUT	1st Sun IPC*†			A	B	C					D	E	F
IN	OUT	2nd Sun IPC*†				A	B					C	D	E
IN	OUT	3rd Sun IPC*†					A					B	C	D
IN	OUT	4th Sun IPC*†										A	B	C
OUT	OUT	1st 1/2" Tape Ctlr†#			A	B	C					D	E	F
OUT	OUT	2nd 1/2" Tape Ctlr†#				A	B					C	D	E
OUT	OUT	1st SMD Ctlr#†&			A	B	C					D	E	F
OUT	OUT	2nd SMD Ctlr#†&				A	B					C	D	E
OUT	OUT	3rd SMD Ctrlr#†&					A					B	C	D
OUT	OUT	4th SMD Ctrlr#†&										A	B	C
		P4, FPA+		A										

These notes contains information on the configuration of the backplane and special rules for changing the card slot assignments. The notes refer to the parenthesized symbols such as "†" or "‡", on the slot assignment table 4-1. **Slots 7, 8 and 9 are reserved for non-Sun boards that have "P2" bus signals.**

Φ   The Sun 3400 CPU board occupies two cardcage slots. To install a CPU do one of the following:

1.   Remove any board already residing in slot 2. Jumpers are required in locations P203 and P204 on the backplane.

2.   If slot 2 is empty, remove its blank filler panel and air restrictor.
The second cardcage slot is used by the CPU to physically accomodate two classes of options (P4-based and P2 MEZZ-based). Please contact your local sales office for a list of available options. Refer to an option's installation manual for specific connectivity issues.

∀   For systems with two or more ECC Memory Expansion Boards, before installing a post-sale 501-1446 FPA Option into slot 5, move the Memory Board installed in slot 5 to the next open preferred slot, as defined by this slot assignment table.

Ω   Since the 501-1383 TAAC-1 consumes three slot spaces, TO INSTALL IT, YOU MUST REMOVE any boards already residing in slots 10, 11, and 12, and install jumpers at locations P1103, P1104, and P1203 on the backplane.

∞   **Important Notes about ALM and MCP products:**

1. Because of the release of the Sun-ALM-2, references to Sun's previously released product, known only as the ALM, have now been changed. The ALM will now be referred to as the Sun-ALM-1.

2. If you are using the ALM-2 with the MCP or ALM-1, please see Appendix A, *Notes Regarding the ALM-2 and MCP Products*.

∂   **Important Cautions about the SunLink Channel Adapter:**

1. Each Channel Adapter assembly occupies two slots. The **BG3** and **IACK** backplane jumpers *must* be removed for *both* slots.

2. If after selecting a slot for the Channel Adapter assembly an unused slot exists between the CPU (Slot 2) and the Channel Adapter, neither a 1/2 inch Tape Controller nor an SMD Disk Controller may occupy this empty slot. If this advice is not followed, the Channel Adapter's data throughput rate may be affected.

@   FOR SLOT 6: An ECC Memory Board must ALWAYS reside in Slot 6, and it MUST have 220/270Ω Terminating Resistor Network, Sun P/N 120-1613, installed for P2 bus termination at location 34-F for (501-1102) or 54-F for (501-1451).

FOR MEMORY BOARD INSTALLATION IN SLOTS 3, 4, or 5: Remove the Terminating Resistor Network from location 34-F for (501-1102) or 54-F for (501-1451).

*   Consult your Sun sales office concerning software considerations for and availability of this unbundled product.

‡   The "2nd Ethr Ctlr" board is the interface for the second Ethernet network. The interface for the first network resides on the CPU board.

FOR SLOTS 3 THROUGH 5: If you wish to install a "VME-to-Multibus Adapter Board" based product (such as the SCP), you MUST USE adapter board subassembly Revision 501-1054-04, Rev A (Sep. 1985) or later to avoid signal contention on the "P2 Memory" bus.
FOR SLOTS 11 AND 12: If any combination of Graphics option boards is installed in slots 10 and 11 and you wish to install a "VME to Multibus Adapter Board" based product, you MUST USE Adapter board subassembly revision 501-1054-04 REV A (Sep. 1985) or later to avoid signal contention on the "GP/GB" bus.

