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# Tradenet MX Platform Manual 14.1

**Part Number B0087686104**

**Release 14.1**

**IPC Information Systems, Inc.  
777 Commerce Drive  
Fairfield, CT 06432-5500 USA**

**Produced by IPC Technical Publications**





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### **United States Regulatory Section**

The Tradenet MX Telephone System complies with Part 68 of the FCC Rules. On the front of the equipment cabinet is a label that contains, among other information, the FCC registration number and ringer equivalence number (REN) for the equipment. The following information must be provided to the telephone company if requested.

FCC Registration No. USA: 2GKUSA-73740-KF-E and 2GKUSA-75523-MF-E

Ringer Equivalence Number (REN): 1.7B

USOC: RJ21X, RJ2DX, RJ2GX, RJ2HX, RJ48C

FIC (2 wire local switched access loop start): 02LS2

FIC (2 wire private line manual ringdown): 02AC2

FIC (2 wire private line automatic ringdown): 02LR2

FIC (4 wire private line no signalling): 04NO2

FIC (1.544 Mbs Superframe Format): 04DU9-BN

FIC (1.544 Mbs Superframe Format with B8ZS): 04DU9-DN

FIC (1.544 Mbs Extended Superframe Format with B8ZS): 04DU9-ISN

SOC: 9.0F, 6.0Y, 6.0N

Notes: Metallic pairs services might not be available from the telephone company at all locations.

The REN is used to determine the quantity of devices that can be connected to the telephone line. Excessive RENs on the telephone line can result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of the RENs should not exceed five. To be certain of the number of devices that can be connected to the line, as determined by the total RENs, contact the telephone company to determine the maximum REN for the calling area.

If the Tradenet MX System causes harm to the telephone network, the telephone company will notify you in advance that service might need to be temporarily discontinued. But if advance notice isn't practical, the telephone company will notify the customer as soon as possible. You will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company can make changes in its facilities, equipment, operations, or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice for you to make the necessary modifications to maintain uninterrupted service.

If trouble is experienced with the Tradenet MX Telephone System, contact IPC Information Systems, (203) 339-7800 for repair and/or warranty information. If the trouble is causing harm to the telephone network, the telephone company might ask you to remove the equipment from the network until the problem is resolved.

This equipment cannot be used on public coin service provided by the telephone company. Connection to Party Line Service is subject to state tariffs. (Contact the state public utility commission, public service commission, or corporation commission for information.)

The Tradenet MX System is hearing-aid compatible (HAC).

This equipment is capable of providing access to interstate providers of operator services through the use of equal access codes. Modifications by aggregates to alter these capabilities might be a violation of the telephone operator consumer services improvement act of 1990 and Part 68 of the FCC Rules.

This equipment complies with the requirements in Part 15 of FCC Rules for a Class A computing device. Operation of this equipment in a residential area might cause unacceptable interference to radio and TV reception, requiring the operator to take whatever steps are necessary to correct the interference.

### **United Kingdom Regulatory Section**

This equipment complies with the EMC directive for Class A as well as the safety compliance EN60950.

Registration No. UK: NS-2666-23-M-602603

### **Germany Regulatory Section**

This equipment complies with the EMC directive for Class A as well as the safety compliance EN60950.

Registration No.: A122500F

### **Canada Regulatory Section**

Model Number: Tradenet MX Telephone System

Type of Equipment: Key Telephone System

Certification Number: 632 4980 A

Interface(s): LS/B/CT/D1/D1E/D2/D3/D4

Connecting Methods: CA21A/CA2GA/CA2HA/CA21A

Load Number: 16

Equipment Attachment Limitations

CP-01, Part I

Section 10.1

The Canadian Department of Communications label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational, and safety requirements. The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connections. In some cases, the company's inside wiring associated with a single line individual service may be extended by means of a certified connector assembly (telephone extension cord). The customer should be aware that compliance with the above conditions might not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

**CAUTION:** Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician as appropriate.

CP-01, Part I

Section 10.2

The **Load Number (LN)** assigned to each terminal device denotes the percentage to the total load to be connected to a telephone loop which is used by the device, to prevent overloading. The termination on a loop may consist of any combination of devices subject only to the requirement that the total of the Load Numbers of all the devices does not exceed 100.

### **Netherlands Regulatory Section**

This equipment complies with the EMC directive for Class A as well as the safety compliance EN60950.

HTP No.: NL 95051101.

### **Switzerland Regulatory Section**

BAKOM No.: 96.0737.P.N.

# Contacting Systems Support Engineering



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If you require technical assistance, contact your local IPC branch office or distributor. If you need additional assistance, call IPC Systems Support Engineering: in the USA and Canada, dial 1-800-NEED-IPC; elsewhere, dial the North America country access code, then 203-339-7800.

Before contacting Systems Support Engineering, please have the following information available:

- *modem telephone number*—Each System Center is installed with a modem so that the System Center can be accessed by Systems Support for diagnostics and troubleshooting.
- *software release*—Systems Support Engineering will ask you what software release you are using with your Tradenet MX System. To find out the software release on a stand-alone System Center, take the following steps:
  1. At the System Center workstation, open a shell tool window.
  2. Move your mouse cursor inside the shell tool window so the window is active.
  3. Type **ckversion** and press ENTER. Your software version will be listed.
- *system size*—Systems Support Engineering will ask you how large your system is; that is, the number of terminal units (TU), or terminal shelves, you have.
- *system power*—Systems Support Engineering will ask you what type of power you are using to power your Tradenet MX System. You need to tell them whether you are using AC or DC power. If you are using AC power, you need to tell them whether you are using HC or KEPCO equipment; if you are using DC power, you need to tell them whether you are using HC or Unipower equipment.

In addition, be prepared to provide a description of the problem and what steps you took leading up to the problem.

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## Reader's Comments

**Tradenet MX Platform Manual 14.1 Release 14.1**

**May 1999**

In a continuing effort to improve our manuals, the Technical Publications department invites all readers to use this form for submitting comments and suggestions. We appreciate your feedback. Instructions: fill out this form, fold along the dotted lines, tape form closed, place stamp where indicated, and mail this form.

Identify any words in the manual that we used incorrectly or used instead of more suitable words.

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Provide examples of text that you misunderstood on the first reading or that you could not understand.

Indicate any terms that you could not find easily using the table of contents and index.

Indicate any illustrations that were difficult to understand (for example, blurry or small text).

Identify any concepts that would have been easier to understand with an illustration.

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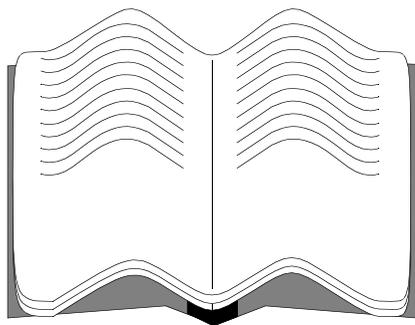
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# Chapter 1 About This Manual



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This manual provides you with step-by-step instructions for installing, configuring, and updating the Tradenet MX™ Sun workstation platform, both hardware and software, to use as an MX System Center. Descriptions of the different workstation platforms available for Tradenet MX are included.

Usually, the MX System is configured at the factory in Westbrook, CT before it is shipped to you. This means that the Sun workstation hardware has been set up, and the Sun workstation software (with the exception of your site-specific database) has been installed, tested, and burned-in. You need this manual if you install or upgrade the System Center software in the field.

Site installation generally requires physical setup of the Sun workstation, peripherals, and cabling, as well as verification that the Sun workstation and software is operating properly. Updating an existing site is usually less complicated than installing a new site, although upgrading an existing site can require both hardware and software modifications.

## AUDIENCE

This document should be used by IPC manufacturing and field personnel who install or upgrade MX Sun workstation platforms. It addresses hardware configurations, installing the Sun Operating System™ (OS), and the different Informix tools.

## OTHER REFERENCES

For more information about setting up your hardware, refer to the *Sun Desktop Hardware Owner's Guide* and the *Sun Hardware Setup Instruction Card* that come with every Sun workstation. For more information about using the Tradenet MX System after you set it up, refer to the following documents:

- *Tradenet MX Technical Reference Manual 14.1* (part number B0108800003)
- *Tradenet MX Installation & Maintenance Manual 14.1* (part number B0108900003)
- *Tradenet MX System Center Manual 14.1* (part number B0086185104)
- *Tradenet MX Advanced System Center Manual 14.1* (part number B0119300101)
- Release Notes for the specific Tradenet MX software release you are using

## DEFINITION OF TERMS

HSRun™: HyperScript Tools Runtime™ owned by Investment Intelligence Systems Ltd.

Iview: The Installer tool used by IPC to update data in the Tradenet MX. Iview is written in the HyperScript Language™ (owned by Informix, Inc.) and uses Wingz™ to paste data in a tabular form.

OLWM: OpenLook Window Manager used with the Tradenet MX System.

Wingz™: Spreadsheet interface owned by Investment Intelligence Systems Group.

## USING THE MOUSE

The Tradenet MX System uses the OpenLook Window Manager, OLWM. This section describes how to use the mouse in the OLWM.

The following table describes what each mouse button does in the OLWM environment.

**TABLE 1-1** Mouse Button Operation

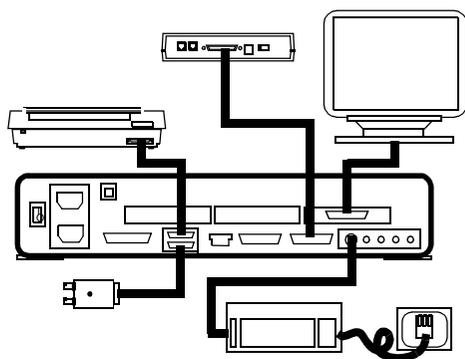
<b>Button</b>	<b>On a 3-button mouse press...</b>	<b>On a 2-button mouse press...</b>
Select	the left button	the left button
Menu	the right button	the right button

In Iview, use the left mouse button to open a menu.

Throughout this manual, when you are instructed to *click* a mouse button, this means you press down on the button once and release it. Likewise, when you are instructed to *press* a mouse button, this means you press down and hold the mouse button. Also, assume the left mouse button is the button you should click with, unless otherwise stated.



# Chapter 2 Hardware Setup



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This chapter describes the Sun workstation platforms you can use as the Tradenet MX System Center. They are:

- Sun Ultra 10
- Sun SPARCstation 5<sup>1</sup>
- Sun SPARCstation 20<sup>2</sup>
- Sun SPARCstation 10<sup>3</sup>
- Sun SPARCstation IPC<sup>4</sup>
- Sun SPARCstation Classic<sup>5</sup>

With whatever platform you have, you are required to have a 4 mm tape drive. If you are using any platform other than the Ultra 10, you also need a 1/4" tape drive and a CD-ROM. (The Ultra 10 has an internal CD-ROM.) The following table provides information about the platforms supported.

TABLE 2-1 SPARCstation Configuration Table

SPARCstation Type	Supported With Tradenet MX Release	OS Version	Memory (RAM)	Drive Size	Informix SE Version	Informix SQL Version
Ultra 10	Release 11.1 and later	Solaris 2.5.1 (SunOS 5.5.1)	64 MB or more	4.3 GB	7.22	6.03
SPARCstation 5	Release 11.1 and later	Solaris 2.5.1 (SunOS 5.5.1)	64 MB or more	2.1 GB	7.22	6.03
	Release 10.1 and earlier	SunOS 4.1.3	32 MB	1.0 GB	5.0	4.1
SPARCstation 20	Release 11.1 and later	Solaris 2.5.1 (SunOS 5.5.1)	64 MB or more	2.1 GB	7.22	6.03
	Release 10.1 and earlier	SunOS 4.1.3	32 MB	1.0 GB	5.0	4.1
SPARCstation 10	Release 10.1 and earlier	SunOS 4.1.3	32 MB	1.0 GB	5.0	4.1
SPARCstation Classic	Release 9.2 and earlier	SunOS 4.1.3	32 MB	535 MB	5.0	4.1
Upgraded SPARCstation IPC	Release 9.2 and earlier	SunOS 4.1.3	24 MB	535 MB	5.0	4.1
Basic SPARCstation IPC	Release 9.2 and earlier	SunOS 4.1.2	24 MB	207 MB	4.0	4.0

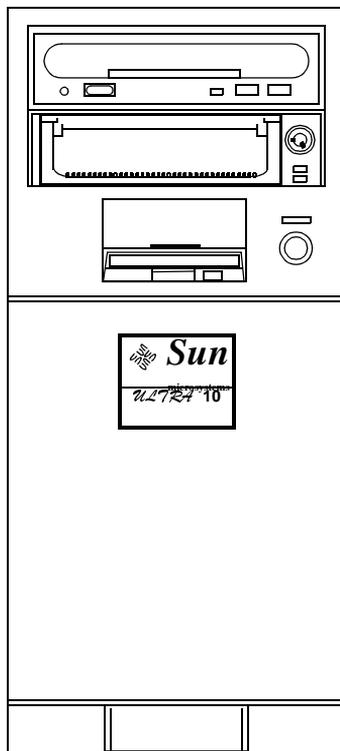
1. Although the SPARCstation 5 has been discontinued, it is included here for the purposes of hardware and software updating.
2. Although the SPARCstation 20 has been discontinued, it is included here for the purposes of hardware and software updating.
3. Although the SPARCstation 10 has been discontinued, it is included here for the purposes of hardware and software updating. Release 11.1 and later cannot run on the SPARCstation 10.
4. Although the SPARCstation IPC has been discontinued, it is included here for the purposes of hardware and software updating. Release 10.1 and later cannot run on the SPARCstation IPC.
5. Although the SPARCstation Classic has been discontinued, it is included here for the purposes of hardware and software updating. Release 10.1 and later cannot run on the SPARCstation Classic.

With Release 11.1 and later, when you order the Tradenet MX software, you get the appropriate-sized hard drive with all the necessary software loaded. To upgrade the release on your Tradenet MX System, you swap out the old hard drive and replace it with the new hard drive.

# SUN ULTRA 10

## Introduction to the Sun Ultra 10

FIGURE 2-1 Sun Ultra 10 Front View

*Sun Ultra 10*

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*Note* To eject a floppy disk from the floppy disk drive, press the eject button on the floppy disk drive. To eject a CD from the CD-ROM drive, press the eject button on the CD-ROM drive. The software command **eject** does not work with the Ultra 10.

---

### Sun Ultra 10 Kit

The Sun Ultra 10 kit includes:

1. Sun Ultra 10
  - Tradenet MX software 11.4 or later
  - 300 Mhz processor
  - 4.3 GB (or larger) hard drive in a removable IDE rack
  - 128 MB RAM
  - 512 KB Cache
  - internal 24X CD-ROM drive
  - 1.44 MB floppy drive
  - graphics card

- dual mini SCSI interface with two cables
  - printer parallel port
  - modem serial port and cable
  - call logger serial port with 9 to 25 pin changer cable
2. Sun 17 inch monitor
  3. Sun enhanced keyboard and mouse
  4. power strip, 6 position surge arrest

## Sun Ultra 10 Optional Peripheral Equipment

TABLE 2-2 Sun Ultra 10 Optional Peripheral Equipment

Part Number	Description
S1100051	Second Sun Internal 4.3 GB Hard Drive
S1100053	Second Sun FastEthernet/P2.0 Card
58103155	Aurora technologies Aries 8 Port Serial interface Card
58503313	US Robotics 56k Modem (U.S. Version)
58503315	US Robotics 56k Modem (U.K. Version)
58103150	Hewlett Packard LaserJet 1100 (Small System Printer)
58103152	Hewlett Packard LaserJet 2100 xi (Medium System Printer)
58103153	Hewlett Packard LaserJet 4000T (Large System Printer)
S1100057	Sun External 4mm DAT Drive
58112012	Netgear 10Base-T/ThinNet 4 Port BNC Hub (To Connect Ultra 10 with a VME)
29610627	20 Foot Long HP 1100 Printer Cable
29610626	20 Foot Long HP 6P and HP 4000T Printer Cable
29413415	50 Foot Unshielded CAT 5 Cross-Over Ethernet 10Base-T cable (To Connect Ultra 10 with an ENIC)
29413416	50 Foot Unshielded CAT 5 Straight Through Ethernet 10Base-T cable (To Connect Ultra 10 with Netgear 4 Port 10Base-T with BNC Hub)
29413417	6 Inch ThinNet cable (To Connect Netgear 4 Port 10Base-T with BNC Hub with VME)
61800008	BNC Tee-Adapter
61800007	BNC Terminator
29610628	9 Pin Female D to 25 Pin Female D Cable
61125089	9 Pin Female D to RJ45-8 Converter

## Powering the Sun Ultra 10

### *Turning Power On*

---

*Note* Wait at least 10 seconds after turning the power off before attempting to turn the power back on. Ensure that the rear on/off switch is in the off position before plugging in the Ultra 10.

---

---

To power on the System Center, take the following steps:

1. Starting with the unit that has the SCSI terminator attached, turn on the power to external units such as the DAT drive. The drive unit that is connected directly to the Ultra 10 should be turned on last.
2. Turn on the power to the printer.
3. Turn on the power to the monitor.
4. Turn on the power to the modem.
5. Ensure the removable IDE rack lock/switch is in the locked position. (See [FIGURE 2-2 Sun Ultra 10 Soft Shutoff Switch](#) on page 2-9.)
6. Turn on the Ultra 10 power by pressing the rear on/off switch labeled |. (See [FIGURE 2-9 Sun Ultra 10 System Center Connections](#) on page 2-15.)
7. At this point, the operating system should start to boot automatically.

### *Turning Power Off*

---

*Note* The soft shutoff switch provides an orderly shutdown of the Ultra 10 System Center. IPC recommends using the procedure below to avoid inadvertently shutting down the Ultra 10 while the System Center is running.

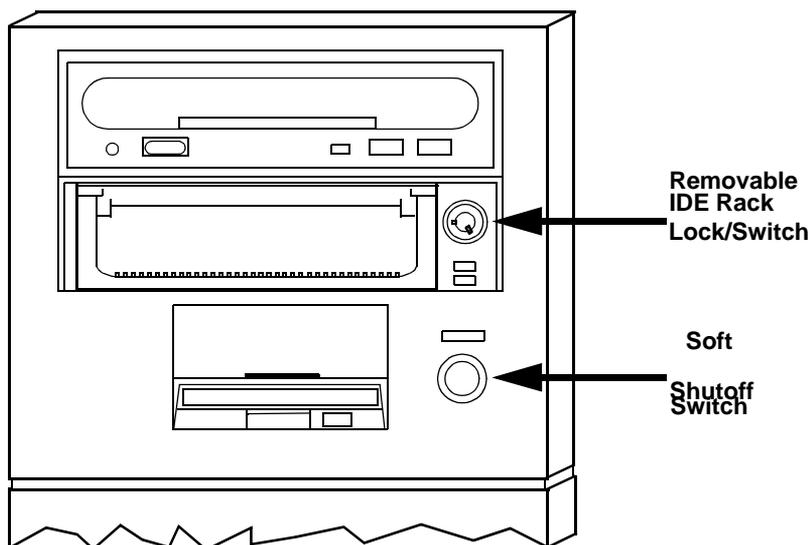
---

---

To turn off the System Center, take the following steps:

1. In a shell tool window, type `killsys` and press RETURN to halt the System Center.
2. Close all open windows.
3. Click the right mouse button on the screen background to open the background menu.
4. Click the left mouse button on Exit. You see a confirmation message.
5. Click Exit. You see the login prompt.
6. Shut down the Ultra 10 in one of the following ways:
  - Press the Ultra 10 soft shutoff switch. (See [FIGURE 2-2 Sun Ultra 10 Soft Shutoff Switch](#) on page 2-9.)
  - Type `shutoff`, press RETURN, and enter the password.

FIGURE 2-2 Sun Ultra 10 Soft Shutoff Switch



- When the system is halted and the screen has gone black, turn off the power switch on the rear of the Ultra 10 before removing the power plug. (See [FIGURE 2-9 Sun Ultra 10 System Center Connections](#) on page 2-15.) It does not matter in what order you power off the peripheral equipment.

## Installing Sun Ultra 10 Optional Hardware

### *Installing the Optional Second Sun Hard Drive*

The second hard drive is optional equipment for the Ultra 10. You can order your Ultra 10 with the second hard drive installed by the factory in Westbrook. If you purchased your second hard drive separately, use the following instructions to guide your installation. If you do not have a second hard drive to install, go to the next applicable section of this document.

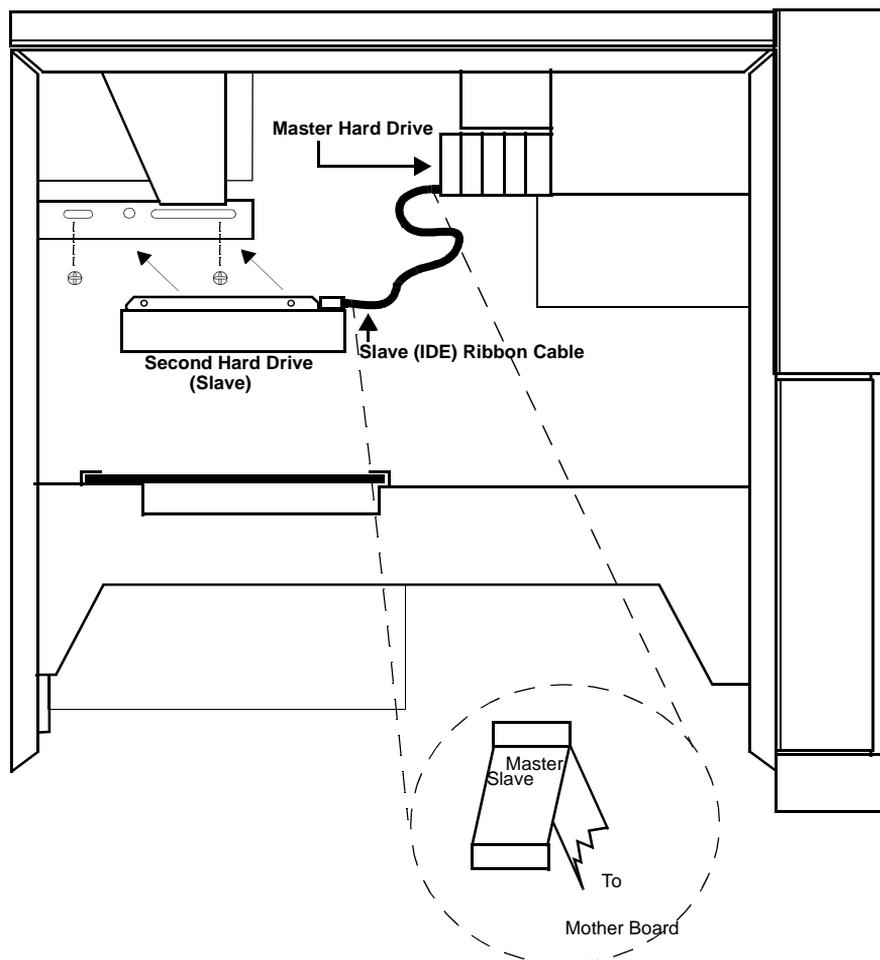
A second Sun hard drive can be added to your Ultra 10. This second drive gives you the ability to perform backups of the first drive. The first drive will always be the master drive and the second drive will always be the slave drive.

---

*Note*    *The slave drive does not automatically mirror the master drive. Any data added to the master drive will not be backed up onto the slave drive unless you back up the drive.*

---

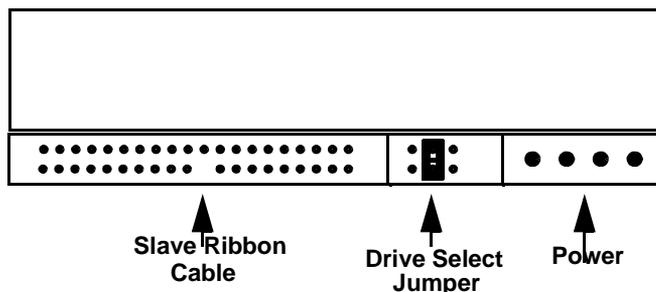
FIGURE 2-3 Sun Ultra 10 Left Side View ( Cover Removed)



To add a second (slave) Sun hard drive, take the following steps:

1. Log out of the System Center and power it down. (See Turning Power Off on page 4.)
2. Put an electrostatic discharge (ESD) grounding wrist strap on your wrist.
3. Attach the alligator clip of the wrist strap to bare metal on the cabinet.
4. Place the Ultra 10 upside-down on a large, uncluttered surface.
5. Remove the bottom/side cover.
6. Rest the Ultra 10 on its bottom chassis with the left side of the unit facing you. (See Figure 4.)
7. Using proper ESD procedures, remove the packaging from your hard drive.
8. Install the drive select jumper in the center position. (See [FIGURE 2-4 Sun Ultra 10 Second Hard Drive](#) on page 2-11.)

FIGURE 2-4 Sun Ultra 10 Second Hard Drive



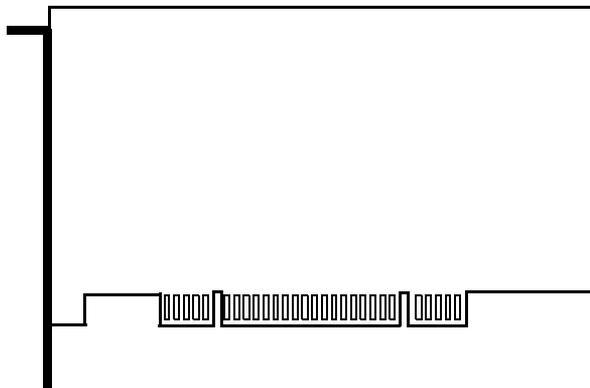
9. Attach the slave ribbon cable from the master hard drive to the slave hard drive. (See [FIGURE 2-4 Sun Ultra 10 Second Hard Drive on page 2-11.](#))
10. Attach the power connector labeled P2, P3, or P5 to the slave hard drive. (See [FIGURE 2-4 Sun Ultra 10 Second Hard Drive on page 2-11.](#))
11. Mount the slave hard drive in the bracket provided. (See [FIGURE 2-3 Sun Ultra 10 Left Side View \( Cover Removed\) on page 2-10.](#))
12. Re-attach the bottom/side cover.
13. Power on the system. (See [Turning Power On on page 2-8.](#))
14. Log in as rootsh.
15. At the syscen# prompt, type `reboot -- -r` and press RETURN to reboot the system with new hardware.

### Installing the Optional Second Sun FastEthernet/P2.0 Card

The second Sun FastEthernet/P 2.0 card is optional equipment for the Ultra 10. (See [FIGURE 2-5 Sun FastEthernet/P2.0 Card on page 2-11.](#)) You can order your Ultra 10 with the second Sun FastEthernet/P 2.0 card installed by the factory in Westbrook. If you purchased your second Sun FastEthernet/P 2.0 card separately, use the following instructions to guide your installation. If you do not have a second Sun FastEthernet/P 2.0 card to install, go to the next applicable section of this document.

The Ultra 10 comes with three unused PCI expansion slots. These slots can be populated with additional cards to add optional features to your Ultra 10 System Center. Adding a second Sun FastEthernet/P 2.0 card to your Ultra 10 allows you to connect the System Center to a local area network (LAN).

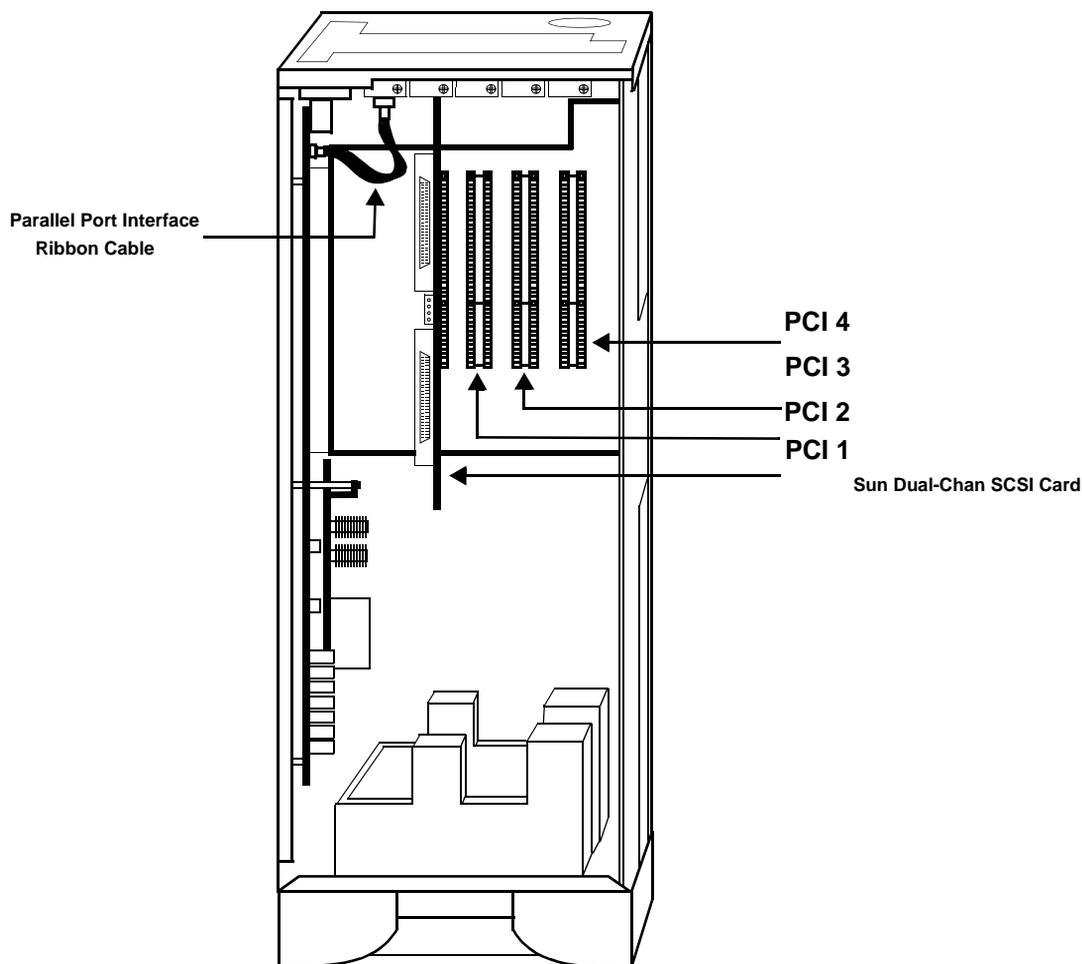
FIGURE 2-5 Sun FastEthernet/P2.0 Card



To add the Sun FastEthernet/P2.0 card, take the following steps:

1. Log out of the System Center and power it down. (See [Turning Power Off on page 2-8.](#))
2. Put an electrostatic discharge (ESD) grounding wrist strap on your wrist.
3. Attach the alligator clip of the wrist strap to bare metal on the cabinet.
4. Place the Ultra 10 upside-down on a large, uncluttered surface.
5. Remove the bottom/side cover.
6. Rest the Ultra 10 on its top with the front panel of the unit facing you. (See [FIGURE 2-6 Sun Ultra 10 Bottom View \(Cover removed\)](#) on page 2-12.)

FIGURE 2-6 Sun Ultra 10 Bottom View (Cover removed)



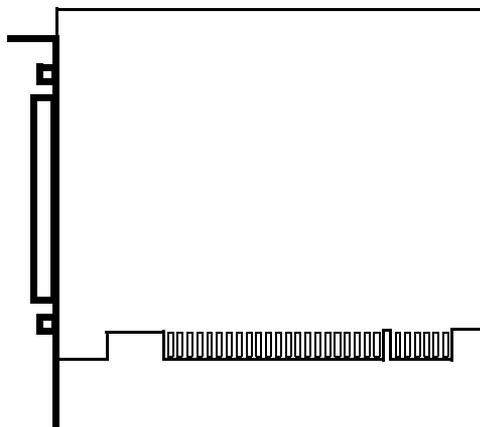
7. Using proper ESD procedures, remove the packaging from your FastEthernet/P 2.0 card.
8. Install your FastEthernet/P 2.0 card in the next available PCI slot.
9. Re-attach the bottom/side cover.
10. Power on the system. (See [Turning Power On on page 2-8.](#))
11. Log in as `rootcsh`.
12. At the `syscsh#` prompt, type `reboot -- -r` and press RETURN to reboot the system with new hardware.

### Installing the Optional Aurora Card

The Aurora card is optional equipment for the Ultra 10. (See [FIGURE 2-7 Aurora 8 Port Serial Interface Card on page 2-13.](#)) You can order your Ultra 10 with the Aurora card installed by the factory in Westbrook. If you purchased your Aurora card separately, use the following instructions to guide your installation. If you do not have an Aurora card to install, go to the next applicable section of this document.

Installation of the Aurora card is similar to the installation described above in [Install Optional Second Sun FastEthernet/P 2.0 Card on page 6.](#) Adding the Aurora card gives you eight more serial ports. If both Ultra 10 serial ports are used, these additional ports are required for connecting a call logger device or a second modem to support the ALX Auto Pager feature.

FIGURE 2-7 Aurora 8 Port Serial Interface Card



To add the Aurora card, take the following steps:

1. Log out of the System Center and power it down. (See [Turning Power Off on page 2-8.](#))
2. Put an electrostatic discharge (ESD) grounding wrist strap on your wrist.
3. Attach the alligator clip of the wrist strap to bare metal on the cabinet.
4. Place the Ultra 10 upside-down on a large, uncluttered surface.
5. Remove the bottom/side cover.
6. Rest the Ultra 10 on its top with the front panel of the unit facing you. (See [FIGURE 2-6 Sun Ultra 10 Bottom View \(Cover removed\) on page 2-12.](#))
7. Using proper ESD procedures, remove the packaging from your Aurora card.
8. Install your Aurora card in the next available PCI slot.
9. Install the Aurora card software per the User's Manual that came with your Aurora card.
10. Re-attach the bottom/side cover.
11. Power on the system. (See [Turning Power On on page 2-8.](#))
12. Log in as *rootcsh*.
13. At the `syscen#` prompt, type **reboot -- -r** and press RETURN to reboot the system with new hardware.
14. Install the Aurora card drivers per the *User's Manual* that came with your Aurora card.

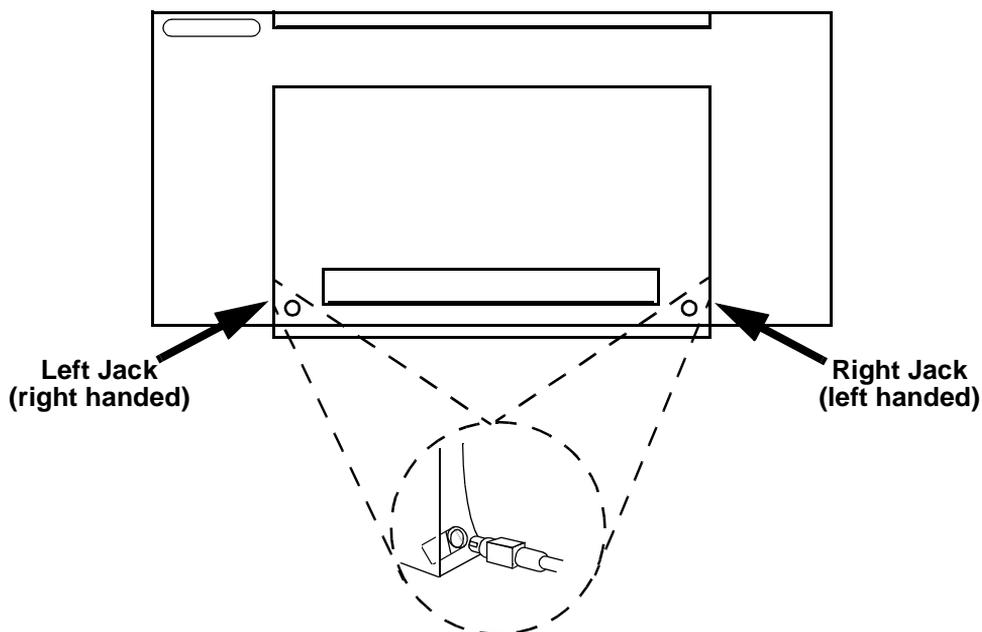
## Connecting the Mouse to the Keyboard

There are two types of keyboards available with a Sun workstation. One type has two jacks on its underside, one for the mouse and one for the keyboard cable. The other type of keyboard has one jack for the mouse.

To connect the mouse to the keyboard, take the following steps:

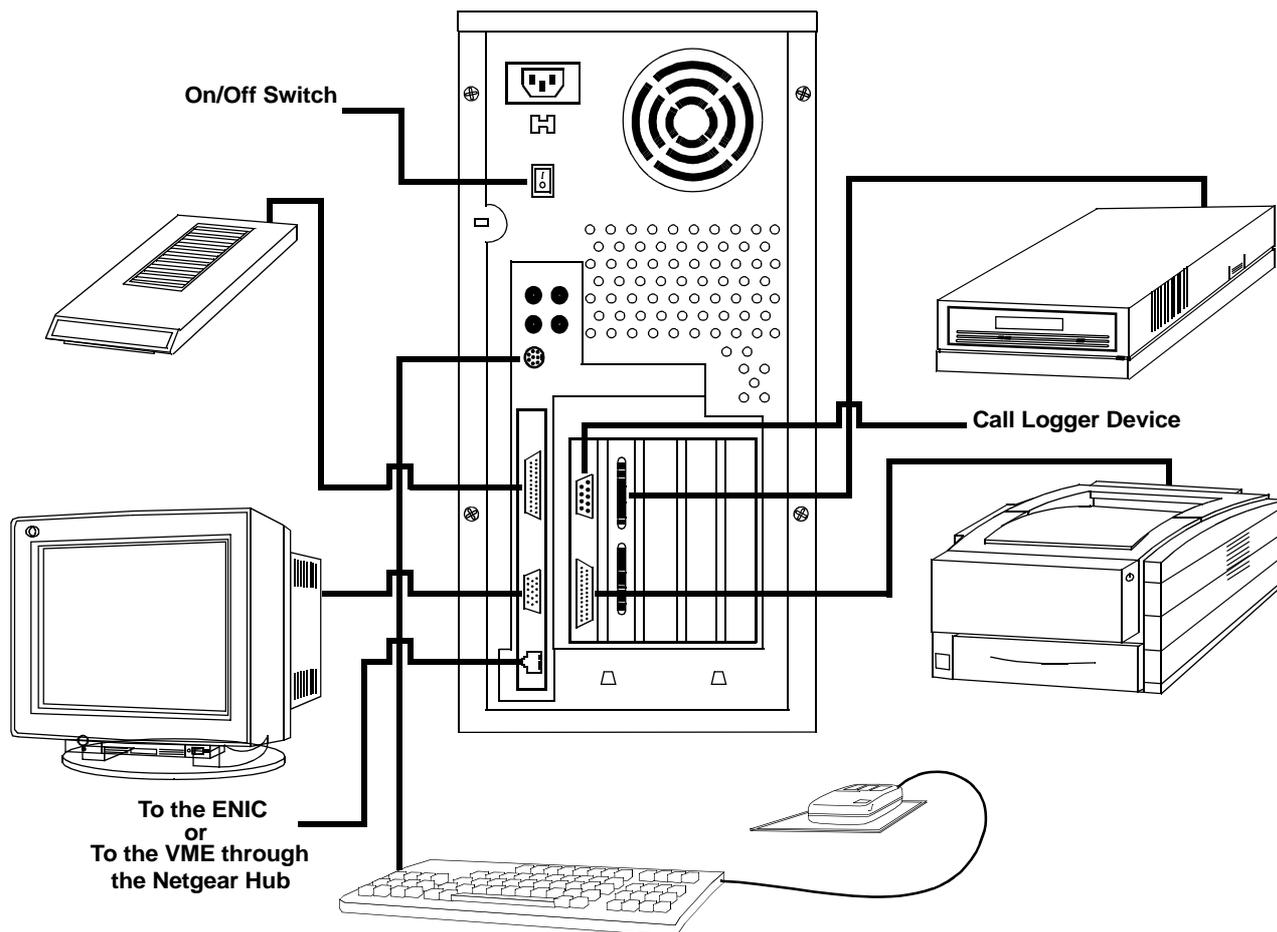
1. Find the mouse with its attached cable.
2. Plug the mouse cable into a keyboard jack on the underside of the keyboard. If your keyboard has two jacks, the jack you use depends on where you want to place the mouse. (See [FIGURE 2-8 Sun Workstation Keyboard With Two Jacks](#) on page 2-14.) The plug is keyed for correct insertion. As viewed from beneath, insert the mouse cable plug into the left jack if you are right-handed, or into the right jack if you are left-handed. Align the flat sides of the plug and the jack, and firmly push in the plug.

FIGURE 2-8 Sun Workstation Keyboard With Two Jacks



## Connecting the Keyboard to the System Unit

FIGURE 2-9 Sun Ultra 10 System Center Connections



There are two types of keyboards available with the Sun workstation. One type has two jacks on its underside, one for the mouse and one for the keyboard cable. The other type of keyboard has one jack for the mouse.

To connect the keyboard to the system unit, take the following steps:

1. If your keyboard has two jacks, insert either end of the keyboard cable into the free keyboard jack. See [FIGURE 2-8 Sun Workstation Keyboard With Two Jacks](#) on page 2-14.
2. Find the keyboard port on the back panel of the system unit. (If necessary, see one of the following figures: [FIGURE 2-9 Sun Ultra 10 System Center Connections](#) on page 2-15, [FIGURE 2-23 SPARCstation 5 Back Panel](#) on page 2-28, [FIGURE 2-41 SPARCstation 20 Back Panel](#) on page 2-48, [FIGURE 2-45 SPARCstation 10 Back Panel](#) on page 2-53, [FIGURE 2-49 SPARCstation IPC Back Panel](#) on page 2-58, or [FIGURE 2-54 SPARCstation Classic Back Panel](#) on page 2-65.)
3. Push the remaining keyboard cable plug into the keyboard port.
4. Place the keyboard in a comfortable position on top of your desk.
5. Set the mouse on the mouse pad.

## Installing the Monitor

To connect the monitor to the system unit, take the following steps:

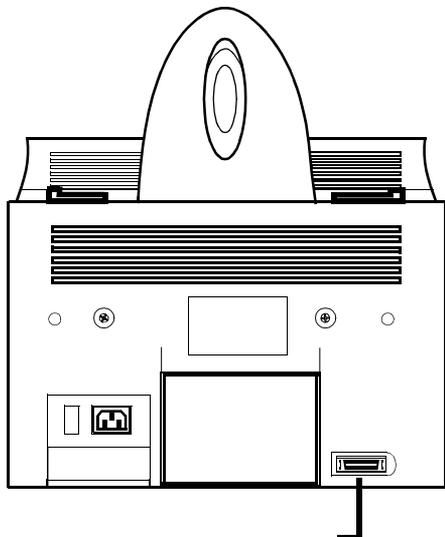
1. Place the monitor where you want it next to the Sun Ultra 10.
2. Make sure that the power switches on both the Sun Ultra 10 and the monitor are in the off position.
3. Connect the monitor video cable to the Sun Ultra 10. (See [Sun Ultra 10 System Center Connections on page 2-15](#).)
4. Plug in the monitor power cord.

## Installing the Printer

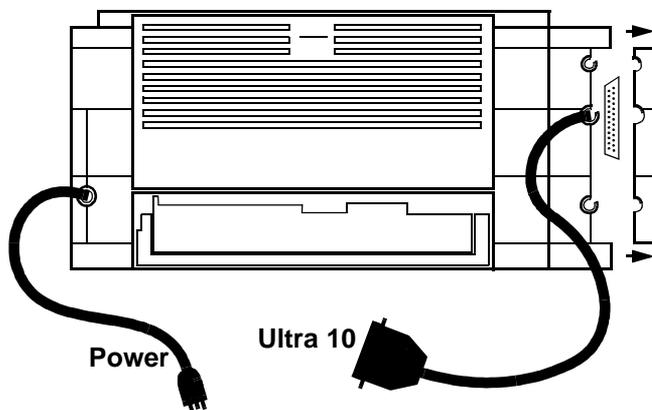
The Sun Ultra 10 is supported by any of three LaserJet printers manufactured by Hewlett Packard. They are the HP 4000T for large systems, the HP 2100 xi for medium systems, and the HP 1100 for small systems.

To install one of the new HP printers on your Ultra 10, take the following steps:  
 FIGURE 2-10 Hewlett Packard LaserJet Printers

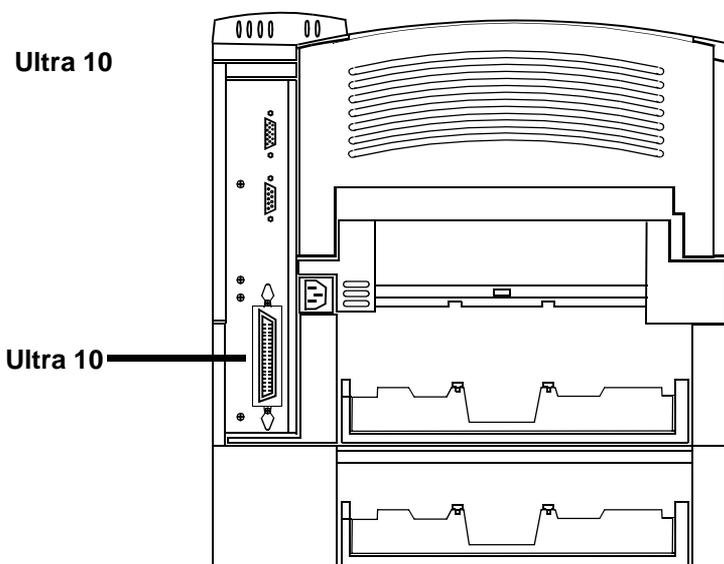
### Back View HP 1100



### Back View HP 2100 xi



### Back View HP 4000T



1. Locate a convenient place for the printer.
2. Make sure the power switches on both the printer and the Ultra 10 are in the off position.
3. Locate the parallel printer cable that came with your printer. If a longer printer cable is required, one can be purchased from Westbrook, or at most computer and electronics stores.
4. Connect one end of the parallel printer cable to the printer. (See [FIGURE 2-10 Hewlett Packard LaserJet Printers](#) on page 2-17.)
5. Connect the remaining end of the parallel printer cable to the Ultra 10. (See [FIGURE 2-9 Sun Ultra 10 System Center Connections](#) on page 2-15.)

## Installing a DAT Drive

The DAT drive connects to a SCSI port on your Ultra 10.

The 12–24 GB 4mm DDS-3 DAT drive (part number S1100057) is replacing the 4–8 GB 4mm DDS-2 DAT drive.

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**Warning!** *Continue to use DDS-2 tapes in both the DDS-2 drive and the DDS-3 drive. Do not use DDS-3 tapes.*

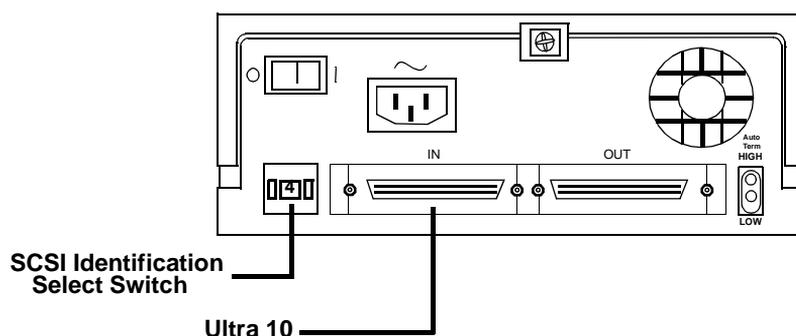
---

The DDS-3 drive is backward compatible. That is:

- The DDS-3 drive can read DDS-2 tapes that were created on a DDS-2 drive.
- The DDS-2 drive can read DDS-2 tapes that were created on a DDS-3 drive.
- The DDS-2 drive can not read DDS-3 tapes.

The cables you used with the DDS-2 drive can be used with the DDS-3 drive.

FIGURE 2-11 Sun External DAT Drive (Rear View)



To install the DAT drive, take the following steps:

1. Find the mini SCSI interface cable that came with your Ultra 10 kit or SCSI card.

---

*Note* Your Ultra 10 kit or SCSI interface card came with two mini SCSI cables (part number 29513051). Keep one cable at your branch office for future use.

---

2. Locate a convenient place on or near the desktop for the DAT drive.
3. Make sure that the power switches on both the DAT drive and the Ultra 10 are in the off position.
4. Set the SCSI identification select switch to 4. (See [FIGURE 2-11 Sun External DAT Drive \(Rear View\)](#) on page 2-18.)
5. Connect one end of the cable to the DAT drive connector labeled IN. (See [FIGURE 2-11 Sun External DAT Drive \(Rear View\)](#) on page 2-18.)
6. Connect the remaining end to the Ultra 10, top SCSI port. (See [FIGURE 2-9 Sun Ultra 10 System Center Connections](#) on page 2-15.)

## Installing the Modem

In the Tradenet MX System, a modem is used for remote access. An additional modem is required if you are using the ALX Auto Pager feature.

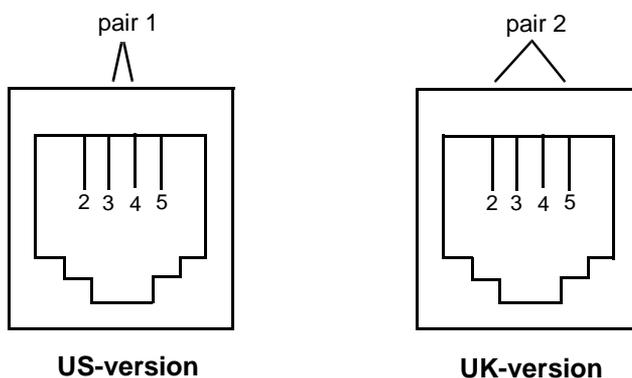
If you are using the Robotics Courier V.Everything modem, there are two versions of this modem: one for the US and one for UK. The following table shows which countries should use the US-version of the Courier modem and which countries should use the UK-version of the Courier modem.

TABLE 2-3 Country-specific Version of the Courier Modem

US-version of the Robotics Courier V.Everything Modem	UK-version of the Robotics Courier V.Everything Modem
US	UK
South Africa	Ireland
Barbados	Netherlands
Singapore	Switzerland
Hong Kong	Turkey
Malaysia	Russia
Taiwan	Germany
China	Spain
Japan	Luxembourg
Mexico	Greece
Brazil	Italy
Argentina	France
Peru	
Australia	

The pinouts for the US-version of the Courier modem are different from the pinouts for the UK-version of the Courier modem. With the US-version of the modem, you are using pair 1; with the UK-version of the modem, you are using pair 2.

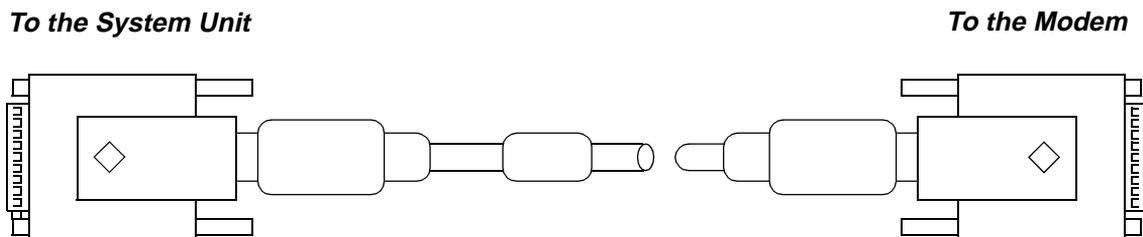
FIGURE 2-12 Courier Modem Pinouts



To connect the modem to the system unit, take the following steps:

1. Locate the serial interface Y-cable shown below.

FIGURE 2-13 Serial Interface Y-Cable



2. Locate a convenient place on or near the desktop for the modem.
3. Make sure that the power switches on both the modem and the Sun Ultra 10 are in the off position. (See [Turning Power Off on page 2-8](#).)
4. Connect the A end connector to the male-to-male adapter, then to the modem.
5. Connect the remaining end to the Sun Ultra 10 serial (modem) port. (See [FIGURE 2-9 Sun Ultra 10 System Center Connections on page 2-15](#).) The Sun Ultra 10 has only one 25 pin serial port. If you require a second serial port because you have a call logger device and/or the ALX Auto Pager feature, you need additional hardware to provide an additional serial port, such as an Aurora card. (See [Installing the Optional Aurora Card on page 2-13](#).)
6. Connect the incoming line to the modem.

For information about configuring your modem, see [Configuring a Modem on page 5-1](#).

## Connecting the MX System to the Sun Ultra 10

There are two ways to connect the System Center to the MX switch:

- With an ENIC
- With a VME tower

All new System Centers shipping from IPC Manufacturing use an ENIC instead of a VME tower.

### Connecting to the Ethernet Interface Kit

The Ethernet Interface kit is the link between the MX System and the System Center. This replaces the VME tower and is made up of two parts, the Ethernet network interface card (ENIC), and the physical interface card (PIC). For more information about this card, refer to the *Tradenet MX Technical Reference Manual 14.1* (part number B0108800003) and the *Tradenet MX Installation & Maintenance Manual 14.1* (part number B0108900003).

This newer Ethernet card operates the same way as the older System Center gateway card (SCGC). This card works with the Sun Ultra 10, SPARCstation 5, 10, and 20. It is not supported on the SPARCstation IPC or SPARCstation Classic. This card works with Tradenet MX Release 10.1.28 or later.

Using a Sun Ultra 10 System Center, there are two ways you can install the new Ethernet card:

- using 10Base-T cable
- using 10Base-T cable and a hub for remote terminals

---

*Note* With the Sun Ultra 10, IPC uses the 10Base-T cable method to install the ENIC. IPC does not support ThinNet installations with the Sun Ultra 10.

---

### Using 10Base-T Cable

To connect the Sun Ultra 10 to the ENIC, take the following steps:

1. Log out of the System Center and power it down. (See [Turning Power Off on page 2-8.](#))
2. Put an electro-static discharge (ESD) grounding wrist strap on your wrist.
3. Attach the alligator clip of the wrist strap to bare metal on the cabinet.
4. Connect a CAT 5 cross-over Ethernet 10Base-T cable (part number 29413415) to the PIC, and to the modular jack on the back of the Sun workstation. Make sure both ends of the cable snap in place.

FIGURE 2-14 Fifty Foot Unshielded CAT 5 Cross-Over Ethernet 10Base-T Cable (Part Number 29413415)

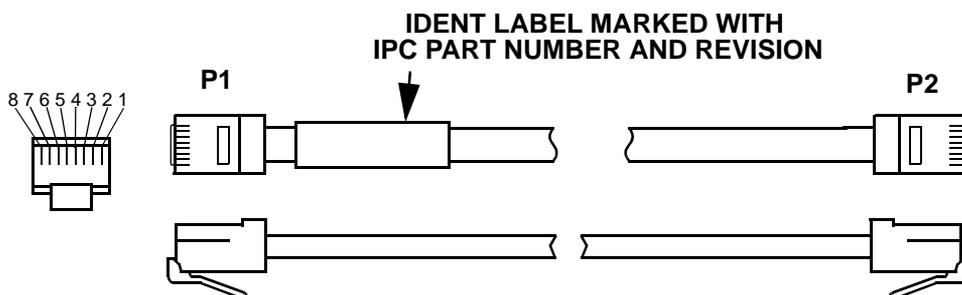


TABLE 2-4 Unshielded CAT 5 Cross-Over Ethernet 10Base-T cable Pin Out

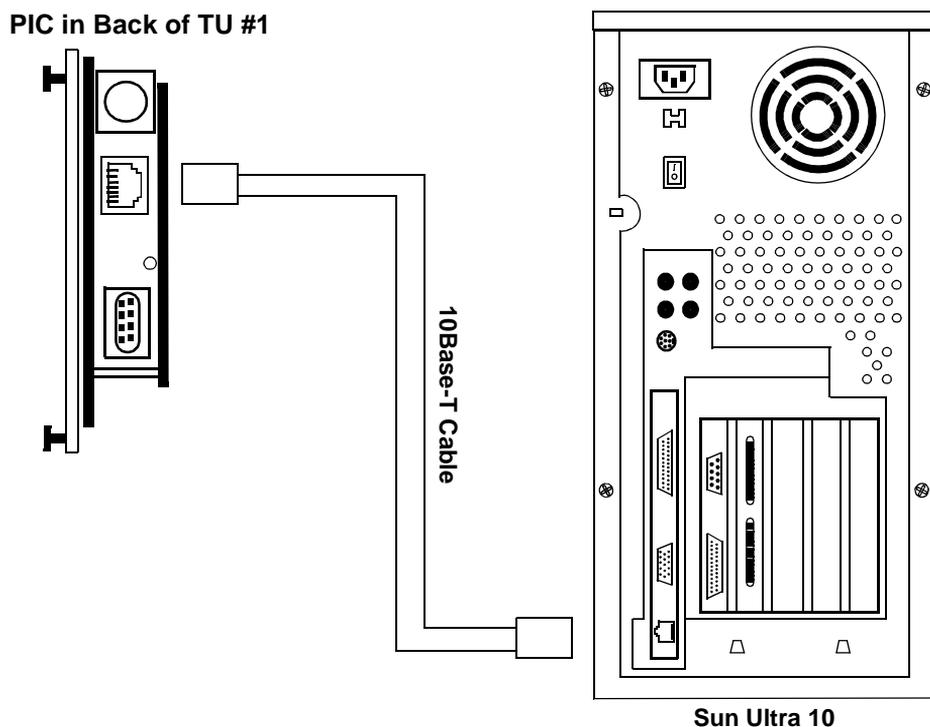
Pair Number	P1	P2	Color Code
1	1	3	White/Blue
	2	6	Blue
2	3	1	White/Orange
	4	5	Orange
3	5	4	White/Green
	6	2	Green
4	7	8	White/Brown
	8	7	Brown

Pins 4, 5, 7, and 8 are not used.

You can order the 50 Foot Unshielded CAT 5 Cross-Over Ethernet 10Base-T cable from IPC. If you choose to make the cable yourself, you need to either buy 10Base-T cable converters or make sure the pins of the cable are crossed as specified in [TABLE 2-4 Unshielded CAT 5 Cross-Over Ethernet 10Base-T cable Pin Out on page 2-21.](#)

The following figure illustrates connecting the ENIC using the 10Base-T cable configuration.

FIGURE 2-15 Using the 10Base-T Cable Configuration



After connecting the Ethernet Interface kit, you have completed the cabling of the Sun Ultra 10. The installation should look like [FIGURE 2-9 Sun Ultra 10 System Center Connections on page 2-15](#).

### Using 10Base-T Cables and a Hub for Remote Terminals

To connect the Sun Ultra 10 through a hub to the ENIC, take the following steps:

1. Log out of the System Center and power it down. (See [Turning Power Off on page 2-8](#).)
2. Put an electro-static discharge (ESD) grounding wrist strap on your wrist.
3. Attach the alligator clip of the wrist strap to bare metal on the cabinet.
4. Connect a CAT 5 straight through Ethernet 10Base-T cable to the PIC, and to the hub. Make sure the cable snaps in place on both ends.

FIGURE 2-16 Fifty Foot Unshielded CAT 5 Straight Through Ethernet 10Base-T Cable (Part Number 29413416)

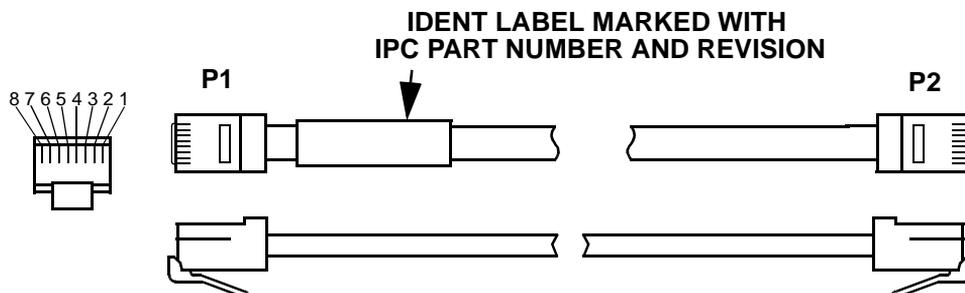


TABLE 2-5 Unshielded CAT 5 Straight Through Ethernet 10Base-T cable Pin Out

Pair Number	P1	P2	Color Code
1	5	5	White/Blue
	4	4	Blue
2	3	3	White/Orange
	6	6	Orange
3	1	1	White/Green
	2	2	Green
4	7	7	White/Brown
	8	8	Brown

---

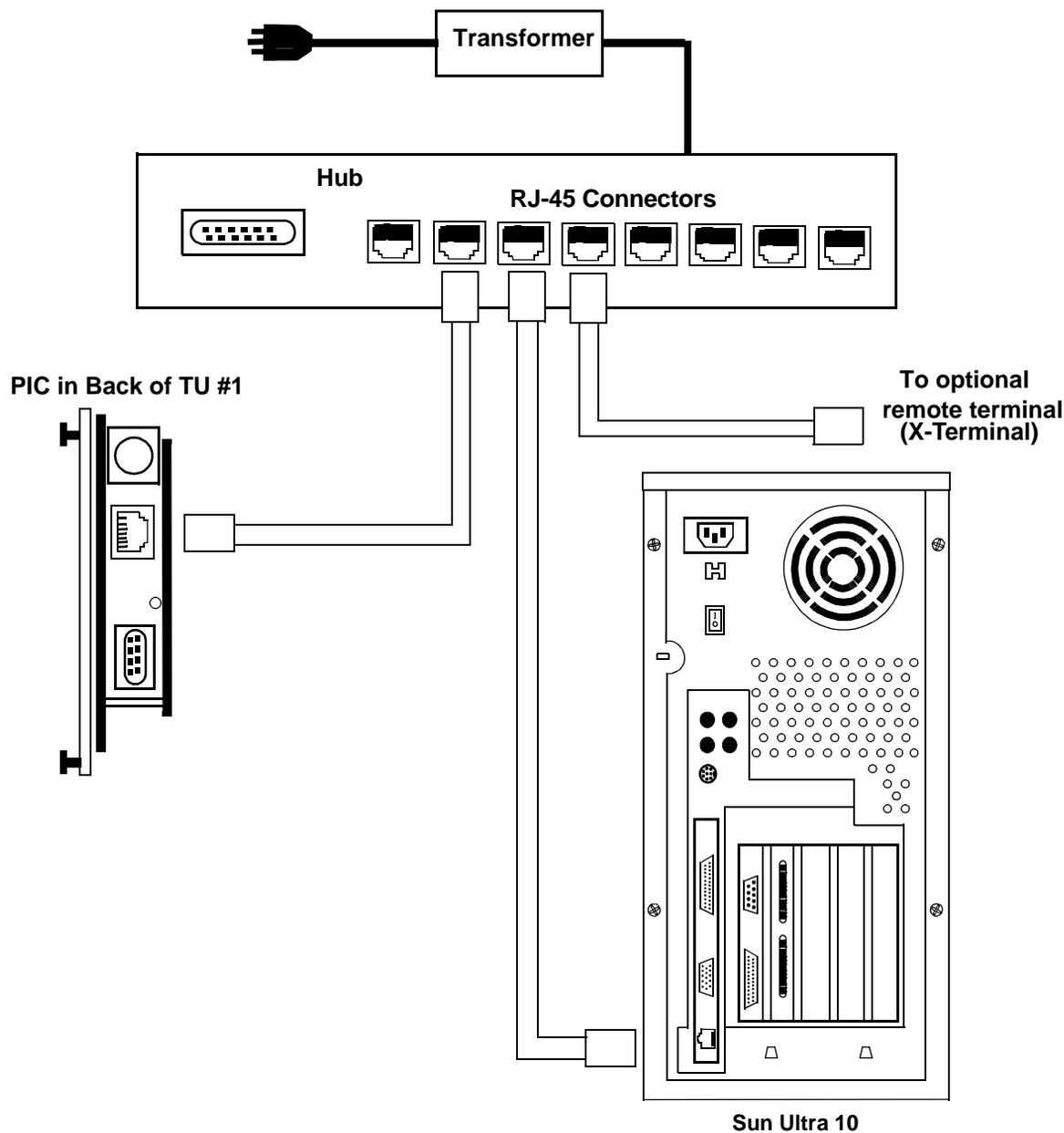
*Note* When hubs are used, do not use a cross-over cable as you do when using the 10Base-T cable method of connecting the new Ethernet card, as described in [Using 10Base-T Cable on page 2-21](#). The hub automatically reverses the pairs. Some hubs have a button to enable and disable the reversal of pairs. Refer to the documentation that came with your hub.

