



# **NCR S16 Minitower Server**

## Installing Network Operating System

### Release 3

BST0-2142-0100

12/97

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Address correspondence to:

Systems Information  
NCR Corporation  
3325 Platt Springs Road  
West Columbia, SC 29170

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# Preface

## About This Book

This book provides detailed instructions about the installation and configuration of network operating systems on your server.

The installation information included in this manual is current as of the date of publication. If you have problems installing, more recent installation information may be available through the **NCR Faxback Line** at **(803) 939-2082**.

## Who Should Read This Book

This book should be used by persons familiar with the server and the specific operating systems included herein.

## Conventions Used in This Book

The following conventions are used in this book:

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<b>F1</b>	A letter, number, symbol, or word in this font represents a key on your keyboard. For example, the instruction “press <b>F1</b> ” means press the key labeled “F1” on your keyboard.
<b>Enter</b>	This represents the key labeled “Enter” on your keyboard.
<b>X + Y</b>	Two or three key names, separated by plus signs, indicate multiple-key entries. For example, <b>Ctrl + Alt + Del</b> means hold down <b>Ctrl</b> and <b>Alt</b> and press <b>Del</b> .
Keyboard Detected	This is the font used to denote screen messages.
<b>Note</b>	Notes indicate pivotal information and may be used to emphasize a recommended sequence of steps.
<b>CAUTION</b>	Cautions indicate hazards that might cause personal injury, damage to hardware, or software if the hazards are not avoided.
<b>WARNING</b>	Warnings indicate hazards that can cause personal injury or equipment damage if the hazards are not avoided.

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## Related Publications

For supplementary information, refer to the following books:

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<i>NCR S16 Minitower User Guide</i>	BST0-2142-00
<i>NCR S16 Minitower Server Quick Hardware Installation</i>	BST0-2142-02

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Other publications may later become available. Check with your NCR sales representative for the latest information.



# Installation Overview

# Overview

Thank you for selecting an NCR server. This book is designed to get you started installing and configuring your system.

The following information is included:

- A summary of the setup process
- BIOS Setup procedure
- Adaptec BIOS SCSISelect Utility procedure
- Windows NT Server installation and configuration information
- NetWare installation and configuration information
- SCO UNIX installation and configuration information
- UNIXWare installation and configuration information
- OS/2 installation and configuration information
- MP-RAS installation and configuration information

# Documentation Needed for Setup

You should have the following information to perform the setup:

- This book, *NCR S16 Minitower Server Installing Network Operating System* (BST0-2142-01)
- *NCR S16 Minitower Server User Guide* (BST0-2142-00)
- *NCR S16 Minitower Server Quick Hardware Installation* (BST0-2142-02)
- Drive, peripheral, and adapter documentation
- Network operating system documentation

## Where to Start

After you have installed the hardware, follow these steps to install a network operating system on your system.

<b>Step</b>	<b>What to Do</b>	<b>How to Do It</b>	<b>Where to Find Information</b>
1	Confirm the CMOS Settings and Configure PCI Adapters	Follow the instructions provided	Chapter 2
2	Confirm the SCSI Adapter Settings	Follow the instructions provided	Chapter 3
3	Install the network operating system software	Follow the instructions provided	Chapter 4 - MS Windows NT Server 3.51  Chapter 5 - MS Windows NT Server 4.0  Chapter 6 - MS Windows NT Server Enterprise Edition  Chapter 7 - NetWare  Chapter 8 - SCO UNIX  Chapter 9 - UnixWare  Chapter 10 - OS/2  Chapter 11 - MP-RAS

# Confirming the CMOS Settings and Configuring PCI Adapters

# Overview

Before installing a network operating system on your server, you must confirm the CMOS settings using BIOS Setup and configure the PCI adapter settings. This chapter describes the procedures.

# Confirming the CMOS Settings

This section discusses the BIOS System Setup procedure.

To configure system settings in the BIOS Setup Utility, follow these steps:

1. Turn on power to the system. Observe that the memory test is executed. Memory addresses should be rapidly displayed in the upper left-hand corner of the screen. Ignore any memory size mismatch error displayed on the screen.
2. Press **Ctrl + Alt + Esc** when prompted to enter the BIOS Setup Utility.
3. Select Basic System Configuration. To go from page to page, press **Page Down** or **Page Up**.
4. Go to Page 2 and set parameters as follows (in the order indicated):

Hard Disk Block Mode	Disabled
Advanced PIO Mode	Disabled
Hard Disk Size > 504 MB	Disabled
Hard Disk 32-Bit Access	Disabled
Large Memory Support Mode	Advanced
Memory Test	Enabled
Auto Configuration Mode	Disabled
Fast Boot Mode	Disabled
Num Lock After Boot	Enabled
Configuration Table	Enabled

5. Return to Page 1, and set parameters as follows:

Diskette Drive A	1.44 MB 3.5-inch
Diskette Drive B	None
IDE Drive 0 (xxx MB)	None
IDE Drive 1 (xxx MB)	None
IDE Drive 2 (xxx MB)	None

