Netra™ X1 Server User's Guide

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Part No.806-5980-11
Revision A June 2001

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Contents

Figures

Tables

Preface

The *Netra X1 Server User's Guide* describes how to install, manage, and maintain the Netra™ X1 server. The manual is intended for system administrators who have experience in setting up networked Solaris™ servers.

How This Book Is Organized

Part I Installation and Configuration

Chapter 1 introduces the Netra X1 server, gives an overview of its specifications, lists the optional components available and includes an installation quick start guide.

Chapter 2 provides information about installing the Netra X1 server into a rack and describes how to connect the cables.

Chapter 3 provides instructions on setting up console connections to the server via its serial A/LOM port.

Chapter 4 explains how to perform the initial power-on and configuration of the server.

Part II Remote and Local Management

Chapter 5 explains how to use the LOMlite2 shell.

Chapter 6 describes how to use LOMlite2-specific Solaris commands to monitor and manage the system. This chapter also explains how to configure LOMlite2 to restart the server in the event of a system lockup.

Part III Maintenance and Troubleshooting

Chapter 7 provides information about the fault and power indicators and explains how to identify a faulty system in a rack.

Chapter 8 describes how to swap system configuration cards and how to open the Netra X1 server to add memory or a hard disk drive.

Chapter 9 describes how to reinstall the Solaris operating environment.

Chapter 10 describes the diagnostic tools that are available, and provides troubleshooting and frequently asked questions sections.

Part IV Appendixes

Appendix A lists all physical and environmental specifications, and provides information on calculating power consumption and heat dissipation.

Appendix B describes the parameters you can configure in the LOMlite2 driver configuration file.

Appendix C provides information about the dmfe driver.

Using UNIX Commands

This document may not contain information about basic UNIX® commands and procedures such as shutting down the system, booting the system, and configuring devices.

See one or more of the following for this information:

- *Solaris Handbook for Sun Peripherals*
- AnswerBook2™ online documentation for the Solaris software environment
- Other software documentation that you received with your system

Typographic Conventions

Typeface	Meaning	Examples
`AaBbCc123`	The names of commands, files, and directories; on-screen computer output	Edit your `.login` file. Use `ls -a` to list all files. `% You have mail.`
`AaBbCc123`	What you type, when contrasted with on-screen computer output	`% su` `Password:`
AaBbCc123	Book titles, new words or terms, words to be emphasized	Read Chapter 6 in the *User's Guide*. These are called *class* options. You *must* be superuser to do this.
	Command-line variable; replace with a real name or value	To delete a file, type `rm` *filename*.

Shell Prompts

Shell	Prompt
C shell	*machine_name*`%`
C shell superuser	*machine_name*`#`
Bourne shell and Korn shell	`$`
Bourne shell and Korn shell superuser	`#`
LOM shell	`lom>`
OBP	`ok`

Accessing Sun Documentation Online

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Safety Precautions

For your protection, observe the following safety precautions when setting up your equipment:

- Follow all cautions and instructions marked on the equipment.
- Never push objects of any kind through openings in the equipment. Dangerous voltages may be present. Conductive foreign objects can produce a short circuit that could cause fire, electric shock, or damage to your equipment.

Symbols

The following symbols may appear in this manual:

Caution – There is a risk of personal injury and equipment damage. Follow the instructions.

Caution – Hazardous voltages are present. To reduce the risk of electric shock and danger to personal health, follow the instructions.

Modifications to Equipment

Do not make mechanical or electrical modifications to the equipment. Sun Microsystems is not responsible for the regulatory compliance of a modified product.

Caution – Do not block or cover the openings of your Sun product. Never place a Sun product near a radiator or heat register. Failure to follow these guidelines can cause overheating and affect the reliability of your Sun product.

Caution – If your Netra X1 server is installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may exceed the room ambient temperature. Ensure that rack environment ambient temperature does not exceed 40 degrees.

Caution – Mounting of the equipment in a rack or cabinet should be such that a hazardous condition is not created due to uneven mechanical loading or weight distribution.

Caution – Ensure that the connection of multiple system units to the circuit does not overload the supply overcurrent protection or supply wiring. Consider the Sun agency label electrical ratings when determining the correct branch circuit rating for your installation.

Caution – All supply connections, wiring, wire protection, and wire routing must be made in accordance with applicable sections and requirements of national electrical code and local electrical authorities.

PART I Installation and Configuration

CHAPTER 1

Introducing the Netra X1 Server

This chapter gives an overview of the NetraX1 server. It lists the features of the server and the contents of the ship kit, and lists the optional components available for it. It also gives you an overview of the installation process and where to look for further details.

The chapter contains the following sections:

Overview of the Netra X1 Server

The Netra X1 server is a single-processor server in a 1U chassis, designed to maximize the density of high-performance Solaris servers in a rack.

