Netra™ ct Server Alarm Card Installation Guide

Please
Recycle

Adobe PostScript

Contents

Preface

The *Netra ct Server Alarm Card Installation Guide* describes how to install the optional alarm card in the Netra™ ct servers. This guide has instructions for both the Netra ct 800 server and the Netra ct 400 server.

The intended reader of this manual is an experienced system administrator who has installed cards and other components in servers in telco environments. Knowledge of the Solaris™ operating environment is a plus.

Before performing the procedures described in this book, you should have completed the installation and setup of the Netra ct server, as described in the *Netra ct Server Installation Guide*.

Safety and Compliance

All Netra ct servers are shipped with the *Netra ct Server Safety and Compliance Manual*, which specifies the environmental and electrical safety requirements for the product and contains compliance certification for various countries.

Using UNIX Commands

This document contains only limited information on 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* (shipped in AnswerBook™ form, available in printed form as an at-cost option.)
- AnswerBook online documentation for the Solaris software environment
- Other software documentation that you received with your system

Typographic Conventions

Typeface or Symbol	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	`#`

Related Documentation

In addition to this *Alarm Card Installation Guide*, the alarm card option is accompanied by the following manual:

Title	Part Number
Sun Remote System Control (RSC) User's Guide for the Netra ct Server Alarm Card	806-3301

The alarm card manuals are companion pieces to the standard Netra ct server manuals:

Title	Part Number
Netra ct Server Start Here	806-5161
Netra ct Server Product Notes	806-3299
Netra ct Server Safety and Compliance Manual	806-3295
Netra ct Server Product Overview	806-3298
Netra ct Server Installation Guide	806-3294
Netra ct Server Service Manual	806-3296

Depending on the options you might have purchased for your machine, you might have also received manuals for network interface cards.

As mentioned above, as a Netra ct server purchaser, you receive a suite of online documentation for the Solaris operating environment.

Accessing Sun Documentation Online

Documentation and product information for the Netra product line is available at:

`http://www.sun.com/products-n-solutions/hw/networking`

The `docs.sun.com`[sm] web site enables you to access Sun technical documentation for the Solaris operating environment on the Web. You can browse the `docs.sun.com` archive or search for a specific book title or subject at:

```
http://docs.sun.com
```

Ordering Sun Documentation

Fatbrain.com, an Internet professional bookstore, stocks select product documentation from Sun Microsystems, Inc.

For a list of documents and how to order them, visit the Sun Documentation Center on Fatbrain.com at:

```
http://www.fatbrain.com/documentation/sun
```

Sun Welcomes Your Comments

Sun is interested in improving its documentation and welcomes your comments and suggestions. You can email your comments to Sun at:

```
docfeedback@sun.com
```

Please include the part number (806-3300-11) of your document in the subject line of your email.

Installing the Alarm Card

This chapter contains instructions for installing an alarm card in both the Netra ct 400 server and the Netra ct 800 server. It can be used in both the front-access and rear-access models of the Netra ct servers. This chapter is organized as follows:

- "Installation Requirements" on page 1
- "Connecting a Terminal Console to the Netra ct Server" on page 1
- "Attaching the Antistatic Wrist Strap" on page 15
- "Installing the Alarm Card" on page 16
- "Connecting the Cables" on page 26
- "What's Next" on page 41

Installation Requirements

You must verify that the following conditions are met before you can install the alarm card and, if necessary, the alarm rear transition card, into your Netra ct 800 server or Netra ct 400 server:

- "Connecting a Terminal Console to the Netra ct Server" on page 1
- "Verifying the Alarm Card Software Installation" on page 10
- "Verifying You Have the Correct Alarm Card for Your Netra ct Server" on page 11
- "Verifying the Alarm Card I/O Slot Is Available" on page 11

Connecting a Terminal Console to the Netra ct Server

You will have to log into your server and perform certain software commands in order to install an alarm card successfully. You can log into the server either remotely, where you would log into the Netra ct server as root through another

server on the network, or directly, where you would connect a terminal console directly to your Netra ct server. A terminal console could be either an ASCII terminal, a workstation, or PC laptop.

For a direct login, the connection you use varies depending on the Netra ct server model you have, the type of terminal console you are using, and the card that you are connecting to:

- If you are using an ASCII terminal to power on and off the Netra ct server, go to "To Use an ASCII Terminal" on page 2.
- If you are using a Solaris workstation to power on and off the Netra ct server, go to "To Use a Solaris Workstation" on page 3.
- If you are using a PC laptop to power on and off the Netra ct server, go to "To Use a PC Laptop" on page 4.

▼ To Use an ASCII Terminal

1. **Get the appropriate cable(s) and adapter(s) and make the necessary connections.**

   You may need one or more cables and adapters in order to connect the ASCII terminal to the server. The cables and adapters you need varies, depending on the model server you have and the card that you are connecting to.

TABLE 1 Connecting an ASCII Terminal to a CPU or CPU Transition Card

Server Type	TTY A Port on Netra ct Server	Adapter	Cable	Adapter	Serial Port on Terminal
Netra ct 800 server	• *Front-access* model: DB-9 male on the CPU front transition card. See "CPU Front Transition Card, Netra ct 800 Server" on page 7. • *Rear-access* model: DB-9 male on the CPU rear transition card. See "CPU Rear Transition Card, Netra ct 800 Server and Netra ct 400 Server" on page 9.	Not needed.	DB-9 female-to-DB-25 male straight-through	DB-25 female-to-DB-25 female gender changer	DB-25 male
Netra ct 400 server	• *Front-access* model: DIN-8 female on the CPU card. See "CPU Card" on page 5. • *Rear-access* model: DB-9 male on the CPU rear transition card. See "CPU Rear Transition Card, Netra ct 800 Server and Netra ct 400 Server" on page 9.	Not needed.	• *Front-access* model: DIN-8 male-to-DB-25 male • *Rear-access* model: DB-9 female-to-DB-25 male straight-through	DB-25 female-to-DB-25 female gender changer	DB-25 male

2. **Access the "Set Up Menu" of the ASCII terminal and bring up the Serial Communications section.**

3. **Set up the serial port communications parameters.**

   The default settings should match the values reported on the host serial port.

   - Hardwired modem connection
   - No parity
   - 9600 baud
   - 1 stop bit
   - 8 bit data

4. **Test the connection.**

   Verify that communication has been established to the server and the keyboard/display of the ASCII terminal.

▼ To Use a Solaris Workstation

1. **Get the appropriate cable(s) and adapter(s) and make the necessary connections.**

   You may need one or more cables and adapters in order to connect a Solaris workstation to the server. The cables and adapters you need varies, depending on the model server you have and the card that you are connecting to.

TABLE 2   Connecting a Solaris Workstation to a CPU or CPU Transition Card

Server Type	TTY A Port on Netra ct Server	Adapter	Cable	Adapter	Serial Port on Workstation
Netra ct 800 server	• *Front-access* model: DB-9 male on the CPU front transition card. See "CPU Front Transition Card, Netra ct 800 Server" on page 7. • *Rear-access* model: DB-9 male on the CPU rear transition card. See "CPU Rear Transition Card, Netra ct 800 Server and Netra ct 400 Server" on page 9.	Not needed.	DB-9 female-to-DB-25 male null modem	Not needed	DB-25 female
Netra ct 400 server	• *Front-access* model: DIN-8 female on the CPU card. See "CPU Card" on page 5. • *Rear-access* model: DB-9 male on the CPU rear transition card. See "CPU Rear Transition Card, Netra ct 800 Server and Netra ct 400 Server" on page 9.	Not needed.	• *Front-access* model: DIN-8 male-to-DB-25 male • *Rear-access* model: DB-9 female-to-DB-25 male null modem	Not needed.	DB-25 female

2. **Check the** `/etc/remote` **file for the appropriate line.**

To connect to the *TTY A or COM 1* port on the workstation, check for this line:

```
tip -9600 /dev/ttya
```

3. **Type** `tip hardwire` **at the prompt.**

You should see the word `connected` as the response.

