Sun StorEdge™ Remote Response

Field Installation Guide

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Preface

The Remote Response Field Installation Guide provides installation instructions for Remote Response X-Option Kit components.

Who Should Use This Book

The Remote Response Field Installation Guide is for engineers and installers responsible for installing the Remote Response system at customer sites.

Typographical Conventions

Typeface	Meaning	Example
AaBbCc123	The names of commands, files, directories, on-screen computer output, script names, and URLs.	Edit your .Login File
AaBbCc123	What you type contrasted with on-screen computer output.	Machine_name: **su** Password:

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Typeface	Meaning	Example
<AaBbCc123>	Command line placeholder: replace with a real name or value.	To delete a file type **rm** *<filename>*
AaBbCc123	Book titles, new words or terms, or words to be emphasized.	Read Chapter 6 in the *User Guide*. These are called *class* options. You *must* be logged in as root to do this.
`AaBbCc123`	Keyboard keys you press.	Press ENTER.

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Shell Prompts in Command Examples

Shell	Prompt
C shell prompt	machine_name :
C shell superuser prompt	machine_name #
Bourne shell and Korn shell prompt	$
Bourne shell and Korn shell superuser prompt	#

Related Documents

The following support documents provide additional information about the SSRR technology, software and processes:

- *Sun StorEdge Remote Response - Technical Description*: The Technical Description provides an overview of the SSRR architecture, network communication topology, and dial-in process.
- *Sun StorEdge Remote Response - Security White Paper*: The Security White Paper provides an overview of the SSRR security model and other implementation details.

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Pre-Installation Notes

The Remote Response Kit installation consists of the component installation at the customer site, and remote configuration and testing, performed by Sun's Solution Center.

This section provides pre-installation instructions for personnel responsible for installing the Remote Response X-Option at the customer site.

- Contacting the Customer
- Opening a Radiance case

Contacting the Customer

The installer will contact the customer to verify that an analog line is available and operational. The installer will also confirm:

- Analog line is Dial in/Dial out
- Analog line phone number

Opening a Radiance Case

The installer will open a radiance case in accordance with the procedures defined in the local geo. The installer will include the following information in the Radiance case:

- Customer contract number
- Customer contact name and phone number
- Phone number Solution Center will dial into for configuration and testing
- Installer's name and contact number

Installation and Cabling

The following section details the steps and requirements for installing the Remote Response X-Option Kit and contains the following instructions:

- Unpacking the Remote Response Kit
- Attaching the NTC to a Storage Cabinet
- Cabling: Service Processor with Ichabod Option
- Powering the System
- Contacting the Solution Center

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Unpacking the Remote Response Kit

Unpack and inventory the Remote Response Kit. Ensure all components listed in the Bill of Materials (BOM) are included.

TABLE 1-1 Bill of Materials

Part Number	Item	Quantity
	US Robotics V.Everything Modem	1
	Xylogics 8-Port MicroAnnex (NTC)	1
530-1871-01	Standard CAT5 (1to1/8to8) Cable	5
530-3139-01	Special Xylogics MicroAnnex Cable	1
180-2001-01	Special Xylogics MicroAnnex Cable	2
530-2149-01	Ethernet Cross-Over Cable	1
370-4902-01	Special Modem Adapter Cable	1
	Telephone Line Cable	1

Note: An additional Hub/Router is added to the bill of materials for multiple Service Processor installations.

Attaching the NTC to a Storage Cabinet

The following instructions describe the removal of a factory pre-installed NTC mount from a storage cabinet, securing the NTC to the NTC mount, and attaching the NTC mount to a storage cabinet.

• Refer to steps 1-7 for factory pre-installed NTC mounts.