FIGURE 1-1 The Netra X1 Server

The server is ideal for:

- Internet service providers
- Telecommunications carriers
- Financial services
- Corporate customer networks
- Anyone who wants to maximize the density of Solaris servers in a rack

The Netra X1 server has the following features:

- A removable system configuration card containing the server's Host ID, MAC address and NVRAM settings
- Rackmounting enclosure with single power supply
- Four DIMM sockets
- Two 10/100 Mbps RJ-45 Ethernet ports
- Console/Lights Out Management RJ-45 serial port
- Second RJ-45 serial port
- Two USB ports
- Support for up to two low-profile, 3.5-inch IDE disks
- Pre-installed with the Solaris operating environment (64 bit)

Contents of the Ship Kit

The Netra X1 server is supplied with the following components:

TABLE 1-1 Contents of the Ship Kit

Item	Part Number	Quantity
RJ-45 to RJ-45 patch cable for Ethernet or serial connection	530-2093-xx	2
RJ-45 to DB-25 adapter	530-2889-xx	1
RJ-45 to DB-9 adapter	530-3100-xx	1
Rackmounting screws, 10-32x1/2	240-1207-xx	8
Antistatic wrist strap	250-1007-xx	1
Netra X1 Server User's Guide	806-5980-xx	1
Netra X1 Server Safety and Compliance Guide	806-6136-xx	1
Netra X1 Server Product Notes	806-6137-xx	1

Preinstalled Software

The Netra X1 server is preinstalled with the Solaris 8 operating environment (64 bit), including LOMlite2. The server will only support a 64 bit kernel, but applications written for a 32 bit environment can also be used (as long as they do not depend upon a 32 bit driver).

For more information on the specific release of Solaris 8 installed on your server, use the command below.

```
# cat /etc/release

Solaris 8 10/00 s28s_u2wos_11b SPARC
Copyright 2000 Sun Microsystems, Inc.  All Rights Reserved.
Assembled 31 August 2000
```

For information about how to configure the Solaris 8 operating environment, see "Powering On and Configuring the Server" on page 30.

Optional Components

Sun offers additional hard disk drives and memory modules for the server. To order them, contact your local Sun sales representative. See TABLE 1-2 for a list of components and part numbers. The server itself was designed as a replaceable unit which means that, if a fault occurs, you should contact your local Sun sales representative for a replacement.

TABLE 1-2 Customer Installable Hardware

Processor*	Optional Components	Part Number
400MHz*/500MHz**	128-Mbyte DIMM	X7090A
400MHz/500MHz	256-Mbyte DIMM	X7091A
500MHz only	512-Mbyte DIMM	X7084A
400MHz only	20 Gbyte, 5400 rpm hard disk drive	X7095A
500MHz only	40 GByte, 7200 rpm hard disk drive	X7096A

* Sun part nos: 380-0425-xx, 380-0426-xx, 380-0427-xx

** Sun part nos: 380-0460-xx, 380-0461-xx, 380-0462-xx, 380-0463-xx

Installation Quick Start

Task	See in the *Netra X1 Server User's Guide*
1 Install the Hardware	
Mount in the rack.	"Installing the Server Into a Standard 19-inch Rack" on page 8
Connect the cables.	"Connecting the Cables" on page 11
Set up a console connection.	"Setting Up a Console Connection to the Server" on page 16
2 Configure the Server **Note: The server is preinstalled with the Solaris 8 operating environment.**	
Power on the server.	"Powering On and Configuring the Server" on page 30
Manage the server from the `lom` or Solaris prompt.	"Remote and Local Management" on page 39
3 Further Information	
Reinstalling the Solaris 8 software.	"Re-installing the Solaris 8 Operating Environment" on page 98
Troubleshooting	"Diagnostic Tools" on page 108
Netra X1 documentation	http://www.sun.com/netra
Solaris 8 documentation	http://docs.sun.com

CHAPTER 2

Installing the Netra X1 Server Into a Rack

This chapter explains how to install the Netra X1 server into a standard 19-inch rack and describes the various mounting options available. It also guides you through connecting the cables to the server. This information is given in the following sections:

Choosing Between a Rack and a Cabinet

A Netra X1 server can be installed in either a rack or a cabinet. Factors that might influence your decision include:

- **Security**
  If other people have access to the room in which your servers are located, you can increase security by locking the servers in a cabinet.
- **Thermal issues**
  Cabinets often require additional fans, because the systems installed in them generate heat in an enclosed space. Two-post racks, however, may require no special cooling systems.
- **Flooring**
  Two-post telco relay racks are designed so that cables can be run overhead. Cabinets often require cables to be run under the floor.

Installing the Server Into a Standard 19-inch Rack

The Netra X1 server fits a standard 19-inch rack. There are five mounting points for the brackets on each side of the server, allowing a choice of mounting positions. The standard position uses the forward three mounting points on the server (see FIGURE 2-2).

You can adjust the position of the server in the rack by using a different set of mounting points for the brackets (see FIGURE 2-4).