§   Each MAPKIT option occupies two slots. The "BG3" and "IACK" jumpers on the backplane are OUT for the slot that contains the MAPKIT board nearest Slot 1. The jumpers are IN for the other slot. One slot between the CPU and the MAPKIT option may be left empty after you have selected the most preferable position for the MAPKIT option. DO NOT install a 1/2" Tape

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Controller or an SMD Controller in the unused slot; doing so may affect the MAPKIT data throughput rate.

@@

The 501-1014 Sun-2 Color board may be transferred from another system and used in place of the 501-1116 Sun-3 Color board. Note that the Sun-2 Color board is no longer available when ordering new Sun systems.

& The 501-1154 Xylogics 450 SMD Controller is a valid alternative when transferred from another system. The Xylogics 450-based products are not available when ordering new Sun-3/400 Series products.

1. When mixing Xylogics 451 and Xylogics 7053 controllers in a 3/460 system, the maximum number of Xylogics 451 controllers is one, and the maximum number of Xylogics 7053 controllers is two.

2. Xylogics 450 (P/N 501-1154) and Xylogics 7053 (P/N 501-1249) controller boards may **not** be mixed in the same cardcage.

3. The maximum number of Xylogics 450 (P/N 501-1154) and/or Xylogics 451 (P/N 501-1166) disk controller boards usable in a 3/480 system is two.

∇ When installing the 501-1268 Graphics Processor 2 (GP2): The Graphics Processor 2 will not function when the following options are installed.

      501-1058 Graphics Buffer
      501-1116 Sun-3 Color Board (CG3)
      501-1014 Sun-2 Color Board

When installing the 501-1267 CG5 Color Board **with** the 501-1268 Graphics Processor 2 (GP2) installed:

1. The Graphics Processor 2 (GP2) communicates with the CG5 over a private P2 bus which MUST BE ENABLED on the CG5 board by a hardware switch setting. Refer to *Configuration Procedures for the Sun GP2 and CG5 Boards* (813-2059-XX).

2. The CG5 board can only be installed in slots 11(A) and 12(B) where (A) and (B) denote slot priority. (A) denotes the highest priority and (B) denotes the next highest priority.

3. Since the 501-1157 Sun ALM-1 consumes two slot spaces (slots 11 and 12), it cannot be used with the combination of a GP2 option with a CG5 option.

When installing the 501-1267 CG5 Color Board **without** the 501-1268 Graphics Processor 2 (GP2) installed:

1. If you are installing the CG5 board with either the 501-1055 Graphics Processor or the 501-1139 Graphics Processor Plus, the CG5 board MUST BE installed in slots 3-9 only.

2. The CG5 board MUST HAVE its private P2 bus disabled when the 501-1650 Graphics Processor 2 (GP2) is **not** installed. Refer to

Configuration Procedures for the Sun GP2 and CG5 Boards (813-2059).

∇   When installing the 501-1434 CG9 board with the 501-1268 Graphics Processor 2 (GP2) installed:

1. The Graphics Processor 2 (GP2) communicates with the CG9 over a private P2 bus which **MUST BE ENABLED** on the CG9 board by a hardware switch setting. Refer to the Installation and Configuration Guide for the CG9 Color Frame Buffer, Part Number 800-3627.

2. The CG9 board can only be installed in slots 11 (A) or 12 (B) where A and B denote the slot priority. A denotes the highest priority and B denotes the next highest priority.

†   These boards have one of the following descriptions:

        501-1102 Sun 8 MB ECC Memory Board
        501-1451 Sun 32 MB ECC Memory Board

        501-1055 Graphics Processor
        501-1139 Graphics Processor Plus
        501-1268 Graphics Processor 2