• Refer to steps 4-7 to retrofit an NTC mount to an existing storage cabinet
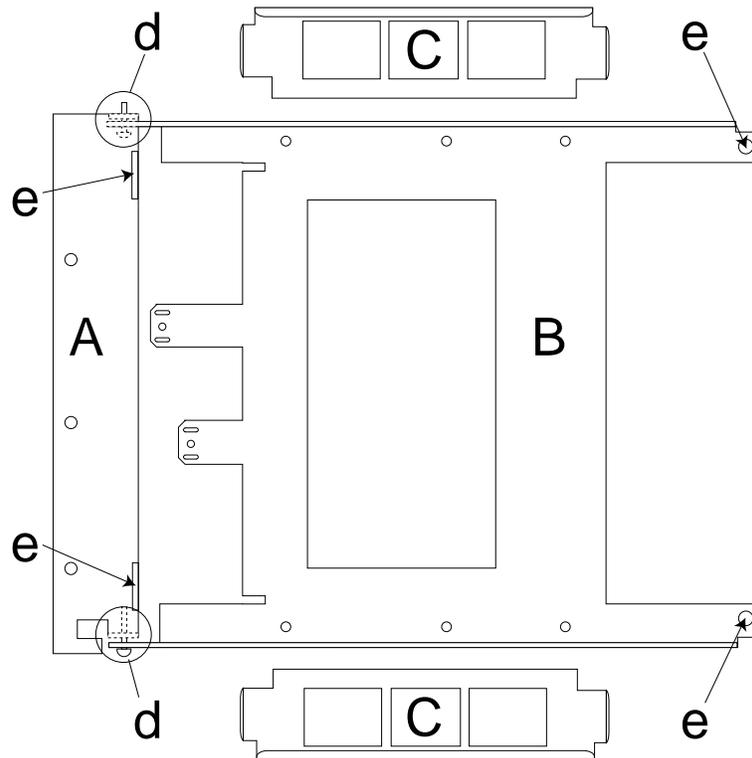
FIGURE 1-1   NTC Mount Components

TABLE 1-2   NTC Mount Hardware

Description	Qty
Mount Hinge (A)	1
Mount (B)	1
Brackets (C)	2
Hinge Screws (d)	2
Mount Screws (e)	6
Bracket Nuts (f)	6

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Removing the Factory Installed NTC Mount

1. Open the rear of the storage cabinet.

2. Note the position of the NTC mount.

Note: The uppermost screw within the NTC mount hinge should be installed at the 110 centimeter mark. The NTC mount hinge is installed on the left side of the cabinet.

3. Remove the NTC mount by unscrewing the six hinge screws securing the mount to the cabinet.
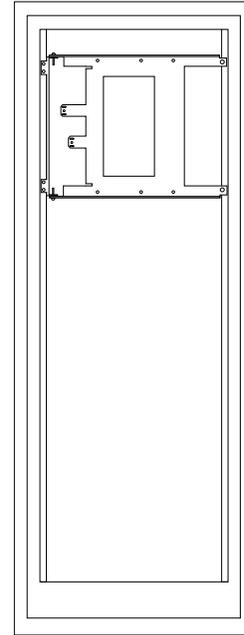
FIGURE 1-2   Storage Cabinet