▼ To Mount the Server in a 19-inch Rack

1. **Position the Netra X1 server in the rack and tighten the screws (see FIGURE 2-1).**

2. **Attach the cables (see “Connecting the Cables” on page 11).**

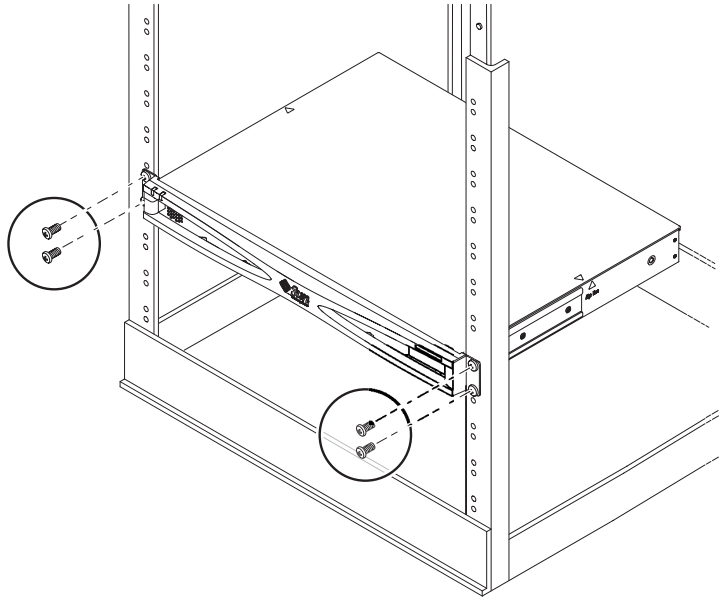

FIGURE 2-1 Mounting the Server in a Standard 19-inch Rack

Using Alternative Bracket Arrangements

You can change the server’s position in a rack, relative to the rack posts, by changing the position of the rackmounting brackets on the server. They can be attached to any group of three from the five mounting points on the side of the server, facing either to the front (see FIGURE 2-2) or to the rear of the server (see FIGURE 2-3). This has the effect of making the server sit further forward, or further back, in relation to the rack mounting posts.

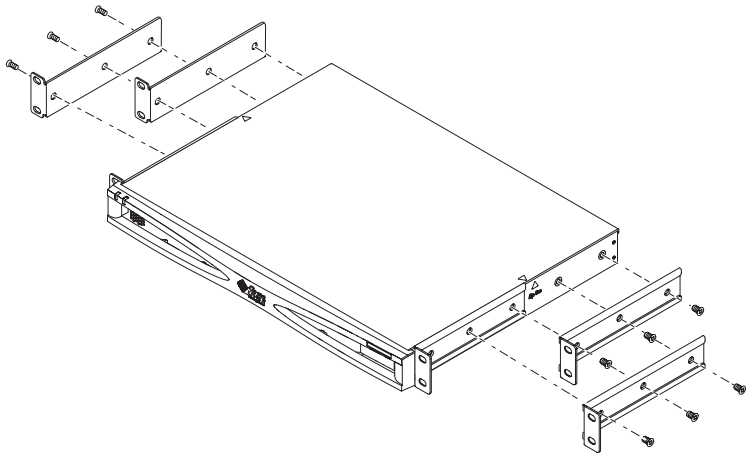

FIGURE 2-2 Forward Facing Rackmounting Brackets

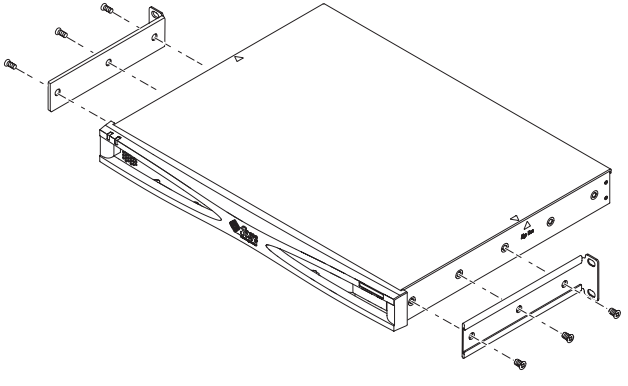

FIGURE 2-3 Rear Facing Rackmounting Brackets

▼ To Use Alternative Bracket Arrangements

1. **Choose the configuration that best suits your installation.**
2. **Reposition the rackmounting brackets on the side of the server.**

3. **Position the server in the rack and tighten the screws.**

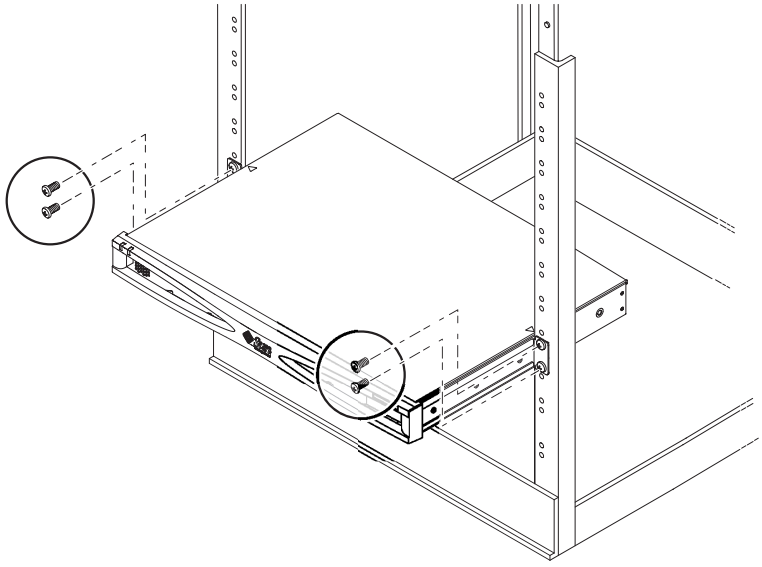

FIGURE 2-4 Alternative Rackmounting Position

4. **Attach the cables (see "Connecting the Cables" on page 11).**

Connecting the Cables

The following section describes the positions of the ports and sockets for the corresponding cables, and the correct procedure for connecting the cables.