        501-1156 CPC 1/2" Tape Ctlr. (1600 BPI)
        501-1155 Xylogics 472 1/2" Tape Ctlr. (6250 BPI)
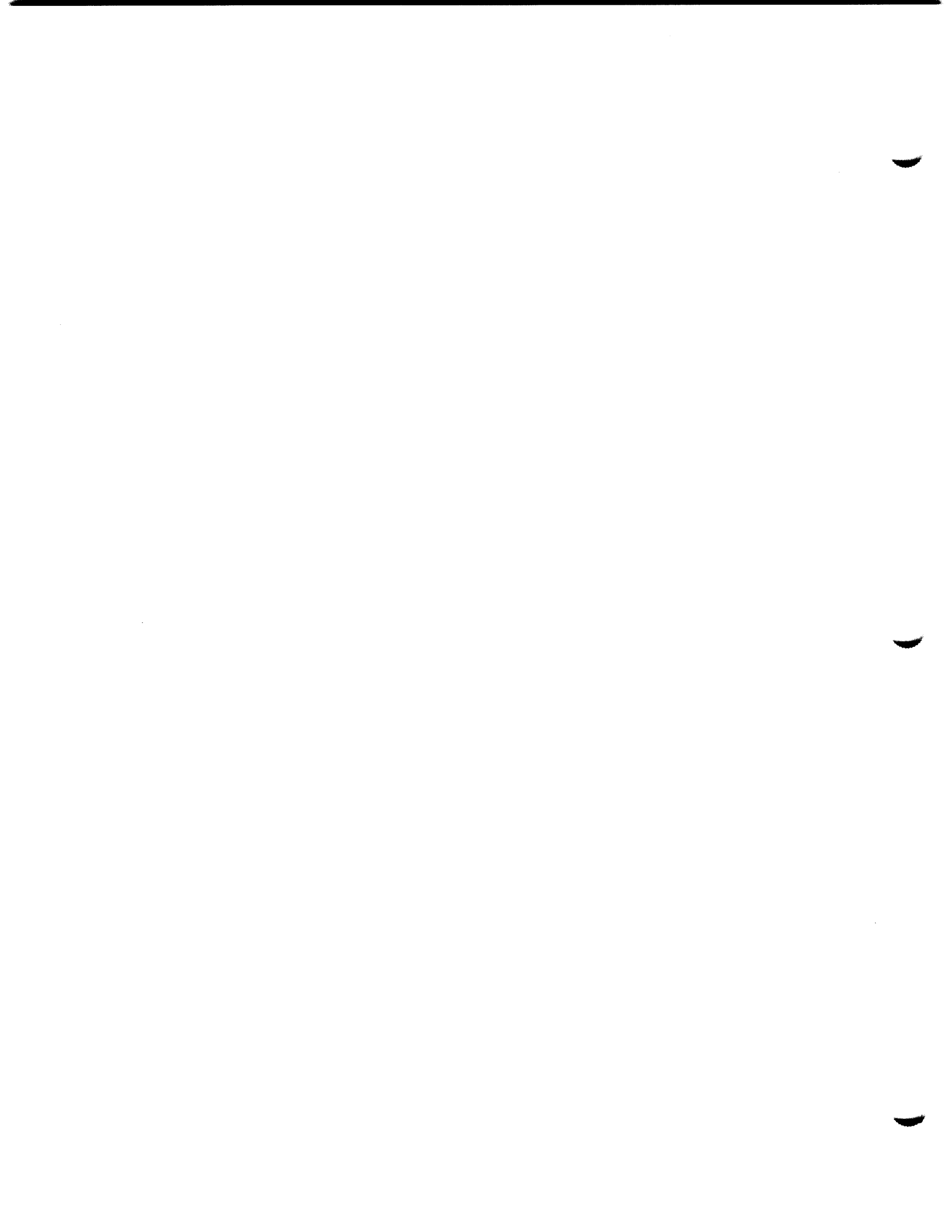
        501-1138 Sun-2 SCSI Ctlr.
        501-1217 Sun-3 SCSI Ctlr.

        501-1154 Xylogics 450 SMD Ctlr.
        501-1166 Xylogics 451 SMD Ctlr.
        501-1249 Xylogics 7053 SMD Ctlr.

        501-1014 Sun-2 Color
        501-1116 Sun-3 (CG3) Color
        501-1267 Sun CG5 Color