To disconnect the tip window, type `~.` (tilde period) at the prompt.

▼ To Use a PC Laptop

1. **Get the appropriate cable(s) and adapter(s) and make the necessary connections.**

You may need one or more cables and adapters in order to connect a PC laptop to the server. The cables and adapters you need varies, depending on the model server you have and the card that you are connecting to.

TABLE 3   Connecting a PC Laptop to a CPU or CPU Transition Card

Server Type	TTY A Port on Netra ct Server	Adapter	Cable	Adapter	Serial Port on PC Laptop
Netra ct 800 server	• *Front-access* model: DB-9 male on the CPU front transition card. See "CPU Front Transition Card, Netra ct 800 Server" on page 7. • *Rear-access* model: DB-9 male on the CPU rear transition card. See "CPU Rear Transition Card, Netra ct 800 Server and Netra ct 400 Server" on page 9.	Not needed.	DB-9 female-to-DB-9 female null modem	Not needed.	DB-9 male
Netra ct 400 server	• *Front-access* model: DIN-8 female on the CPU card. See "CPU Card" on page 5. • *Rear-access* model: DB-9 male on the CPU rear transition card. See "CPU Rear Transition Card, Netra ct 800 Server and Netra ct 400 Server" on page 9.	Not needed.	• *Front-access* model: DIN-8 male-to-DB-25 male • *Rear-access* model: DB-9 female-to-DB-9 female null modem	• *Front-access* model: DB-25 female-to-DB-9 female • *Rear-access* model: Adapter not needed.	DB-9 male

2. **Set the following connection parameters:**

- No parity
- 9600 baud
- 1 stop bit
- 8 bit data

Connectors on the CPU and CPU Transition Card

CPU Card

COM port
TTY A (DIN8)
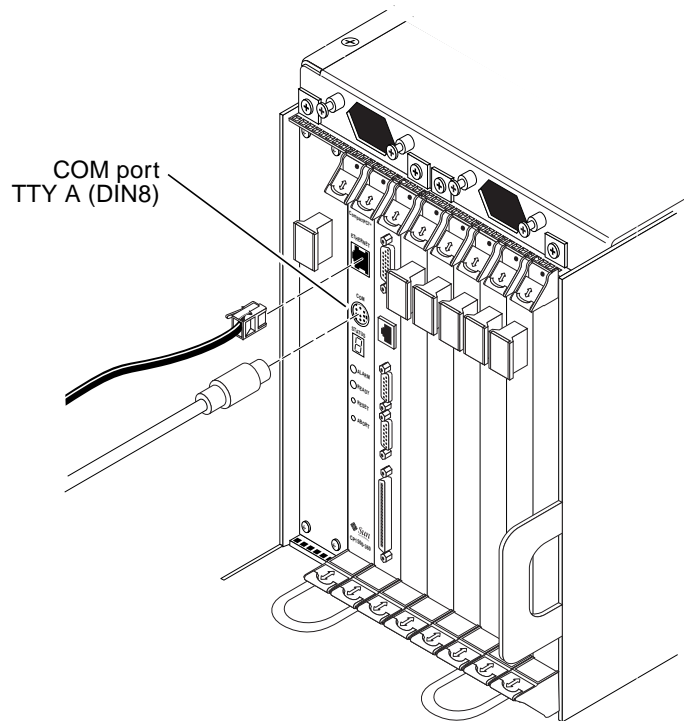
FIGURE 1   Connectors on the CPU Card

This port is connected logically to serial port A, which is intended to be used as a console port to connect to a terminal.

⚠ **Caution –** Serial port A is also connected through the rear CompactPCI connectors. No mechanism is provided to disable simultaneous input from the front panel and the rear CompactPCI connectors. Attempts to input data from both ports will place the board in an unknown state.
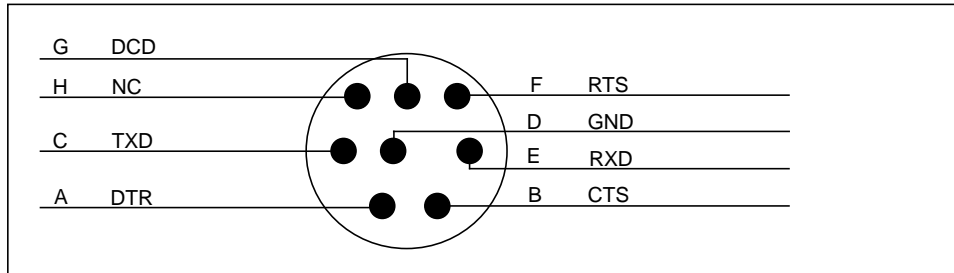
FIGURE 2 CPU Card Front Panel TTYA Diagram

CPU Front Transition Card, Netra ct 800 Server
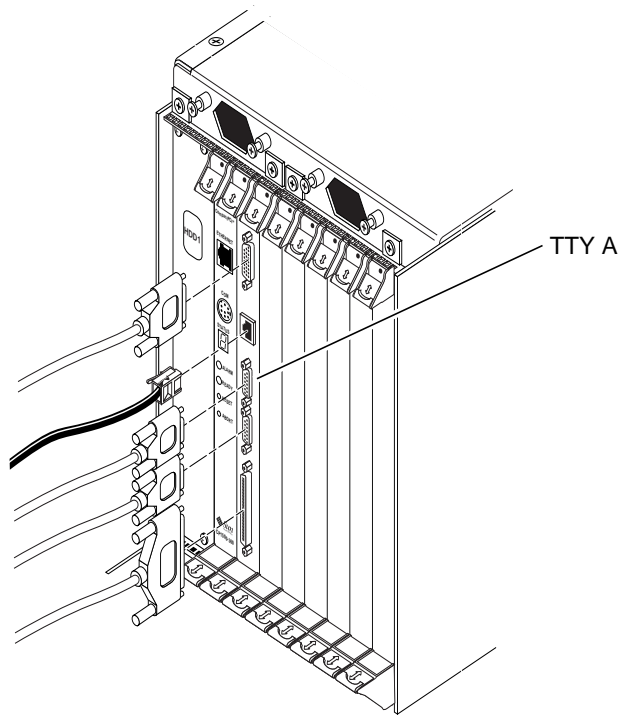
TTY A

FIGURE 3 Connectors on the CPU Front Transition Card (Netra ct 800 Server)

The TTY A port on the CPU front transition card for the Netra ct 800 server is a DB9 male connector.
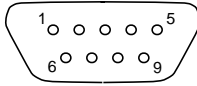
FIGURE 4   TTY A Connector

TABLE 4   TTY A Port Pinouts, CPU FTC for Netra ct 800 Server

Pin No.	Signal Name
1	DCD
2	RXD
3	TXD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	RI
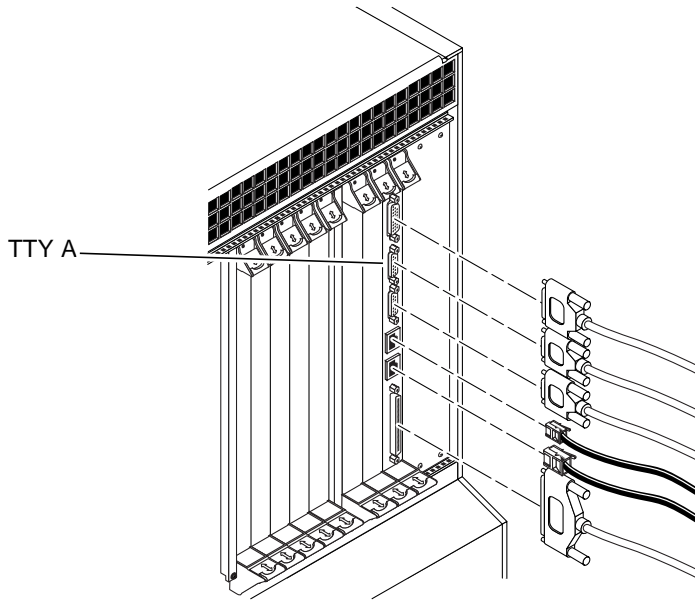
TTY A