---

5. Connect a CAT 5 straight through Ethernet 10Base-T cable to the hub, and to the modular jack on the back of the Sun workstation. Make sure the cable snaps in place on both ends.

- With additional CAT 5 straight through Ethernet 10Base-T cables, connect any optional remote terminals to the hub. The following figure shows the connections to the hub.

FIGURE 2-17 Connecting a Sun Ultra 10 to a Hub



After connecting the Ethernet Interface kit, you have completed the cabling of the Sun workstation. The installation should look like [FIGURE 2-9 Sun Ultra 10 System Center Connections](#) on page 2-15.

### Connencting to the VME

To connect the Sun Ultra 10 to a VME tower, take the following steps:

- Log out of the System Center and power it down. (See [Turning Power Off](#) on page 2-8.)
- Put an electro-static discharge (ESD) grounding wrist strap on your wrist.
- Attach the alligator clip of the wrist strap to bare metal on the cabinet.

- Connect a CAT 5 straight through Ethernet 10Base-T cable to the netgear hub (part number 58112012), and to the modular jack on the back of the Sun workstation. Make sure the cable snaps in place on both ends.

FIGURE 2-18 Fifty Foot Unshielded CAT 5 Straight Through Ethernet 10Base-T Cable (Part Number 29413416)

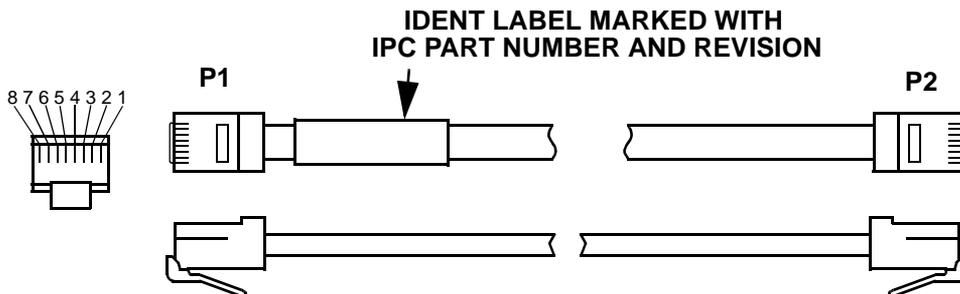
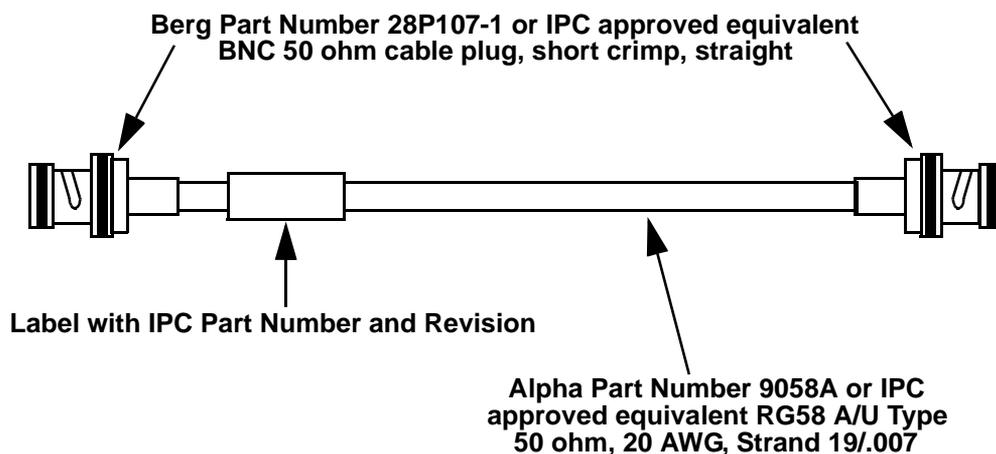


TABLE 2-6 Unshielded CAT 5 Straight Through Ethernet 10Base-T cable Pin Out

Pair Number	P1	P2	Color Code
1	5	5	White/Blue
	4	4	Blue
2	3	3	White/Orange
	6	6	Orange
3	1	1	White/Green
	2	2	Green
4	7	7	White/Brown
	8	8	Brown

- Connect a ThinNet Cable (part number 29413417) to the netgear hub, and to the VME tower. Make sure the cable snaps in place on both ends.

FIGURE 2-19 ThinNet Cable (Part Number 29413417)



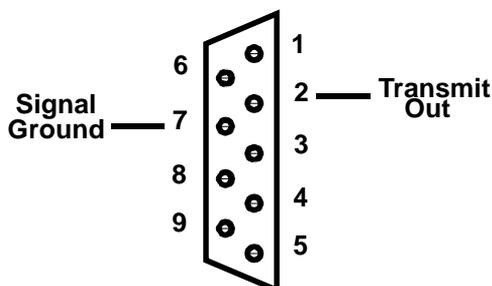
- After connecting the netgear hub, and the VME tower, you have completed the cabling of the Sun workstation. The installation should look like [FIGURE 2-9 Sun Ultra 10 System Center Connections](#) on page 2-15.

## Installing the Optional Call Logger Device

The call logger is optional equipment for the Ultra 10 System Center.

The call logger device connects to either the 25 pin or the 9 pin serial port on your Ultra 10. (See [FIGURE 2-9 Sun Ultra 10 System Center Connections on page 2-15.](#)) To connect your call logger device to the 9 pin serial port, you will need a 9 pin to 25 pin cable (part number 29610628) like the one that came in your Ultra 10 kit or a 9 pin to RJ45 converter (part number 61125089). The 9 pin serial port connector on the Ultra 10 is standard. (See [FIGURE 2-20 Sun Ultra 10 9 Pin Serial port Connection on page 2-26.](#)) If both serial ports are already used, you need to install an Aurora card to get additional serial ports. (See [Installing the Optional Aurora Card on page 2-13.](#))

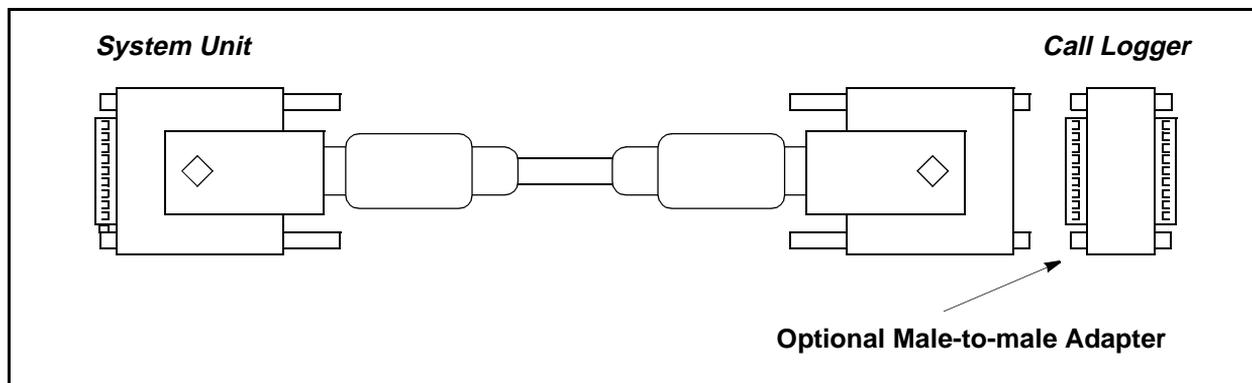
FIGURE 2-20 Sun Ultra 10 9 Pin Serial port Connection



To install a call logger on a Sun Ultra 10, take the following steps:

1. Find the serial interface cable shown in the following figure.

FIGURE 2-21 Serial Interface Cable



2. Locate a convenient place on or near the desktop for the call logger. The call logger has the same distance limitations as any standard Ethernet connection.
3. Make sure that the power switches on both the call logger and the Sun Ultra 10 (See [Turning Power Off on page 2-8.](#)) are in the off position.
4. Connect one end of the cable to the call logger. (For some installations, an intermediate male-to-male adapter might be required.)
5. Connect the remaining end to the Sun Ultra 10. (See [FIGURE 2-9 Sun Ultra 10 System Center Connections on page 2-15.](#))

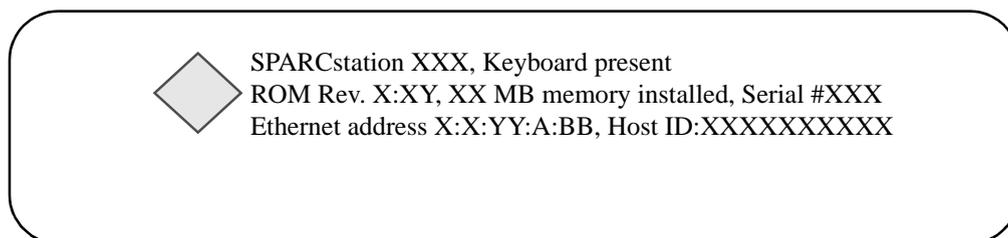
## SUN SPARCSTATION 5

The basic site configuration using a Sun SPARCstation 5 contains the following major components:

- Sun SPARCstation 5 workstation and power cable
- color monitor and cables
- keyboard and cable
- mouse, mouse pad, and cable
- Panasonic KX-P1695 printer and cable
- modem and cable
- CBA Ethernet connector and cable

You must have 64 MB of RAM installed on your SPARCstation 5. You can confirm that you have 64 MB of RAM by shutting down the system (see [Turning Power Off on page 2-68](#)), waiting at least 10 seconds, and powering on the system. If your SPARCstation is operating properly, your monitor displays a banner screen that shows you how much memory is installed. See the following figure.

FIGURE 2-22 Format of Banner Screen



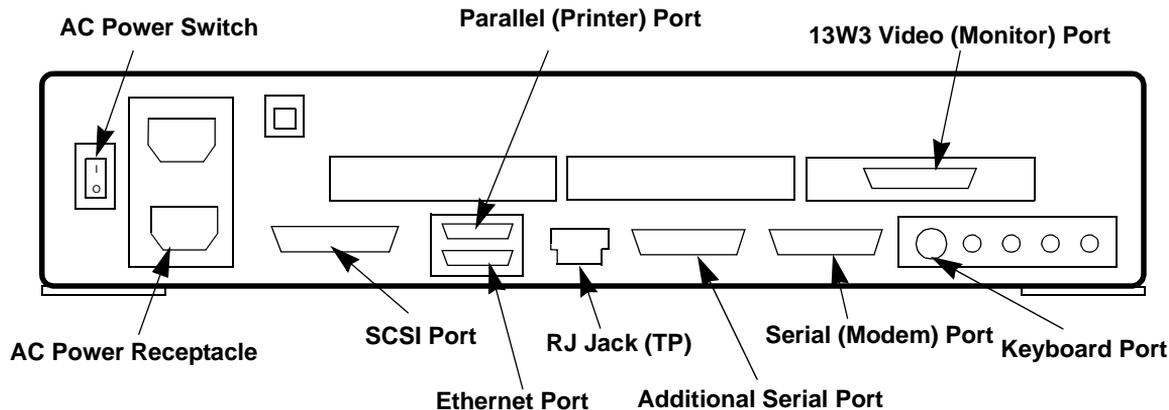
Setting up the SPARCstation 5 hardware involves the following steps:

1. Connect the mouse to the keyboard on a SPARCstation 5.
2. Connect the keyboard to the SPARCstation 5 system unit.
3. Install the monitor.
4. Install the printer.
5. Install the modem.
6. Install the Ethernet converter.

This section tells you how to set up and cable the hardware platform for the MX System Center using a SPARCstation 5. After removing the system components from their shipping containers, inspect them for damage.

Place the system unit on a flat, stable surface. The following figure shows the back panel and connectors.

FIGURE 2-23 SPARCstation 5 Back Panel




---

*Note* The power to the system unit must be turned off. Cables and power cords must not be installed.

---

## Connecting the Mouse to the Keyboard

The procedure for connecting the mouse to the keyboard is the same for the SPARCstation 5 as it is for the Sun Ultra 10. See [Connecting the Mouse to the Keyboard on page 2-14](#).

## Connecting the Keyboard to the System Unit

There are two types of keyboards available with the SPARCstation. One type has two jacks on its underside, one for the mouse and one for the keyboard cable. The other type of keyboard has one jack for the mouse.

To connect the keyboard to the system unit, take the following steps:

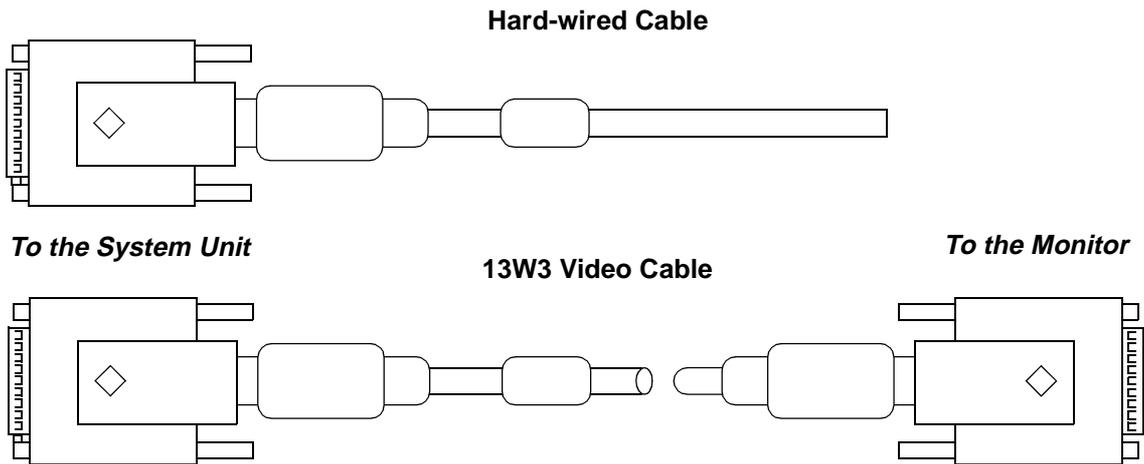
1. If your keyboard has two jacks, insert either end of the keyboard cable into the free keyboard jack. See [FIGURE 2-8 Sun Workstation Keyboard With Two Jacks on page 2-14](#).
2. Find the keyboard port on the back panel of the system unit. (If necessary, see one of the following figures: , [FIGURE 2-23 SPARCstation 5 Back Panel on page 2-28](#), [FIGURE 2-41 SPARCstation 20 Back Panel on page 2-48](#), [FIGURE 2-45 SPARCstation 10 Back Panel on page 2-53](#), [FIGURE 2-49 SPARCstation IPC Back Panel on page 2-58](#), or [FIGURE 2-54 SPARCstation Classic Back Panel on page 2-65](#).)
3. Push the remaining keyboard cable plug into the keyboard port.
4. Place the keyboard in a comfortable position on top of your desk.
5. Set the mouse on the mouse pad.

## Installing the Monitor

There are two styles of monitors that are shipped with Sun systems. One has the monitor cable hard-wired into the monitor. This cable plugs directly into the rear panel of the SPARCstation. The second style monitor has a 13W3 video input port on the back panel. A 13W3 video cable connects this port to the 13W3 video output port on the back panel of the SPARCstation system unit.

The following figure shows the difference between these two types of cables.

FIGURE 2-24 SPARCstation Video Cables



To connect the monitor to the system unit, take the following steps:

1. Place the monitor where you want it (usually on top of or next to the system unit).
2. Make sure that the power switches on both the system unit and the monitor are in the off position.
3. Connect the 13W3 video cable to the monitor (if required).
4. Connect the other end of the video cable to the system unit. (If necessary, see the appropriate figure: [FIGURE 2-23 SPARCstation 5 Back Panel](#) on page 2-28, [FIGURE 2-41 SPARCstation 20 Back Panel](#) on page 2-48, [FIGURE 2-45 SPARCstation 10 Back Panel](#) on page 2-53, [FIGURE 2-49 SPARCstation IPC Back Panel](#) on page 2-58, or [FIGURE 2-54 SPARCstation Classic Back Panel](#) on page 2-65.)
5. Plug in the monitor power cord.

## Installing the Printer

The following figure shows the rear of the printer.

FIGURE 2-25 Panasonic KX-P1695 Printer Rear Panel

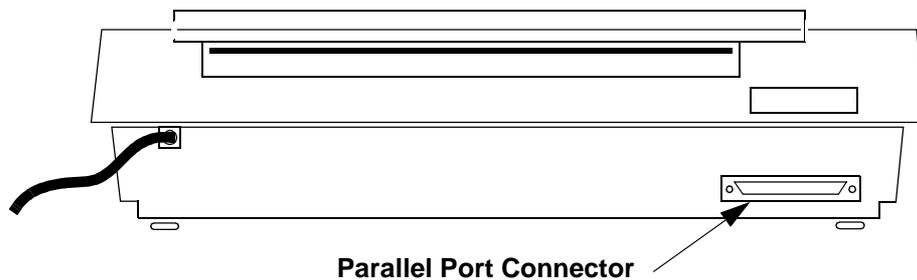
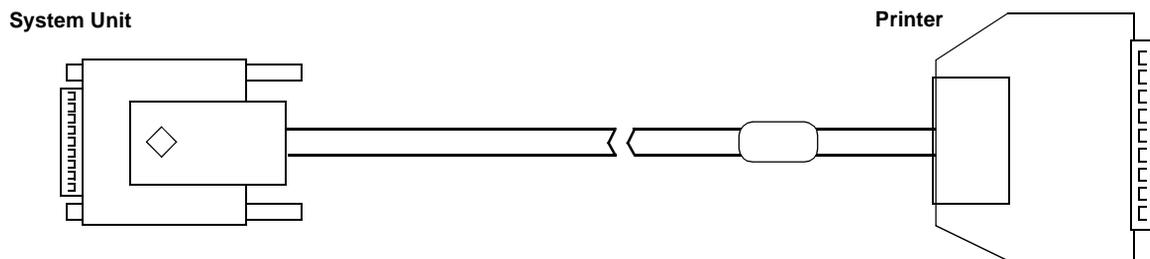


FIGURE 2-26 SPARCstation Centronics Parallel Interface Cable




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*Note* Connector shapes can vary by vendor.

---

To connect the printer to the system unit, take the following steps:

1. Position the printer on a stand or on the desktop within reach of the printer cable.
2. Make sure that the power switches on both the system unit and the printer are in the off position.
3. Locate the Centronics parallel interface cable.
4. Connect the Centronics parallel interface cable to the printer.
5. Connect the Centronics parallel interface cable to the parallel port of system unit. If necessary, see the appropriate figure: [FIGURE 2-23 SPARCstation 5 Back Panel on page 2-28](#), [FIGURE 2-41 SPARCstation 20 Back Panel on page 2-48](#), [FIGURE 2-45 SPARCstation 10 Back Panel on page 2-53](#), [FIGURE 2-49 SPARCstation IPC Back Panel on page 2-58](#), or [FIGURE 2-54 SPARCstation Classic Back Panel on page 2-65](#).
6. Plug in the printer power cord.

Once the Panasonic KX-P1695 is properly cabled to the system unit, you can configure the printer to work with the System Center. There are five specific functions that must be configured for the printer to operate properly. Follow these steps and look for the LED indicators to verify operations.

Set communications to 7 bits by taking the following steps:

1. Power on the printer while simultaneously pressing the FUNCTION key.
2. Press ROW seven times. Row 1 should be on and rows 2 and 3 off.
3. Press COLUMN six times. Column 6 should be blinking.
4. Press SET. Column 6 should be lit.

Set print mode to draft by taking the following steps:

1. Press ROW four times. Rows 1 and 2 should be on, and column 1 should be on.
2. Press SET.
3. Press FUNCTION.

Set type pitch to 12 by taking the following steps:

1. Press FUNCTION.
2. Press ROW once. Rows 1 and 2 should be on and row 3 off.
3. Press COLUMN twice. Rows 1 and 2 should be on, row 3 off, and column 2 blinking.
4. Press SET. Rows 1 and 2 should be on, row 3 off, and column 2 on.

Set lines per inch to 6LPI by taking the following steps:

1. Press ROW twice. Row 1 should be off, rows 2 and 3 on, and column 1 on.
2. Press SET. Row 1 should be off, rows 2 and 3 on, and column 1 on.

Store the settings into macro #1 by taking the following steps:

1. Press ROW once. Rows 1 and 2 should be off, row 3 on, and column 3 on.
2. Press LF. The system should beep twice.
3. Press SET.
4. Press FUNCTION.

If, after setting up the software on the System Center (see [Software Installation and Upgrades on page 4-1](#)), you need to shut down a printer from a SPARCstation, take the following steps:

1. On the System Center, open a shell tool or command tool window.
2. In the window, type **cancel lp** and press ENTER.

## Installing the Modem

In the Tradenet MX System, a modem is used for remote access. An additional modem is required if you are using the ALX Auto Pager feature.

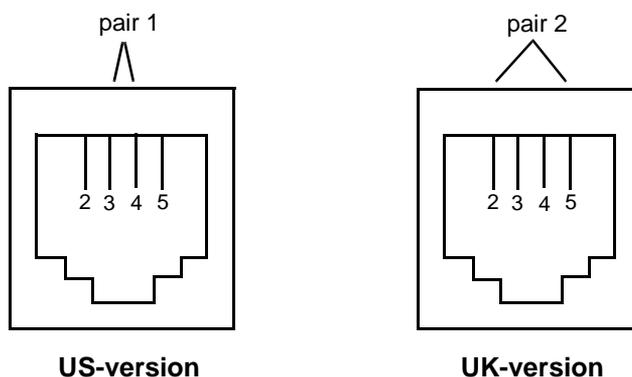
If you are using the Robotics Courier V.Everything modem, there are two versions of this modem: one for the US and one for UK. The following table shows which countries should use the US-version of the Courier modem and which countries should use the UK-version of the Courier modem.

TABLE 2-7 Country-specific Version of the Courier Modem

<b>US-version of the Robotics Courier V.Everything Modem</b>	<b>UK-version of the Robotics Courier V.Everything Modem</b>
US	UK
South Africa	Ireland
Barbados	Netherlands
Singapore	Switzerland
Hong Kong	Turkey
Malaysia	Russia
Taiwan	Germany
China	Spain
Japan	Luxembourg
Mexico	Greece
Brazil	Italy
Argentina	France
Peru	
Australia	

The pinouts for the US-version of the Courier modem are different from the pinouts for the UK-version of the Courier modem. With the US-version of the modem, you are using pair 1; with the UK-version of the modem, you are using pair 2.

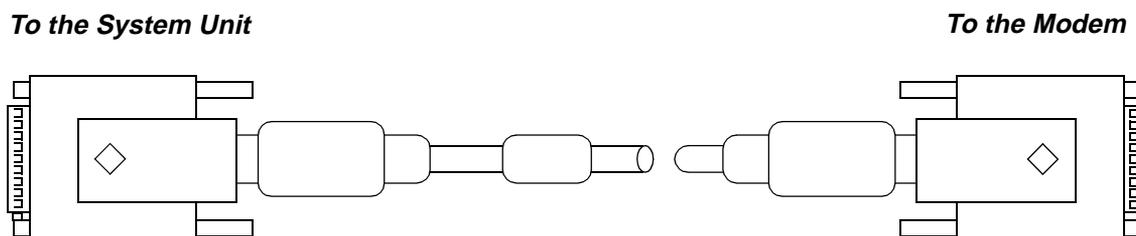
FIGURE 2-27 Courier Modem Pinouts



To connect the modem to the system unit, take the following steps:

1. Locate the serial interface Y-cable shown below.

FIGURE 2-28 Serial Interface Y-Cable



2. Locate a convenient place on or near the desktop for the modem.
3. Make sure that the power switches on both the modem and the system unit are in the off position.
4. Connect the A end connector to the male-to-male adapter, then to the modem.
5. Connect the remaining end to the system unit to the serial (modem) port. (If necessary, see the appropriate figure [FIGURE 2-23 SPARCstation 5 Back Panel](#) on page 2-28, [FIGURE 2-41 SPARCstation 20 Back Panel](#) on page 2-48, [FIGURE 2-45 SPARCstation 10 Back Panel](#) on page 2-53, [FIGURE 2-49 SPARCstation IPC Back Panel](#) on page 2-58, or [FIGURE 2-54 SPARCstation Classic Back Panel](#) on page 2-65). The first serial port on your SPARCstation is usually used for a modem used for remote access. The second serial port is used for a call logger device or a second modem for the ALX Auto Pager feature. If you require a third serial port because you have a call logger device and the ALX Auto Pager feature, you need additional hardware to provide an additional serial port, such as an Aurora board. The Aurora board consists of an interface card that is installed in the System Center, an external board that contains several serial ports that plug into the added card, and software drivers. To use an Aurora board, you need a spare slot in your System Center and you need to define the serial port device in your configuration file.
6. Connect the incoming line to the modem.

For information about configuring your modem, see [Configuring a Modem](#) on page 5-1.

## Connecting the MX System to the SPARCstation 5 System Center

There are two ways to connect the MX System to the System Center. If you are using Release 9.2 or earlier, you install an Ethernet converter and use a VME tower. (See [Installing the Ethernet Converter on page 2-34.](#)) If you are using Release 10.1 or later, you can either use the Ethernet converter, or you can use the Ethernet Interface kit which eliminates the VME tower in older Tradenet MX Systems. (See [Installing the Ethernet Interface Kit on page 2-35.](#))

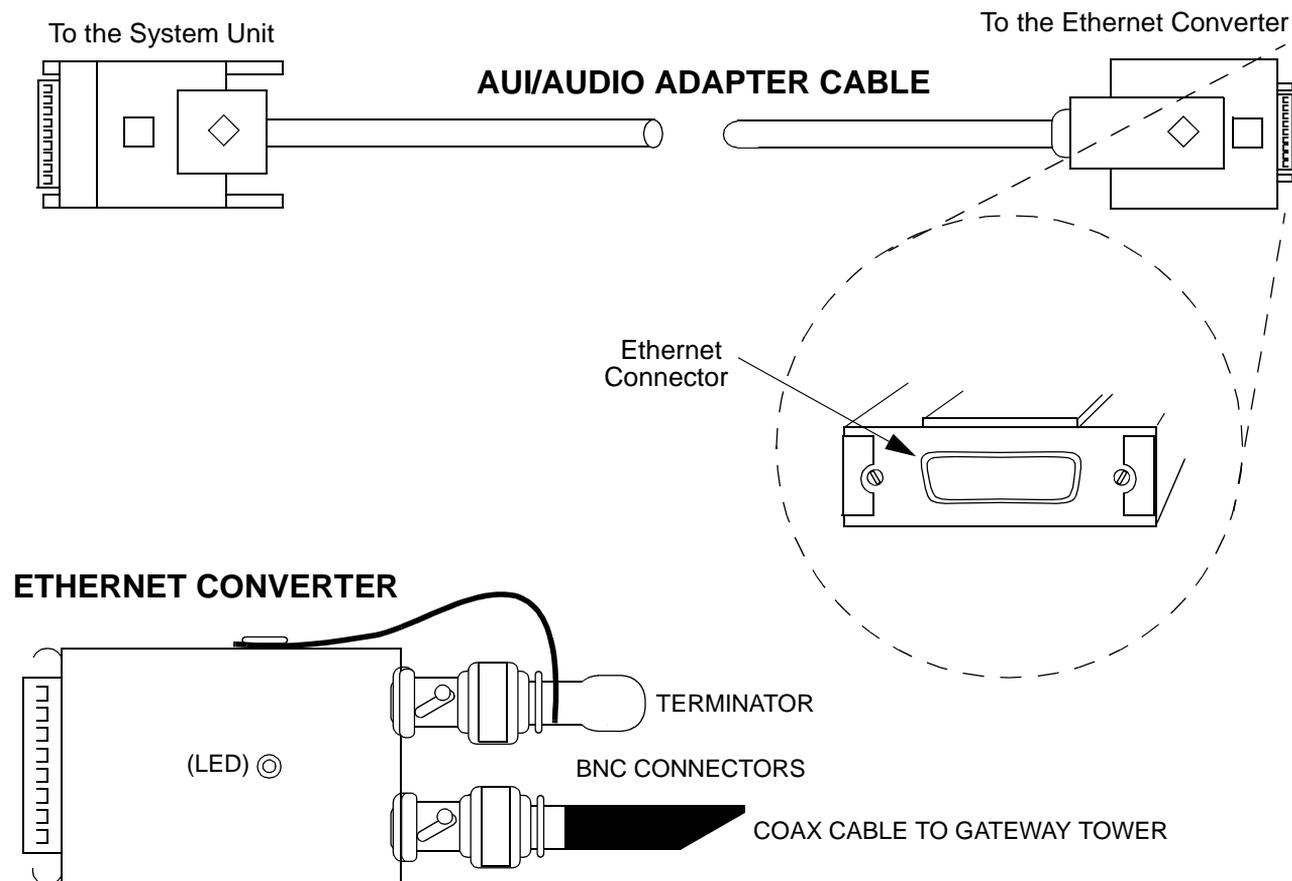
### Installing the Ethernet Converter

The Ethernet converter is the link between the MX System and the System Center. For the SPARCstation 5, the attachment unit interface (AUI) cable option is used to connect the system unit to the Ethernet converter.

To connect the Ethernet converter to the system unit, take the following steps:

1. Locate the AUI/audio adapter cable and the Ethernet converter. See the following figure.

FIGURE 2-29 SPARCstation 5 Thick Ethernet Network Cable and Converter

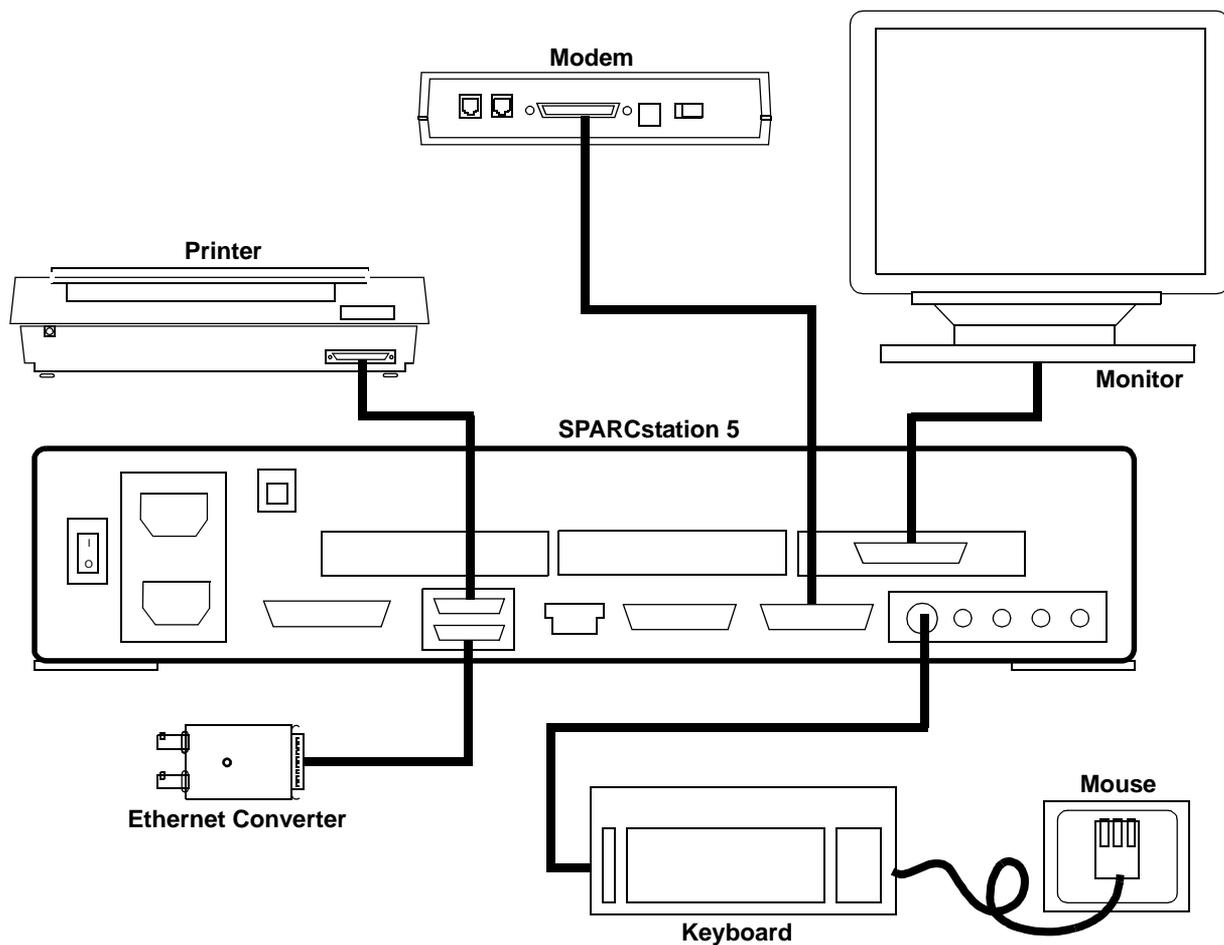


*Note* Components are not to scale.

2. Connect the AUI cable to the Ethernet converter.
3. Connect the remaining end of the AUI cable to the system unit. (See [FIGURE 2-23 SPARCstation 5 Back Panel on page 2-28.](#))
4. Connect the coax cable from the gateway tower to the converter.
5. Make sure that there is a terminator connected to the remaining BNC connector.

With the connection of the Ethernet converter you have completed the cabling of the SPARCstation 5. The installation should look like the following figure.

FIGURE 2-30 Component Diagram Showing SPARCstation 5 Cabling Using an Ethernet Converter



*Note* Components are not to scale.

### Installing the Ethernet Interface Kit

The Ethernet Interface kit is the link between the MX System and the System Center. This replaces the VME tower and is made up of two parts, the Ethernet network interface card (ENIC), and the physical interface card (PIC). For more information about this card, refer to the *Tradenet MX Technical Reference Manual 14.1* (part number B0108800003) and the *Tradenet MX Installation & Maintenance Manual 14.1* (part number B0108900003).

This newer Ethernet card operates the same way as the older System Center gateway card (SCGC). This card works with the Sun SPARCstation 5, 10, and 20. It is not supported on the SPARCstation IPC or SPARCstation Classic. This card works with Tradenet MX Release 10.1.28 or later.

There are three ways you can install the new Ethernet card:

- using 10Base-T cable
- using 10Base-T cable and a hub for remote terminals
- using ThinNet cable and the BNC connector on the PIC

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*Note* IPC recommends that you use the 10Base-T cable method to install the new Ethernet card. See [Using 10Base-T Cable on page 2-36](#).

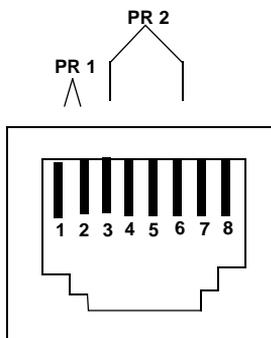
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### Using 10Base-T Cable

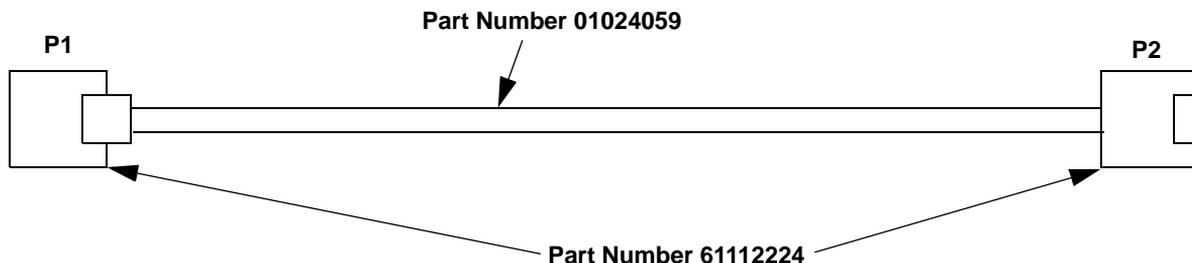
To hook up the newer Ethernet card, take the following steps:

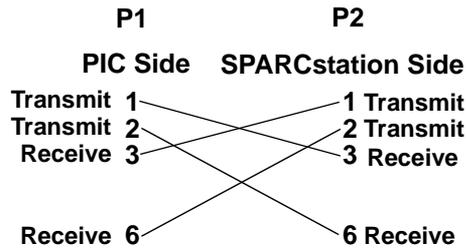
1. Log out of the System Center and power it down.
2. Put an electro-static discharge (ESD) grounding wrist strap on your wrist.
3. Attach the alligator clip of the wrist strap to bare metal on the cabinet.
4. Connect the male end of the RJ-45 10Base-T cable (part number 29413415) to the RJ-45 female modular jack on the PIC, and connect the other end to the RJ female modular jack labeled TP on the back of the SPARCstation. Make sure both ends of the cable snap in place. The following figure shows the modular jack pin and pair assignments for this cable.

FIGURE 2-31 Modular Jack Pin and Pair Assignments for the RJ45 10Base-T Cable



### Complete Cable Assembly (Part Number 29413415)



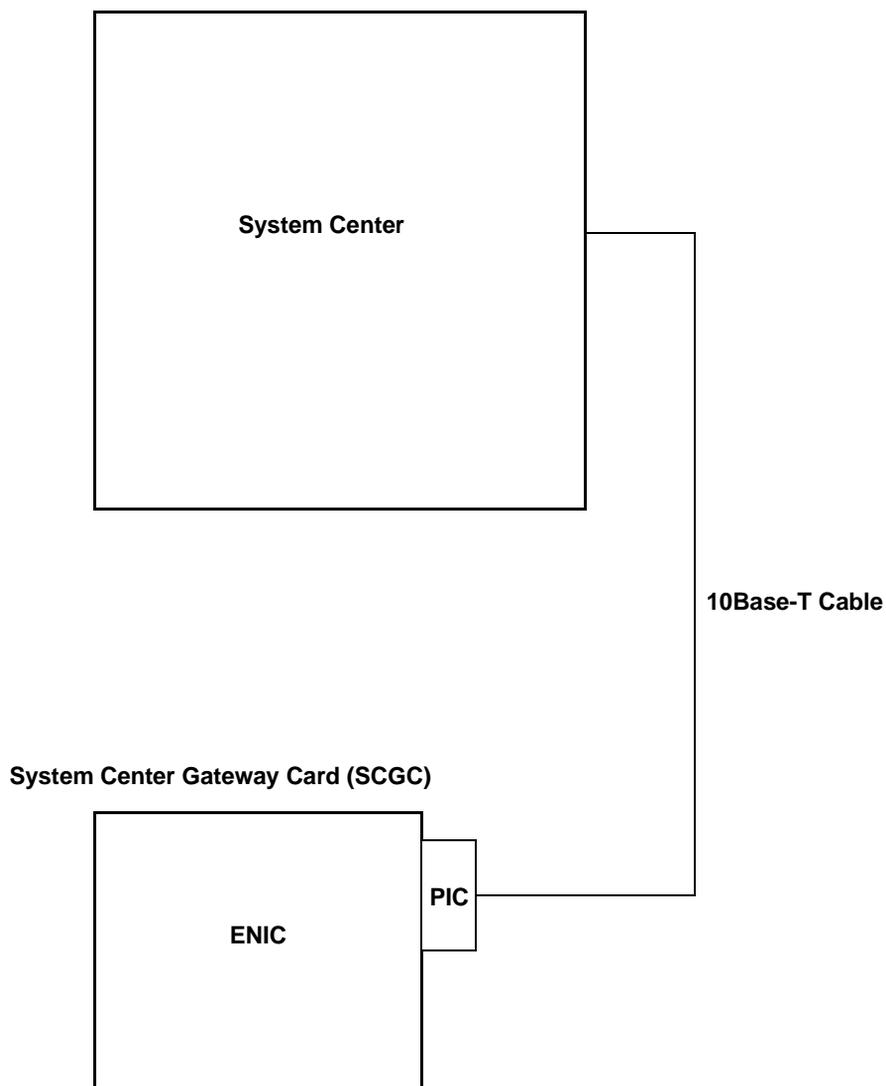
**Standard RJ-45 10Base-T Cable Pinouts**

Pins 4, 5, 7, and 8 are not used.

You can order the RJ-45 10Base-T cable from IPC. If you choose to make the cable yourself, you need to either buy 10Base-T cable converters or make sure the pins of the cable are crossed as specified in the previous figure.

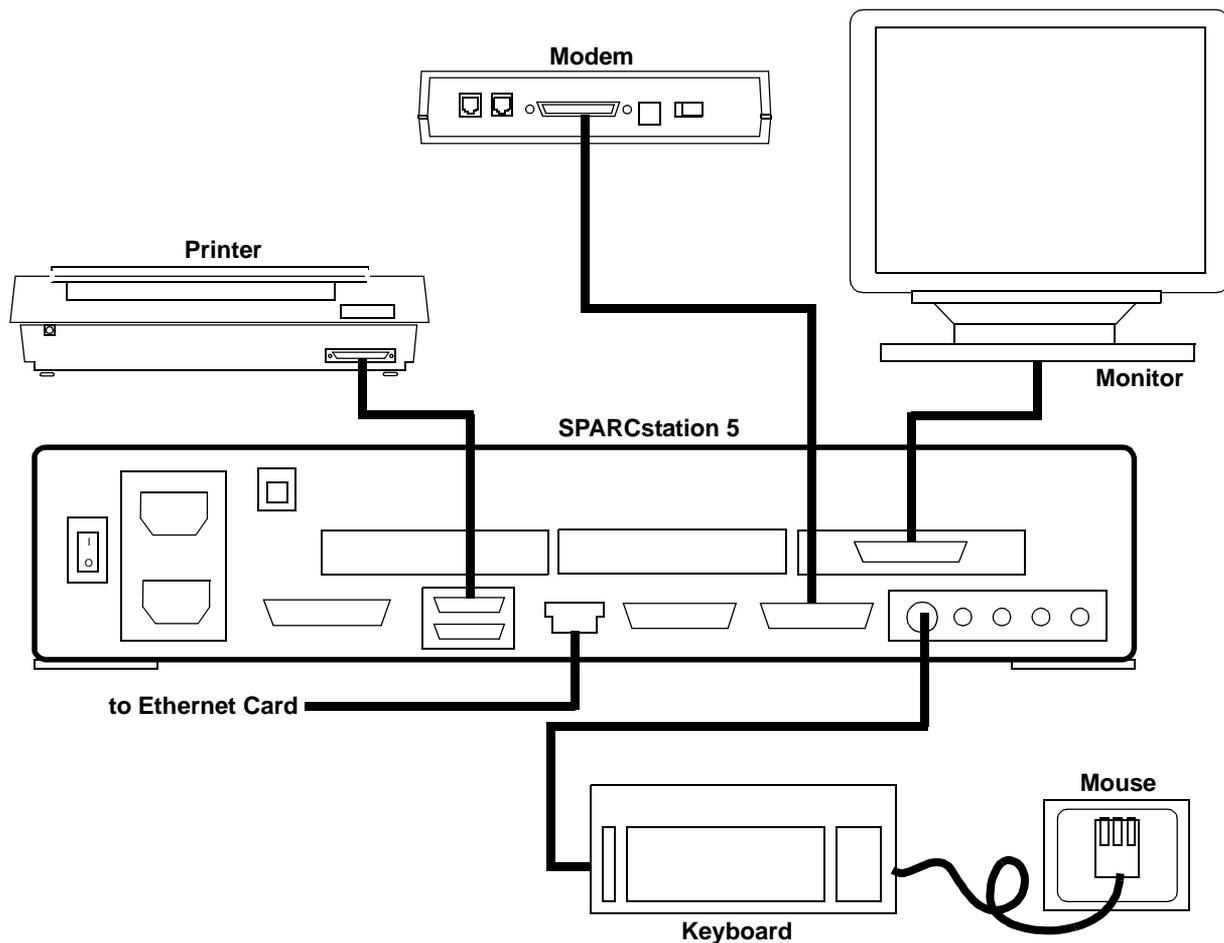
The following figure illustrates connecting the new Ethernet card using the 10Base-T cable configuration.

FIGURE 2-32 Using the 10Base-T Cable Configuration



After connecting the Ethernet Interface kit, you have completed the cabling of the SPARCstation 5. The installation should look like the following figure.

FIGURE 2-33 Component Diagram Showing SPARCstation 5 Cabling Using the Ethernet Interface Kit



*Note* Components are not to scale.

### Using 10Base-T Cables and a Hub for Remote Terminals

*Note* IPC recommends that you use the 10Base-T cable method to install the new Ethernet card. See [Using 10Base-T Cable on page 2-36](#).

To hook up the newer Ethernet card, take the following steps:

1. Log out of the System Center and power it down.
2. Put an electro-static discharge (ESD) grounding wrist strap on your wrist.
3. Attach the alligator clip of the wrist strap to bare metal on the cabinet.

4. With one 10Base-T cable, connect the male end of the RJ-45 10Base-T cable to the RJ-45 female modular jack on the PIC, and connect the other end of the cable to the hub. Make sure the cable snaps in place.

---

*Note* When hubs are used, do not reverse pins 1, 2, 3, and 6 as you do when using the 10Base-T cable method of connecting the new Ethernet card, as described in [Using 10Base-T Cable on page 2-36](#). The hub automatically reverses the pairs. Some hubs have a button to enable and disable the reversal of pairs. Refer to the documentation that came with your hub.

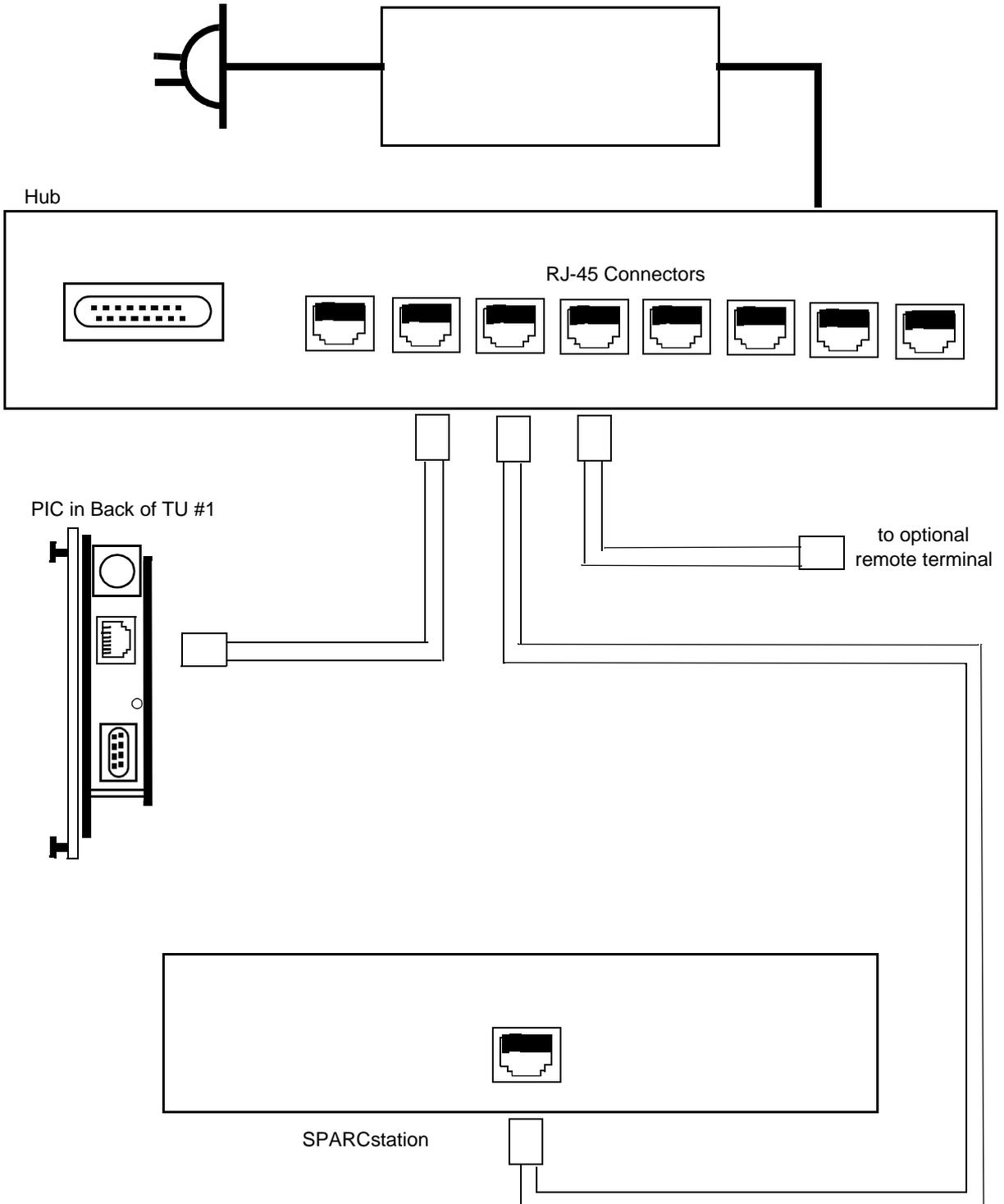
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5. With a second 10Base-T cable, connect the male end of the RJ-45 10Base-T cable to the female modular jack labeled TP on the back of the SPARCstation. Make sure the cable snaps in place.

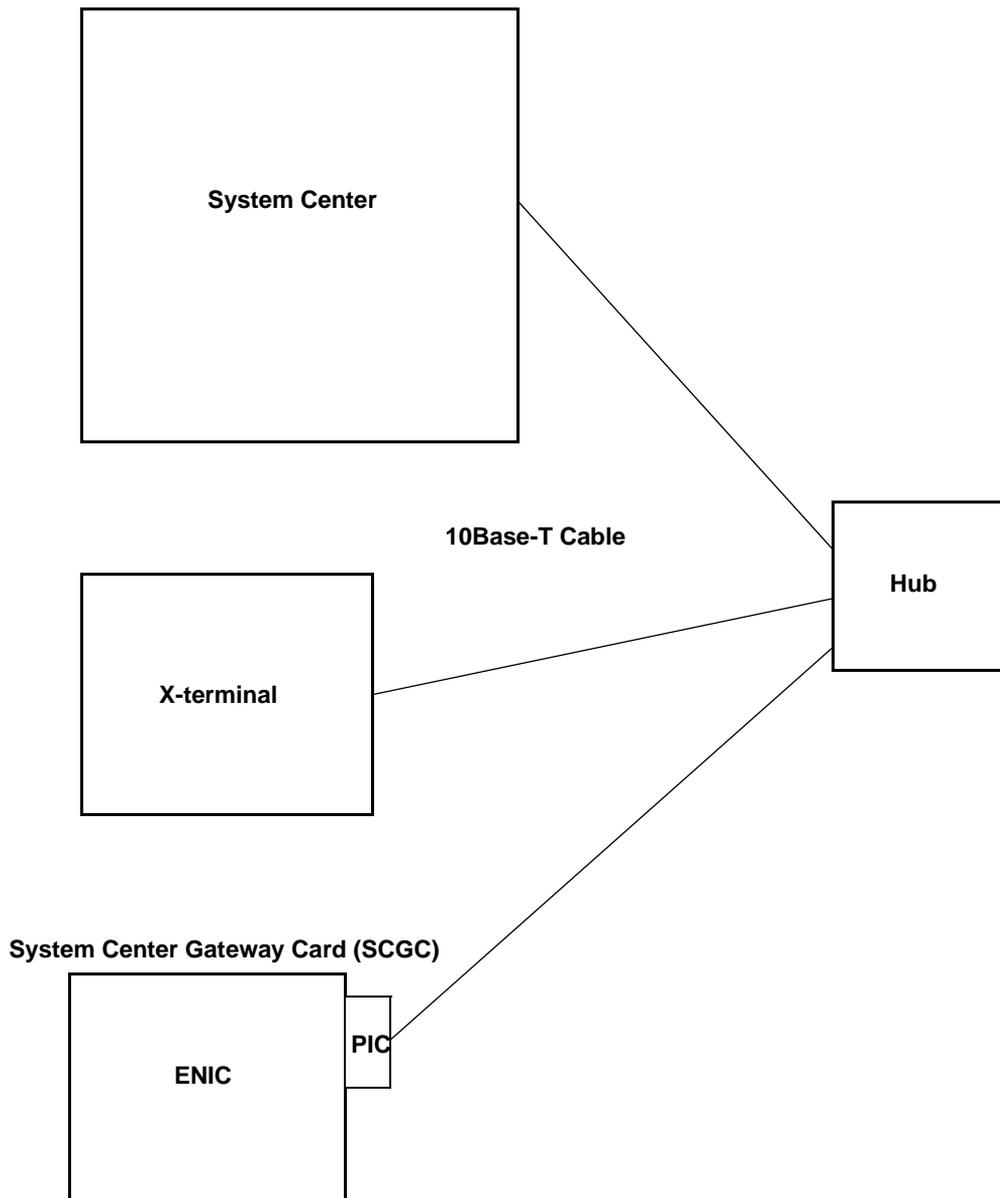
6. With additional 10Base-T cables, connect any optional remote terminals to the hub. The following figure shows the connections to the hub.

FIGURE 2-34 Connecting to a Hub  
Transformer



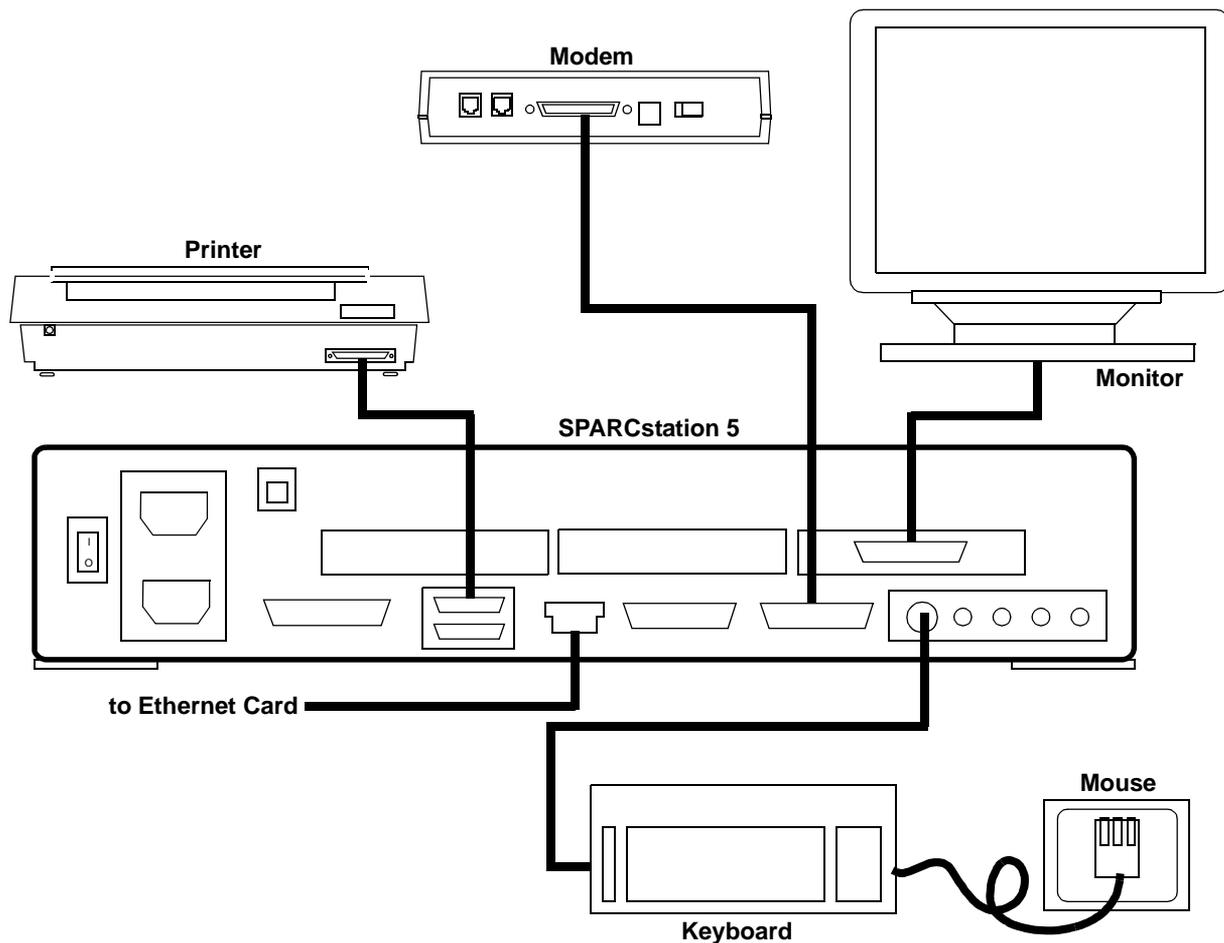
The following figure illustrates connecting the new Ethernet card using the 10Base-T cables and a hub configuration.

FIGURE 2-35 Using the 10Base-T Cables and a Hub Configuration



After connecting the Ethernet Interface kit, you have completed the cabling of the SPARCstation 5. The installation should look like the following figure.

FIGURE 2-36 Component Diagram Showing SPARCstation 5 Cabling Using the Ethernet Interface Kit



*Note* Components are not to scale.

### Using ThinNet Cable and the BNC Connector on the PIC

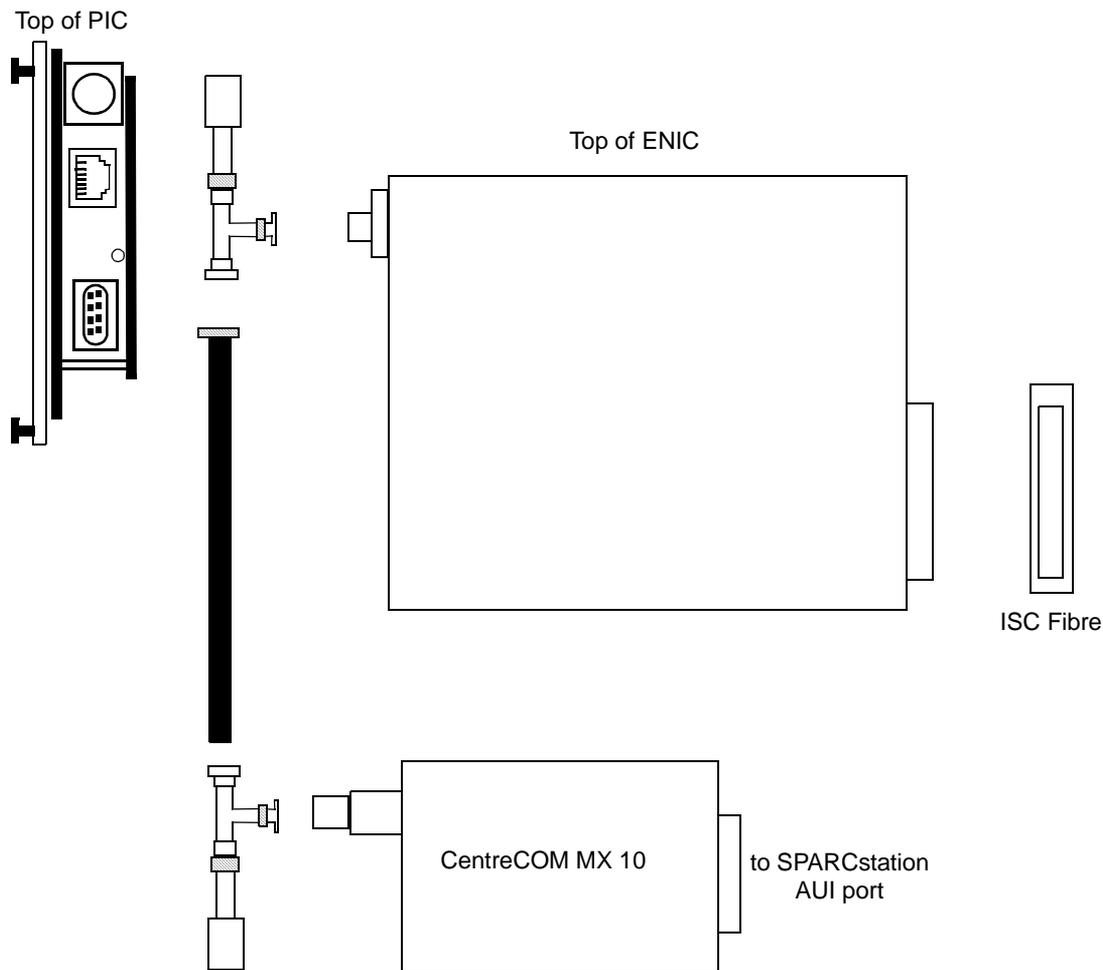
*Note* IPC recommends that you use the 10Base-T cable method to install the new Ethernet card. See [Using 10Base-T Cable on page 2-36](#).

To hook up the newer Ethernet card, take the following steps:

1. Log out of the System Center and power it down.
2. Put an electro-static discharge (ESD) grounding wrist strap on your wrist.
3. Attach the alligator clip of the wrist strap to bare metal on the cabinet.
4. Attach the 50 ohm terminator and connect the ThinNet cable to the end of the terminator. Make sure the terminator and the connections to the ThinNet cable are secure. These connections are twist type connectors and they should lock in place.

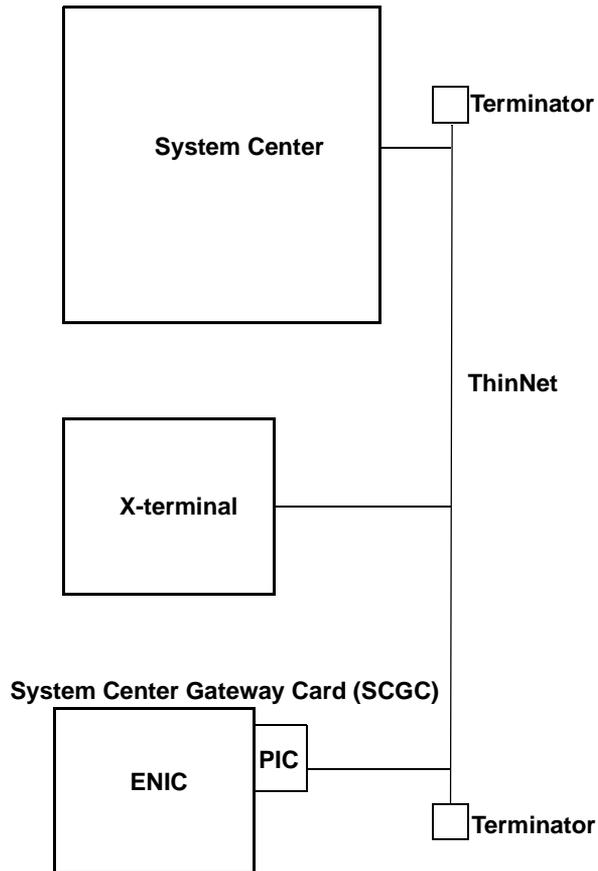
5. Connect the CentreCOM MX 10 unit to the end of the SPARCstation cable that connects to the jack labeled TP on the back of the SPARCstation. Make sure both ends of the cable snap in place. The following figure shows the connections to the terminator and CentreCOM MX 10.