Securing the NTC to the NTC Mount

4. Lay the NTC mount on a flat, stable surface, face up with the hinged assembly at the rear.

5. Place the NTC (top side up, front panel facing you) onto the center of the NTC mount.

6. Place the brackets on either side of the NTC and secure to the NTC mount with six nuts (f).

Note: The left and right sides of the NTC contains grooves that run front to back. The brackets should clamp down on these grooves to properly secure the NTC in place.
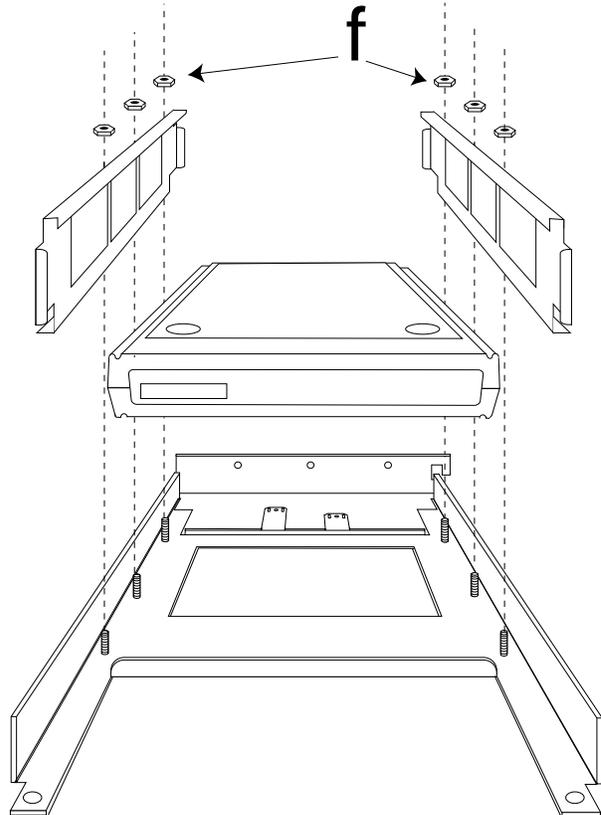
FIGURE 1-3   Securing NTC to NTC Mount

Attaching the NTC Mount to a Storage Cabinet

7. Attach the NTC mount to the storage cabinet using six screws (e).

Note: The uppermost screw within the NTC mount hinge should be installed at the 110 centimeter mark. The NTC mount hinge is installed on the left side of the cabinet.
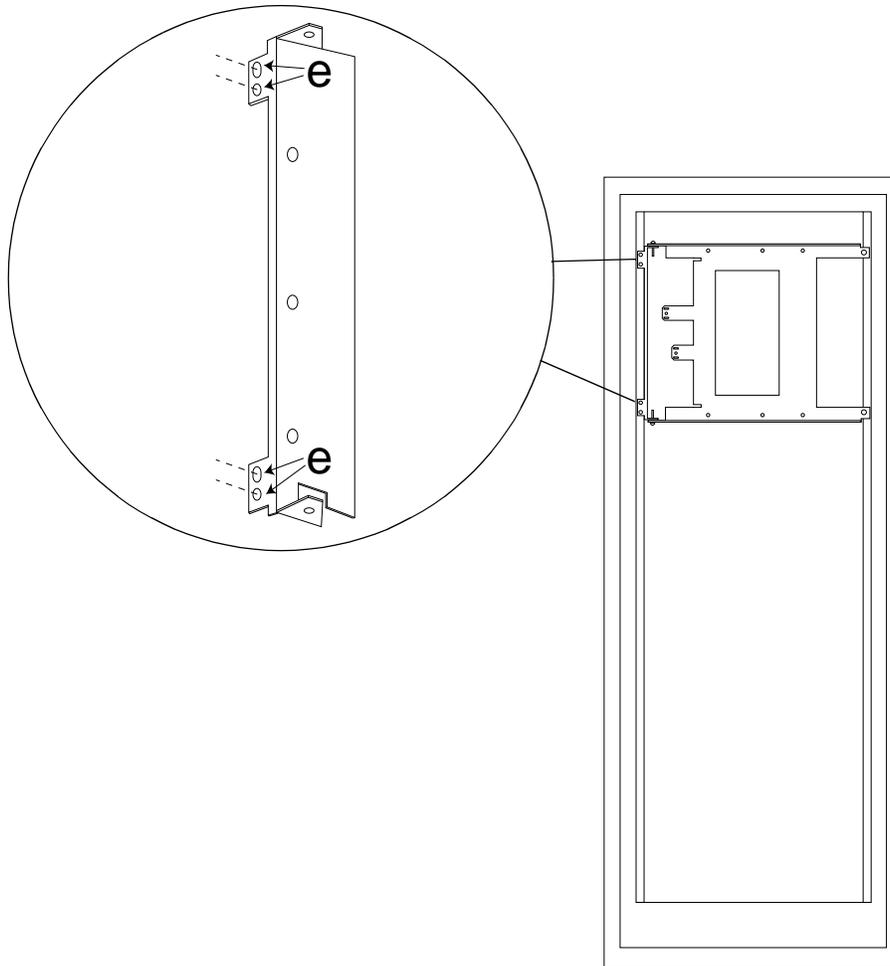
FIGURE 1-4   NTC Mount Hinge Detail