The server's ports are arranged and numbered as in FIGURE 2-5.

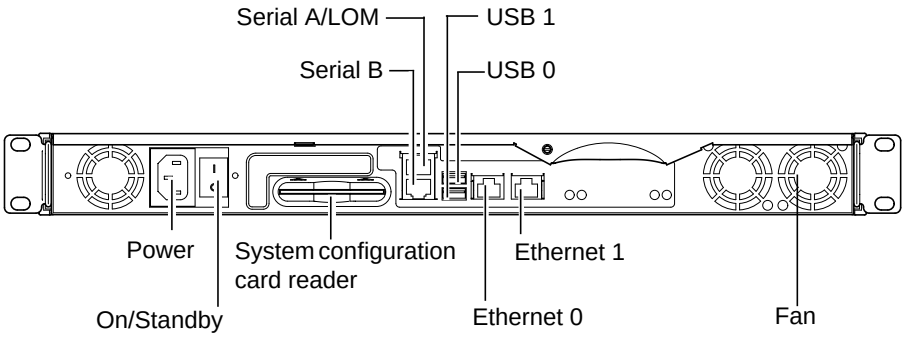

FIGURE 2-5 The Server's Back Panel

▼ To Connect the Cables to the Server

1. **Connect the power cord.**
2. **Connect a serial device.**

   For more information, see "Setting Up a Console Connection to the Server" on page 16.

   If you want to use the server's Lights Out Management (LOM) facilities, use the port labeled Serial A/LOM to make your serial connection to the server.

   Note – The Netra X1 server is supplied with shielded serial cables. Use only these cables when making serial connections to the server.

   ---

3. **Connect the server to a maximum of two Ethernet hubs.**

   You need connect to an Ethernet hub only if you intend to use the server in a network.

4. **Connect the server to a maximum of two USB devices.**

   If required.

5. **If you intend to configure the server directly from a dumb terminal or a Sun workstation, connect the serial cable into the DB-25 serial adapter that was supplied with the server, and connect the adapter to the serial connector on the terminal or on the Sun workstation.**

   Refer to Chapter 4 for information about powering on the system.

Note – The DB-25 serial adapter may not work with all terminals. If you have problems, refer to your terminal manual to check its compatibility with the Sun adapter.

Caution – AC-powered Sun products are designed to work with single-phase power systems that have a grounded neutral conductor. To reduce the risk of electric shock, do not connect Sun products to any other type of power system. Contact your facilities manager or a qualified electrician if you are not sure what type of power is supplied to your building.

Caution – Your AC-powered Sun product is packaged with a grounding type (three-wire) power cord. To reduce the risk of electric shock, always connect the cord to a grounded outlet.

CHAPTER 3

Communicating With the Server

This chapter provides information on setting up a console connection to a Netra X1 using a variety of devices. The information is contained in the following sections:

Setting Up a Console Connection to the Server

To perform the initial configuration and to continue to monitor and manage the server, you can connect any of the following devices to the appropriate serial port on the server's back panel:

- Sun workstation or ASCII terminal connected directly to the server
- Sun workstation connected via a terminal server
- Modem
- PC
- Handheld device

Which Is the Appropriate Serial Port?

There are two serial ports on the rear of the Netra X1 server. TABLE 3-1 lists the serial port labels and function.

TABLE 3-1 Netra X1 Server Serial Ports

Serial Port	Purpose	Description
A LOM	Issue LOM commands	This port is dedicated to the Lights Out Management (LOM) device in the server.
B Serial	• Perform binary data transfers • Set up a modem connection	Communication on the A/LOM port is subject to interruption by the LOM device, therefore the A/LOM port does not assert the constant DTR signal required by a modem.

Serial Port Pin Arrangement

When viewed from the back of the server, the pin arrangement of the RJ-45 ports is as shown in FIGURE 3-1.

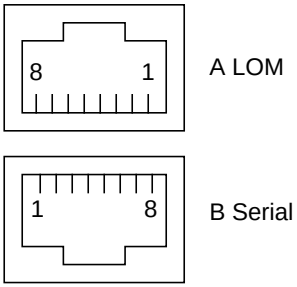

FIGURE 3-1 Serial Port Pins 1 to 8

Serial Connection Settings

The settings you need to use for a serial connection are listed in TABLE 3-2. If you need to perform binary data transfers (that is, transfers of anything more than simple ASCII character streams), use the B Serial port, as communication on the Serial A LOM port is subject to interruption by the Lights Out Management (LOM) device (see "Introduction to Lights-Out Management" on page 41).