FIGURE 2-37 Connecting to the Terminator and CentreCOM MX 10



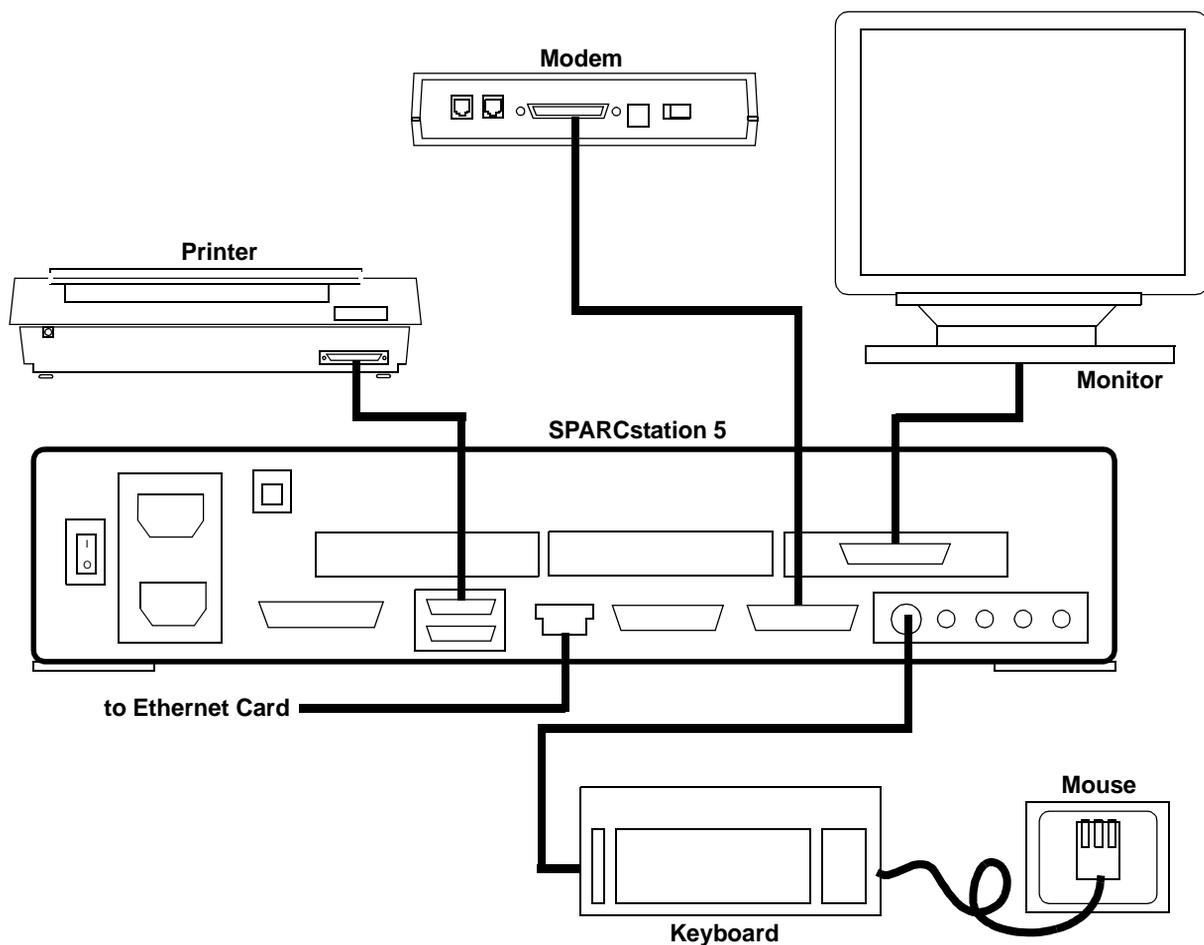
The following figure illustrates connecting the newer Ethernet card using the ThinNet cable configuration.

FIGURE 2-38 Using the ThinNet Cable Configuration



After connecting the Ethernet Interface kit, you have completed the cabling of the SPARCstation 5. The installation should look like the following figure.

FIGURE 2-39 Component Diagram Showing SPARCstation 5 Cabling Using the Ethernet Interface Kit



*Note* Components are not to scale.

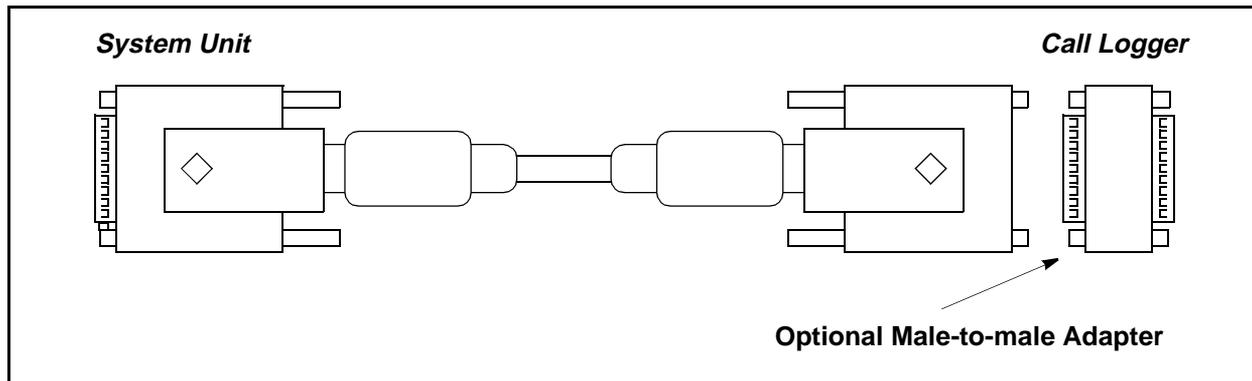
## Installing the Optional Call Logger Device

The call logger device connects to a serial port on your SPARCstation. If both serial ports are already used, you need to install additional hardware, such as an Aurora board, to get an additional serial port.

To install the call logger on a SPARCstation 5, take the following steps:

1. Find the serial interface cable shown in the following figure.

FIGURE 2-40 Serial Interface Cable



2. Locate a convenient place on or near the desktop for the call logger. The call logger has the same distance limitations as any standard Ethernet connection.
3. Make sure that the power switches on both the call logger and the system unit are in the off position.
4. Connect one end of the cable to the call logger. (For some installations, an intermediate male-to-male adapter might be required.)
5. Connect the remaining end to the system unit, serial B port.

## SUN SPARCSTATION 20

The basic site configuration using a Sun SPARCstation 20 contains the following major components:

- Sun SPARCstation 20 workstation and power cable
- color monitor and cables
- keyboard and cable
- mouse, mouse pad, and cable
- Panasonic KX-P1695 printer and cable
- modem and cable
- CBA Ethernet connector and cable

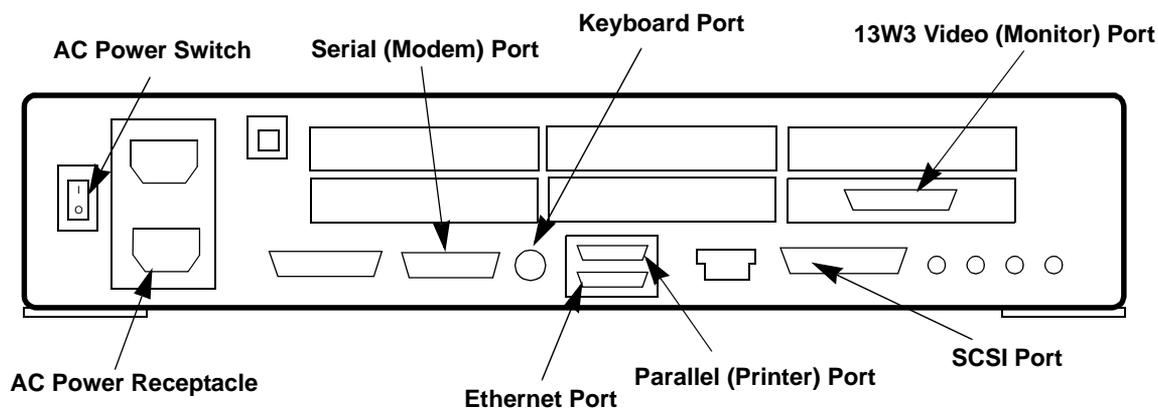
Setting up the SPARCstation 20 hardware involves the following steps:

1. Connect the mouse to the SPARCstation 20 keyboard.
2. Connect the keyboard to the SPARCstation 20 system unit.
3. Install the monitor.
4. Install the printer.
5. Install the modem.
6. Install the Ethernet converter.

This section tells you how to set up and cable the hardware platform for the MX System Center using a SPARCstation 20. After removing the system components from their shipping containers, inspect them for damage.

Place the system unit on a flat, stable surface. The following figure shows the back panel and connectors.

FIGURE 2-41 SPARCstation 20 Back Panel




---

*Note* The power to the system unit must be turned off. Cables and power cords must not be installed.

---

### Connecting the Mouse to the Keyboard

The procedure for connecting the mouse to the keyboard is the same for the SPARCstation 20 as it is for the Sun Ultra 10. See [Connecting the Mouse to the Keyboard on page 2-14](#).

## Connecting the Keyboard to the System Unit

The procedure for connecting the keyboard to the system unit is the same for the SPARCstation 20 as it is for the Sun Ultra 10. See [Connecting the Keyboard to the System Unit on page 2-15](#).

## Installing the Monitor

The procedure for installing the monitor is the same for the SPARCstation 20 as it is for the SPARCstation 5. See [Installing the Monitor on page 2-28](#).

## Installing the Printer

The procedure for installing the printer is the same for the SPARCstation 20 as it is for the SPARCstation 5. See [Installing the Printer on page 2-29](#).

## Installing the Modem

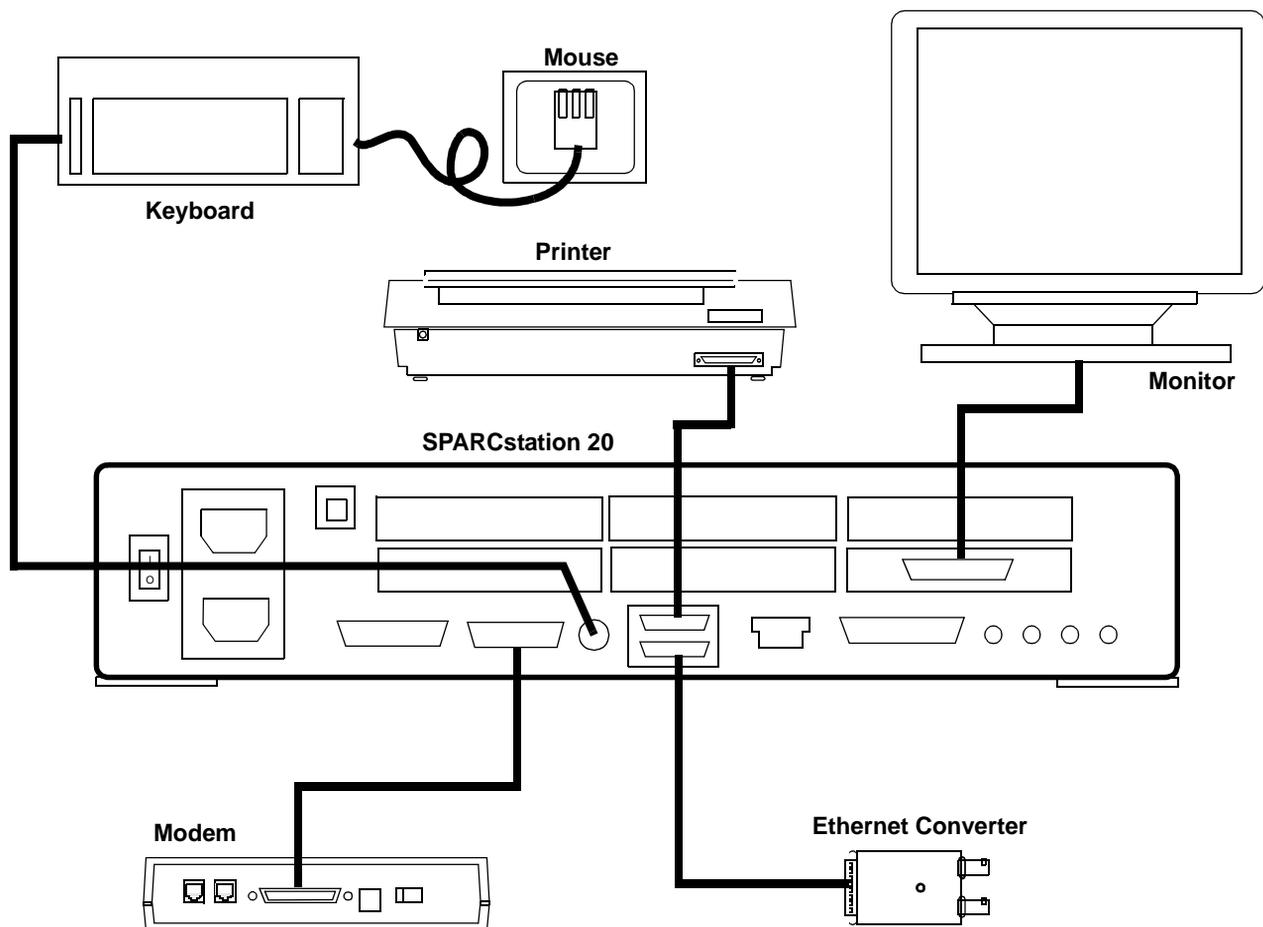
The procedure for installing the modem is the same for the SPARCstation 20 as it is for the SPARCstation 5. See [Installing the Modem on page 2-32](#).

## Connecting the MX System to the SPARCstation 20

The procedure for connecting the MX System to the SPARCstation 20 is the same for the SPARCstation 20 as it is for the SPARCstation 5. See [Connecting the MX System to the SPARCstation 5 System Center on page 2-34](#).

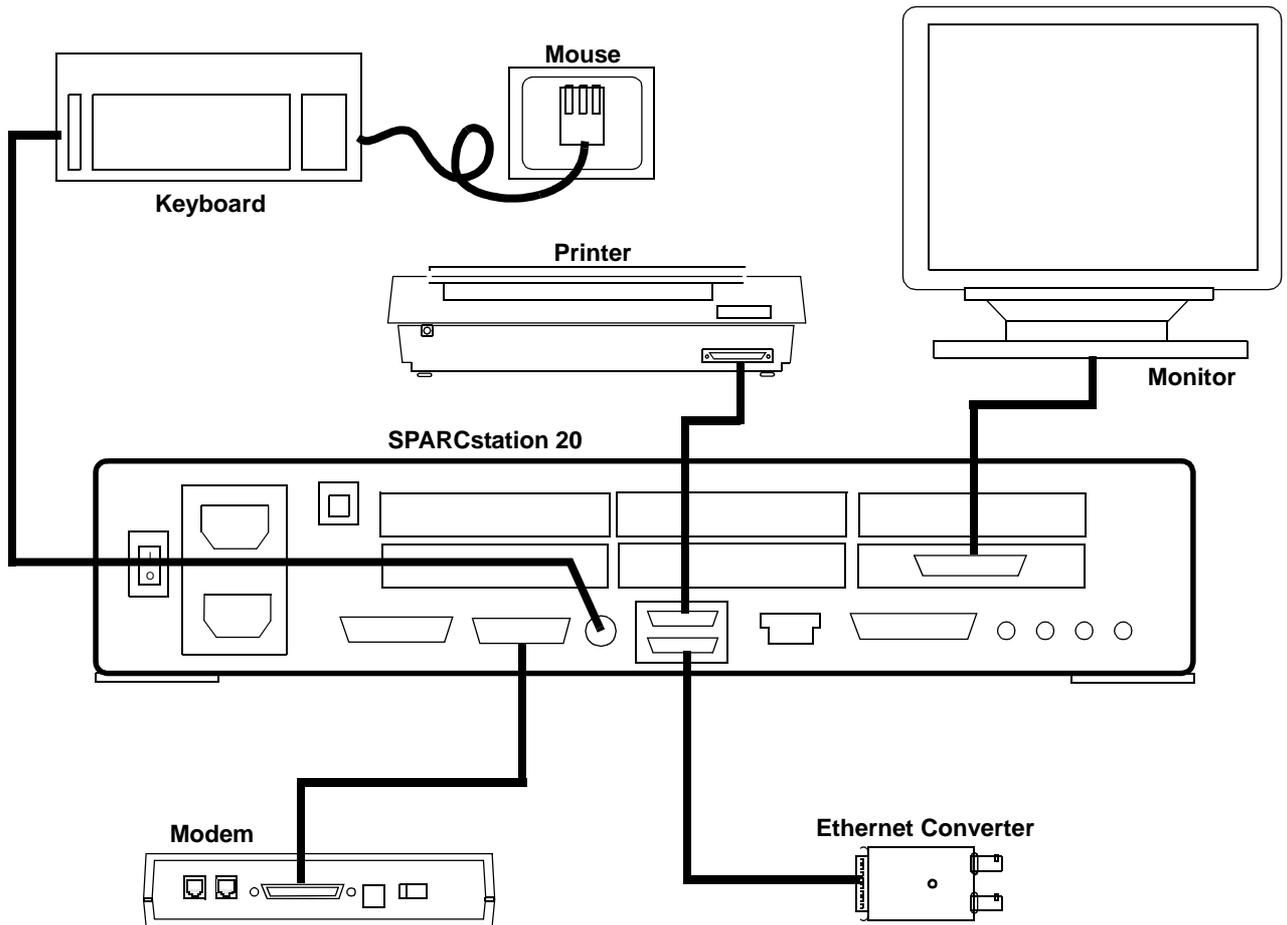
With the connection of the Ethernet converter you have completed the cabling of the SPARCstation 20. The installation should look like either of the following figures, depending on which method you used to make your Ethernet connection.

FIGURE 2-42 Component Diagram Showing SPARCstation 20 Cabling Using an Ethernet Converter



*Note* Components are not to scale.

FIGURE 2-43 Component Diagram Showing SPARCstation 20 Cabling Using the Ethernet Interface Kit



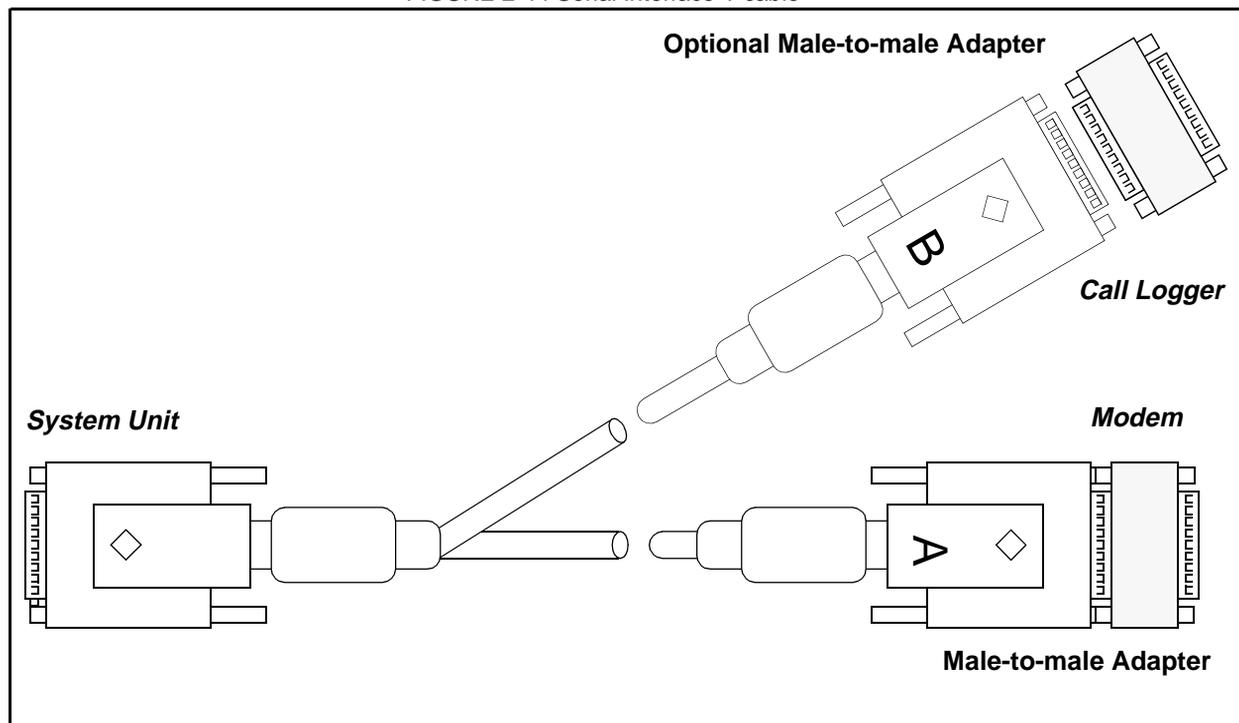
## Installing the Optional Call Logger Device

The call logger device connects to a serial port on your SPARCstation. Because the SPARCstation 20 has only a single serial port connector, you use a Y-cable to connect the modem and call logger device to the same port.

To install the call logger, take the following steps:

1. Find the serial interface Y-cable as shown in the following figure.

FIGURE 2-44 Serial Interface Y-cable



2. Locate a convenient place on or near the desktop for the modem and the call logger.
3. Make sure that the power switches on the modem, call logger, and system unit are in the off position.
4. Connect the A end connector to the male-to-male adapter then to the modem.
5. Connect the B end to the call logger. (For some installations, an intermediate male-to-male adapter might be required.)
6. Connect the remaining end to the serial (modem) port on the system unit.

## SUN SPARCSTATION 10

The Sun SPARCstation 10 can be used with Release 10.1, Release 9.2, Release 9.0.1, Release 8.0.4, and Release 8.0.2., (To use Release 11.1 or later, you need a Sun Ultra 10 or a SPARCstation 5, or 20.)

There are two models of the Sun SPARCstation 10. Both models are equipped with 1.0 gigabyte (1,000 MB) drives. One of the SPARCstation 10 models includes a faster CPU and additional cache memory. You can distinguish between the two models using the site bill of materials. The software installation procedures for both SPARCstation 10s are the same.

The basic site configuration using a Sun SPARCstation 10 contains the following major components:

- Sun SPARCstation 10 workstation and power cable
- color monitor and cables
- keyboard and cable
- mouse, mouse pad, and cable
- Panasonic KX-P1695 printer and cable
- modem and cable
- CBA Ethernet connector and cable

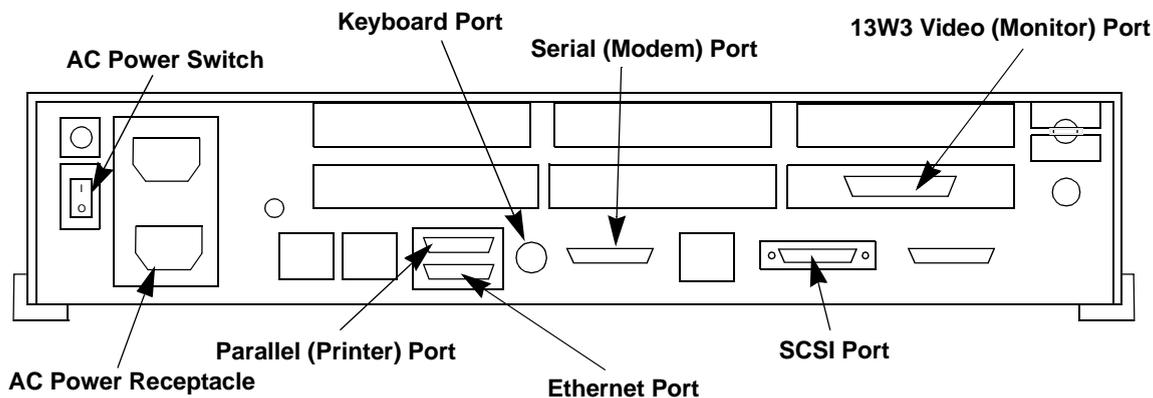
Setting up the SPARCstation 10 involves the following steps:

1. Connect the mouse to the keyboard on the SPARCstation 10.
2. Connect the keyboard to the SPARCstation 10 system unit.
3. Install the monitor.
4. Install the printer.
5. Install the modem.
6. Install the Ethernet converter.

This section tells you how to set up and cable the hardware platform for the MX System Center using a SPARCstation 10. After removing the system components from their shipping containers, inspect them for damage.

Place the system unit on a flat, stable surface. The following figure shows the back panel and its important connectors.

FIGURE 2-45 SPARCstation 10 Back Panel



*Note* The power to the system unit must be turned off. Cables and power cords must not be installed.

## Connecting the Mouse to the Keyboard

The procedure for connecting the mouse to the keyboard is the same for the SPARCstation 10 as it is for the Sun Ultra 10. See [Connecting the Mouse to the Keyboard on page 2-14](#).

## Connecting the Keyboard to the System Unit

The procedure for connecting the keyboard to the system unit is the same for the SPARCstation 10 as it is for the Sun Ultra 10. See [Connecting the Keyboard to the System Unit on page 2-15](#).

## Installing the Monitor

The procedure for installing the monitor is the same for the SPARCstation 10 as it is for the SPARCstation 5. See [Installing the Monitor on page 2-28](#).

## Installing the Printer

The procedure for installing the printer is the same for the SPARCstation 10 as it is for the SPARCstation 5. See [Installing the Printer on page 2-29](#).

## Installing the Modem

The procedure for installing the modem is the same for the SPARCstation 10 as it is for the SPARCstation 5. See [Installing the Modem on page 2-32](#).

## Installing the Ethernet Converter

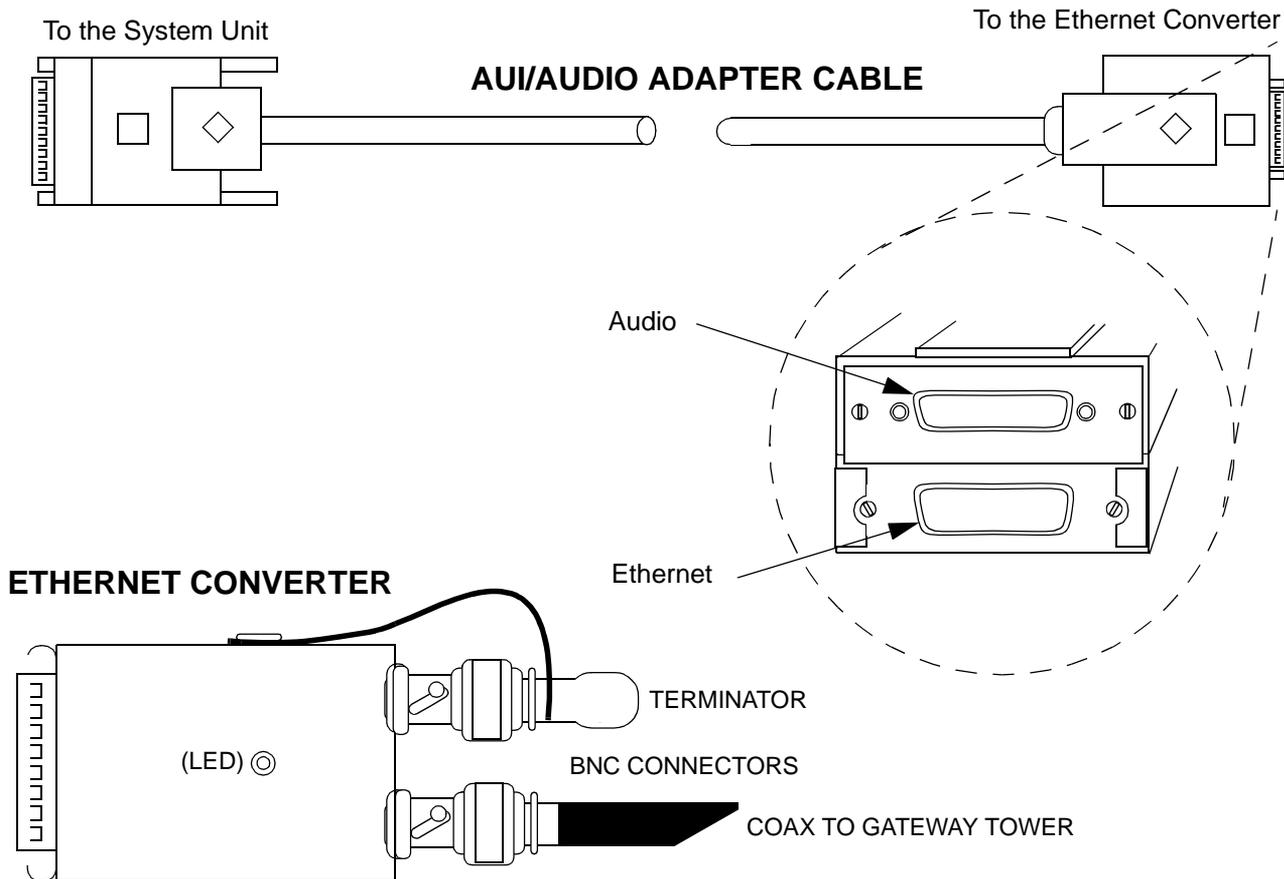
There are two ways to connect the MX System to the System Center. If you are using Release 9.2 or earlier, you install an Ethernet converter and use a VME tower, according to the following procedure. If you are using Release 10.1, you can either use the Ethernet converter, or you can use the Ethernet Interface kit which eliminates the VME tower in older Tradenet MX Systems. (See [Installing the Ethernet Interface Kit on page 2-35](#).)

The Ethernet converter is the link between the MX System and the System Center. For the SPARCstation 10, the AUI/audio cable option is used to connect the system unit to the Ethernet converter.

To connect the Ethernet converter to the system unit, take the following steps:

1. Locate the AUI/audio adapter cable and the Ethernet converter. See the following figure.

FIGURE 2-46 SPARCstation 10 Thick Ethernet Network Cable and Converter

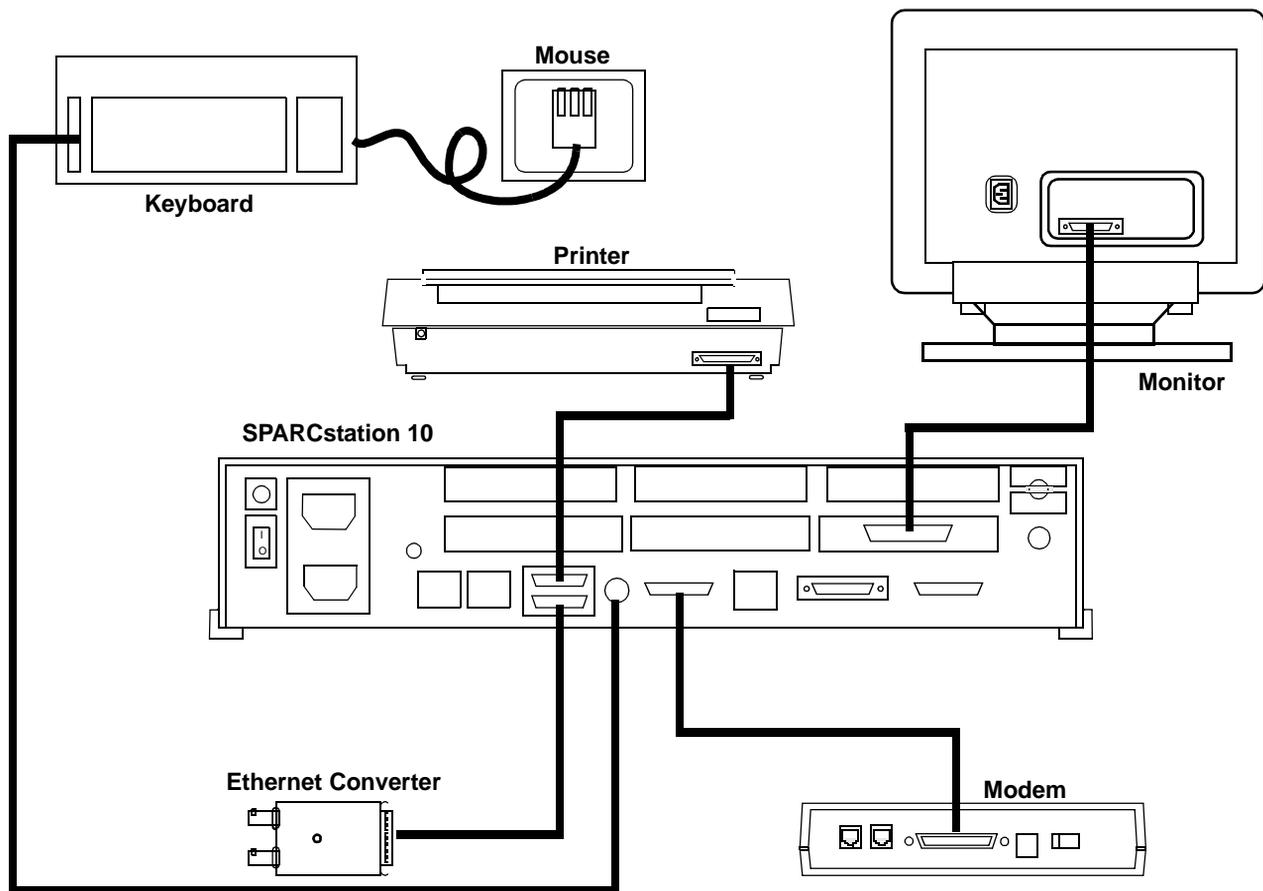


*Note* Components are not to scale.

2. Connect the AUI/audio cable to the Ethernet converter.
3. Connect the remaining end of the AUI/audio cable to the system unit. See [FIGURE 2-45 SPARCstation 10 Back Panel on page 2-53](#).
4. Connect the coax cable from the gateway tower to the Ethernet converter.
5. Make sure that there is a terminator connected to the remaining BNC connector.

With the connection of the Ethernet converter you have completed the cabling of the SPARCstation 10. The installation should look like the following figure.

FIGURE 2-47 Component Diagram Showing SPARCstation 10 Cabling



*Note* Components are not to scale.

## SUN SPARCSTATION IPC

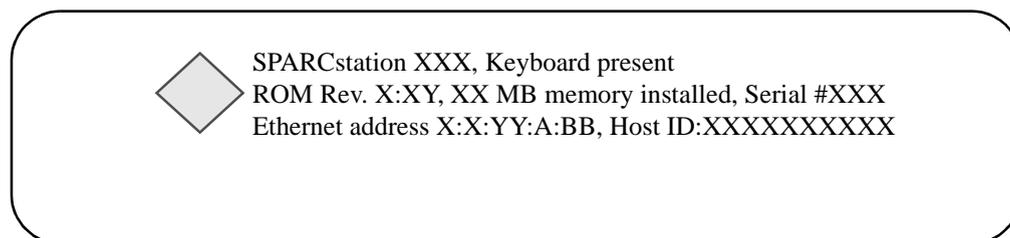
The Sun SPARCstation IPC can be used with Release 9.2, Release 9.0.1, Release 8.0.4, and Release 8.0.2. (To use Release 10.1, you need a Sun Ultra 10 or a SPARCstation 5, 10, or 20.) (To use Release 11.1 or later, you need a Sun Ultra 10 or a SPARCstation 5, or 20.) The SPARCstation IPC cannot be used with Release 10.1 or later because it does not support the Motif Window Manager (MWM) used with Release 10.1 and later.

The Sun SPARCstation IPC is the original SPARC-based workstation used as the Tradenet MX System Center platform. The IPC has been discontinued by its manufacturer, Sun Microsystems, and replaced with the Sun SPARCstation 5.

If you are using MX Release 7.0.1 or earlier, you can use the basic SPARCstation IPC with a 207 MB hard drive. If you are using Release 8.0.1 or later, or you want to upgrade to SunOS 4.1.3, you need the upgraded SPARCstation IPC with a 535 MB hard drive.

You must have 24 MB of RAM installed on your SPARCstation IPC. You can confirm that you have 24 MB of RAM by shutting down the system (see [Turning Power Off on page 2-68](#)), waiting at least 10 seconds, and powering on the system. If your SPARCstation is operating properly, your monitor displays a banner screen that shows you how much memory is installed. See the following figure.

FIGURE 2-48 Format of Banner Screen



If you need to upgrade to Tradenet MX 8.0.1 or later, you must upgrade your hard drive to a 535 MB hard drive and upgrade to SunOS 4.1.3.

---

**Warning!** *If you are upgrading an existing site, make sure that you back up the site database on floppy disk. Failure to do so results in the loss of the site database and customer data.*

---

The basic site configuration using a Sun SPARCstation IPC contains the following major components:

- Sun SPARCstation IPC workstation and power cable
- color monitor and cables
- keyboard and cable
- mouse, mouse pad, and cable
- Panasonic KX-P1695 printer and cable
- modem and cable
- CBA Ethernet connector and cable

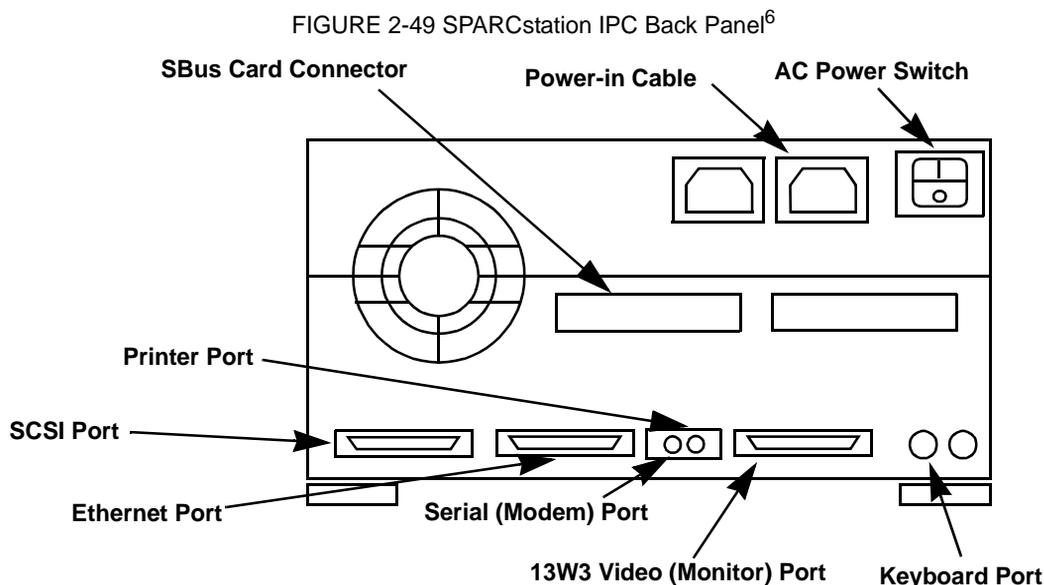
Setting up the SPARCstation IPC hardware involves the following steps:

1. Open the SPARCstation IPC system unit.
2. Replace the hard drive in the SPARCstation IPC.
3. Close the SPARCstation IPC system unit.
4. Connect the mouse to the SPARCstation IPC keyboard.

5. Connect the keyboard to the SPARCstation IPC system unit.
6. Install the monitor.
7. Install the printer.
8. Install the modem.
9. Install the Ethernet converter.

This section tells you how to set up and cable the hardware for the MX System Center using a SPARCstation IPC. After removing the system components from their shipping containers, inspect them for damage.

Place the system unit on a flat, stable surface. The following figure shows the back panel and its important connectors.




---

*Note* The power to the system unit must be turned off. Cables and power cords must not be installed.

---

## Opening the SPARCstation IPC System Unit

To open the system unit, take the following steps:

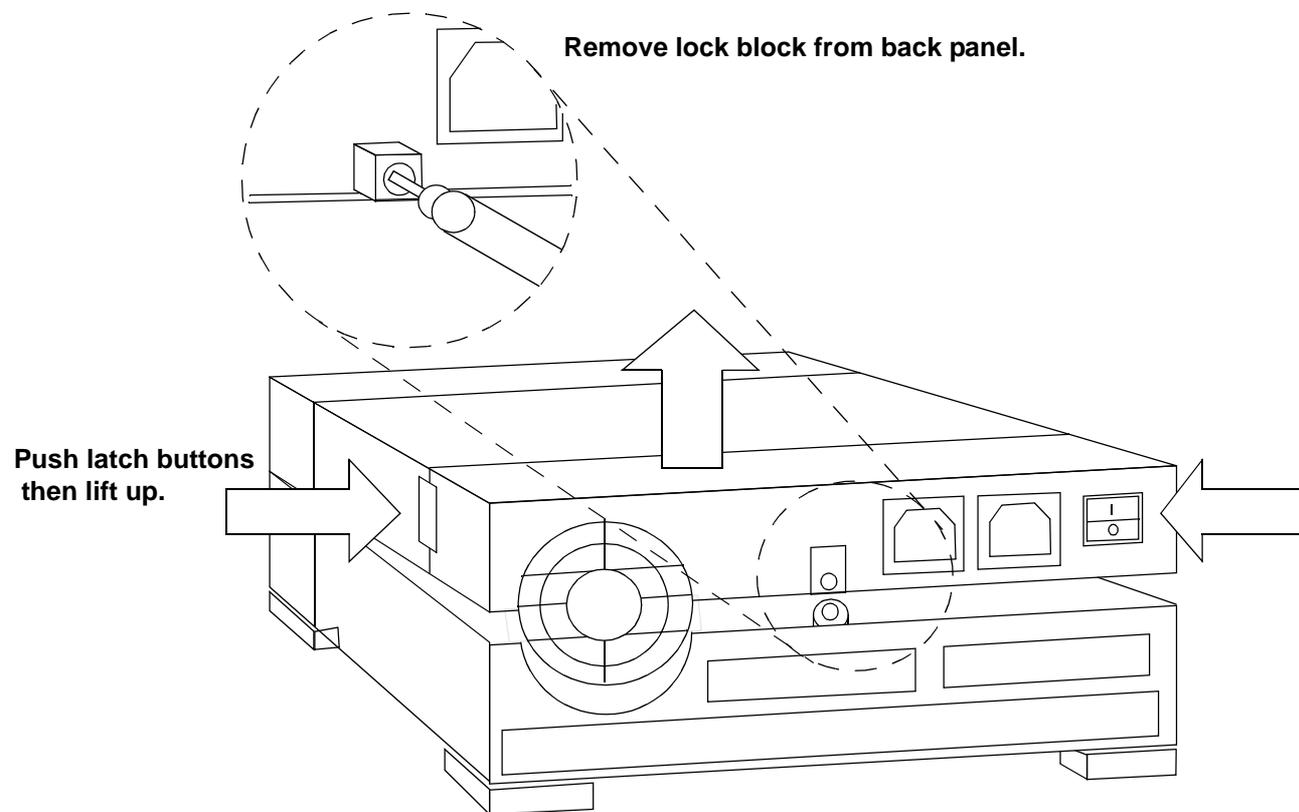
1. Place the SPARCstation IPC's system unit on a static-safe, grounded work area that has enough space to lay the top and bottom sections of the unit flat. Ground yourself to the same ground potential using a grounded wrist strap.
2. Make sure that the power to the system unit is turned off and that the power cord is removed.

---

6. The printer port indicated in this figure is used to connect either a printer or a call logger device. If you are using a call logger device, connect the printer to the SBus card connector. For more information about the call logger feature in the Tradenet MX System, refer to the *Tradenet MX System Center Manual 14.1* (part number B-00861-8-51-04).

3. Remove the top section of the system unit by taking the following steps (see *FIGURE 2-50 Opening the SPARCstation IPC System Unit* on page 2-59):
  - a. Loosen the captive screw holding the lock block to the back panel. Use a Phillips screwdriver to remove the lock block and its captive screw.
  - b. Position the system on the table so that there is enough space to lay the top section of the system unit flat in front of the bottom.
  - c. Grasp the unit top with your fingers over the latch buttons at the sides.
  - d. Press down on the unit top and depress the latch buttons.

FIGURE 2-50 Opening the SPARCstation IPC System Unit



- e. Rotate the unit top up and toward the front panel. Lay the unit top flat on the table. The unit top and bottom are still connected by the power and data cables leading from the disk drives and power supply in the unit top to the main logic board in the unit bottom. The unit top contains the power supply and disk drives and is the heavier of the two sections.

---

**Warning!** Do not power up the system unit while it is open. You could cause personal injury and system damage.

---

## Upgrading the SPARCstation IPC Hard Drive

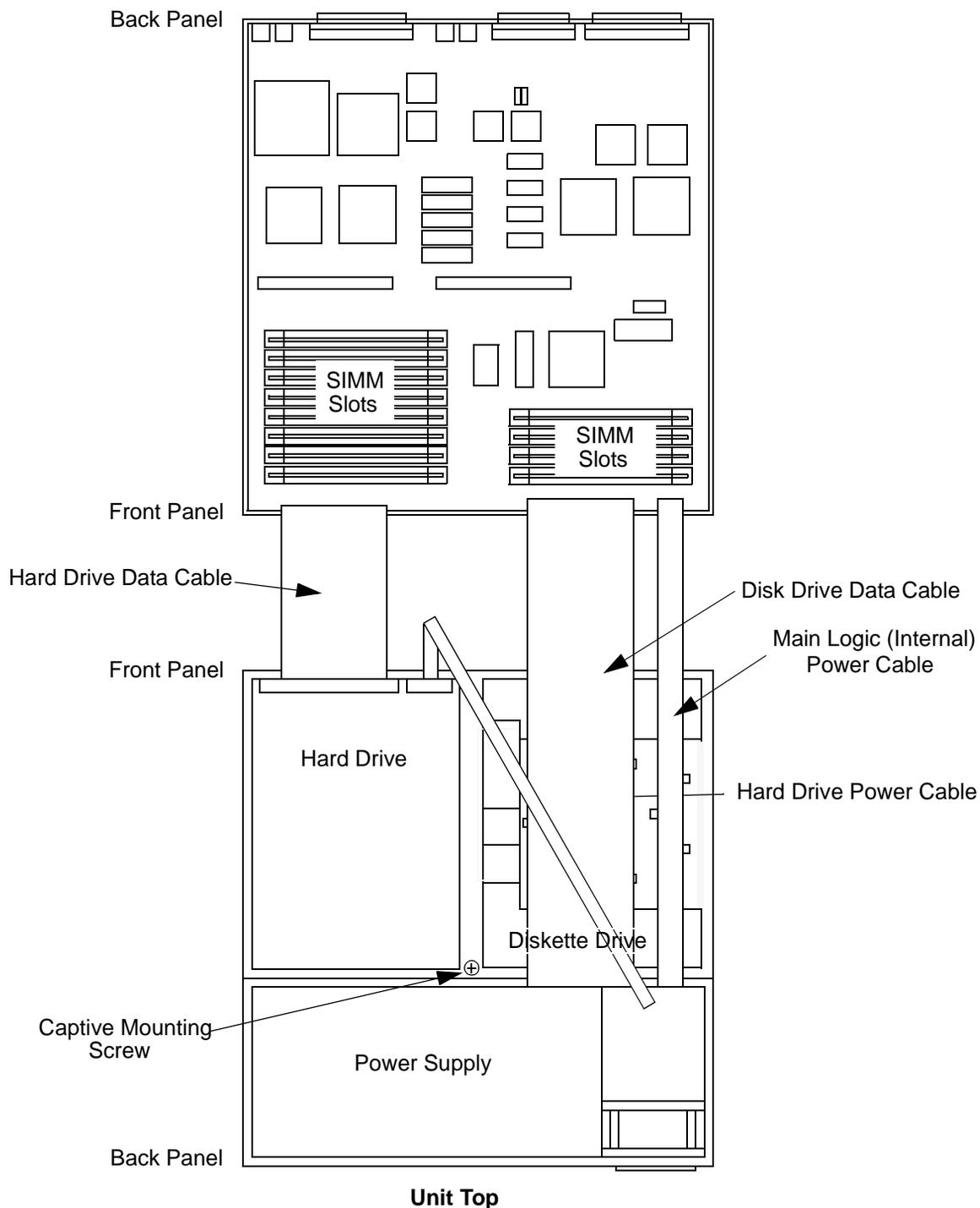
Existing sites with a SPARCstation IPC should now be configured with 24 MB of RAM and a 207 MB hard drive. If you want to update your site to MX Release 8.0.2 or higher, you must upgrade to a 535 MB hard drive.

To upgrade the hard drive on the Sun SPARCstation IPC, take the following steps:

1. After opening the SPARCstation system unit (see *Opening the SPARCstation IPC System Unit on page 2-58*), position the system unit unfolded as shown in the following figure.

FIGURE 2-51 SPARCstation IPC SIMM and Hard Drive Location

**Unit Bottom**



2. With the top section of the system unit unfolded toward you, locate the hard drive in the upper left quadrant of the unit top. This should be in the half of the system unit closest to you.
3. The diskette drive data cable and the main logic power cable are held in place under retaining tabs. Un-weave the cables from the tabs.
4. The hard drive is mounted in the disk drive mounting bracket. The bracket is secured to the system unit chassis by a captive Phillips head screw that is located in the space between the hard drive and the diskette drive. Loosen this screw.

---

*Note* Some models do not have mounting brackets; instead, they have four mounting screws that are positioned in top-open slots. If you have this model, loosen the mounting screws and lift the drive upward.

---

5. Tilt the disk drive mounting bracket up and away from the retaining screw end, rotating it upwards. Tabs at the opposite end act as hinges. Once the mounting bracket is clear of the tabs, move it enough to gain access to the hard drive.
6. The hard drive has four mounting screws (two on each side) attaching it to the mounting bracket. Remove the four screws.
7. The hard drive is now free of the mounting bracket. Unplug the hard drive data cable and hard drive power cable and remove the hard drive.
8. Replace the old drive with the new 535 MB drive by reversing the above steps. Make sure the hard drive mounting bracket fully engages the retainer tabs or the unit will not close properly.
9. Close the unit. (See [Closing the SPARCstation IPC System Unit on page 2-61](#).)

## Closing the SPARCstation IPC System Unit

To close the system unit, take the following steps:

1. Grasp the front of the unit near the power supply.
2. Rotate the unit top at a 15-degree angle and turn your hand so that your thumbs and fingers point up and the five interlock hooks can be lined up. See [FIGURE 2-52 Closing the SPARCstation IPC System Unit on page 2-62](#).

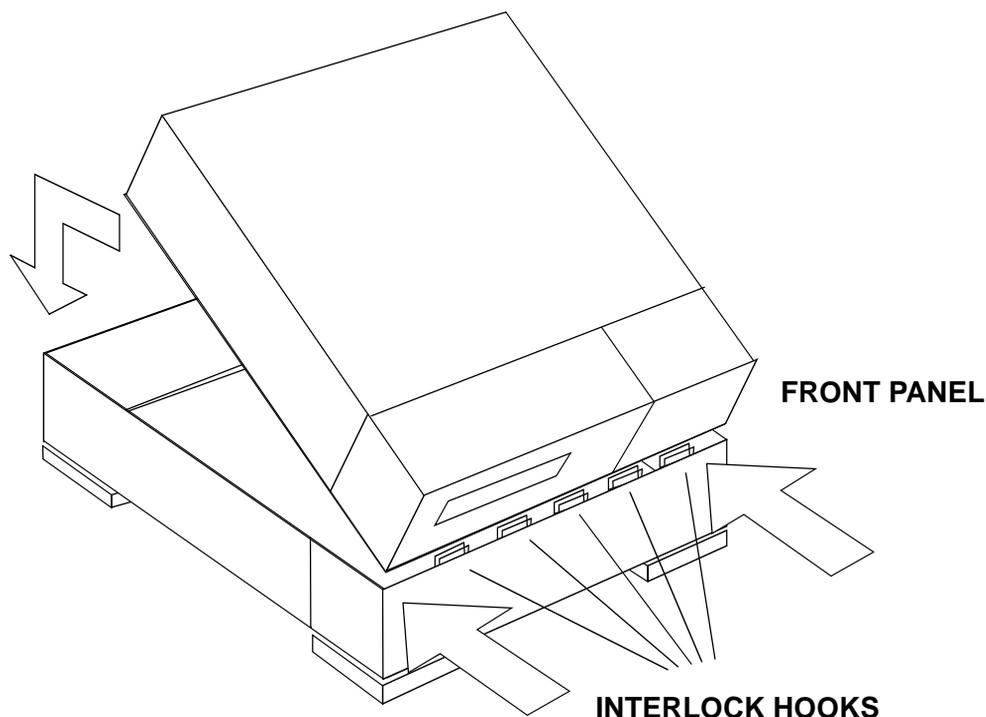
---

*Note* The interlock hooks do not engage until the unit is lowered to a 45-degree angle. Continue to hold the cover with your hands.

---

3. Rest the front edges together to connect the interlock hooks by pushing gently toward the back of the unit.

FIGURE 2-52 Closing the SPARCstation IPC System Unit



4. As you lower the unit top, continue to push back gently to secure the connection. The unit top rests slightly forward. Push the unit top gently back a few millimeters. As the unit top moves back, the latch buttons should click, securing the unit top to the unit.

## Connecting the Mouse to the Keyboard

The procedure for connecting the mouse to the keyboard is the same for the SPARCstation IPC as it is for the Sun Ultra 10. See [Connecting the Mouse to the Keyboard on page 2-14](#).

## Connecting the Keyboard to the System Unit

The procedure for connecting the keyboard to the system unit is the same for the SPARCstation IPC as it is for the Sun Ultra 10. See [Connecting the Keyboard to the System Unit on page 2-15](#).

## Installing the Monitor

The procedure for installing the monitor is the same for the SPARCstation IPC as it is for the SPARCstation 5. See [Installing the Monitor on page 2-28](#).

## Installing the Printer

The procedure for installing the printer is the same for the SPARCstation IPC as it is for the SPARCstation 5. See [Installing the Printer on page 2-29](#).

## Installing the Modem

The procedure for installing the modem is the same for the SPARCstation IPC as it is for the SPARCstation 5. See [Installing the Modem on page 2-32](#).

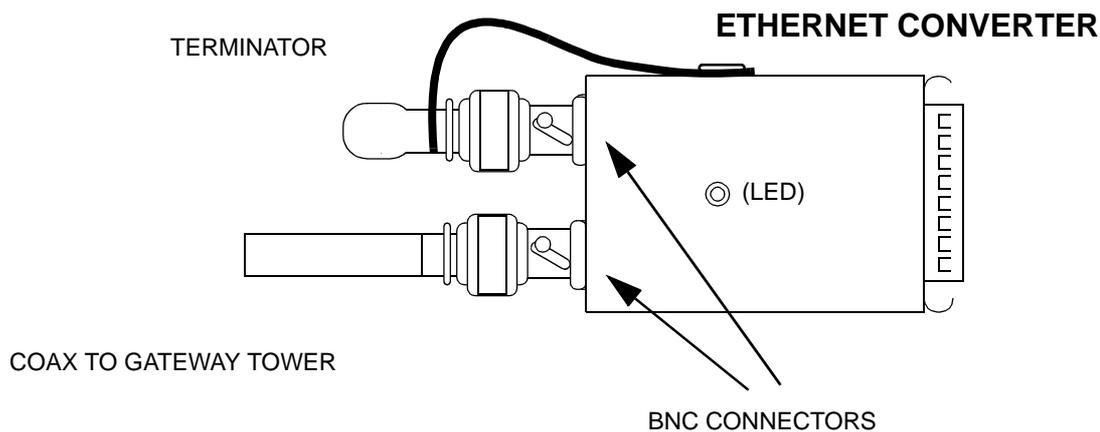
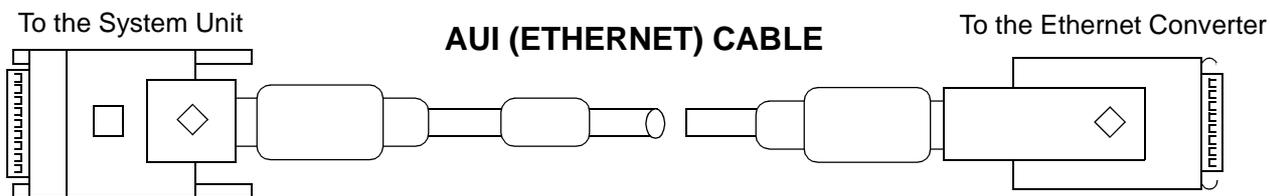
## Installing the Ethernet Converter

The Ethernet converter is the link between the MX System and the System Center.

To connect the Ethernet converter to the system unit, take the following steps:

1. Locate the Ethernet converter and the AUI adapter cable. See the following figure.

FIGURE 2-53 SPARCstation Thick Ethernet Network Cable and Converter




---

*Note* Components are not to scale.

---

2. Connect the AUI cable to the Ethernet converter.
3. Connect the remaining end of the AUI cable to the system unit. (If necessary, see [FIGURE 2-49 SPARCstation IPC Back Panel](#) on page 2-58 or [FIGURE 2-54 SPARCstation Classic Back Panel](#) on page 2-65).
4. Connect the coax cable from the gateway tower to the converter.
5. Make sure that there is a terminator connected to the remaining BNC connector.

## SUN SPARCSTATION CLASSIC

The Sun SPARCstation Classic can be used with Release 9.2, Release 9.0.1, Release 8.0.4, and Release 8.0.2. (To use Release 10.1, you need a Sun Ultra 10 or a SPARCstation 5, 10, or 20.) (To use Release 11.1 or later, you need a Sun Ultra 10 or a SPARCstation 5, or 20.) The SPARCstation Classic cannot be used with Release 10.1 or later because it does not support the Motif Window Manager (MWM) used with Release 10.1 and later.

The SPARCstation Classic comes with 32 MB of RAM pre-installed and with a 535 MB hard drive. The Classic uses a parallel port for the printer, and does not require the optional Aurora board for call logger applications. For MX software installation, the hard drive must be re-partitioned, and SunOS 4.1.3 must be re-installed afterwards.

The basic site configuration using a Sun SPARCstation Classic contains the following major components:

- Sun SPARCstation Classic workstation and power cable
- color monitor and cables
- keyboard and cable
- mouse, mouse pad, and cable
- Panasonic KX-P1695 printer and cable
- modem and cable
- CBA Ethernet connector and cable

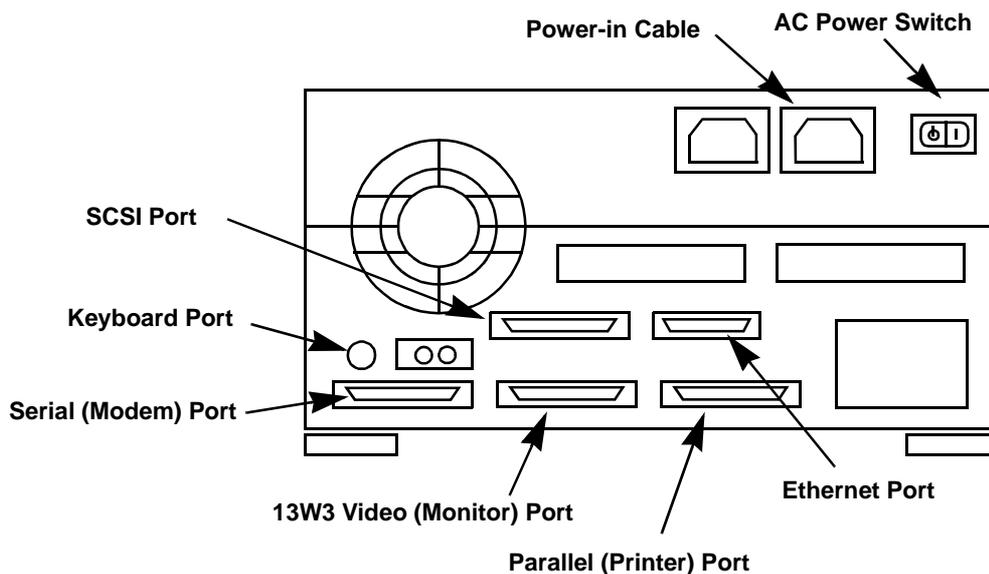
Setting up the SPARCstation Classic hardware involves the following steps:

1. Connect the mouse to the SPARCstation Classic keyboard.
2. Connect the keyboard to the SPARCstation Classic system unit.
3. Install the monitor.
4. Install the printer.
5. Install the modem.
6. Install the Ethernet converter.

This section tells you how to set up and cable the hardware platform for the MX System Center using a SPARCstation Classic. After removing the system components from their shipping containers, inspect them for damage.

Place the system unit on a flat, stable surface. The following figure shows the back panel and its important connectors.

FIGURE 2-54 SPARCstation Classic Back Panel




---

*Note* The power to the system unit must be turned off. Cables and power cords must not be installed.

---

## Connecting the Mouse to the Keyboard

The procedure for connecting the mouse to the keyboard is the same for the SPARCstation Classic as it is for the Sun Ultra 10. See [Connecting the Mouse to the Keyboard on page 2-14](#).

## Connecting the Keyboard to the System Unit

The procedure for connecting the keyboard to the system unit is the same for the SPARCstation Classic as it is for the Sun Ultra 10. See [Connecting the Keyboard to the System Unit on page 2-15](#).

## Installing the Monitor

The procedure for installing the monitor is the same for the SPARCstation Classic as it is for the SPARCstation IPC. See [Installing the Monitor on page 2-28](#).

## Installing the Printer

The procedure for installing the printer is the same for the SPARCstation Classic as it is for the SPARCstation IPC. See [Installing the Printer on page 2-29](#).

## Installing the Modem

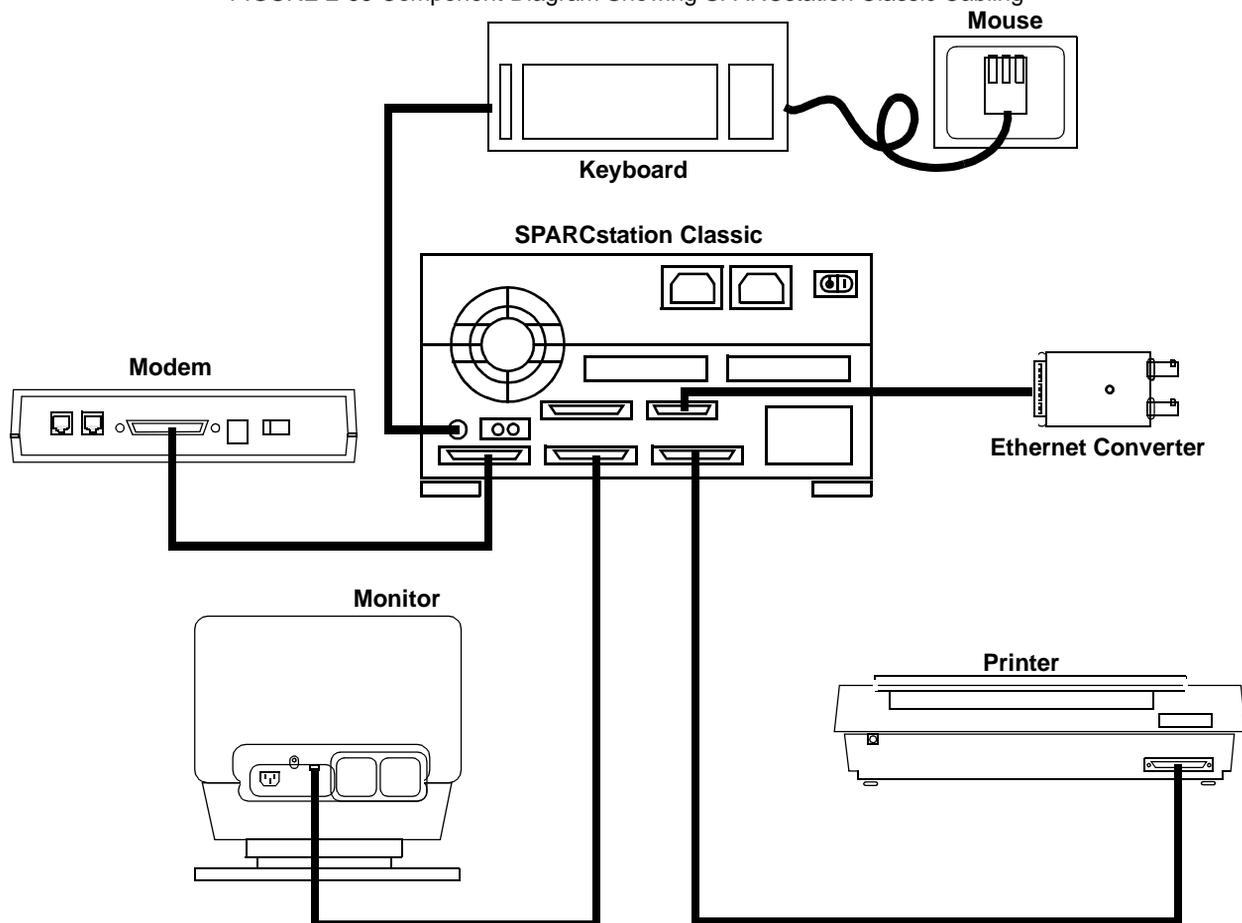
The procedure for installing the modem is the same for the SPARCstation Classic as it is for the SPARCstation IPC. See [Installing the Modem on page 2-32](#).