FIGURE 5   Connectors on the CPU Rear Transition Card (Netra ct 800 Server)
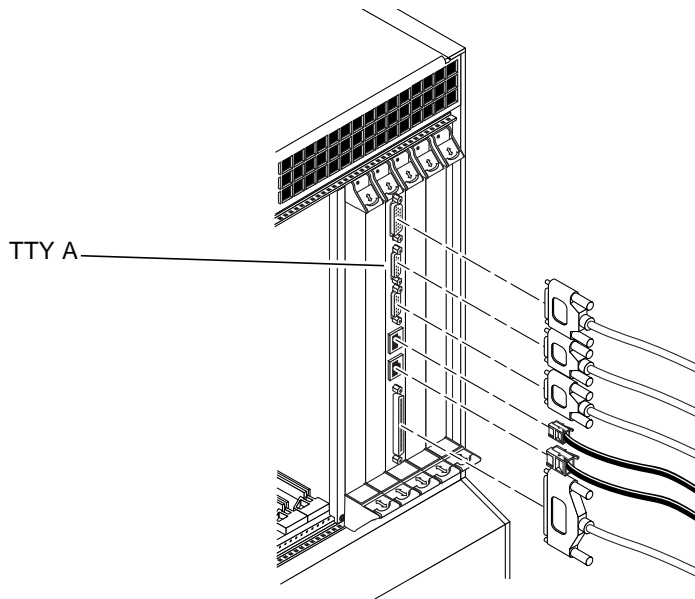
TTY A

FIGURE 6   Connectors on the CPU Rear Transition Card (Netra ct 400 Server)

The TTY A port on the CPU rear transition card is a DB-9 male connector.
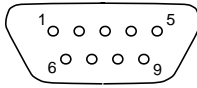
FIGURE 7 TTY A Connector

TABLE 5 TTY A Port Pinouts, CPU RTC

Pin No.	Signal Name
1	DCD
2	RXD
3	TXD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	RI

Verifying the Alarm Card Software Installation

The alarm card software is included on the *Supplement for Solaris Operating Environment for Sun Computer Systems* CD that came with the Solaris operating environment, so the alarm card software should have been installed when you installed the Solaris operating environment on your system.

▼ To Verify the Alarm Card Software Package Installation

Type:

```
# pkginfo SUNWctac
```

You should see output similar to the following:

```
system      SUNWctac     Netra ct Alarm Card Firmware and Utilities
```

If you do not see the output given above, refer to the *Netra ct Server Installation Guide* for instructions on installing the alarm card software before proceeding with these instructions.

Verifying You Have the Correct Alarm Card for Your Netra ct Server

The type of card(s) needed for your Netra ct server differ depending on the type and model of your server. Refer to TABLE 6 to determine which card(s) you need for your Netra ct server.

TABLE 6   Alarm Cards Needed for Netra ct Servers

Server Model	Front-Access Models	Rear-Access Models
Netra ct 800 server	Single-wide 6U alarm card (x7161A)	Single-wide 6U alarm card (X7161A) and single-wide 6U alarm rear transition card (X7176A)
Netra ct 400 server	Double-wide 3U alarm card (X7160A)	Not supported

Verifying the Alarm Card I/O Slot Is Available

Before you can install an alarm card and, if necessary, an alarm rear transition card, you must first verify that the alarm card I/O slot is not already occupied (note that the alarm card is not supported on the rear-access model of the Netra ct 400 server):

- "Netra ct 800 Server, Front-Access Model" on page 12
- "Netra ct 800 Server, Rear-Access Model" on page 13
- "Netra ct 400 Server, Front-Access Model" on page 14

Netra ct 800 Server, Front-Access Model

The front I/O slot 8 must be unoccupied before you can install an alarm card into a front-access model of the Netra ct 800 server. FIGURE 8 shows where I/O slot 8 is located on the front of the Netra ct 800 server; you can also find the I/O slot numbers for a Netra ct 800 server on the sticker beneath the I/O slots. You must install the alarm card in I/O slot 8 in the Netra ct 800 server; you cannot install the alarm card in any other slot.

I/O slot 8
Netra ct 800 server
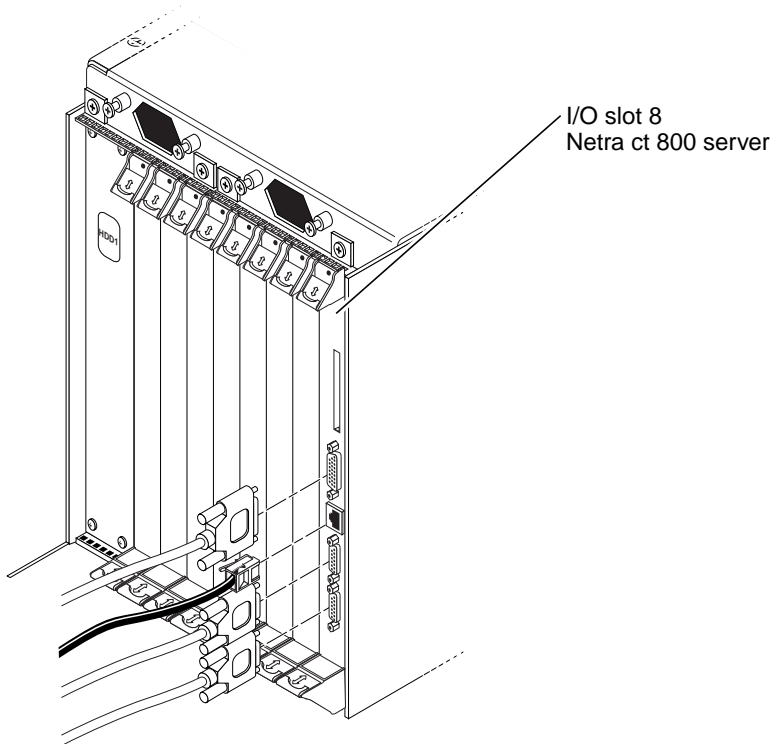
FIGURE 8   Alarm Card for the Netra ct 800 Server

Netra ct 800 Server, Rear-Access Model

The front and the rear I/O slots 8 must be unoccupied before you can install an alarm card into a front-access model of the Netra ct 800 server. FIGURE 8 shows where I/O slot 8 is located on the front of the Netra ct 800 server, and FIGURE 9 shows where I/O slot 8 is located at the rear of the Netra ct 800 server; you can also find the I/O slot numbers for a Netra ct 800 server on the sticker beneath the I/O slots. You must install the alarm card in I/O slot 8 in the Netra ct 800 server; you cannot install the alarm card in any other slot.
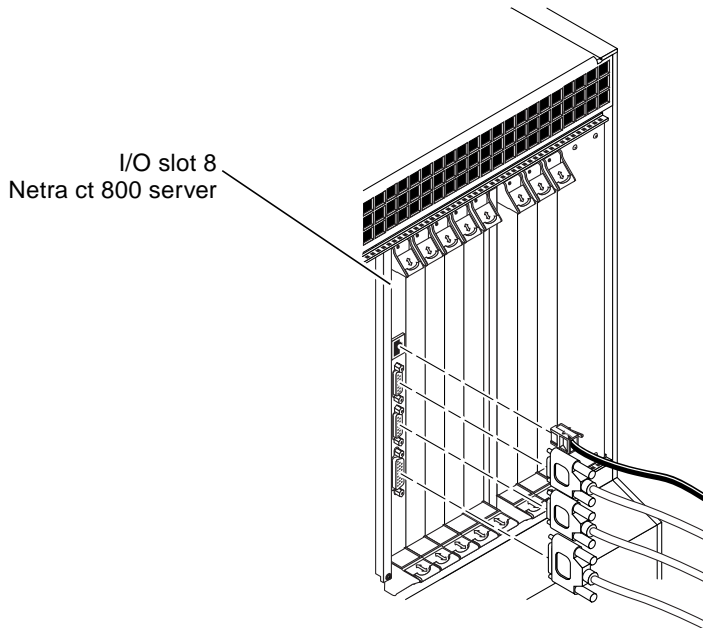
FIGURE 9 Alarm Rear Transition Card for the Netra ct 800 Server

Netra ct 400 Server, Front-Access Model

The lower half of front I/O slots 1 and 2 must be unoccupied before you can install the double-wide 3U alarm card into a front-access model of the Netra ct 400 server. FIGURE 10 shows where the front I/O slots 1 and 2 are located on the Netra ct 400 server; you can also find the I/O slot numbers for a Netra ct 400 server on the sticker beneath the I/O slots. You must install the alarm card in I/O slots 1 and 2 in the Netra ct 400 server; you cannot install the alarm card in any other slots.