        501-1125 Sun IPC (without 80287)
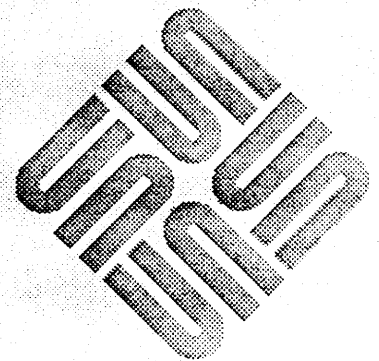   501-1214 Sun IPC (with 80287)
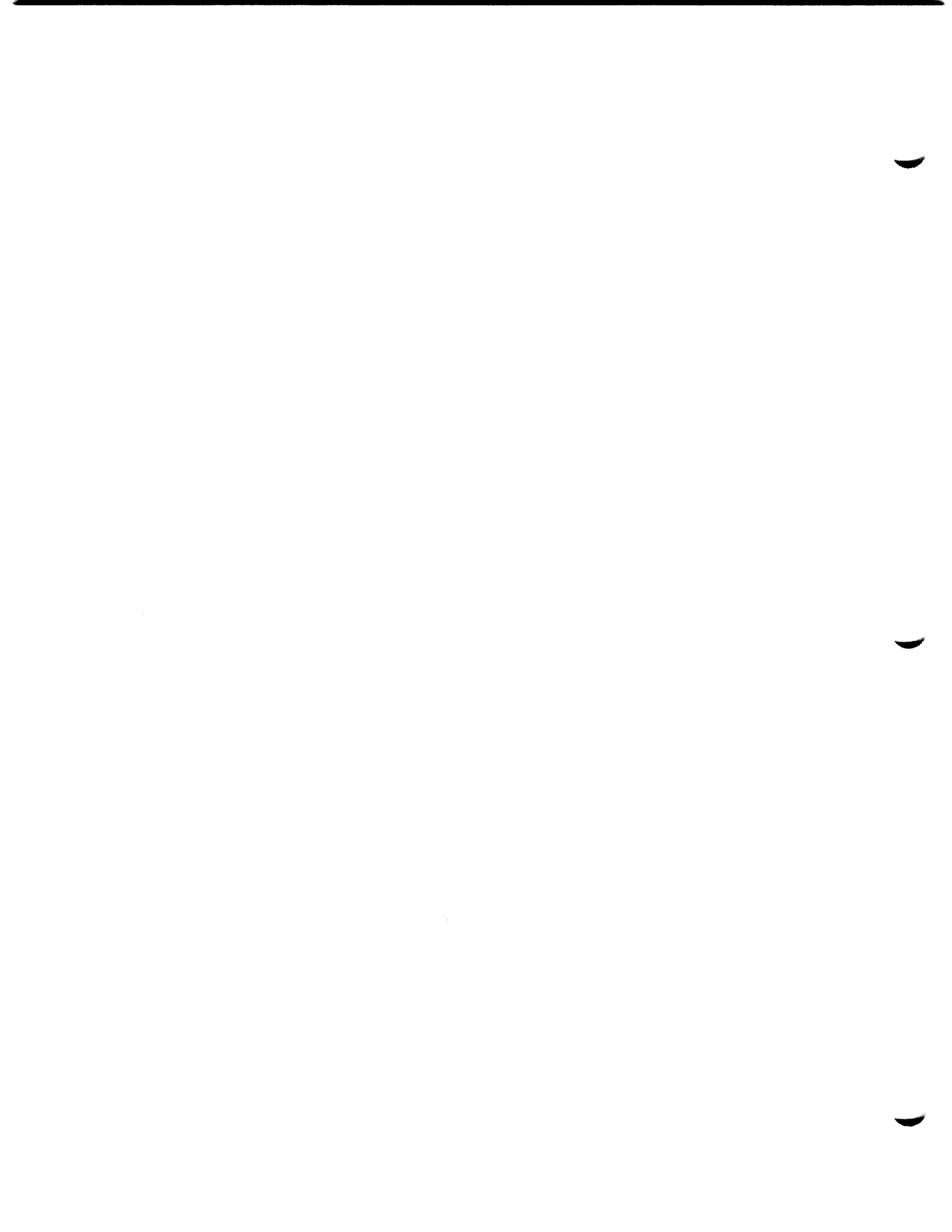
        501-1383 TAAC-1
        501-1447 TAAC-1

A

Notes Regarding the ALM-2 and MCP Products

Notes Regarding the ALM-2 and MCP Products

A.1. Caution - Using the ALM-2 with the MCP or ALM-1

The ALM-2 shares VME vector interrupt assignments with the ALM-1 and the MCP. The ALM-2 also shares VME address space with the MCP. Because of these possible conflicts, and a possible physical space restriction in the pedestal, the following rules must be applied when installing an ALM-2 into a system that also contains MCPs and ALM-1s.

Physical Space Restriction Rule

If three ALM-1s (with their associated mux boxes) are already installed into the rear of the pedestal, there will be no room to mount the ALM-2's Device Connector Assembly (DCA). If this is the case in your installation, there are instructions in the Installation Manual for mounting the ALM-2's DCA to the floor or wall. This *is* permitted.

VME Vector Interrupt Conflict

The ALM-2 and the MCP share the *exact same* vector interrupt assignments. The ALM-1 has vector interrupt assignments that are in *conflict* with the ALM-2 (and the MCP). The following Table shows the assignments and illustrates the possible conflict.