## Installing the Ethernet Converter

The procedure for installing the Ethernet converter is the same for the SPARCstation Classic as it is for the SPARCstation IPC. See [Installing the Ethernet Converter on page 2-63](#).

With the connection of the Ethernet converter you have completed the cabling of the SPARCstation Classic. The installation should look like the following figure.

FIGURE 2-55 Component Diagram Showing SPARCstation Classic Cabling



*Note* Components are not to scale.

## POWERING THE SYSTEM

The SPARCstation is designed to be left running continuously. Turning the power on and off frequently can damage the system's electrical components. Turning the power off periodically, however, does not harm the system.

### Turning Power On

To power on the system, take the following steps:

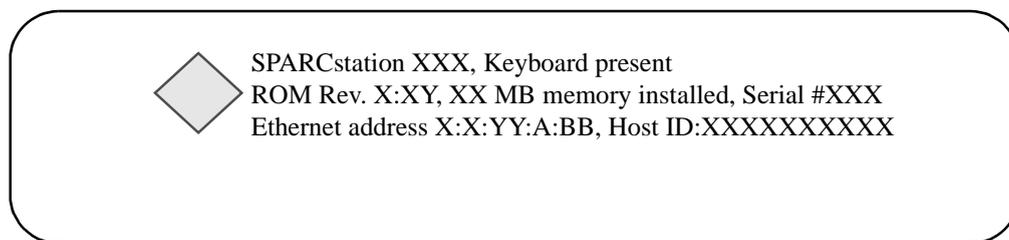
1. Turn on the power to the external drive units such as a tape drive or CD (if any), starting with the unit that has the SCSI terminator attached. The drive unit that is connected directly to the SPARCstation should be turned on last.
2. Turn on the power to the printer.
3. Turn on the power to the monitor.
4. Turn on the power to the system unit by pressing the side of the on/off switch labeled |. For power switch locations see the following back panel illustrations: [FIGURE 2-23 SPARCstation 5 Back Panel](#) on page 2-28, [FIGURE 2-41 SPARCstation 20 Back Panel](#) on page 2-48, [FIGURE 2-45 SPARCstation 10 Back Panel](#) on page 2-53, [FIGURE 2-49 SPARCstation IPC Back Panel](#) on page 2-58, and [FIGURE 2-54 SPARCstation Classic Back Panel](#) on page 2-65.

FIGURE 2-56 On/Off Switch



If the SPARCstation is operating properly, the monitor displays the banner screen in approximately 30 seconds. See the following figure.

FIGURE 2-57 Format of Banner Screen



At this point the operating system should start to boot automatically, or you might need to enter a command at the system prompt.

If you do not see the banner screen within 30 seconds after you turn on the power, take the following steps:

1. Make sure the power switch on the system unit is in the off position. Press the side labeled ○.
2. Make sure that all cable connections are secure.
3. Turn on the power to the system unit and immediately press STOP-D. This action initiates the power-on diagnostic tests. The status of the power-on tests is conveyed by four light-emitting diodes (LEDs) on the system keyboard. The LEDs are on CAPS LOCK, SCROLL LOCK, NUM LOCK, and COMPOSE. To indicate the beginning of the tests, the four LEDs briefly illuminate all at once. CAPS LOCK flashes for the duration of the tests.
4. Watch for keyboard LED illumination. If the power-on tests detect a problem, SCROLL LOCK, NUM LOCK, or COMPOSE illuminates. Each lit LED indicates a failed part. Watch the LEDs and note which, if any, are lit. The LED might be lit for only a few seconds before the system continues the test. See the following table.

TABLE 2-8 Interpreting the Diagnostic LEDs

Diagnostic LEDs	Failed Part (SPARCstation Classic)	Failed Part (SPARCstation 10)
NUM LOCK on	Main logic board	Main logic board
SCROLL LOCK on	NVRAM	MBus module
COMPOSE on	DSIMM U0303 or U0304	DSIMM J0201

5. Watch the monitor for failure messages. Record any failure messages you see.

## Turning Power Off

For information about shutting down the Sun Ultra 10, see [Turning Power Off on page 2-8](#).

To turn power off for a SPARCstation, take the following steps:

1. Move the cursor to inside the reports window.
2. Exit the reports menu by typing **8** and pressing ENTER. You return to the `/usr/sx/db` prompt.
3. Type **exit** and press ENTER. The window closes.
4. Click **Exit** in the **System Center Data View** window. You see a confirmation message.
5. Click **OK**. The **System Center Data View** window and the **Iview** window close.
6. Click the control box of the clock.
7. Click **Close**. The clock closes.
8. Move the cursor to inside the shell tool window.
9. Type **killsync** and press ENTER to halt the System Center.
10. Type **exit** and press ENTER. The shell tool window closes.
11. Click the right mouse button on the screen background to open the root menu.
12. Click the left mouse button on **Exit**. You see a confirmation message.
13. Click **Exit**. You see the login prompt.
14. Type **shutoff** and press ENTER.
15. Enter the password.

---

*Note* With Release 11.1 and later (which uses Solaris software as the operating system software), when you use the **shutoff** login, you will see the following messages:

```
INIT: failed write of utmpx entry: "s0"
```

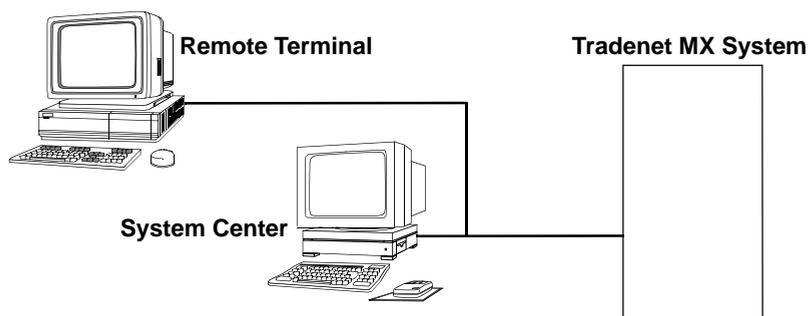
```
INIT: failed write of utmps entry: "fw"
```

*Ignore these messages.*

---

16. When the system is halted, turn off power. It does not matter in what order you power off the SPARCstation and its peripheral equipment.

# Chapter 3 Remote Diagnostics



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# REMOTE TERMINALS

## Using Remote Terminals

The Tradenet MX System Center is designed as an open system, allowing connectivity with additional workstations (either PCs or Sun workstations) using Ethernet connectors to provide remote access to the Tradenet MX System Center. A remote terminal is a PC using Hummingbird's Exceed X-Windows software.

With remote terminals, the System Center menus can be accessed by multiple users so that one user can access administration functions while another user can run reports. However, the application that runs the **System Center Data View** window—Wingz—is single license so that only one user can access the database at one time.

In the System Center, you typically use the **MAIN MENU**, the **System Center Data View** window, or the **Network Related Views** window.

FIGURE 3-1 MAIN MENU



With remote terminals, multiple users on the same Tradenet MX System can access the menus in the **MAIN MENU**. However, two users cannot execute **Administration** menu commands at the same time, although one user at the System Center can execute **Administration** menu commands while another user at a remote terminal runs reports. Keep in mind two users cannot run the same report at the same time.

---

*Note* When you are using a remote terminal, you have two System Centers connected to the back room switch. Only one of these System Centers can communicate with the switch at one time.

---

FIGURE 3-2 **System Center Data View** Window

Two users cannot access any of the tables available from the **System Center Data View** window at the same time. If you try to open a table in the **System Center Data View** window while another user on the same Tradenet MX System is viewing that table, you see the message, **Informix is in use please try later.**

The remote terminal is a PC with Exceed software. There are two ways you can connect the PC as a remote terminal:

- directly to the Tradenet MX Sun workstation
- to the Tradenet MX Sun workstation through a customer local area network (LAN)

Whether you are connecting a remote terminal using the Tradenet MX Ethernet network or the internal customer network, the System Center is the host machine and any remote terminal must support the host software.

The following table describes the remote terminal configurations supported by IPC and what equipment is required to connect the remote terminal.

TABLE 3-1 Remote Terminal Configurations

Solutions	Solution #1	Solution #2
<b>Method of Connection:</b>	Connecting Directly to the MX Sun Workstation	Connecting to the MX Sun Workstation through a customer LAN
<b>Equipment this solution requires:</b>	<ul style="list-style-type: none"> <li>• IPC PC preloaded with Windows NT 4.0, Exceed, Windows NT TCP/IP drivers including simple TCP/IP services, and an Ethernet card</li> <li>• ThinNet transceiver</li> <li>• connector, BNC 50 OHM terminator</li> <li>• connectors, BNC 50 OHM tee adaptor</li> <li>• SynOpics model 800 hub</li> </ul>	<ul style="list-style-type: none"> <li>• customer-provided PC (32 MB of RAM and at least 20 MB space on the hard drive) with Windows NT 4.0, Windows NT TCP/IP drivers including simple TCP/IP services, and an Ethernet card</li> <li>• Exceed software for the PC</li> <li>• second Ethernet card for the System Center</li> </ul>

The easiest solution to providing a remote terminal is to connect an IPC-provided PC to the existing Tradenet MX Ethernet network (solution #1 in *TABLE 3-1 Remote Terminal Configurations on page 3-5*). Solution #1 also provides complete security because the remote terminal is dedicated to System Center functions.

When connecting to the internal customer network (solution #2), you need to consider security and be aware of interaction with other programs already installed on the internal network. Packet information residing on the system's Ethernet LAN is used to provide critical messaging for trading floor communications. Mixing this traffic with low priority data between PCs on the LAN can create a security issue and possibly a bandwidth issue. Therefore, when connecting to the internal customer network, make sure you provide passwords to users who already have access to the System Center only.

IPC recommends that you use solution #1. If you use solution #2, you must dedicate that PC for the Exceed software because if you run additional software on the remote terminal PC, you are responsible for any problems with the PC. Although IPC is confident there will be no software problems with Exceed, we cannot guarantee how different software programs will interact with each other. In this situation, it is your responsibility to troubleshoot and solve any problems.

The following kits are available from IPC Order Entry in Westbrook, CT, USA (call 1-860-399-5981). These kits contain everything you need to connect your remote terminal.

*Solution #1—connecting an IPC-provided PC to the Tradenet MX Ethernet network:*

- PC (32 MB of RAM, 1 GB hard drive) with Windows NT 4.0 software, Hummingbird's Exceed X-Windows software, and Ethernet card installed
- ThinNet transceiver
- connector, BNC 50 OHM terminator
- connector, BNC 50 OHM tee adaptor
- SynOpics model 800 hub

*Solution #2—connecting a customer-provided PC to the internal customer network:*

- Hummingbird's Exceed X-Windows software for the customer-provided PC
- second Ethernet card for the System Center

---

*Note If you require any other type of configuration, IPC can provide consultant services through its Professional Services Department.*

---

The following procedures tell you how to configure remote terminals. In these procedures, the host name for the standard MX System Center is *syscen*. The host name for the remote terminal is *ipcsysrmt*. To configure a remote terminal, you need to configure the network addresses of the workstations so that *syscen* and *ipcsysrmt* can communicate.

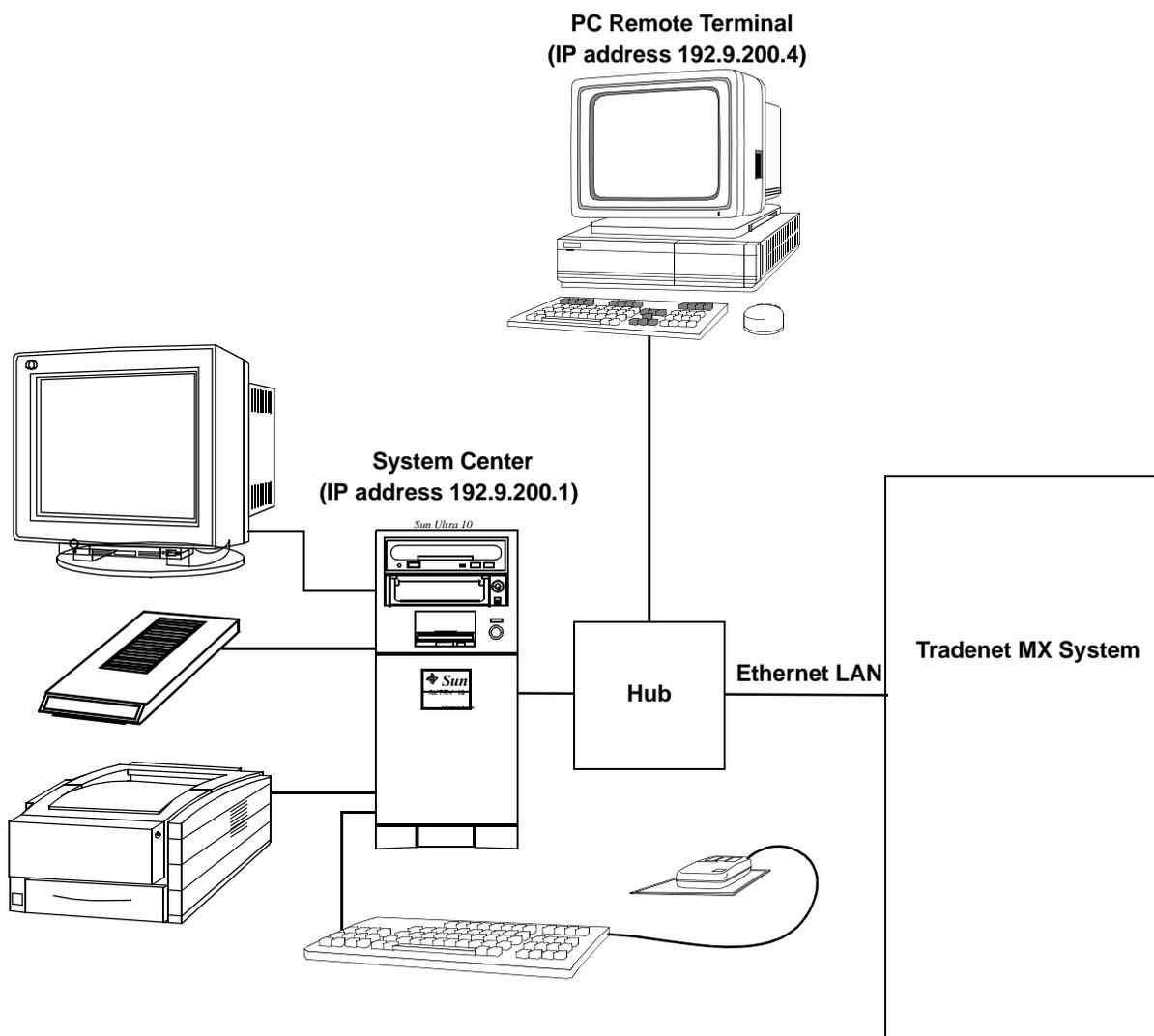
If you want to connect a PC to the Tradenet MX Ethernet network (solution #1), see [Connecting a Remote Terminal Directly to the MX on page 3-6](#). If you want to connect a PC to your internal customer network (solution #2), see [Connecting a Remote Terminal to the MX Through a LAN on page 3-7](#).

### Connecting a Remote Terminal Directly to the MX

You can connect a remote terminal to the Tradenet MX Ethernet network. The remote terminal is a PC running Windows NT that uses Hummingbird's Exceed X-Windows software.

The following figure illustrates how you connect a PC to the existing Tradenet MX Ethernet network.

FIGURE 3-3 Connecting a PC to the Tradenet MX Ethernet Network



When connecting a remote terminal (PC) directly to the Tradenet MX Ethernet network, that workstation is a dedicated remote terminal and cannot be used for anything else.

Hummingbird's Exceed X-Windows software is used on a PC with Windows NT 4.0, Windows NT TCP/IP drivers including simple TCP/IP services, an Ethernet card, and the Ethernet driver installed. The Exceed software can be used with Tradenet MX Release 9.0.1 and later. However, if you are using Tradenet MX Release 9.0.1 or Release 9.2, you must use Wingz 1.1.b on your System Center; if you are using Tradenet MX Release 10.1 or later, you must use Wingz 2.1.3 on your System Center. If you try to use Wingz 2.1.1 with the Exceed software, you will have font problems.

If you have Tradenet MX Release 10.1 or later and you need to determine which version of Wingz you have, open the **System Center Data View** window. When Wingz opens, the window tells you what version of Wingz you have: either 2.1.1 or 2.1. (If it says 2.1, you have Wingz 2.1.3.) If you have Wingz 2.1.1, you need to order Wingz 2.1.3.

To configure the host System Center, take the following steps:

1. At the System Center, log in as *rootcsh*. (You need to log in as *rootcsh* so that you can edit the */etc/hosts* file.)
2. Type `cd /etc` and press RETURN.
3. Use vi or the text editor to open the hosts file for editing.
4. In the */etc/hosts* file, add a line for *ipcsysrmt* with the address 192.9.200.4. A sample of the modified file is shown below:

```
# System Center Complex IP host table
#
192.9.200.1          syscen loghost
192.9.200.2          scgc_a
192.9.200.3          vwtest
127.0.0.1           localhost
# Please make site specific changes below this line
192.9.200.4          ipcsysrmt
```

---

**Caution**    The addresses for *syscen*, *scgc\_a*, and *vwtest* in the hosts file are fixed and must not be changed. All Tradenet MX Systems use the same IP addresses.

---

5. Save and exit the hosts file.
6. Log out.

## Connecting a Remote Terminal to the MX Through a LAN

You can connect a remote terminal to your internal customer network. With this method, the IP address of your internal customer network is allowed access to the System Center network.

Hummingbird's Exceed X-Windows software is used on a PC with Windows NT 4.0, Windows NT TCP/IP drivers including simple TCP/IP services, an Ethernet card, and the Ethernet driver installed. The Exceed software can be used with Tradenet MX Release 9.0.1 and later. However, if you are using Tradenet MX Release 9.0.1 or Release 9.2, you must use Wingz 1.1.b on your System Center; if you are using Tradenet MX Release 10.1 or later, you must use Wingz 2.1.3 on your System Center. If you try to use Wingz 2.1.1 with the Exceed software, you will have font problems.

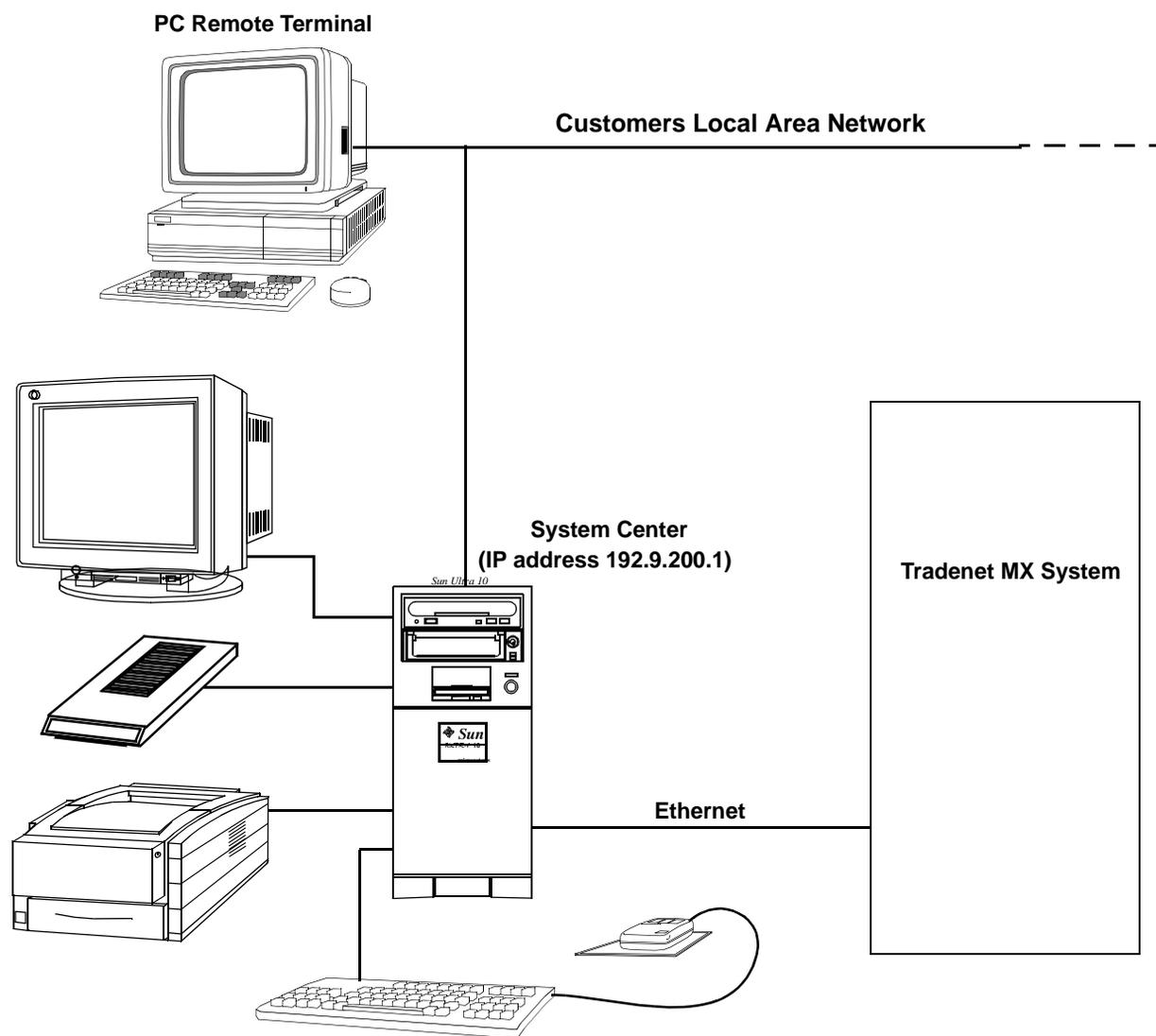
If you have Tradenet MX Release 10.1 or later and you need to determine which version of Wingz you have, open the **System Center Data View** window. When Wingz opens, the window tells you what version of Wingz you have: either 2.1.1 or 2.1. (If it says 2.1, you have Wingz 2.1.3.) If you have Wingz 2.1.1, you need to order Wingz 2.1.3.

The requirements for the customer-supplied PC are as follows:

- 32 MB of RAM
- at least 20 MB space on the hard drive
- Windows NT 4.0
- Windows NT TCP/IP drivers including simple TCP/IP services
- Ethernet card
- Hummingbird's Exceed X-Windows software for the PC

The following figure illustrates connecting a remote terminal to your internal network.

FIGURE 3-4 Connecting to Your Internal Customer Network Using a PC



This method requires an additional Ethernet card installed in the System Center. Because you are connecting to the internal customer network, you need the following information from the customer about their network:

- IP address the customer assigns to the System Center
- netmask the customer assigns to the System Center (usually 255.255.255.0 or 255.255.0.0)
- IP addresses of the remote terminals the customer wants to connect to the System Center
- if the IP addresses of the remote terminals are on a different subnet than the IP address the customer uses for the System Center, the customer has a router on his network and you need the IP address of the router (the router's IP address must be on the same subnet as the IP address the customer uses for the System Center)

To determine whether or not the IP address of a remote terminal is on a different subnet than the IP address the customer uses for the System Center, take the following steps:

1. Convert the netmask the customer uses for the System Center to binary. The following figure shows an example netmask of 255.255.255.0.

FIGURE 3-5 Converting the System Center Netmask (a Decimal Value) to Binary

**255.255.255.0**

11111111.11111111.11111111.00000000

2. Count the number of ones in the binary conversion. The number of ones indicates the net portion of the IP address the customer uses for the System Center. In the example netmask shown in [FIGURE 3-5 Converting the System Center Netmask \(a Decimal Value\) to Binary on page 3-9](#), the netmask 255.255.255.0 equals a binary value of 11111111.11111111.11111111.00000000 which equates to 24 bits, or 3 bytes (8 bits=1byte). Therefore, the net portion of the IP address the customer uses for the System Center is the first three bytes.

For example, if the IP address the customer uses for the System Center is 164.100.1.16, then 164.100.1 represents the net portion of that IP address.

FIGURE 3-6 Determining the Net Portion of the IP Address the Customer Uses for the System Center

byte 1    byte 2    byte 3    byte 4

**164.100.1.16**

### Net Portion of the System Center IP Address

3. Compare the net portion (first three bytes) of the IP address the customer uses for the System Center with the first three bytes of the IP address of the remote terminal. If they are equivalent, the two addresses are on the same subnet and you do not need to configure a router. If they differ, the two addresses are on different subnets and you need to configure a route to the customer's router. The IP address of the customer's router must also be on the same subnet as the IP address the customer uses for the System Center. See [Configuring the \(Host\) MX System Center on page 3-13](#).

For example, if the remote terminal has an IP address of 164.100.40.7, you need to configure a route to the customer's router because 164.100.40 (the first three bytes) is different from 164.100.1.

Adding the MX System Center to a customer’s network brings up security issues that need to be addressed. The files `/etc/hosts.equiv` and `.rhosts` specify remote hosts and users that are considered *trusted*. Trusted users are allowed to access the local system without supplying a password. The `hosts.equiv` file applies to the entire system, but individual users can maintain their own `.rhosts` files in their home directories. To access the Tradenet MX System remotely, you need to provide a password.

The following tables lists what IPC is responsible for and what the customer is responsible for.

TABLE 3-2 IPC and Customer Responsibilities When Connecting to the Internal Customer Network

<b>IPC Responsibilities:</b>
Install and manage a second Ethernet card in the System Center
Program the customer IP address in the System Center
<b>Customer Responsibilities:</b>
Install Exceed software to their PC(s)
Install and manage the PC Ethernet card and IP address
Maintain and troubleshoot the customer’s network

In the following procedures, the hostname for the standard MX System Center, as it is known in a customers’ network, is `ipcsyscen`. The hostname for added workstations that are used to remotely access `syscen` are `ipcsysrmt1` and `ipcsysrmt2`. The following procedure describes the changes needed to configure the `syscen` and customer nodes. In this procedure, the customer’s assigned IP address for the MX System Center is 164.100.0.16 and the netmask is 255.255.255.0; in this example situation, the customer would need to provide the MX System access to two nodes on the internal customer network: nodes 164.100.0.1 and 164.100.0.2.

---

**Warning!** *The IP addresses 164.100.0.16, 164.100.0.1, 164.100.0.2 and the netmask 255.255.255.0 used in the following procedures are examples only. You must get the correct IP addresses and netmask from the customer.*

---

To connect to your internal customer network using a PC, you need to complete the following tasks:

- install the second Ethernet card to the System Center
- configure the host System Center
- install Hummingbird’s Exceed software on the PC
- configure the PC
- make the remote connection

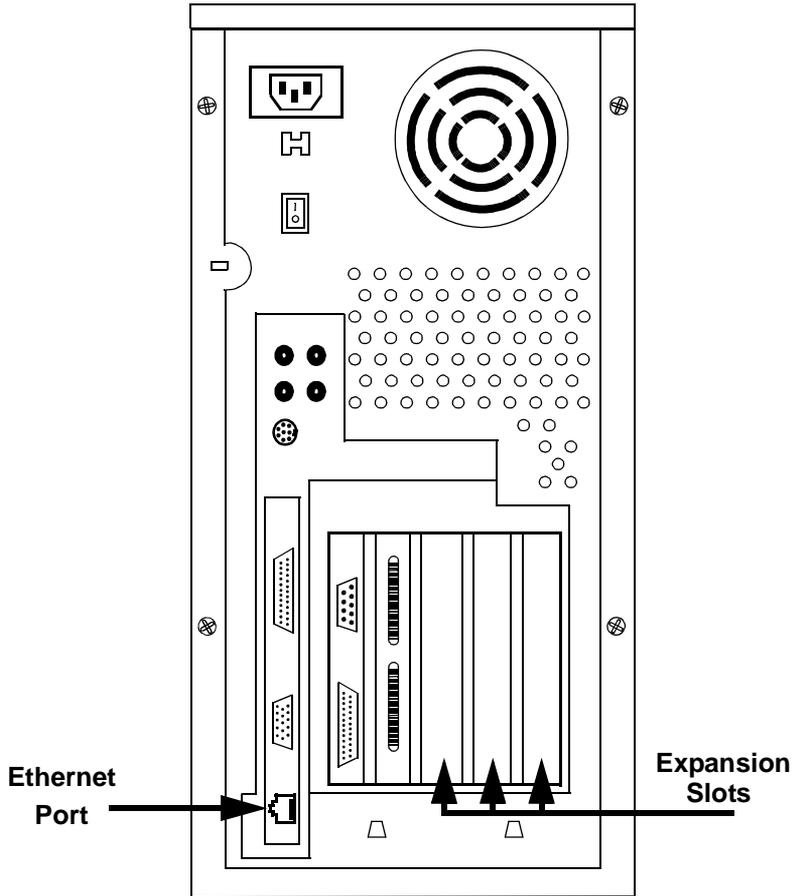
### *Adding a Second Sun FastEthernet/P 2.0 Card.*

If you want to use a PC to connect to the customer local area network (LAN), you need a second Ethernet card in your System Center.

The second Sun FastEthernet/P 2.0 card is optional equipment for the Sun Ultra 10. (See [FIGURE 3-8 Sun FastEthernet/P2.0 Card on page 3-11.](#)) You can order your Ultra 10 with the second Sun FastEthernet/P 2.0 card installed by the factory in Westbrook. If you purchased your second Sun FastEthernet/P 2.0 card separately, use the following instructions to guide your installation.

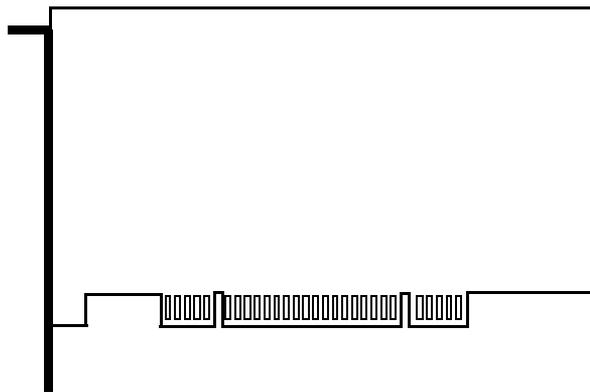
The Ultra 10 comes with three unused PCI expansion slots. (See [FIGURE 3-7 Sun Ultra 10 Workstation Back Panel on page 3-11.](#)) These slots can be populated with additional cards to add optional features to your Ultra 10 System Center.

FIGURE 3-7 Sun Ultra 10 Workstation Back Panel



To add the Sun FastEthernet/P2.0 card, take the following steps:

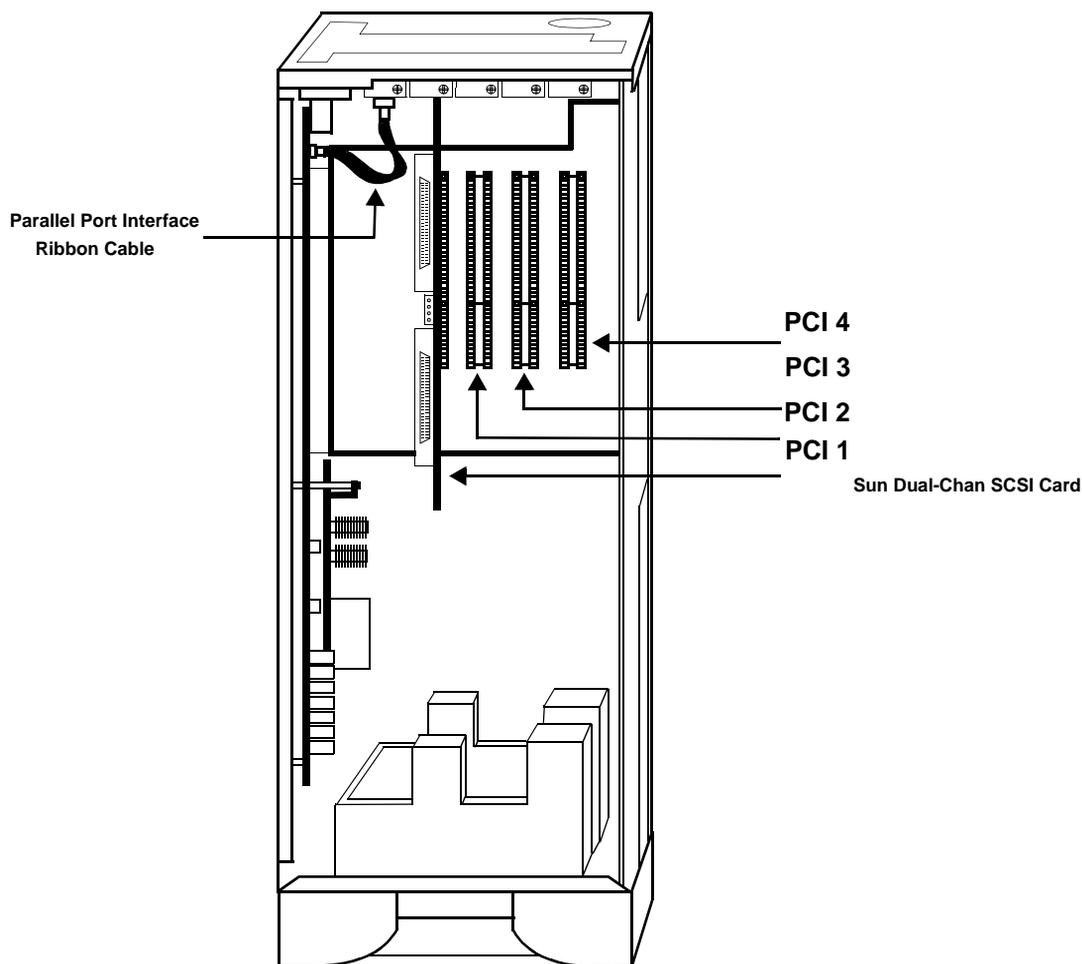
FIGURE 3-8 Sun FastEthernet/P2.0 Card



1. Log out of the System Center and power it down. (See [Turning Power Off](#) on page 2-8.)
2. Put an electrostatic discharge (ESD) grounding wrist strap on your wrist.
3. Attach the alligator clip of the wrist strap to bare metal on the cabinet.
4. Place the Ultra 10 upside-down on a large, uncluttered surface.
5. Remove the bottom/side cover.

- Rest the Ultra 10 on its top with the front panel of the unit facing you.

FIGURE 3-9 Sun Ultra 10 Bottom View, (Cover removed)



- Using proper ESD procedures, remove the packaging from your FastEthernet/P 2.0 card.
- Install your FastEthernet/P 2.0 card in the next available PCI slot.
- Re-attach the bottom/side cover.
- Power on the system. (See [Turning Power On on page 2-8.](#))
- Log in as *rootcsh*.
- At the `syscenn#` prompt, type `reboot -- -r` and press RETURN to reboot the system with new hardware.

If your second FastEthernet/P 2.0 card does not work after rebooting the System Center, take the following steps to edit your *path\_to\_inst* file:

---

**Caution** Improperly editing the *path\_to\_inst* file can cause your System Center to fail on boot up. Do not edit this file unless you are qualified and authorized to do so.

---

- Log in as *rootcsh*.
- Change to the `/etc` directory by typing `cd /etc` and pressing ENTER.

- Using vi or another text editor, open the *path\_to\_inst* file for editing.

---

**Warning!** *You must be exact in the following step. Deleting a line that is similar but not the same may cause your System Center to fail on boot up.*

---

- If the following lines exist in your *path\_to\_inst* file, delete them:

```
" /pci@lf, 0/pci@1/pci@1/SUNW, hme@0 ,1" 1 "hme"
```

```
" /pci@lf, 0/pci@1/pci@1/SUNW, hme@0 ,1" 2 "hme"
```

- Save the *path\_to\_inst* file.

If your second FastEthernet/P 2.0 card still does not work after rebooting the System Center, contact IPC Systems Support.

### *Configuring the (Host) MX System Center*

To configure the host System Center, take the following steps:

- Log in as *rootcsh*. This is necessary to edit the */etc/hosts* and */etc/hostname* files.
- Change to the */etc* directory by typing **cd /etc** and pressing RETURN.
- If your System Center uses a SPARCstation 5 or a SPARCstation 20, use vi or another text editor to open a new Ethernet hostname file called *hostname.le1*. If your System Center uses the Sun Ultra 10, use vi or another text editor to open a new Ethernet hostname file called *hostname.hme1*.
- Type the following line in this file:

```
ipcsyscen
```

- Save and exit the *hostname.le1* file or *hostname.hme1* file.

- Use vi or another text editor to open the *hosts* file.

- Add the following lines in this file:

```
<customer's IP address>          ipcsyscen  
<customer's IP address>          ipcsysrmt1  
<customer's IP address>          ipcsysrmt2
```

- If you need to add a route to the customer's router, also add the following line to the hosts file.

```
<customer's router IP address>    routerhost
```

Here is an example of what your hosts file might look like. (Remember, 164.100.0.16, 164.100.0.1, 164.100.0.2, and 164.100.1.19 are examples of addresses. You need to get the specific address to use from the customer.)

```
# System Center Complex IP host table
```

```
#
192.9.200.1          syscen loghost
192.9.200.2          scgc_a
192.9.200.3          vwtest
127.0.0.1           localhost
```

```
# Please make site specific changes below this line
```

```
164.100.0.16        ipcsyscen
164.100.0.1         ipcsysrmt1
164.100.0.2         ipcsysrmt2
164.100.1.9         routerhost
```

---

*Note* You should include the **routerhost** line in the hosts file only when you need to add a route to the customer's router.

---

- Save and exit the hosts file.
- Use vi or another text editor to open the netmasks file for editing.
- Determine into which category in the following table the IP address the customer uses for the System Center falls.

TABLE 3-3 IP Address Categories

Class	IP Address Range	# of Bytes Used for Net	# of Bytes Used for Host
Class A	1.xxx.xxx.xxx—126.xxx.xxx.xxx	1	3
Class B	128.0.xxx.xxx—191.255.xxx.xxx	2	2
Class C	192.0.0.xxx—223.255.255.xxx	3	1

In our example, we are using 164.100.0.16 as the IP address, a Class B IP address, which means the first two bytes are the net portion of the IP address and the last two bytes are the host portion of the IP address.

- Determine the net portion of the IP address the customer uses for the System Center. In our example IP address of 164.100.0.16, the net portion is 164.100.
- Add the following line to the end of the file:

```
<net portion of IP address>      <customer's netmask>
```

Here is an example of what this line might look like. (Remember, 164.100 and 255.255.255.0 are examples. You need to get the specific netmask from the customer.)

```
164.100              255.255.255.0
```

- Save and exit the netmasks file.

15. If the you need to configure a route to the customer's router, take the following steps:
  - a. Use vi or another text editor to create a new default router file called defaultrouter.
  - b. Add one line containing the IP address of the customer's router:

**<customer's router IP address>**

Here is an example of what this line might look like.

**routerhost**

- c. This file instructs the system to not start the standard network routing daemon *routed*. This daemon creates a routing table by trading routing information with hosts on the network. This generates a large amount of traffic and creates security problems when connected to a large customer network. Some customers might have a unique network configuration that requires changes regarding this step.
  - d. Save and exit the defaultrouter file.
16. Log out of the System Center.
  17. Re-boot the System Center.

## Installing Hummingbird's Exceed Software on the PC

---

*Note* If you purchased the remote terminal PC kit from IPC, Exceed is already installed and configured.

---

If you are using your own PC as a remote terminal, you need to install the Exceed software to the PC. To install Exceed, take the following steps:

1. Log into your PC as *administrator*.
2. Insert the Exceed CD in your PC's CD ROM.
3. Close any open applications.
4. Click the left mouse button on the **Start** menu at the bottom left corner of the screen.
5. Click **Run**. You see the **Run** dialog box.
6. Type **D:\Msetup.exe** (or the equivalent name of your CD ROM drive).

FIGURE 3-10 Run Dialog Box



7. Click **OK** (or press ENTER) to accept the default selection. You see the following opening screen.

FIGURE 3-11 Opening Screen



8. Click **Install Exceed**. After a brief delay, you see the following message.

FIGURE 3-12 Installing Exceed



9. Click **Next >**.

FIGURE 3-13 Licensing Message



10. At the licensing message, click **Yes, I agree**.

FIGURE 3-14 Select **Typical**



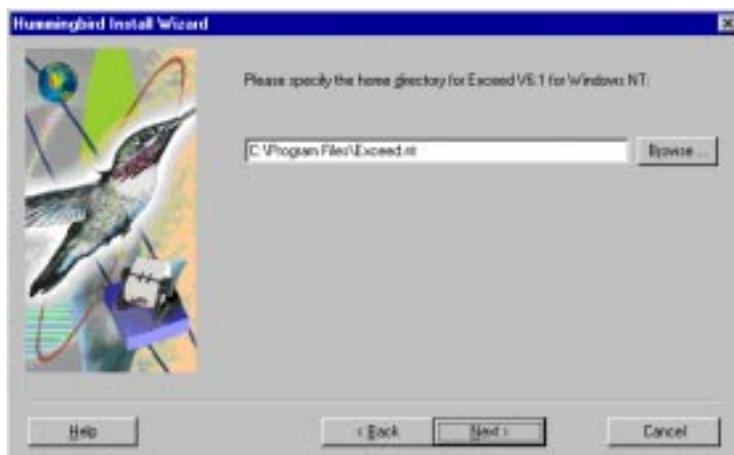
11. With **Typical** selected, click **Next >**. You see the following message.

FIGURE 3-15 Select **No**



- With **No** selected, click **Next >**.

FIGURE 3-16 Specifying Exceed's Directory



- Leave the default directory shown and click **Next >**.

FIGURE 3-17 Specifying the User Directory



- Leave the default directory shown and click **Next >**.

FIGURE 3-18 Finishing the Installation



15. Click **Finish** (or press ENTER). The software installs from the CD. When the installation completes, you see the **Site Information** dialog box.

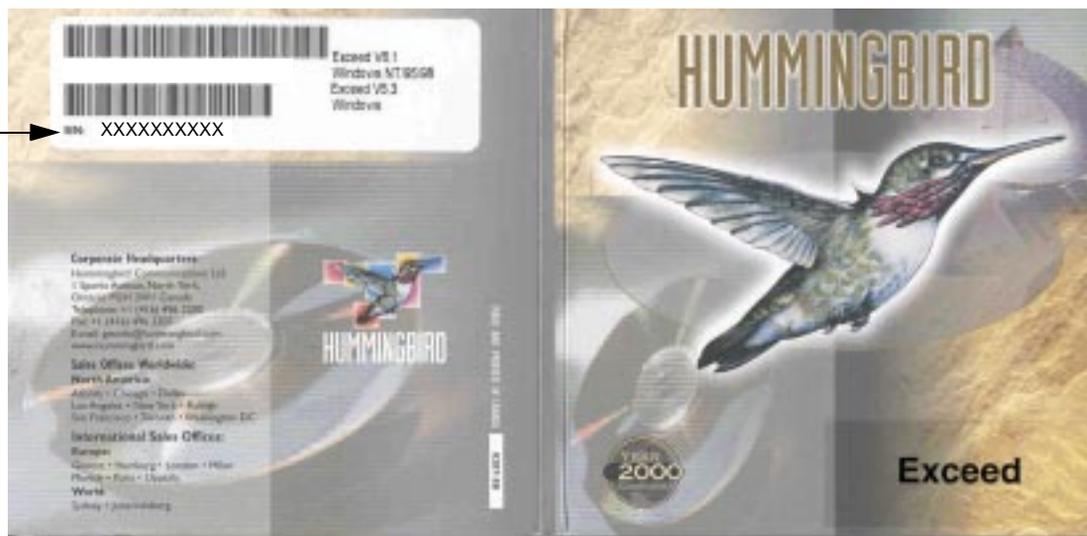
FIGURE 3-19 Site Information Dialog Box



16. Type your serial number (S/N) and contact name. The serial number is located on a sticker on the back of the CD envelope.

FIGURE 3-20 Serial Number Location

serial number



17. Click **Next >**. You are prompted to verify that this information is correct.

18. Click **Yes** to confirm that the information you entered is correct. You see the **Online Registration** dialog box.

FIGURE 3-21 Online Registration Dialog Box



19. Click **Register Later**.

FIGURE 3-22 Selecting **Finished**

20. Click **Finished**. You are prompted to specify a keyboard setup.

FIGURE 3-23 Specifying a Keyboard Setup



21. To use a country keyboard setup other than the US, select it in this dialog box.
22. Click **Next >**. You are prompted to supply the password for configuring Exceed.

FIGURE 3-24 Specifying a Password



23. In the **Password** field, type the same password you use to log in to the System Center as *install*, and in the **Confirmation** field, type the same password again; then click **Next >**. You are prompted to create a shortcut for the Exceed program.

FIGURE 3-25 Creating a Shortcut



24. With **Yes** selected, click **Next >**. You are prompted to tune the X server.

FIGURE 3-26 Tuning the X Server



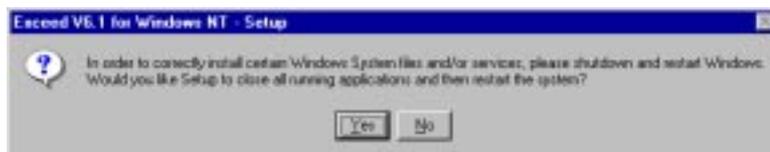
25. Click **Next >**. Your PC will run through some tests and then tell you the installation is complete.

FIGURE 3-27 Installation Complete



26. Click **OK** (or press ENTER). You are prompted to re-start the PC.

FIGURE 3-28 Restarting the PC



27. Click **Yes** (or press ENTER).

## Configuring the Remote Terminal PC

### Configuring the HOSTS File

The HOSTS file on a PC contains a list of IP addresses that are mapped to host names. The HOSTS file must contain the addresses that your PC works with. The examples given below are for reference only. To find the correct IP addresses for **ipcsyscen** and **ipcsysrmt**, see [Configuring the \(Host\) MX System Center on page 3-13](#).

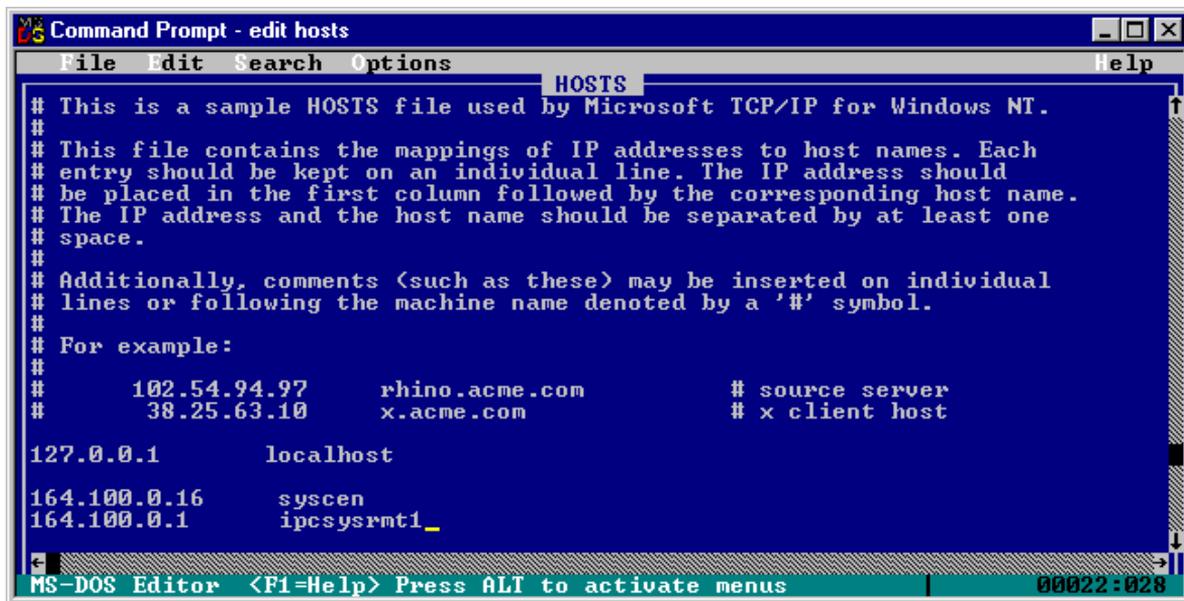
To configure the HOSTS file, take the following steps:

1. Log in as Administrator.
2. On your PC, move your cursor to the **Start** menu in the lower left corner of the screen.
3. Click the left mouse button on **Start, Programs, and Command Prompt**. You see the **Command Prompt** window.
4. In the **Command Prompt** window, type `cd winnt\system32\drivers\etc` and press RETURN.
5. Type `edit HOSTS` and press RETURN to edit the HOSTS file using the DOS editor.

- On a blank line of the HOSTS file, type `164.100.0.16 ipcsyscen` and press RETURN.

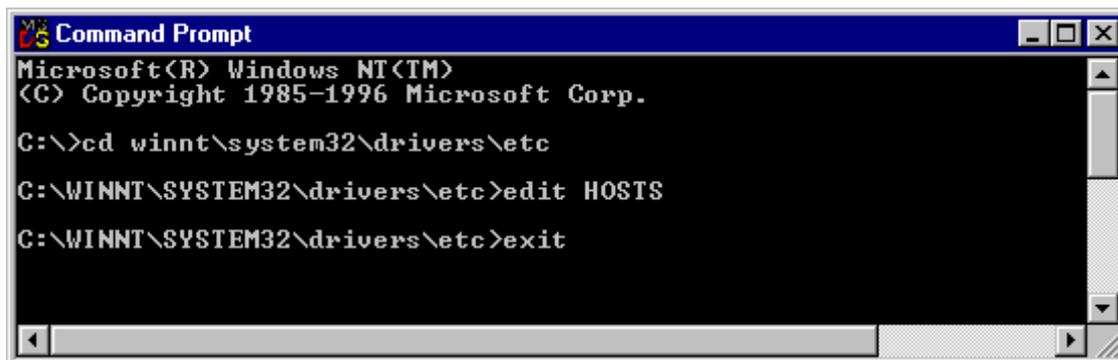
*Note* The IP address, **164.100.0.16** is used as an example. To find the correct IP addresses for **ipcsyscen** and **ipcsysrmt**, see [Configuring the \(Host\) MX System Center on page 3-13](#).

FIGURE 3-29 Editing the Remote Terminal Hosts File



- Type `164.100.0.1 ipcsysrmt1` and press RETURN.
- In the **Command Prompt - edit hosts** window, click **File**, then **Save**.
- In the **Command Prompt - edit hosts** window, click **File**, then **Exit**.
- Type `exit` and press RETURN to close the **Command Prompt** window.

FIGURE 3-30 Exiting the Command Prompt Window



### Configuring IP Connectivity

To configure the IP connectivity to your PC, take the following steps:

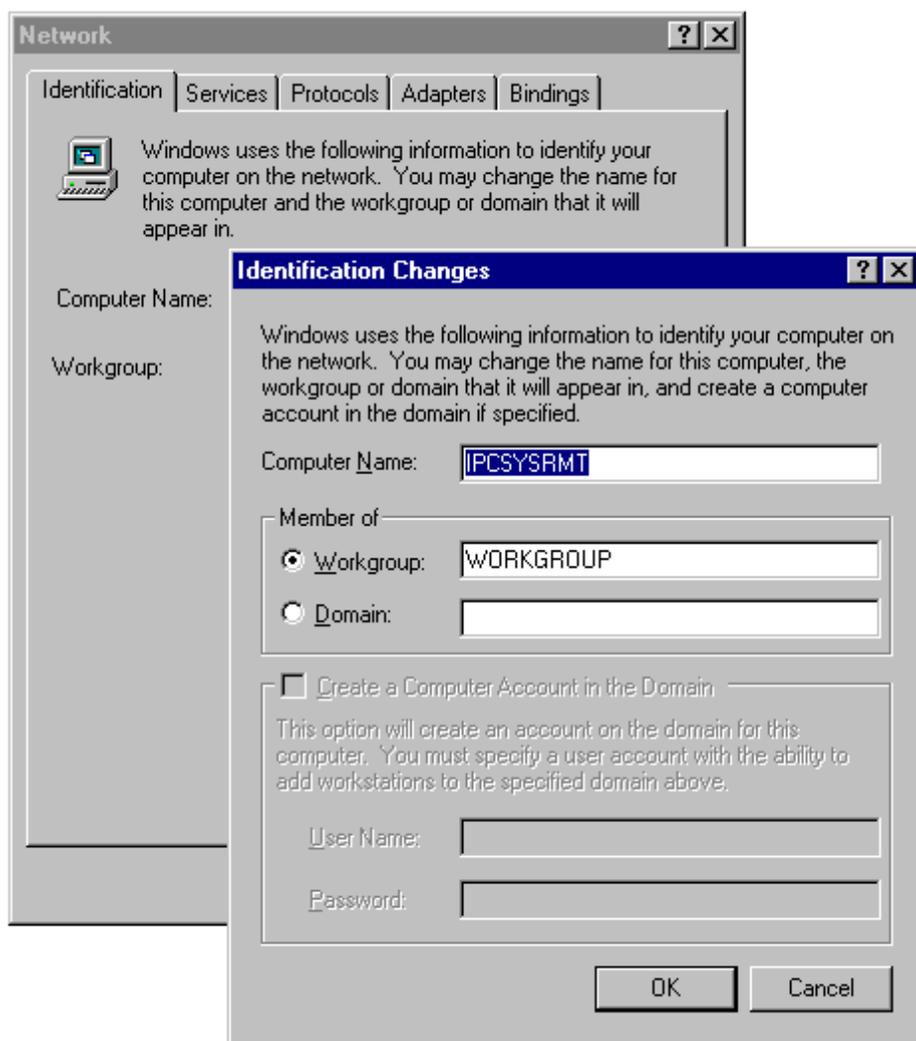
- Log out and log back in as *administrator*.
- On your PC, move your cursor to the **Start** menu in the lower left corner of the screen.
- Click the left mouse button on **Start, Settings, and Control Panel**. You see the **Control Panel** window.

FIGURE 3-31 Control Panel Window



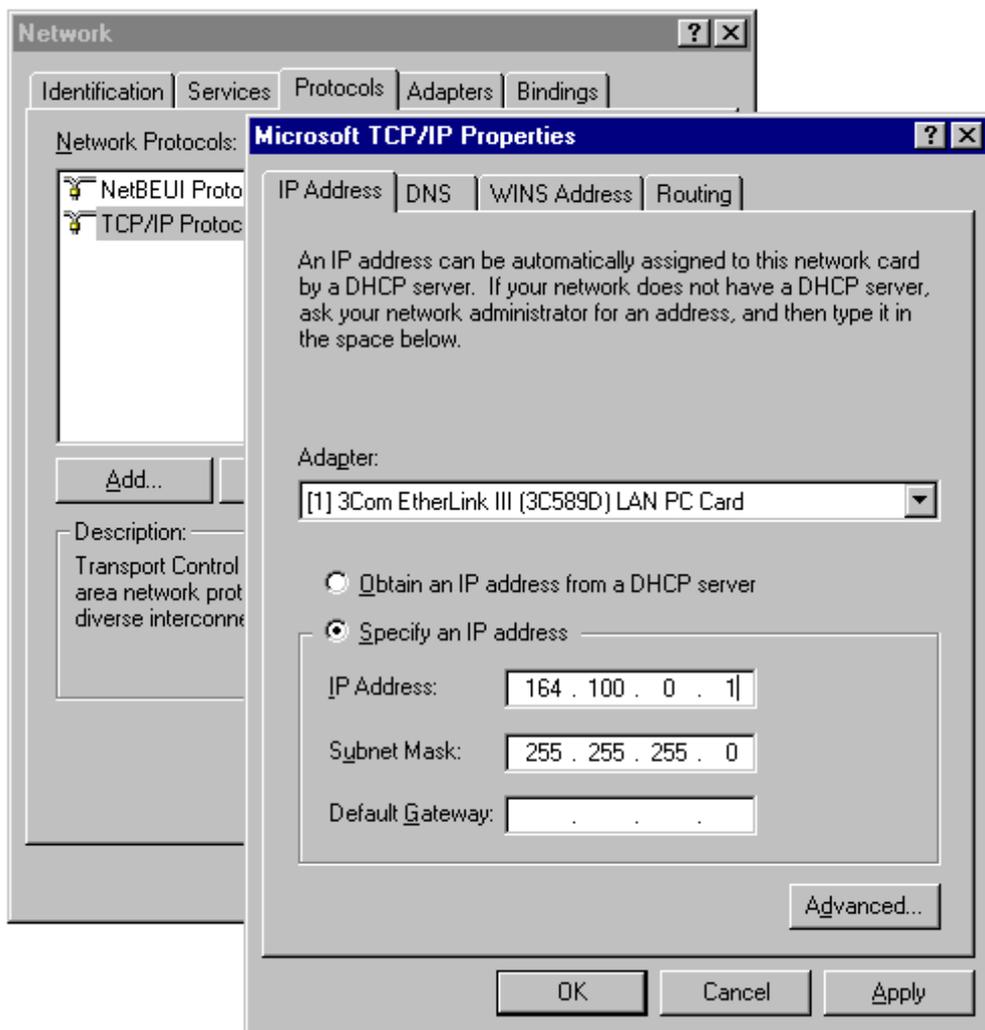
4. Double-click **Network**. You see the **Network** window.
5. If the **Identification** tab is not already selected, click **Identification**.

FIGURE 3-32 Network Window



6. Click **Change**. You see the **Identification Changes** window.
7. In the **Computer Name** field, type **IPCSYSRMT**.
8. Click **OK**.
9. You see a message that your change was successful. Click **OK**.
10. In the **Network** window, click **Protocols**.
11. Double-click **TCP/IP Protocol**.

FIGURE 3-33 Configuring IP Connectivity



12. If **IP Address** is not already selected, select it.
13. If the **Specify an IP address** button is not already selected, select it.
14. In the **IP Address** field under **Specify an IP address**, type <the **ipcsysrmt1** address in your PC's HOSTS file>. (See [Configuring the HOSTS File on page 3-23](#).)
15. In the **Subnet Mask** field, type **255 . 255 . 255 . 0**.
16. Leave the **Default Gateway** field blank.
17. Click **OK** to save updates.
18. Click **Close** to close the **Network** window.
19. If you changed your configuration, you need to reboot when prompted. Click **Yes** to reboot the system.

## Configuring the PC Windows Taskbar

You need to configure the taskbar so that it does not cover the Exceed window. To configure the PC Windows taskbar, take the following steps:

1. Click **Start, Settings, and Taskbar**.
2. Click **Always on top** so that it is un-checked.

FIGURE 3-34 Taskbar Properties Window



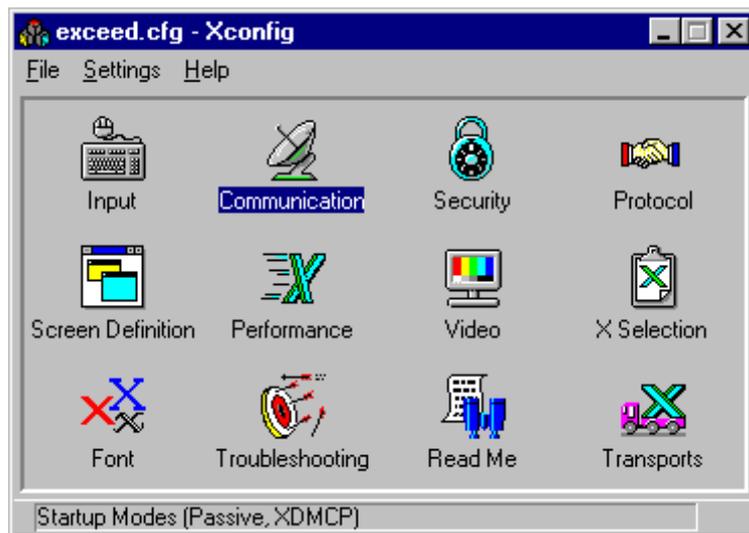
3. Click **Apply** to save updates.
4. Click **OK** to close the **Taskbar Properties** window.

## Configuring PC Windows Exceed

To configure PC Windows NT Exceed, take the following steps:

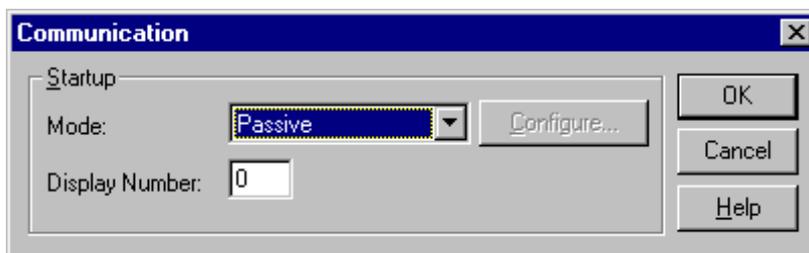
1. Click **Start, Programs, Exceed, and Xconfig** to start the PC configuration program.
2. Enter the System Center password that you used when installing the Exceed software. You see the **exceed.cfg-Xconfig** window.

FIGURE 3-35 exceed.cfg–Xconfig Window



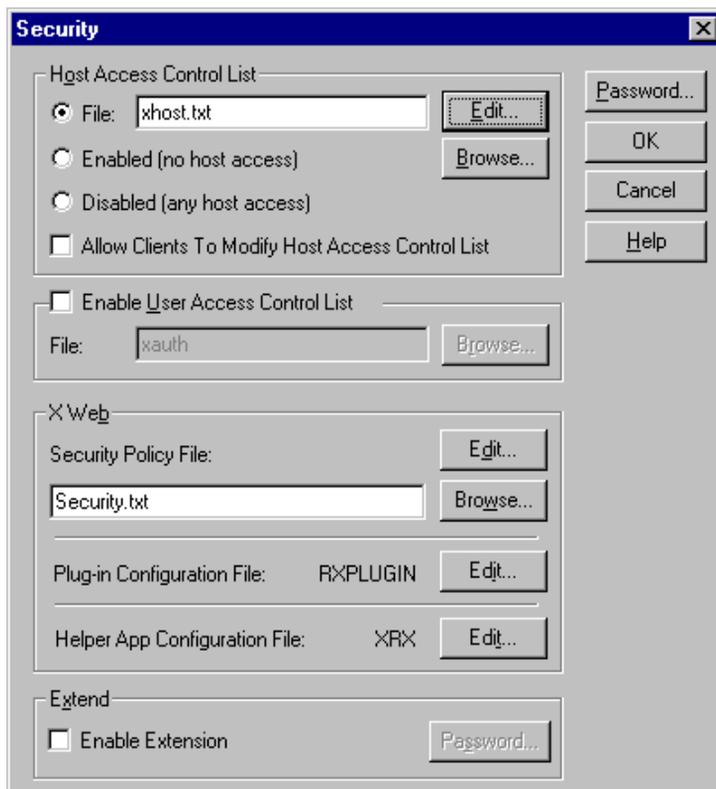
3. Double-click **Communication**. You see the **Communication** window.