TABLE 3-2 Settings for Connecting to the Serial A/LOM or Serial B Port

Parameter	Setting
Connector	Serial A/LOM or Serial B (use Serial B for binary data transfers)
Rate	9600 baud
Parity	No
Stop bits	1
Data bits	8

Serial Adapters

Depending on the type of device you use to connect to the server, you could need to use either a DB-25 or DB-9 serial adapter. TABLE 3-3 describes which type to use, and the following sections describe the crossovers each adapter performs.

TABLE 3-3 Serial Adapters

Terminal Device	Adapter
Sun workstation, ASCII terminal, or terminal server	DB-25
PC or laptop	DB-9 (female, supplied by Sun)
Handheld device	DB-9 (male, not supplied by Sun)

The Sun DB-25 Adapter

To connect to a Solaris `tip` session or to a VT100 terminal, you need to use either the DB-25 (25-Pin DSUB Male to 8-POS RJ-45 Female) adapter that is supplied by Sun (part no. 530-2889) with your system, or an alternative adapter that performs the same pin crossovers. The Sun-supplied DB-25 adapter enables you to connect to any Sun system. The crossovers it performs are listed in TABLE 3-4.

TABLE 3-4 Pin Crossovers in the Sun DB-25 (25-Pin) Adapter

Serial Port (RJ-45 Connector) Pin	25-Pin Connecter
Pin 1 (RTS)	Pin 5 (CTS)
Pin 2 (DTR)	Pin 6 (DSR)
Pin 3 (TXD)	Pin 3 (RXD)
Pin 4 (Signal Ground)	Pin 7 (Signal Ground)
Pin 5 (Signal Ground)	Pin 7 (Signal Ground)
Pin 6 (RXD)	Pin 2 (TXD)
Pin 7 (DSR)	Pin 20 (DTR)
Pin 8 (CTS)	Pin 4 (RTS)

▼ To Use the DB-25 Adapter

1. **Insert one end of the standard RJ-45 patch cable supplied with the Netra X1 server into one of the server's serial ports.**
2. **Insert the other end of the RJ-45 patch cable into the supplied DB-25 adapter.**
3. **Attach the adapter to the appropriate port in your serial device.**

The Sun DB-9 Adapter

Some devices, such as a PC or handheld computer, require you to use either a male or female DB-9 adapter. The Sun DB-9 adaptor (part number 530-3100-xx) is a 9-Pin DSUB female to 8-POS RJ-45 female adapter. To connect to any device that has a 9-pin serial connector, use a DB-9 (9-pin) adapter that performs the pin crossovers listed in TABLE 3-5.

TABLE 3-5 Pin Crossovers for a DB-9 (9-Pin) Adapter

Serial Port (RJ-45 Connector) Pin	9-Pin Connector
Pin 1 (RTS)	Pin 8 (CTS)
Pin 2 (DTR)	Pin 6 (DSR)
Pin 3 (TXD)	Pin 2 (RXD)
Pin 4 (Signal Ground)	Pin 5 (Signal Ground)
Pin 5 (Signal Ground)	Pin 5 (Signal Ground)
Pin 6 (RXD)	Pin 3 (TXD)
Pin 7 (DSR)	Pin 4 (DTR)
Pin 8 (CTS)	Pin 7 (RTS)

Connecting to the Server Using a Sun Workstation or ASCII Terminal

To connect to the server using either a Sun workstation or an ASCII terminal, you need:

- DB-25 adapter

- RJ-45 to RJ-45 patch cable

Both are supplied with the Netra X1 server.

▼ To Connect to the Server Using a Sun Workstation

1. **Connect to the server using the RJ-45 patch cable and DB-25 adapter as described in "To Use the DB-25 Adapter" on page 19.**
2. **From a terminal session, type:**

```
# tip /dev/term/a -9600
```

The `tip` command above is for a console that is using its ttya serial port. If you later configure your console to use ttyb, type the following to set up a `tip` session:

```
# tip /dev/term/b -9600
```

For information about dedicating the console to Serial B, see "Managing the Netra X1 Server From the lom> Prompt" on page 41.

For information about how to power on and configure the server, go to "Powering On and Configuring the Server" on page 30.

▼ To Connect to the Server Using an ASCII Terminal

1. **Set up a connection between the terminal and the Netra X1 server.**

   See "To Use the DB-25 Adapter" on page 19.
2. **For the General terminal settings, refer to the terminal operating manual.**

3. **Make the setting changes shown below.**

Property	Setting
Duplex	Full
Bit Rate	9600
Parity	No
Data Bits	8
Stop Bit	1
Flow Control	Xon/Xoff
VT100 Emulation	On (if applicable)

The `lom>` prompt appears.

For information about how to power on and configure the server, go to "Powering On and Configuring the Server" on page 30.

Connecting to the Server Using a Terminal Server

The pinouts for the Netra X1 server's serial ports correspond with the pinouts for the RJ-45 ports on the Asynchronous Serial Interface Breakout Cable supplied by Cisco for use with the Cisco L2511 terminal server. You can also use terminal servers made by other manufacturers, but check the documentation to see if the serial port pinouts of the Netra X1 server match those of the terminal server you plan to use.

Connecting to a Cisco L2511 Terminal Server

The serial ports on the Netra X1 server are DTE ports. If you connect these to other DTE ports, then the cabling between them must perform a crossover.

