



Sun Enterprise™ 10000 I/O Area Installation and Configuration Guide

*For Sun StorEdge™ UniPack Boot Subsystem, Sun StorEdge
D1000 Disk Trays, Dual AC Sequencers, Internal Hubs,
RSM™ Tray, Netra™ T1 or Sun Fire™ V120 SSPs,
Sun StorEdge S1 Disk Array, and Document Bag or Tray*

Sun Microsystems, Inc.
4150 Network Circle
Santa Clara, CA 95054
650-960-1300

Part No. 805-7190-15
May 2003, Revision A

Send comments about this document to: <http://www.sun.com/hwdocs/feedback>

Copyright 2003 Sun Microsystems, Inc., 4150 Network Circle, Santa Clara, CA 95054 USA. All rights reserved.

This product or document is protected by copyright and distributed under licenses restricting its use, copying, distribution, and decompilation. No part of this product or document may be reproduced in any form by any means without prior written authorization of Sun and its licensors, if any. Third-party software, including font technology, is copyrighted and licensed from Sun suppliers.

Parts of the product may be derived from Berkeley BSD systems, licensed from the University of California. UNIX is a registered trademark in the U.S. and other countries, exclusively licensed through X/Open Company, Ltd. For Netscape Communicator™, the following notice applies: Copyright 1995 Netscape Communications Corporation. All rights reserved.

Sun, Sun Microsystems, the Sun logo, AnswerBook2, docs.sun.com, Sun Enterprise, Sun Fire, OpenBoot, Sun VTS, and Solaris are trademarks, registered trademarks, or service marks of Sun Microsystems, Inc. in the U.S. and other countries. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. in the U.S. and other countries. Products bearing SPARC trademarks are based upon an architecture developed by Sun Microsystems, Inc.

The OPEN LOOK and Sun™ Graphical User Interface was developed by Sun Microsystems, Inc. for its users and licensees. Sun acknowledges the pioneering efforts of Xerox in researching and developing the concept of visual or graphical user interfaces for the computer industry. Sun holds a non-exclusive license from Xerox to the Xerox Graphical User Interface, which license also covers Sun's licensees who implement OPEN LOOK GUIs and otherwise comply with Sun's written license agreements.

U.S. Government Rights-Commercial use. Government users are subject to the Sun Microsystems, Inc. standard license agreement and applicable provisions of the FAR and its supplements.

DOCUMENTATION IS PROVIDED "AS IS" AND ALL EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS AND WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT, ARE DISCLAIMED, EXCEPT TO THE EXTENT THAT SUCH DISCLAIMERS ARE HELD TO BE LEGALLY INVALID.

Copyright 2003 Sun Microsystems, Inc., 4150 Network Circle, Santa Clara, CA 95054 Etats-Unis. Tous droits réservés.

Ce produit ou document est protégé par un copyright et distribué avec des licences qui en restreignent l'utilisation, la copie, la distribution, et la décompilation. Aucune partie de ce produit ou document ne peut être reproduite sous aucune forme, par quelque moyen que ce soit, sans l'autorisation préalable et écrite de Sun et de ses bailleurs de licence, s'il y en a. Le logiciel détenu par des tiers, et qui comprend la technologie relative aux polices de caractères, est protégé par un copyright et licencié par des fournisseurs de Sun.

Des parties de ce produit pourront être dérivées des systèmes Berkeley BSD licenciés par l'Université de Californie. UNIX est une marque déposée aux Etats-Unis et dans d'autres pays et licenciée exclusivement par X/Open Company, Ltd. La notice suivante est applicable à Netscape Communicator™: Copyright 1995 Netscape Communications Corporation. Tous droits réservés.

Sun, Sun Microsystems, the Sun logo, AnswerBook2, docs.sun.com, Sun Enterprise, Sun Fire, OpenBoot, Sun VTS, et Solaris sont des marques de fabrique ou des marques déposées, ou marques de service, de Sun Microsystems, Inc. aux Etats-Unis et dans d'autres pays. Toutes les marques SPARC sont utilisées sous licence et sont des marques de fabrique ou des marques déposées de SPARC International, Inc. aux Etats-Unis et dans d'autres pays. Les produits portant les marques SPARC sont basés sur une architecture développée par Sun Microsystems, Inc.

L'interface d'utilisation graphique OPEN LOOK et Sun™ a été développée par Sun Microsystems, Inc. pour ses utilisateurs et licenciés. Sun reconnaît les efforts de pionniers de Xerox pour la recherche et le développement du concept des interfaces d'utilisation visuelle ou graphique pour l'industrie de l'informatique. Sun détient une licence non exclusive de Xerox sur l'interface d'utilisation graphique Xerox, cette licence couvrant également les licenciés de Sun qui mettent en place l'interface d'utilisation graphique OPEN LOOK et qui en outre se conforment aux licences écrites de Sun.

CETTE PUBLICATION EST FOURNIE "EN L'ETAT" ET AUCUNE GARANTIE, EXPRESSE OU IMPLICITE, N'EST ACCORDEE, Y COMPRIS DES GARANTIES CONCERNANT LA VALEUR MARCHANDE, L'APTITUDE DE LA PUBLICATION A REpondre A UNE UTILISATION PARTICULIERE, OU LE FAIT QU'ELLE NE SOIT PAS CONTREFAISANTE DE PRODUIT DE TIERS. CE DENI DE GARANTIE NE S'APPLIQUERAIT PAS, DANS LA MESURE OU IL SERAIT TENU JURIDIQUEMENT NUL ET NON AVENU.



Please
Recycle



Adobe PostScript

Sun Enterprise 10000 SSP Attributions:

This software is copyrighted by the Regents of the University of California, Sun Microsystems, Inc., and other parties. The following terms apply to all files associated with the software unless explicitly disclaimed in individual files.

The authors hereby grant permission to use, copy, modify, distribute, and license this software and its documentation for any purpose, provided that existing copyright notices are retained in all copies and that this notice is included verbatim in any distributions. No written agreement, license, or royalty fee is required for any of the authorized uses. Modifications to this software may be copyrighted by their authors and need not follow the licensing terms described here, provided that the new terms are clearly indicated on the first page of each file where they apply.

IN NO EVENT SHALL THE AUTHORS OR DISTRIBUTORS BE LIABLE TO ANY PARTY FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OF THIS SOFTWARE, ITS DOCUMENTATION, OR ANY DERIVATIVES THEREOF, EVEN IF THE AUTHORS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

THE AUTHORS AND DISTRIBUTORS SPECIFICALLY DISCLAIM ANY WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT. THIS SOFTWARE IS PROVIDED ON AN "AS IS" BASIS, AND THE AUTHORS AND DISTRIBUTORS HAVE NO OBLIGATION TO PROVIDE MAINTENANCE, SUPPORT, UPDATES, ENHANCEMENTS, OR MODIFICATIONS.

RESTRICTED RIGHTS: Use, duplication or disclosure by the government is subject to the restrictions as set forth in subparagraph (c) (1) (ii) of the Rights in Technical Data and Computer Software Clause as DFARS 252.227-7013 and FAR 52.227-19.

This is scotty, a simple tcl interpreter with some special commands to get information about TCP/IP networks. Copyright (c) 1993, 1994, 1995, J. Schoenwaelder, TU Braunschweig, Germany, Institute for Operating Systems and Computer Networks. Permission to use, copy, modify, and distribute this software and its documentation for any purpose and without fee is hereby granted, provided that this copyright notice appears in all copies. The University of Braunschweig makes no representations about the suitability of this software for any purpose. It is provided as is" without express or implied warranty.

Contents

Contents v

Figures vii

Tables ix

Preface xi

Using UNIX Commands xi

Typographic Conventions xii

Accessing Sun Documentation Online xii

Sun Welcomes Your Comments xii

1. Configurations 1-1

1.1 Identifying the Components 1-3

1.2 Labeling the Components 1-4

1.3 Rackmount Holes 1-5

1.4 Configuration 1, 2, or 3: Up to Two Disk Trays, RSM Tray 1-6

1.5 Configuration 4, 5, 6, and 7: Up to Four UniPack Trays 1-8

1.6 Configuration 8: One Disk Tray, Up to Two UniPack Trays 1-12

1.7 Configuration 9: One RSM Tray, Up to Two UniPack Trays 1-15

1.8 Configuration 10: Up to Two Disk Trays, One UniPack Tray, Two Netra T1 or Sun Fire V120 SSPs 1-18

- 1.9 Configuration 11: Two Netra T1 or Sun Fire V120 SSPs and up to Four UniPack Trays 1-21
- 1.10 Configuration 12: Two Netra T1 or Sun Fire V120 SSPs and up to Ten S1s 1-25
- 1.11 Configuration 13: Up to Fourteen S1s 1-30

- 2. UniPack Boot Subsystem 2-1**
 - 2.1 Installing the Rails 2-1
 - 2.2 Installing the Tray 2-2

- 3. AC Sequencer 3-1**
 - 3.1 Installing an AC Sequencer 3-1
 - 3.2 Configuring Remote Control 3-2

- 4. Document Bag 4-1**
 - 4.1 Removing the Document Tray 4-1
 - 4.2 Installing the Document Bag 4-2

- 5. Internal Hubs 5-1**
 - 5.1 Network Connections 5-2
 - 5.2 Domain Setup Information 5-6

Figures

FIGURE 1-1	Numbering Internal Components	1-3
FIGURE 1-2	Cable Label Examples	1-4
FIGURE 1-3	Cable Label Usage	1-4
FIGURE 1-4	I/O Area Mounting Holes	1-5
FIGURE 2-1	UniPack Rail Installation	2-2
FIGURE 2-2	UniPack Tray Installation	2-3
FIGURE 2-3	UniPack Disk Placement	2-4
FIGURE 2-4	Securing the UniPack Disk	2-4
FIGURE 4-1	Document Bag Mounting Brackets	4-2
FIGURE 4-2	Assembling the Document Bag and Mounting Brackets	4-2
FIGURE 4-3	Mounting the Document Bag Assembly	4-3
FIGURE 4-4	Final Document Bag Location	4-3
FIGURE 5-1	Network Configuration—Base Case	5-3
FIGURE 5-2	Network Configuration With Redundant Control Boards	5-4
FIGURE 5-3	Network Configuration With Redundant Control Board and a Spare SSP	5-5

Tables

TABLE 1-1	Configurations	1-2
TABLE 1-2	Configuration 1, 2, or 3 Component Locations	1-6
TABLE 1-3	Configuration 1, 2, or 3 Power Cabling	1-7
TABLE 1-4	Remote Power Control	1-8
TABLE 1-5	Configuration 4, 5, 6, or 7 Component Locations	1-9
TABLE 1-6	UniPack Tray Locations	1-9
TABLE 1-7	Configuration 4, 5, 6, or 7 Power Cabling	1-10
TABLE 1-8	Remote Power Control	1-11
TABLE 1-9	Configuration 8 Component Locations	1-12
TABLE 1-10	Configuration 8 Power Cabling	1-13
TABLE 1-11	Remote Power Control	1-14
TABLE 1-12	Configuration 9 Component Locations	1-15
TABLE 1-13	Configuration 9 Power Cabling	1-16
TABLE 1-14	Remote Power Control	1-17
TABLE 1-15	Configuration 10 Component Locations	1-19
TABLE 1-16	Configuration 10 Power Cabling	1-19
TABLE 1-17	Remote Power Control	1-20
TABLE 1-18	Configuration 11 Component Locations	1-21
TABLE 1-19	Configuration 11 UniPack Tray Locations	1-22

TABLE 1-20	Configuration 11 Power Cabling	1-23
TABLE 1-21	Remote Power Control	1-24
TABLE 1-22	Configuration 12 Component Locations	1-25
TABLE 1-23	Configuration 12 S1 Mounting Locations	1-27
TABLE 1-24	Configuration 12 Power Cabling	1-28
TABLE 1-25	Remote Power Control	1-29
TABLE 1-26	Configuration 13 Component Locations	1-30
TABLE 1-27	Configuration 13 S1 Mounting Locations	1-31
TABLE 1-28	Configuration 13 Power Cabling	1-32
TABLE 1-29	Remote Power Control	1-33
TABLE 5-1	Software Configuration Setup Parameters for FIGURE 5-1	5-7
TABLE 5-2	Software Configuration Setup Parameters for FIGURE 5-2	5-9
TABLE 5-3	Software Configuration Setup Parameters for FIGURE 5-3	5-11
TABLE 5-4	Network Configuration Worksheet	5-13

Preface

Typographic Conventions

Typeface	Meaning	Examples
<i>AaBbCc123</i>	Book titles, new words or terms, words to be emphasized	Read Chapter 6 in the <i>User's Guide</i> . These are called <i>class</i> options. You <i>must</i> be superuser to do this.
	Command-line variable; replace with a real name or value	To delete a file, type <code>rm filename</code> .