FIGURE 3-36 Communication Window



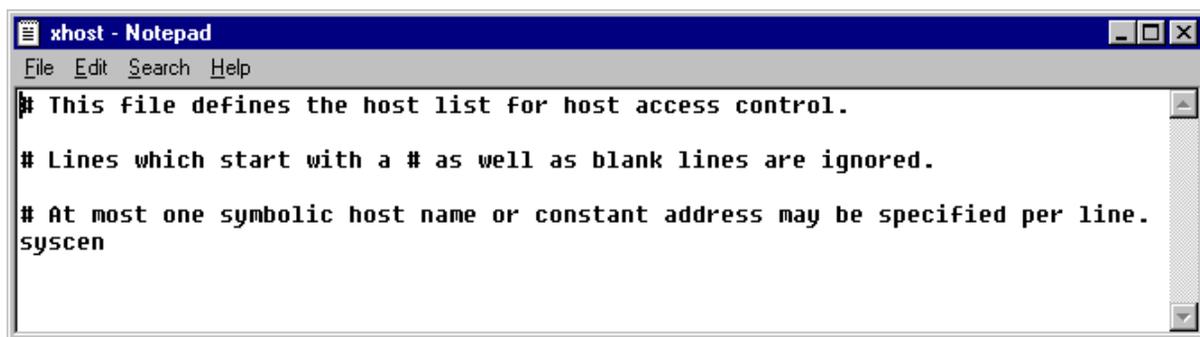
4. Under **Startup**, in the **Mode** field select **Passive**.
5. In the **Display Number** field type **0**.
6. Click **OK** to save updates and close the **Communication** window.
7. In the **exceed.cfg–Xconfig** window, double-click **Security**. You see the **Security** window.

FIGURE 3-37 Security Window



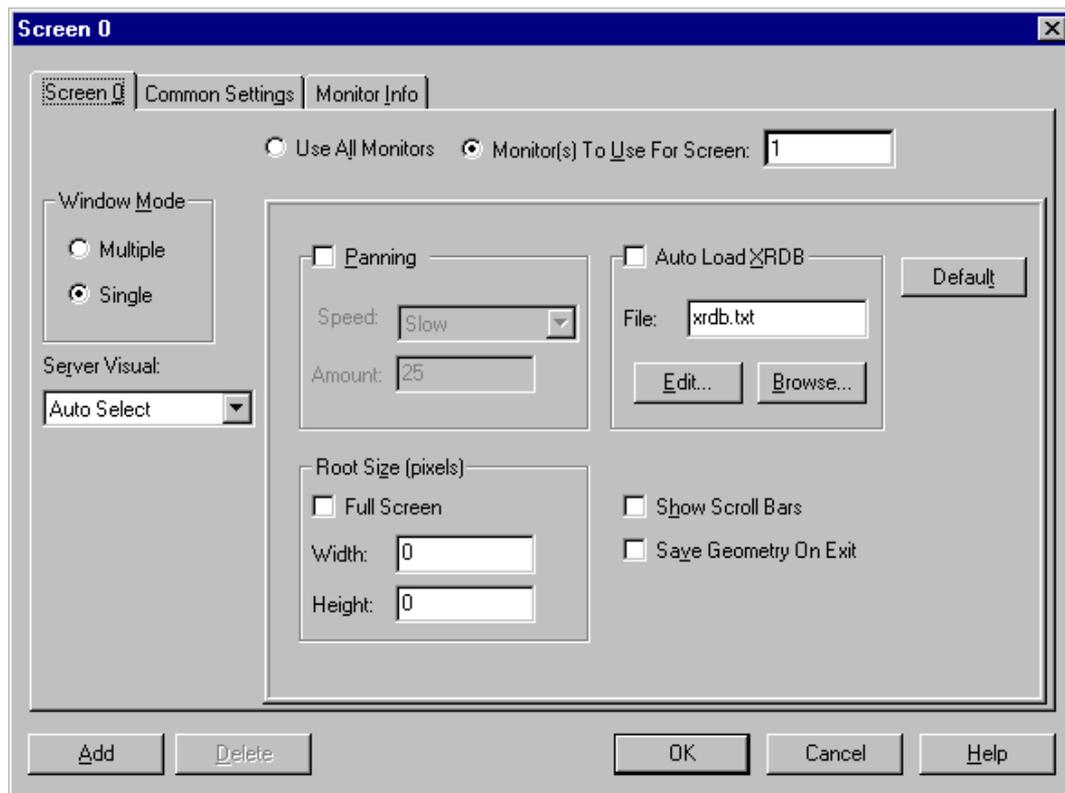
8. Under **Host Access Control List**, select **File**, and type **xhost.txt** in the text box next to **File**.
9. Click **Edit** to edit the file.

FIGURE 3-38 Host Access Control List



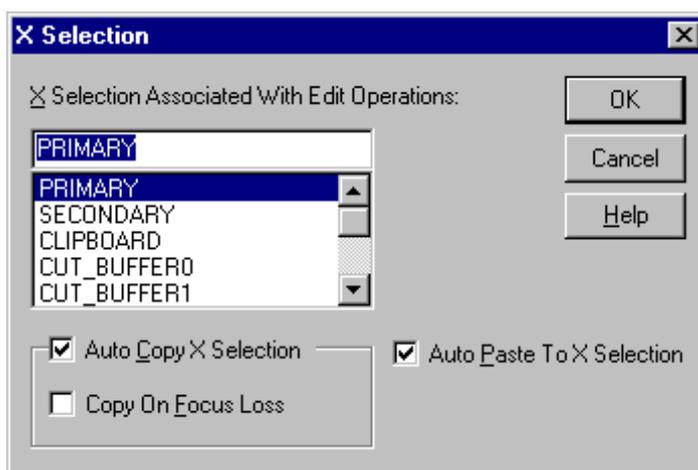
10. Add the line **syscen** to the end of the file.
11. Click **File**, then **Save**.
12. Click **File**, then **Exit** to exit the editor.
13. In the **Security** window, click **OK** to save updates.
14. Double-click **Screen Definition** to open the **Screen 0** window.

FIGURE 3-39 Screen 0 Window



15. In the **Screen 0** window, select **Single**. (Make sure **Full Screen** is de-selected.)
16. Click **OK** to save updates and close the window.
17. Double-click **X Selection**. You see the **X Selection** window.

FIGURE 3-40 X Selection Window



18. Under **X Selection Associated With Edit Operations**, select **PRIMARY**.
19. Click **Auto Copy X Selection** and **Auto Paste To X Selection** so these check boxes are selected.

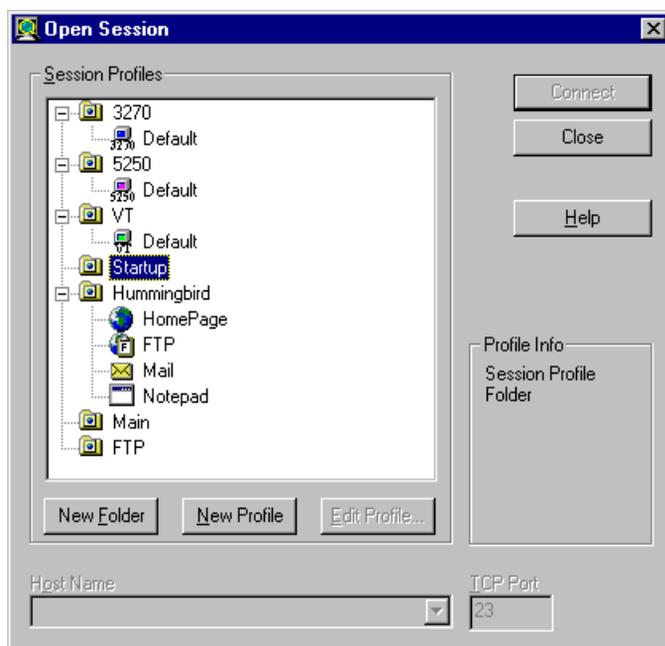
20. Click **OK** to save updates and close the **X Selection** window.
21. Exit the **Xconfig** window.

### Configuring the Remote Connection

To configure the remote connection, take the following steps:

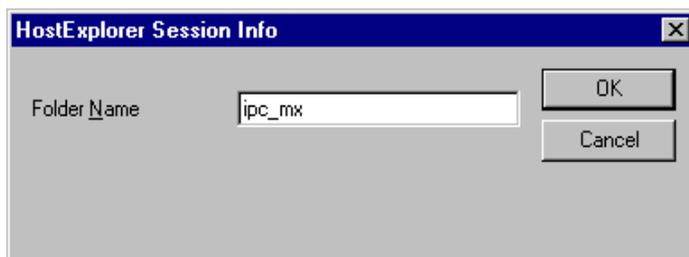
1. Click **Start, Programs, Exceed, Host Access, and Telnet** to open the **Open Session** window.

FIGURE 3-41 **Open Session** Window



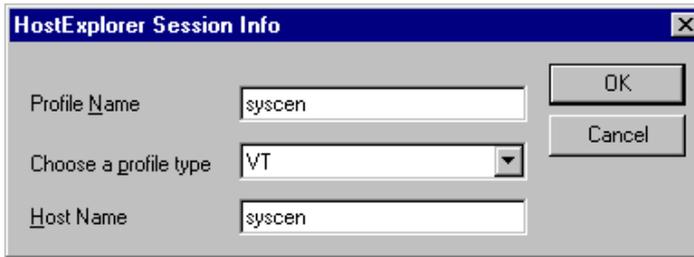
2. In the **Open Session** window, click **New Folder** to open the **Host Explorer Session Info** window.

FIGURE 3-42 **Host Explorer Session Info** Window



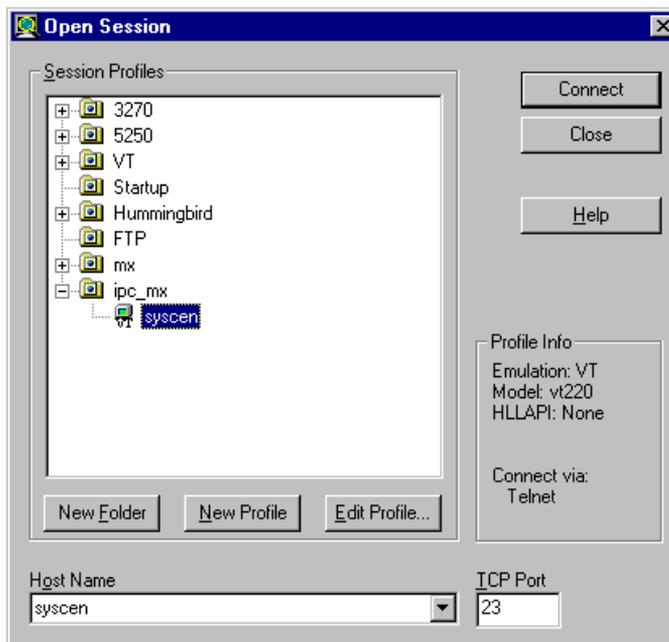
3. In the **Host Explorer Session Info** window, type **ipc\_mx** and click **OK**.
4. In the **Open Session** window, click **New Profile** to open the **Host Explorer Session Info** window.
5. In the new **Host Explorer Session Info** window, make the entries shown in *FIGURE 3-43 Host Explorer Session Information Profile* on page 3-33 and click **OK**.

FIGURE 3-43 Host Explorer Session Information Profile



*Note* You are now ready to make a remote connection.

FIGURE 3-44 Ready for a Remote Connection



- In the **Open Session** window, click **Close** to finish configuring the remote connection.

## Making a Remote Connection

To make a remote connection, take the following steps:

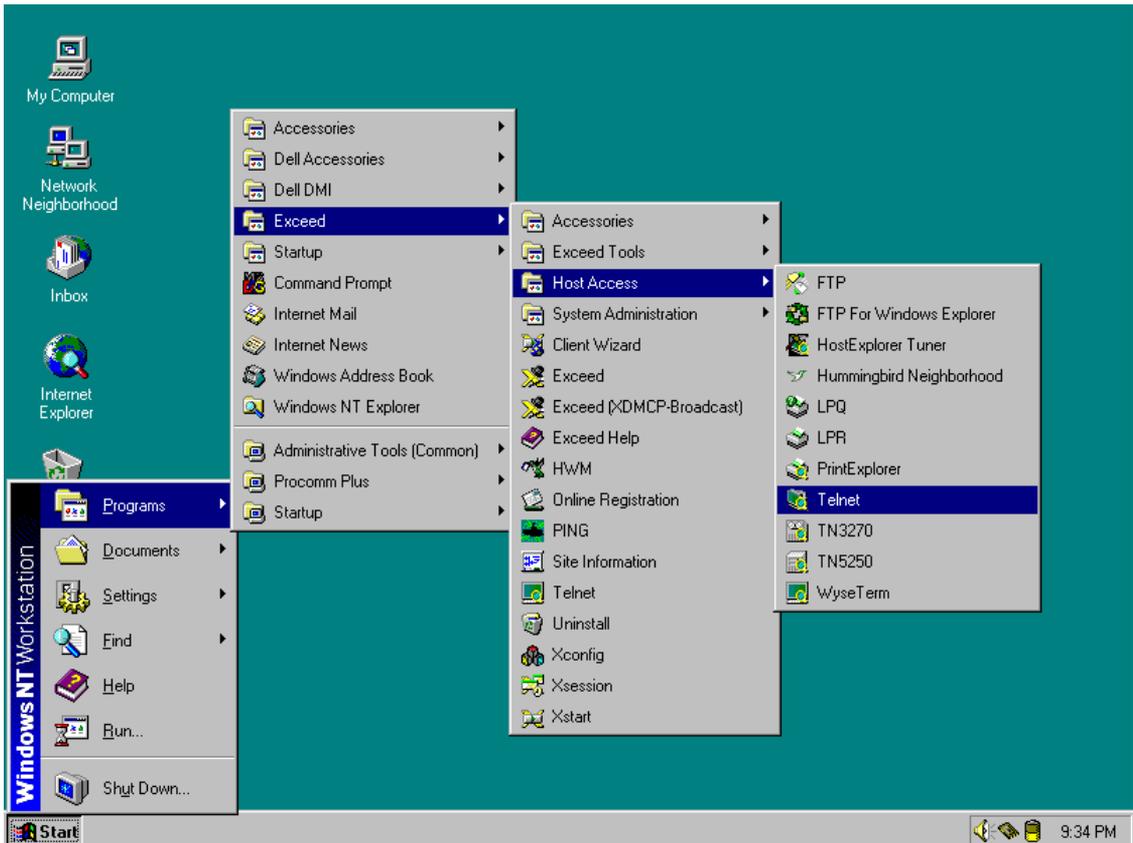
1. Click **Start, Programs, Exceed, and Exceed** to open the **Exceed** window.

FIGURE 3-45 Hummingbird **Exceed** Window



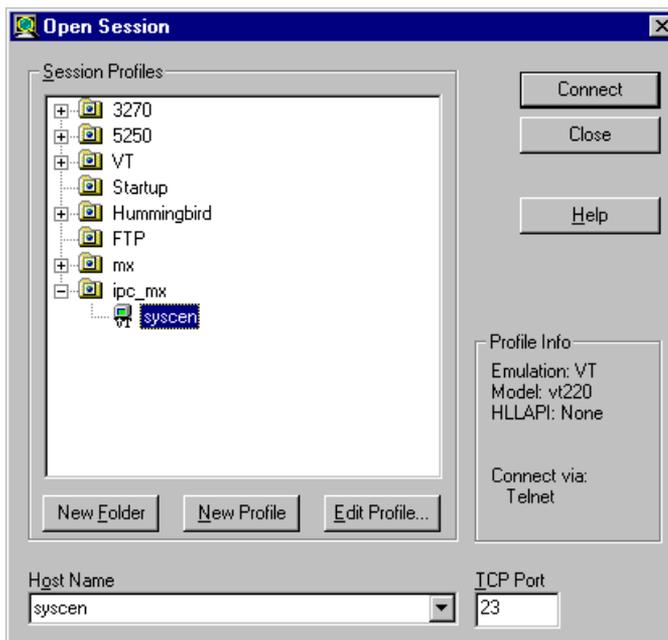
2. Click the  in the upper right hand corner of the **Exceed** window to minimize the **Exceed** window.
3. Click **Start, Programs, Exceed, Host Access, and Telnet** to open the **Open Session** window.

FIGURE 3-46 Exceed Desktop Screen



- In the **Open Session** window, click **syscen** to open the **1 - syscen (syscen)** window.

FIGURE 3-47 Open Session Window



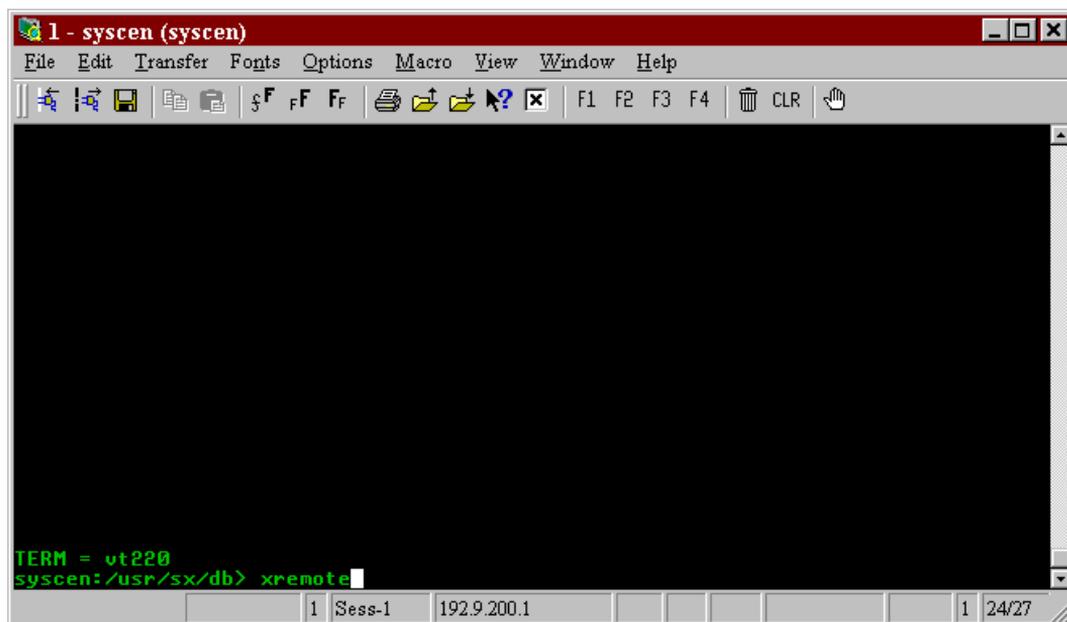
- In the **1 - syscen (syscen)** window, log in as *install*.

FIGURE 3-48 1 - syscen (syscen) Window



6. At the `syscen:/usr/sx/db>` in the **1 - syscen (syscen)** window, type `xremote` and press RETURN.

FIGURE 3-49 xremote



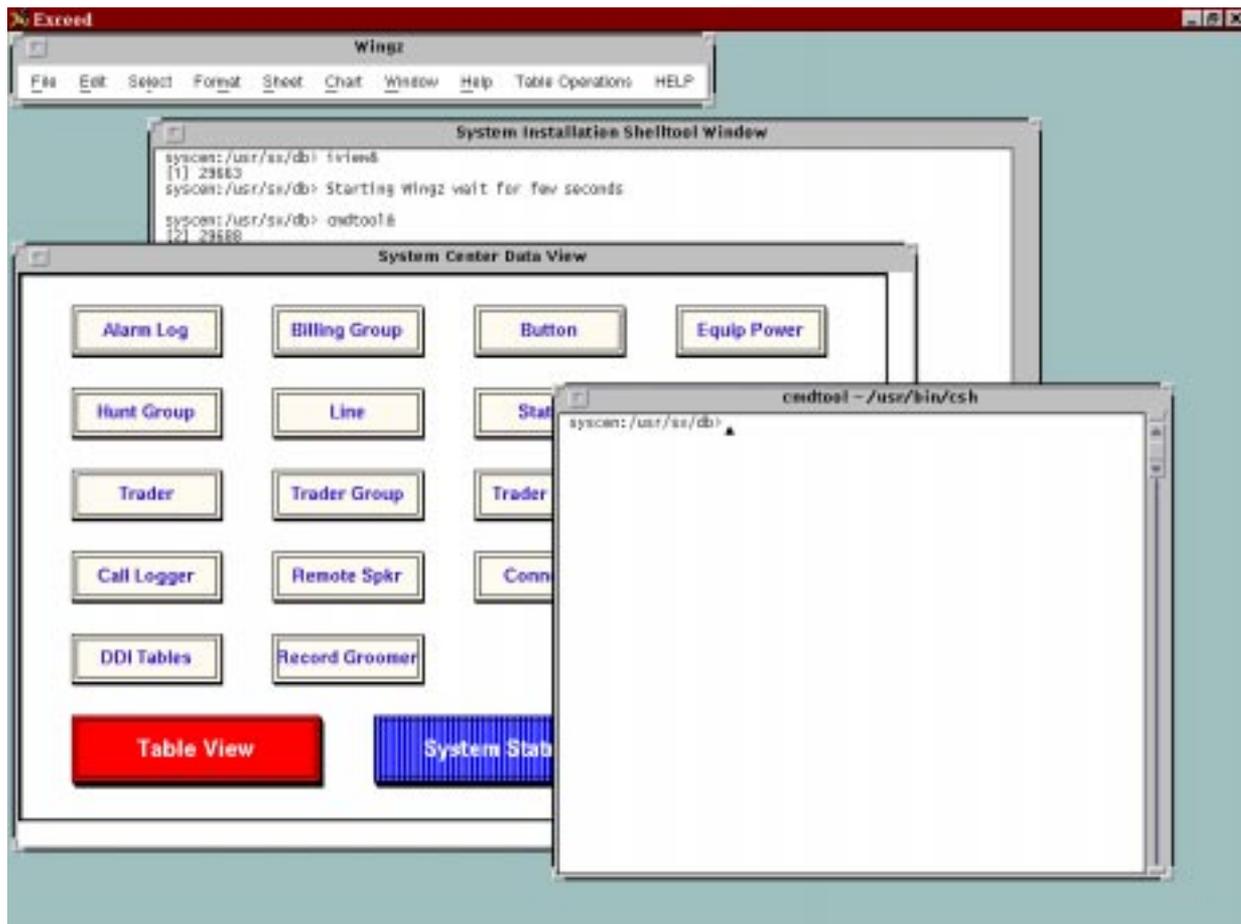

---

*Note* The `xremote` command expects your remote System Center to be named `ipcsysrmt`, as used throughout this chapter. If you used a name other than `ipcsysrmt` for the System Center, enter `xremote <name of the remote System Center>`.

---

7. Maximize the **Exceed** window, to view the remote terminal screen.

FIGURE 3-50 The Remote Terminal Screen



Right click on the background or use the following commands in the **System Installation Shell tool** window to open the windows indicated:

*Note* The System Center spreadsheet interface Iview can be run using the **iview&** command as long as you have set the **DISPLAY** variable as described below.

TABLE 3-4 Tradenet MX System Center Operations Using Exceed

Type	To Open
iview&	System Center Data View
cmdtool&	command tool window
shelltool&	shell tool window

Iview (the Wingz spreadsheet interface) can only be active in one location at a time (the System Center or the remote terminal) because you have only one Wingz user license. If the license is being used on one system and you try to bring it up on the other one, you get the message **All licenses in use**. If Iview is already in use, similar information can be obtained from the syc menu interface. Currently, there are no utilities available to toggle who uses Iview. You need to exit from Iview on one system before you can activate it on the other system.

The command **sysc r** that starts the Tradenet MX System Center can be executed from the remote PC. The default alarm display window is always displayed at the Tradenet MX System Center. A remote alarm display window can be started with the command **mx\_alarm\_monitor**.

System Center operation can be audited using the command **sysaudit v** from the remote PC. System Center operation can be terminated using the command **killsyc** from the remote PC.

## Verifying a Remote Connection

Use the following commands to verify a remote connection:

- ping
- ifconfig
- netstat

To get specific information about using these commands, type **man <command name>** and press RETURN.

### ping

The easiest way to verify a remote connection from the System Center to a remote terminal is using the ping command. At the **/usr/sx/db** prompt, type **ping ipcsysrmt1** (for example) and press RETURN. If you see the message **ipcsysrmt1 is alive**, the remote terminal is correctly configured to the System Center. If you see the message **unknown host ipcsysrmt1**, the **/etc/hosts** file at the System Center is incorrect. Likewise, if you see the message **ICMP Host Unreachable, No Response**, or something similar, the remote terminal connection has failed. You should go back to the appropriate section ([Connecting a Remote Terminal Directly to the MX on page 3-6](#), or [Connecting a Remote Terminal to the MX Through a LAN on page 3-7](#)), and verify each of the configuration steps.

You can also use ping to verify the connection to the customer's router. At the System Center, type **ping routerhost** (for example) and press RETURN. If you see the message **routerhost is alive**, the remote terminal is correctly configured to the router. If you see the message **unknown host routerhost**, the **/etc/hosts** file at the System Center is incorrect. Likewise, if you see the message **ICMP Host Unreachable, No Response**, or something similar, the remote terminal connection to the router has failed. You should go back to the appropriate section ([Connecting a Remote Terminal Directly to the MX on page 3-6](#), or [Connecting a Remote Terminal to the MX Through a LAN on page 3-7](#)), and verify each of the configuration steps.

You can use ping to verify the Ethernet connection. For example, if 160.100.1.16 is the assigned IP address, type **ping 160.100.1.16** and press RETURN. If you see the message **160.100.1.16 is alive**, the Ethernet connection is configured correctly. If you see any other response, there is a problem. See [ifconfig on page 3-38](#).

### ifconfig

If you are using solution #3 where you have a second Ethernet card installed in the System Center, use ifconfig to query the Ethernet connection. At the **/usr/sx/db** prompt, type **ifconfig le1** and press RETURN. If you see the following message, everything is okay.

```
le1: flags=63<UP,BROADCAST,NOTRAILERS,RUNNING> inet 160.100.1.16 netmask ffffffff0 broadcast 160.100.1.0
```

Look for the words **UP** and **RUNNING**. Also verify that the IP address and netmask (fffff0=255.255.255.0) are what you configured in the files **/etc/hostname.le1**, **hosts**, and **netmasks**.

### netstat

If you configured a router, use netstat to check for a route to the router. At the **/usr/sx/db** prompt, type **netstat -r** and press RETURN. If you see a message that includes **default routerhost UG 0 8324 le1**, the router is configured correctly. If the message does not include a default routerhost, the **/etc/defaultrouter** file is incorrect.

## ALX AUTO PAGER

With Release 8.0.3 and later, you can use the ALX Auto Pager feature. This feature sends a message to a beeper when a critical unattended alarm has occurred on your Tradenet MX System. When an alarm occurs, your beeper goes off.

To use the ALX Auto Pager, you must install the ALX Auto Pager software. When you install the Release 11.1 or the Release 14.1 MX software, install the ALX Auto Pager software from the MX tools. (See [ALX Auto Pager Software with Release 11.4 and Release 14.1 on page 4-59](#).) If you have Release 10.1 or earlier, to install the ALX Auto Pager software, you need the *MX Setup & Installation* disks and the *ALX Auto Pager* disk. (See [ALX Auto Pager Software with Release 10.1 and Earlier on page 4-59](#).)

In Release 9.0.1 Maintenance, 9.2 Maintenance, 10.1 Maintenance, 11.1, and later, the ALX Auto Pager software has been made configurable so that you can stop paging on certain critical alarms.

The ALX Auto Pager feature requires a Courier V.Everything, Telebit FastBlazer 8820, Telebit WorldBlazer T3000, or Telebit T1000 (the T1000 is only supported with Release 10.1 or earlier) dedicated modem. You cannot use the modem used by the System Center for remote dial access. You also need a dedicated serial port. The first serial port on your System Center is usually used for remote dial access. You can use the second serial port for the ALX Auto Pager, if it is not already being used. If the second serial port is already used, you need additional hardware, such as an Aurora board. The Aurora board consists of an interface card that is installed in the System Center, an external board that contains several serial ports that plug into the added card, and software drivers. To use an Aurora board, you need a spare slot in your System Center and you need to define the serial port device in your configuration file.

Numeric pager systems that give you a busy signal acknowledgment when you call a number in use cannot be used with the ALX Auto Pager. Also, alphanumeric pager systems cannot be used with the ALX Auto Pager.

## Setting Up Your Configuration File

In your configuration file, you need to set the `PAGER_DELAY` variable appropriately. If your pager system can wait for five seconds of silence between the time your pager answers a call and the time when the pager times out when there is no answer, then set `PAGER_DELAY` to 0. If your pager system cannot wait for five seconds before timing out or if your telephone lines have background noise that make it impossible for the pager system to detect silence, then you need to set the `PAGER_DELAY` variable for somewhere between -15 and -10; this is the number of seconds between the time the pager is called and the time the message is sent to the pager. You need to tailor this value to each site. When the `PAGER_DELAY` variable is set to a negative number, the only modem errors that are detected are *no dial tone* and *pager number busy*.

To use the ALX Auto Pager feature, you need to create the configuration file, `alx_pager.init`. To create the configuration file, take the following steps:

1. In a shell tool window, type `cd /usr/sx/db` and press RETURN.
2. Type `cd alx/config` and press RETURN.
3. Type `cp alx_pager.init.sample alx_pager.init` and press RETURN to copy the sample file to the configuration file.
4. Type `chmod 777 alx_pager.init` and press RETURN so you can edit the file.
5. Type `vi alx_pager.init` and press RETURN to edit the configuration file.
6. Add the desired pager number and pager message.
7. Save and exit the file by typing `:x` or `:wq`.

You need to set the following configuration variables:

- `PAGER_NUMBER` is the phone number of the pager.

- `PAGER_TYPE` is the type of pager being utilized, always set to `NUMERIC`.

---

*Note*    *Alphanumeric pager systems cannot be used with the ALX Auto Pager.*

---

- `PAGER_NUM_RETRIES` is the number of additional message send retries to attempt if a modem error is encountered. A value of zero results in only one send attempt.
- `PAGER_RETRY_FREQ` is the frequency in seconds between retry attempts. If `PAGER_NUM_RETRIES` is zero this value is not used.
- `PAGER_POLLING_FREQ` is the frequency in seconds of polls of the alarm file.
- `PAGER_DEVICE` is the device name of the serial port that is connected to the modem.
- `PAGER_MODEM` is the type of modem being used. `USRCOUR` indicates the US Robotics Courier V.Everything, `T8820` indicates the Telebit FastBlazer 8820, `T3000` indicates the Telebit T3000, and `T1000` indicates the Telebit T1000.
- `PAGER_TRACE` is used to turn on the debug trace output to the log file. Normally this is off but can be turned on to debug a problem. `OFF` indicates the trace is off and `ON` indicates the trace is on.
- `PAGER_AFILE` is the name and location (path) of the MX System alarm file.
- `PAGER_ICFILE` is the name of the ignore file.
- `PAGER_TFILE` is the name and location of the temporary pager current alarm file.
- `PAGER_TFILEP` is the name and location of the temporary pager previous alarm file.
- `PAGER_ALXLOG` is the name and location of the log alarm file.
- `PAGER_ITFILE` is the name of the temporary storage location as you add alarms to the ignore file.
- `PAGER_MESSAGE` is the number to pass to the numeric pager.
- `PAGER_DELAY` is the number of seconds to delay between dialing the pager number and the pager message. This is normally zero but you can customize this value for a particular pager. A `PAGER_DELAY` of zero or greater starts the delay after five seconds of silence from the pager service. A `PAGER_DELAY` of less than zero bypasses the five seconds of silence requirement and represents the actual delay.
- `PAGER_TIMEOUT` is the number of seconds that the system allows to complete the page after going off-hook and dialing. The default value is 15 seconds and the maximum value is 300 seconds. Some conditions like dialing overseas may require a longer value than 15 seconds.

Here is a sample configuration file that contains recommended values.

```
PAGER_NUMBER="2031234567"
PAGER_TYPE="NUMERIC"
PAGER_NUM_RETRIES=1
PAGER_RETRY_FREQ=5
PAGER_POLLING_FREQ=10
PAGER_DEVICE="ttyb"
PAGER_MODEM="USRCOUR"
PAGER_TRACE="OFF"
PAGER_AFILE=/usr/sx/db/.sync_alarm
PAGER_ICFILE=$ALXHOME/config/alx_pager.ignore
PAGER_TFILE=$ALXHOME/data/current
PAGER_TFILEP=$ALXHOME/data/previous
PAGER_ALXLOG=$ALXHOME/data/log
PAGER_ITFILE=$ALXHOME/data/ignore

# numeric pager
PAGER_MESSAGE="7654321"
PAGER_DELAY=-10
PAGER_TIMEOUT=15

# alpha-numeric pager
PAGER_SITE="IPC"
PAGER_ID="IPC1"
PAGER_MAX_FAILURES=10
PAGER_DIAFILE=$ALXHOME/config/alx_pager.dialog

export PAGER_NUMBER PAGER_TYPE PAGER_NUM_RETRIES
export PAGER_RETRY_FREQ PAGER_POLLING_FREQ
export PAGER_AFILE PAGER_TFILE PAGER_TFILEP PAGER_ALXLOG
export PAGER_DEVICE PAGER_MODEM PAGER_TRACE
export PAGER_MESSAGE PAGER_DELAY PAGER_TIMEOUT
export PAGER_MAX_FAILURES PAGER_SITE PAGER_ID PAGER_DIAFILE
```

The auto paging software creates working files in its sub-directories *tmp* and *data*. The environment variable `ALXHOME` is set to the top ALX directory (`/usr/sx/db/alx`).

The paging system is made up of the following files.

- `$ALXHOME/config`
  - `alx_pager.init`—Pager initialization file. This file defines file names and variables that are set at installation time.

- `$ALXHOME/bin`
  - `alx_poll`—Checks for new alarms and passes them to `alx_gen`.
  - `alx_gen`—Builds and saves the message file and invokes `alx_disp`.
  - `alx_config`—Validates the configuration file.
  - `alx_disp`—Sends pending messages to `alx_pager`.
  - `alx_pager`—Dials the pager and sends a message.
  - `alx_start`—Starts the ALX Auto Pager.
  - `alx_stop`—Stops the ALX Auto Pager. This must be run by the same user account that started the system.
  - `alx_pause_ignore`—Parses the ignore alarm configuration file.

The following files are created and used by the paging software.

- `$ALXHOME/data`
  - `log`—Pager log file.
  - `current`—Current copy of the `.sync_alarm` file.
  - `previous`—Previous copy of the `.sync_alarm` file.
- `$ALXHOME/tmp`
  - `pending.*`—Pending pager messages.

## Using the ALX Auto Pager

To start the ALX Auto Pager, take the following steps:

1. Log on as `install`.
2. Log on and bring up the Tradenet MX System Center.
3. In a shell tool window, type `cd /usr/sx/db` and press RETURN.
4. Type `cd alx/bin` and press RETURN.
5. Type `alx_start` and press RETURN to start the ALX Auto Pager.

To stop running the ALX Auto Pager, take the following steps:

1. Log on as `install`.
2. In a shell tool window, type `cd /usr/sx/db` and press RETURN.
3. Type `cd alx/bin` and press RETURN.
4. Type `alx_stop` and press RETURN to stop the ALX Auto Pager.

## Ignoring Alarms

With Release 9.0.1 and later, you can turn off paging for certain critical alarms. For information about the specific alarms, refer to the *Tradenet MX System Center Manual 14.1* (part number B0086185104).

To set up alarms to be ignored, you add them to the ignore file, `alx_pager.ignore`. You can add individual alarms or a range of alarms. Use the `#` symbol to add comments to your ignore file.

To set up alarms to be ignored by the ALX Auto Pager, take the following steps:

1. In a shell tool, type `cd /usr/sx/db` and press RETURN.
2. Type `cd alx/config` and press RETURN.

3. Type **vi alx\_pager.ignore** and press RETURN.
4. On a blank line, type the number of the alarm you want to ignore. If you want to ignore a range of alarms, use a hyphen. Use the # symbol to add a comment.
5. Repeat the previous step until you have added all the alarms to be ignored. Here is a sample `alx_pager.ignore` file.

```
12-24          # Range of alarms to be ignored
273           # Alarms on Gateway
```

6. Save the file by typing **:q**.
7. After making changes to the ignore file, you need to parse the file to verify that there are no syntax errors in the ignore file and to update the software to use the ignore file. Type **cd /usr/sx/db** and press RETURN.
8. Type **cd alx/bin** and press RETURN.
9. Type **alx\_parse\_ignore** and press RETURN.
10. If your file contains any syntax errors, they are displayed.
11. If you have any syntax errors, repeat this procedure to edit the file.

When you start the ALX Auto Pager, the *ignore* file is searched and any syntax errors found in the file are shown.

## SNMP TRAPS

SNMP is an industry standard protocol that defines the communications between a manager (System Center) and a networked station using an IP address. Network management centers use SNMP to monitor alarm information critical to efficient operations.

The Tradenet MX System supports SNMP. In Release 10.1 Maintenance and later, SNMP provides critical unattended and attended alarms, including alarms for power supplies, critical cards (application driven), and T1/E1 red, yellow, and A1S alarms. In Release 10.1 and earlier, only critical unattended alarms are provided for.

Using SNMP traps, the System Center broadcasts the alarm information to an IP address on the network. You receive the alarms at the network manager workstation. The following table describes the SNMP traps.

TABLE 3-5 SNMP Traps

Alarm ID	Description	
1	Alarm on card	CardPoll Failed
2	All ports into network failed	Ntwrk Port F'led
3	Timeout during card status poll	Poll Time Out
35	Port hardware failure	Port HW Failure
36	Clock hardware port	Clock HW - Port
80–89	Power supply failure, shelf	MiniPS Mnn Fail
96	Ring voltage output	Ring Output
100	Battery backup for memory	Memory Battery 1
101	Battery backup for memory	Memory Battery 2
102	High temperature warning	HighTemp Warning
103	High temperature exceeded	HighTemp Exceeded
104	Temperature sense fuse	Temp Sensor Fuse
113–136	Triplet power supply module	TripPS Mn Fail
143	Distribution panel fuse for cabinet A	Cab A Panel Fuse
144	Distribution panel fuse for cabinet B	Cab B Panel Fuse
273	Alarm on Gateway	Alarm on Gateway
290	Station communication failure	COMM FAILED

The following tables lists what IPC is responsible for and what the customer is responsible for regarding SNMP traps.

TABLE 3-6 IPC Responsibilities and Customer Responsibilities for SNMP Traps

<b>IPC Responsibilities:</b>
Install and manage a second Ethernet card in the System Center (see <a href="#">Adding a Second Sun FastEthernet/P 2.0 Card. on page 3-10</a> )
Program the customer IP address in the System Center
<b>Customer Responsibilities:</b>
Install and support a software package to receive SNMP traps
Maintain and troubleshoot the customer's network

---

*Note* If you require any other type of configuration than what is described here, IPC can provide consultant services through its Professional Services Department.

---

## Overview of Network Management

Network management consists of a management station and at least one managed node. SNMP is the protocol by which they communicate. In our model, the MX System Center is the managed node and any manager program running on a host networked into the System Center is the management station.

### Managed Node

Using SNMP traps, the Tradenet MX System Center generates information describing events and makes it available to the network—this is an SNMP trap.

### Network Manager Station

The network manager station's primary function is to monitor managed nodes by providing a configurable interface to receive SNMP traps. There are many commercially available network manager products.

Each critical alarm is packaged into an SNMP trap message and sent to SNMP managers on the network at predefined IP addresses. Means to enable and disable the trap feature are provided because not all customers have an SNMP manager or are interested in SNMP traps.

One trap type is generated and that is for MX critical alarms. Each trap has the following format.

**enterprise ID = enterprises.1453.1.1**

**generic-trap = 6**

**specific-trap = 1**

The text description of the alarm is sent in the system.sysDescr variable.

## SNMP Trap Configuration

SNMP trap generation is controlled using the MX System Center alarm manager configuration file (.mx\_alarm\_manager.conf).

At the IPC MX System host, syscen, take the following steps:

1. Log in as install.
2. Change the working directory to /usr/sx/db by typing **cd /usr/sx/db** and pressing RETURN.
3. Edit the configuration file by typing **vi .mx\_alarm\_manager.conf** and pressing RETURN.

---

*Note* In Release 11.1, the .mx\_alarm\_manager.conf file does not have write permission. To get around this problem, you can log in as rootcsh, then enter the command **chmod 777 usr/sx/syscen/.mx\_alarm\_manager.conf**. This problem was corrected in Release 11.4 and later Releases.

---

4. If you want to generate SNMP traps, then edit and un-comment the line **#mxAlarmManager.ipTraps syscen** by removing the **#** in the first column. Change **syscen** to the host names (or IP addresses) separated with commas of the hosts to receive traps. Host names must be defined in /etc/hosts and reachable from the network.
5. Start the System Center.

## SNMP Trap Example

SNMP trap generation is enabled using the MX System Center alarm manager configuration file (.mx\_alarm\_manager.conf). The following line is added to the file:

```
mxAlarmManager.ipTraps houston
```

This instructs the MX System Center to send all critical alarms packaged as SNMP traps to host houston (houston must be defined in /etc/hosts and reachable from the network).

The network manager running on host houston receives the forwarded trap:

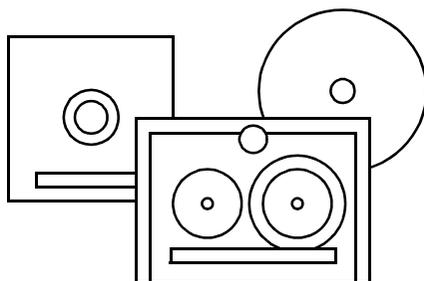
```
64.0.0.203: Enterprise Specific Trap (1) Uptime: 0:00:00  
system.sysDescr.0 = "IPC MX System Alarm ID = Alarm on Gateway (273)  
Alarm Severity = Critical Alarm Status = Unattended  
Cabinet : 1 Shelf : 1 Slot : 14 Port : 0  
Time = 1995-08-02 16:21:00 Wed Aug 2 16:21:00 1995 "
```

## Sample Alarm Manager Configuration File

The following file is a sample alarm manager configuration file.

```
# mx alarm manager configuration file (.mx_alarm_manager.conf.sample)  
#  
# This file is used to define information necessary to start a remote  
# Alarm Monitor connected to the IPC MX system Center Alarm Manager.  
#  
# Variables to be defined are:  
# mxAlarmManager.ipTrap  
#  
# mxAlarmManager.ipTrap are the hostnames (ip destinations) to be sent  
# SNMP traps. This entry is a list of ip addresses (or hostnames  
# defined in /etc/hosts) separated with comma's (max of 80 characters).  
# This entry is optional. If not defined then no traps are sent.  
# example: mxAlarmManager.ipTrap houston,stanford  
  
mxAlarmManager.ipTrap yourhost
```

# Chapter 4      Software Installation and Upgrades



---

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---

*Note Tradenet MX Release 11.2 and later is year 2000 compliant.*

---

---

This chapter describes software installation and field software upgrades required to configure a Sun machine for use as a Tradenet MX System Center running MX Release 14.1. Software installations for new installations and existing system upgrades are covered in this chapter. This chapter is broken out into the following sections:

- preparing a Release 10.1 database for upgrade
- comparing countrybase parameters
- installing Release 14.1 software
- running netconfig
- installing DataMan
- installing AutoQuote
- installing the ALX Auto Pager feature
- installing Applix Report Writer on a PC
- loading private builds
- changing the system time zone
- upgrading from an earlier iteration of Release 14.1
- using Motif Window Manager (MWM) in Release 10.1
- using a SPARCstation IPC

---

*Note Before you can upgrade to Release 11.1 or later, your Tradenet MX System must be running Release 10.1. If your Tradenet MX System is already running Release 11.1 or later, you can upgrade directly to Release 14.1.*

---

---

## PREPARING A RELEASE 10.1 DATABASE FOR UPGRADE

Normally, when you order Release 14.1, you get a hard drive with the Tradenet MX Release 14.1 software (including Solaris 2.5.1 and the other system software). Because Release 11.1 and later uses a different operating system than earlier releases, you need to convert your customer database so that it will work with Release 11.1 and later.

If you are upgrading a Release 10.1 system to Release 11.1 or later, you need to make the customer database compatible with Solaris 2.5.1. Before making your database compatible, back up your database.

If your site is using Informix SQL 4.10 or earlier, and you are planning to upgrade to Release 11.1 or later, contact IPC Systems Support Engineering at 1-800-NEED-IPC. You will need to export the database using the `infx5to7.pl` script on another Sun machine that has Informix SQL 4.12. You can then use that exported database at the original Sun machine and upgrade the Sun machine to Informix 7.

To determine what version of Informix is running on a Sun machine, use the command `isqlrf -v`.

When you order Release 11.1 or later, you will get a *Database Export & Import Utility* diskette. Use this diskette to make your customer database compatible.

---

*Note* No other applications or users can access the customer database while you are performing the following procedure. For example, the System Center cannot be running when you perform the following procedure. If another application or user is accessing the customer database while you perform this procedure, you get the error message **Database is currently opened by another user. Error**.

---

---

To make your database compatible, take the following steps:

1. Log in to the System Center as *install*.
2. Insert the *Database Export & Import Utility* diskette in the floppy drive.
3. Type `cd /usr/sx/db` and press RETURN.

---

*Note* Remember that the operating system is case-sensitive. Make sure you type instructions exactly as they are written in this manual.

---

---

4. Type `bar xvFZ /dev/rfd0` and press RETURN.
5. Type `eject` and press RETURN.
6. Remove the *Database Export & Import Utility* diskette from the floppy drive.

7. Run the script by typing **infx5to7.p1** and pressing RETURN. You see the following message.

FIGURE 4-1 Opening Message in Database Conversion Script

```
*****
*
* Copyright (C) 1997 by IPC Information Systems, Inc.
*
* These computer program listing and specifications, herein,
* are the property of IPC Information Systems, Inc. and shall
* not be reproduced or copied or used in whole or in part
* without written permission from IPC Information Systems, Inc.
*
*
*****

Please press <RETURN> to CONTINUE
```

8. Press RETURN. You see the following menu.

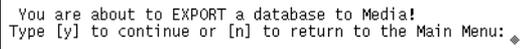
FIGURE 4-2 Database Conversion Script Menu

```
*****
*
* ***** Export and Import Database from informix 5 to informix 7 *****
*
*      1 ) _____ Export DataBase (convert informix5 database to informix7 database)
*      2 ) _____ Import DataBase (put exported database into this system)
*      e ) _____ exit
*
*****

Please input a choice ->
```

9. Type **1** and press RETURN. You see a confirmation message.

FIGURE 4-3 Confirmation Message



```
You are about to EXPORT a database to Media!  
Type [y] to continue or [n] to return to the Main Menu: ◆
```

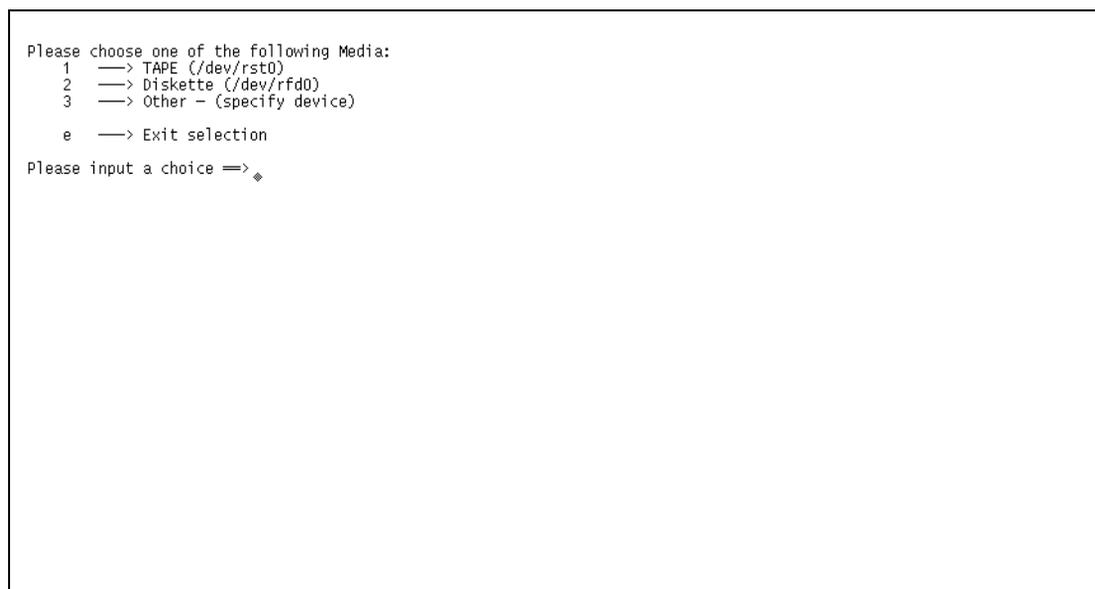
10. Type **y** and press RETURN to confirm that you want to export the customer database. The script searches for data in your line and trader traffic tables. If any data is found, you are prompted to confirm that you want to delete this data before exporting the customer database.

FIGURE 4-4 Deleting Line and Trader Traffic Table Data



Type **y** and press RETURN to delete this data. (Deleting this data ensures that the database export will be successful.) There will be a pause while the data is deleted. Then, as the database is exported, you see several messages. If there were any errors during the export, you get error messages. After the export, you see the following menu.

FIGURE 4-5 Menu to Select Type of Media



11. If you want to export the customer database to a tape, type **1** and press RETURN.

12. If you want to export the customer database to a diskette, type **2** and press RETURN. You are prompted to format a diskette.
  - a. To format a diskette, type **y** and press RETURN. You are prompted to insert the diskette.
  - b. Insert the diskette and press RETURN. When your diskette is formatted, your diskette is ejected and you are prompted to format additional diskettes.

FIGURE 4-6 Exporting the Customer Database to Diskette

```
Please choose one of the following Media:
 1  -> TAPE (/dev/rst0)
 2  -> Diskette (/dev/rfd0)
 3  -> Other - (specify device)

 e  -> Exit selection

Please input a choice ==> 2

Do you want to format a floppy disk?
Type [y] to format or [n] to continue: y

Please insert a floppy diskette and press <Return> to format.
.....

Do you want to format another floppy disk?
Type [y] to confirm or [Return] to export the database onto a floppy disk.
```

- c. Remove the diskette from the floppy drive.
- d. If backing up your customer database usually requires more than one diskette, format as many diskettes as a backup usually requires.
- e. When you are finished formatting the necessary number of diskettes, press RETURN when you are prompted to format another diskette. You are prompted to begin the export.

13. Insert one of the diskettes you formatted and press RETURN. When the export is complete, you see the following message.

FIGURE 4-7 Completion of Database Export

```

*****
*
* THE DATABASE HAS BEEN SUCCESSFULLY *
* EXPORTED TO MEDIA. *
*
*****

Please press <RETURN> when ready.

```

14. Press RETURN. You return to the original menu.

FIGURE 4-8 Database Conversion Script Menu

```

*****
*
* ***** Export and Import Database from informix 5 to informix 7 *****
*
*
*      1 ) _____ Export DataBase (convert informix5 database to informix7 database) *
*      2 ) _____ Import DataBase (put exported database into this system) *
*      e ) _____ exit *
*
*
*****

Please input a choice ->

```

15. Type **e** and press RETURN.  
 16. Log out of the System Center.

If you get the following error messages when using the `infx5to7.pl` script to upgrade a customer database, contact IPC Systems Support Engineering for assistance at 1-800-NEED-IPC.

```
*** Import data is corrupted!  
0 - Unknown error message 0.
```

Likewise, if you get any type of SQL error when running the `infx5to7.pl` script, contact IPC Systems Support Engineering for assistance.

After making the Release 10.1 customer database compatible with Solaris, you need to switch the Release 10.1 hard drive with the Release 11.1 or later hard drive, and restore the customer database to the hard drive. The Release 11.1 or later hard drive already has all the software required to run Release 11.1 or later. However, if you do need to re-install any of the Sun workstation software, follow the procedures in this section for installing Solaris, the Tradenet MX startup files, Informix, Wingz, Applix, Ilog, or the Tradenet MX Release 11.1 or later software.

If you need to upgrade to Release 11.1 or later, follow the procedure in [Installing the Tradenet MX Release 14.1 Software on page 4-38](#).

## COMPARING COUNTRYBASE PARAMETERS

With Release 11.4 and later, there is a script you can use to identify all table parameter changes you have made to your site's original countrybase. This script can be useful to you in the following situations:

- You are planning to upgrade to a newer Tradenet MX Release than what your site currently has. The problem is you do not want to lose all of the parameter changes you have made at this site. (These are changes you would have done with the **Table View** button.)
- You are experiencing problems with one of your sites. You have another site that uses the same countrybase and you would like to compare the parameter changes you have made at the successfully operating site with the changes you have made at the problem site.

This script compares your site's countrybase with a specific country's default countrybase and lists the differences in your site's countrybase.

---

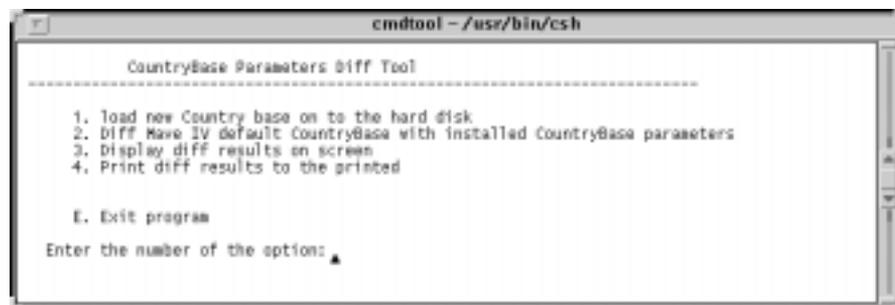
*Note* When running **cb\_diff** a temporary directory is created. No changes will be made to the System Center database.

---

To check the current countrybase, take the following steps:

1. Open a command tool window.
2. Make the command tool window as wide as possible on the screen.
3. From the **/usr/sx/db** directory, type **cb\_diff** and press RETURN. You see the following menu.

FIGURE 4-9 CountryBase Parameters Diff Tool Menu



4. Type **1** and press RETURN. You are prompted as follows.

FIGURE 4-10 Comparing the Existing Countrybase With the Default Countrybase



5. Insert the first countrybase diskette into the diskette drive.

6. Type **y** and press RETURN. Eventually, you are prompted to insert the second diskette of the countrybase.

FIGURE 4-11 Inserting the Second Diskette

```

cmdtool - /usr/bin/csh
* NETHERLANDS/cbaseTxtTables/t_replicated_params.cbdata, 453 bytes, 1 tape blocks 1
* NETHERLANDS/cbaseTxtTables/t_status_format.cbdata, 68 bytes, 1 tape blocks 1
* NETHERLANDS/cbaseTxtTables/t_stn_group_name.cbdata, 301 bytes, 1 tape blocks 1
* NETHERLANDS/cbaseTxtTables/t_stn_group.cbdata, 10382 bytes, 21 tape blocks 1
* NETHERLANDS/cbaseTxtTables/t_stn_params.cbdata, 8078 bytes, 16 tape blocks 1
* NETHERLANDS/cbaseTxtTables/t_system_symbols.cbdata, 18888 bytes, 37 tape blocks 1
* NETHERLANDS/cbaseTxtTables/t_tone_cadence.cbdata, 187 bytes, 1 tape blocks 1
* NETHERLANDS/cbaseTxtTables/t_wire_group_name.cbdata, 613 bytes, 2 tape blocks 1
* NETHERLANDS/cbaseTxtTables/t_wire_params_group.cbdata, 28556 bytes, 56 tape blocks 1
* NETHERLANDS/cbaseTxtTables/t_wire_params.cbdata, 7997 bytes, 16 tape blocks 1
* NETHERLANDS/cbasewkz/enenums.wkz, 6394 bytes, 13 tape blocks 1
* NETHERLANDS/cbasewkz/enligrna.wkz, 1200 bytes, 3 tape blocks 1
* NETHERLANDS/cbasewkz/enligrna.wkz, 3788 bytes, 8 tape blocks 1
* NETHERLANDS/cbasewkz/enligrna.wkz, 2419 bytes, 5 tape blocks 1
* NETHERLANDS/cbasewkz/enligrna.wkz, 3793 bytes, 8 tape blocks 1
* NETHERLANDS/cbasewkz/enligrna.wkz, 3391 bytes, 7 tape blocks 1
* NETHERLANDS/cbasewkz/enligrna.wkz, 1153 bytes, 3 tape blocks 1
* NETHERLANDS/cbasewkz/enligrna.wkz, 2324 bytes, 46 tape blocks 1
* NETHERLANDS/cbasewkz/enligrna.wkz, 13361 bytes, 27 tape blocks 1
* NETHERLANDS/cbasewkz/enligrna.wkz, 1579 bytes, 4 tape blocks 1
* NETHERLANDS/cbasewkz/enligrna.wkz, 61421 bytes, 120 tape blocks 1
* NETHERLANDS/cbasewkz/enligrna.wkz, 13067 bytes, 26 tape blocks 1
* LoadCountryBase.sql, 1514 bytes, 3 tape blocks 1
* GERMANY/cbaseTxtTables/t_column_enum_map.cbdata, 921 bytes, 2 tape blocks 1
* GERMANY/cbaseTxtTables/t_line_group_name.cbdata, 358 bytes, 1 tape blocks 1
* GERMANY/cbaseTxtTables/t_line_params_group.cbdata, 1356 bytes, 3 tape blocks 1
* GERMANY/cbaseTxtTables/t_line_params.cbdata, 1094 bytes, 3 tape blocks 1
* GERMANY/cbaseTxtTables/t_mod_params.cbdata, 1719 bytes, 4 tape blocks 1
* GERMANY/cbaseTxtTables/t_module_params.cbdata, 4171 bytes, 9 tape blocks 1
* GERMANY/cbaseTxtTables/t_primary_key_params.cbdata, 66 bytes, 1 tape blocks 1
* GERMANY/cbaseTxtTables/t_replicated_params.cbdata, 453 bytes, 1 tape blocks 1
* GERMANY/cbaseTxtTables/t_status_format.cbdata, 68 bytes, 1 tape blocks 1
* GERMANY/cbaseTxtTables/t_stn_group_name.cbdata, 301 bytes, 1 tape blocks 1
* GERMANY/cbaseTxtTables/t_stn_group.cbdata, 10351 bytes, 21 tape blocks 1
* GERMANY/cbaseTxtTables/t_stn_params.cbdata, 8078 bytes, 16 tape blocks 1
* GERMANY/cbaseTxtTables/t_system_symbols.cbdata, 18794 bytes, 37 tape blocks 1
* GERMANY/cbaseTxtTables/t_tone_cadence.cbdata, 188 bytes, 1 tape blocks 1
* GERMANY/cbaseTxtTables/t_wire_group_name.cbdata, 611 bytes, 2 tape blocks 1
* GERMANY/cbaseTxtTables/t_wire_params_group.cbdata, 28853 bytes, 58 tape blocks 1
* GERMANY/cbaseTxtTables/t_wire_params.cbdata, 7997 bytes, 16 tape blocks 1
* GERMANY/cbasewkz/enenums.wkz, 6343 bytes, 13 tape blocks 1
* GERMANY/cbasewkz/enligrna.wkz, 1280 bytes, 3 tape blocks 1
* GERMANY/cbasewkz/enligrna.wkz, 3787 bytes, 8 tape blocks 1
* GERMANY/cbasewkz/enligrna.wkz, 2419 bytes, 5 tape blocks 1
* GERMANY/cbasewkz/enligrna.wkz, 3783 bytes, 8 tape blocks 1
* GERMANY/cbasewkz/enligrna.wkz, 3391 bytes, 7 tape blocks 1
* GERMANY/cbasewkz/enligrna.wkz, 1153 bytes, 3 tape blocks 1
* GERMANY/cbasewkz/enligrna.wkz, 23257 bytes, 46 tape blocks 1
* GERMANY/cbasewkz/enligrna.wkz, 13361 bytes, 27 tape blocks 1
* GERMANY/cbasewkz/enligrna.wkz, 1579 bytes, 4 tape blocks 1
* GERMANY/cbasewkz/enligrna.wkz, 61553 bytes, 121 tape blocks 1
bar: Insert volume 2 and press Return when ready.

```

7. Insert the second countrybase diskette and press RETURN. Eventually, you return to the **CountryBase Parameters Diff Tool** menu.

FIGURE 4-12 CountryBase Parameters Diff Tool Menu

```

cmdtool - /usr/bin/csh

-----
CountryBase Parameters Diff Tool
-----

1. load new Country base on to the hard disk
2. Diff Wave IV default CountryBase with installed CountryBase parameters
3. Display diff results on screen
4. Print diff results to the screen

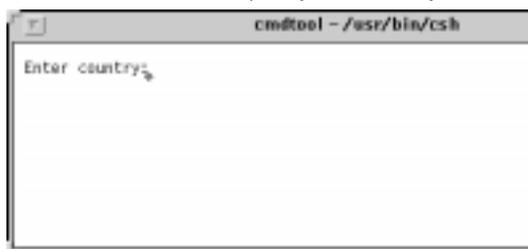
E. Exit program

Enter the number of the options:

```

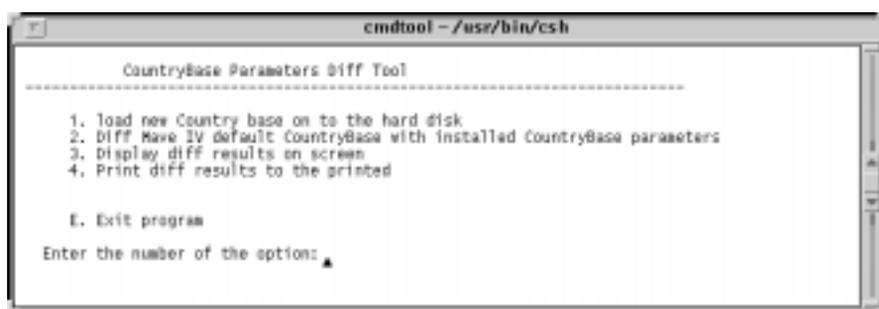
8. Type **2** and press RETURN. You are prompted to specify the specific country.

FIGURE 4-13 Specify the Country



9. Type the country name abbreviation and press RETURN. (For the U.S., type **USA** and press RETURN.) You return to the **CountryBase Parameters Diff Tool** menu.

FIGURE 4-14 CountryBase Parameters Diff Tool Menu



10. To view the results of the countrybase comparison on the screen, type **3** and press RETURN.

FIGURE 4-15 Results of the Countrybase Comparison

No information here indicates there is no difference between the customer's countrybase and the released countrybase for this table (t\_line\_group\_name.cbdata).

```

cmdtool - /usr/bin/csh
CountryBase Parameter table => t_line_group_name.cbdata
DataBase CountryBase Parameters Default Wave IV CountryBase Parameters

CountryBase Parameter table => t_line_para_group.cbdata
DataBase CountryBase Parameters Default Wave IV CountryBase Parameters

CountryBase Parameter table => t_line_para_name.cbdata
DataBase CountryBase Parameters Default Wave IV CountryBase Parameters

CountryBase Parameter table => t_mod_para_name.cbdata
DataBase CountryBase Parameters Default Wave IV CountryBase Parameters

CountryBase Parameter table => t_mod_para.cbdata
DataBase CountryBase Parameters Default Wave IV CountryBase Parameters

CountryBase Parameter table => t_status_format.cbdata
DataBase CountryBase Parameters Default Wave IV CountryBase Parameters

CountryBase Parameter table => t_stn_group_name.cbdata
--More--(486)

```

Customer's Site Countrybase

Released Countrybase

If the results fill up more than one window, press SPACE or RETURN to view the rest of the information.