The pinouts for the server's serial ports correspond with the pinouts for the RJ-45 ports on Cisco terminal servers. This means that if you are using a Cisco L2511 Terminal Server (and you are connecting the Netra X1 server to it using the Cisco Asynchronous Serial Interface Breakout Cable), you have two connection options:

- Connect the breakout cable directly to the Netra X1 server.

- Connect the breakout cable to a patch panel and use the straight-through patch cable (supplied by Sun) to connect the patch panel to the server.

Connecting to Other Terminal Servers

For terminals from other manufacturers, check the documentation to see if the pinouts of the serial ports on the Netra X1 server match those of the serial ports on your terminal server. If they do not, you need to make a crossover (null-modem) cable that takes each pin on the Netra X1 server's serial port to the corresponding pin in the terminal server's serial port.

TABLE 3-6 shows the crossovers that the cable must perform.

TABLE 3-6 Pin Crossovers for Connecting to a Typical Terminal Server

Netra X1 Serial Port (RJ-45 Connector) Pin	Terminal Server Serial Port Pin
Pin 1 (RTS)	Pin 1 (CTS)
Pin 2 (DTR)	Pin 2 (DSR)
Pin 3 (TXD)	Pin 3 (RXD)
Pin 4 (Signal Ground)	Pin 4 (Signal Ground)
Pin 5 (Signal Ground)	Pin 5 (Signal Ground)
Pin 6 (RXD)	Pin 6 (TXD)
Pin 7 (DSR)	Pin 7 (DTR)
Pin 8 (CTS)	Pin 8 (RTS)

▼ To Connect to a Netra X1 Server Using a Terminal Server

1. **Attach the appropriate crossover cables as described in "Connecting to a Cisco L2511 Terminal Server" on page 21 or "Connecting to Other Terminal Servers" on page 22.**
2. **Open a terminal session on the Sun workstation, and type:**

```
# telnet IP-address-of-terminal-server  port-number
```

For example, for a Netra X1 server connected to port 10000 on a terminal server whose IP address is 192.20.30.10, you would type:

```
# telnet 192.20.30.10 10000
```

Connecting to the Server Using a System Running Microsoft Windows

If you want to configure and operate a Netra X1 server from a PC or laptop running Microsoft Windows, you can do so using the Windows Hyperterminal.

Note – The following procedure relates to Windows 98: other variants of Microsoft Windows may differ slightly.

Note – If you use a Palm Pilot or similar device, make sure that Hot Sync Manager is closed. If it is not closed, you will not be able to communicate with the server from your PC or laptop.

---

1. **Connect the RJ-45 patch cable to the port labelled "A LOM" on the rear of the server.**
2. **Connect the other end of the patch cable to the DB-9 adapter.**
3. **Connect the DB-9 serial adapter to the COM1 serial port on your PC or laptop.**
4. **Open a Windows Hyperterminal:**
   a. **Choose Start > Programs > Accessories > Communications > Hyperterminal**
   b. **Run** `Hyperttrm.exe`
5. **In the Set Up New Session window:**
   a. **Name the session.**
   b. **Choose an icon.**
   c. **Click OK.**
6. **In the Connect To window:**
   a. **Click Edit.**

b. Click Connect Using.

c. In the drop-down menu, click Direct to COM1.

Note – If you connected the DB-9 adaptor to a port other than COM1 on your PC or laptop in Step 3, choose the appropriate option from the list in the drop-down menu.

---

d. Click OK.

7. In the COM1 Properties window:

a. Change the Bits Per Second value to 9600.

b. Set Flow Control to Xon/Xoff.

The correct values for all settings in this window are as shown below.

Property	Setting
Bits Per Second	9600
Data Bits	8
Parity	None
Stop Bits	1
Flow Control	Xon/Xoff

c. Click OK.

The `lom>` prompt now appears in the Windows Hyperterminal. For information about how to power on and configure the server, go to "Powering On and Configuring the Server" on page 30.

Connecting to the Server Using a Handheld Device

The Netra X1 server can be configured from a handheld device that uses PalmOS 2.0 or later, as long as you have VT100 terminal emulation software installed on the device and the correct hardware with which to connect to the server.

▼ To Set Up the Hardware

Note – To connect a handheld device to a Netra X1 server you need a *male* DB-9 adapter which performs the same crossovers as those listed in TABLE 3-5.

1. **Connect the RJ-45 cable supplied with the server to the server's A LOM port.**
2. **Connect the other end of the cable to the DB-9 adapter.**
3. **Connect the DB-9 adapter to the serial cable leading to your PalmOS device's cradle or travel kit.**

▼ To Set Up the Software

Note – To configure the Netra X1 server from a handheld device, you need VT100 emulation software installed. The following procedure was based on a package called "Online" which is available from `http://www.markspace.com/online.html#Getting.` This web address also gives you information on installing and using the software.

Once the program is installed:

1. **Go to the Applications menu.**
2. **Click the Online icon.**
3. **Choose Menu > Options > Communications and make the following settings.**

   This ensures correct communication with the server.