Accessing Sun Documentation

You can view, print, or purchase a broad selection of Sun documentation, including localized versions, at:

<http://www.sun.com/documentation>

Contacting Sun Technical Support

If you have technical questions about this product that are not answered in this document, go to:

<http://www.sun.com/service/contacting>

Sun Welcomes Your Comments

Sun is interested in improving its documentation and welcomes your comments and suggestions. You can submit your comments by going to:

<http://www.sun.com/hwdocs/feedback>

Please include the title and part number of your document with your feedback:

Sun Enterprise 10000 I/O Area Installation and Configuration Guide, part number 805-7190-15

Configurations

The Sun Enterprise™ 10000 cabinet supports various configurations using the Sun StorEdge™ UniPack boot subsystem, Sun StorEdge™ D1000 disk tray, AC sequencers, document tray, document bag, internal hubs, RSM tray, and Netra™ T1 or Sun Fire™ V120 SSPs as noted in TABLE 1-1.

TABLE 1-1 Configurations

Configuration	D1000 Disk Tray	AC Sequencer	Doc Bag or Tray	RSM Tray	Ethernet Hub	UniPack Tray ¹	Netra T1 or Sun Fire V120 SSP	S1	See
Configuration 1	1	1 or 2	Either	0	1 or 2	0	0		Section 1.4 on page 1-6
Configuration 2	2	1 or 2	Either	0	1 or 2	0	0		
Configuration 3	1	1 or 2	Either	1	1 or 2	0	0		
Configuration 4	0	1 or 2	Either	0	1 or 2	1	0		Section 1.5 on page 1-8
Configuration 5	0	1 or 2	Either	0	1 or 2	2	0		
Configuration 6	0	2	Either	0	1 or 2	3	0		
Configuration 7	0	2	Bag only	0	1 or 2	4	0		
Configuration 8	1	2	Either	0	1 or 2	1 or 2	0		Section 1.6 on page 1-12
Configuration 9	0	2	Bag only	1	1 or 2	1 or 2	0		Section 1.7 on page 1-15
Configuration 10	2	2	Bag only	0	2	1 ²	2		Section 1.8 on page 1-18
Configuration 11	0	2	Bag only	0	2	1-4 ³	2		Section 1.9 on page 1-21
Configuration 12	0	2	Bag only	0	2	1 ⁴	2	10	Section 1.10 on page 1-26
Configuration 13	0	2	Bag only	0	2	0	0	14	Section 1.11 on page 1-31

1. Contains up to four UniPack disks.

2. Contains two SSP tape drives only.

3. First tray has two SSP tape drives, up to three additional trays with UniPack disks.

4. Contains two SSP tape drives only.

1.1 Identifying the Components

The following guidelines for identification have been established in the Sun Enterprise 10000 system cabinet:

- All component numbering, except sequencer, is top to bottom, left to right.
- Rack holes are numbered bottom to top.
- Where devices occur in front and back, lower numbers are on the same side as the lower-numbered system boards (FIGURE 1-1).

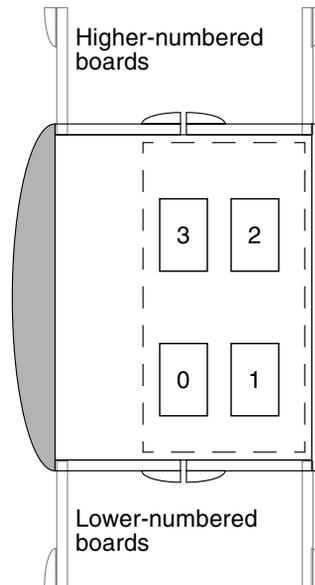


FIGURE 1-1 Numbering Internal Components

- Sun StorEdge UniPack trays are numbered UTRAY 0 through UTRAY 3.
- Sun StorEdge UniPack disks are numbered UPACK 0 through UPACK 3.
- Sun StorEdge D1000 disk trays are numbered D1K 0 and D1K 1.
- AC sequencers are numbered AC SEQ 0 and AC SEQ 1.
- Remote Power Control units are numbered RPC 0 through RPC 4.
- Hubs are numbered HUB 0 and HUB 1.
- Netra T1 or Sun Fire V120 SSPs are numbered SSP 0 and SSP 1

1.2 Labeling the Components

A label set is provided to label each component, power cable end, and signal cable end associated with these configurations (FIGURE 1-2). Additional signal cable label sets are shipped with the Sun Enterprise 10000 system. Cable label sets consist of multiple sheets of labels that are used to identify point-to-point connections and specific devices. Affix these labels to the components and cable ends during the installation process manner noted in FIGURE 1-3.

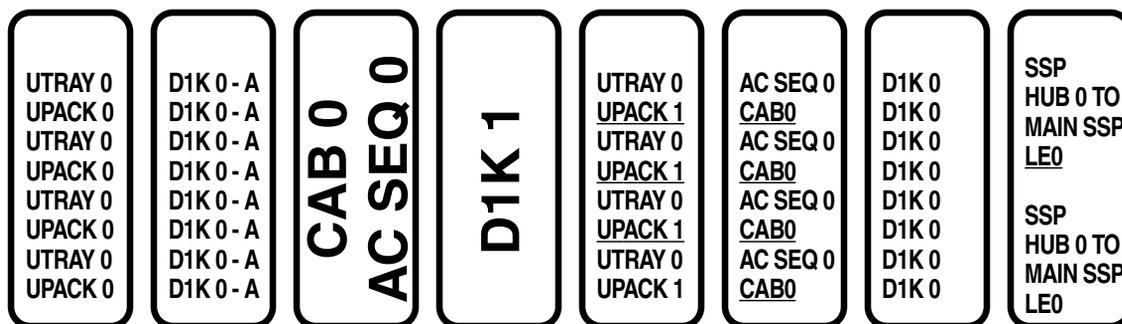


FIGURE 1-2 Cable Label Examples

Power connection between UniPack Boot subsystem 0, disk 3 and AC sequencer 1



Power connection between disk tray 0 and AC sequencer 0



FIGURE 1-3 Cable Label Usage

1.3 Rackmount Holes

There are four rails within the I/O area of the cabinet that contain mounting holes. The flanged portions with the threaded holes are known as RETMA rails. The front mounting holes (located on the side with the higher-numbered system boards), the inner front mounting holes, the inner rear mounting holes, and the rear mounting holes. Components installed into the I/O area can be accessed from either the front or the rear. The suggested mounting configurations reduce interference from the document tray, cables, and other components.

The rackmount holes within the I/O area of the cabinet are counted from the bottom.

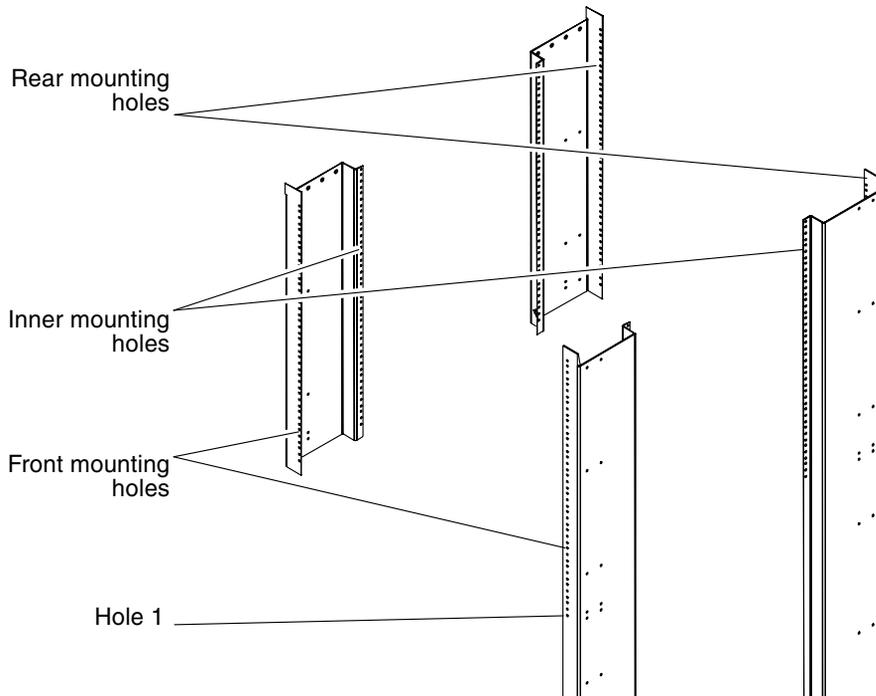


FIGURE 1-4 I/O Area Mounting Holes

1.4 Configuration 1, 2, or 3: Up to Two Disk Trays, RSM Tray

Configurations 1, 2, and 3 consist of one or two Sun StorEdge D1000 disk trays, or one Sun StorEdge D1000 disk tray and one RSM tray, plus one or two AC sequencers, either a document tray or bag, and one or two internal Ethernet hubs.

1. **Remove all unnecessary components from the I/O area of the Sun Enterprise 10000 system cabinet.**
2. **Use TABLE 1-2 to verify that the remaining components are installed using the correct rackmount holes.**

Rackmount holes are numbered bottom to top. Relocate any components as necessary.

3. **Install the second AC sequencer using the locations listed in TABLE 1-2, if necessary.**

See Chapter 3. Be sure to install the ground strap. Label the AC sequencers with the provided labels for device number and cable connections.

4. **Install the disk tray rails as described in the *Sun StorEdge A1000 and D1000 Rackmount Installation Guide* using the locations listed in TABLE 1-2.**

Do not tighten the screws fully at this time. Label the disk tray with the provided labels for the device and the cable connections.

TABLE 1-2 Configuration 1, 2, or 3 Component Locations

Component	Front mounting holes (near system boards 8-16)	Inner mounting holes	Rear mounting holes (near system boards 0-7)
AC sequencer 0			8 and 11
AC sequencer 1			26 and 29
Remote control module shelf			4 and 6
Disk tray 0 (D1K 0)	38 and 41	36 and 39	
Disk tray 1 (D1K 1)	20 and 23	18 and 21	
RSM 0	20 and 23		
Ethernet hub 0			22 and 24
Ethernet hub 1			19 and 21

5. Install the Ethernet hubs using the locations listed in TABLE 1-2, if necessary.

Refer to the installation guide that accompanied the hubs. Label the hubs with the provided labels for the device and the cable connections.

6. Install all power cables into AC sequencer switched outlets as noted in TABLE 1-3.

Route the cables to the side of I/O area. Label power cables on both ends with source and destination labels.

TABLE 1-3 Configuration 1, 2, or 3 Power Cabling

Component	AC SEQ 0	AC SEQ 1
Disk tray 0 (D1K 0)	J6 J8	J6 (preferred)
Disk tray 1 (D1K 1)	J9 J12	J9 (preferred)
RSM 0	J9 J12	J9 (preferred)
Hub 0	J2	
Hub 1	J2	J2 (preferred)

7. Install the signal cables onto the controllers.

Route the cables to the side of I/O area, down to the plenum, and through one of the four cutouts located above the fan trays. Label signal cables on both ends with source and destination labels.

8. Slide the disk tray partially onto slides and attach cables.

Adjust the disk tray as necessary. Tighten the rail screws and slide the disk tray in fully.

9. Connect the AC sequencer into the power outlet and turn on the breaker.

10. Power on all disks.

11. Configure the hubs.

See Chapter 5.

12. Configure the remote control.

Using the remote power control cables, connect the control boards, AC sequencers, and remote power control modules as noted in TABLE 1-4. Be sure to label all cables.

TABLE 1-4 Remote Power Control

Source	Destination
CB 0 - RPC 0	RPC 0 - CB 0
CB 0 - RPC 1	RPC 1 - CB 0
CB 1 - RPC 0 (if available)	RPC 0 - CB 1
CB 1 - RPC 1 (if available)	RPC 1 - CB 1
AC SEQ 0 - remote control	RPC 0 - ON/OFF
AC SEQ 1 - remote control	RPC 1 - ON/OFF

1.5 Configuration 4, 5, 6, and 7: Up to Four UniPack Trays

Configurations 4, 5, 6, and 7 consist of one to four UniPack trays, one or two AC sequencers, either a document tray or bag, and one or two internal Ethernet hubs.