11. To print the results of the countrybase comparison, type **4** and press RETURN.
12. When you return to the **CountryBase Parameters Diff Tool** menu, type **e** and press RETURN.
13. After swapping out the countrybase parameters, in Iview, make the necessary modifications to the tables identified from the countrybase comparison. If you printed the results, you can read them off the paper and check off each difference as you make the change. If you viewed the results in the command tool window, you can scroll back up through the window as you make each change.

# INSTALLING THE RELEASE 14.1 HARD DRIVE

## Requirements for Release 14.1

This section describes the hardware and software you need to perform an upgrade to Release 14.1 or install Release 14.1 at a new site.

### System Center Hardware

The following System Center hardware is required to perform an installation or an upgrade:

- system unit and monitor
- keyboard, mouse, and mouse pad
- modem
- printer
- all necessary cables and power cords
- 4 mm DDS2 tape drive
- CD-ROM drive (included with the Sun Ultra 10)
- Release 14.1 hard drive
- Ethernet converter and terminator

### System Center Software

The following System Center software is required for Release 14.1:

- Solaris 2.5.1 (SunOS 5.5.1)
- Wingz 2.1.3
- Informix SE 7.22
- Informix SQL runtime 6.03
- Tradenet MX Release 14.1
- Adobe Acrobat Reader™ (with the forms plug-in)
- site database

If you are an IPC branch office that handles multiple sites and you perform extensions on one office system, all sites and the office system must use the same Informix tool set.

## Swapping Hard Drives

Because Release 14.1 is available on a hard drive, installing Release 14.1 only requires you to swap the Release 11.4 hard drive with the Release 14.1 hard drive.

---

*Note* If you have a Release 10.1 hard drive, see [Preparing a Release 10.1 Database for Upgrade on page 4-5](#).

---

---

To swap hard drives, take the following steps:

1. Make two back up copies of the customer database from the Release 11.4 hard drive. For information about backing up the database, refer to the *Tradenet MX System Center Manual 14.1*, part number B0086185104.
2. Log in as *shutoff*.

---

*Note* With Release 11.1 and later (which uses Solaris software as the operating system software), when you use the *shutoff* login, you will see the following messages:

```
INIT: failed write of utmpx entry: "s0"  
INIT: failed write of utmps entry: "fw"
```

Ignore these messages.

---

---

3. Remove the Release 11.4 hard drive and replace it with the Release 14.1 hard drive.

---

**Caution** Use proper ESD procedures when handling a hard drive.

---

---

## Restoring the Customer Database to the Release 14.1 Hard Drive

---

*Note* The Release 14.1 hard drive already has all the software required to run that release. (You need to install *DataMan*, *AutoQuote*, and the *ALX Auto Pager* separately.) However, if you do need to re-install any of the software loaded on the Release 14.1 hard drive, go to [Installing The Release 14.1 Software From Scratch on page 4-25](#).

---

---

To restore the customer database to the Release 14.1 hard drive, take the following steps:

1. Log in as *install*.
2. Open a command tool or shell tool window.
3. From the `/usr/sx/db` directory, type `killsysc` and press RETURN.

4. From the `/usr/sx/db` directory, type `infx5to7.pl` and press RETURN. You see the following message.

FIGURE 4-16 Opening Message in Database Conversion Scrip

```

*****
*
* Copyright (C) 1997 by IPC Information Systems, Inc.
*
* These computer program listing and specifications, herein,
* are the property of IPC Information Systems, Inc. and shall
* not be reproduced or copied or used in whole or in part
* without written permission from IPC Information Systems, Inc.
*
*
*****

Please press <RETURN> to CONTINUE

```

5. Press RETURN and you see the following menu.

FIGURE 4-17 Database Conversion Script Menu

```

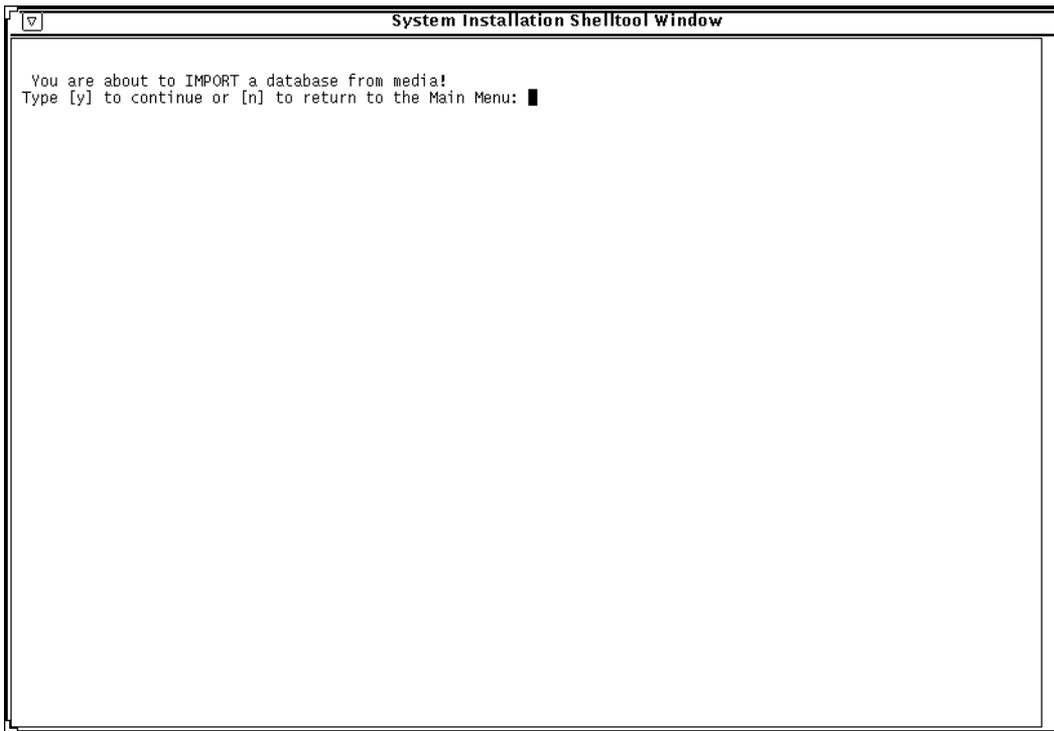
*****
*
* ***** Export and Import Database from informix 5 to informix 7 *****
*
*      1 ) _____ Export DataBase (convert informix5 database to informix7 database)
*      2 ) _____ Import DataBase (put exported database into this system)
*      e ) _____ exit
*
*
*****

Please input a choice ->

```

6. Type **2** and press RETURN. You see the following confirmation message.

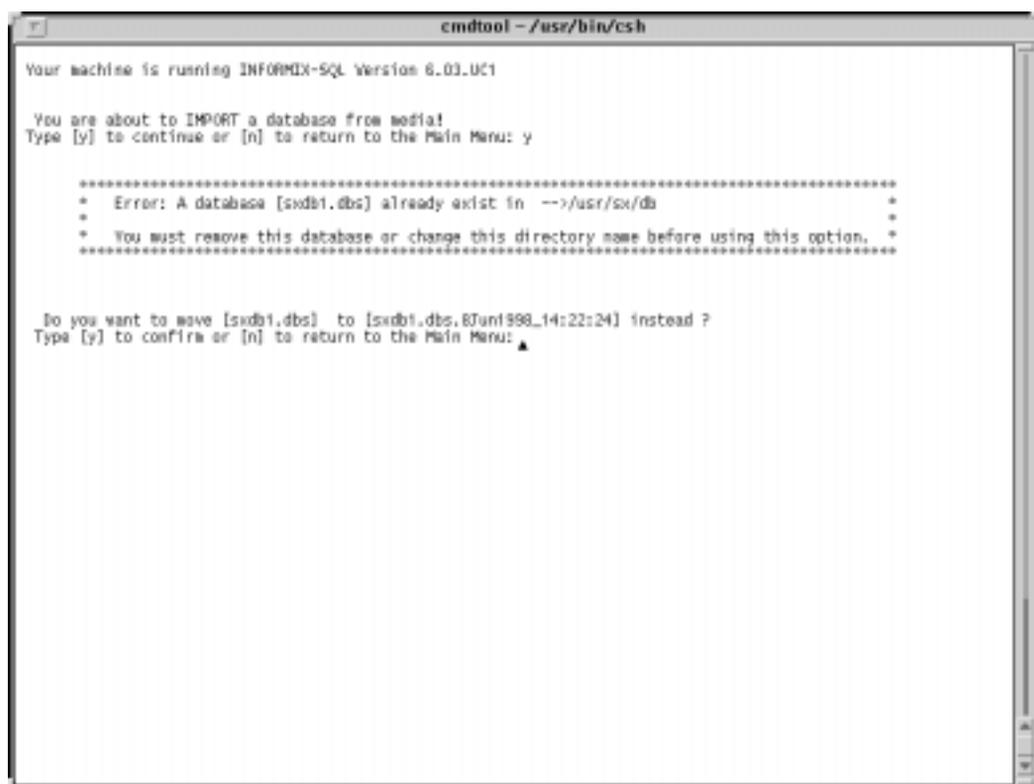
FIGURE 4-18 Confirmation Message



7. Type **y** and press RETURN to confirm that you want to import a customer database.

8. If you see an additional message about an existing database, type **y** and press RETURN.

FIGURE 4-19 Existing Database Message



```
cmdtool - /usr/bin/csh
Your machine is running INFORMIX-SQL Version 8.03.UC1

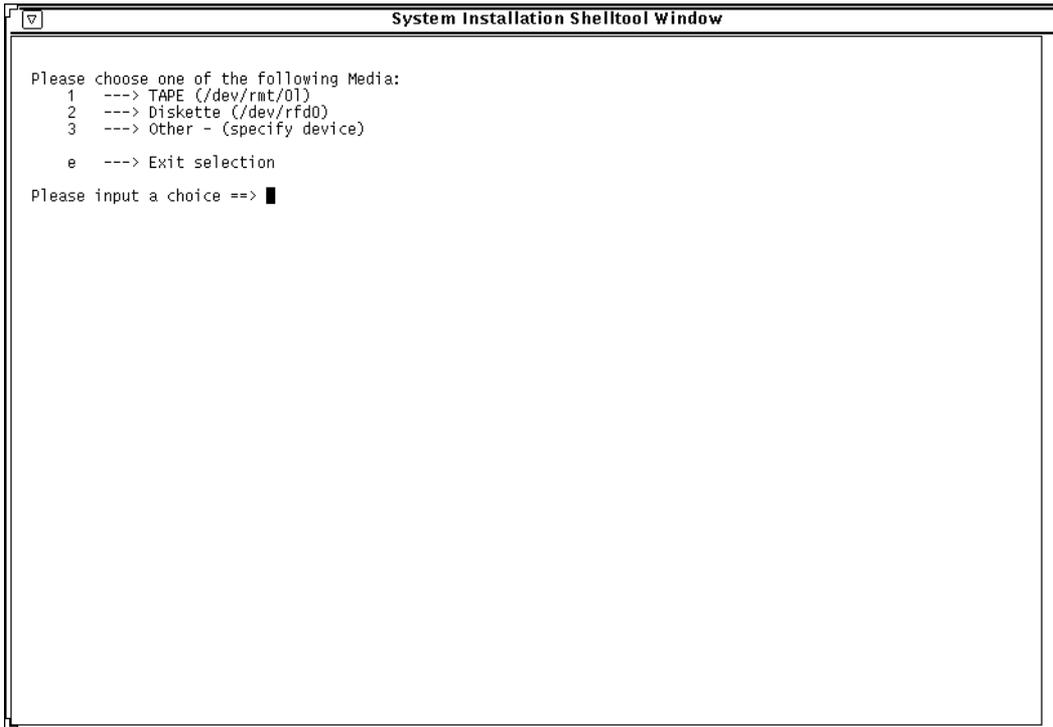
You are about to IMPORT a database from media!
Type [y] to continue or [n] to return to the Main Menu: y

*****
* Error: A database [sxd01.dbs] already exist in -->/usr/sx/db *
* *
* You must remove this database or change this directory name before using this option. *
*****

Do you want to move [sxd01.dbs] to [sxd01.dbs.8Jun1998_14:22:24] instead ?
Type [y] to confirm or [n] to return to the Main Menu: ^
```

- At the following menu, select the media type from which you are importing the customer database.

FIGURE 4-20 Media Type Menu



- If you are importing the customer database from tape, type **1** and press RETURN.
- If you are importing the customer database from diskette, type **2** and press RETURN.
- Insert the tape or diskette and press RETURN. You see a message.

13. Press RETURN and you return to the original menu. If you get error messages during the database import, you need to contact IPC Systems Support Engineering at 1-203-339-7800.

FIGURE 4-21 Database Conversion Script Menu

```

*****
*
*
*   **** Export and Import Database from informix 5 to informix 7 ****
*
*
*   1 ) ----- Export DataBase (convert informix5 database to informix7 database)
*   2 ) ----- Import DataBase (put exported database into this system)
*   e ) ----- exit
*
*
*
*****

Please input a choice ->

```

14. Type **e** and press RETURN.

## Swapping Out the New Countrybase

---

*Note* Before swapping out the new countrybase, it is recommended that you compare your old countrybase parameters. For information about comparing countrybase parameters, see [Comparing Countrybase Parameters on page 4-12](#).

---

1. In a command tool or shell tool window, from the **/usr/sx/db** prompt, type **killsysc** and press RETURN.
2. In a command tool or shell tool window, from the **/usr/sx/db** prompt, type **dbupgrade** and press RETURN.
3. From the **DATABASE RECONFIGURATION TOOL** menu, type **2** and press RETURN.
4. Press RETURN.
5. At the **Tradenet MX DATABASE RECONFIGURATOR** menu, type **1** and press RETURN to select **1. Country Parameters Reconfiguration Tool**.
6. Type **1** and press RETURN to select **1. Swap out the Country Base Tables**.
7. Insert the first Countrybase diskette that you received with your Release 14.1 hard drive, and press RETURN.
8. Type **y** and press RETURN to continue.
9. Select the appropriate country.
10. Type **e** and press RETURN.

---

*Note* After swapping out the new countrybase, you must run **schema**.

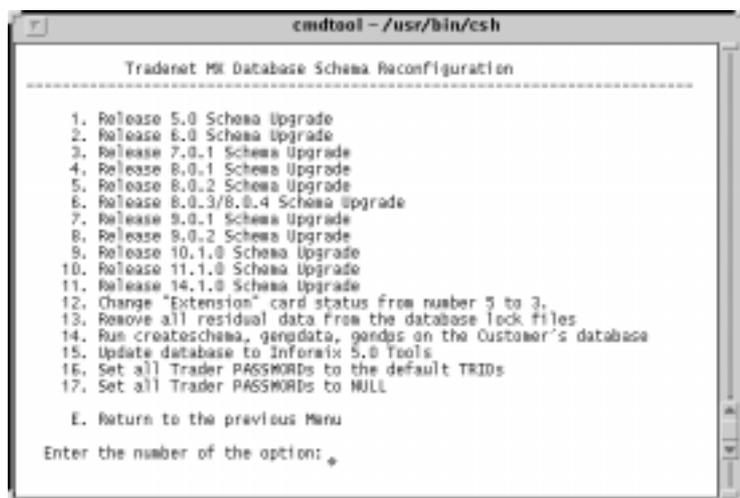
---

## Running Schema to Reconfigure the Database to Work With Release 14.1

To reconfigure the database, take the following steps:

1. In a command tool or shell tool window, from the `/usr/sx/db` prompt, type `killsysc` and press RETURN.
2. In a command tool or shell tool, from the `/usr/sx/db` prompt, type `dbupgrade` and press RETURN.
3. From the **DATABASE RECONFIGURATION TOOL** menu, type `2` and press RETURN.
4. Press RETURN.
5. At the **Tradenet MX DATABASE RECONFIGURATOR** menu, type `6` and press RETURN. You see the **Tradenet MX Database Schema Reconfiguration** menu.

FIGURE 4-22 Tradenet MX Database Schema Reconfiguration Menu



6. Type `9` and press RETURN.
7. Press RETURN.
8. Type `10` and press RETURN.
9. Press RETURN.
10. Type `11` and press RETURN.
11. Press RETURN.
12. Type `14` and press RETURN.
13. Press RETURN.
14. Type `e` and press RETURN.
15. Back up the customer database. (For information about backing up the database, refer to the *Tradenet MX System Center Manual 14.1*, part number B0086185104.)
16. In a command tool or shell tool window, type `dbupgrade` and press RETURN. You see the **DATABASE RECONFIGURATOR TOOL** menu.
17. Type `2` and press RETURN.
18. At the welcome screen, press RETURN. You see the **Tradenet MX DATABASE RECONFIGURATOR** menu.
19. Type `3` and press RETURN to select **Tradenet MX Hardware Reconfiguration Tools**. You are prompted for a password.

20. Enter the Database Reconfigurator password. You see the **Tradenet MX Hardware Reconfiguration Tools** menu.
21. Type **1** and press RETURN to select **Import Customer Site System Configurations**.
22. At the prompt to access the database remotely, type **n** and press RETURN.
23. At the prompt to load from floppy diskette or tape, type **y** and press RETURN.
24. If you are importing the database from floppy diskette, type **f** and press RETURN.
25. If you are importing the database from tape, type **t** and press RETURN.
26. Insert the diskette or tape.
27. Type **y** and press RETURN.
28. Press RETURN.
29. At the **Tradenet MX Hardware Reconfiguration Tools** menu, type **e** and press RETURN. You return to the **Tradenet MX DATABASE RECONFIGURATOR** menu.
30. Type **e** and press RETURN.
31. At the **DATABASE RECONFIGURATION TOOL** menu, type **e** and press RETURN. At this point, your Release 11.4 customer database has been converted to use with Release 14.1 and loaded on to the Release 14.1 hard drive

## Running Featureman

If a feature is a cost option, it must be turned on at the customer site by an IPC representative using the Featureman tool.

To use the Featureman tool, take the following steps:

1. Determine which of the available cost options this particular customer has ordered.
2. Insert the Featureman diskette into the diskette drive.
3. In a command tool or shell tool, from the **/usr/sx/db** prompt, type **featureman** and press RETURN.
4. When prompted, enter the Featureman password.
5. If you have never run Featureman on that System Center, you see a list of cost option features and you are prompted to type **y** or **n** to indicate whether or not the feature has been purchased.
6. If you have run Featureman on the System Center in the past, you see a list of cost option features and their current settings (**y** indicates enabled and **n** indicates disabled). Change the settings where necessary.

## Additional Site Requirements

In addition to the general requirements for upgrading software, you may need to perform the following installations and procedures:

- Run netconfig - If your site has the line networking feature, see [Running netconfig on page 4-54](#).
- DataMan - If you need to install DataMan at your site, see [Installing DataMan on page 4-57](#).
- AutoQuote - If you need to install AutoQuote at your site, see [Installing AutoQuote on page 4-58](#).
- ALX Auto Pager - If you need to install the ALX Auto Pager software at your site, see [Installing the ALX Auto Pager Software on page 4-59](#).
- Private builds - If you need to load private builds at your site, see [Loading Private Builds on page 4-69](#).

## INSTALLING THE RELEASE 14.1 SOFTWARE FROM SCRATCH

If you need to re-install any of the system software, follow the procedures in this section for installing Solaris, the Tradenet MX startup files, Informix, Wingz, Applix, Ilog, or the Tradenet MX Release software.

### Switching Devices

If you do need to install software on a Sun workstation, you might be switching back and forth between the CD ROM and the 4 mm tape drive. (If you are using a Sun Ultra 10, the CD drive is included in the machine so only the tape drive is plugged in as an external device.) Because external CD drives and tape drives are connected to the same port on the System Center, you need to take the following steps when switching devices:

1. Remove the device you are finished using (either the tape drive or the CD ROM).
2. Attach the new device.
3. Log in as *root@sh*.
4. Type **sync** and press RETURN.
5. Type **sync** and press RETURN.
6. Type **halt** and press RETURN.
7. At the **ok** prompt, type **boot -r** and press RETURN.

---

*Note* With Release 11.1 and later (which uses Solaris software as the operating system software), when you use the **halt** command, you will see the following messages:

```
INIT: failed write of utmpx entry: "s0"
```

```
INIT: failed write of utmps entry: "fw"
```

Ignore these messages.

---

Use this procedure each time you need to switch devices.

### Installing Solaris

---

*Note* If you are switching devices, use the **boot -r** command.

---

To install Solaris 2.5.1 (or SunOS 5.5.1), take the following steps:

1. Turn off the Sun workstation.
2. Turn on the Sun workstation.
3. Go to the **ok** prompt. (Press STOP-A during boot up, use the **halt** command, or use the **shutdown** command.)
4. Insert the Solaris 2.5.1 CD.
5. At the **ok** prompt, type **boot cdrom** and press RETURN. The Sun workstation starts booting off of the CD. You see a welcome screen, then the **Solaris Install Console** window. Eventually you see **The Solaris Installation Program** window.
6. Click **Continue**. You see the **Identify This System** window.
7. Click **Continue**. You see the **Host Name** window.
8. Click in the **Host name** field and type **syscen**.
9. Click **Continue**. You see the **Network Connectivity** window.

10. Click **Yes** to indicate the Sun workstation is connected to the Tradenet MX System.
11. Click **Continue**. If the workstation has never been set up before, you see the **Primary Network Interface** window where you need to select **hme0** and click **OK**.
12. At the **IP Address** window, click in the **IP address** field and type **192.9.200.1**.
13. Click **Continue**. The system prompts you to confirm the information you provided.
14. If the information is correct, click **Continue**. If you need to change the listed information, click **Change** and go back to step 8.
15. At the **Name Service** window, click **None** to specify no name service.
16. Click **Continue**. The system prompts you to confirm the information you provided.
17. At the **Confirm Information** window, if the information is correct, click **Continue**. If you need to change the listed information, click **Change** and go back to step 15.
18. At the **Subnets** window, click **No** to specify no subnet.
19. Click **Continue**. You see the **Time Zone** window.
20. Click **Geographic region**.
21. Click **Set**. You see the **Geographic Region** window.
22. Click the appropriate region and time zone, for example, **United States** and **Eastern**.
23. Click **Continue**. The system shows you the system date and time.
24. If necessary, change the date and time by clicking in the appropriate box and re-typing.
25. Click **Continue**. The system prompts you to confirm the information you provided.
26. At the **Confirm Information** window, if the information is correct, click **Continue**. If you need to change the listed information, click **Change** and go back to step 18.
27. After a short time, messages appear in the **Solaris Install Console** window. Then, you see the **Install Solaris Software - Initial** window. Click **Continue**. If this workstation has never been set up before, you see the **Upgrade System?** windows where you need to select **Initial**.
28. At the **System Type** window, click **Standalone**.
29. Click **Continue**. You see the **Software** window.
30. Click **Developer System Support**.
31. Click **Customize**. You see the **Customize Software** window.
32. In the **Software Clusters and Packages** list, select **Basic Networking**.
33. Scroll down the list and select **Point-to-Point Protocol**.
34. Click **OK**. You return to the **Software** window.
35. Click **Continue**. You see the **Disks** window.
36. Under **Available Disks**, click the drive and click **Add >**. The drive moves to the **Selected Disks** box.
37. Click **Continue**. You see the **Preserve Data?** window.
38. Click **Continue**. You see the **Automatically Layout File Systems?** window.
39. Click **Manual Layout**.

40. At the **File System and Disk Layout** window, click **Customize** to partition the drive. You see the **Customize Disks** window.
41. Fill in the information as shown in the following table.

TABLE 4-1 Drive Partitions

Partition	Partition Name	Partition Size	Notes
0	/	80	
1	swap	768	
2	overlap	4102	This partition is already filled in for you. Do not change it.
3	/var	300	
4	/opt	931	
5			Leave this partition empty.
6	/usr	2022	
7			Leave this partition empty.

After filling in this information, and clicking on a blank box in the table, you see the free space change to 0 MB.

42. Click **OK**. You return to the **File System and Disk Layout** window.
43. Click **Continue**. You see the **Mount Remote File Systems?** window.
44. Click **Continue**. The **Profile** window lists the information you have provided.
45. If you want to change any of the listed information, click **Change** and go back to step 27; otherwise, click **Begin Installation**.
46. Click **No Reboot** to specify that you do not want to reboot the system after the installation is complete.
47. The installation will take a while. After the installation is complete, you see the **#** prompt in the **Solaris Install Console** window.
48. Enlarge the **Solaris Install Console** window.
49. Type **df** and press RETURN. You see the disk partitions. You need to enter commands to maximize the use of the drive.
50. Type **umount /a/opt** and press RETURN.
51. Type **umount /a/var** and press RETURN.
52. Type **umount /a/usr** and press RETURN.
53. Type **umount /a** and press RETURN.

---

*Note* In the following steps, note carefully the oh's (o) and the zeros (0).

---

54. Type **tunefs -m 1 -o space /dev/dsk/c0t0d0s4** and press RETURN. You see a message about your disk optimization.
55. Type **tunefs -m 1 -o space /dev/dsk/c0t0d0s3** and press RETURN. You see a message about your disk optimization.
56. Type **tunefs -m 1 -o space /dev/dsk/c0t0d0s6** and press RETURN. You see a message about your disk optimization.

57. Type `tunefs -m 1 -o space /dev/dsk/c0t0d0s0` and press RETURN. You see a message about your disk optimization.
58. Type `sync` and press RETURN.
59. Type `sync` and press RETURN.
60. Type `halt` and press RETURN.
61. Type `reboot` and press RETURN. The system reboots and you eventually see the prompt **Root password**.

---

*Note* This **root** password is not the Tradenet MX System root password.

---

62. Do not type a password, then press RETURN. Press RETURN again when prompted to confirm.
63. Reboot the machine.
64. Log in as *root*.
65. Type `PATH=.:$PATH` and press RETURN.
66. Insert the Solaris patches CD.
67. Type `cd /cdrom/cdrom0` and press RETURN.
68. Type `file-to-run` and press RETURN. A script runs and loads the Solaris patches.
69. At the login prompt, type `root` and press RETURN.
70. Insert the *MX Startup* disk.
71. At the `#` prompt, type `volcheck` and press RETURN.
72. Type `pkgadd -d /vol/dev/aliases/floppy0` and press RETURN. You see a menu listing available packages.
73. Press RETURN to select the default (process all packages). After a few minutes, you see the message **Do you want to install these conflicting files [y,n,?,q]**.
74. To install the conflicting files, type `y` and press RETURN. You see the message **Do you want to continue with the installation of <StartUP> [y,n,?]**.
75. To continue, type `y` and press RETURN.
76. Press the diskette button to remove the diskette.
77. Type `shutdown -y -i6 -g0` and press RETURN. The system reboots.

With Release 11.1 and later (which uses Solaris), you might notice that your workspace colors are darker than you are used to seeing. To fix this problem, refer to the *Tradenet MX System Center Manual 14.1* (part number B0086185104). Also with Release 11.1 and later, you can specify whether you must click the left mouse button on a window to change the input focus to that window, or whether you move the cursor into the window to specify that window as the active input area. By default, Solaris is set up so you need to click the mouse button on a window to change the input focus. To change this setting so that you only need to move the cursor within the extents of a window, refer to the *Tradenet MX System Center Manual 14.1* (part number B0086185104).

## Installing the Tradenet MX Startup Files

If you just installed Solaris using the procedure in [Installing Solaris on page 4-25](#), you already installed the Tradenet MX startup files and you do not need to perform the following procedure.

To install the Tradenet MX startup files, take the following steps:

1. Connect the 4 mm tape drive (if it is not already connected). If you are switching devices, see [Switching Devices on page 4-25](#).
2. After logging in as *rootcsh*, from the syscen prompt, type **mxinstall** and press RETURN. You see the **MX start-up MENU**.

```
*****
*
*   - - - - MX start-up MENU - - - ver 14.01.XX - -
*
*   1) - - - - Install StartUP files
*   2) - - - - Install MX software
*   3) - - - - UnInstall MX software
*   4) - - - - Install Informix 7 (MENU)
*   5) - - - - Install Wingz2
*   6) - - - - Install Applix (MENU)
*   7) - - - - Install Ilog
*   e) - - - - Exit program
*
*****
Please input a choice --->
```

3. Insert the *MX Startup* disk.
4. Type **1** and press RETURN.
5. Type **go** and press RETURN.
6. Press RETURN and the system re-boots.

## Installing Informix

To install Informix, take the following steps:

1. Connect the CD ROM (if it is not already connected). If you are switching devices, see [Switching Devices on page 4-25](#).
2. After logging in as *rootcsh*, from the syscen prompt, type **mxinstall** and press RETURN. You see the **MX start-up MENU**.

```
*****
*
*   - - - - MX start-up MENU - - - ver 14.01.XX - -
*
*   1) - - - - Install StartUP files
*   2) - - - - Install MX software
*   3) - - - - UnInstall MX software
*   4) - - - - Install Informix 7 (MENU)
*   5) - - - - Install Wingz2
*   6) - - - - Install Applix (MENU)
*   7) - - - - Install Ilog
*   e) - - - - Exit program
*
*****
Please input a choice --->
```

3. Type **4** and press RETURN. You are prompted to specify whether you are installing Informix from CD or tape.

```
CD)  ---- Install Informix 7 from CD ROM
tape) ---- Install Informix 7 from TAPE
q)   ---- Quit, go to previous menu
```

4. Type **CD** and press RETURN.

---

*Note*    *The tape option is not supported.*

---

5. Put either Informix CD in the CD ROM and press RETURN.
6. When prompted, insert the second Informix CD and press RETURN.
7. When prompted, press RETURN to continue. You are prompted for a serial number.
8. Type a serial number for Informix SQL and press RETURN. You are prompted for a serial number key.
9. Type a serial number key for Informix SQL and press RETURN.
10. When prompted, press RETURN.
11. When prompted to continue, press RETURN.
12. Type a serial number for Informix SE and press RETURN.
13. Type a serial number key for Informix SE and press RETURN.
14. When prompted, press RETURN. After the installation, you see a message that the installation is complete.
15. When prompted, press RETURN.
16. At the **Install\_Informix\_MENU**, press **q** and RETURN. You return to the **MX start-up MENU**.
17. If you need to install Wingz, Applix, Ilog, the Tradenet MX startup files, or the Tradenet MX System Release 14.1 software, go to the appropriate procedure. (See [Installing Wingz2 on page 4-31](#), [Installing Applix on page 4-32](#), [Installing the Tradenet MX Startup Files on page 4-28](#), or [Installing the Tradenet MX Release 14.1 Software on page 4-38](#).) Otherwise, if you do not need to install any other system software, type **e** and press RETURN to exit the **MX start-up MENU**.

## Installing Wingz2

To install Wingz2, take the following steps:

1. Connect the 1/4" tape drive (if it is not already connected). If you are switching devices, see [Switching Devices on page 4-25](#).
2. After logging in as *rootcsh*, from the syscen prompt, type **mxinstall** and press RETURN. You see the **MX start-up MENU**.

```
*****
*
*      - - - - MX start-up MENU - - - ver 14.01.XX - -
*
*      1) - - - - Install StartUP files
*      2) - - - - Install MX software
*      3) - - - - UnInstall MX software
*      4) - - - - Install Informix 7 (MENU)
*      5) - - - - Install Wingz2
*      6) - - - - Install Applix (MENU)
*      7) - - - - Install Ilog
*      e) - - - - Exit program
*
*****
Please input a choice --->
```

3. Type **5** and RETURN to install Wingz2.
4. Insert the Wingz tape in the tape drive and press RETURN.
5. When the installation is complete, press RETURN. You return to the **MX start-up MENU**.
6. If you need to install Applix, Ilog, the Tradenet MX startup files, or the Tradenet MX System Release 14.1 software, go to the appropriate procedure. (See [Installing Applix on page 4-32](#), [Installing the Tradenet MX Startup Files on page 4-28](#), or [Installing the Tradenet MX Release 14.1 Software on page 4-38](#).) Otherwise, if you do not need to install any other system software, type **e** and press RETURN to exit the **MX start-up MENU**.

## Installing Applix

Applix is required for the Report Writer feature. To install Applix, take the following steps:

1. Connect the CD ROM drive (if it is not already connected). If you are switching devices, see [Switching Devices on page 4-25](#).
2. After logging in as *rootcsh*, from the syscen prompt, type **mxinstall** and press RETURN. You see the **MX start-up MENU**.

```
*****
*
*   - - - - MX start-up MENU - - - ver 14.01.XX - -
*
*   1) - - - - Install StartUP files
*   2) - - - - Install MX software
*   3) - - - - UnInstall MX software
*   4) - - - - Install Informix 7 (MENU)
*   5) - - - - Install Wingz2
*   6) - - - - Install Applix (MENU)
*   7) - - - - Install Ilog
*   e) - - - - Exit program
*
*****
Please input a choice --->
```

3. Type **6** and press RETURN to install Applix. You are prompted to specify that you are installing Applix from CD.

```
*****
*
*   - - - - Install_Applix_MENU - -
*
*   CD) ---- Install Applix from CD rom
*   q) ---- Quit, go to previous Menu
*
*****
Please input a choice -->
```

4. Type **CD** and press RETURN.

5. Put the Applix CD in the CD ROM and press RETURN.

You are about to install Applix Software.

Please put the Applix CD for SPARC Solaris 2.5 in CD-ROM Drive and Press <RETURN>

You are prompted to specify what language you want to use for the installation.

Please Wait ...

-----  
Applixware Installation Interface Language  
-----

The Applixware 'Installation' can be presented to the user in one of the following languages.

1. English/Englisch/anglais
2. German/Deutsch/allemand
3. French/Französisch/français

Please choose a number [1]:

6. If you see the prompt **Are you currently licensed for Applixware? [no]**;, type **yes** and press RETURN.
7. Type **1** and press RETURN. (Only English is supported.) You are prompted to specify what language you want to use for the end user interface.

-----  
Applixware Default Product Interface Language  
-----

The UI of the Applixware 'Product' can be one of the following languages.

1. English/Englisch/anglais
2. German/Deutsch/allemand
3. French/Französisch/français

Please choose a number [1]:

8. Type **1** and press RETURN. (Only English is supported.) You are prompted to continue with the installation.

```
-----
Applixware 4.3 Installation
-----
```

The Applixware software can be installed using default values by pressing RETURN at each prompt, or by entering your own values at each prompt. Any default response values are enclosed in [square brackets] at the end of a question. A number following a package or group option will indicate the approximate disk space requirements for that package or group. All disk space requirements are reported in kbytes. You may stop the installation procedure at any question by typing 'exit'.

The default installation takes approximately 30 minutes to complete, and requires 120,000 kbytes of disk space.

You are installing Applixware from cd-rom mount point: "/cdrom/volume\_1"

Do you want to continue? [yes]: yes

9. Either press RETURN or type **yes** and press RETURN. You are prompted to specify the installation directory you want to use.

What directory do you want to install Applixware in?  
[/opt]:

10. Type **/opt/applixware** and press RETURN. You are prompted to specify what parts of the Applix software you want to install.

```
-----
Applixware Options
-----
```

1. [ ] Additional UI language support
2. [ ] On-Line Books
3. [ ] International Dictionaries
4. [ ] Database Gateways
5. [ ] Real Time Gateways
6. [ ] Optional Applixware Fonts
7. [ ] Clipart
8. [ ] Applix Builder
9. [ ] Anyware
10. [ ] Applix Enterprise Server/Client
11. [ ] All
12. [ ] None (No Options)

Enter number to select, enter selected number to unselect.  
Please select product package(s) [continue]:

11. Type **2** and press RETURN to install the on-line books.

12. Type **4** and press RETURN to install the database gateways.
13. Press RETURN. You are prompted to specify what language you want for the on-line books. By default, English is specified as the language you want.

```
-----  
Additional UI Language And Available On-Line Books  
-----
```

```
=> Installation of an additional Applixware UI Language  
=> requires approximately an additional 7000 kbytes of disk space.  
=> Total disk space required would be approximately 127000 kbytes  
=> for 1 additional language.
```

Supported languages in this distribution:

1. [] English
2. [] English on-line books
  
3. [] German
4. [] German on-line books
  
5. [] French
6. [] French on-line books
  
7. All
8. None (No additional Languages)

```
Enter number to select, enter selected number to unselect.  
Please select language(s) [continue]:
```

14. Type **2** and press RETURN to install the English on-line books.

15. Press RETURN. You are prompted to specify which database gateway you want.

```
-----  
Database Gateways  
-----
```

```
=> Applixware Database Gateways are standalone, integrated programs  
=> for acquiring data from major database vendors for use in the  
=> Applixware product.
```

Supported Database Gateways in this distribution:

- ```
1. [ ] Informix Gateway    -200  
2. [ ] Ingres Gateway     -600  
3. [ ] Oracle Gateway     -1000  
4. [ ] Sybase Gateway     -500  
  
5. All  
8. None
```

```
Enter number to select, enter selected number to unselect.  
Please select Database Gateways [continue]:
```

16. Type **1** and press RETURN to select **Informix Gateway**. (Only Informix Gateway is supported.) The previous menu is shown again with your selection indicated.
17. Press RETURN.
- ```
The release media is being read.  
Installation will take approximately 15 minutes.  
Please wait...
```
18. When the installation completes, press RETURN.
19. Type **q** and press RETURN. You return to the **MX start-up MENU**.
20. Remove the Applix CD.
21. If you need to install Ilog, the Tradenet MX startup files, or the Tradenet MX System Release 14.1 software, go to the appropriate procedure. (See [Installing the Tradenet MX Startup Files on page 4-28](#) or [Installing the Tradenet MX Release 14.1 Software on page 4-38](#).) Otherwise, if you do not need to install any other system software, type **e** and press RETURN to exit the **MX start-up MENU**.

## Installing Ilog

Ilog is required for line networking. To install Ilog, take the following steps:

1. At the login prompt, login as *rootcsh*.
2. After logging in as *rootcsh*, from the syscen prompt, type **mxinstall** and press RETURN. You see the **MX start-up MENU**.

```
*****
*
*   - - - - MX start-up MENU - - - ver 14.01.XX - -
*
*   1) - - - - Install StartUP files
*   2) - - - - Install MX software
*   3) - - - - UnInstall MX software
*   4) - - - - Install Informix 7 (MENU)
*   5) - - - - Install Wingz2
*   6) - - - - Install Applix (MENU)
*   7) - - - - Install Ilog
*   e) - - - - Exit program
*
*****
Please input a choice --->
```

3. Type **7** and press RETURN to install Ilog. You are prompted to select a device type.
4. Type **2** and press RETURN to install Ilog from diskette.
5. Insert the first Ilog diskette and press RETURN.
6. When prompted, insert the second Ilog diskette and press RETURN.
7. When the installation is complete, press RETURN. You return to the **MX start-up MENU**.
8. Remove the diskette.
9. If you need to install the Tradenet MX System Release 14.1 software, go to [Installing the Tradenet MX Release 14.1 Software on page 4-38](#). Otherwise, if you do not need to install any other system software, type **e** and press RETURN to exit the **MX start-up MENU**.

## Installing the Backup Utility

To install the Backup Utility, take the following steps:

1. Log in to the System Center as *install*.
2. Insert the *Backup Utility* diskette into the floppy drive.
3. Type **cd /usr/sx/db** and press RETURN.
4. Type **bar xvFZ /dev/rfd0** and press RETURN.
5. Eject the *Backup Utility* diskette from the floppy drive.

## Installing the Tradenet MX Release 14.1 Software

If you need to upgrade the Tradenet MX Release 14.1 software, follow the procedure in this section.

---

*Note* If you are upgrading from Release 11.4 to Release 14.1, you need to run option **3) UnInstall MX software** before performing the following procedure.

---

To install the Tradenet MX Release 14.1 software, take the following steps:

1. Connect the 4 mm tape drive (if it is not already connected). If you are switching devices, see [Switching Devices on page 4-25](#).
2. After logging in as *rootcsh*, from the system prompt, type **mxinstall** and press RETURN. You see the **MX start-up MENU**.

```

*****
*
*      - - - - MX start-up MENU - - - ver 14.01.XX - -
*
*      1) - - - - Install StartUP files
*      2) - - - - Install MX software
*      3) - - - - UnInstall MX software
*      4) - - - - Install Informix 7 (MENU)
*      5) - - - - Install Wingz2
*      6) - - - - Install Applix (MENU)
*      7) - - - - Install Ilog
*      e) - - - - Exit program
*
*****
Please input a choice --->

```

3. Type **2** and press RETURN.
4. Type **1** and press RETURN to install from tape.

5. Insert the tape and press RETURN. There is a delay while the tape loads. Eventually, you see a menu where you can select the options you want to install.

Please select any of the following that you want to Install:

	TOOLNAME	Version	Tool Description
	-----	-----	-----
1	----> MX-SETUP	14.01.XX	MX Setup and Installation files
2	----> MXSYCSWC	14.01.XX	MX Distribution Tape
3	----> XTENSIONS	14.01.XX	MX Database Reconfiguration files
4	----> MXPOWER	14.01.XX	MX Power Sweep files
5	----> MXALX	14.01.XX	MX ALX Pager files
6	----> MXQUOTE	14.01.XX	MX Autoquote files
7	----> SITE-CUST	14.01.XX	MX Siteman and Custman
8	----> MXCUSTMAN	14.01.XX	MX Custman files
9	----> MXSITEMAN	14.01.XX	MX Siteman files
10	----> COUNTRYBASE	14.01.XX	MX Country Base files
11	----> MX-EXPRESS	14.01.XX	Full MX Tape Application
12	----> MX-DATAMAN	14.01.XX	Full Dataman Tool Set
13	----> REPORT_WRITER	14.01.XX	Tradenet MX Report Writer
	e ----> Exit selection		

Please input a choice ==>

6. Type **11** and press RETURN to select **MX-EXPRESS** to install everything except the ALX Auto Pager and DataMan. (When an item is selected, it shows an asterisk \*.)
7. At the next menu, select the options you want to install by typing the number of the option and pressing RETURN. (Options 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 18, and 20 are already selected by default.) If the default options selected are the ones you need to install, you do not need to make any changes.

---

*Note Kanji is not supported with Release 14.1. Kanji can be used with Release 10.1 and Release 11.6; however, you need to use Wingz 1.1.b for Release 10.1 Kanji systems, instead of Wingz 2.1.*

---

8. Type **q** and press RETURN. You are prompted to clear out files.
9. If this is the first time the Tradenet MX software has been installed on this hard drive, type **n** and press RETURN.
10. If the Tradenet MX software has been installed on this hard drive before, type **y** and press RETURN. If there are no files to clear out, you will see error messages.
11. At the prompt to change the order in which processor builds will load, type **q** press RETURN to accept the default order.
12. At the end of the installation, press RETURN.

13. You return to the installation menu.

Please select any of the following that you want to Install:

	TOOLNAME	Version	Tool Description
	-----	-----	-----
1	----> MX-SETUP	14.01.XX	MX Setup and Installation files
2	----> MXSYSWC	14.01.XX	MX Distribution Tape
3	----> XTENSIONS	14.01.XX	MX Database Reconfiguration files
4	----> MXPOWER	14.01.XX	MX Power Sweep files
5	----> MXALX	14.01.XX	MX ALX Pager files
6	----> MXQUOTE	14.01.XX	MX Autoquote files
7	----> SITE-CUST	14.01.XX	MX Siteman and Custman
8	----> MXCUSTMAN	14.01.XX	MX Custman files
9	----> MXSITEMAN	14.01.XX	MX Siteman files
10	----> COUNTRYBASE	14.01.XX	MX Country Base files
11	----> MX-EXPRESS	14.01.XX	Full MX Tape Application
12	----> MX-DATAMAN	14.01.XX	Full Dataman Tool Set
13	----> REPORT_WRITER	14.01.XX	Tradenet MX Report Writer
	e ----> Exit selection		

Please input a choice ==>

14. If you need to install DataMan, type **12** and press RETURN to select **MX-DATAMAN**. For more information about DataMan, refer to the *Tradenet MX System Center Manual 14.1*, part number B0086185104.)
15. If you need to install report writer, type **13** and press RETURN to select **REPORT\_WRITER**. (For more information about the report writer, refer to the *Tradenet MX System Center Manual 14.1*, part number B0086185104.)

---

*Note* Before installing the report writer application, the Applixware software must be installed to your hard drive. See [Installing the Applixware Software on page 4-61](#).

---

16. To exit from the **mxinstall** script, type **e** and press RETURN. Wait while temporary files are removed. This takes approximately one minute.
17. When prompted, press RETURN.
18. Type **shutdown -y -i6 -g0** and press RETURN to reboot the system.
19. Log in as *install*.
20. In a command tool window, type **ckversion** to make sure Release 14.1 is installed.

## Restoring the Customer Database to the Release 14.1 Hard Drive.

---

*Note* The Release 14.1 hard drive already has all the software required to run that release. (You need to install DataMan, AutoQuote, and the ALX Auto Pager separately.) However, if you do need to re-install any of the software loaded on the Release 14.1 hard drive, go to [Installing The Release 14.1 Software From Scratch on page 4-25](#).

---

To restore the customer database to the Release 14.1 hard drive, take the following steps:

1. Log in as *install*.
2. Open a command tool or shell tool window.
3. From the **/usr/sx/db** directory, type **killsysc** and press RETURN.
4. From the **/usr/sx/db** directory, type **infx5to7.p1** and press RETURN. You see the following message.

FIGURE 4-23 Opening Message in Database Conversion Scrip

```

*****
*
*      Copyright (C) 1997 by IPC Information Systems, Inc.
*
*      These computer program listing and specifications, herein,
*      are the property of IPC Information Systems, Inc. and shall
*      not be reproduced or copied or used in whole or in part
*      without written permission from IPC Information Systems, Inc.
*
*
*****

Please press <RETURN> to CONTINUE

```

5. Press RETURN and you see the following menu.

FIGURE 4-24 Database Conversion Script Menu

```

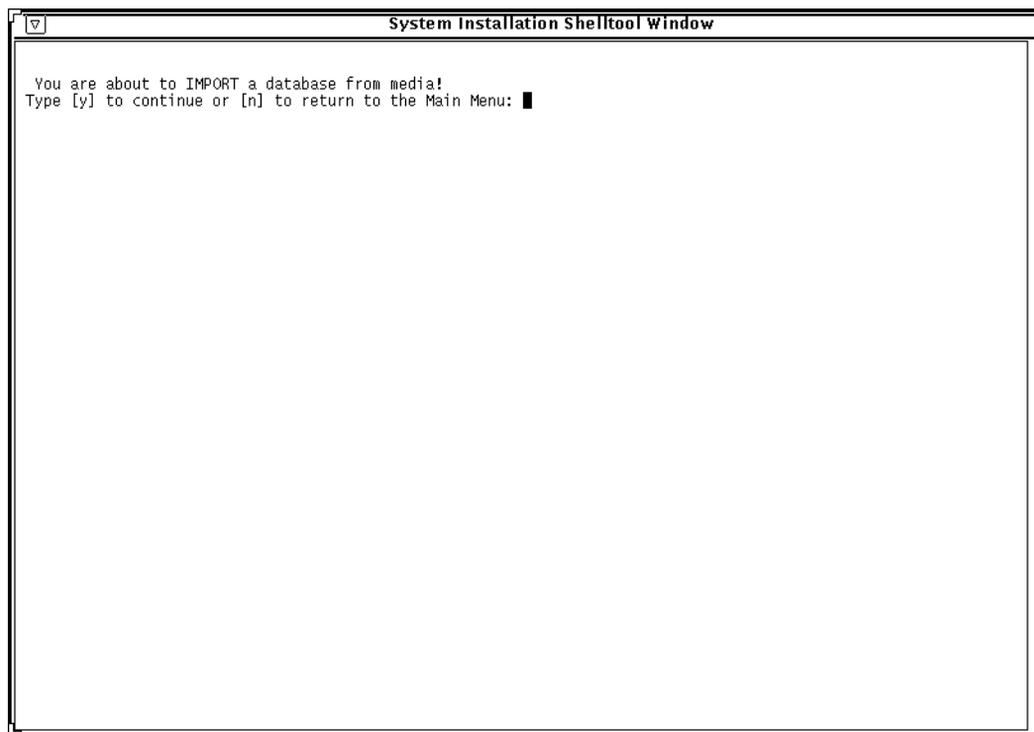
*****
*
*      ***** Export and Import Database from informix 5 to informix 7 *****
*
*      1 ) ----- Export DataBase (convert informix5 database to informix7 database)
*      2 ) ----- Import DataBase (put exported database into this system)
*      e ) ----- exit
*
*
*****

Please input a choice -->

```

6. Type **2** and press RETURN. You see the following confirmation message.

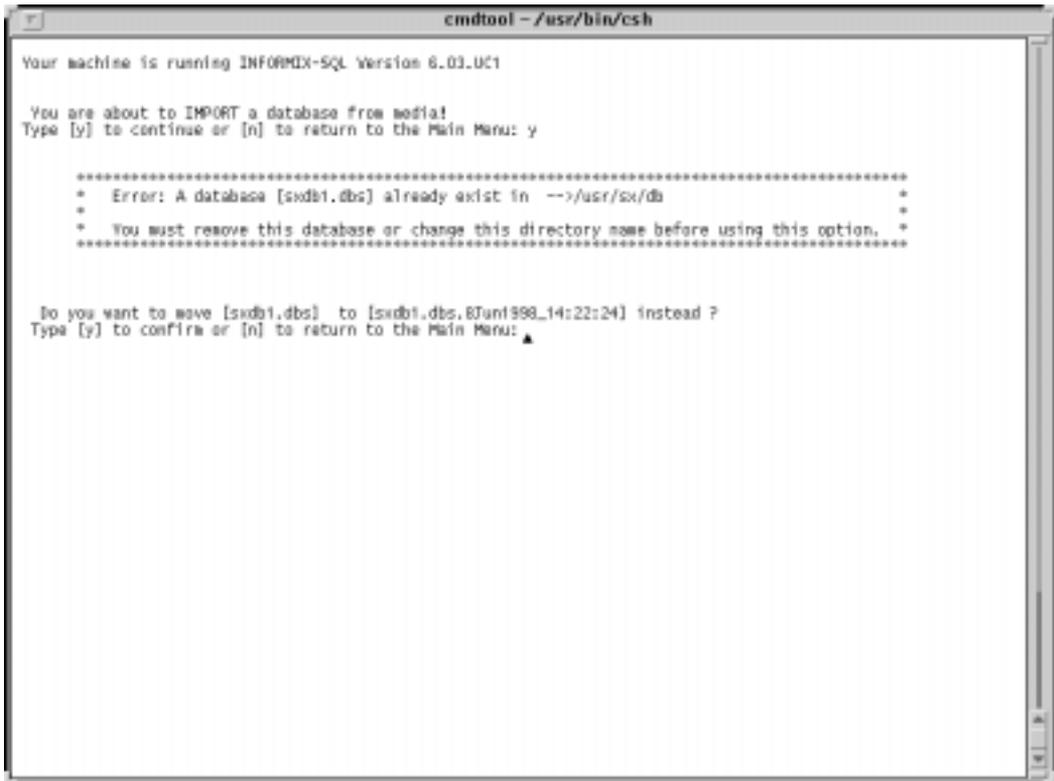
FIGURE 4-25 Confirmation Message



7. Type **y** and press RETURN to confirm that you want to import a customer database.

8. If you see an additional message about an existing database, type **y** and press RETURN.

FIGURE 4-26 Existing Database Message



```
cmdtool - /usr/bin/csh
Your machine is running INFORMIX-SQL Version 6.03.UC1

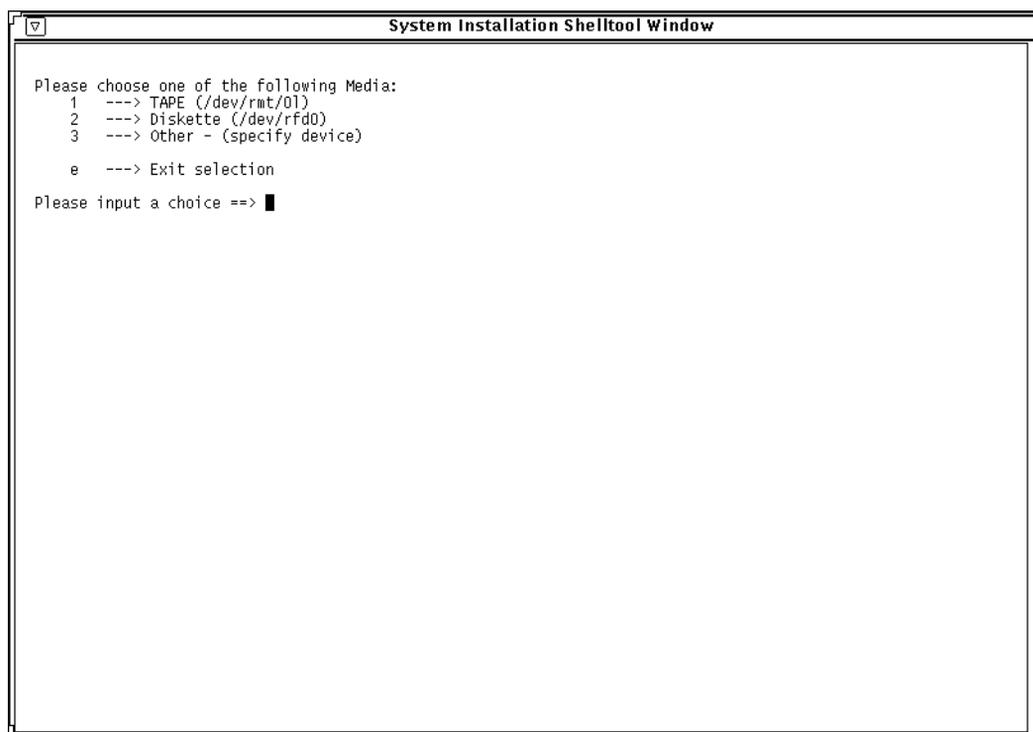
You are about to IMPORT a database from media!
Type [y] to continue or [n] to return to the Main Menu: y

*****
* Error: A database [sxdbs1.dbs] already exist in -->/usr/Sx/db          *
* You must remove this database or change this directory name before using this option. *
*****

Do you want to move [sxdbs1.dbs] to [sxdbs1.dbs.87Jun1998_14:22:24] instead?
Type [y] to confirm or [n] to return to the Main Menu: ▲
```

- At the following menu, select the media type from which you are importing the customer database.

FIGURE 4-27 Media Type Menu



- If you are importing the customer database from tape, type **1** and press RETURN.
- If you are importing the customer database from diskette, type **2** and press RETURN.
- Insert the tape or diskette and press RETURN. You see a message.

13. Press RETURN and you return to the original menu. If you get error messages during the database import, you need to contact IPC Systems Support Engineering at 1-203-339-7800.

FIGURE 4-28 Database Conversion Script Menu

```

*****
*
*
*   **** Export and Import Database from informix 5 to informix 7 ****
*
*
*   1 )  _____ Export DataBase (convert informix5 database to informix7 database)
*   2 )  _____ Import DataBase (put exported database into this system)
*   e )  _____ exit
*
*
*
*****

Please input a choice ->

```

14. Type **e** and press RETURN.

## Swapping Out the New Countrybase

---

*Note* Before swapping out the new countrybase, it is recommended that you compare your old countrybase parameters. For information about comparing countrybase parameters, see [Comparing Countrybase Parameters on page 4-12](#).

---

1. In a command tool or shell tool window, from the **/usr/sx/db** prompt, type **killsysc** and press RETURN.
2. In a command tool or shell tool window, from the **/usr/sx/db** prompt, type **dbupgrade** and press RETURN.
3. From the **DATABASE RECONFIGURATION TOOL** menu, type **2** and press RETURN.
4. Press RETURN.
5. At the **Tradenet MX DATABASE RECONFIGURATOR** menu, type **1** and press RETURN to select **1. Country Parameters Reconfiguration Tool**.
6. Type **1** and press RETURN to select **1. Swap out the Country Base Tables**.
7. Insert the first Countrybase diskette that you received with your Release 14.1 hard drive, and press RETURN.
8. Type **y** and press RETURN to continue.
9. Select the appropriate country.
10. Type **e** and press RETURN.

---

*Note* After swapping out the new countrybase, you must run **schema**.

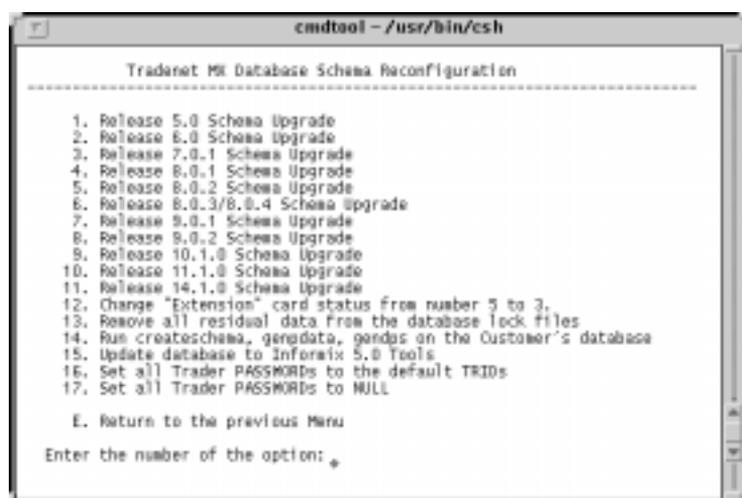
---

## Running Schema to Reconfigure the Database to Work With Release 14.1

To reconfigure the database, take the following steps:

1. In a command tool or shell tool window, from the `/usr/sx/db` prompt, type `killsync` and press RETURN.
2. In a command tool or shell tool, from the `/usr/sx/db` prompt, type `dbupgrade` and press RETURN.
3. From the **DATABASE RECONFIGURATION TOOL** menu, type `2` and press RETURN.
4. Press RETURN.
5. At the **Tradenet MX DATABASE RECONFIGURATOR** menu, type `6` and press RETURN. You see the **Tradenet MX Database Schema Reconfiguration** menu.

FIGURE 4-29 Tradenet MX Database Schema Reconfiguration Menu



6. Type `9` and press RETURN.
7. Press RETURN.
8. Type `10` and press RETURN.
9. Press RETURN.
10. Type `11` and press RETURN.
11. Press RETURN.
12. Type `14` and press RETURN.
13. Press RETURN.
14. Type `e` and press RETURN.
15. Back up the customer database. (For information about backing up the database, refer to the *Tradenet MX System Center Manual 14.1*, part number B0086185104.)
16. In a command tool or shell tool window, type `dbupgrade` and press RETURN. You see the **DATABASE RECONFIGURATOR TOOL** menu.
17. Type `2` and press RETURN.
18. At the welcome screen, press RETURN. You see the **Tradenet MX DATABASE RECONFIGURATOR** menu.
19. Type `3` and press RETURN to select **Tradenet MX Hardware Reconfiguration Tools**. You are prompted for a password.

20. Enter the Database Reconfigurator password. You see the **Tradenet MX Hardware Reconfiguration Tools** menu.
21. Type **1** and press RETURN to select **Import Customer Site System Configurations**.
22. At the prompt to access the database remotely, type **n** and press RETURN.
23. At the prompt to load from floppy diskette or tape, type **y** and press RETURN.
24. If you are importing the database from floppy diskette, type **f** and press RETURN.
25. If you are importing the database from tape, type **t** and press RETURN.
26. Insert the diskette or tape.
27. Type **y** and press RETURN.
28. Press RETURN.
29. At the **Tradenet MX Hardware Reconfiguration Tools** menu, type **e** and press RETURN. You return to the **Tradenet MX DATABASE RECONFIGURATOR** menu.
30. Type **e** and press RETURN.
31. At the **DATABASE RECONFIGURATION TOOL** menu, type **e** and press RETURN. At this point, your Release 11.4 customer database has been converted to use with Release 14.1 and loaded on to the Release 14.1 hard drive

## Running Featureman

If a feature is a cost option, it must be turned on at the customer site by an IPC representative using the Featureman tool.

To use the Featureman tool, take the following steps:

1. Determine which of the available cost options this particular customer has ordered.
2. Insert the Featureman diskette into the diskette drive.
3. In a command tool or shell tool, from the **/usr/sx/db** prompt, type **featureman** and press RETURN.
4. When prompted, enter the Featureman password.
5. If you have never run Featureman on that System Center, you see a list of cost option features and you are prompted to type **y** or **n** to indicate whether or not the feature has been purchased.
6. If you have run Featureman on the System Center in the past, you see a list of cost option features and their current settings (**y** indicates enabled and **n** indicates disabled). Change the settings where necessary.

## Additional Site Requirements

In addition to the general requirements for upgrading software, you may need to perform the following installations and procedures:

- Run netconfig - If your site has the line networking feature, see [Running netconfig on page 4-54](#).
- DataMan - If you need to install DataMan at your site, see [Installing DataMan on page 4-57](#).
- AutoQuote - If you need to install AutoQuote at your site, see [Installing AutoQuote on page 4-58](#).
- ALX Auto Pager - If you need to install the ALX Auto Pager software at your site, see [Installing the ALX Auto Pager Software on page 4-59](#).
- Private builds - If you need to load private builds at your site, see [Loading Private Builds on page 4-69](#).

## RESTARTING THE SYSTEM CENTER

After you complete the software installation and install a test or customer site database, you can start the System Center application and validate the installation.

---

*Note* After upgrading the Tradenet MX software, you must restart the System Center, reload the System Center Gateway (ENIC or VME), and reload the Tradenet MX after normal working hours before any changes will take effect.

---

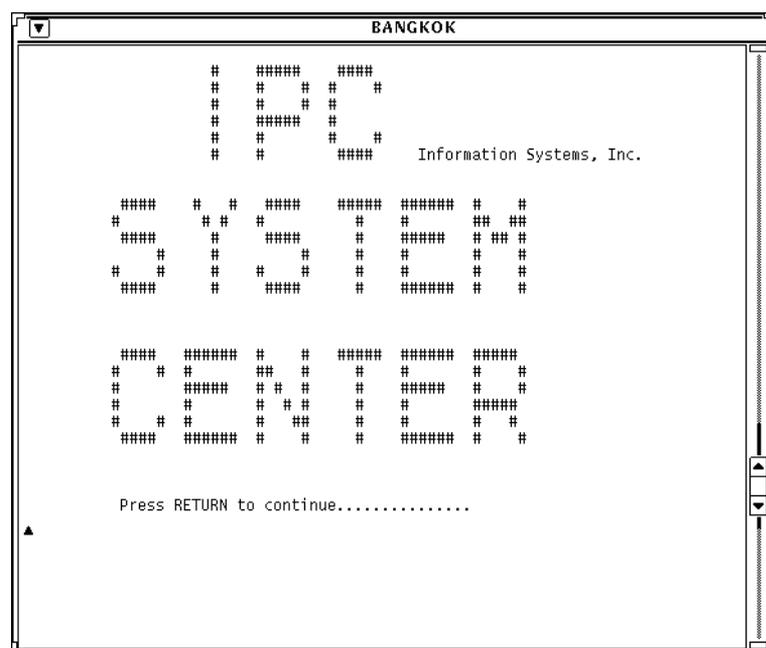
After logging on as `sm`, you can restart the System Center either from a shell tool window or using menu commands from the root menu. [Using a Shell Tool Window on page 4-48](#) describes how to restart the System Center using a shell tool window. [Using Menu Commands From the Background Menu on page 4-50](#) describes how to restart the System Center using menu commands.

### Using a Shell Tool Window

To restart the System Center using a shell tool window, take the following steps:

1. In a shell tool, from the `/usr/sx/db` directory, type `sycc r` and press RETURN. The system prompts you to log in.
2. Type `service` and press RETURN.
3. Enter the password.
4. Type `scgc_a` and press RETURN. You see a confirmation message.
5. Type `y` and press RETURN.
6. Type `sycc` and press RETURN. The system prompts you to log in.
7. Type `service` and press RETURN.
8. Enter the password. You see the following screen.