A.2. Vector Interrupt Table

Table A-1   *ALM-2 MCP and ALM-1 Vector Interrupt Assignments*

ALM-2 MCP and ALM-1 Vector Interrupt Assignments			
Installed Board	Device Entry Number	VME Vector Interrupt Assignment (Hexadecimal)	
		ALM-1	ALM-2 and MCP
1st Board	Ø	88	8b
2nd Board	1	89	8a
3rd Board	2	8a	89
4th Board	3	8b	88

As you can see from the Table, the vector interrupt assignments of the ALM-1 and ALM-2 are in the exact opposite order, and the vector interrupt assignments of the

ALM-2 and the MCP are the same. This makes the following rules necessary.

Rule One

No more than four ALM-1, ALM-2 or MCP boards *altogether* may be installed in a single cardcage. This *does not* mean four of each kind, it means four boards *total*.

If you look at the preceding Table closely, you will see that if more than four boards were installed, two of the boards would have identical vector interrupt assignments. This will cause duplication errors of assigned vector interrupts.

Rule Two

When installing the Sun ALM-2 or MCP, the boards *must* be installed in proper address order. There are four VME board address positions available that can accommodate either the Sun ALM-2 or MCP board. Therefore, one address position can only accommodate one board type, and any MCP or ALM-2 must be installed in the proper board device sequence:

1st board (MCP or ALM-2)	Device Ø
2nd board (MCP or ALM-2)	Device 1
3rd board (MCP or ALM-2)	Device 2
4th board (MCP or ALM-2)	Device 3

NOTE   *Refer to the specific ALM-2 or MCP Configuration Procedure for information on board device addressing.*

For example, if you had two MCP boards already installed (1st and 2nd Sun MCP boards) and you then wanted to install two Sun ALM-2 boards, you would need to configure and install the two ALM-2 boards as the 3rd and 4th ALM-2 boards respectively. This address order is exclusive of the Sun ALM-1 board addressing. This rule also applies if MCP boards are to be added to a system already containing ALM-2 boards.

NOTE   *For information on ALM-1 board addressing, refer to the* ALM-1 Configuration Procedure (Sun P/N 813-2008) *for information on setting/verifying the ALM-1 board address.*

Rule Three

When installing the Sun ALM-1, it must be installed in the proper sequential board address order: with the first board installed as the 1st Sun ALM-1 and so forth. For Deskside systems that support the ALM-1, only one ALM-1 board can co-reside with the MCP and/or ALM-2 boards. The address order for the ALM-1 is exclusive of the Sun ALM-2 or MCP addressing.

It is necessary to refer to the next subsection, *VME Address Conflict*, to understand the sharing of VME address space of the ALM-2 and MCP boards and determine their correct cardcage slot assignment. The ALM-1 does not share VME address space with the ALM-2 or MCP; therefore, its slot assignment is independent of the ALM-2 or MCP.