1. Remove all unnecessary components from the I/O area of the Sun Enterprise 10000 system cabinet.
2. If you are installing four UniPack trays, remove the document tray.
See Section 4.1, "Removing the Document Tray" on page 4-1.

- Use TABLE 1-5 to verify that the remaining components are installed using the correct rackmount holes.

Rackmount holes are numbered bottom to top. Relocate any components as necessary.

TABLE 1-5 Configuration 4, 5, 6, or 7 Component Locations

Component	Front mounting holes (near system boards 8-16)	Inner mounting holes	Rear mounting holes (near system boards 0-7)
AC sequencer 0			8 and 11
AC sequencer 1			26 and 29
Remote control module shelf			4 and 6
Ethernet hub 0	28 and 30		
Ethernet hub 1	25 and 27		

- Install the second AC sequencer using the locations listed in TABLE 1-5, if necessary.

A second AC sequencer is required for more than two UniPack trays. See Chapter 3. Be sure to install the ground strap. Label the AC sequencers with the provided labels for the device and the cable connections.

- Install the UniPack rails as noted in Section 2.1, “Installing the Rails” on page 2-1 using the locations listed in TABLE 1-6.

Do not tighten the screws fully at this time.

TABLE 1-6 UniPack Tray Locations

Order to Install	Inner Rack Holes to use when mounting:							
	1 Tray	Tray No.	2 Trays	Tray No.	3 Trays	Tray No.	4 Trays	Tray No.
1st	33 / 36	0	33 / 35	1	20 / 23	2	14 / 17	3
2nd			39 / 42	0	33 / 36	1	20 / 23	2
3rd					39 / 42	0	33 / 36	1
4th ¹							39 / 42	0

1. Document tray must be removed. See Chapter 4 for more information.

6. Install the Ethernet hubs using the locations listed in TABLE 1-5, if necessary.

Refer to the installation guide that accompanied the hubs. Label the hubs with the provided labels for the device and the cable connections. Install all power cables into AC sequencer switched outlets as noted in TABLE 1-7. Route the cables to the side of the I/O area. Label power cables on both ends with source and destination labels.

TABLE 1-7 Configuration 4, 5, 6, or 7 Power Cabling

Component	AC SEQ 0	AC SEQ 1
UTRAY 0 - UPACK 0	J5	
UTRAY 0 - UPACK 1	J10	J5 (preferred)
UTRAY 0 - UPACK 2	J10	J5 (preferred)
UTRAY 0 - UPACK 3	J5	
UTRAY 1 - UPACK 0	J9	
UTRAY 1 - UPACK 1	J6	J9 (preferred)
UTRAY 1 - UPACK 2	J6	J9 (preferred)
UTRAY 1 - UPACK 3	J9	
UTRAY 2 - UPACK 0	J6	
UTRAY 2 - UPACK 1		J6
UTRAY 2 - UPACK 2	J6	
UTRAY 2 - UPACK 3		J6
UTRAY 3 - UPACK 0	J10	
UTRAY 3 - UPACK 1		J10
UTRAY 3 - UPACK 2	J10	
UTRAY 3 - UPACK 3		J10
Ethernet hub 0	J2	
Ethernet hub 1		J2

7. Install the signal cables onto the controllers.

Route the cables to the side of the I/O area, down to the plenum, and through one of the four cutouts located above the fan trays. Label signal cables on both ends with source and destination labels.

8. Change the SCSI setting on each UniPack disk from 3 to 0.

9. Install the UniPack tray.

See Section 2.2, "Installing the Tray" on page 2-2.

10. Connect the cables to the UniPack disks.

Power and signal cables should drop vertically in front of the components, then connect to either the AC sequencer or system board. Do not run cables between cabinet struts.

Attempt to configure the disks such that the connecting side of the disk faces the same side as its controller. If this cannot be done, run the cable from the disk, on top of the tray, to the other side of the cabinet.

11. Connect the AC sequencer into the power outlet and turn on the breaker.

12. Power on all disks.

13. Configure the hubs.

See Chapter 5.

14. Configure remote control.

Using the remote power control cables, connect the control boards, AC sequencers, and remote power control modules as noted in TABLE 1-8. Be sure to label all cables.

TABLE 1-8 Remote Power Control

Source	Destination
CB 0 - RPC 0	RPC 0 - CB 0
CB 0 - RPC 1	RPC 1 - CB 0
CB 1 - RPC 0 (if available)	RPC 0 - CB 1
CB 1 - RPC 1 (if available)	RPC 1 - CB 1
AC SEQ 0 - remote control	RPC 0 - ON/OFF
AC SEQ 1 - remote control	RPC 1 - ON/OFF

15. If installing four UniPack trays, install the document bag.

See Section 4.2, "Installing the Document Bag" on page 4-2.

1.6 Configuration 8: One Disk Tray, Up to Two UniPack Trays

Configuration 8 consists of one Sun StorEdge D1000 disk tray, one or two UniPack trays, two AC sequencers, either a document tray or bag, and one or two internal Ethernet hubs.

1. **Remove all unnecessary components from the I/O area of the Sun Enterprise 10000 system cabinet.**
2. **Use TABLE 1-9 to verify that the remaining components are installed using the correct rackmount holes.**

The rackmount holes are numbered from bottom to top. Relocate any components as necessary.

TABLE 1-9 Configuration 8 Component Locations

Component	Front mounting holes (near system boards 8-16)	Inner mounting holes	Rear mounting holes (near system boards 0-7)
AC sequencer 0			8 and 11
AC sequencer 1			29 and 32
Remote control module shelf			4 and 6
UTRAY 0		23 and 26	
UTRAY 1		17 and 20	
Disk tray 0 (D1K 0)	20 and 23	18 and 21	
Ethernet hub 0	31 and 33		
Ethernet hub 1	28 and 30		

3. **Install the second AC sequencer using the locations listed in TABLE 1-9.**
See Chapter 3. Be sure to install the ground strap. Label the AC sequencers with the provided labels for the device and the cable connections.
4. **Install the disk tray rails as noted in the *Sun StorEdge A1000 and D1000 Rackmount Installation Guide* using the locations listed in TABLE 1-9.**
Do not tighten the screws fully at this time.

5. Install the UniPack rails.

See Section 2.1, “Installing the Rails” on page 2-1 using the locations listed in TABLE 1-9. Do not tighten the screws fully at this time.

6. Install the Ethernet hubs using the locations listed in TABLE 1-9, if necessary.

Refer to the installation guide that accompanied the hubs. Label the hubs with the provided labels for the device and the cable connections

7. Install all power cables into AC sequencer switched outlets as noted in TABLE 1-10.

Route the cables to the side of the I/O area. Label power cables on both ends with source and destination labels.

TABLE 1-10 Configuration 8 Power Cabling

Component	AC SEQ 0	AC SEQ 1
UTRAY 0 - UPACK 0	J5	
UTRAY 0 - UPACK 1		J5
UTRAY 0 - UPACK 2	J5	
UTRAY 0 - UPACK 3		J5
UTRAY 1 - UPACK 0	J9	
UTRAY 1 - UPACK 1		J9
UTRAY 1 - UPACK 2	J9	
UTRAY 1 - UPACK 3		J9
D1K 0	J8	J8
Hub 0	J2	
Hub 1		J2

8. Install the signal cables onto the controllers.

Route the cables to the side of the I/O area, down to the plenum, and through one of the four cutouts located above the fan trays. Label signal cables on both ends with source and destination labels.

9. Slide the disk tray partially onto slides and attach cables.

Adjust the disk tray as necessary. Tighten the rail screws and slide the disk tray in fully.

10. Change the SCSI setting on each UniPack disk from 3 to 0.

11. Install the UniPack tray.

See Section 2.2, “Installing the Tray” on page 2-2.

12. Connect the cables to the UniPack disks.

Power and signal cables should drop vertically in front of the components then connect to either the AC sequencer or system board. Do not run cables between cabinet struts.

Attempt to configure the disks such that the connecting side of the disk faces the same side as its controller. If this cannot be done, run the cable from the disk, on top of the tray, to the other side of the cabinet.

13. Connect the AC sequencer into the power outlet and turn on the breaker.

14. Power on all disks.

15. Configure the hubs.

See Chapter 5.

16. Configure remote control.

Using the remote power control cables, connect the control boards, AC sequencers, and remote power control modules as noted in TABLE 1-11. Be sure to label all cables.

TABLE 1-11 Remote Power Control

Source	Destination
CB 0 - RPC 0	RPC 0 - CB 0
CB 0 - RPC 1	RPC 1 - CB 0
CB 1 - RPC 0 (if available)	RPC 0 - CB 1
CB 1 - RPC 1 (if available)	RPC 1 - CB 1
AC SEQ 0 - remote control	RPC 0 - ON/OFF
AC SEQ 1 - remote control	RPC 1 - ON/OFF

1.7 Configuration 9: One RSM Tray, Up to Two UniPack Trays

Configuration 9 consists of one RSM tray, one or two UniPack trays, two AC sequencers, a document bag, and one or two internal Ethernet hubs.

1. **Remove all unnecessary components from the I/O area of the Sun Enterprise 10000 system cabinet.**
2. **Remove the document tray.**
See Section 4.1, “Removing the Document Tray” on page 4-1.
3. **Use TABLE 1-12 to verify that the remaining components are installed using the correct rackmount holes.**

Rackmount holes are numbered bottom to top. Relocate any components as necessary.

TABLE 1-12 Configuration 9 Component Locations

Component	Front mounting holes (near system boards 8-16)	Inner mounting holes	Rear mounting holes (near system boards 0-7)
AC sequencer 0			8 and 11
AC sequencer 1			29 and 32
Remote control module shelf			4 and 6
UTRAY 0		23 and 26	
UTRAY 1		17 and 20	
RSM 0		40 and 43	
Ethernet hub 0	31 and 33		
Ethernet hub 1	28 and 30		

4. **Install the second AC sequencer using the locations listed in TABLE 1-12, if necessary.**

See Chapter 3. Be sure to install the ground strap. Label the AC sequencers with the provided labels for the device and the cable connections.

5. **Install the UniPack rails.**

See Section 2.1, “Installing the Rails” on page 2-1 using the locations listed in TABLE 1-12. Do not tighten the screws fully at this time.

6. Install the Ethernet hubs using the locations listed in TABLE 1-12, if necessary.

Refer to the installation guide that accompanied the hubs. Label the hubs with the provided labels for the device and the cable connections.

7. Install all power cables into AC sequencer switched outlets as noted in TABLE 1-13.

Route the cables to the side of the I/O area. Label power cables on both ends with source and destination labels.

TABLE 1-13 Configuration 9 Power Cabling

Component	AC SEQ 0	AC SEQ 1
UTRAY 0 - UPACK 0	J5	
UTRAY 0 - UPACK 1		J5
UTRAY 0 - UPACK 2	J5	
UTRAY 0 - UPACK 3		J5
UTRAY 1 - UPACK 0	J9	
UTRAY 1 - UPACK 1		J9
UTRAY 1 - UPACK 2	J9	
UTRAY 1 - UPACK 3		J9
RSM 0	J8	J8
Hub 0	J2	
Hub 1		J2

8. Install the signal cables onto the controllers.

Route the cables to the side of the I/O area, down to the plenum, and through one of the four cutouts located above the fan trays. Label signal cables on both ends with source and destination labels.

9. Install the UniPack tray.

See Section 2.2, "Installing the Tray" on page 2-2.

10. Connect the cables to the UniPack disks.

Power and signal cables should drop vertically in front of the components then connect to either the AC sequencer or system board. Do not run cables between cabinet struts.

Attempt to configure the disks such that the connecting side of the disk faces the same side as its controller. If this cannot be done, run the cable from the disk, on top of the tray, to the other side of the cabinet.

11. Connect the AC sequencer into the power outlet and turn on the breaker.

12. Power on all disks.

13. Configure the hubs.

See Chapter 5.

14. Configure remote control.

Using the remote power control cables, connect the control boards, AC sequencers, and remote power control modules as noted in TABLE 1-14. Be sure to label all cables.

TABLE 1-14 Remote Power Control

Source	Destination
CB 0 - RPC 0	RPC 0 - CB 0
CB 0 - RPC 1	RPC 1 - CB 0
CB 1 - RPC 0 (if available)	RPC 0 - CB 1
CB 1 - RPC 1 (if available)	RPC 1 - CB 1
AC SEQ 0 - remote control	RPC 0 - ON/OFF
AC SEQ 1 - remote control	RPC 1 - ON/OFF

15. Install the document bag.

See Section 4.2, "Installing the Document Bag" on page 4-2.