Cabling: Service Processor with Ichabod Option

Note: Cable diagrams and lehgends supporting the following instructions are located at the end of this section.
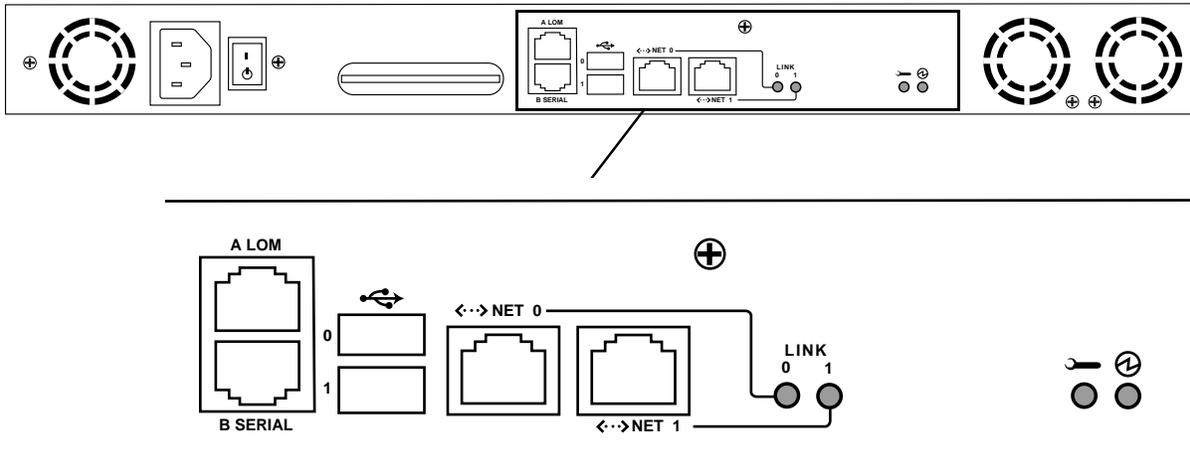
FIGURE 1-5   Netra Ports

1. Unplug the existing 530-1871-01 Standard CAT5 cable (F) from the ttya (A LOM) port in the BACK of the Service Processor and unplug the other end of the same cable from the REAR of the Service Panel *Serial Console Port*.

Note: Do NOT remove this cable from the cabinet. It will be used as one of the cables (H) in the following step.

2. Plug one end of a 530-1871-01 Standard CAT5 cable (H) from the previous step into the RJ45 Ethernet connection in the BACK of the NTC and plug the other end into the *NTC ENET* port at the REAR of the Service Panel.