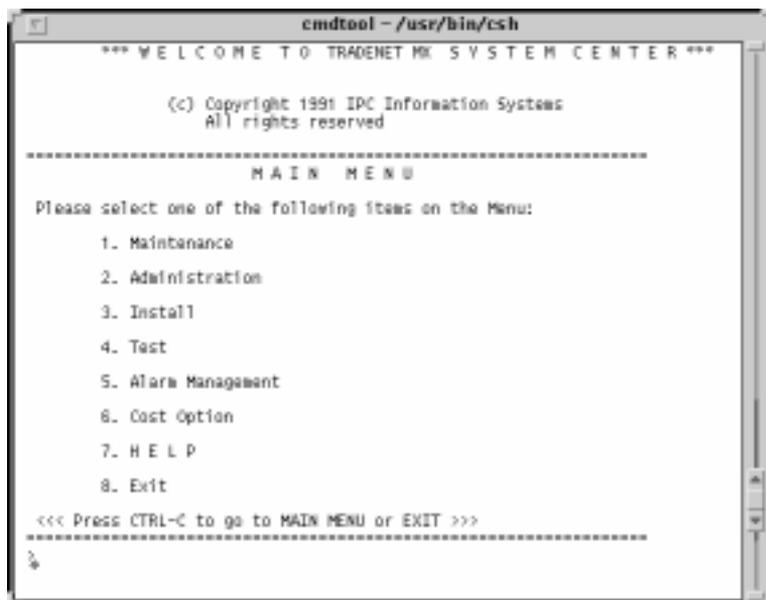
FIGURE 4-30 System Center Application Opening Screen



To continue to the **MAIN MENU**, press RETURN.

The System Center main menu (*FIGURE 4-31 MAIN MENU on page 4-49*) is the entry way to the System Center application (SycAp). It lists the major task categories: Maintenance, Administration, Install, Test, Alarm Management, Cost Option, HELP, and Exit.

FIGURE 4-31 MAIN MENU



*Note* If you need to know the version of SycAp installed at your site, you can get it from the **MAIN MENU**.

At this point, SycAp is ready for you to choose the category that best suits your task.

*Note* To exit SycAp, type **8** and press **RETURN**; or press **CTRL -C**, type **e**, and press **RETURN** to return to the **syscen:/usr/sx/db>** prompt.

For more information about the SycAp menus, refer to the *Tradenet MX System Center Manual 14.1* (part number B0086185104).

*Note* The following procedures assume that your root menu has not been changed from its default settings. That is, the root menu contains the following menus: **System-Management**, **Deskset**, **Windows**, **Tools**, **Refresh**, **Lock Screen**, **Reset Input**, **Properties**, and **Exit**.

To start the System Center, take the following steps:

1. Open the root menu by clicking the right mouse button on the screen background.
2. Click the right mouse button on **Windows**.
3. Click either **Shell Tool** or **Command Tool**. A shell tool or command tool window opens. (The only difference between a shell tool and a command tool is that a command tool allows you to scroll in the window and a shell tool does not.)
4. Move the cursor inside the shell tool or command tool window. (If the cursor is not inside a window, you cannot type inside that window, that is, the window is not selected or active.)
5. At the **/usr/sx/db** prompt, type **sysc r** and press **RETURN**. The system prompts you to log in.

6. Type **service** and press RETURN. The system prompts you for a password.
7. Type the password and press RETURN. The system prompts you for a host name.
8. Type **scgc\_a** and press RETURN. You see a confirmation message.
9. Type **y** and press RETURN.

---

*Note* Because the System Center is not connected to a Tradenet MX system, you might see error or alarm messages on the screen. This is not a reason for concern unless they are Datagram messages. Datagram error messages indicate that the system was incorrectly configured as a non-network system; you need to re-install both the SunOS and the System Center software.

---

---

10. After you have made a number of menu selections to validate that the System Center application is working properly, select the **Exit** option from the Main Menu.
11. At the **syscen:/usr/sx/db>** prompt, type **killsysc** and press RETURN to stop all System Center processes.

If at any time you need to verify that SycAp is running and that the System Center is communicating with the switching center, go to a shell tool or command tool, and type **sycaudit v** and press RETURN. You should see a list of processes with a status of "Running." Another way you can determine if the System Center is communicating with the switching center is to log off a turret and then see if you can log back on.

## Using Menu Commands From the Background Menu

To log in to SycAp using menu commands from the background menu, take the following steps:

1. Press and hold down the right mouse button anywhere on the background of the screen to open the background menu.
2. Highlight **System Management** from the background menu.
3. In the **System-Management** menu, click **Startup System Center**.

## OPENING SYSTEM CENTER DATA VIEW TO VERIFY THE INSTALLATION

Opening the **System Center Data View** window allows you to validate that the operating system software and database installations were successful. To open the spreadsheet data view, take the following steps:

1. Press and hold down the right mouse button anywhere on the background of the screen to open the background menu.
2. When the **Systems Manager** pop-up menu is displayed, click the right mouse button once on the **System-Management** option.
3. When the next set of options is displayed, click the right mouse button once on the **Spreadsheet Data View** option. You see the **Iview** application menu bar and the **System Center Data View** window.
4. Use the left mouse button to open a number of spreadsheets to confirm that the Iview and database installations were successful. You should see data in the tables.
5. Use the left mouse button to click **System Status**. View the shelves and alarms.
6. Click **Exit** to exit System Status.
7. Click **Exit** to leave the **System Center Data View** window.
8. Click **OK**.
9. Press and hold down the right mouse button anywhere on the background of the screen to open the background menu.
10. Click **Quit**.
11. At the confirmation message, click **OK**. The window manager is closed, you are logged out, and the **syscen login:** prompt is displayed.

## RELOADING THE GATEWAY

After installing or upgrading the Tradenet MX software, you need to reload the Gateway. This procedure varies based on whether your Tradenet MX System has a VME tower or an Ethernet network interface card (ENIC).

### Reloading the VME Tower

To reload the Gateway if your Tradenet MX System has a VME tower, take the following steps:

1. At the **syscen:/usr/sx/db>** prompt, type **killsysc** and press RETURN to stop all System Center processes.
2. Power down the VME tower.
3. Re-start the System Center using the **sysc r** command.
4. Power on the VME tower.
5. Wait for the VME tower to load. The LEDs on the VME tower will flash in a pattern called the *MX shuffle*.
6. Load the system. (From the System Center **MAIN MENU**, type **1** and press RETURN, type **3** and press RETURN, then type **1** and press RETURN.)

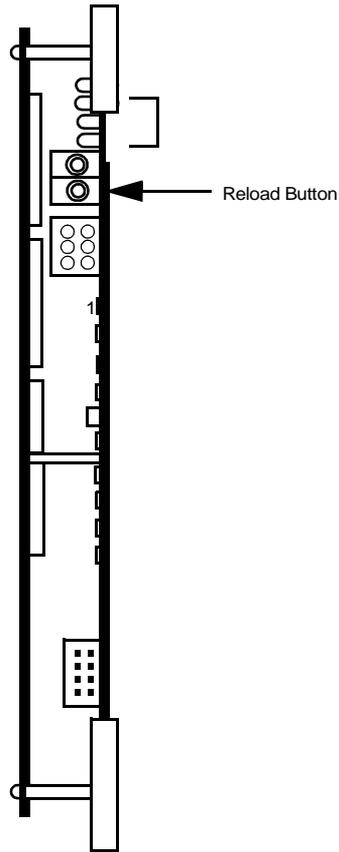
### Reloading the ENIC

To reload the Gateway if your Tradenet MX System has a VME tower, take the following steps:

1. At the **syscen:/usr/sx/db>** prompt, type **killsysc** and press RETURN to stop all System Center processes.
2. Re-start the System Center using the **sysc r** command.

3. Manually load the ENIC by pressing the reload button on the ENIC.

FIGURE 4-32 ENIC



4. Wait for the ENIC to load. The feature processor LEDs will flash in a pattern called the *MX shuffle*.
5. Load the system. (From the System Center **MAIN MENU**, type **1** and press RETURN, type **3** and press RETURN, then type **1** and press RETURN.)

## RUNNING NETCONFIG

*Note* If your site does not have the line networking feature, skip this procedure. If your site has the line networking feature, take the following steps:

1. At the `syscen:/usr/sx/db>` prompt, type `netconfig` and press RETURN.

FIGURE 4-33 NetMan UNIX System Files Configuration Tool Window

**Configure Networking Files Tool** **IPC**

**This Site**

Site ID

**Direct Connection Settings**

Ethernet IP Address

**Modem Settings**

PPP IP Address

Modem Port  Modem Type

**Connected To**

Site ID	Phone Number	ipAddress
1		192.168.14.1

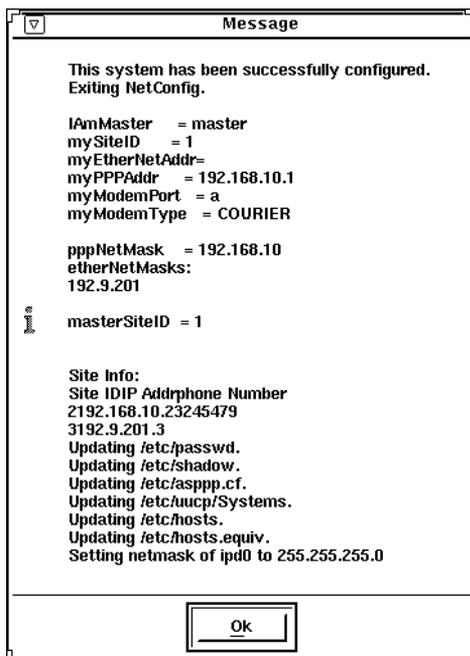
**Master Site**

Master Site ID

2. Verify that the networking configuration in this window is correct.

- Click **OK**.

FIGURE 4-34 Configuration Message



- Verify that the configuration in this window is correct.
- Click **OK**.
- Close the command tool or shell tool window.
- Exit the window manager.
- At the **syscen console login:** prompt, type **fastboot** and press RETURN.
- Enter the password. The System Center re-boots. As the System Center re-boots, you see several lines of information written to the screen. When the System Center finishes re-booting, look for lines on the screen similar to the following lines:

```
Starting Informix SQL server se 7_1p
Starting Informix SQL server se 7_1
```

Indicates Modem Connection

Indicates the Site ID of This System

Blank Indicates Ethernet Connection

For more information, refer to the *Tradenet MX System Center Manual 14.1* (part number B0086185104).

---

**Caution** If you later go back to Netconfig to view the information, make sure you click **Cancel** to exit Netconfig and not **OK**.

---

For more information about using the Database Reconfigurator, refer to the *Tradenet MX Database Reconfigurator Manual 11.2* (part number B-00989-8-63-02).

## INSTALLING DATAMAN

DataMan is available on tape and on diskette. To install DataMan, take the following steps:

1. Log in as *rootcsh*.
2. From the syscen prompt, type **mxinstall** and press RETURN. You see the **MX start-up MENU**.

```
*****
*
*      - - - - MX start-up MENU - - - ver 14.01.XX - -      *
*
*      1) - - - - Install StartUP files                      *
*      2) - - - - Install MX software                       *
*      3) - - - - UnInstall MX software                     *
*      4) - - - - Install Informix 7 (MENU)                 *
*      5) - - - - Install Wingz2                           *
*      6) - - - - Install Applix (MENU)                     *
*      7) - - - - Install Ilog                              *
*      e) - - - - Exit program                              *
*
*****
Please input a choice --->
```

3. Type **2** and press RETURN.
4. Type **2** and press RETURN to install from diskette. You are prompted to insert a diskette.
5. Insert the DataMan diskette and press RETURN. You see a menu where you can select the DataMan tools to install.

## INSTALLING AUTOQUOTE

AutoQuote is available on tape and on diskette. To install AutoQuote, take the following steps:

1. Log in as *rootcsh*.
2. From the system prompt, type **mxinstall** and press RETURN. You see the **MX start-up MENU**.

```
*****
*
*      - - - - MX start-up MENU - - - ver 14.01.XX - -
*
*      1) - - - - Install StartUP files
*      2) - - - - Install MX software
*      3) - - - - UnInstall MX software
*      4) - - - - Install Informix 7 (MENU)
*      5) - - - - Install Wingz2
*      6) - - - - Install Applix (MENU)
*      7) - - - - Install Ilog
*      e) - - - - Exit program
*
*****
Please input a choice --->
```

3. Type **2** and press RETURN.
4. Type **2** and press RETURN to install from diskette. You are prompted to insert a diskette.
5. Insert the AutoQuote diskette and press RETURN. You see a menu where you can select the AutoQuote tools to install.

## INSTALLING THE ALX AUTO PAGER SOFTWARE

### ALX Auto Pager Software with Release 11.4 and Release 14.1

If you are using a modem or a call logger you may need to install the optional Aurora serial port card to support the ALX Auto Pager. For information about adding an additional serial port, see [Installing the Optional Aurora Card on page 2-13](#).

If you are not using a call logger, you can use port ttyb to support the ALX Auto Pager but you must take the following steps:

1. In the **System Center Data View** window, click **Call Logger**.
2. If column **A, Port/Database**, is set to **ttyb**, then, change it to **ON** and change column **C, Traffic Destination**, to **DATABASE ONLY** and column **D, Test Data**, to **DISPLAY OFF**.

The ALX Auto Pager is available on tape and on diskette. To install the ALX Auto Pager, take the following steps:

1. Log in as *rootcsh*.
2. From the syscen prompt, type **mxinstall** and press RETURN. You see the **MX start-up MENU**.

```
*****
*
*      - - - - MX start-up MENU - - - ver 14.01.XX - -
*
*      1) - - - - Install StartUP files
*      2) - - - - Install MX software
*      3) - - - - UnInstall MX software
*      4) - - - - Install Informix 7 (MENU)
*      5) - - - - Install Wingz2
*      6) - - - - Install Applix (MENU)
*      7) - - - - Install Ilog
*      e) - - - - Exit program
*
*****
Please input a choice --->
```

3. Type **2** and press RETURN.
4. Type **2** and press RETURN to install from diskette. You are prompted to insert a diskette.
5. Insert the ALX Auto Pager diskette and press RETURN. You see a menu where you can select the ALX Auto Pager software to install.

### ALX Auto Pager Software with Release 10.1 and Earlier

If you have Release 10.1 or earlier, to install the ALX Auto Pager, you need the *MX Setup & Installation* disks and the *ALX Auto Pager* disk.

To install the ALX Auto Pager, take the following steps:

1. Log on as *root*.
2. Insert the *MX Setup & Installation Disk 1* into the floppy drive.
3. Type **extract\_unbundled** and press RETURN.
4. Type **1** for local and press RETURN.
5. Type **fd0** for floppy drive and press RETURN.

6. At the copyright information, type **y** and press RETURN.
7. Select option **5 - ALX Auto Pager**.
8. Follow the prompt to insert the ALX Auto Pager disk.

## INSTALLING APPLIX REPORT WRITER ON A PC

The Report Writer feature, available with Release 14.1 and later, can be run from a PC using Windows NT 4.0, as well as the System Center. (For more information about this feature, refer to the *Tradenet MX System Center Manual 14.1*, part number B0086185104.) After installing the Report Writer software to the System Center (see [Installing Applix on page 4-32](#)), install the software to a PC.

---

*Note* To use the Report Writer on a PC, that PC must be **networked**. That is, from the PC you can telnet into the System Center. For information about setting up connectivity to the System Center, see [Remote Diagnostics on page 3-1](#).

---

Installing Applix Report Writer on a PC involves the following steps:

1. Install the Applixware software to your PC.
2. Install the Report Writer application to your PC.
3. Modify the report writer processes in **Settings**.
4. Set the license variable.

---

*Note* The Report Writer available with Release 11.2 and later is year 2000 compliant.

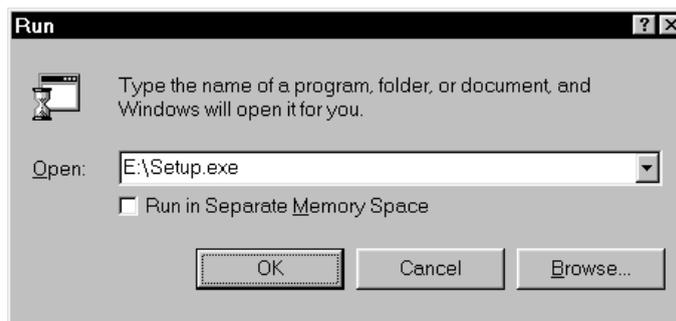
---

## Installing the Applixware Software

To install the software to a PC, take the following steps:

1. Create a new user name on your PC called *install*. (Refer to the documentation that came with your PC.) Log in to the PC as *install* (not as *administrator*).
2. Insert the Applixware Windows NT CD in the CD ROM drive.
3. Click **Start** and **Run**. You see the **Run** dialog box.
4. Select the Setup.exe file from the CD. The following figure uses the E drive as the CD ROM drive.

FIGURE 4-35 Run Dialog Box



5. Click **OK**. You see the following dialog box.

FIGURE 4-36 Choose Setup Language Dialog Box



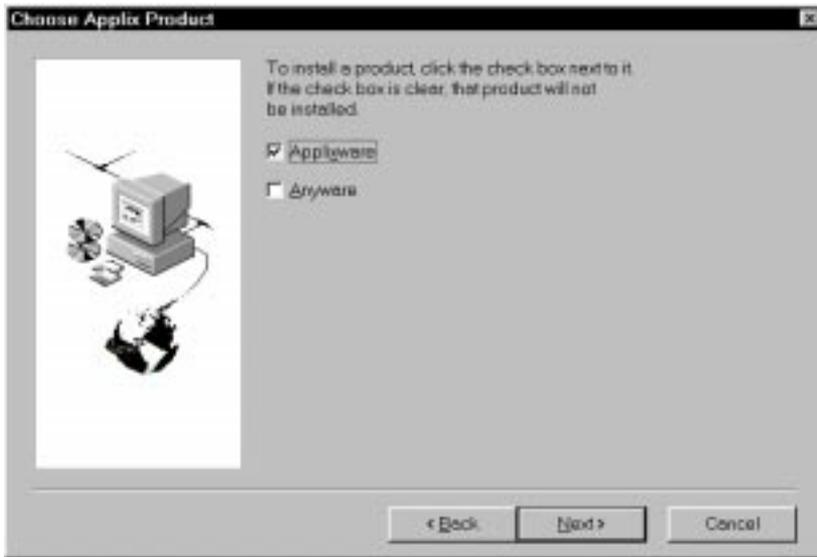
6. Click the language in which you want the installation program to run, and click **Next >**. You see the following dialog box.

FIGURE 4-37 Starting the Installation Program



7. Click **Next >** and you see the following dialog box.

FIGURE 4-38 Choose Applix Product Dialog Box



8. Check **Applixware** (if it is not already) and click **Next >**. You see the following dialog box.

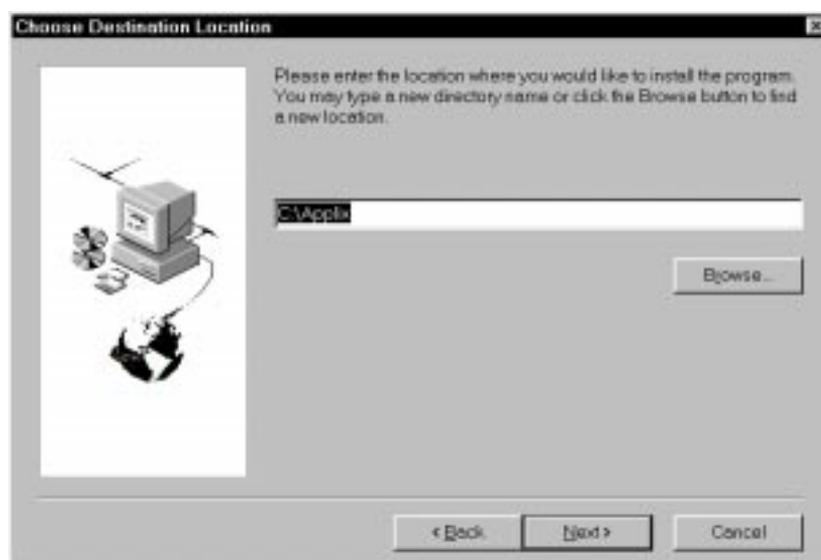
FIGURE 4-39 Choose Interface Language Dialog Box



9. Select the language in which you want the user interface to use, and click **Next >**. You see the following dialog box.

FIGURE 4-40 **Setup Install Type** Dialog Box

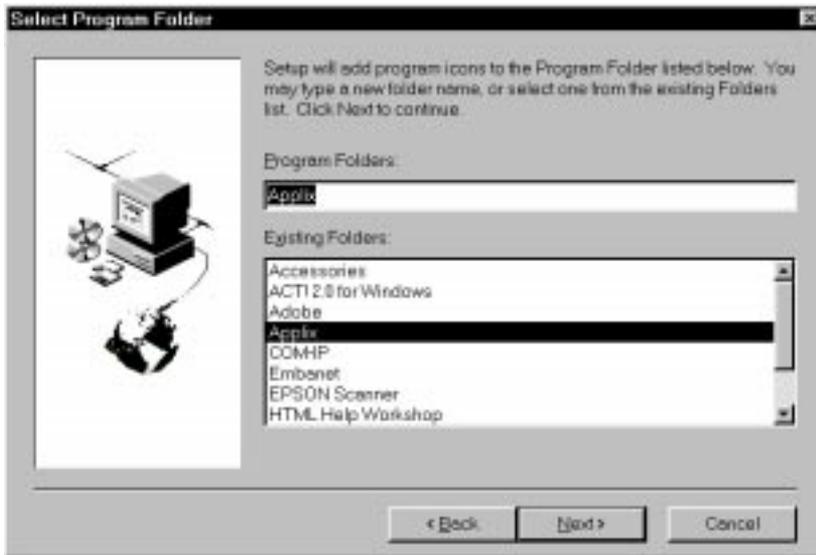
10. Click **Typical**. You see the following dialog box.

FIGURE 4-41 **Choose Destination Location** Dialog Box

11. By default, the directory Applix uses is C:\Applix. Applix requires 200 MB. If you do not have enough space on your C: drive, select another drive.

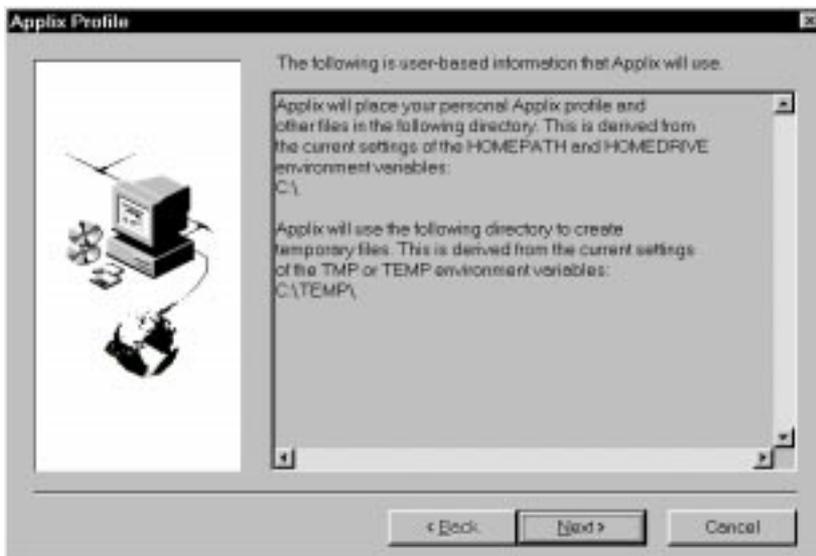
12. Click **Next >**.

FIGURE 4-42 **Select Program Folder** Dialog Box



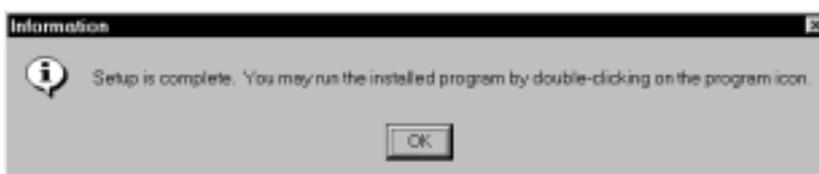
13. Leave the default folder, **Applix**, and click **Next >**.

FIGURE 4-43 **Applix Profile** Dialog Box



14. Click **Next >**.

FIGURE 4-44 **Information** Dialog Box



15. Click **OK** to exit the installation program.

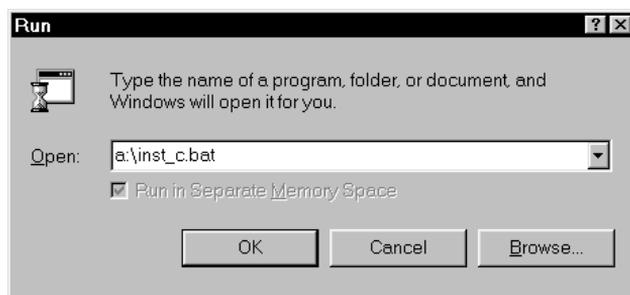
## Installing the Report Writer Application

After installing the Applixware software, you need to install the report writer application. To install the report writer application, take the following steps:

1. Log in to the PC as *administrator*.
2. Insert the *Tradenet MX Report Writer* diskette in the diskette drive.
3. Click **Start** and **Run**. You see the **Run** dialog box.
4. Determine to which drive you want to install the report writer application: drive C, D, E, or F. You should install the report writer application to the same drive to which you installed Applixware in [Installing the Applixware Software](#) on page 4-61.
5. Type one of the following commands in the **Run** dialog box.
  - `a:\inst-c.bat`
  - `a:\inst-d.bat`
  - `a:\inst-e.bat`
  - `a:\inst-f.bat`

Use `a:\inst-c.bat` to install the report writer to your C drive, use `a:\inst-d.bat` to install the report writer to your D drive, and so on.

FIGURE 4-45 Run Dialog Box



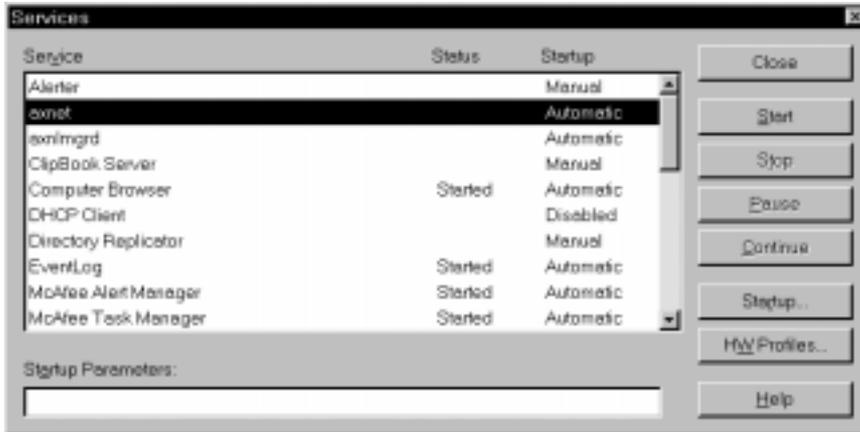
6. Click **OK**. A command prompt window opens and the script begins running.
7. When prompted, press RETURN. You will see several messages about configuration steps you need to take after installing the report writer. You can ignore these messages; the following pages tell you how to configure report writer.
8. After the install script runs, you also need to add a line to your services file. Click **Start, Programs**, and **Command Prompt** to open a command prompt window.
9. Move to the `<windows directory>\system32\drivers\etc` directory by typing `cd \winnt\system32\drivers\etc` and pressing RETURN. This example shows the Windows directory as *winnt*.
10. Type `edit services` and press RETURN.
11. Go to the end of the file and add the following line:  
`axnet 5492/tcp`
12. Save the services file.
13. Exit the editor.

## Modifying the Report Writer Processes

To modify the report writer processes, take the following steps:

1. While still logged on as administrator, click **Start, Settings**, and **Control Panel** to open the **Control Panel**.
2. Double-click **Services**. You see two processes: axnet and axnlmgrd.

FIGURE 4-46 **Services** Dialog Box



3. Double-click on **axnet** and you see the following dialog box.

FIGURE 4-47 **Service** Dialog Box



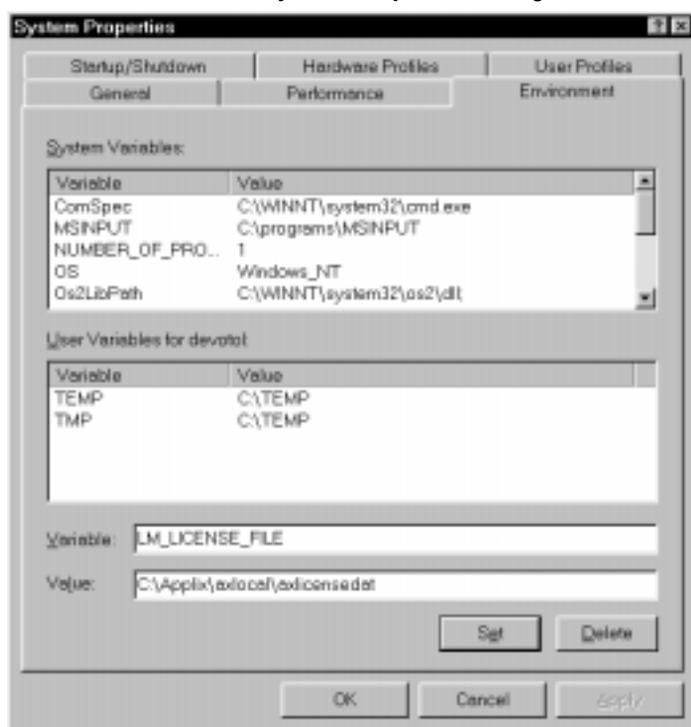
4. Select **Automatic** as the **Startup Type**, and select **System Account** under **Log On As**.
5. Click **OK**.
6. Double-click on **axnlmgrd**.
7. Select **Automatic** as the **Startup Type**, and select **System Account** under **Log On As**.
8. Click **OK**.
9. Click **Close** to close the **Services** dialog box.

## Setting the License Variable

To set the license variable, take the following steps:

1. While still logged on as administrator, click **Start, Settings,** and **Control Panel** to open the **Control Panel**.
2. Double-click **System**. You see the **System Properties** dialog box.
3. Click the **Environment** tab.
4. Click any entry in the **System Variables** list.
5. Click in the **Variable** box and type **LM\_LICENSE\_FILE**.
6. Click in the **Value** box and type **<Applix install directory>\axlocal\axlicensedat**.<sup>1</sup>

FIGURE 4-48 System Properties Dialog Box



7. Click **Set**.
8. Click **OK** to close the **System Properties** dialog box.
9. Re-boot the PC.
10. Log in to the PC as *install*.

To use the report writer, click **Start, Programs, Applix,** then **Applixware**. (You must be logged in as *install*.) For more information about using the report writer, refer to the *Tradenet MX System Center Manual 14.1*, part number B0086185104.

1. The Applix install directory is usually C:\Applix.

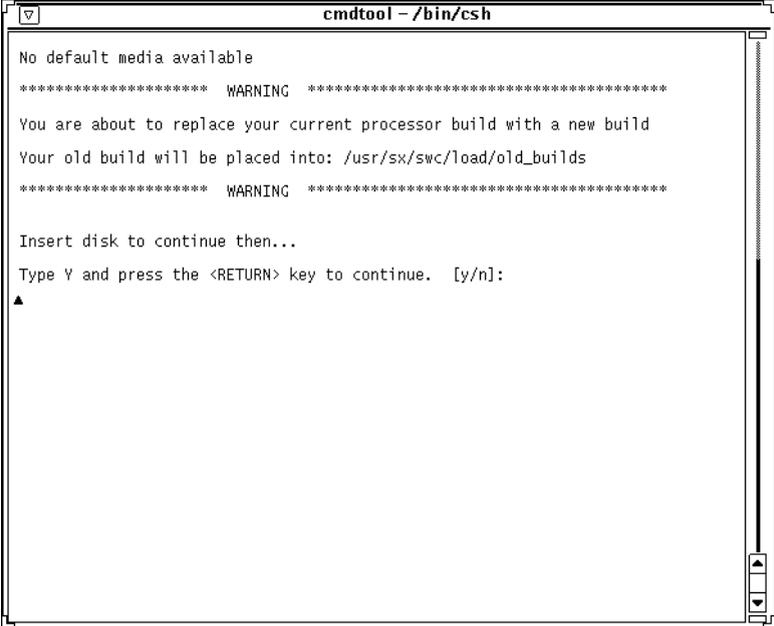
## LOADING PRIVATE BUILDS

With Release 11.1 and later, there is a command you can use to load private builds. You can use this command in the future if a private build becomes necessary.

To load a private build, take the following steps:

1. At the System Center, log in as *install*.
2. Open a command tool or shell tool window.
3. From the `usr/sx/db` prompt, type **new\_build** and press RETURN. You are prompted as follows.

FIGURE 4-49 Loading Private Builds



```

cmdtool - /bin/csh

No default media available
***** WARNING *****
You are about to replace your current processor build with a new build
Your old build will be placed into: /usr/sx/swc/load/old_builds
***** WARNING *****

Insert disk to continue then...
Type Y and press the <RETURN> key to continue. [y/n]:
^

```

4. Insert the private build diskette into the Sun machine floppy drive.
5. Type **y** and press RETURN to load the private build. (Alternately, you can type **y** and press RETURN to abort the load process.)

## CHANGING THE SYSTEM TIME ZONE

When you receive a new system from IPC's factory in Westbrook, CT, all software has been set up for you and the system time has been set for your time zone. If the time zone is wrong and you need to change it, follow the appropriate procedure in this section. The procedure for changing the system time zone varies depending on whether you are using Solaris or SunOS.

### Changing the System Time Zone With Solaris

To change the system time zone on a system using Solaris, take the following steps:

1. Determine the time zone in which you should be running.
  2. Log in to the Sun machine as *root*.
  3. Change to the `usr/share/lib/zoneinfo` directory by typing `cd /usr/share/lib/zoneinfo` and pressing RETURN.
  4. Look at the file names in this directory to find the correct time zone argument. (Type `ls` and press RETURN.)
- 

*Note* Some time zones are in a subdirectory of this directory. For example, U.S. time zones are listed in the `US/` subdirectory.

---

---

5. Change the time zone by typing `changetime name` and pressing RETURN, where *name* is the appropriate time zone. For example, `changetime US/Mountain`.
6. Reboot the Sun machine to start any daemons.

### Changing the System Time Zone With SunOS

The procedure for changing the system time zone varies depending on what version of SunOS you are using. To check the version of SunOS you are running, type `uname -r` and press RETURN in a shell tool or on the command line. If you are using a version of SunOS prior to 4.0, you must reconfigure your kernel, re-compile it, install the new kernel, and reboot your machine.

To change the system time zone if you are using SunOS 4.0 or later, take the following steps:

1. Determine the time zone in which you should be running.
  2. Log in to the Sun machine as *root*.
  3. Change to the `usr/share/lib/zoneinfo` directory by typing `cd /usr/share/lib/zoneinfo` and pressing RETURN.
  4. Look at the file names in this directory to find the correct time zone argument. (Type `ls` and press RETURN.)
- 

*Note* Some time zones are in a subdirectory of this directory. For example, U.S. time zones are listed in the `US/` subdirectory.

---

---

5. Change the time zone by typing `zic -l name` and pressing RETURN, where *name* is the appropriate time zone. For example, `zic -l US/Mountain`.
6. Reboot the Sun machine to start any daemons.

## UPGRADING FROM AN EARLIER ITERATION OF RELEASE 14.1

If you are upgrading from an earlier version of Release 14.1 to a newer version of Release 14.1, you need to re-install the Tradenet MX software.

To install the Tradenet MX Release 14.1 software, take the following steps:

1. Connect the 4 mm tape drive (if it is not already connected). If you are switching devices, see [Switching Devices on page 4-25](#).
2. After logging in as *rootsh*, from the syscon prompt, type **mxinstall** and press RETURN. You see the **MX start-up MENU**.

```
*****
*
*   - - - - MX start-up MENU - - - ver 14.01.XX - -
*
*   1) - - - - Install StartUP files
*   2) - - - - Install MX software
*   3) - - - - UnInstall MX software
*   4) - - - - Install Informix 7 (MENU)
*   5) - - - - Install Wingz2
*   6) - - - - Install Applix (MENU)
*   7) - - - - Install Ilog
*   e) - - - - Exit program
*
*****
Please input a choice --->
```

---

*Note* To upgrade from an earlier iteration of the same release, do not select **Option 3**. This option is only selected when upgrading from one major release to another major release.

---

3. Type **2** and press RETURN. You see the **INSTALL MX Software** menu.
4. Type **1** and press RETURN to install from tape.

5. Insert the tape and press RETURN. There is a delay while the tape loads. You see a menu where you can select the options you want to install.

Please select any of the following that you want to Install:

	TOOLNAME	Version	Tool Description
	-----	-----	-----
1	----> MX-SETUP	14.01.XX	MX Setup and Installation files
2	----> MXSYCSWC	14.01.XX	MX Distribution Tape
3	----> XTENSIONS	14.01.XX	MX Database Reconfiguration files
4	----> MXPOWER	14.01.XX	MX Power Sweep files
5	----> MXALX	14.01.XX	MX ALX Pager files
6	----> MXQUOTE	14.01.XX	MX Autoquote files
7	----> SITE-CUST	14.01.XX	MX Siteman and Custman
8	----> MXCUSTMAN	14.01.XX	MX Custman files
9	----> MXSITEMAN	14.01.XX	MX Siteman files
10	----> COUNTRYBASE	14.01.XX	MX Country Base files
11	----> MX-EXPRESS	14.01.XX	Full MX Tape Application
12	----> MX-DATAMAN	14.01.XX	Full Dataman Tool Set
13	----> REPORT_WRITER	14.01.XX	Tradenet MX Report Writer
	e ----> Exit selection		

Please input a choice ==>

6. Type **11** and press RETURN to select **MX-EXPRESS** to install everything except the ALX Auto Pager and DataMan. (When an item is selected, it shows an asterisk \*.)
7. At the next menu, select the options you want to install by typing the number of the option and pressing RETURN. Options 3, 4, and 5 are already selected by default. Typically, you will also install options 1, 2, 6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 18, and 20. (Options 11 and 19 are for Japanese Tradenet MX Systems.)
8. Type **q** and press RETURN. You are prompted to clear out files.
9. If this is the first time the Tradenet MX software has been installed on this hard drive, type **n** and press RETURN.
10. If the Tradenet MX software has been installed on this hard drive before, type **y** and press RETURN. If there are not files to clear out, you will see error messages.

11. You return to the installation menu.

Please select any of the following that you want to Install:

	TOOLNAME	Version	Tool Description
	-----	-----	-----
1	----> MX-SETUP	14.01.XX	MX Setup and Installation files
2	----> MXSYCSWC	14.01.XX	MX Distribution Tape
3	----> XTENSIONS	14.01.XX	MX Database Reconfiguration files
4	----> MXPOWER	14.01.XX	MX Power Sweep files
5	----> MXALX	14.01.XX	MX ALX Pager files
6	----> MXQUOTE	14.01.XX	MX Autoquote files
7	----> SITE-CUST	14.01.XX	MX Siteman and Custman
8	----> MXCUSTMAN	14.01.XX	MX Custman files
9	----> MXSITEMAN	14.01.XX	MX Siteman files
10	----> COUNTRYBASE	14.01.XX	MX Country Base files
11	----> MX-EXPRESS	14.01.XX	Full MX Tape Application
12	----> MX-DATAMAN	14.01.XX	Full Dataman Tool Set
13	----> REPORT_WRITER	14.01.XX	Tradenet MX Report Writer
	e ----> Exit selection		

Please input a choice ==>

12. If you need to install DataMan, type **12** and press RETURN to select **MX-DATAMAN**. (For more information about DataMan, refer to the *Tradenet MX DataMan Manual 11.1*, part number B-01087-0-00-01.) When prompted, press RETURN.
13. If you need to install report writer, type **13** and press RETURN to select **REPORT\_WRITER**. (For more information about the report writer, refer to the *Tradenet MX System Center Manual 14.1*, part number B0086185104.)

---

*Note* Before installing the report writer application, the Applixware software must be installed to your hard drive. See [Installing the Applixware Software on page 4-61](#).

---

14. When you are ready to continue, type **e** and press RETURN. Wait while temporary files are removed. This takes approximately one minute.
15. Press RETURN.
16. Type **e** and press RETURN to exit the startup menu.
17. Type **shutdown -y -i6 -g0** and press RETURN to reboot the system.
18. Log in as install.
19. Type **ckversion** to make sure the software is installed.

---

*Note* You must run *schema* after upgrading from an earlier iteration of Release 14.1. If you are using the line networking feature, you must also run *netconfig* after upgrading from an earlier iteration of Release 14.1.

---

## USING MOTIF WINDOW MANAGER (MWM) IN RELEASE 10.1

Release 10.1 is the only software version that uses Motif Window Manager (MWM) as the window manager; all other software versions use OpenLook Window Manager (OLWM). If you are using Release 10.1, follow the instructions in this section to install MWM and upgrade Wingz from 1.1.b to 2.1.1. MWM is installed from tape. Wingz is installed from CD.

To install MWM and Wingz 2.1.1 in preparation for using Release 10.1, take the following steps:

1. Locate the Wingz 2.1.1 serial and key numbers (usually located in the back of the Customer Support Guide).
2. Insert the first *MX Installation* disk in the drive.
3. Log in as *root*.
4. Enter the root password.
5. Type `cd /usr/etc` and press RETURN.
6. Type `extract_unbundled` and press RETURN.
7. Type `1` and press RETURN when asked to specify remote or local.
8. Enter the device name by typing `fd0` and pressing RETURN.
9. Press RETURN.
10. Type `y` and press RETURN to continue. You see the installation menu:

```

1 - Full MX Installation
2 - System Configuration Files
3 - MX Software
4 - ISV Products
5 - ALX Auto Pager
6 - Power Sweep Utility
7 - Wingz2, Motif, and X11R5 for Wave 3 ONLY
8 - Exit
Enter [1-8]:

```

---

**Warning!**      *Never choose 1 - Full MX Installation. This option tries to install everything, including the operating system software. Files on your disk are deleted and the system prompts you to insert the operating disks (which you do not have). If you select this option, you need to send your machine back to IPC's manufacturing plant in Westbrook, CT to be set up.*

---

11. Type `2` and press RETURN to select **2 - System Configuration Files**.
12. If you get prompts to overwrite files, type `y` and press RETURN.
13. When prompted, insert the second and third MX Installation disk into the disk drive and press RETURN.
14. When you return to the installation menu, type `7` and press RETURN to select **7 - Wingz2, Motif, and X11R5 for Wave 3 ONLY**. You see another menu to install X11R5 and Motif.
 

```

1) X11R5 and MOTIF
2) Wingz2
3) Exit to Previous Menu

```
15. Type `1` and press RETURN to install X11R5 and Motif.

---

**Note**      *You must install Motif before you install Wingz. If you try to install Wingz before Motif is installed, you return to the previous menu where you should select 1 to install Motif.*

---

16. The system prompts you to insert the tape into the tape drive. Insert the tape into the tape drive and press RETURN. You see a message to wait while files are extracted from the tape.
17. You see a message about the Bluestone Product Installation Program. Press RETURN.
18. You see the message **Found "X11 R5 Development Environment" Install now? [y or n]**. Type **y** and press RETURN.
19. You see the message **Would you like to configure libraries now? [n]:**. Press RETURN to accept the default.
20. You see a prompt to insert the tape (if it is not already). If necessary, insert the tape. Then press RETURN to install files.
21. You see a message to wait while files are extracted from the tape. You see a message about the Bluestone Product Installation Program. Press RETURN to continue.
22. You see the message **Found "OSF/Motif 1.2 Development Environment" Install now? [y or n]**. Type **y** and press RETURN.
23. You see the message **Are you using a different configuration? [no]**. Press RETURN to accept the default (no).
24. You see the message **Do you want to have these links set? [yes]**. Press RETURN to accept the default (yes). The program checks for existing versions of Motif. If it finds any, it asks you if it should remove the existing versions; type **y** and press RETURN to remove existing versions.
25. You see the message **Would you like to configure libraries now? [n]:**. Press RETURN to accept the default.
26. Press RETURN to return to the following menu:
  - 1) X11R5 and MOTIF
  - 2) Wingz2
  - 3) Exit to Previous Menu
27. Type **2** and press RETURN to install Wingz2.
28. The system prompts you to insert the Wingz tape into the tape drive. Insert the tape into the tape drive and press RETURN. You see the following menu.
  - 1) All Packages
  - 2) Wingz
  - 3) DataLink
  - 4) Examples & Tutorial
  - 5) HP Printer Support
  - 6) Exit
29. For all options, type **1** and press RETURN.
30. The system prompts you for the device name. Press RETURN to accept the default device name.
31. The system prompts you for a directory path. Select a path different from the default path, by typing **n** and pressing RETURN.
32. Type **/usr/w2/Wingz2** as the directory path and press RETURN.
33. You see the message **Is /usr/w2/Wingz2 the correct directory? [y/n]**. Type **y** and press RETURN.
34. Files are extracted from the tape and the system prompts you for your serial code. Type your serial code and press RETURN.
35. The system prompts you for your key code. Type your key code and press RETURN.

36. You see a message about what was installed. Press RETURN to return to the following menu:

- 1) All Packages
- 2) Wingz
- 3) DataLink
- 4) Examples & Tutorial
- 5) HP Printer Support
- 6) Exit

37. Type 6 and press RETURN to exit. You return to the following menu:

- 1) X11R5 and MOTIF
- 2) Wingz2
- 3) Exit to Previous Menu

38. Type 3 and press RETURN to exit the menu.

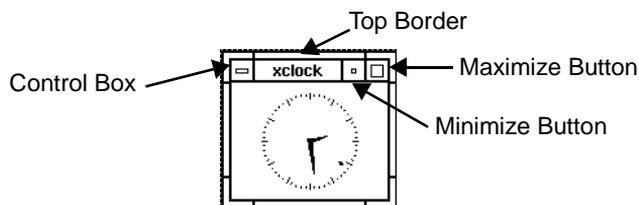
39. Type e and press RETURN to exit completely.

40. Reboot your machine.

The **Shuffle Up** and **Shuffle Down** commands in the background menu are used to rearrange the windows. (In addition, you can use the FRONT button on the keyboard. Also, to toggle through all open windows and icons, press ALT-SHIFT-ESC repeatedly.) The **Pack Icons** command in the background menu is used to reduce any open windows to icons and move all the icons to the corner of the screen.

Each window has a window menu you can access by clicking the control box in the upper left corner of the window. You can also open this menu by pressing the right mouse button anywhere on the top border of the window. See the following figure.

FIGURE 4-50 Sample MWM Window



The window menu includes the following commands.

**Restore** – use to restore a window to its original size after maximizing or minimizing it.

**Move** – use to change the location of the window.

**Size** – use to change the size of the window.

**Minimize** – use to shrink the window to its icon representation. (You can also use the minimize button on the window by clicking the small box button in the upper right corner of the window.)

**Maximize** – use to enlarge the window to cover the entire screen. (You can also use the maximize button on the window by clicking the large box button in the upper right corner of the window.)

**Lower** – use to send the window to the back (bottom) of the window stack (position closest to the background window).

**Close** – use to close the window.

## USING A SPARCSTATION IPC

If you are using Release 9.2 or earlier, you can use a SPARCstation IPC with SunOS 4.1.2 as your System Center. If you have Release 9.2 and you need to upgrade from SunOS 4.1.2 to 4.1.3 on a SPARCstation IPC, you need to take the following steps:

1. Upgrade from SunOS 4.1.2 to SunOS 4.1.3.
2. Upgrade from Informix SE 4.0 to Informix SE 5.0.
3. Upgrade from Informix SQL 4.0 to Informix SQL 4.1.

---

*Note* If you need to install an earlier release of the Tradenet MX software over a more recent release of the Tradenet MX software (for example, you are installing Release 8.0.4 over Release 9.0.1), you need to delete the \*.fp and \*.desc files from the SPARCstation before installing the older Release. If you do not delete these files first, your cards could have problems receiving data from the System Center.

---

## Upgrading From SunOS 4.1.2 to SunOS 4.1.3

To check the version of SunOS you are running, type **uname -r** and press RETURN in a shell tool or on the command line. SunOS 4.1.3 (Solaris 1.1.1 version A) is required to run Release 10.1 or later. The SunOS is CD-ROM based.

To upgrade to SunOS 4.1.3, take the following steps:

1. Halt and power off the SPARCstation. (See [Turning Power Off on page 2-68.](#))
2. Connect the CD-ROM and tape drive to the SPARCstation SCSI port.
3. Make sure the tape drive is properly terminated.
4. Insert the SunOS 4.1.3 (Solaris 1.1.1 version A) CD into the carrier and insert the carrier into the CD-ROM drive.
5. Power on the SPARCstation. (See [Turning Power On on page 2-67.](#))
6. Immediately press STOP-A to halt the boot.
7. At the prompt, enter the appropriate command to boot from the CD. (Refer to your SUN documentation for the specific command.) This command is similar to one of the following commands:

```
b cdrom
b sd(0,6,2)
b sr(0,6,2)
boot cdrom
boot sd(0,6,2)
boot sr(0,6,2)
```

You see the following menu:

```
What would you like to do?
1 - install SunOS mini-root
2 - exit to single user sheet
Enter 1 or 2:
```

8. Type **1** and press RETURN to select **1 - install SunOS mini-root**. The system prompts you as follows:
 

```

Do you want to format and/or label disk "sd0"?
1 - yes, run format
2 - no, continue with loading mini-root
3 - no, exit to single user shell
Enter 1, 2 or 3:
      
```
9. Type **1** and press RETURN to select **1 - yes, run format**. Verify that the disk is pre-formatted. You see a list of format menu commands.
10. Type **disk** and press RETURN. You should see only one disk (sd0).
11. Type **0** and press RETURN to select the disk. You should see a message that says that the disk is already formatted.
12. Type **quit** and press RETURN to exit the format menu. The system prompts you as follows:
 

```

What would you like to do?
1 - reboot using the just-installed mini-root
2 - exit in to single user shell
Enter 1 or 2:
      
```
13. Type **1** and press RETURN to select **1 - reboot using the just-installed mini-root**.
14. At the # prompt, type **suninstall** and press RETURN. The system prompts you as follows:
 

```

SunInstall provides two installation methods:
1. Quick installation
2. Custom installation
Your choice (or Q to quit) >>
      
```
15. Type **2** and press RETURN to select **2. Custom installation**. You see the following prompt: **Enter the local time zone name (enter ? for help):**.
16. Type **?** and press RETURN. The system prompts you for information.
17. Press the space bar or RETURN to move down the list to select your country. Use CTRL-B to move up the list.
18. Press **x** when you are on the correct line. If you selected a country with multiple time zones, you see a list of time zones from which to choose. Select the correct time zone in the same way you selected the country. The system prompts you **Are you finished with this menu [y/n] ?** Type **y** and press RETURN.
19. Type **y** and press RETURN. You see the prompt **Is this the correct date/time:...[y/n]>>**.
20. Type **y** and press RETURN. You see a menu.
21. Type **x** next to the option **assign host information**.
22. Fill in the *italic* information as follows:
 

```

Workstation Information:
Name: syscen
Type: x [standalone] [server] [dataless]
Network Information:
Ethernet Interface: [none] x [le0]
Internet Address: 192.9.200.1
NIS Type: x[none] [master] [slave] [client]
Misc Information:
Reboot after completed: x [y] [n]
      
```

Press RETURN to move down the list and press the spacebar to move through the options on each line.
23. After making all the selections on this menu, the system prompts you **Are you finished with this form [y/n] ?**
24. Type **y** and press RETURN.

25. Type **x** where appropriate to assign disk information. Some information on this menu is displayed after you fill in some preliminary fields. Fill in the *italic* information as follows:

**Attached Disk Devices:**

**x** [sd0]

**Disk Label:** [default] [use existing] **x** [modify existing]

**Free Hog Disk Partition:** [d] [e] [f] **x** [g] [h]

**Display Unit:** **x** [Mbytes] [Kbytes] [blocks] [cylinders]

26. Using either [TABLE 4-2 Disk Partition \(535 MB\)](#) on page 4-79 or [TABLE 4-3 Disk Partition \(One Gigabyte\)](#) on page 4-79, enter the bolded information from the table that corresponds to the size of the disk installed in the SPARCstation.

*Note* In the following two tables, it is necessary to enter only those items that appear in boldface, if they have not already been set. This process moves all the available disk space to /usr:

TABLE 4-2 Disk Partition (535 MB)

Partition	Start_cyl	Blocks	Size	Mount PT	Preserve
a	0	64400	32	/	n
b	115	190960	<b>97</b>		
c	0	104496	534		
d	0	0	0		
e	0	0	0		
f	0	0	0		
g	456	789600	403	/usr	n
h	0	0	<b>0</b>		

TABLE 4-3 Disk Partition (One Gigabyte)

Partition	Start_cyl	Blocks	Size	Mount PT	Preserve
a	0	66528	33	/	n
b	66	195552	<b>99</b>		
c	0	2052288	1050		
d	0	0	0		
e	0	0	0		
f	0	0	0		
g	260	1790208	916	/usr	n
h	0	0	<b>0</b>		

27. Press **x** where appropriate to assign software information. Some information on this menu is displayed after you fill in preliminary fields. Fill in the information as follows:

Software Architecture Operations:

**x** [add new release] [edit existing release]

28. The system prompts you to insert media. Press RETURN because the CD is already inserted.

Media Information:

Media Device: [st0] [st1] [st2] ... **x** [sr0]

Media Location: **x** [local] [remote]

29. The system asks for confirmation, then reads the CD. It displays what has been found on the CD. You should answer **y** only if the SunOS 4.1.3 sun4c media loaded.

Choice: **x** [all] [default] [required] [own choice]

Executables path: /usr

Kernels executables path: /usr/kvm

30. Type **y** and press RETURN to use the above.

31. Press **x** to start installation. The system is now being rebuilt. This takes about 30–45 minutes. The system automatically re-boots upon completion.

## Upgrading From Informix SE 4.0 to Informix SE 5.0

If you upgraded to SunOS 4.1.3 as described in [Using a SPARCstation IPC on page 4-77](#), you should also upgrade Informix SE and SQL. There is an option in the Database Reconfigurator that makes the database compatible with the new tool set.

---

**Warning!**      *Once the database has been converted, it cannot be used with older versions of Informix tools.*

---

When upgrading the Informix tools, remove the contents of /usr/informix before installing SQL and SE. After removing the contents of /usr/informix, you must reinstall both SQL and SE, even if only one is new.

To upgrade Informix SE or SQL, take the following steps:

1. Log in as *root*.
2. Change directories by typing **cd /usr/informix** and pressing RETURN.
3. Verify that you are in the correct directory by typing **pwd** and pressing RETURN. You should see **/usr/informix**.
4. To find out your Informix SE version and serial number, type **isqlrf -v** and press RETURN.
5. To find out your Informix SQL version and serial number, type **sqlexec -v** and press RETURN.

---

*Note*      *Write down the Informix SQL and SE media and license numbers and keys before continuing.*

---

6. Type **rm -rf\*** and press RETURN.
7. Type **cd /** and press RETURN.
8. Type **extract\_unbundled** and press RETURN.

Now re-install both Informix SQL and SE.

## Upgrading Informix SE

When upgrading to SunOS 4.1.3, it is a good idea to also upgrade the Informix software to the latest version. In addition, there is a menu option in the Database Reconfigurator (Release 8.0.1 and later) that makes the database compatible with the new tool set.

---

**Warning!**      *Once the database has been converted it cannot be used with older versions of Informix tools.*

---

If you are an IPC branch office that handles multiple sites and you perform extensions on one office system, all sites and the office system must use the same Informix tool set.

---

*Note*    *Locate the Informix SE serial and key alphanumeric code label, usually under the tape, and have it ready.*

---

To upgrade Informix SE, take the following steps:

1. Insert the Informix SE tape or disk into the drive and press RETURN.
2. The system asks you to indicate the location of the media. Type **fd0** for disk or **st0** for tape and press RETURN.
3. Press RETURN to continue.
4. When prompted, type the serial code in upper-case letters and press RETURN.
5. When prompted, type the key code in upper-case letters and press RETURN.

---

*Note*    *When entering the serial and key code, you must use upper-case letters. If you enter the wrong serial code or key code, the installation process continues, but you have to go back later and enter the correct codes.*

---

6. Press RETURN to continue.
7. Press RETURN again after the installation is completed.
8. Record the Informix SE part number, serial number, and key number on the System Center Log sheet.
9. Remove the tape or disk from the drive and return it and the label to the Informix-SE package; this will be shipped to the branch office for software registration and archival purposes.

## Upgrading From Informix SQL 4.0 to Informix SQL 4.1

When upgrading to SunOS 4.1.3, it is a good idea to also upgrade the Informix software to the latest version. In addition, there is a menu option in the Database Reconfigurator (Release 8.0.1 and later) that makes the database compatible with the new tool set.

---

**Warning!**    *Once the database has been converted, it cannot be used with older versions of Informix tools.*

---

If a branch office manages multiple sites and has been taking site databases to an office system to do an extension, the office system should be upgraded to the new tools if the sites are upgraded. If the branch cannot bring all site systems and the office system to the same level Informix tool set, then all extensions must be performed on the site systems.

To find out your license number type **isqlrf -v** and press RETURN.

---

*Note*    *Locate the Informix SQL serial code and key code label, usually under the tape, and have it ready.*

---

To upgrade Informix SQL, take the following steps:

1. Insert the Informix SQL tape or disk into the drive and press RETURN.
2. The system asks you to indicate the location of the media. Type **fd0** for disk or **st0** for tape and press RETURN.
3. Press RETURN to continue.
4. When prompted, type the serial code in upper-case letters and press RETURN.
5. When prompted, type the key code in upper-case letters and press RETURN.

---

*Note* When entering the serial code and key code you must use upper-case letters. If you enter the wrong serial or key code, the installation process continues, but you have to go back later and enter the correct codes.

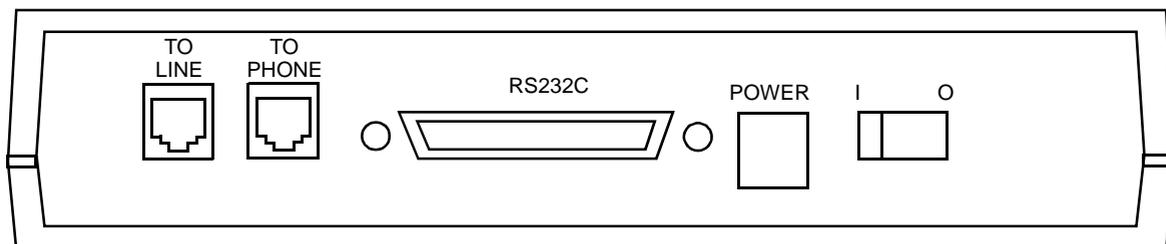
---

---

6. Press RETURN to continue.
7. Press RETURN again after the installation is completed.
8. Record the Informix SQL part number, serial number, and key number on the System Center Log sheet.
9. Remove the tape or disk from the drive and return it and the label to the Informix SQL package; this will be shipped to the branch office for software registration and archival purposes.
10. Type **5** and press RETURN to exit the Installation procedures.
11. Type **n** and press RETURN to reject rebooting the system.
12. Type **logout** and press RETURN.

From now on, whenever you log on to the System Center, you need to know the correct password for the login you are using.

# Chapter 5      Configuring a Modem



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<b>Configuring the US Robotics Courier V.Everything Modem With Release 14.1</b> .....	<b>5-3</b>
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Each System Center is installed with a modem so that it can be remotely accessed for diagnostic and troubleshooting from either IPC Systems Support Engineering or a branch office. These models can be used with Tradenet MX Systems:

- US Robotics Courier V.Everything
- Telebit FastBlazer 8820
- Telebit WorldBlazer T3000
- Telebit T1000

This chapter describes the setup and configuration procedures for these modems.

---

*Note*    *To configure these modems you must log all the way out and log in again as root.*

---

---

If you are using the ALX Auto Paging feature, you need two modems: one for remote access and one for the ALX Auto Paging feature. For information about installing the ALX Auto Paging feature, see *Using the ALX Auto Pager* on page 3-43.

## CONFIGURING A MODEM WITH RELEASE 14.1

There are three different modems you can configure to use with Release 14.1:

- US Robotics Courier V.Everything modem
- Telebit 8820 modem
- Telebit T3000 modem

---

*Note*    *The Telebit T1000 modem is not supported with Release 11.1 and later.*

---

### Configuring the US Robotics Courier V.Everything Modem With Release 14.1

The US Robotics Courier V.Everything modem is password protected. When you use this modem to connect to another site, you are prompted for a password. If you plan to use the line networking feature, you must disable the password protection so that line networking will work correctly. There are two ways you can configure the US Robotics Courier V.Everything modem:

- without line networking
- with line networking

When you order a US Robotics Courier V.Everything modem from IPC Manufacturing, it will be configured as follows:

- If the modem is part of an entire Tradenet MX System, it will be configured for that particular release (Release 10.1, Release 11.4, Release 14.1 and so on).
- If the modem is ordered separately, it will be configured for a Release 10.1 system. If you will be using the modem on a Release 11.4 system (for example), you will need to re-configure the modem as described in this section.

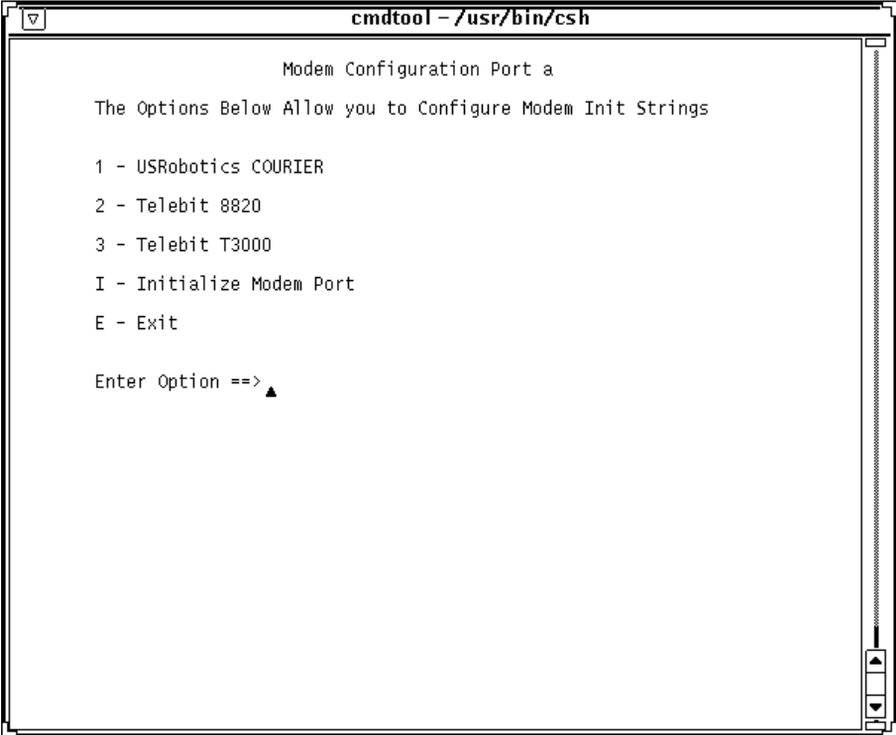
### Configuring the US Robotics Courier V.Everything Modem Without Line Networking

To configure the US Robotics Courier V.Everything modem when you are not using line networking, take the following steps:

1. Open a command tool or shell tool window.
2. If necessary, move to the `/usr/sx/db` directory by typing `cd /usr/sx/db` and pressing ENTER.