1.8 Configuration 10: Up to Two Disk Trays, One UniPack Tray, Two Netra T1 or Sun Fire V120 SSPs

Configuration 10 consists of up to two Sun StorEdge D1000 disk trays, two AC sequencers, a document bag, two Ethernet hubs, one UniPack tray with two SSP tape drives, and two Netra T1 or Sun Fire V120 SSPs.

1. **Remove all unnecessary components from the I/O area of the Sun Enterprise 10000 system cabinet.**

2. **Use TABLE 1-15 to verify that the remaining components are installed using the correct rackmount holes.**

Rackmount holes are numbered bottom to top. Relocate any components as necessary.

3. **Install the second AC sequencer using the locations listed in TABLE 1-15, if necessary.**

See Chapter 3. Be sure to install the ground strap. Label the AC sequencers with the provided labels for device number and cable connections.

4. **Install the disk tray rails as noted in the *Sun StorEdge A1000 and D1000 Rackmount Installation Guide* using the locations listed in TABLE 1-15.**

Do not tighten the screws fully at this time. Label the disk tray with the provided labels for the device and the cable connections.

5. **Install the Ethernet hubs using the locations listed in TABLE 1-15, if necessary.**

Refer to the installation guide that accompanied the hubs. Label the hubs with the provided labels for the device and the cable connections.

6. **Install the Netra T1 or Sun Fire V120 SSP slide mounts to the inner mounting holes and the front mounting holes at the locations listed in TABLE 1-15.**

Refer to the installation guide that accompanied the Netra T1 or Sun Fire V120 SSPs for instructions on installing the rails.

7. **Connect the cables to the back of the Netra T1 or Sun Fire V120 SSPs.**

- a. **Connect the power cables listed in TABLE 1-16.**

- b. **Connect the SCSI cable.**

Connect Netra T1 or Sun Fire V120 SSP 0 to the SSP tape drive 0 IN connector.
Connect Netra T1 or Sun Fire V120 SSP 1 to the SSP tape drive 1 IN connector.

c. Connect the SSP network cables as shown in FIGURE 5-3.

For purposes of interpreting the figure, assign the identity of Main SSP to Netra T1 or Sun Fire V120 SSP 0 and Spare SSP to Netra T1 or Sun Fire V120 SSP 1.

8. Install the Netra T1 or Sun Fire V120 SSPs in the slide mounts and tighten the thumbscrews.

TABLE 1-15 Configuration 10 Component Locations

Component	Front mounting holes (near system boards 8-16)	Inner mounting holes	Rear mounting holes (near system boards 0-7)
Disk tray 0 (D1K 0)		36 and 39	
Disk tray 1 (D1K 1)		24 and 27	
UniPak Tray 3 ¹		17 and 20	
Netra T1 or Sun Fire V120 SSP 1	10 and 12	10 and 12	
Netra T1 or Sun Fire V120 SSP 0	13 and 15	13 and 15	
Remote control module shelf			1 and 3
AC sequencer 0			5 and 8
AC sequencer 1			11 and 14
Ethernet hub 0			22 and 24
Ethernet hub 1			25 and 27

1. UniPak Tray is used for the Netra T1 or Sun Fire V120 SSP tape drives

9. Install all power cables into AC sequencer switched outlets as noted in TABLE 1-16.

Route the cables to the side of I/O area. Label power cables on both ends with source and destination labels.

TABLE 1-16 Configuration 10 Power Cabling

Component	AC SEQ 0	AC SEQ 1
Disk tray 0 (D1K 0)	J6 J8	J6 (preferred)
Disk tray 1 (D1K 1)	J9 J12	J9 (preferred)
Hub 0	J2	
Hub 1	J2	J2 (preferred)

TABLE 1-16 Configuration 10 Power Cabling (*Continued*)

Component	AC SEQ 0	AC SEQ 1
Netra T1 or Sun Fire V120 SSP 0	J2	
SSP tape drive 0	J10	
Netra T1 or Sun Fire V120 SSP 1		J2
SSP tape drive 1		J10

10. Install the signal cables onto the controllers.

Route the cables to the side of the I/O area, down to the plenum, and through one of the four cutouts located above the fan trays. Label signal cables on both ends with source and destination labels.

11. Slide the disk tray partially onto slides and attach cables.

Adjust the disk tray as necessary. Tighten the rail screws and slide the disk tray in fully.

12. Connect the AC sequencer into the power outlet and turn on the breaker.**13. Power on all disks.****14. Configure the hubs.**

See Chapter 5.

15. Configure the remote power control.

Using the remote power control cables, connect the control boards, AC sequencers, and remote power control modules as noted in TABLE 1-17. Be sure to label all cables.

TABLE 1-17 Remote Power Control

Source	Destination
CB 0 - RPC 0	RPC 0 - CB 0
CB 0 - RPC 1	RPC 1 - CB 0
CB 1 - RPC 0 (if available)	RPC 0 - CB 1
CB 1 - RPC 1 (if available)	RPC 1 - CB 1
AC SEQ 0 - remote control	RPC 0 - ON/OFF
AC SEQ 1 - remote control	RPC 1 - ON/OFF

1.9 Configuration 11: Two Netra T1 or Sun Fire V120 SSPs and up to Four UniPack Trays

Configuration 11 consists of two Netra T1 or Sun Fire V120 SSPs, one, two, three, or four UniPack trays, two AC sequencers, two internal Ethernet hubs, and a document bag.

Note – With the Netra T1 or Sun Fire V120 SSPs installed, UniPack Tray 3 is used for two SSP tape drives. Up to four UniPack tape drives may be installed in each of up to three additional UniPack trays for a total of up to 12 tape drives.

- 1. Remove all unnecessary components from the I/O area of the Sun Enterprise 10000 system cabinet.**
- 2. If you are installing four UniPack trays, remove the document tray.**
See Section 4.1, “Removing the Document Tray” on page 4-1.
- 3. Use TABLE 1-18 to verify that the components are installed using the correct rackmount holes.**
Rackmount holes are numbered bottom to top. Relocate any components as necessary.

TABLE 1-18 Configuration 11 Component Locations

Component	Front mounting holes (near system boards 8-16)	Inner mounting holes	Rear mounting holes (near system boards 0-7)
Remote control module shelf			1 and 3
AC sequencer 0			5 and 8
AC sequencer 1			11 and 14
Ethernet hub 1			22 and 24
Ethernet hub 0	22 and 24		

TABLE 1-18 Configuration 11 Component Locations (*Continued*)

Component	Front mounting holes (near system boards 8-16)	Inner mounting holes	Rear mounting holes (near system boards 0-7)
Netra T1 or Sun Fire V120 SSP 1	10 and 12	10 and 12	
Netra T1 or Sun Fire V120 SSP 0	13 and 15	13 and 15	
UniPack Tray 3 ¹		17 and 20	

1. UniPack Tray is used for the Netra T1 or Sun Fire V120 SSP tape drives

4. Install the second AC sequencer using the locations listed in TABLE 1-18, if necessary.

A second AC sequencer is required for more than two UniPack trays. See Chapter 3. Be sure to install the ground strap. Label the AC sequencers with the provided labels for the device and the cable connections.

5. Install the Ethernet hubs using the locations listed in TABLE 1-18, if necessary.

Refer to the installation guide that accompanied the hubs. Label the hubs with the provided labels for the device and the cable connections.

6. Install the Netra T1 or Sun Fire V120 SSP slide mounts to the inner mounting holes and the front mounting holes at the locations listed in TABLE 1-18.

Refer to the installation guide that accompanied the Netra T1 or Sun Fire V120 SSPs for instructions on installing the rails.

7. Connect the cables to the back of the NetraT1 or Sun Fire V120 SSPs.

a. Connect the power cables listed in TABLE 1-20.

b. Connect the SCSI cable.

Connect Netra T1 or Sun Fire V120 SSP 0 to the SSP tape drive 0 IN connector.
Connect Netra T1 or Sun Fire V120 SSP 1 to the SSP tape drive 1 IN connector.

c. Connect the SSP network cables as shown in FIGURE 5-3.

For purposes of interpreting the figure, assign the identity of Main SSP to Netra T1 or Sun Fire V120 SSP 0 and Spare SSP to Netra T1 or Sun Fire V120 SSP 1.

8. Install the Netra T1 or Sun Fire V120 SSPs in the slide mounts and tighten the thumbscrews.

9. Install the UniPack rails.

See Section 2.1, “Installing the Rails” on page 2-1 using the locations listed in TABLE 1-19. Do not tighten the screws fully at this time.

TABLE 1-19 Configuration 11 UniPack Tray Locations

Order to Install	Inner Rack Holes to use when mounting:							
	1 Tray	Tray No.	2 Trays	Tray No.	3 Trays	Tray No.	4 Trays	Tray No.
1st	17 and 20	3	33 and 36	2	33 and 36	1	40 and 43	0
2nd			17 and 20	3	26 and 29	2	33 and 36	1
3rd					17 and 20	3	26 and 29	2
4th ¹							17 and 20	3

1. Document tray must be removed. See Chapter 4 for more information.

10. Install all power cables into AC sequencer switched outlets as noted in TABLE 1-20.

Route the cables to the side of the I/O area. Label power cables on both ends with source and destination labels.

TABLE 1-20 Configuration 11 Power Cabling

Component	AC SEQ 0	AC SEQ 1
UTRAY 0 - SSP tape drive 0 in UPACK 2 position	J5	
UTRAY 0 - SSP tape drive 1 in UPACK 3 position		J5
UTRAY 1 - UPACK 0	J9	
UTRAY 1 - UPACK 1	J6	J9 (preferred)
UTRAY 1 - UPACK 2	J6	J9 (preferred)
UTRAY 1 - UPACK 3	J9	
UTRAY 2 - UPACK 0	J6	
UTRAY 2 - UPACK 1		J6
UTRAY 2 - UPACK 2	J6	
UTRAY 2 - UPACK 3		J6
UTRAY 3 - UPACK 0	J10	
UTRAY 3 - UPACK 1		J10
UTRAY 3 - UPACK 2	J10	

TABLE 1-20 Configuration 11 Power Cabling (*Continued*)

Component	AC SEQ 0	AC SEQ 1
UTRAY 3 - UPACK 3		J10
Ethernet hub 0	J2	
Ethernet hub 1		J2
Netra T1 or Sun Fire V120 SSP 0	J2	
Netra T1 or Sun Fire V120 SSP 1		J2

11. Install the signal cables onto the controllers.

Route the cables to the side of the I/O area, down to the plenum, and through one of the four cutouts located above the fan trays. Label signal cables on both ends with source and destination labels.

12. Change the SCSI setting on each UniPack disk from 3 to 0.**13. Install the UniPack tray.**

See Section 2.2, "Installing the Tray" on page 2-2.

14. Connect the cables to the UniPack disks.

Power and signal cables should drop vertically in front of the components, then connect to either the AC sequencer or system board. Do not run cables between cabinet struts.

Attempt to configure the disks such that the connecting side of the disk faces the same side as its controller. If this cannot be done, run the cable from the disk, on top of the tray, to the other side of the cabinet.

15. Connect the AC sequencer into the power outlet and turn on the breaker.**16. Power on all disks.****17. Configure the hubs.**

See Chapter 5.

18. Configure the remote power control.

Using the remote power control cables, connect the control boards, AC sequencers, and remote power control modules as noted in TABLE 1-21. Be sure to label all cables.

TABLE 1-21 Remote Power Control

Source	Destination
CB 0 - RPC 0	RPC 0 - CB 0
CB 0 - RPC 1	RPC 1 - CB 0
CB 1 - RPC 0 (if available)	RPC 0 - CB 1
CB 1 - RPC 1 (if available)	RPC 1 - CB 1
AC SEQ 0 - Remote control	RPC 0 - ON/OFF
AC SEQ 1 - Remote control	RPC 1 - ON/OFF

19. If installing four UniPack trays, install the document bag.

See Section 4.2, "Installing the Document Bag" on page 4-2.

1.10 Configuration 12: Two Netra T1 or Sun Fire V120 SSPs and up to Ten S1s

Configuration 12 consists of two Netra T1 or Sun Fire V120 SSPs, up to ten S1s, two AC sequencers, two internal Ethernet hubs, and a document bag.

Note – With the Netra T1 or Sun Fire V120 SSPs installed, one UniPack Tray is used for two SSP tape drives.