Twisted pair RJ45 Ethernet

RJ45 Serial Ports

AUI Ethernet
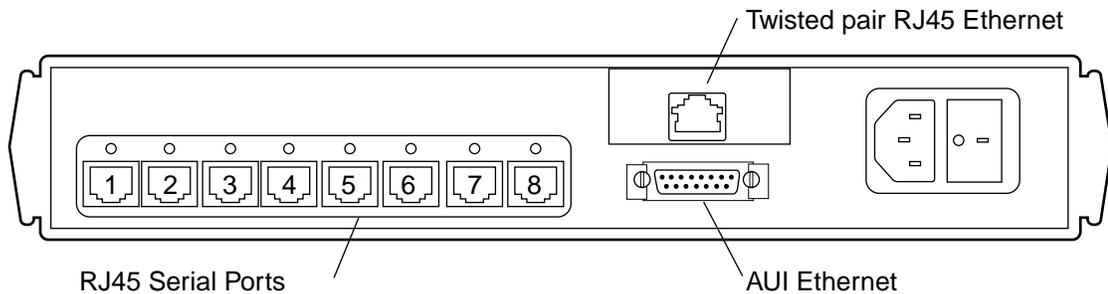
FIGURE 1-6   NTC Ports

3. Plug the P1 end of one of the VLX1031 Special Xylogics MicroAnnex cable (J) into Port 2 of the NTC. Plug the P2 end of the same cable into the ttya (A LOM) port in the BACK of the Service Processor.

4. Plug the P1 end of one of the VLX912-08 Special Xylogics MicroAnnex cable (B) into Port1 of the NTC. Plug the P2 end of the same cable into the REAR of the Service Panel *Serial Console Port*.

5. Plug the VLX-abcd-nn Modem Adapter (M) into the DB25 connector on the BACK of the modem and place the modem in the desired position.

On/Off   Phone   DB25 Com Port
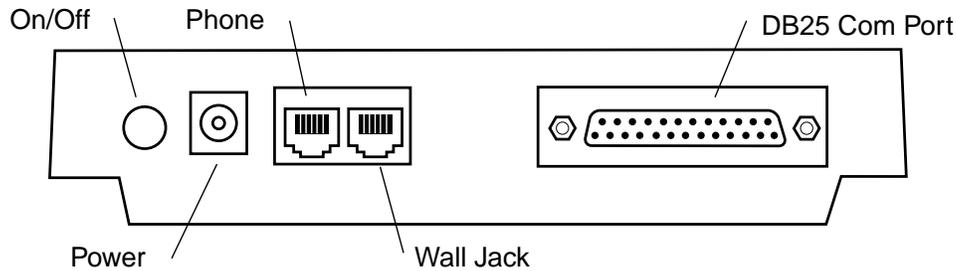
Power   Wall Jack
FIGURE 1-7   Modem Ports

Note: The modem should be placed no more than 6 feet from where the cabinet with the NTC is being installed.

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6. Plug one end of a 530-1871-01 Standard CAT5 cable (K) into Port8 of the NTC. Plug the other end into the REAR of the Service Panel *MODEM* port.

7. Plug one end of a 530-1871-01 Standard CAT5 cable (L) into the FRONT of the Service Panel *MODEM* port and plug the other into the *Modem Adapter* (M).

Note: These instructions are concluded by choosing cabling for single or multiple Service Processors. See the next page for options.

Single Service Processor Cabling

Follow the next step if there are no additional Service Processor Ethernet connections to be made.

• Plug the 530-2149-01 Ethernet Cross-Over cable (O) into the FRONT of the Service Panel *NTC ENET* port and plug the other end into the FRONT of the Service Panel *SP LAN* port.

Note: Ensure there is a 530-1871-01 Standard CAT5 cable (A) plugged into the dmfe0 in the BACK of the Service Processor port going to the REAR of the Service Panel SP LAN port. If not, one has been supplied as part of this kit.

Multiple Service Processor Cabling

Follow the next steps if there are additional Service Processor Ethernet connections to be made.

- Plug a 530-1871-01 Standard CAT5 cable (S) into the FRONT of the Service Panel *NTC ENET* port and plug the other end of the same cable into the Hub with the other Service Processor LAN connections.
- Plug the P1 end of a VLX1031 cable into Port 3 of the NTC and leave the P2 end loose and available as an additional device console connection.
- Connect Ethernet straight-thru cables from SP LAN ports to the Hub/Router.
- Connect the NTC to Port 1.
- Connect the Master Service Processor to Port 2.
- Connect the remaining Service Processors to any port.