I/O slots 1 and 2
Netra ct 400 server
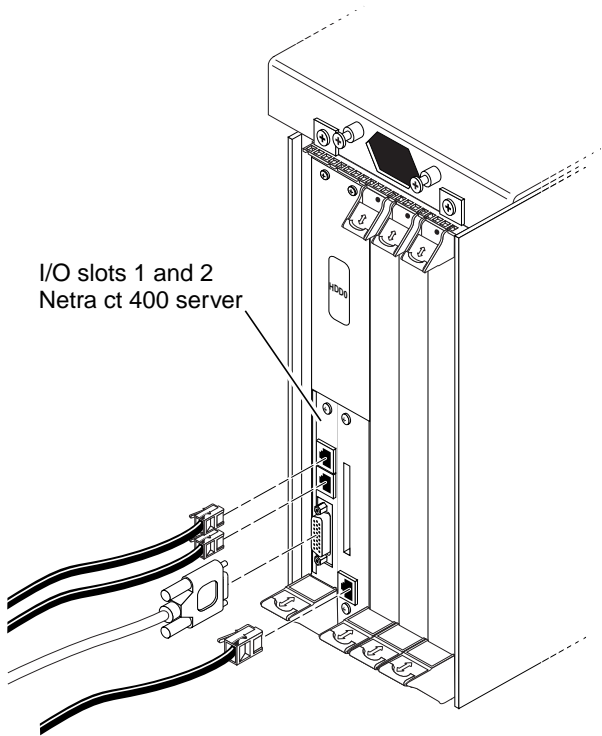
FIGURE 10   Alarm Card for the Netra ct 400 Server

Attaching the Antistatic Wrist Strap

Before you can install an alarm card or alarm rear transition card, you must attach the antistatic wrist strap to the chassis.

1. **Get the antistatic wrist strap and the electrostatic discharge mat from the ship kit.**

2. **Place an electrostatic discharge mat close to the system.**

3. **Unwrap the first two folds of the wrist strap and wrap the adhesive side firmly against your wrist.**

4. **Peel the liner from the copper foil at the opposite end of the wrist strap and attach the copper end of the strap to a bare metal area on the front of the Netra ct server or the chassis.**

FIGURE 11   Attaching the Antistatic Wrist Strap

Installing the Alarm Card

- If you are installing an alarm card in a Netra ct 800 server, front-access or rear-access model, go to "Installing an Alarm Card in a Netra ct 800 Server" on page 16.
- If you are installing an alarm card in a Netra ct 400 server, front-access model only, go to "Installing an Alarm Card in a Netra ct 400 Server" on page 23.

Installing an Alarm Card in a Netra ct 800 Server

This section describes how to install an alarm card in a Netra ct 800 server. The alarm card is a *hot-swappable* card, which means that you can install the card into a Netra ct server while the server is running; you do not have to power-off the server before installing the card.

- If you are installing an alarm card in the *rear-access* model of the Netra ct 800 server, you first install the alarm rear transition card, then you install the alarm card. The alarm card will detect the presence of the alarm rear transition card and will automatically switch access from the I/O connectors on the alarm card to the I/O connectors on the alarm rear transition card. Follow the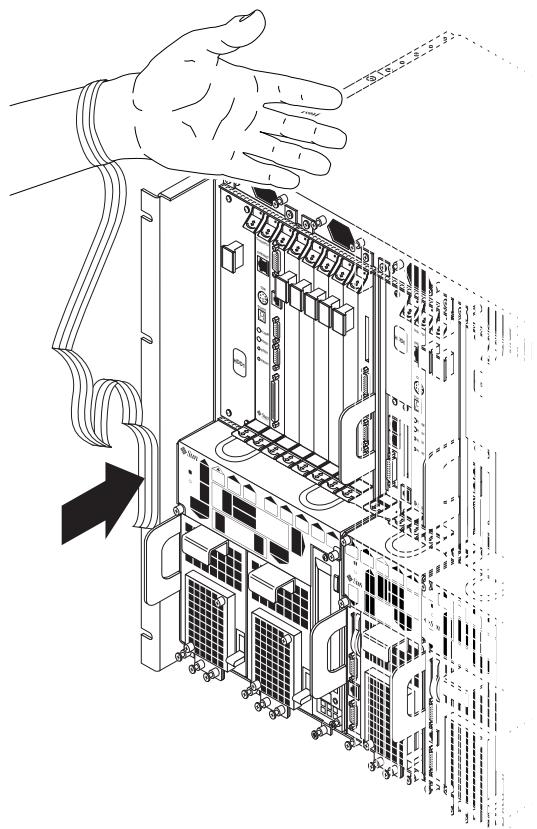 instructions in "To Install the Rear Transition Card Into a Netra ct 800 Server" on page 16 first, and then go to "To Install the Alarm Card Into a Netra ct 800 Server" on page 18.
- If you are installing an alarm card in the *front-access* model of the Netra ct 800 server, you only need to install the single-wide 6U alarm card. Go to "To Install the Alarm Card Into a Netra ct 800 Server" on page 18.

▼ To Install the Rear Transition Card Into a Netra ct 800 Server

This section describes how to install a rear transition card for the alarm card in the rear-access model of the Netra ct server. Do *not* install a rear transition card if you have a front-access model of the Netra ct server.

1. **Go to the rear of the Netra ct server and attach the wrist strap to a bare metal area on the system.**

   Refer to "Attaching the Antistatic Wrist Strap" on page 15 for more information.

2. **Locate the slot where you will be installing the alarm rear transition card (alarm RTC).**
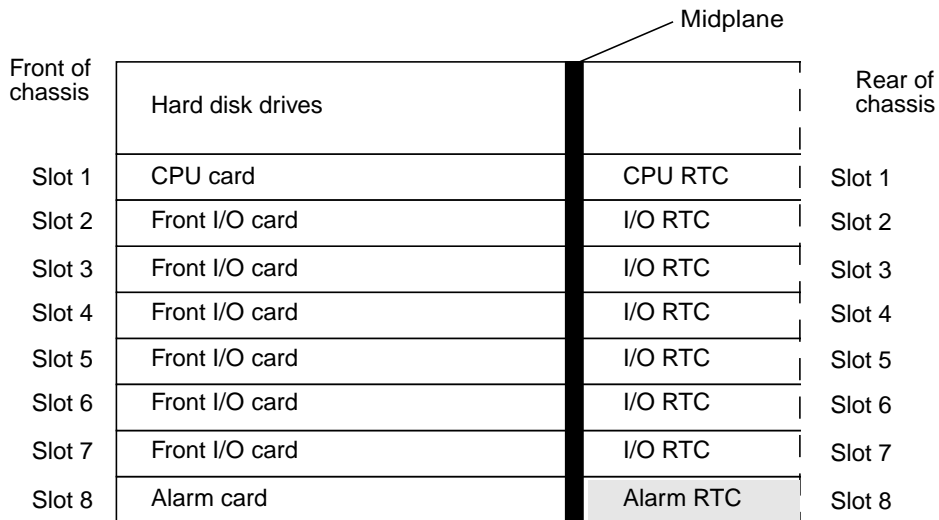
FIGURE 12   Locating the Slot for the Rear Transition Card (RTC) for the Alarm Card (Top View)

3. **Remove the filler panel from the slot, if necessary.**

   The filler panel is secured to the slot using two screws, one at the top and one at the bottom.