1. **Remove all unnecessary components from the I/O area of the Sun Enterprise 10000 system cabinet.**
2. **Use TABLE 1-22 to verify that the components are installed using the correct rackmount holes.**

Rackmount holes are numbered bottom to top. Relocate any components as necessary.

TABLE 1-22 Configuration 12 Component Locations

Component	Front mounting holes (near system boards 8-16)	Inner mounting holes	Rear mounting holes (near system boards 0-7)
Remote control module shelf			1 and 3
AC sequencer 0			5 and 8
AC sequencer 1			11 and 14
Ethernet hub 1			22 and 24
Ethernet hub 0			25 and 27
Netra T1 or Sun Fire V120 SSP 1	10 and 12	10 and 12	
Netra T1 or Sun Fire V120 SSP 0	13 and 15	13 and 15	
UniPack Tray 3 ¹		17 and 20	

1. UniPack Tray is used for the Netra T1 or Sun Fire V120 SSP tape drives

3. **Install the second AC sequencer using the locations listed in TABLE 1-22, if necessary.**

Be sure to install the ground strap. Label the AC sequencers with the provided labels for the device and the cable connections.

- 4. Install the Ethernet hubs using the locations listed in TABLE 1-22, if necessary.**

Refer to the installation guide that accompanied the hubs. Label the hubs with the provided labels for the device and the cable connections.
- 5. Install the Netra T1 or Sun Fire V120 SSP slide mounts to the inner mounting holes and the front mounting holes at the locations listed in TABLE 1-22.**

Refer to the installation guide that accompanied the Netra T1 or Sun Fire V120 SSPs for instructions on installing the rails.
- 6. Connect the cables to the back of the NetraT1 SSPs.**
 - a. Connect the power cables listed in TABLE 1-24.**
 - b. Connect the SCSI cable.**

Connect Netra T1 or Sun Fire V120 SSP 0 to the SSP tape drive 0 IN connector.
Connect Netra T1 or Sun Fire V120 SSP 1 to the SSP tape drive 1 IN connector.
 - c. Connect the SSP network cables as shown in FIGURE 5-3.**

For purposes of interpreting the figure, assign the identity of Main SSP to Netra T1 or Sun Fire V120 SSP 0 and Spare SSP to Netra T1 or Sun Fire V120 SSP 1.
- 7. Install the Netra T1 or Sun Fire V120 SSPs in the slide mounts and tighten the thumbscrews.**

8. Install the S1 slide mounts to the inner mounting holes and the front mounting holes at the locations listed in TABLE 1-23.

Refer to the installation guide that accompanied the S1 for instructions on installing the rails.

TABLE 1-23 Configuration 12 S1 Mounting Locations

Order to Install	Mounting Holes-Front (near system boards 8-16) and Inner
1st	43 and 45
2nd	40 and 42
3rd	37 and 39
4th	34 and 36
5th	31 and 33
6th	28 and 30
7th	25 and 27
8th	22 and 24
9th	7 and 9
10th	4 and 6

9. Connect the cables to the back of each S1 starting with the lowest mounting and install the D1-30.

Do not tighten the thumbscrews at this time.

a. Connect the power cables listed in TABLE 1-24.

b. Connect the SCSI cable.

c. Install the S1 in its slide mount.

- 10. Install the remaining power cables into AC sequencer switched outlets as noted in TABLE 1-24.**

Route the cables to the side of the I/O area. Label power cables on both ends with source and destination labels.

TABLE 1-24 Configuration 12 Power Cabling

Component	AC SEQ 0	AC SEQ 1
S1 0	J6	
S1 1		J6
S1 2	J6	
S1 3		J6
S1 4	J9	
S1 5		J9
S1 6	J9	
S1 7		J9
S1 8	J10	
S1 9		J10
Ethernet hub 0	J2	
Ethernet hub 1		J2
SSP tape drive 0	J5	
SSP tape drive 1		J5
Netra T1 or Sun Fire V120 SSP 0	J2	
Netra T1 or Sun Fire V120 SSP 1		J2

- 11. Tighten the thumbscrews on each S1.**

- 12. Install the signal cables onto the controllers.**

Route the cables to the side of the I/O area, down to the plenum, and through one of the four cutouts located above the fan trays. Label signal cables on both ends with source and destination labels.

- 13. Make sure the I/O switch setting is correct for each S1 installed.**

- 14. Connect the AC sequencer into the power outlet and turn on the breaker.**

- 15. Power on all disks.**

16. Configure the hubs.

See Chapter 5.

17. Configure the remote power control.

Using the remote power control cables, connect the control boards, AC sequencers, and remote power control modules as noted in TABLE 1-25. Be sure to label all cables.

TABLE 1-25 Remote Power Control

Source	Destination
CB 0 - RPC 0	RPC 0 - CB 0
CB 0 - RPC 1	RPC 1 - CB 0
CB 1 - RPC 0 (if available)	RPC 0 - CB 1
CB 1 - RPC 1 (if available)	RPC 1 - CB 1
AC SEQ 0 - Remote control	RPC 0 - ON/OFF
AC SEQ 1 - Remote control	RPC 1 - ON/OFF

18. Install the document bag.

See Section 4.2, "Installing the Document Bag" on page 4-2.

1.11 Configuration 13: Up to Fourteen S1s

Configuration 13 consists of up to fourteen S1s, two AC sequencers, two internal Ethernet hubs, and a document bag.

1. **Remove all unnecessary components from the I/O area of the Sun Enterprise 10000 system cabinet.**
2. **Use TABLE 1-26 to verify that the components are installed using the correct rackmount holes.**

Rackmount holes are numbered bottom to top. Relocate any components as necessary.

TABLE 1-26 Configuration 13 Component Locations

Component	Front mounting holes (near system boards 8-16)	Inner mounting holes	Rear mounting holes (near system boards 0-7)
Remote control module shelf			1 and 3
AC sequencer 0			5 and 8
AC sequencer 1			11 and 14
Ethernet hub 1			22 and 24
Ethernet hub 0			25 and 27

3. **Install the second AC sequencer using the locations listed in TABLE 1-26, if necessary.**

Be sure to install the ground strap. Label the AC sequencers with the provided labels for the device and the cable connections.

4. **Install the Ethernet hubs using the locations listed in TABLE 1-26, if necessary.**

Refer to the installation guide that accompanied the hubs. Label the hubs with the provided labels for the device and the cable connections.

5. Install the S1 slide mounts to the inner mounting holes and the front mounting holes at the locations listed in TABLE 1-27.

Refer to the installation guide that accompanied the S1 for instructions on installing the rails.

TABLE 1-27 Configuration 13 S1 Mounting Locations

Order to Install	Mounting Holes-Front (near system boards 8-16) and Inner
1st	43 and 45
2nd	40 and 42
3rd	37 and 39
4th	34 and 36
5th	31 and 33
6th	28 and 30
7th	25 and 27
8th	22 and 24
9th	19 and 21
10th	16 and 18
11th	13 and 15
12th	10 and 12
13th	7 and 9
14th	4 and 6

6. Connect the cables to the back of each S1 starting with the lowest mounting and install the S1 .

Do not tighten the thumbscrews at this time.

a. Connect the power cables listed in TABLE 1-28.

b. Connect the SCSI cable.

c. Install the S1 in its slide mount.

- 7. Install all power cables into AC sequencer switched outlets as noted in TABLE 1-28.**
Route the cables to the side of the I/O area. Label power cables on both ends with source and destination labels.

TABLE 1-28 Configuration 13 Power Cabling

Component	AC SEQ 0	AC SEQ 1
S1 0	J6	
S1 1		J6
S1 2	J6	
S1 3		J6
S1 4	J9	
S1 5		J9
S1 6	J9	
S1 7		J9
S1 8	J10	
S1 9		J10
S1 10	J10	
S1 11		J10
S1 12	J5	
S1 13		J5
Ethernet hub 0	J2	
Ethernet hub 1		J2

- 8. Tighten the thumbscrews on each S1.**
- 9. Install the signal cables onto the controllers.**
Route the cables to the side of the I/O area, down to the plenum, and through one of the four cutouts located above the fan trays. Label signal cables on both ends with source and destination labels.
- 10. Make sure the I/O switch setting is correct for each S1 installed.**
- 11. Connect the AC sequencer to the power outlet and turn on the breaker.**
- 12. Power on all disks.**
- 13. Configure the hubs.**
See Chapter 5.

14. Configure remote control.

Using the remote power control cables, connect the control boards, AC sequencers, and remote power control modules as noted in TABLE 1-29. Be sure to label all cables.

TABLE 1-29 Remote Power Control

Source	Destination
CB 0 - RPC 0	RPC 0 - CB 0
CB 0 - RPC 1	RPC 1 - CB 0
CB 1 - RPC 0 (if available)	RPC 0 - CB 1
CB 1 - RPC 1 (if available)	RPC 1 - CB 1
AC SEQ 0 - Remote control	RPC 0 - ON/OFF
AC SEQ 1 - Remote control	RPC 1 - ON/OFF

15. Install the document bag.

See Section 4.2, "Installing the Document Bag" on page 4-2.

UniPack Boot Subsystem

The UniPack Boot subsystem requires the use of rails and a tray to enable the subsystem to be installed into the I/O area of the Sun Enterprise 10000 system cabinet.

2.1 Installing the Rails

- **Install the rail pairs as noted in FIGURE 2-1 using the rackmount holes listed in Chapter 1.**

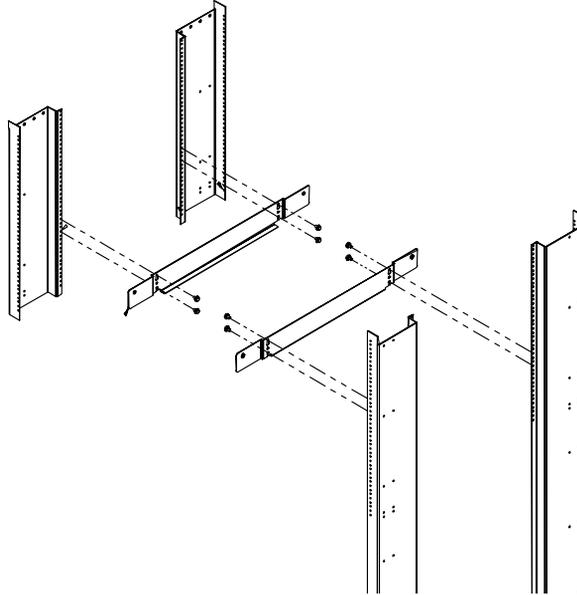


FIGURE 2-1 UniPack Rail Installation

2.2 Installing the Tray

1. Starting with the bottom rails, slide the tray into position until the screw holes align.
Attach with screws but do not tighten (FIGURE 2-2).

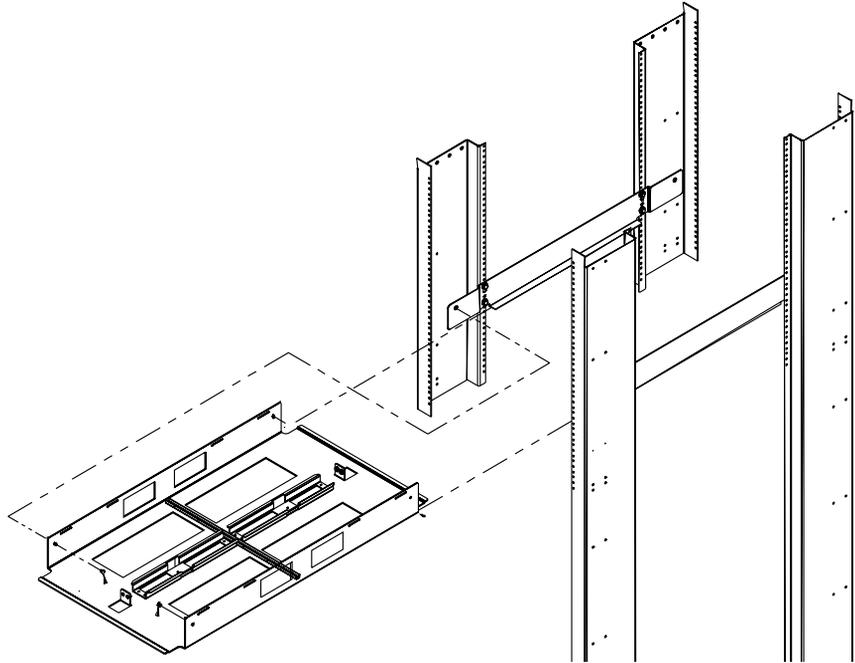


FIGURE 2-2 UniPack Tray Installation

2. Inspect the UniPack drives.

Confirm that four rubber feet are present and intact on the underside of the drive.