Note: An additional Hub/Router is needed in order to complete the cabling for multiple Service Processors. This is the hub that is being connected to in bullet 1 of the Multiple Service Processor Cabling instructions.

Powering the System

Power up the components in the following order:

- **Ethernet Hub** - Power LED should illuminate
- **NTC** - Expect to see the following LEDs
- **Modem** - Expect to see the following LEDs
- **Service Processor** - Hold power switch on for at least five seconds or until the power LED illuminates

NTC LEDs

Expect to see the NTC front panel LEDs flash for a few minutes until they stop with the following:

TABLE 1-3 NTC LEDs

Power	On - Solid
Unit	On - Solid
Net	On - Solid
Active	On - Flashing

Modem LEDs

The Modem LEDs will also go through a startup sequence until they stop with the following:

TABLE 1-4 Modem LEDs

HS	On - Solid
AA	On - Solid
TR	On - Solid
MR	On - Solid
RS	On - Solid
CS	On - Solid

Cabling Diagram

(T/U)

(M5)

(O4/R1)   (Q8)   (N8)   (O4/S1)   (L1)

Service Panel					
SP LAN	Serial Console Port	Service Port	USB1 USB2	NTC ENET	Modem

(A1)   (P1)   (B7)   (H1)   (K1)

Service Processor		
ttya	dmfe0	USB0
ttyb	dmfe1	USB1

NTC		
	ENET	
Port 1	Port 2	Port 8

(C6)

(J2)

(G1)

Component
Lan
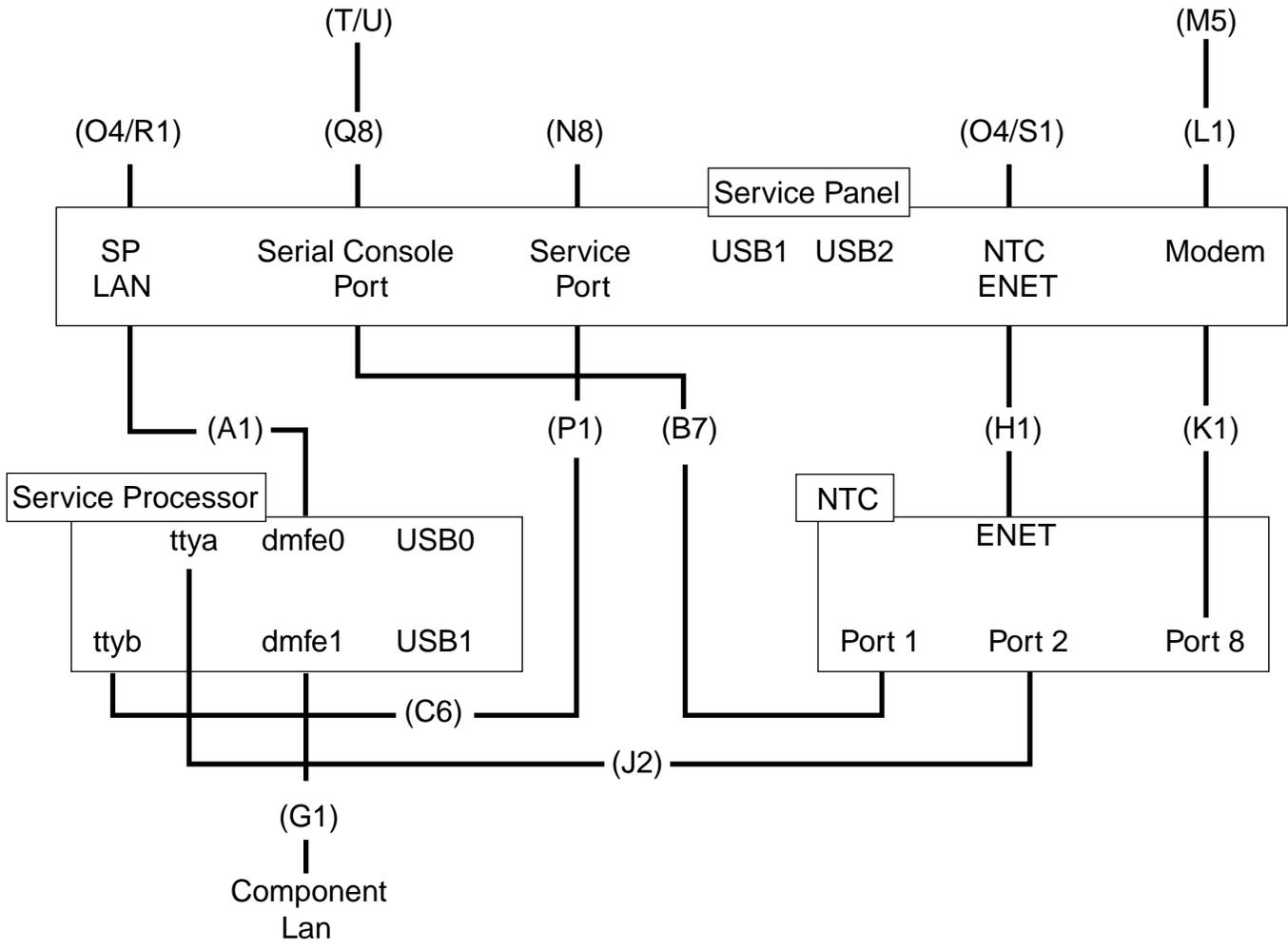
FIGURE 1-8 Cabling Diagram