4. **Get the alarm rear transition card from the ship kit.**

5. **Keeping the card vertical, slide the card into the slot in between the two guides** (FIGURE 13)**.**

   The teeth in the handle of the card must align with the square cutouts in the I/O slot. When the card is completely seated in the card cage, the two ejection levers should flip inward, and the teeth in the ejection levers should fit smoothly in the rectangular cutouts in the bottom and top plates. FIGURE 13 shows how to insert an I/O card into a slot; the same principal applies to an alarm rear transition card.

6. **Lock the ejection levers on the card.**

7. **Using a No. 2 Phillips screwdriver, tighten the two captive screws inside the card's ejection levers, one on top and one on the bottom.**

8.

▼ To Install the Alarm Card Into a Netra ct 800 Server

⚠️ **Caution –** When moving a number of cards to different slots in the system, move the cards one at a time. If you move multiple cards in rapid succession, you might panic or hang the system.

1. **Attach the antistatic wrist strap, if you haven't done so already.**

   Refer to "Attaching the Antistatic Wrist Strap" on page 15.

2. **Remove the slot filler panel, if necessary.**

   The slot filler panel is secured to the card cage using two screws, one at the top of the filler panel, the other at the bottom.

3. **Get the alarm card from the ship kit.**

4. **Keeping the card vertical, slide it into the slot between the two guides.**

   The teeth in the handle of the card must align with the square cutouts in the I/O slot. When the card is completely seated in the card cage, the two ejection levers should flip inward, and the teeth in the ejection levers should fit smoothly in the rectangular cutouts in the bottom and top plates. FIGURE 13 shows how to insert an I/O card into a slot; the same principle applies to an alarm card.
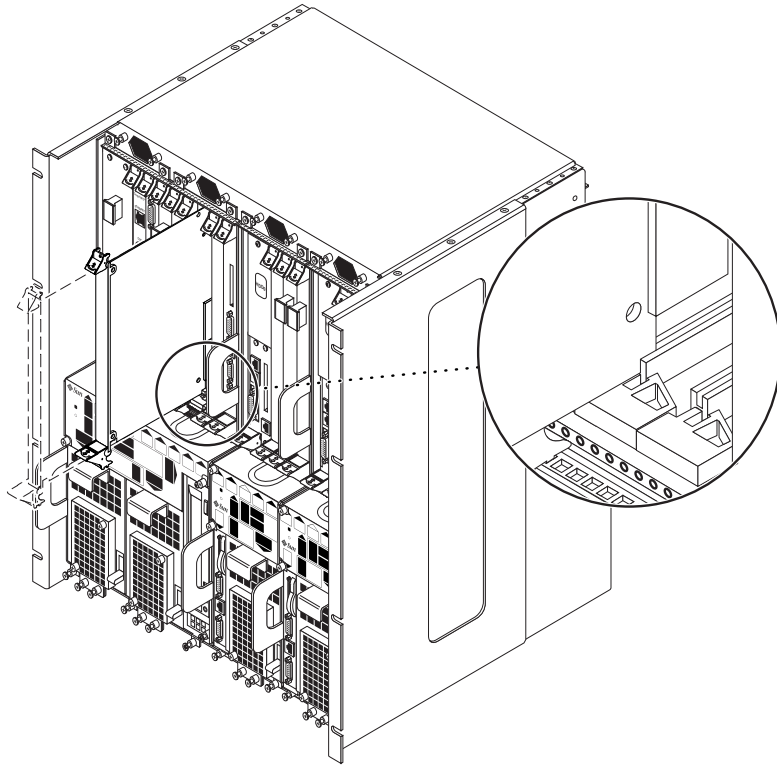
FIGURE 13   Aligning the Card with the Card Cage Cutouts

5. **Lock the ejection levers.**

6. **Locate the LEDs on the system status panel for the alarm card that you just installed to determine if the card has been activated.**

   FIGURE 14 shows the locations of the I/O card LEDs on the Netra ct 800 server.
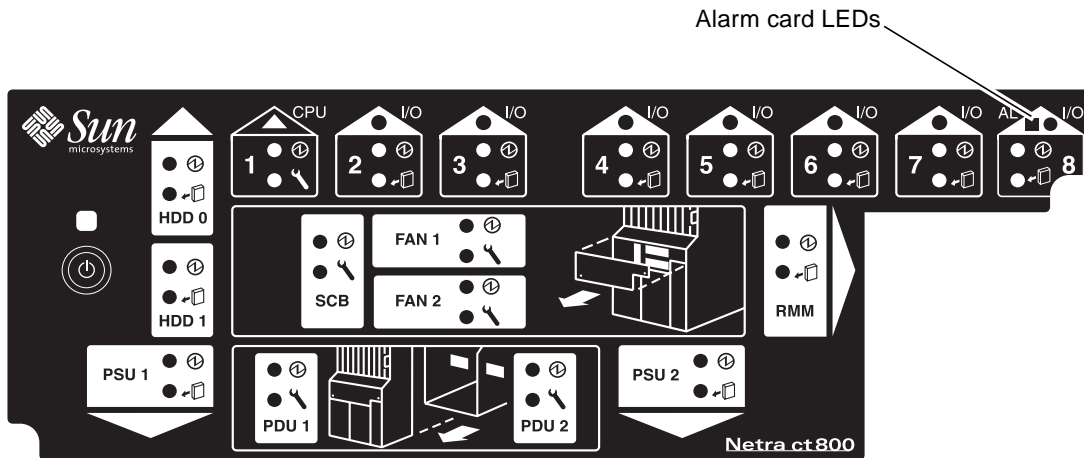
Alarm card LEDs

FIGURE 14   Locating the Alarm Card LEDs on the System Status Panel (Netra ct 800 Server)

The amber Okay to Remove LED (↩▯) on the system status panel indicates whether the alarm card has been activated.

- If the amber Okay to Remove LED (↩▯) on the system status panel is OFF, the I/O slot that holds the alarm card has been set to *full* hot swap and the card has been activated. Go to Step 11 on page 22.

- If the amber Okay to Remove LED (↩▯) on the system status panel is ON, the I/O slot that holds the alarm card has been set to *basic* hot swap. You must use the cfgadm utility to activate the alarm card. Go to Step 7.

7. **Log in to the Netra ct server.**

    Refer to "Connecting a Terminal Console to the Netra ct Server" on page 1, then return here.

8. **Identify the attachment-point ID that corresponds to I/O slot 8, which holds the alarm card.**

   As root, enter:

   ```
   # cfgadm pci
   ```

   For a Netra ct 800 server, you should get output similar to the following:

   ```
   Ap_Id                   Type          Receptacle      Occupant        Condition
   pci_pci0:cpci_slot2     unknown       empty           unconfigured    unknown
   pci_pci0:cpci_slot3     stpcipci/fhs  connected       configured      ok
   pci_pci0:cpci_slot4     unknown       disconnected    unconfigured    unknown
   pci_pci0:cpci_slot5     unknown       empty           unconfigured    unknown
   pci_pci0:cpci_slot6     unknown       empty           unconfigured    unknown
   pci_pci0:cpci_slot7     unknown       empty           unconfigured    unknown
   pci_pci0:cpci_slot8     unknown       disconnected    unconfigured    unknown
   ```

   The attachment-point ID is shown in the first column of the readout; for example, the attachment-point ID for I/O slot 8 in a Netra ct 800 server would be `pci_pci0:cpci_slot8`. Note that the information for the card installed in I/O slot 8 in the example output shows it as unknown (Type), disconnected (Receptacle), unconfigured (Occupant), and unknown (Condition). This confirms that the I/O slot has been set to basic hot swap and that the card in the I/O slot has not yet been activated.