3. Determine which drives are to connected to which controllers.

This determines which side of the trays the drives are located.

4. Orient the drive as shown in FIGURE 2-3 and slide it into the tray to the center stiffener.

Be careful not to disturb the rubber feet. Be sure to place the connector end of the drive away from the center of the tray.

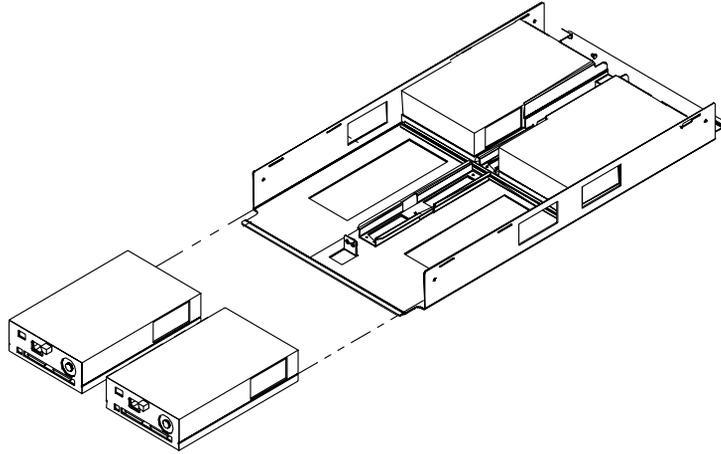


FIGURE 2-3 UniPack Disk Placement

5. Tighten all tray mounting hardware.
6. Align the tabs of the hold-down brackets and install as shown in FIGURE 2-4.

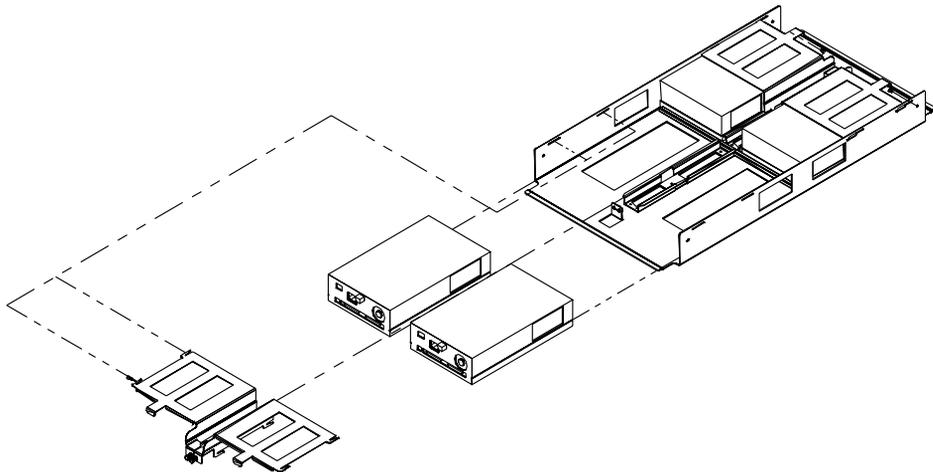


FIGURE 2-4 Securing the UniPack Disk

7. Install remaining trays and drives by repeating Step 1 through Step 5.

AC Sequencer

The Sun Enterprise 10000 system cabinet I/O area is configured at the factory with at least one AC sequencer. Additional AC sequencers can be configured at the factory or added in the field.

3.1 Installing an AC Sequencer

1. Place the AC sequencer into the cabinet and align the attachment slots to the holes on the RETMA rails.
2. Use the four Phillips screws to secure the AC sequencer to the RETMA rails.
3. Route the power cord down the left side of the cabinet.
4. Ground the AC sequencer.
 - Some systems have small ground straps attached to the existing AC sequencer. Use this ground strap to ground the second AC sequencer to the existing AC sequencer.
 - On systems that do not have a small ground strap on the existing AC sequencer, use the large ground cable that is provided with the AC sequencer to ground the second AC sequencer to a grounding area within the cabinet.

Grounding areas on the rails are identified as those areas with a 1-inch diameter area that is free of paint. They are located on the inner rails.

3.2 Configuring Remote Control

Note the following rules when configuring the AC sequencers:

- To remotely control an AC sequencer in the Sun Enterprise 10000 system cabinet, set the remote switch to the remote position.
- To remotely control AC sequencers in the I/O expansion cabinet that have system interface cables connecting them, set all the remote switches to the remote position, and turn the key switch in the front of the I/O expansion cabinet to the off position.
- To remotely control AC sequencers in the I/O expansion cabinet that *do not* have system interface cables connecting them, set all the remote switches to the remote position, daisy-chain the AC sequencers, and turn the key switch in the front of the I/O expansion cabinet to the off position.

Document Bag

Prior to November of 1998, the Sun Enterprise 10000 system was configured in the factory with a document tray located in the I/O area of the cabinet. However, newly-introduced disk configurations now use additional space in the I/O area, which requires the document tray to be removed. The document bag, which is now shipped from the factory in the cabinet, provides storage without using valuable I/O space.

4.1 Removing the Document Tray

The document tray is located in the front of the Sun Enterprise 10000 system cabinet in the I/O area. Prior to removing the tray, remove all contents in the tray and set them aside.

- **Using a long, No. 2 Phillips screwdriver, remove the four screws that secure the document tray.**

4.2 Installing the Document Bag

The document bag replaces the document tray, which cannot be used with certain UniPack configurations.

1. Assemble both sets of mounting brackets and connect loosely with the provided screws (FIGURE 4-1).

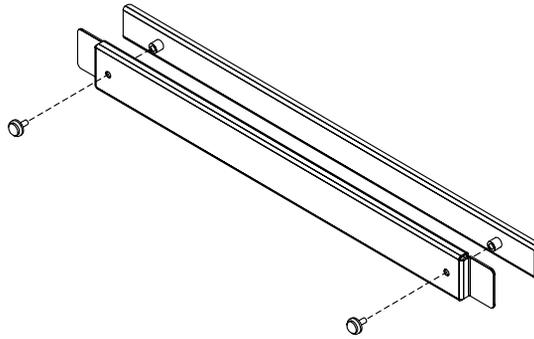


FIGURE 4-1 Document Bag Mounting Brackets

2. Thread the flap of the document bag through the brackets (FIGURE 4-2).

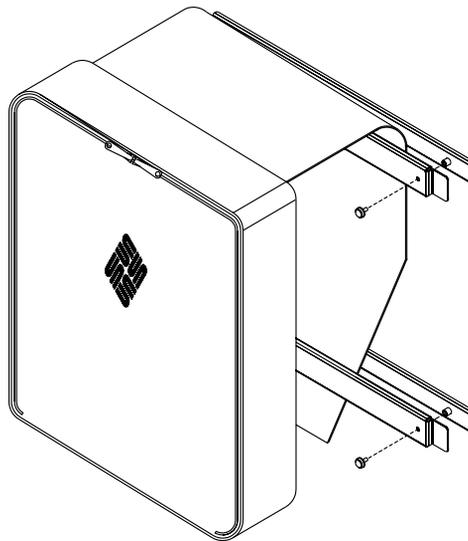


FIGURE 4-2 Assembling the Document Bag and Mounting Brackets

3. Install the mounting brackets and document bag onto the access door.

On the left-most access door on the side with the higher-numbered system board, rotate the back mounting bracket slightly to maneuver the tab behind the door flanges.

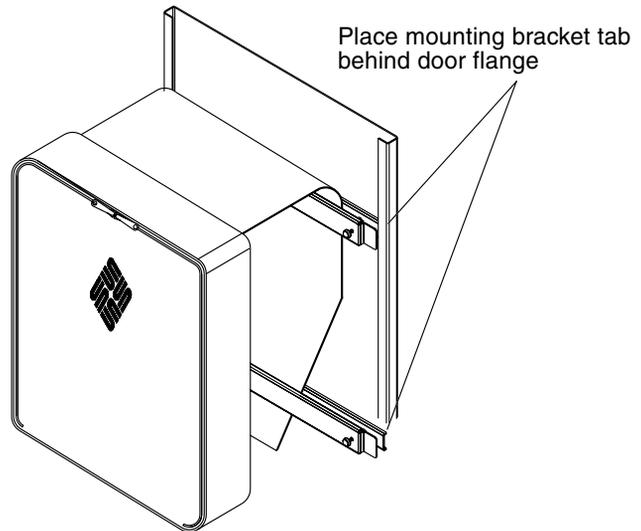


FIGURE 4-3 Mounting the Document Bag Assembly

4. Adjust the top mounting bracket set approximately 5.0 inches (127 cm.) from the top of the access door (FIGURE 4-3), then tighten the screws to secure.

Repeat Step 3 and Step 4 for the bottom set of mounting brackets.

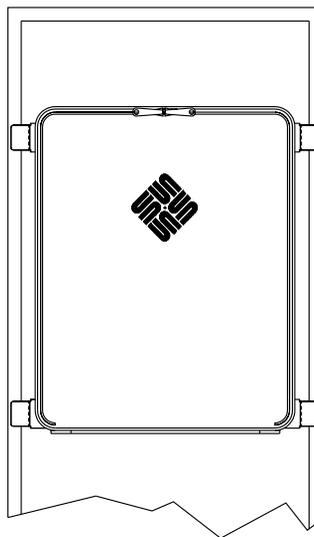


FIGURE 4-4 Final Document Bag Location

Internal Hubs

For hardware installation instructions, refer to the manual that came with the hubs. For determining placement of the hubs, see the applicable sections in Chapter 1 for your configuration. This chapter provides a suggested network configuration as well as details for setting up domains.

5.1 Network Connections

The Sun Enterprise 10000 system requires 10BASE-T or 100BASE-T Ethernet connections on the customer network for an SSP and each host domain.

Additional Ethernet connections are required if any of the following Sun Enterprise 10000 system options are ordered, used, or will be configured.

- Optional redundant control board
- Optional redundant SSP
- Additional domains
- Alternate pathing (AP) of Sun Enterprise 10000 system network connections

To prevent general purpose Ethernet traffic from negatively affecting the SSP to Sun Enterprise 10000 system host communication, the following configuration rules should be observed:

- Connect the SSP and control boards through a private 10BASE-T network (separate subnets). This will connect the one (or two) SSPs with the one (or two) control boards.
- Connect the SSP and each of the host domains through a second network. To facilitate net booting a domain from the SSP, the network between the domain and the SSP must be either 10BASE-T or 100BASE-T Ethernet.

FIGURE 5-1, FIGURE 5-2, and FIGURE 5-3 illustrate three possible network configurations. These configurations can be used with the internal hubs, the control boards, and an SSP that is configured in manufacturing with an additional quad Ethernet card. Customer networks and their hubs, however, are site dependent and, therefore, not supplied by Sun Microsystems™.