Cable Legend

TABLE 1-5 Internal Cabling: Service Processor with Ichabod

Cable	Type	Description	Part Number	Service Processor Connector	Service Panel Connector
A	RJ45/ RJ45	Standard CAT5 Cable 1 to 1	530-1871-04	Netra dfme0	SP LAN
B	RJ45/ RJ45	Special Xylogics Roll-Over	VLX1031	NTC port 1	Serial Console Port
C	RJ45/ RJ45F	Special 6" Rollover Adapter 1 to 8, 8 to 1	???	Netra ttyb	Adapter (6" length)
G	RJ45/ RJ45	Standard CAT5 Cable 1 to 1	530-1871-04	Netra dfme 1	-
H	RJ45/ RJ45	Standard CAT5 Cable 1 to 1	530-1871-04	NTC Ethernet	NTC ENET
J	RJ45/ RJ45	Special Xylogics Roll-Over	VLX1031	Netra ttya/ NTC port 2	N-A (Internal only)
K	RJ45/ RJ45	Standard CAT5 Cable 1 to 1	530-1871-04	NTC port 8	Modem
L	RJ45/ RJ45	Standard CAT5 Cable 1 to 1	530-1871-04	Service Panel to Modem	Modem
M	RJ45/ DB25M	Special RJ45 to DB25Adapter Xylogics to Modem	Special Order	Cable L	N/A (Attaches to Modem)

TABLE 1-5 Internal Cabling: Service Processor with Ichabod

Cable	Type	Description	Part Number	Service Processor Connector	Service Panel Connector
N	RJ45/ RJ45	Standard Cable. Ships with Netra. 1 to 1	530-2093-01	Service Cable	External Service Port
O	RJ45/ RJ45	Standard Ethernet Cross-Over	???	Ethernet Cross-Over	SP LAN to NTC ENET
P	RJ45/ RJ45	Standard CAT5 Cable 1 to 1	530-1871-04	C Adapter	Service Port
Q	RJ45/ RJ45	Standard Cable. Ships with Netra. 1 to 1	530-2093-01	Service Cable	External Serial Console Port
R	RJ45/ RJ45	Standard CAT5 Cable 1 to 1	530-1871-04	External Ethernet	SP LAN to Hub
S	RJ45/ RJ45	Standard CAT5 Cable 1 to 1	530-1871-04	External Ethernet	NTC ENET to Hub (Multiple Service Processors)
T	RJ45/ DB9F	Standard Adapter. Ships with Netra.	530-3100-01	N/A	Q to Laptop / Server ttyX / DTE
U	RJ45/ DB25	Standard Adapter. Ships with Netra.	530-2889-03	N/A	Q to Server ttyX / DTE