9. *Connect* **the alarm card with the** `cfgadm` **dynamic reconfiguration software:**

   ```
   # cfgadm -c connect ap_id
   ```

   where *ap_id* is the attachment-point ID. For example, to connect the alarm card in slot 8, as root, type:

   ```
   # cfgadm -c connect pci_pci0:cpci_slot8
   ```

   The amber Okay to Remove LED (↵▯) on the system status panel for the I/O slot should go OFF, indicating that the card has been connected.

10. *Activate* **the alarm card with the** `cfgadm` **dynamic reconfiguration software:**

    ```
    # cfgadm -c configure ap_id
    ```

where *ap_id* is the attachment-point ID. For example, to activate the alarm card in slot 8, as root, type:

```
# cfgadm -c configure pci_pci0:cpci_slot8
```

If you were to enter the cfgadm pci command again at this point, you would see the fields changed for the card in I/O slot 8:

```
Ap_Id                   Type           Receptacle     Occupant       Condition
pci_pci0:cpci_slot2     unknown        empty          unconfigured   unknown
pci_pci0:cpci_slot3     stpcipci/fhs   connected      configured     ok
pci_pci0:cpci_slot4     unknown        empty          unconfigured   unknown
pci_pci0:cpci_slot5     unknown        empty          unconfigured   unknown
pci_pci0:cpci_slot6     unknown        empty          unconfigured   unknown
pci_pci0:cpci_slot7     unknown        empty          unconfigured   unknown
pci_pci0:cpci_slot8     stpcipci/fhs   connected      configured     ok
```

11. **Using a No. 2 Phillips screwdriver, tighten the two captive screws inside the card's ejection levers, one on top and one on the bottom.**

12. **Attach the cables to the alarm card and, if necessary, to the alarm rear transition card.**

Go to "Connecting the Cables" on page 26 to connect the cables to the alarm card you just installed.

Installing an Alarm Card in a Netra ct 400 Server

Note – The alarm card is not an option for the rear-access model of the Netra ct 400 server.

This section describes how to install an alarm card in a Netra ct 400 server.

▼ To Install an Alarm Card in a Netra ct 400 Server

1. **Go to the front of the Netra ct server and attach the wrist strap to a bare metal area on the system.**

   Refer to "Attaching the Antistatic Wrist Strap" on page 15 for more information.

2. **Remove the slot filler panel, if necessary.**

   The slot filler panel is secured to the card cage using thee screws, two at the top of the filler panel, one at the bottom. Store the slot filler panel in a safe place; you may have to use it again if you have to remove an alarm card for an extended period of time.

3. **Get the alarm card from the ship kit.**

4. **Keeping the card vertical, slide it into slot 1 between the two guides.**

5. **Lock the ejection lever.**

6. **Locate the LEDs on the system status panel for the alarm card that you just installed to determine if the card has been activated.**

   FIGURE 15 shows the locations of the alarm card LEDs on the Netra ct 400 server.
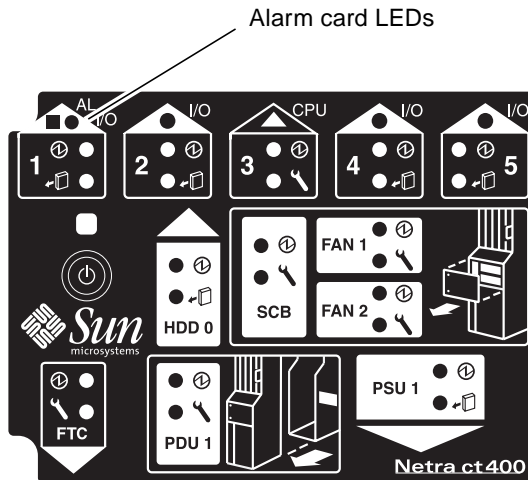
Alarm card LEDs

FIGURE 15   Locating the Alarm Card LEDs on the System Status Panel (Netra ct 400 Server)

The amber Okay to Remove LED (↩🗋) on the system status panel indicates whether the alarm card has been activated.

- If the amber Okay to Remove LED (↩🗋) on the system status panel is OFF, the I/O slot that controls the alarm card has been set to *full* hot swap and the card has been activated. Go to Step 11 on page 26.

- If the amber Okay to Remove LED (↩🗋) on the system status panel is ON, the I/O slot that controls the alarm card has been set to *basic* hot swap. You must use the cfgadm utility to activate the alarm card. Go to Step 7.

7. **Log in to the Netra ct server.**

   Refer to "Connecting a Terminal Console to the Netra ct Server" on page 1, and then return here.

8. **Identify the attachment-point ID that corresponds to the I/O slot 1, which controls the alarm card.**

   As root, enter:

   ```
   # cfgadm pci
   ```

For a Netra ct 400 server, you should get output similar to the following:

```
Ap_Id                    Type          Receptacle    Occupant      Condition
pci_pci0:cpci_slot1      unknown       disconnected  unconfigured  unknown
pci_pci0:cpci_slot2      unknown       disconnected  unconfigured  unknown
pci_pci0:cpci_slot4      stpcipci/fhs  connected     configured    ok
pci_pci0:cpci_slot5      unknown       empty         unconfigured  unknown
```

The attachment-point ID is shown in the first column of the readout; for example, the attachment-point ID for I/O slot 1 in a Netra ct 400 server would be `pci_pci0:cpci_slot1`. Note that the information for the card installed in I/O slot 1 in the example output shows it as unknown (Type), disconnected (Receptacle), unconfigured (Occupant), and unknown (Condition). This confirms that the I/O slot has been set to basic hot swap and that the card in the I/O slot has not yet been activated.

9. *Connect* **the alarm card with the** `cfgadm` **dynamic reconfiguration software:**

```
# cfgadm -c connect ap_id
```

where *ap_id* is the attachment-point ID. For example, to connect the alarm card in slot 1, as root, type:

```
# cfgadm -c connect pci_pci0:cpci_slot1
```

The amber Okay to Remove LED (↤▯) on the system status panel for the I/O slot should go OFF, indicating that the card has been connected.

10. *Activate* **the alarm card with the** `cfgadm` **dynamic reconfiguration software:**

```
# cfgadm -c configure ap_id
```

where *ap_id* is the attachment-point ID. For example, to activate the alarm card in slot 1, as root, type:

```
# cfgadm -c configure pci_pci0:cpci_slot1
```

If you were to enter the cfgadm pci command again at this point, you would see the fields changed for the card in I/O slot 1:

```
Ap_Id                   Type          Receptacle    Occupant      Condition
pci_pci0:cpci_slot1     stpcipci/fhs  connected     configured    ok
pci_pci0:cpci_slot2     unknown       disconnected  unconfigured  unknown
pci_pci0:cpci_slot4     stpcipci/fhs  connected     configured    ok
pci_pci0:cpci_slot5     unknown       empty         unconfigured  unknown
```

11. **Using a No. 2 Phillips screwdriver, tighten the captive screw inside the card's ejection lever on the bottom left side.**

12. **Tighten the three remaining captive screws, two on the top and one on the bottom.**

13. **Attach the cables to the alarm card.**

    Go to "Connecting the Cables" on page 26 to connect the cables to the alarm card you just installed.

Connecting the Cables

Note – The maximum voltage that can be applied to an alarm card is 60vdc, as specified in UL1950 and IEC 60950. The maximum current is 500mA.