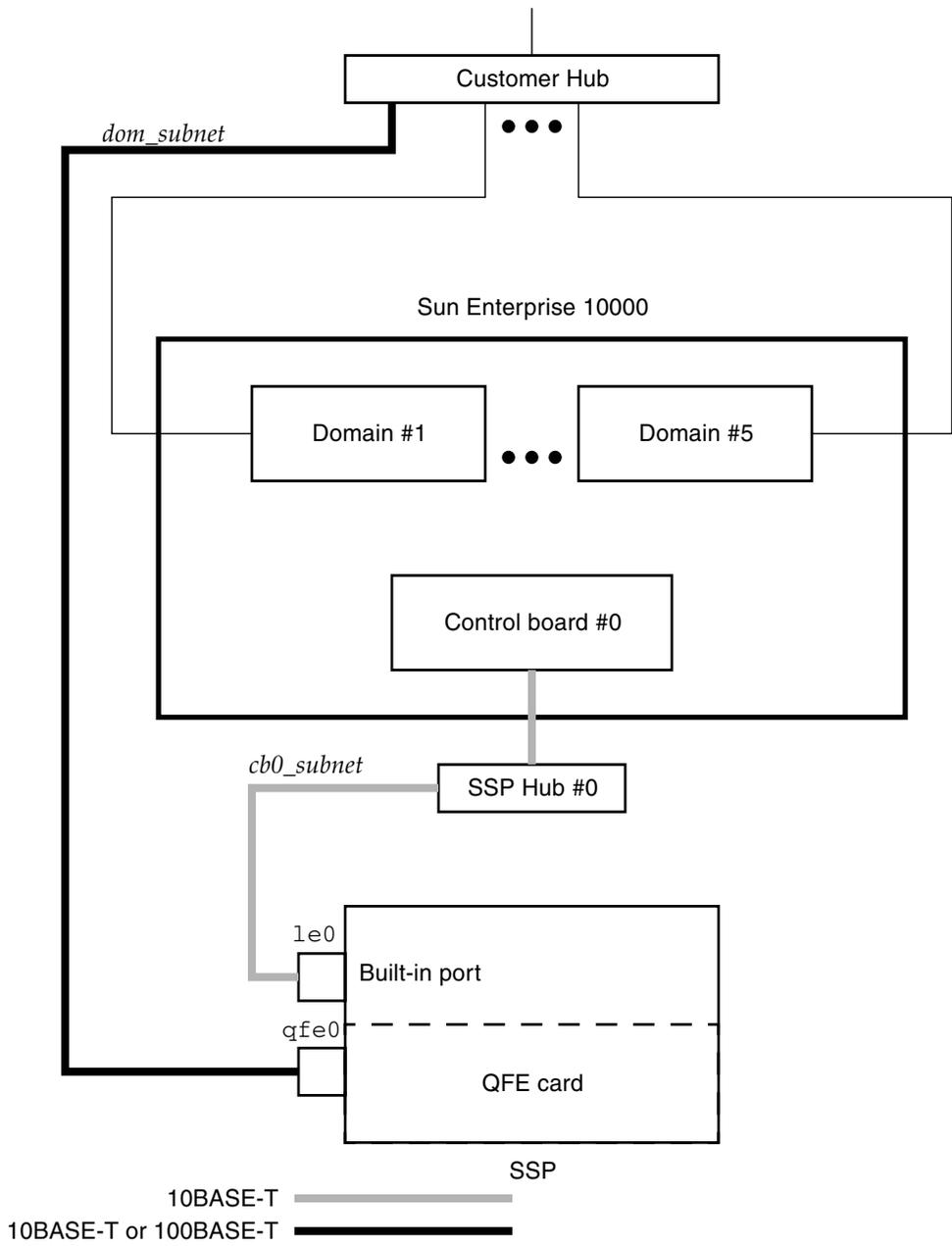


FIGURE 5-1 Network Configuration—Base Case

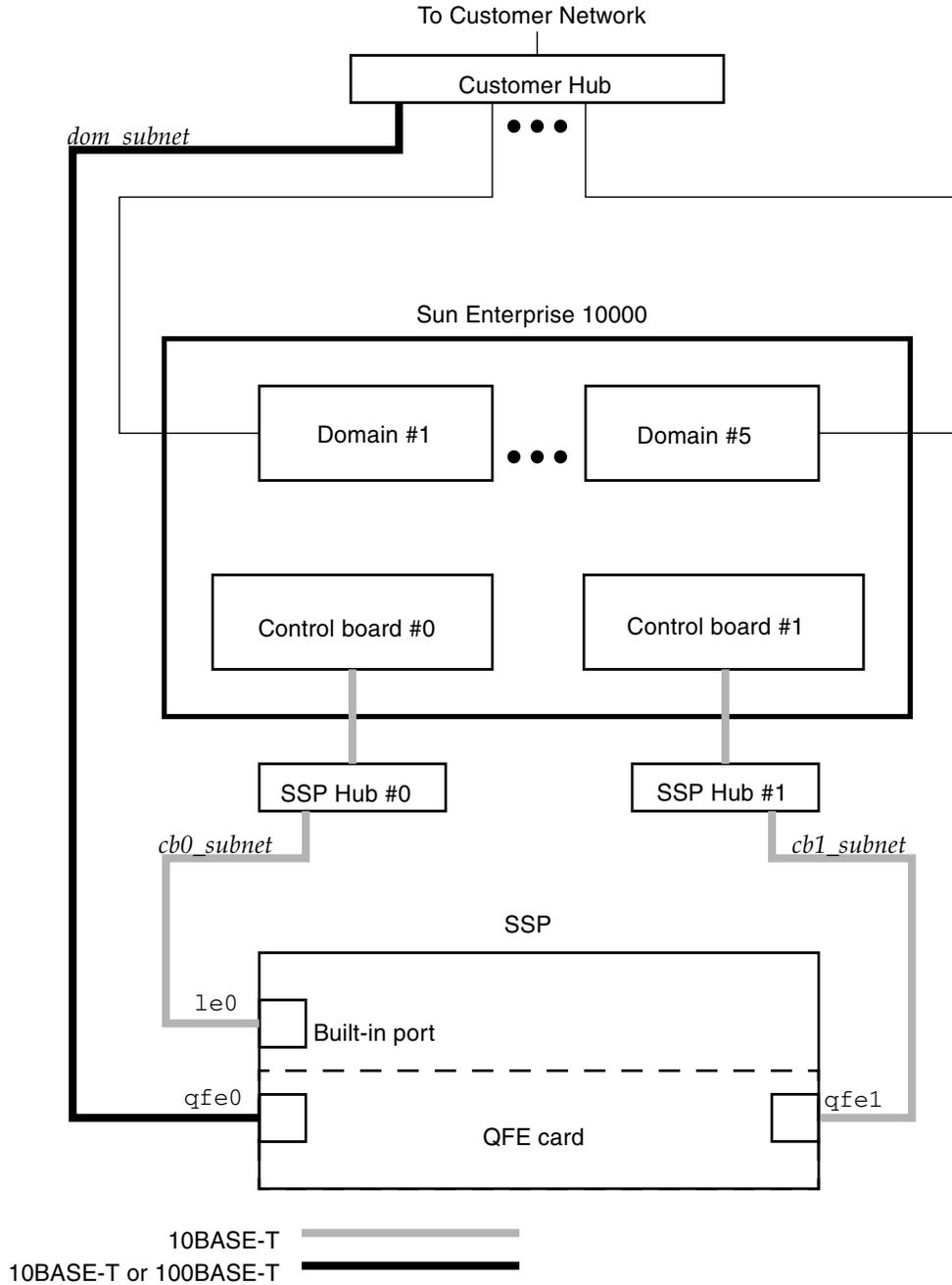


FIGURE 5-2 Network Configuration With Redundant Control Boards

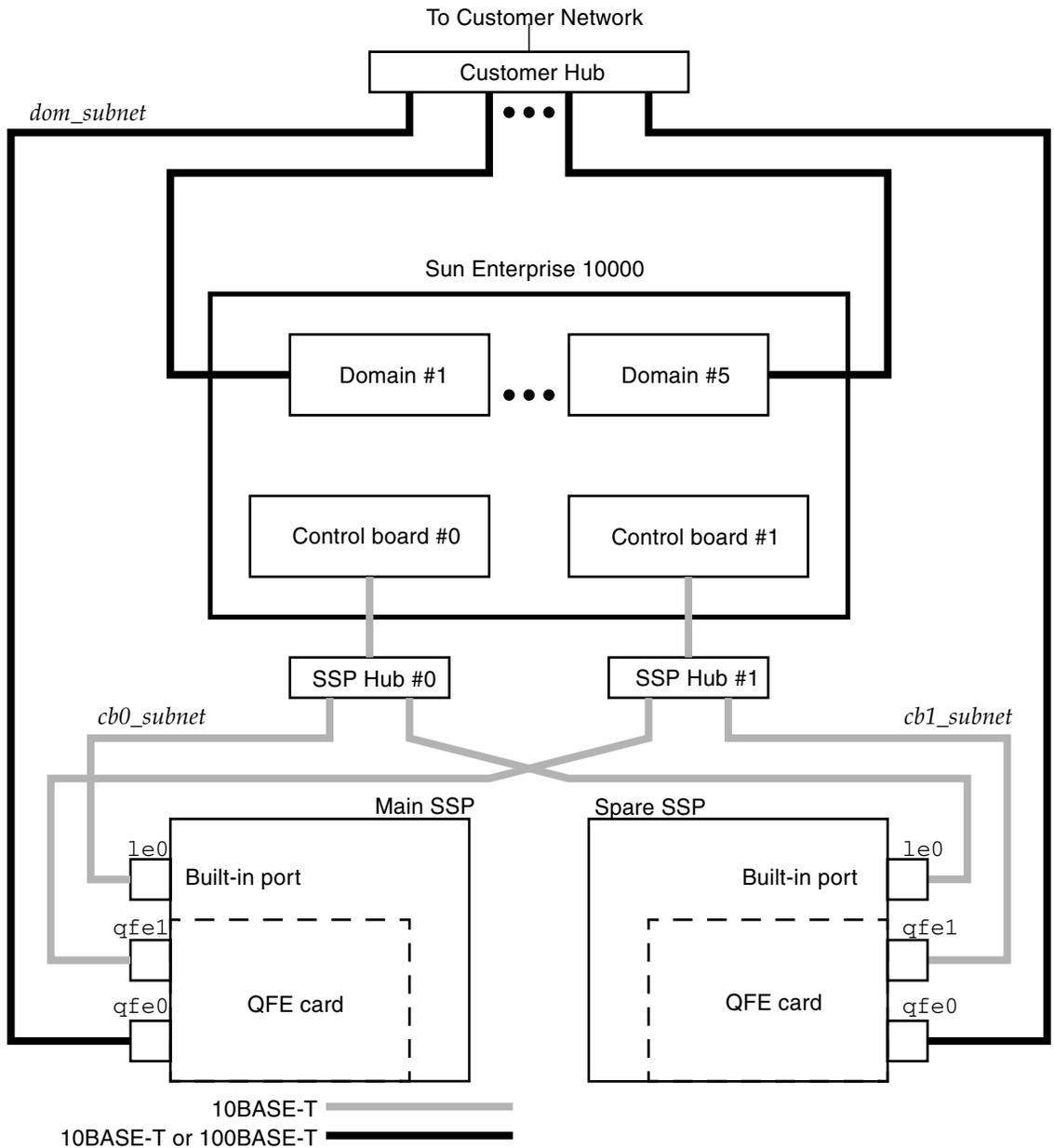


FIGURE 5-3 Network Configuration With Redundant Control Board and a Spare SSP

5.2 Domain Setup Information

The following information must be determined prior to the installation of the Sun Enterprise 10000 system. Most of this information is network related and can only be provided by the customer. Therefore, fill in the spaces in the appropriate worksheet so that this information can be referred to during the software setup procedure.

- TABLE 5-1 is used with FIGURE 5-1.
- TABLE 5-2 is used with FIGURE 5-2.
- TABLE 5-3 is used with FIGURE 5-3.
- TABLE 5-4 provides a more graphic illustration of how the network parameters are connected. This can be used as an alternative to any of the other software configuration setup parameter worksheets.

Note – The domains and SSP may require additional hostnames, IP addresses, and netmask if you configure a private network.

TABLE 5-1 Software Configuration Setup Parameters for FIGURE 5-1

Platform Name¹:			
	Hostname	IP Address	Netmask Value
Domain 1 (Sun Enterprise 10000 Host)			
Domain 2 (Sun Enterprise 10000 Host)			
Domain 3 (Sun Enterprise 10000 Host)			
Domain 4 (Sun Enterprise 10000 Host)			
Domain 5 (Sun Enterprise 10000 Host)			
Domain 6 (Sun Enterprise 10000 Host)			
Domain 7 (Sun Enterprise 10000 Host)			
Domain 8 (Sun Enterprise 10000 Host)			
Domain 9 (Sun Enterprise 10000 Host)			
Domain 10 (Sun Enterprise 10000 Host)			
Domain 11 (Sun Enterprise 10000 Host)			
Domain 12 (Sun Enterprise 10000 Host)			
Domain 13 (Sun Enterprise 10000 Host)			
Domain 14 (Sun Enterprise 10000 Host)			
Domain 15 (Sun Enterprise 10000 Host)			
Domain 16 (Sun Enterprise 10000 Host)			

TABLE 5-1 Software Configuration Setup Parameters for FIGURE 5-1 (*Continued*)

Platform Name¹:	Hostname	IP Address	Netmask Value
Control board 0 (CB0)	_____	_____	_____
SSP (1e0 to private hub 0)	_____	_____	_____
SSP (qfe0 to customer hub)	_____	_____	_____
NIS/NIS+ domain (if applicable)	_____	_____	_____
DNS domain (if applicable)	_____	_____	_____

1. The platform name is a logical name given to a Sun Enterprise 10000 system. A platform name does not correspond to any host on the network.