VME Address Conflict

The ALM-2 and MCP boards occupy the identical VME address space as well as interrupt vectors, and both are known to the CPU as mcp*x* (where *x* is a number Ø through 3). So, for example, if two MCP boards are already present in the card-cage and you wish to add an ALM-2, the ALM-2 would be designated as mcp2 in the VME addressing (with the two MCP boards being designated mcpØ and mcp1 respectively).
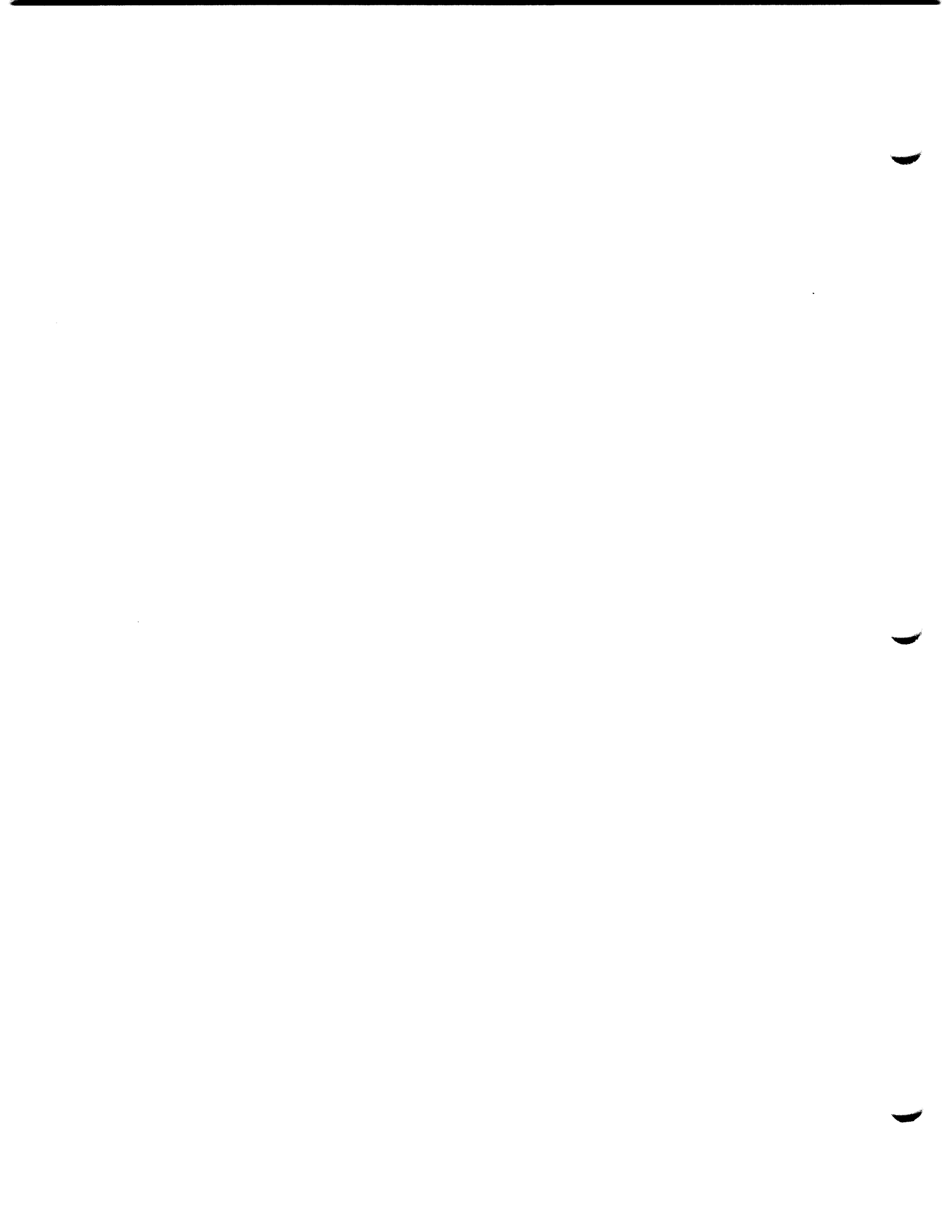
Rule 4

The ALM-2 and MCP must not be installed using identical VME addresses (board device numbers).

The ALM-2 board number (VME Address) is hardware selected on the board. If necessary, refer to the ALM-2 Configuration Procedure (Sun P/N 813-2042-XX) for information on setting/verifying the ALM-2 board address (board *address* selection is identical for the MCP).

Deskside System Restrictions

Rule Five

For Deskside systems that support the ALM-1, only one ALM-1 board may co-reside in the Deskside cardcage with ALM-2 and MCP boards.

B

How to Read the Cardcage Slot Assignment and Backplane Configuration Tables

B

How to Read the Cardcage Slot Assignment and Backplane Configuration Tables

Table B-1   *Generic Cardcage Table*

BACKPLANE JUMPERS		BOARD NAME	BACKPLANE SLOT POSITION					
BG3	IACK		1	# 2	# 3	# 4	# 5	# 6
P X 0 3	P X 0 4							
OUT	OUT	CPU Board	A					
IN	IN	1st Memory Expansion Board		A				
IN	IN	FPA Board				A		
IN	IN	2nd Memory Expansion Board			A			
IN	IN	3rd Memory Expansion Board				A		
OUT	OUT	Graphics Processor					A	
IN	IN	Graphics Buffer						A
OUT	OUT	VME SCSI Ctlr		A	B	C	D	E
IN	OUT	VME Color		A	B	C	D	E
OUT	OUT	2nd Ethernet Ctlr		A	B	C	D	E

This table is for illustration purposes only. It should not be used to place boards in any Sun systems you might have.