Property	Method
Method	Serial
Port	Serial
Baud Rate	9600
Data Bits	8
Parity	None
Stop Bits	1
RTS/CTS	Unchecked
Xon/Xoff	Unchecked

4. **Choose Menu > Options > Terminal and make the following settings:**

Property	Method
Emulate	TTY
Font	Small
Return	LF
Backspace	BS
Add LF	Unchecked
Display follows cursor	Checked
Autowrap to next line	Unchecked
Local echo/Pacing	Unchecked/Off

5. **Click the On button.**

   This starts the software's online mode.

Tip – If the screen prompt does not appear immediately, try pressing the return key. The prompt should appear.

You can now configure the Solaris operating environment and manage the server through the handheld device's terminal emulator. For information on how to power on and configure the server, go to "Powering On and Configuring the Server" on page 30.

The following sections give some additional information that may make using the handheld device's terminal emulator easier.

Using the Arrow Keys

The arrow keys available on the PalmOS device will not work with a Netra X1 server. To work around this problem, specify while you configure Solaris that you are using an Xterm device.

The following keystrokes help you navigate the menus.

Keystroke	Action
Ctrl-F or Tab	Go forward to the next option (down).
Ctrl-B	Go back to the previous option (up).
Space	Select option (X).
Esc-*n*	Go to the next or previous screen, where *n* is indicated at the bottom of the screen. Use this instead of the function (Fn) keys.

▼ To Use Macros

You can manage the server more efficiently by setting macros up in the terminal emulator. To do this:

1. **Choose Menu > Options > Macro.**
2. **Define a name for the macro.**
3. **Specify the text that the macro will execute.**
4. **End the text of each macro with "\n ".**

   This indicates a return signal, and executes the macro.

   The following table gives some example macros.

TABLE 3-7 Example PalmOS Terminal Emulator Macros

Macro Name	Command	Action
backspace	`stty erase ^H\n`	Enables the Graffiti stroke for "delete" to work on the screen without printing the ^H character.
arrow-enable	`csh;setenv TERM dtterm\n`	Switch to `csh` and set the terminal variable to `dtterm`. This enables the on-screen arrows to work on applications such as vi.

CHAPTER 4

Powering On and Configuring the Netra X1 Server

This chapter explains how to use the Power (On/Standby) switch, configure the server, and power it on. The chapter contains the following sections:

Powering On and Configuring the Server

The Netra X1 server comes pre-installed with the Solaris 8 operating environment. When you power on the server for the first time, you will automatically be taken through a configuration procedure during which you will be asked a number of questions. Your answers determine how the server is configured.

Choose the configuration that best suits your requirements from the list below, and follow the instructions in the appropriate section to power on and configure your server.

- "To Power On With the Server's Details Registered at a Name Server" on page 30
- "To Power On Without the Server's Details Registered at a Name Server" on page 31
- "To Power On a Standalone Server for the First Time" on page 33
- "To Clear Your Configuration and Start Again" on page 34

Note – Do not use the power on/standby switch on the back of the server to power on. You power on from the keyboard, and that step is included in these instructions.

Before configuring a Netra X1 server:

- Connect the server to a power source (see "Connecting the Cables" on page 11).
- Set up a serial connection to the server using one of the serial ports on the server's back panel and your choice of workstation (see "Setting Up a Console Connection to the Server" on page 16).

▼ To Power On With the Server's Details Registered at a Name Server

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Note – Follow the instructions in this section only if you have a name server installed on your network. For instructions on using a name server to automate the process of configuring the Solaris operating environment on multiple servers, refer to the *Solaris 8 Advanced Installation Guide* which accompanies the Solaris 8 operating environment CDs.

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1. **Connect the server to the power supply but do not power it on.**

2. **Set up a serial connection to the Serial A/LOM port and also a connection to at least one Ethernet hub (as described in Chapter 3).**

3. **At the console `lom>` prompt, type the following command to power on the server:**

```
lom> poweron
```

   For more information about the `lom>` prompt and the commands that are available from it, see Chapter 5.

   During booting you will be prompted for certain information. The information you provide determines the configuration of the server.

4. **Specify a language.**

5. **Specify your locale.**

6. **Specify the type of terminal you are using to communicate with the Netra X1 server.**

7. **Specify whether you need IPv6 enabled, and then follow the instructions on the screen.**

8. **Specify whether you want to enable the Kerberos Security mechanism, and then follow the instructions on the screen.**

9. **Confirm the information you have typed.**

10. **Specify time and date information.**

11. **Give a password (if any) for users logging in as root.**

12. **When asked if you want the server to perform Automatic Power Saving Shutdown, answer No.**

Note – If you answer Yes, the server will automatically put itself into Standby mode after a period of idleness.

The system will boot when you have provided it with the information it needs.

▼ To Power On Without the Server's Details Registered at a Name Server

Follow the instructions in this section if you do not have a Name Server configured on your network.

Tip – Read these instructions through before you follow them, to see what information the system will prompt you for when you start it for the first time.

1. **Connect the server to the power supply but do not power it on.**
2. **Set up a serial connection to the Serial A/LOM port and also a connection to at least one Ethernet hub (as described in Chapter 3).**
3. **At the `lom>` prompt, type the following command to power on the server:**

```
lom> poweron
```

   For more information about the `lom>` prompt and the commands that are available from it, see Chapter 5.