3. Type `configure_modem` and press ENTER. You see the following menu.

FIGURE 5-1 Modem Configuration Port a Menu



```
cmdtool - /usr/bin/csh

Modem Configuration Port a

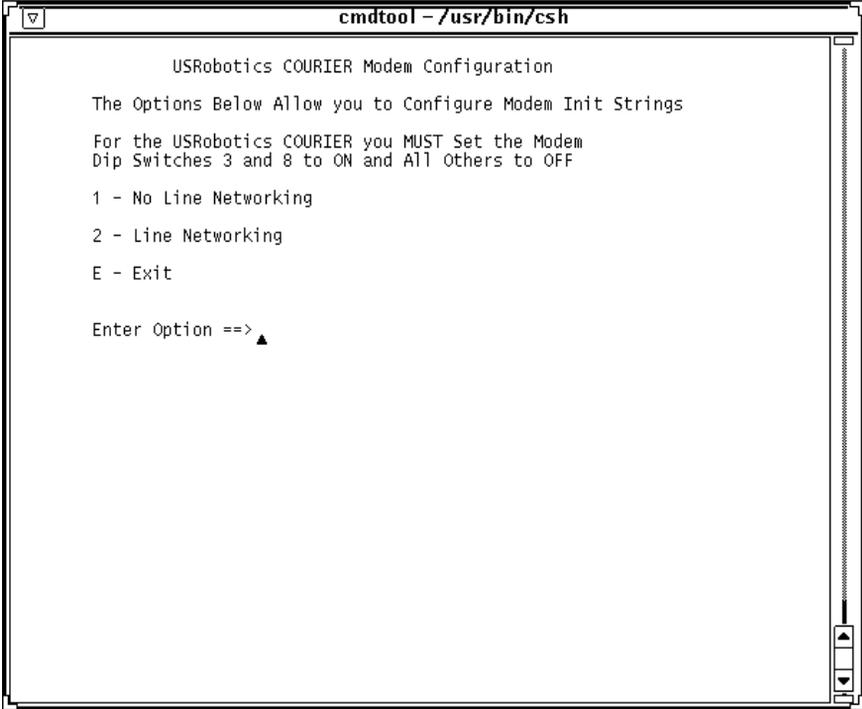
The Options Below Allow you to Configure Modem Init Strings

1 - USRobotics COURIER
2 - Telebit 8820
3 - Telebit T3000
I - Initialize Modem Port
E - Exit

Enter Option ==> ▲
```

4. Type `1` and press ENTER. You see the following menu.

FIGURE 5-2 Configuring the US Robotics Courier V.Everything Modem



```
cmdtool - /usr/bin/csh

USRobotics COURIER Modem Configuration

The Options Below Allow you to Configure Modem Init Strings

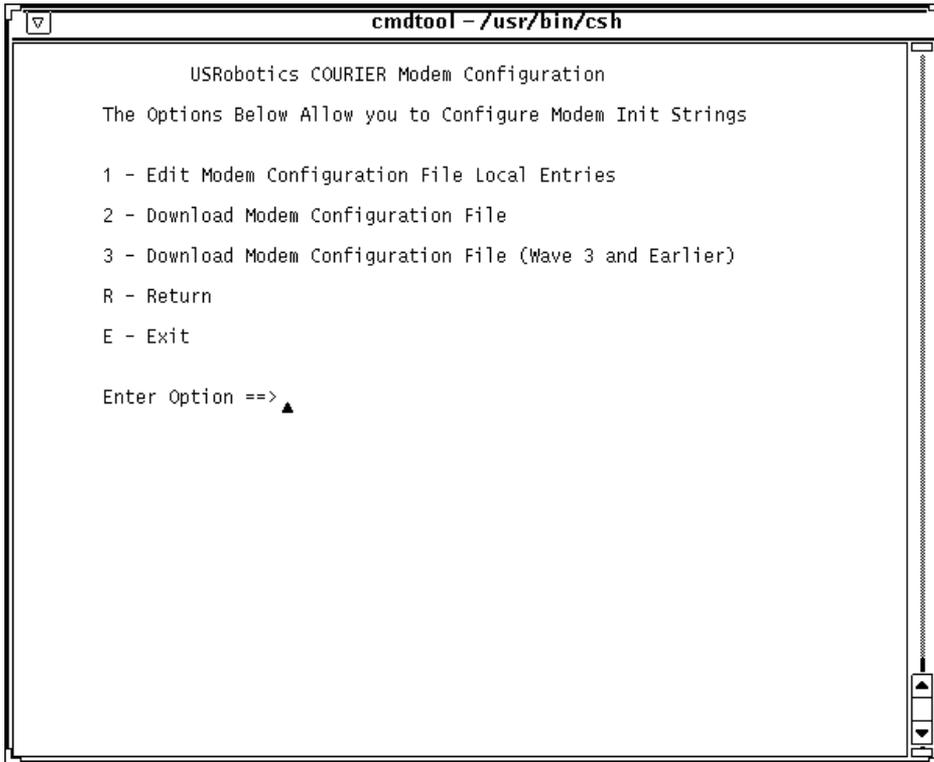
For the USRobotics COURIER you MUST Set the Modem
Dip Switches 3 and 8 to ON and All Others to OFF

1 - No Line Networking
2 - Line Networking
E - Exit

Enter Option ==> ▲
```

5. Type **1** and press ENTER. You see the following menu.

FIGURE 5-3 Configuring the Courier Modem Without Line Networking



```
cmdtool - /usr/bin/csh

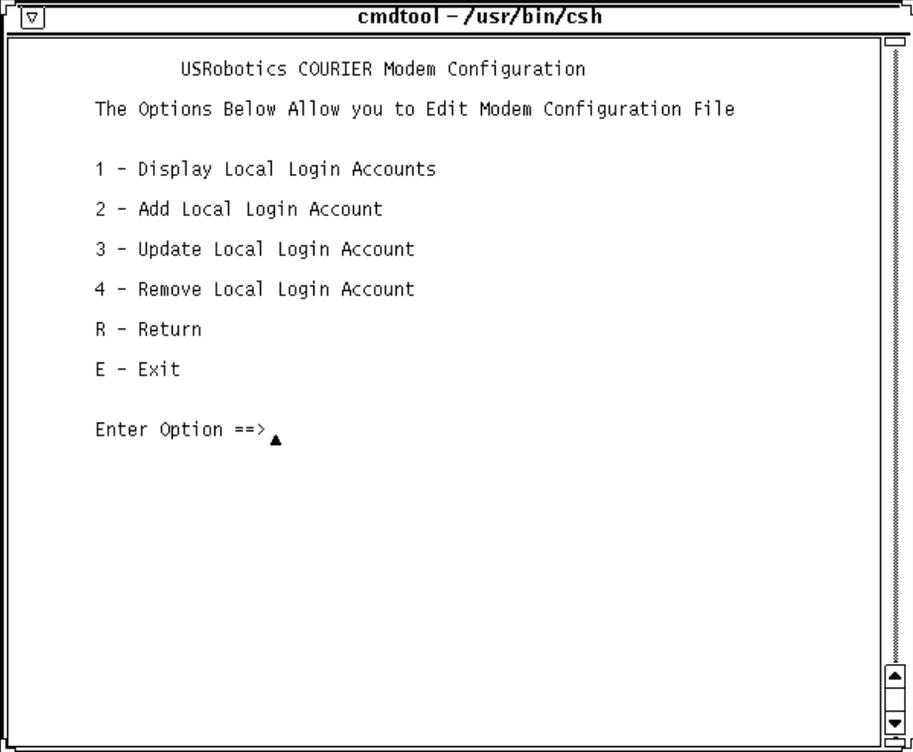
USRobotics COURIER Modem Configuration
The Options Below Allow you to Configure Modem Init Strings

1 - Edit Modem Configuration File Local Entries
2 - Download Modem Configuration File
3 - Download Modem Configuration File (Wave 3 and Earlier)
R - Return
E - Exit

Enter Option ==> ▲
```

6. To edit the modem passwords, take the following steps:
  - a. Type **1** and press ENTER. You see the following menu.

FIGURE 5-4 Setting Up Passwords to Use With the Courier Modem

A screenshot of a terminal window titled "cmdtool - /usr/bin/csh". The window displays a menu for "USRobotics COURIER Modem Configuration". The menu text reads: "The Options Below Allow you to Edit Modem Configuration File". The menu items are: "1 - Display Local Login Accounts", "2 - Add Local Login Account", "3 - Update Local Login Account", "4 - Remove Local Login Account", "R - Return", and "E - Exit". At the bottom of the menu, it says "Enter Option ==>" followed by a cursor arrow pointing to the right. The terminal window has a standard scroll bar on the right side.

```
cmdtool - /usr/bin/csh

USRobotics COURIER Modem Configuration

The Options Below Allow you to Edit Modem Configuration File

1 - Display Local Login Accounts
2 - Add Local Login Account
3 - Update Local Login Account
4 - Remove Local Login Account
R - Return
E - Exit

Enter Option ==> ▲
```

- b. To see a list of the current passwords used with this modem, take the following steps:
  - i. Type **1** and press ENTER.
  - ii. Press ENTER to continue.

- c. To add a new password to use with this modem, take the following steps:
  - i. Type **2** and press ENTER. You are prompted as follows.

FIGURE 5-5 Adding a New Password



- ii. To see a list of the current passwords used with this modem, type **1** and press ENTER.
- iii. Type the account number of the new password and press ENTER. Valid account number are 6–9.
- iv. Type the new password. You are prompted to specify whether or not this account number should be a callback entry.
- v. To configure this password as a callback entry, type **y** and press ENTER and enter the telephone number to use as a callback. Otherwise, type **n** and press ENTER to use no callback.
- vi. The new password is shown and you are prompted to verify the information shown is correct. Type **y** or **n** and press ENTER.

- d. To update a password, take the following steps:
  - i. Type **3** and press ENTER. You are prompted as follows.

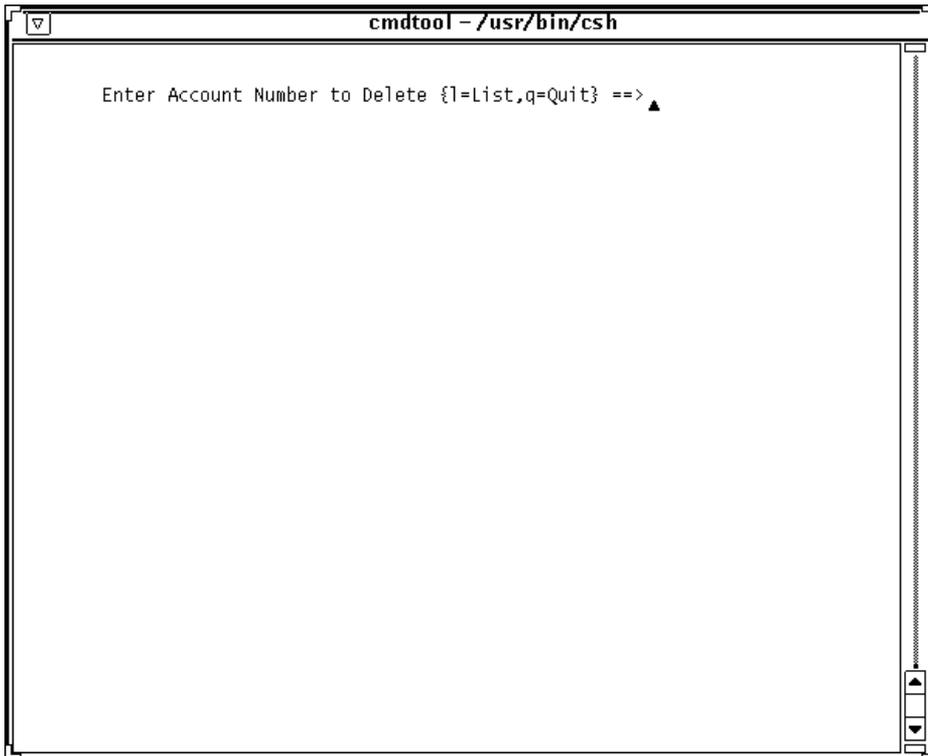
FIGURE 5-6 Modifying a Modem Password



- ii. To see a list of the current passwords used with this modem, type **l** and press ENTER.
- iii. Type the account number you want to modify and press ENTER.
- iv. Type a new password for this account number.
- v. If this password was originally set up as a callback, you can change the telephone number. If this password was set up without callback, you can make it a callback.
- vi. When prompted to confirm your changes, type **y** or **n** and press ENTER.

- e. To remove a password, take the following steps:
  - i. Type **4** and press ENTER. You are prompted as follows.

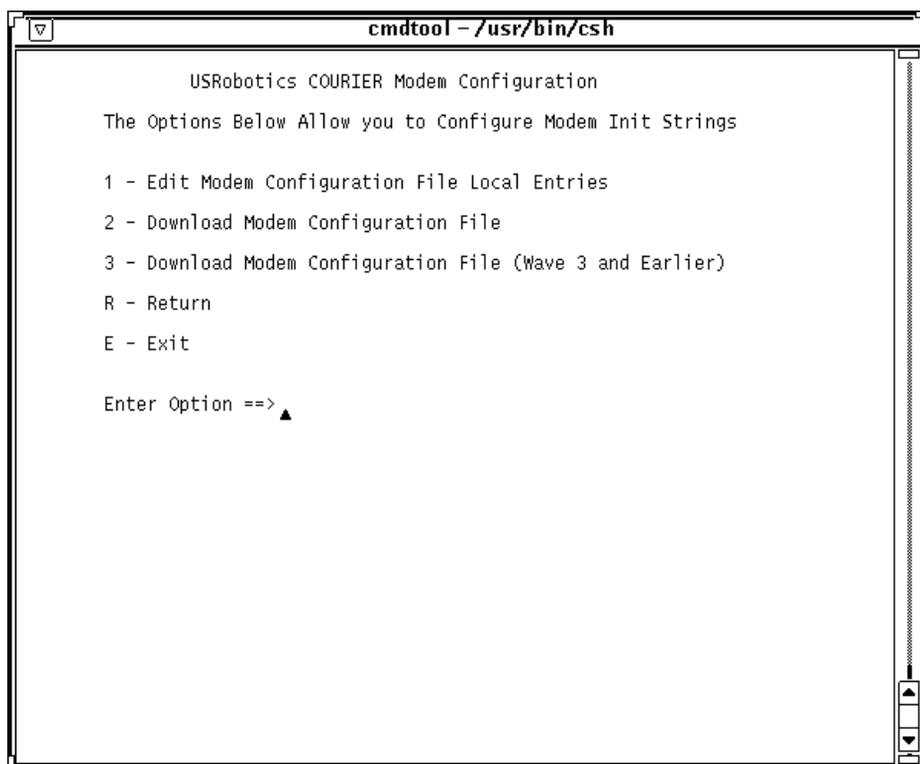
FIGURE 5-7 Removing a Password



- ii. To see a list of the current passwords used with this modem, type **l** and press ENTER.
- iii. Type the account number you want to delete and press ENTER.
- iv. When prompted to confirm your change, type **y** or **n** and press ENTER.

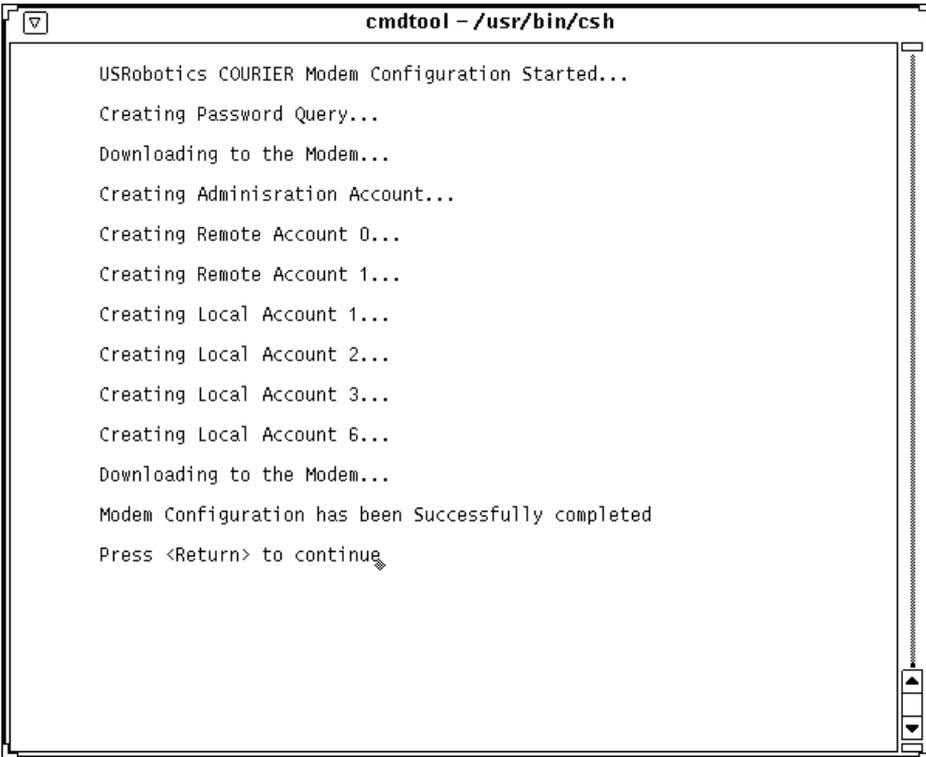
- f. When you are finished editing the modem configuration file, type **x** and press ENTER to return to the following menu.

FIGURE 5-8 Ready to Download the Modem Configuration Information to the Modem



7. Once you have made any desired password changes to the modem configuration file, you need to download the information. To download the modem configuration file, type **2** and press ENTER. If errors are encountered during the download, they will be displayed to your screen.

FIGURE 5-9 Downloading the Modem Configuration File



```
cmdtool - /usr/bin/csh

USRobotics COURIER Modem Configuration Started...
Creating Password Query...
Downloading to the Modem...
Creating Administration Account...
Creating Remote Account 0...
Creating Remote Account 1...
Creating Local Account 1...
Creating Local Account 2...
Creating Local Account 3...
Creating Local Account 6...
Downloading to the Modem...
Modem Configuration has been Successfully completed
Press <Return> to continue
```

8. When the download completes, press ENTER.

9. If you are using Release 10.1 or earlier, type **3** and press ENTER.

FIGURE 5-10 Using Release 10.1

```

cmdtool - /usr/bin/csh

Wave 3 USRobotics COURIER Modem Configuration Started...
Creating Password Query...
Downloading to the Modem...
Creating Adminisration Account...
Creating Remote Account 0...
Creating Remote Account 1...
Creating Local Account 1...
Creating Local Account 2...
Creating Local Account 3...
Creating Local Account 6...
Downloading to the Modem...
Modem Configuration has been Successfully completed
Press <Return> to continue
  
```

10. When prompted, press ENTER.
11. Type **e** and press ENTER to exit.
12. Type **exit** and press ENTER to close the command tool or shell tool window.

## Configuring the US Robotics Courier V.Everything Modem With Line Networking

*Note* The US Robotics Courier V.Everything modem can be configured to work with passwords. However, if you are using the line networking feature, you must configure the Courier modem to not use passwords.

To configure the US Robotics Courier V.Everything modem when you are using line networking, take the following steps:

1. Open a command tool or shell tool window.
2. If necessary, move to the `/usr/sx/db` directory by typing `cd /usr/sx/db` and pressing ENTER.

3. Type **configure\_modem** and press ENTER. You see the following menu.

FIGURE 5-11 Modem Configuration Port a Menu

```

cmdtool - /usr/bin/csh

Modem Configuration Port a

The Options Below Allow you to Configure Modem Init Strings

1 - USRobotics COURIER
2 - Telebit 8820
3 - Telebit T3000
I - Initialize Modem Port
E - Exit

Enter Option ==> ▲

```

4. Type **1** and press ENTER. You see the following menu.

FIGURE 5-12 Configuring the US Robotics Courier V.Everything Modem

```

cmdtool - /usr/bin/csh

USRobotics COURIER Modem Configuration

The Options Below Allow you to Configure Modem Init Strings

For the USRobotics COURIER you MUST Set the Modem
Dip Switches 3 and 8 to ON and All Others to OFF

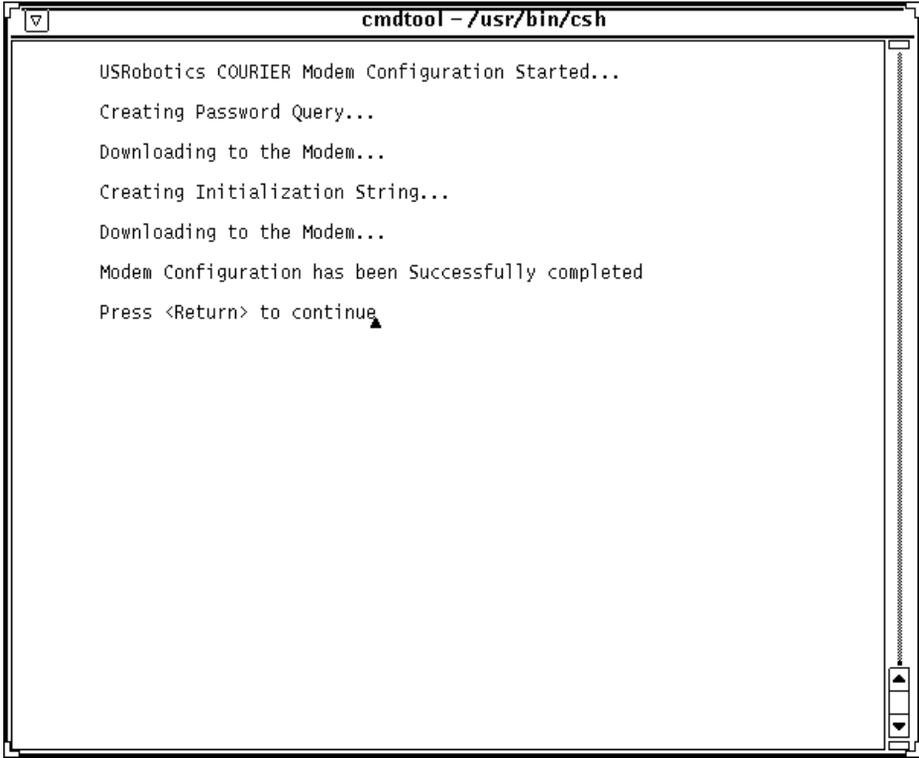
1 - No Line Networking
2 - Line Networking
E - Exit

Enter Option ==> ▲

```

5. Type **2** and press ENTER. If errors are encountered during the download, they will be displayed to your screen.

FIGURE 5-13 COnfiguring the Courier Modem When Using Line Networking

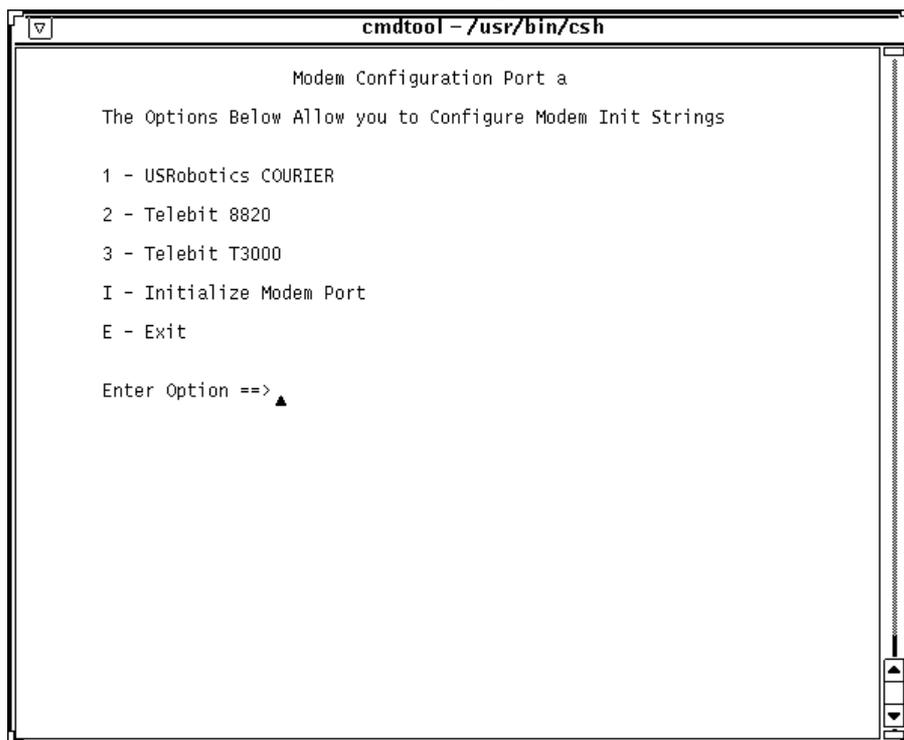


```
cmdtool - /usr/bin/csh

USRobotics COURIER Modem Configuration Started...
Creating Password Query...
Downloading to the Modem...
Creating Initialization String...
Downloading to the Modem...
Modem Configuration has been Successfully completed
Press <Return> to continue
```

6. After the configuration is complete, press ENTER when prompted. You return to the opening menu.

FIGURE 5-14 Modem Configuration Port a Menu



7. Type **e** and press ENTER.
8. Type **exit** and press ENTER to close the command tool or shell tool window.

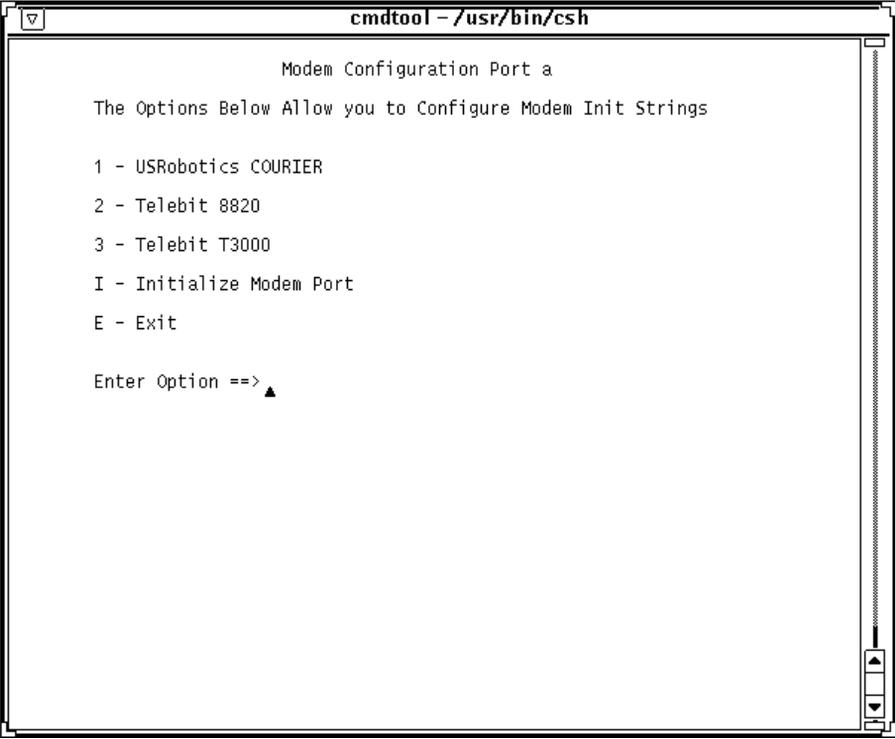
## Configuring the Telebit 8820 Modem With Release 14.1

To configure the Telebit 8820 modem, take the following steps:

1. Open a command tool or shell tool window.
2. If necessary, move to the /usr/sx/db directory by typing **cd /usr/sx/db** and pressing ENTER.

3. Type `configure_modem` and press ENTER. You see the following menu.

FIGURE 5-15 Modem Configuration Port a Menu



```
cmdtool - /usr/bin/csh

Modem Configuration Port a

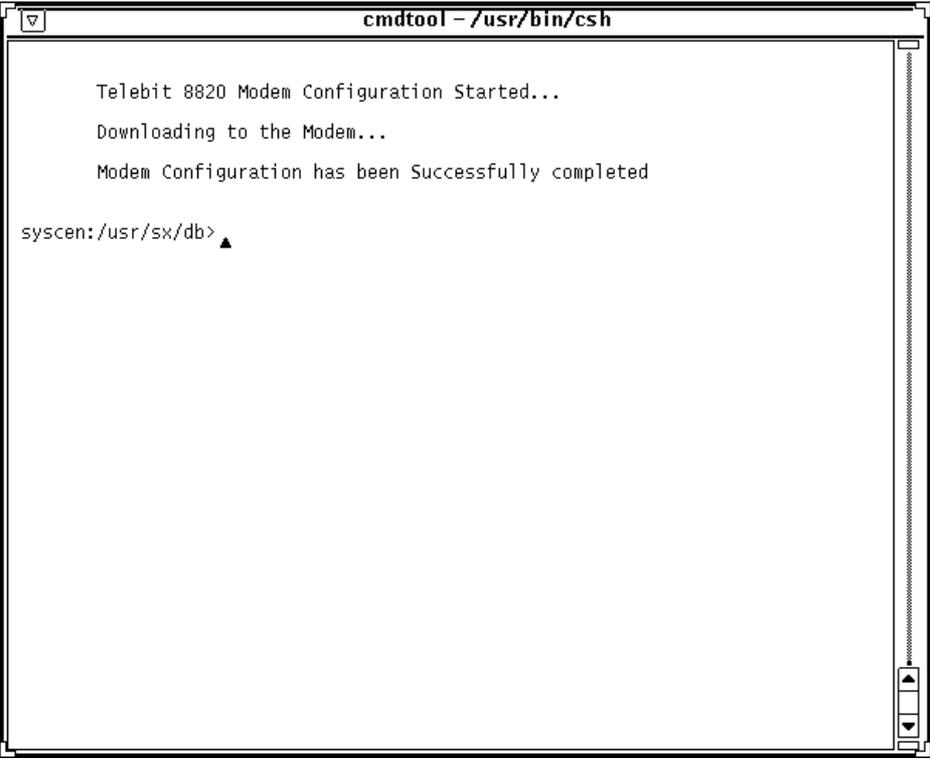
The Options Below Allow you to Configure Modem Init Strings

1 - USRobotics COURIER
2 - Telebit 8820
3 - Telebit T3000
I - Initialize Modem Port
E - Exit

Enter Option ==> ▲
```

4. Type **2** and press ENTER. If errors are encountered during the download, they will be displayed to your screen.

FIGURE 5-16 Configuring a Telebit 8820 Modem



```
cmdtool - /usr/bin/csh

Telebit 8820 Modem Configuration Started...
Downloading to the Modem...
Modem Configuration has been Successfully completed

syscen:/usr/sx/db> ▲
```

5. After the successful completion of the configuration script, type **exit** and press ENTER to close the command tool or shell tool window.

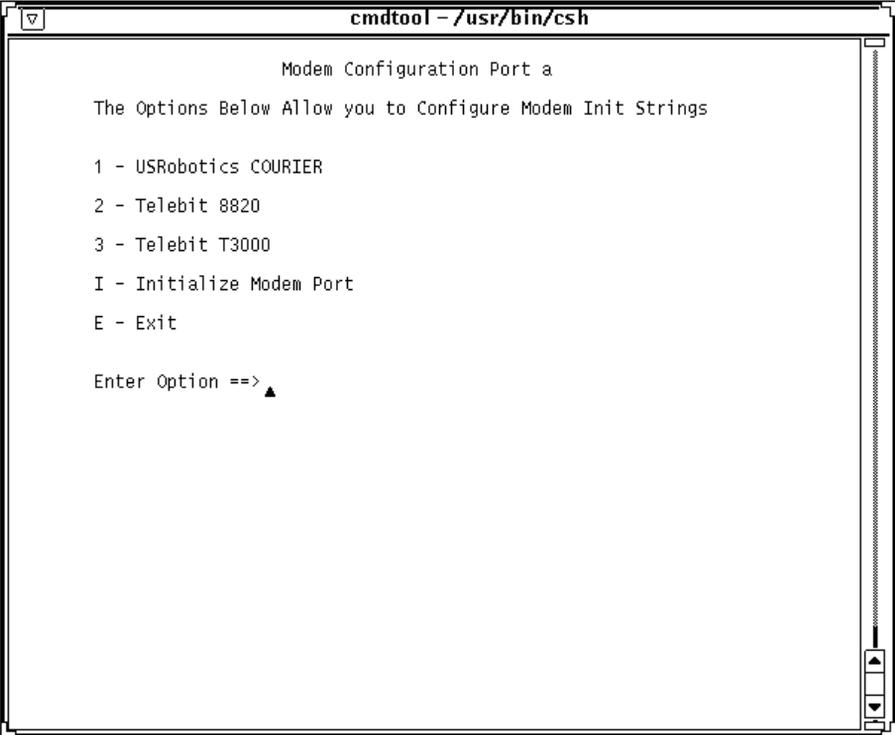
## Configuring the Telebit T3000 Modem With Release 14.1

To configure the Telebit T3000 modem, take the following steps:

1. Open a command tool or shell tool window.
2. If necessary, move to the `/usr/sx/db` directory by typing `cd /usr/sx/db` and pressing ENTER.

3. Type `configure_modem` and press ENTER. You see the following menu.

FIGURE 5-17 Modem Configuration Port a Menu



```
cmdtool - /usr/bin/csh

Modem Configuration Port a

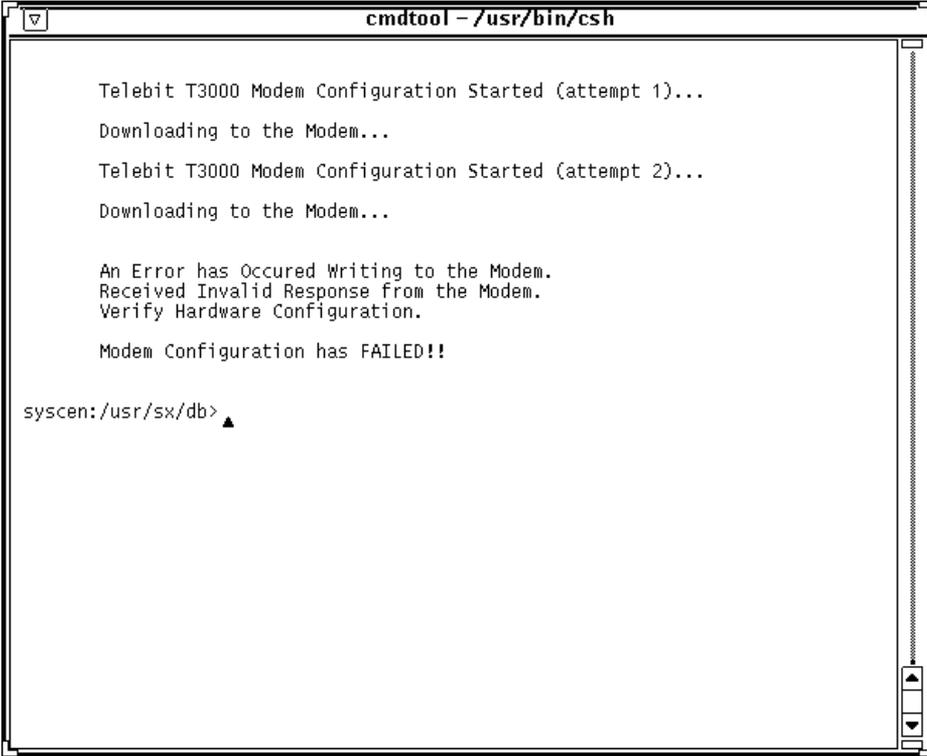
The Options Below Allow you to Configure Modem Init Strings

1 - USRobotics COURIER
2 - Telebit 8820
3 - Telebit T3000
I - Initialize Modem Port
E - Exit

Enter Option ==> ▲
```

4. Type **3** and press ENTER. If errors are encountered during the download, they will be displayed to your screen. The following figure shows an example of an error you can encounter.

FIGURE 5-18 Sample Error Encountered When Configuring a Modem

A screenshot of a terminal window titled "cmdtool - /usr/bin/csh". The terminal displays the following text:

```
Telebit T3000 Modem Configuration Started (attempt 1)...  
Downloading to the Modem...  
Telebit T3000 Modem Configuration Started (attempt 2)...  
Downloading to the Modem...  
  
An Error has Occured Writing to the Modem.  
Received Invalid Response from the Modem.  
Verify Hardware Configuration.  
  
Modem Configuration has FAILED!!  
  
syscen:/usr/sx/db> ▲
```

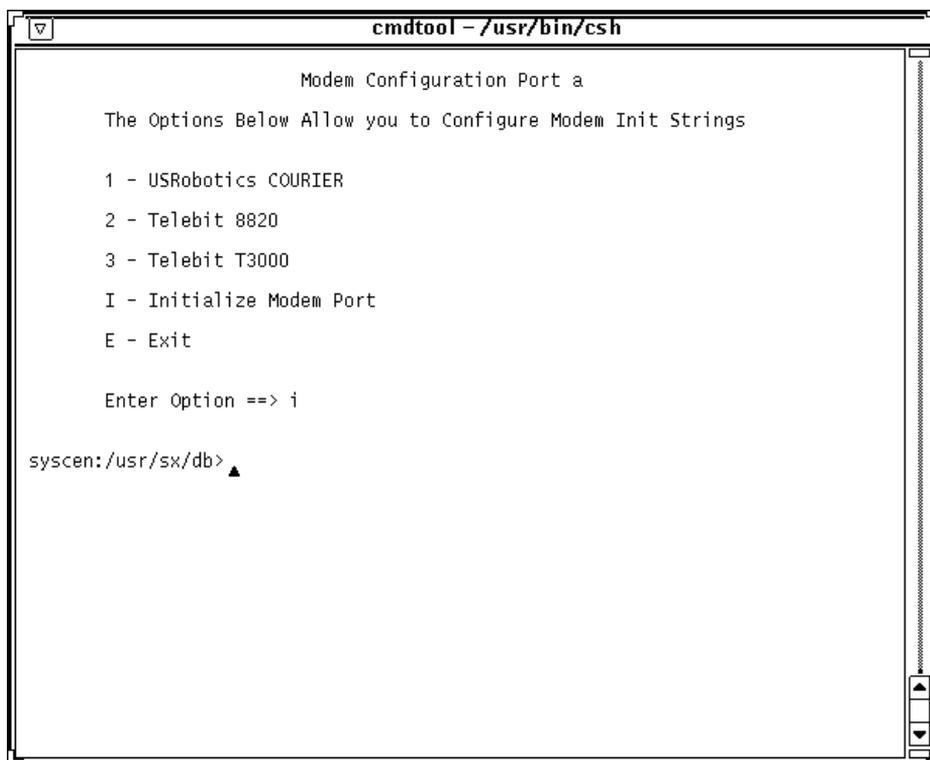
The terminal window has a standard window border with a title bar, a close button in the top-left corner, and a vertical scrollbar on the right side. The prompt "syscen:/usr/sx/db>" is followed by a cursor (a small triangle) and a space character.

5. After the successful completion of the configuration script, type **exit** and press ENTER to close the command tool or shell tool window.

## Troubleshooting

At the **Modem Configuration Port a** menu, you can type **i** and press ENTER to initialize the modem port. You might want to do this if you are having problems with your modem and you want to verify that nothing is wrong with the port.

FIGURE 5-19 Initializing the Modem Port



If at any time you receive an *all ports busy* message, this message indicates the port is being used. Verify that no other programs are using the port. Then, try powering the modem and turning it back on. If you are still having problems, you need to configure the modem to its factory defaults.

### Configuring the US Robotics Courier V.Everything Modem to Its Factory Defaults

To configure the US Robotics Courier V.Everything modem to its factory defaults, take the following steps:

1. Set modem dip switch 10 on.
2. Power off the modem.
3. Power the modem back on.
4. Set modem dip switch 10 off.

### Configuring the Telebit 8820 Modem to Its Factory Defaults

To configure the Telebit 8820 modem to its factory defaults, take the following steps:

1. Power off the modem.
2. Power the modem back on.
3. When the DA LED on the front panel of the modem flickers, you have two seconds to turn the power off and on again. The factory default configuration is now loaded.
4. If the DTR LED is not on, turn the modem off and on again.

### **Configuring the Telebit T3000 Modem to Its Factory Defaults**

To configure the Telebit T3000 modem to its factory defaults, take the following steps:

1. Set the A/B switch to position A.
2. Press and hold down the T/D switch while turning on the power.
3. Release the T/D switch when the MR, OH, CD, HS, and EC LEDs flash.
4. Select the F3 pre-stored configuration by pressing the T/D switch for less than two seconds, three times. The MR, OH, DTR, and RTS LEDs should be on. If they are not, press the T/D switch for less than two seconds continuously until the LEDs are on.
5. Set the configuration by pressing the T/D switch for more than two seconds. When the modem accepts the selections, the MR and OH LEDs flash.
6. Release the T/D switch when the LEDs flash. The flashing LEDs turn off when the modem saves the configuration. When completed, the MR LED comes on.

### **Configuring the Telebit T1000 Modem to Its Factory Defaults**

To configure the Telebit T1000 modem to its factory defaults, take the following steps:

1. Power on the modem.
2. Remove the flexible plastic label on the front panel.
3. Press the reset switch by inserting a straightened paper clip in the hole marked *RESET*. Hold the *RESET* switch in for a few seconds until the MR indicator flashes.

## CONFIGURING A MODEM WITH RELEASE 10.1 AND EARLIER

### US Robotics Courier.V Everything Modem

The US Robotics Courier V.Everything modem is password protected. When you use this modem to connect to another site, you are prompted for a password. Contact your local Operations Manager to obtain the required password. For security reasons, the modem password is distributed through your operations management.

The US Robotics Courier V.Everything modem is factory configured and cannot be reconfigured in the field with Release 10.1 and earlier.

### Telebit FastBlazer 8820 Modem

Before configuring the FastBlazer 8820 modem, verify that the following items are true:

- You have connected the FastBlazer 8820 modem to the Sun workstation system unit, using both the correct cable and the cable converter attachment.
- You have logged out and then logged in again as root.

---

**Warning!** *Make sure that you connect the modem cable to serial port A on the back of the system unit. If your system uses the Y cable, make sure you are connected to the serial port and use connector A.*

---

To configure the modem, take the following steps:

4. Edit the /etc/ttytab file.
5. Set up the modem.

These steps are described as follows.

#### Editing the /etc/ttytab File

You need to edit the /etc/ttytab file and comment out the ttyd0 line by inserting a # character at the beginning of the line. You can do this with the vi editor, or follow the directions below.

1. Log on as root.
2. Type **openwin** and press ENTER.
3. The File Manager should be displayed on the desktop. If it is not, take the following steps:
  - a. Click the right mouse button once in the blank background area to the right of the windows. The work space pop-up menu is displayed.
  - b. Click the right mouse button once on the **Deskset** option.
  - c. Click the right mouse button once on the **File Manager** option. The File Manager icon should appear.
4. Click the left mouse button twice on the **File Manager** icon to open it.
5. Click the left mouse button twice on the **etc** file folder to open it.
6. Use the left mouse button on the scroll bar on the right to move to the bottom of the screen.
7. Click the left mouse button once on the **ttytab** file to highlight it.
8. Click the right mouse button once on the **File** option at the top left of the menu bar; then click **Open**; and then click the **Document Editor** option.
9. When the ttytab file is displayed, click once at the beginning of the ttyd0 line (close to the top of the file) to indicate that you insert a character there.

10. Type **#**. This disables remote dialup during setup.
11. Press and hold down the right mouse button once on **File**, move the cursor to **Finishing Up**, move the cursor to **Save Current File**, and release the mouse button.
12. Quit and confirm that you want to exit.

## Setting Up the Modem

If you experience problems, reset the modem. See [Trouble-shooting on page 5-24](#).

To set up the modem, take the following steps:

1. Open a shell tool window, not a command tool window.
2. Click the right mouse button once on the background. The root menu is displayed.
3. Click the right mouse button once on the **Windows** option. The **Windows** pop-up list is displayed.
4. Click the right mouse button once on the **Shell Tool** option. A shell window is opened.

---

**Warning!** *The next step is critical. The command in step 10 must be entered on one line.*

---

5. Enlarge the window to almost fill the screen.
6. Move the mouse cursor to the shell window to make the window active.
7. Ensure that the modem is powered on.
8. Type **kill -1 1** and press ENTER. The DTR LED goes out.
9. Type **tip tb9600** and press ENTER. You see the message **connected**. The DTR LED on the modem should lamp. This connects to the modem in command mode. At this point, whatever you type is sent to the modem.

---

*Note* *In the remainder of this procedure, 0's are zeroes and all 1's are the number 1 and not the letter "ell." Type the alphabetic characters exactly as shown because the operating system is case-sensitive. Finally, in the next two steps, do not use backspace or delete if you make a typographical error; instead, disconnect by typing ~., reset the modem to factory settings, then re-enter the modem settings correctly.*

---

10. Type **AT &F V0 X0 E1 &C1 &D3 &S1 &U3 s0=1 &W** and press ENTER.

---

*Note* *If you see the message **connection closed**, repeat steps 8 and 9 before going to step 11.*

---

11. Type **AT\*C** and press ENTER. This displays the modem's configuration data.
12. Type **AT\*S** and press ENTER. This displays the modem's register data.
13. To disconnect from the modem, type **~.** and press ENTER. You will not see the **~** character on the screen when you type it. The DTR LED on the modem goes out.
14. Re-edit the **/etc/ttytab** file and delete the **#** character from the **ttyd0** line. Be sure to save the file after you make the change.
  - a. Click the mouse button once on the top bar or move the mouse pointer to it and press the Front key on the left keypad to activate the window with the **ttytab** file.
  - b. Click the mouse button once between the **#** character and the first **t** in the **ttyd0** line.
  - c. Press the delete key once to remove the **#** character.

- d. Click the right mouse button once on **File** and then on **Save Current File**, to save.
  - e. Click the right mouse button once on the top bar and select **Quit** to close the file.
15. Return to the shell window and type `kill -1 1`, then press ENTER. The DTR LED lamps.
  16. Click the right mouse button once on the top bar and select **Quit** to close the shell window.
  17. Click the right mouse button once in the blank space to the right of the windows and select **Exit** to close Open Windows.
  18. Click the mouse button once to confirm that you want to exit from OpenWindows.
  19. Type `exit` and press ENTER.

## Trouble-shooting

If you have difficulty with the modem setup, reset the modem to factory settings before you attempt this procedure again.

To reset the modem to factory settings, take the following steps:

1. Log on as root.
2. At the `syscen#` prompt, type `kill -1 1` and press ENTER.
3. Type `tip tb9600` and press ENTER. You see the message **connected**.
4. Type `AT&F&W` and press ENTER. You see the message **OK**. The DTR and DCD LEDs lamp.
5. Type `~.` to exit.

This completes the reset procedure for the FastBlazer 8820.

If you continue having trouble with your modem, follow these tips:

- If you have trouble communicating with the modem, verify that you enlarged the shell window before you began. If not, enlarge the window, and start over.
- If you leave a space between `tb` and `9600` in step 9, the modem attempts to dial out. Type `~.` and press ENTER to disconnect and try again.
- If you made an error or used backspace or delete when entering the characters when you configured the modem, it may not function properly. Reset the modem to factory settings then re-enter the information in the modem configuration section.
- If you think the system is hung, turn the power to the modem off, wait 5 seconds, then turn it back on again.

## Telebit WorldBlazer T3000 Modem

Before configuring the WorldBlazer T3000 modem, verify that the following items are true:

- You have connected the WorldBlazer T3000 modem to the Sun workstation system unit, using both the correct cable and the cable converter attachment.
- You have logged out and then logged in again as root.
- The modem has been reset to its factory settings.

If the modem has not been reset, or if you have experienced problems, reset the modem.

---

**Warning!** *Make sure that you connect the modem cable to serial port A on the back of the system unit. Or, if your system uses the Y cable, make sure you are connected to the serial port and use connector A.*

---

To configure the modem, take the following steps:

1. Reset the modem to factory settings.
2. Edit the `/etc/ttytab` file.
3. Set up the modem.

These steps are described in the following paragraphs.

## Resetting the Modem to Factory Settings

It is a good practice for the initial installation to reset the modem to its factory settings. The T-3000 uses software commands to do this.

To return the modem to its factory settings, take the following steps:

1. Log on as root.
2. At the **syscen#** prompt, type **kill -1 1** and press ENTER.
3. Type **tip tb9600** and press ENTER.
4. Type **AT&F** and press ENTER.

This completes the reset procedure for the T-3000.

## Editing the `/etc/ttytab` File

You need to edit the `/etc/ttytab` file and comment out the `ttyd0` line by inserting a `#` character at the beginning of the line. You can do this with the vi editor, or follow the directions below.

1. Log on as root.
2. Type **openwin** and press ENTER.
3. The File Manager should be displayed on the desktop. If it is not, take the following steps:
  - a. Click the right mouse button once in the blank background area to the right of the windows. The work space pop-up menu is displayed.
  - b. Click the right mouse button once on the **Deskset** option.
  - c. Click the right mouse button once on the **File Manager** option. The File Manager icon should appear.
4. Click the left mouse button twice on the **File Manager** icon to open it.
5. Click the left mouse button twice on the **etc** file folder to open it.
6. Use the left mouse button on the scroll bar on the right to move to the bottom of the screen.
7. Click the left mouse button once on the **ttytab** file to highlight it.
8. Click the right mouse button once on the **File** option at the top left of the menu bar; then click **Open**; and then click the **Document Editor** option.
9. When the `ttytab` file is displayed, click once at the beginning of the `ttyd0` line (close to the top of the file) to indicate that you insert a character there. The **■** prompt should appear.
10. Type **#**. This disables remote dialup during setup.
11. Click the right mouse button once on **File** and then on **Save Current File**.

## Setting Up the Modem

To set up the modem, take the following steps:

1. Open a shell window.
2. Click the right mouse button once on the background. The **Workspace** pop-up menu is displayed.

3. Click the right mouse button once on the **Windows** option. The **Windows** pop-up list is displayed.
4. Click the right mouse button once on the **Shell Tool** option. A shell window is opened.

---

**Warning!** *The next step is critical.*

---

5. Enlarge the window to almost fill the screen.
6. Move the mouse cursor to the shell window to make the window active.
7. Ensure that the modem is powered on.
8. Type **kill -1 1** and press ENTER.
9. Type **tip tb9600** and press ENTER. You should see a message telling you that you are connected. The DTR lamp and the modem should be on. This connects to the modem in command mode. Now, whatever you type is sent to the modem.

---

*Note* In the remainder of this procedure, 0's are zeroes and all 1's are the number 1 and not the letter "ell." Also, type the alphabetic characters exactly as shown because the operating system is case-sensitive. Finally, in the next two steps, do not use backspace or delete if you make a typographical error; instead, disconnect by typing ~. and pressing ENTER, then type the entry correctly.

---

10. Type **AT&F3S51=4&W0** and press ENTER. The cursor moves to the start of a new line.
11. Type **AT&V** and press ENTER. This displays the modem's settings. You should see the following information.

```
at&v
WorldBlazer - SA - Version LA7.04c - Active Configuration
B1      E1      L2      M1      P      Q2      V1      X0      Y0
&C1     &D1     &G0     &J0     &L0     &Q0     &R3     &S1     &T4     &X0
S000:1  S001=0  S002:255 S003=13 S004=10 S005=8  S006=2  S007=60
S008=2  S009=6  S010=14  S011=70 S012=50 S018=0  2025=5  S026=1
S038=0  S041=0  S045=0  S046=0  S047=4  S048=0  S050=0  S051:4
S056=17 S057=19 S058:2   S059=0  S060=0  S061:0  S062=15 S063=0
S064:1  S068=255 S069=0  S090=0  S092=0  S093=8  S094=1  S100=0
S104=0  S105=1  S111:30 S112=1  S113=12 S114=0  S115=0  S116=0
6
S119=0  S151=4  S155=0  S180=2  S181=1  S183=25 S190=1  S191:6
S253=10 S254=255 S255=255
OK
```

12. Now, push the A/B switch on the front of the modem to the B position (pushing in the button selects B). (You repeat the steps of the A setting for the B setting by continuing.)
13. Type **kill -1 1** and press ENTER.
14. Type **tip tb9600** and press ENTER. This connects to the modem in command mode. Now, whatever you type is sent to the modem.

---

*Note* In the next two steps, do not use backspace or delete if you make a typographical error; instead, you must disconnect by typing ~. and pressing ENTER, then type the entry correctly.

---

15. Type **AT&F3S51=4&W0** and press ENTER. The cursor moves to the start of a new line.

16. Type **AT&V** and press ENTER.
17. To disconnect from the modem, type `~.` and press ENTER. *You do not see the ~ character on the screen when you type it.* The DTR lamp on the modem goes out.
18. Now, you need to go back and re-edit the `/etc/ttytab` file to delete the `#` character from the `ttyd0` line. Be sure to save the file after you make the change.
19. Activate the window with the `ttytab` file in it by either clicking the left mouse button once on its top bar or by moving the mouse pointer to it and pressing the Front key on the left keypad.
20. Click the left mouse button once between the `#` character and the first `t` in the `ttyd0` line.
21. Press the delete key once to remove the `#` character.
22. Click the right mouse button once on **File** and then again on **Save Current File**.
23. Close the file by clicking the right mouse button once on the top bar and then selecting **Quit**.
24. Return to the shell window and type `kill -1 1` and press ENTER.
25. Close the shell window by clicking the right mouse button once on the top bar and selecting **Quit**.
26. Close OpenWindows by clicking the right mouse button once in the blank space to the right of the windows and selecting **Exit**.
27. Click the left mouse button once to confirm the exit from OpenWindows.

At this point the DTR (data terminal ready) lamp on the modem should come on again, indicating that the modem is ready. The CTS (clear to send) and the MR (modem ready) lamps should also be on.

---

*Note*    *If you have difficulty with the modem setup, first return the modem to its factory settings before you attempt this procedure again.*

---

If you are having trouble with your modem, follow these tips:

- If you have trouble communicating with the modem, verify that you enlarged the shell window before you began. If not, enlarge the window, and start over.
- If you left a space between `tb` and `9600` in step 9 or step 14, the modem attempts to dial out. Type `~.` and press ENTER to disconnect and try again.
- If you made an error (or used backspace or delete when entering the characters) when you configured the modem, it might not operate properly. If there is a question, re-enter the information in the modem configuration section.
- Return the modem to its factory settings before you repeat these procedures.
- If you think the system is hung, try turning the power to the modem off and turning it back on again.

## Telebit T1000 Modem

You cannot use a T1000 modem with Release 11.1 and later. The T1000 modem works only with Release 10.1 and earlier.

Before configuring the T1000 modem, verify that the following items are true:

- You have connected the recommended Telebit T1000 modem to the Sun workstation system unit, using both the correct cable and the cable converter attachment.
- You have logged out and logged in again as root.
- The modem has been initially reset to its factory settings.

If you have not reset the modem, or if you have experienced problems, reset the modem now.

---

**Warning!** *Ensure that you connect the modem cable to the serial port marked A on the back of the system unit. Or, if your system uses the Y cable, make sure you are connected to the serial port and use connector A.*

---

Configuring the modem involves the following steps:

1. Reset the modem to factory settings.
2. Edit the `/etc/ttytab` file.
3. Set up the modem.

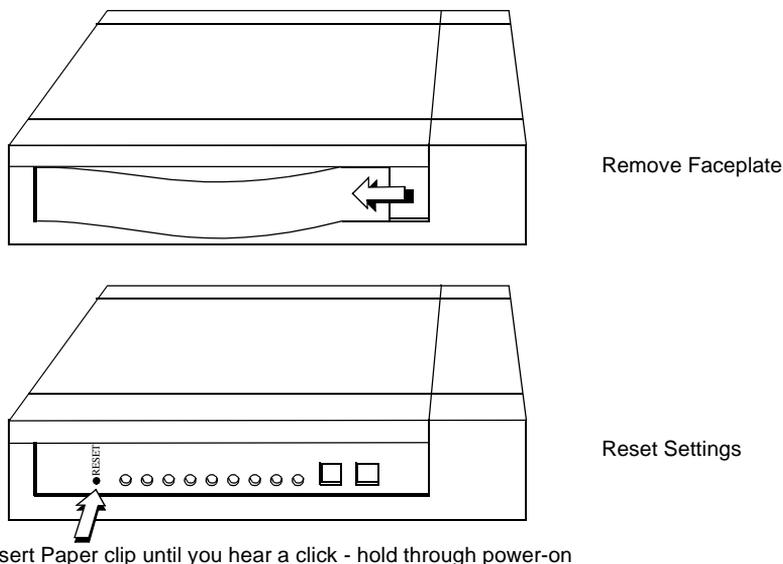
These steps are described in the following paragraphs.

### Resetting the Modem to its Factory Settings

To return the modem to its factory settings, take the following steps:

1. Remove the front faceplate from the modem. See [FIGURE 5-20 Telebit T1000 Reset Procedure](#) on page 5-28.
2. Push a paper clip into the reset hole until you hear a click.
3. With the paper clip still in place, power the modem off (if it had been connected to power) and then power it on. The reset actually occurs during the power-on process.
4. Remove the paper clip, and replace the front faceplate.

FIGURE 5-20 Telebit T1000 Reset Procedure



### Editing the `/etc/ttytab` File

You need to edit the `/etc/ttytab` file and comment out the `ttyd0` line by inserting a `#` character at the beginning of the line. You can do this with the `vi` editor, or follow the directions below.

To edit the `/etc/ttytab` file, take the following steps:

1. Log on as root.
2. Type `openwin` and press ENTER.

3. The File Manager should be displayed on the desktop. If it is not, take the following steps:
  - a. Click the right mouse button once in the blank background area to the right of the windows. The **Workspace** pop-up menu is displayed.
  - b. Click the right mouse button once on the **Deskset** option.
  - c. Click the right mouse button once on the **File Manager** option. The File Manager should appear.
4. Click the left mouse button twice on the **File Manager** icon to open it.
5. Click twice on the **etc** file folder to open it.
6. Use the left mouse button on the scroll bar on the right to move to the bottom of the screen.
7. Click the left mouse button once on the ttytab file to highlight it.
8. Click the right mouse button once on the **File** option at the top left of the menu bar; then click once on **Open**; and then click once on the **Document Editor** option.
9. When the ttytab file is displayed in the window, click the left mouse button once at the beginning of the **ttyd0** line (close to the top of the file) to indicate that you insert a character there. The **█** prompt should appear.
10. Type the **#** character. This disables the modem remote dialup during setup.
11. Click the right mouse button once on **File**, and then on **Save Current file**.

## Setting Up the Modem

Open a shell window to do the modem setup.

1. Click the right (menu) mouse button once in the blank area to the right of the windows. The Workspace pop-up menu is displayed.
2. Click the right (menu) mouse button once on the Windows option. The Windows pop-up list is displayed.
3. Click the right mouse button once on the Shell Tool option. A shell window is opened up.

---

**Warning!** *The next step is critical.*

---

4. Enlarge the window to almost fill the screen.
5. Move the mouse cursor to the shell window to make the window active.
6. Ensure that the modem is powered on.
7. Type **kill -1 1** and press ENTER.
8. Type **tip tb9600** and press ENTER. You should see a message telling you that you are connected. The DTR lamp and the modem should be on. This connects to the modem in command mode. Now, whatever you type is sent to the modem.

---

*Note* In the remainder of this procedure, 0's are zeroes and all 1's are the number 1 and not the letter "ell." Also, type the alphabetic characters exactly as shown because the operating system is case-sensitive. Finally, in the next two steps, do not use backspace or delete if you make a typographical error; instead, disconnect by typing **~.** and pressing ENTER, and then type the entry correctly.

---

9. Type **at~&fs0=1s38=0s45=0s50=0s52=2s54=3s58=2s63=1** and press ENTER. The cursor moves to the start of a new line.
10. Type **ats64=1s66=1s68=2s111=30s130=2s131=1Q4X0&w0** and press ENTER. The system disconnects you from the modem.

11. To verify the settings you just modified, type **tip tb9600** and press ENTER to connect to the modem again.
12. Type **AT~&N?** and press ENTER to display the modem's settings. You see the following information.

```

AT~&
N?
E1      F1      M1      Q4      P      V1      W0      X0      Y0      &P0&TVer
                                4FA2.01

S00=0 S01=00 S02=04 S03=0 S04=01 S05=0 S06=0 S07=0 S08=0 S09=0
01      0      3      13      0      08      02      40      02      06
S10=0 S11=07 S12=05 S18=0 S25=00 S38=0
07      0      0      00      5      00
S41=0 S51=25 S52=00 S54=00 S55=0 S56=0 S58=0 S59=0
00      5      2      3      00      17      02      00
S60=0 S61=15 S62=00 S63=0 S64=00 S65=0 S66=0 S67=0 S68=0 S69=0
00      0      3      01      1      00      01      00      02      00
S100= S101=0 S104=0
000    00      00
S111= S112=0
030    01
S121= S130=0 S131=0 S255=
000    02      01      001
N0:1
N1:
N2:
N3:
N4:
N5:
N6:
N7:
N8:
N9:
1
ok

```

13. To disconnect from the modem, type **~.** and press ENTER. *You do not see the ~ character on the screen when you type it.* The DTR lamp on the modem goes out.
14. Now, you need to go back and re-edit the `/etc/ttytab` file to delete the `#` character from the `ttyd0` line. Be sure to save the file after you make the change.
15. Activate the window with the `ttytab` file in it by either clicking the left mouse button once on its top bar or by moving the mouse pointer to it and pressing the Front key on the left keypad.
16. Click the left mouse button once between the `#` character and the first `t` in the `ttyd0` line.
17. Press the delete key once to remove the `#` character.
18. Click the right mouse button once on **File** and then again on **Save Current File**.
19. Close the file by clicking the right mouse button once on the top bar and then selecting **Quit**.
20. Return to the shell window.
21. Type **kill -1 1** and press ENTER.
22. Close the shell window by clicking the right mouse button once on the top bar and selecting **Quit**.

23. Close OpenWindows by clicking the right mouse button once in the blank space to the right of the windows and selecting **Exit**.
24. Click the left mouse button once to confirm the exit from OpenWindows.

At this point the DTR (data terminal ready) lamp on the modem should come on again indicating that the modem is ready. The CTS (clear to send) and the MR (modem ready) lamps should also be on.

---

*Note*    *If you have difficulty with the modem setup, first return the modem to its factory settings before you attempt this procedure again.*

---

If you are having trouble with your modem, follow these tips:

- If you have trouble communicating with the modem, verify that you enlarged the shell window before you began. If not, enlarge the window, and start over.
- If you left a space between tb and 9600 in [Setting Up the Modem on page 5-29](#), the modem attempts to dial out. Type in the ~. disconnect command and try again.
- If you made an error (or used backspace or delete when entering the characters) when you configured the modem, the modem might not operate properly. If there is a question, re-enter the information as described in [Setting Up the Modem on page 5-29](#).
- Return the modem to its factory settings before you repeat these procedures.
- If you think the system is hung, try turning off the power to the modem and turning it on again.

## USING A MODEM FOR DIAGNOSTICS

If you are using a modem on a PC to diagnose a problem at a remote site, you can sometimes have a problem with certain modem software and the `dmesg` command.

To log into a remote site with a modem, take the following steps:

1. Go into your modem software (for example, ProCom).
2. Type `dmesg` and press ENTER.
3. You should see a list showing what commands have been executed at that remote site. If you do not see this, but instead get garbage characters, take the following steps:
  - a. The contents of the `dmesg` list have changed your modem software's baud rate and parity settings. Reset these settings. If you are using ProCom, click **Data**, then **Reset Terminal**. (Alternately you can use the keyboard shortcut, ALT-U.)
  - b. Send the contents of the `dmesg` command to a file. At the `usr/sx/db>` prompt, type `dmesg > filename` and press ENTER.
  - c. Type `cat filename` to view the contents of the file. This is what the `dmesg` command would show you.

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