TABLE 5-2 Software Configuration Setup Parameters for FIGURE 5-2

Platform Name¹:			
	Hostname	IP Address	Netmask Value
Domain 1 (Sun Enterprise 10000 Host)			
Domain 2 (Sun Enterprise 10000 Host)			
Domain 3 (Sun Enterprise 10000 Host)			
Domain 4 (Sun Enterprise 10000 Host)			
Domain 5 (Sun Enterprise 10000 Host)			
Domain 6 (Sun Enterprise 10000 Host)			
Domain 7 (Sun Enterprise 10000 Host)			
Domain 8 (Sun Enterprise 10000 Host)			
Domain 9 (Sun Enterprise 10000 Host)			
Domain 10 (Sun Enterprise 10000 Host)			
Domain 11 (Sun Enterprise 10000 Host)			
Domain 12 (Sun Enterprise 10000 Host)			
Domain 13 (Sun Enterprise 10000 Host)			
Domain 14 (Sun Enterprise 10000 Host)			
Domain 15 (Sun Enterprise 10000 Host)			
Domain 16 (Sun Enterprise 10000 Host)			

TABLE 5-2 Software Configuration Setup Parameters for FIGURE 5-2 (*Continued*)

Platform Name¹:	Hostname	IP Address	Netmask Value
Control board 0 (CB0)	_____	_____	_____
Control board 1 (CB1)	_____	_____	_____
SSP (1e0 to private hub 0)	_____	_____	_____
SSP (qfe0 to cust. hub)	_____	_____	_____
SSP (qfe1 to private hub1)	_____	_____	_____
NIS/NIS+ domain (if applicable)	_____	_____	_____
DNS domain (if applicable)	_____	_____	_____

1. The platform name is a logical name given to a Sun Enterprise 10000 system. A platform name does not correspond to any host on the network.

TABLE 5-3 Software Configuration Setup Parameters for FIGURE 5-3

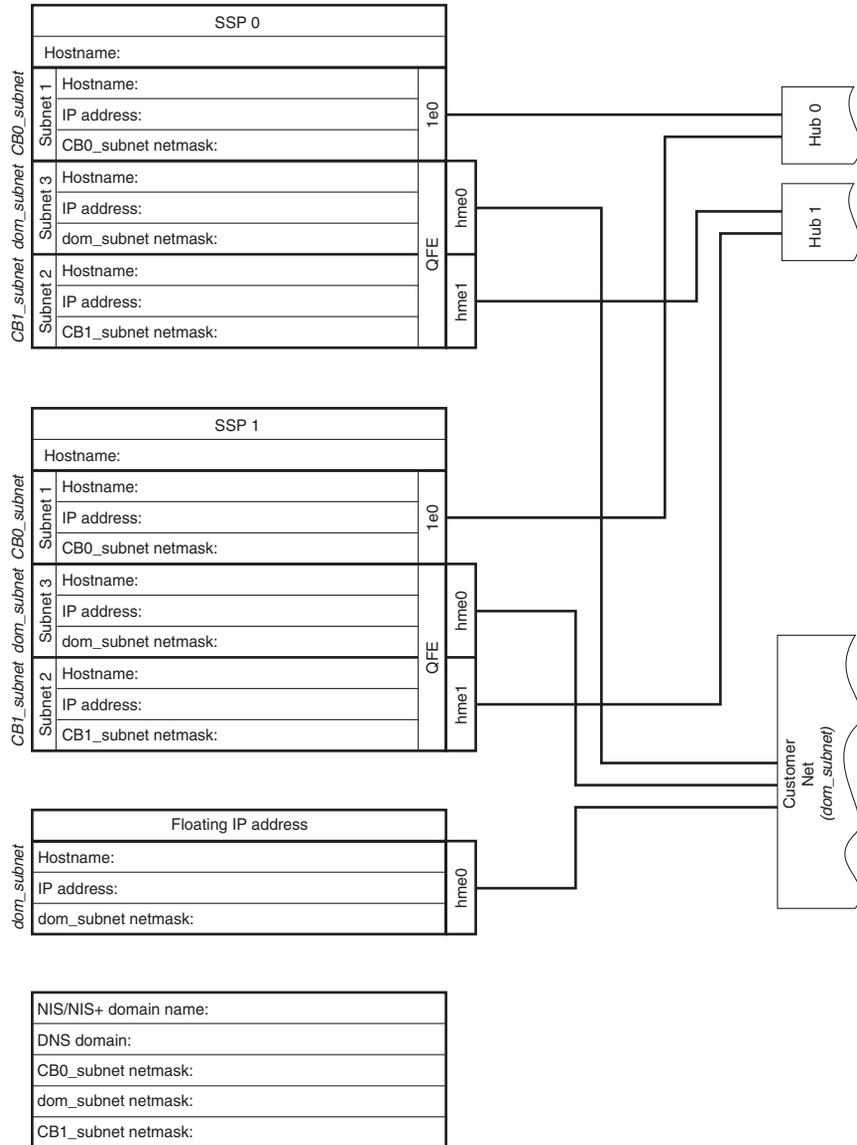
Platform Name¹:	Hostname	IP Address	Netmask Value
Domain 1 (Sun Enterprise 10000 Host)			
Domain 2 (Sun Enterprise 10000 Host)			
Domain 3 (Sun Enterprise 10000 Host)			
Domain 4 (Sun Enterprise 10000 Host)			
Domain 5 (Sun Enterprise 10000 Host)			
Domain 6 (Sun Enterprise 10000 Host)			
Domain 7 (Sun Enterprise 10000 Host)			
Domain 8 (Sun Enterprise 10000 Host)			
Domain 9 (Sun Enterprise 10000 Host)			
Domain 10 (Sun Enterprise 10000 Host)			
Domain 11 (Sun Enterprise 10000 Host)			
Domain 12 (Sun Enterprise 10000 Host)			
Domain 13 (Sun Enterprise 10000 Host)			
Domain 14 (Sun Enterprise 10000 Host)			
Domain 15 (Sun Enterprise 10000 Host)			
Domain 16 (Sun Enterprise 10000 Host)			

TABLE 5-3 Software Configuration Setup Parameters for FIGURE 5-3 (*Continued*)

Platform Name¹:	Hostname	IP Address	Netmask Value
Control board 0 (CB0)			
Control board 1 (CB1)			
SSP (1e0 to private hub 0)			
SSP (qfe0 to cust. hub)			
SSP (qfe1 to private hub1)			
Spare SSP (1e0 to private hub 0)			
Spare SSP (qfe0 to cust. hub)			
Spare SSP (qfe1 to private hub1)			
NIS/NIS+ domain (if applicable)			
DNS domain (if applicable)			

1. The platform name is a logical name given to a Sun Enterprise 10000 system. A platform name does not correspond to any host on the network.

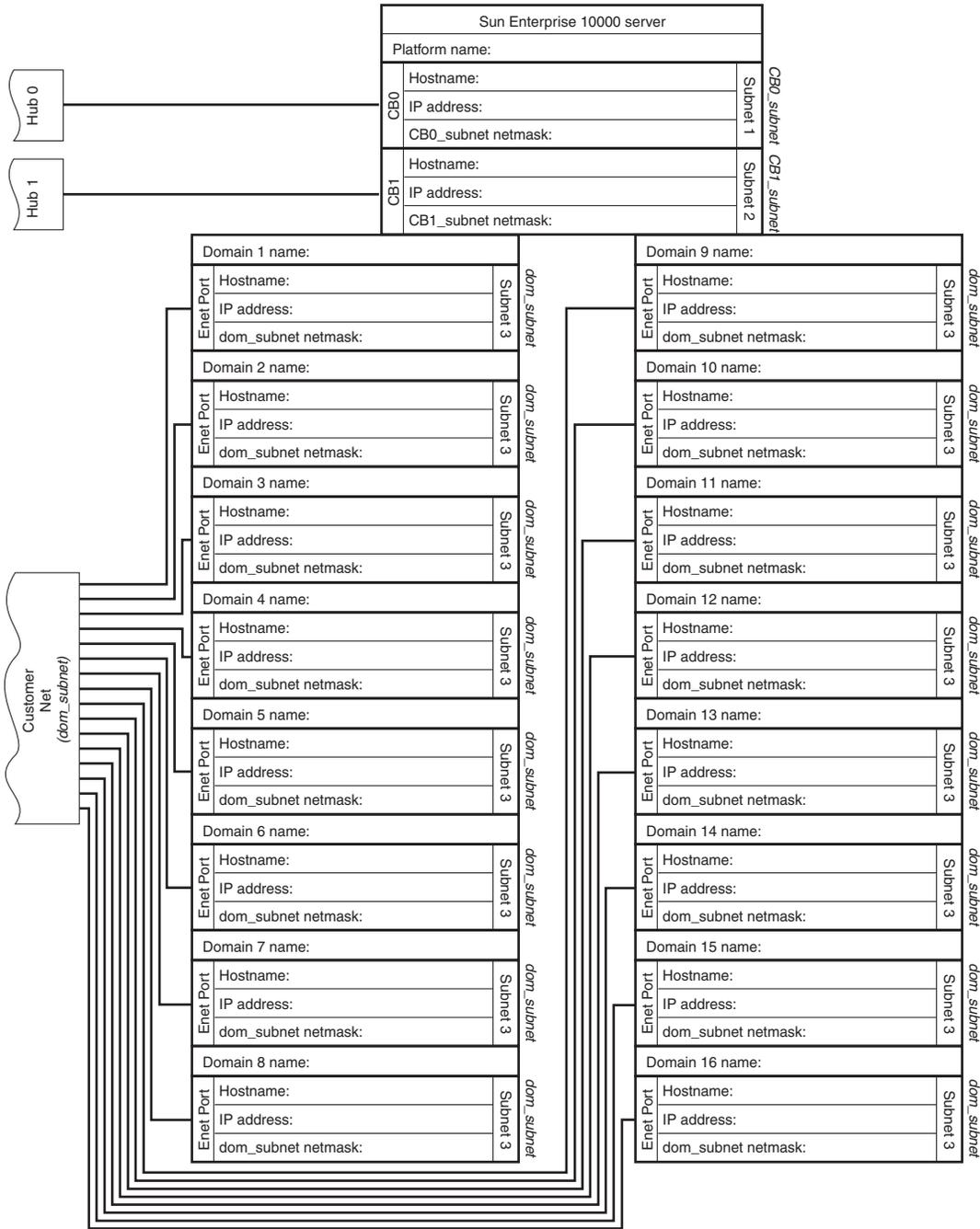
TABLE 5-4 Network Configuration Worksheet



Notes:

- Netmasks must be the same within a subnet.
- Each hostname must be unique.
- Each IP address must be unique within the respective subnet.
- Each control board must be on a separate subnet.
- To avoid confusion, for each domain, the domain name and hostname should be the same.

TABLE 5-4 Network Configuration Worksheet (Continued)



Index

A

AC sequencer, installing, 3-1

C

Components

identifying, 1-3

labeling, 1-4

numbering, 1-3

Configurations, 1-2

Equipment,I/O bay, 1-1

Network, 5-2

Configuring

remote control, 3-2

Connections

ethernet, 5-2

network, 5-2

D

Disk tray, installation, 1-6, 1-12, 1-18

Document Bag

installing, 4-2

Document tray

removal, 4-1

Domain setup information, 5-6

E

Equipment, configurations, 1-1

Ethernet connections, 5-2

H

Holes, rackmount, 1-5

Hubs, installation, 5-1

I

Identifying

Components, 1-3

Installing

AC sequencer, 3-1

Disk tray, 1-6, 1-12, 1-18

Document Bag, 4-2

Hubs, 5-1

Netra T1 or Sun Fire V120 SSP, 1-18, 1-21, 1-25

RSM tray, 1-6, 1-15

S1, 1-25, 1-30

UniPack tray, 1-8, 1-12, 1-15, 1-18, 1-21

L

Labeling, components, 1-4

N

Netra T1 SSP, installation, 1-18, 1-21, 1-25

Network

configurations, 5-2

connections, 5-2

Network configuration worksheet, 5-6, 5-13

Numbering, components, 1-3

R

Rackmount, holes, 1-5

Removing

Document tray, 4-1

RETMA rails, 1-5

RSM tray, installation, 1-6, 1-15

S

S1, installation, 1-25, 1-30

Software configuration setup parameters, 5-7, 5-9,
5-11

Sun Fire V120 SSP, installation, 1-18, 1-21, 1-25

U

UniPack tray, installation, 1-8, 1-12, 1-21

UniPack tray, installation, 1-15, 1-18

W

Worksheet

domain set up, 5-6

network configuration, 5-6