This example table shows that these particular ten products have been qualified by Sun as possible entries into this hypothetical six-slot cardcage. The products are listed in a vertical column *in the order that they must be inserted into the cardcage.*

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B.1. Example Board Placement

Suppose you have the following six boards to be inserted into this six-slot card-cage:

> CPU board
> SCSI board
> 2 Memory Expansion boards
> Floating Point Accelerator (FPA) board
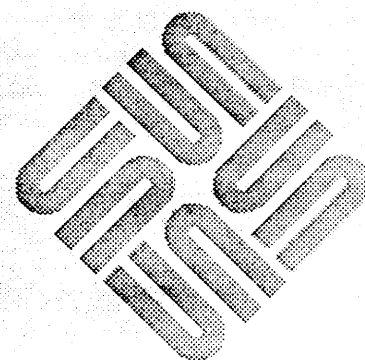> 2nd Ethernet Controller board

Compare the boards you have with the boards listed in the *Generic Cardcage Table*. The boards will be assigned in the vertical order that they occur in the table. If they are not placed in the given descending order, the system may lose performance or functionality.

First

CPU board in slot 1: The letter A in slot 1 indicates that the only position for the CPU is in slot 1.

Second

1st memory board in slot 2: The letter A in slot 2 indicates that the only position for the 1st memory board is in slot 2.

Third

FPA in slot 4: The FPA is the next item in the table, so it must be placed before the 2nd memory board. The FPA must be placed in slot 4. Note that if you had a 3rd memory board and an FPA, then you would have placed the FPA in slot 4 only to discover that the 3rd memory board should also be placed in slot 4. According to the rules of precedence, since the 3rd memory board is listed two places lower on the table than the FPA, you cannot have a 3rd memory board when you also have the FPA.

Fourth

The 2nd memory board in slot 3: The letter A in slot 3 indicates that the only position for the 2nd memory board is in slot 3.

Fifth

SCSI controller in slot 5: Whenever there is a choice, in this case slots 2 through 5, you must see which slots you have already filled. Slots 5 and 6 are left, but the letter D in slot 5 has a higher priority than letter E, so the board is placed in slot 5.

Sixth

2nd ethernet in slot 6: The 2nd ethernet is the lowest on the list of the products used in this example, so it is placed in the last slot available in the cardcage, represented by letter E in the table.

C

SCSI Adapter Information

SCSI Adapter Information

C.1. Correct Identification of Adapters

Use the following notes and tables to determine if you are using the correct adapter assembly configuration.

1. The 501-1167 Sun-2 SCSI Adapter Assembly has "P2" bus connections and an external cable assembly. The Sun-3 SCSI controller is not supported in this adapter assembly. The Sun-2 adapter configuration is **only** for use in Sun-3/180/280 and Sun-4/280 systems. The only supported connection to this controller is the logic enclosure's integral ¼ tape drive.

   Using the Sun-2 SCSI adapter configuration in any other system package violates the SCSI bus specification. Sun Microsystems does **not** support such configurations.

2. The 501-1217 SCSI Assembly will not function with the internal SCSI sub-system 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.

3. The 501-1138 SCSI Assembly will not function with the internal SCSI sub-system 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 501-1138 assembly.

   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".

   The following tables supply specific information regarding usage of SCSI boards in various Sun products.

Table C-1   *Sun 3x2 Adapter Assemblies*

Option #	Assy #	Adapter #	P2 A&C	SCSI Bus
160A	501-1269	500-1059	yes	internal
160B	501-1191	500-1220	no	internal
160B	501-1191	500-1437	no	internal

Table C-2   *Sun 3x2 Adapter Assemblies With SCSI Host Adapter*

Assy #	Adapter #	P2 A&C	SCSI Host	SCSI Bus
501-1167	500-1059	yes	501-1045	external
501-1149	500-1059	yes	501-1045	internal
501-1138	500-1220	no	501-1045	external
501-1170	500-1059	yes	501-1236	internal
501-1217	500-1220	no	501-1236	external

Table C-3   *Sun Memory Boards With SCSI Host Adapter*

OAssy #	Memory Board #	Description	SCSI Host
501-1172	501-1121	3/75 0mb	501-1045
501-1147	501-1079	2/50 0mb	501-1045

Table C-4   *Sun 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

Revision History

Revision	Date	Comments
50-03	3 February 1989	Beta Review Draft
A-10	27 April 1989	Release to production.
A-11	03 May 1989	Release to Production

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