Service Panel Connectors

TABLE 1-6   Service Panel Connectors

Connector Name	Internal	External	Comments
SP LAN	RJ 45	RJ45	Used externally to connect SP to LAN.
Serial Console Port	RJ 45	RJ45	Provides Netra console access. (service access)
Service Port	RJ 45	RJ45	Additional serial port access. (component console)
USB1	USB	USB	For future connectivity.
USB2	USB	USB	For future connectivity.
NTC ENET	RJ 45	RJ45	Used to externally connect NTC to SP LAN.
MODEM	RJ12	RJ12	Used to connect modem to phone line.

Note: All connectors are female.

Contacting the Solution Center

The installer will contact the Solution Center and ask for the Sun StorEdge Remote Response Start. The installer will remain onsite until configuration and testing is successfully concluded.

The following information is required by the Solution Center if not previously included in the Radiance case:

- Customer contract number
- Customer contact name and phone number
- Phone number Solution Center will dial into for configuration and testing
- Specific configuration of T3s, switches, and routers
- Installer's name and contact number

Note: T3, switch, and router information will be included in secure customer support web pages.

Glossary

Alarm A message with an attached level of severity.

Americas One of three Sun designated geographies that includes Canada, Latin America, Mexico, and the United States.

APAC Asia Pacific. One of three Sun designated geographies that includes Asia, New Zealand and Australia.

Array A disk subsystem, composed of multiple disk drives, that appears as a single large, fast, super-reliable disk drive. Designed to provide performance, high availability, and increased storage capacity.

DAS Direct Access Storage

EMEA Europe, Middle East, Africa. One of three Sun designated geographies that includes Europe, the Middle East and Africa.

Ethernet Hub Hardware used to network computers together. Ethernet hubs serve as a common wiring point allowing information to flow through one central location to any other computer on the network.

Fibre Channel Glass fiber optics based protocol. Commonly used for SANs configurations, Wide Area Networks, and Campus Area Networks.

IP Internet Protocol. The IP part of TCP/IP; the protocol that is used to route a data packet from its source to its destination over the Internet.

Modem Short for Modulator/Demodulator. A modem is a device that allows remote computers to transmit and receive data using telephone lines.

Network Terminal Concentrator (NTC) The NTC provides serial communications between hardware components.

NSCC Sun's Network Storage Command Center.

PPP   Point-to-Point Protocol. A communications protocol used to transmit network data and IP based communications across serial lines.

Private Network   A means by which certain authorized individuals have secure access to an organization's intranet by means of an extranet; a part of the internal network that is accessible via the Internet.

RAS Agent   Remote monitoring software agent used by Sun's Network Storage to collect and report information about storage products.

Remote Monitoring   The ability to monitor the functionality and performance of a hardware system from a location other than where the hardware resides.

Remote Support   The ability to directly, or indirectly, troubleshoot, diagnose, and service computer hardware from a location other than where the hardware resides.

RMC   Remote Monitoring Center.

SAN   Storage Area Network.

Service Processor   Sun's rack-mountable Netra X1 server pre-configured with advanced remote management and monitoring capabilities. The service processor monitors the SAN and provides service and support access for Sun engineers.

SSRR   StorEdge Remote Response.

Switch   A networking device that can send packets directly to a port associated with a given network address.

T3 Array   Sun's hardware based array featuring fibre channel architecture providing the basis for a modular network storage.

UUCP   UNIX to UNIX Communication Protocol. UUCP is a protocol for transferring files, news, and mail, and executing remote commands between Unix machines.