Following are the instructions for connecting the cables to the alarm card(s):

- "To Connect Cables to the Alarm Rear Transition Card for the Netra ct 800 Server" on page 27
- "To Connect Cables to the Alarm Card for the Netra ct 800 Server" on page 32
- "To Connect Cables to the Alarm Card for the Netra ct 400 Server" on page 37

▼ To Connect Cables to the Alarm Rear Transition Card for the Netra ct 800 Server

FIGURE 16 shows the connectors on the alarm rear transition card for the Netra ct 800 server.
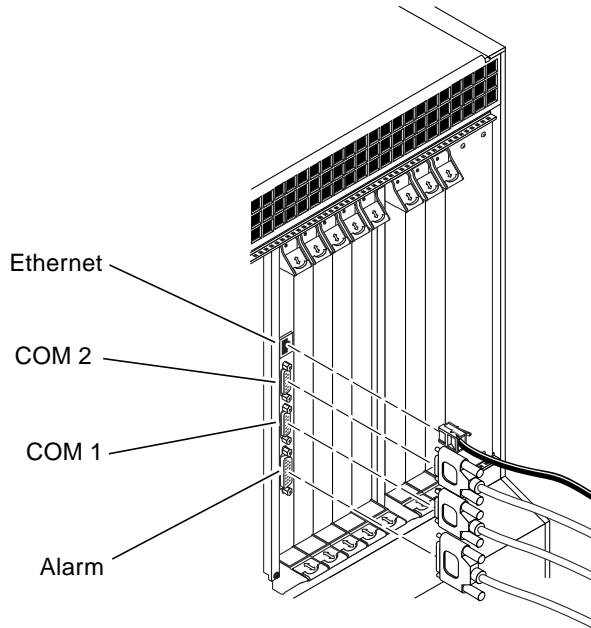

FIGURE 16   Connectors on the Alarm Rear Transition Card

- If you already have the cables assembled for the alarm rear transition card, plug the cables into the ports.
- If you need to assemble the cables for the alarm rear transition card, go to "Connector Pinouts for the Alarm Rear Transition Card" on page 27 to assemble the cables and plug them into the appropriate ports.

Connector Pinouts for the Alarm Rear Transition Card

The following sections give the pinouts for the connectors on the alarm rear transition card:

- "Ethernet Port" on page 28
- "COM 2" on page 29
- "COM 1" on page 30
- "Alarm Port" on page 31

Ethernet Port

The Ethernet port on the alarm RTC for the Netra ct 800 server is an RJ-45 connector for 10BASE-T.
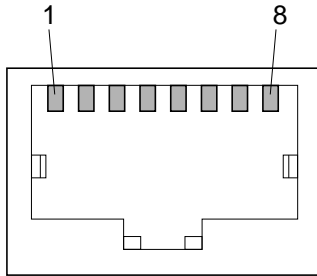

FIGURE 17   RJ45 Ethernet Connector Diagram

TABLE 7   Ethernet Connector Pinout, Alarm RTC for the Netra ct 800 Server

Pin No.	Description
1	TXD+
2	TXD-
3	RXD+
4	Not used
5	Not used
6	RXD-
7	Not used
8	Not used

COM 2

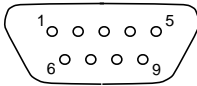The COM 2 port on the alarm RTC for the Netra ct 800 server is a DB-9 male connector.

FIGURE 18   COM 2 Connector

TABLE 8   COM 2 Connector Pinouts, Alarm RTC for the Netra ct 800 Server

Pin No.	Description
1	DCD
2	RXD
3	TXD
4	DTR
5	Isolated GND 2
6	DSR
7	RTS
8	CTS
9	NC

COM 1

The COM 1 port on the alarm RTC for the Netra ct 800 server is a DB-9 male connector.
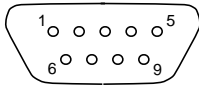
FIGURE 19   COM 1 Connector

TABLE 9   COM 1 Connector Pinouts, Alarm RTC for the Netra ct 800 Server

Pin No.	Description
1	NC
2	RXD
3	TXD
4	NC
5	Isolated GND 1
6	NC
7	RTS
8	CTS
9	NC

Alarm Port

I/O connections are available through the male DB-15 alarm port.
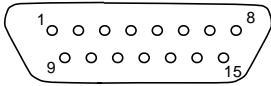
TABLE 10   Alarm Port Pinouts, Alarm RTC for the Netra ct 800 Server

Pin No.	Signal
1	RESET0 +
2	RESET0 -
3	RESET1 +
4	RESET1 -
5	ALARM0_NO
6	ALARM0_NC
7	ALARM0_COM
8	ALARM1_NO
9	ALARM1_NC
10	ALARM1_COM
11	ALARM2_NO
12	ALARM2_NC
13	ALARM2_COM
14	ALARM3_NO
15	ALARM3_COM

▼ To Connect Cables to the Alarm Card for the Netra ct 800 Server

---

Note – If you have a rear-access model server, do *not* connect any cables to the alarm card; all cables should be connected to the alarm rear transition card for a rear-access model server. Go to "To Connect Cables to the Alarm Rear Transition Card for the Netra ct 800 Server" on page 27 for those instructions.

FIGURE 20 shows the connectors on the alarm card for the Netra ct 800 server.
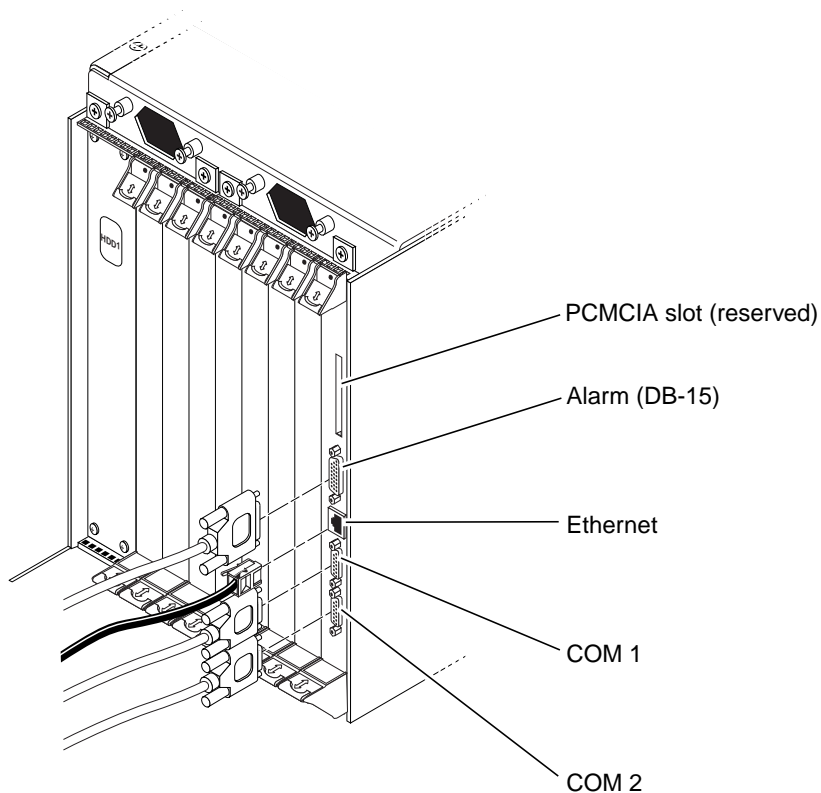

FIGURE 20   Plugging in Cables in Alarm Card in Netra ct 800 Server

Connector Pinouts for the Alarm Card

The following sections give the pinouts for the connectors on the alarm card for the Netra ct 800 server:

Alarm Port

I/O connections are available through the male DB-15 alarm port.
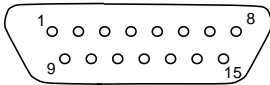

FIGURE 21   Alarm Port

TABLE 11   Alarm Port Pinouts, Alarm Card for the Netra ct 800 Server

Pin No.	Signal	Pin No.	Signal	Pin No.	Signal
1	RESET0 +	6	ALARM0_NC	11	ALARM2_NO
2	RESET0 -	7	ALARM0_COM	12	ALARM2_NC
3	RESET1 +	8	ALARM1_NO	13	ALARM2_COM
4	RESET1 -	9	ALARM1_NC	14	ALARM3_NO
5	ALARM0_NO	10	ALARM1_COM	15	ALARM3_COM