   During booting you will be prompted for certain information. The information you provide determines the configuration of the server.

4. **Specify a language.**
5. **Specify your locale.**
6. **Specify the type of terminal you are using to communicate with the Netra X1 server.**
7. **Specify whether the IP address is to be configured manually or by DHCP.**

   If manually, specify an IP address when prompted.

8. **Specify which of the Ethernet ports you intend to use as the primary Ethernet connection.**

   For the port labeled Net0, specify `dmfe0`. For the port labeled Net1, specify `dmfe1`.

9. **Specify a host name for the server.**
10. **Specify whether you need IPv6 enabled, and then follow the instructions on the screen.**
11. **Specify whether you want to enable the Kerberos Security mechanism, and then follow the instructions on the screen.**
12. **Specify the name service you want the server to use.**
13. **Specify the name of the domain of which the server will be a part.**
14. **Specify whether you want the system to search the network for a name server or whether you want it to use a particular name server.**

15. **If you chose to use a particular name server, specify the host name and IP address of the name server.**
16. **Specify whether the Netra X1 server is to be part of a subnet.**
17. **Specify a Netmask for the server.**
18. **Confirm the information you have typed.**
19. **Specify time and date information.**
20. **When prompted, give a password (if any) for users logging in as root.**
21. **When asked if you want the server to perform Automatic Power Saving Shutdown, answer No.**

Note – If you answer Yes, the server will automatically put itself into Standby mode after a period of idleness.

The system will boot when you have provided it with the information it needs.

▼ To Power On a Standalone Server for the First Time

1. **Connect the server to the power supply but do not power it on.**
2. **Set up a serial connection using the Serial A/LOM port (as described in "Setting Up a Console Connection to the Server" on page 16).**
3. **At the `lom>` prompt, type the following command to power on the server:**

```
lom> poweron
```

For more information about the `lom>` prompt and the commands that are available from it, see Chapter 5.

4. **Specify a language.**
5. **Specify your locale.**
6. **Specify the type of terminal you are using to communicate with the Netra X1 server.**
7. **When prompted to indicate whether you want the server to be networked, specify No.**

8. **Specify a Host Name for the server.**
9. **Confirm the information you have given.**
10. **Specify the date and time information.**
11. **When prompted, give a password (if any) for users logging in as root.**
12. **When asked if you want the server to perform Automatic Power Saving Shutdown, answer No.**

Note – If you answer Yes, the server will automatically put itself into Standby mode after a period of idleness.

The system will boot when you have provided it with the information it needs.

▼ To Clear Your Configuration and Start Again

If you want to start the power on process again, as if from a previously unused server, you must clear the configuration of the server.

- **If you are at the `lom>` prompt, go to the `ok` prompt by typing:**

```
lom> break
```

1. **Boot the server into the Solaris environment by typing:**

```
ok boot
```

2. **At the Solaris prompt, type:**

```
# sys-unconfig
```

3. **When prompted to confirm that you want to create a 'blank' server, type `y`.**

4. **When the server has unconfigured itself, type the LOM escape sequence. By default, this is:**

```
# #.
```

When the `lom>` prompt appears, follow the instructions in one of the following sections:

- "To Power On With the Server's Details Registered at a Name Server" on page 30 or
- "To Power On Without the Server's Details Registered at a Name Server" on page 31.
- "To Power On a Standalone Server for the First Time" on page 33

Using the Power (On/Standby) Switch

Caution – The power switch on the back panel of the Netra X1 server is not an On/Off switch, it is an On/Standby switch. It does not isolate the equipment.

The power (On/Standby) switch on the Netra X1 server is a rocker type, momentary action switch. It controls only low-voltage signals; no high-voltage circuits pass through it. This means that the main method of connecting or disconnecting power is by inserting or removing the power supply cord. The server contains no integral circuit breakers: to isolate it, you must break all connections to it. If you do not do this by removing the power supply cord, you must instead open all external circuit breakers.

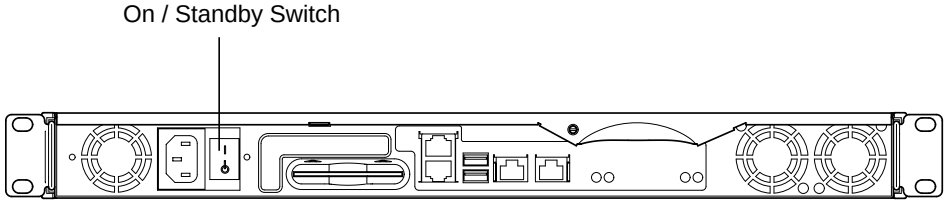

FIGURE 4-1 Netra X1 Server Power (On/Standby) Switch

The symbols on the switch are:

On

- Press to apply power to the server.

Standby

- Press for less than four seconds to initiate an orderly shutdown of the system into Standby mode.
- Press and hold down for more than four seconds to leave only the LOM and certain battery backed functions running.

As long as the power cable is connected to the Netra X1 server, then the server is either powered on or in standby power mode. To power the server on, or return it to standby power mode only, use either of the following methods:

- Commands from the `lom>` prompt.
- The rocker switch.

To completely remove power from the server:

- Disconnect the power cable from the server.