Ethernet Port

The Ethernet port on the alarm card for the Netra ct 800 server is an RJ-45 connector for 10BASE-T.
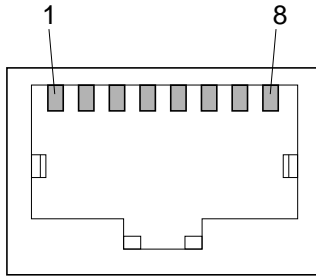

FIGURE 22   RJ-45 Ethernet Connector Diagram

TABLE 12   Ethernet Connector Pinouts, Alarm Card for the Netra ct 800 Server

Pin No.	Description	Pin No.	Description
1	TXD+	5	Not used
2	TXD-\	6	RXD-
3	RXD+	7	Not used
4	Not used	8	Not used

COM 1

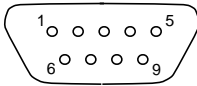The COM 1 port on the alarm card for the Netra ct 800 server is a DB-9 male connector.

FIGURE 23   COM 1 Connector

TABLE 13   COM 1 Connector Pinouts, Alarm Card for the Netra ct 800 Server

Pin No.	Description
1	NC
2	RXD
3	TXD
4	NC
5	Isolated GND 1
6	NC
7	RTS
8	CTS
9	NC

COM 2

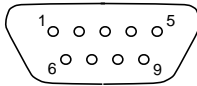The COM 2 port on the alarm card for the Netra ct 800 server is a DB-9 male connector.

FIGURE 24 COM 2 Connector

TABLE 14 COM 2 Connector Pinouts, Alarm Card for the Netra ct 800 Server

Pin No.	Description
1	DCD
2	RXD
3	TXD
4	DTR
5	Isolated GND 2
6	DSR
7	RTS
8	CTS
9	NC

▼ To Connect Cables to the Alarm Card for the Netra ct 400 Server

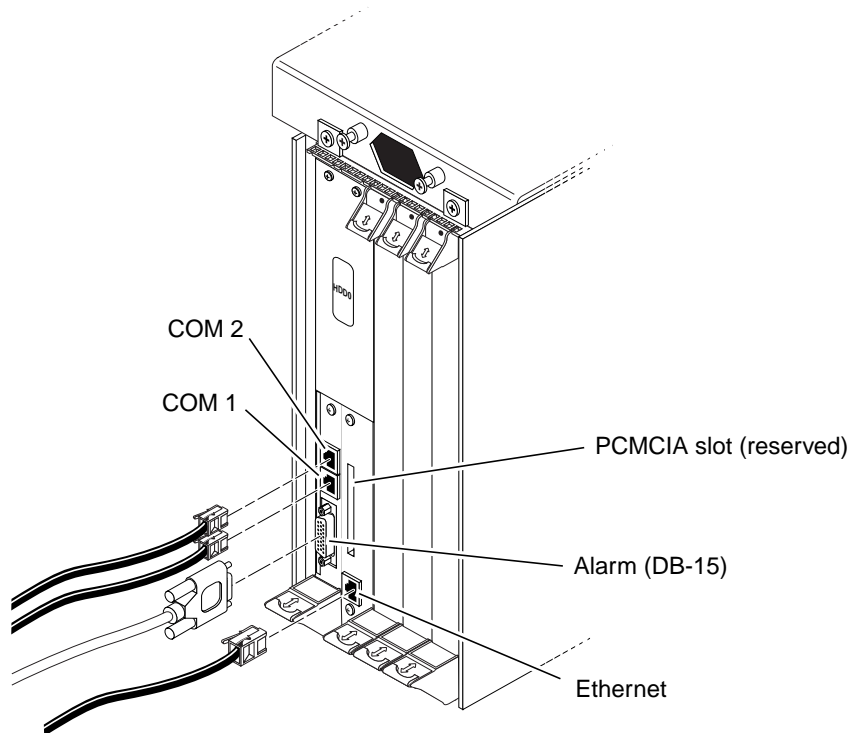FIGURE 25 shows the connectors on the alarm card for the Netra ct 400 server.

FIGURE 25 Connectors on the Alarm Card (Netra ct 400 Server)

Connector Pinouts for the Alarm Card

The following sections give the pinouts for the connectors on the alarm card for the Netra ct 400 server:

- "COM 2" on page 38
- "COM 1" on page 39
- "Alarm Port" on page 40
- "Ethernet Port" on page 41

COM 2

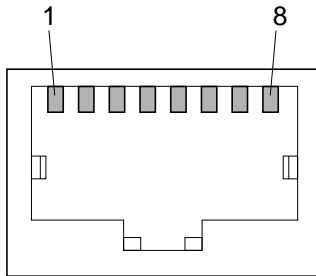The COM 2 port on the alarm card for the Netra ct 400 server is an RJ-45 connector.

FIGURE 26 RJ-45 Ethernet Connector Diagram

TABLE 15 COM 2 Connector Pinouts, Alarm Card for the Netra ct 400 Server

Pin No.	Description
1	RTS
2	DTR
3	TXD
4	Isolated GND 2
5	Isolated GND 2
6	RXD
7	DSR
8	CTS

COM 1

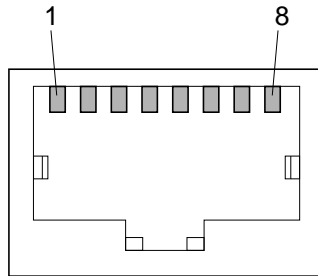The COM 1 port on the alarm card for the Netra ct 400 server is an RJ-45 connector.

FIGURE 27   RJ-45 Ethernet Connector Diagram

TABLE 16   COM 1 Connector Pinouts, Alarm Card for the Netra ct 400 Server

Pin No.	Description
1	RTS
2	NC
3	TXD
4	Isolated GND 1
5	Isolated GND 1
6	RXD
7	NC
8	CTS

Alarm Port

I/O connections are available through the male DB-15 alarm port.
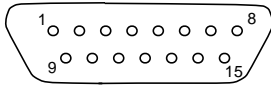
FIGURE 28 Alarm Port

TABLE 17 Alarm Port Pinouts, Alarm Card for the Netra ct 400 Server

Pin No.	Signal
1	RESET0 +
2	RESET0 -
3	RESET1 +
4	RESET1 -
5	ALARM0_NO
6	ALARM0_NC
7	ALARM0_COM
8	ALARM1_NO
9	ALARM1_NC
10	ALARM1_COM
11	ALARM2_NO
12	ALARM2_NC
13	ALARM2_COM
14	ALARM3_NO
15	ALARM3_COM

Ethernet Port

The Ethernet port on the alarm card for the Netra ct 400 server is an RJ-45 connector for 10BASE-T.
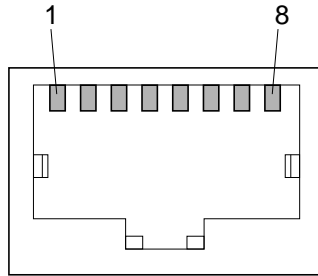

FIGURE 29   RJ-45 Ethernet Connector Diagram

TABLE 18   Ethernet Connector Pinouts, Alarm Card for Netra ct 400 Server

Pin No.	Description
1	TXD+
2	TXD-
3	RXD+
4	Not used
5	Not used
6	RXD-
7	Not used
8	Not used

What's Next

The alarm card(s) are now installed and functioning normally. Go to the *Remote System Control (RSC) User's Guide For the Netra ct Server Alarm Card* to configure the software for the alarm card (for example, to redirect the console to RSC).

If you want to remove the alarm card from the Netra ct server sometime in the future, refer to the *Netra ct Server Service Manual* for those instructions.