## Confirming the CMOS Settings

IDE Drive 3 (xxx MB)	None
On Board IDE	Disabled

6. Press **Esc** to return to the main menu in BIOS Setup.
7. Select Advanced System Configuration.

Page 1 - Verify that the parameters are set as follows:

E0000h - FFFFFh (System BIOS)	Enabled
C0000h - C7FFFh (Video BIOS)	Enabled
C8000h - CBFFFh	Disabled
CC000h - CFFFFh	Disabled
D0000h - D3FFFh	Disabled
D4000h - D7FFFh	Disabled
D8000h - DBFFFh	Disabled
DC000h - DFFFFh	Disabled
L1 and L2 Cache (CPU Cache)	Enabled
Cache Scheme	Write Back
ECC/Parity Mode Selection	ECC
Operation of ECC	Correction Enabled
Setting for SNA Cards	Disabled
Memory at 15 MB-16 MB Reserved for	System Use

8. Press **Esc** to return to the main menu in the BIOS Setup.
9. Select System Security. On Page 1, set the parameters as follows:

Disk Drive Control	
Diskette Drive	Normal
Fixed Disk Drive	Normal
System Boot Drive	Drive A Then C



On Board Communication Ports

Serial Port 1 Base Address	3F8h
Serial Port 2 Base Address	2F8h
Parallel Port Base Address	Parallel 1 (3BCh)
Operation Mode Stndrd PP (SPP) Mode	
ECP DMA Channel	-
On Board PS/2 Mouse (IRQ 12)	Enabled
Setup Password	None
Power On Password	None

10. Press **Esc** to return to the main menu in the BIOS Setup.

11. Select Power Saving Configuration, and set the parameter as follows:

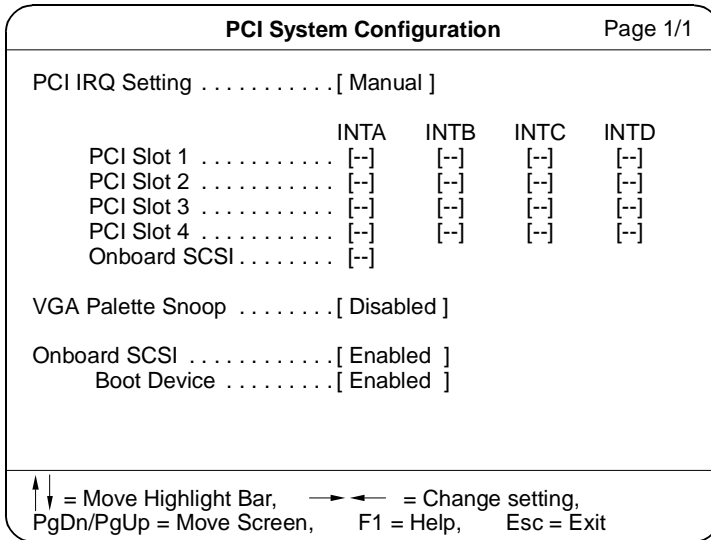
Power Management Mode	Disabled
-----------------------	----------

# Configuring PCI Adapters

To configure PCI adapters, follow these steps:

1. Select PCI System Configuration from the main menu in BIOS Setup.

**Figure 2-1. PCI System Configuration Screen**



2. Press  $\uparrow$  and  $\downarrow$  to select the PCI slot number. Press  $\leftarrow$  and  $\rightarrow$  to change the IRQ Level for INTA Pin settings.
  - Available IRQ settings are 3, 4, 5, 7, 9, 10, 11, 14\*, and 15.
  - To make IRQ 3 available for selection, you must disable Serial Port 2 in the System Security menu.
  - To make IRQ 4 available for selection, you must disable Serial Port 1 in the System Security menu.
  - To make IRQ 7 available for selection, you must disable Parallel Port 1 in the System Security menu.

See Appendix C in your system User Guide for settings for sample configurations.

3. After you have made your settings, press **Esc** to return to the main menu in the BIOS Setup.
4. Press **Esc** again. Select Yes to save your system and PCI adapter settings and to reboot the system.



# Confirming the SCSI Adapter Settings

## Overview

Before installing a network operating system on your server, you must confirm the adapter settings, using the Adaptec BIOS SCSISelect Utility. This chapter describes the procedure.

# Configuring the SCSI Adapters

To configure the SCSI adapters, if connected to an Adaptec SCSI adapter, follow these steps:

1. Press **Ctrl + A** when the following displays:

```
Adaptec AIC-7880 Ultra/Ultra W BIOS
Press <Ctrl><A> for SCSISelect (TM) Utility
```

Refer to Chapter 5 of the *NCR S16 Minitower Server User Guide* (BST0-2142-00) for additional information about these settings.

2. Select SCSI Disk Utilities. Verify that all the SCSI devices are displayed with correct information. If a low-level format on the hard disk drive is needed, perform it now. Usually it is not needed.
3. Select Configure/View Host Adapter Settings and set the parameters as follows:

#### SCSI Bus Interface Definitions

Host Adapter SCSI ID	7
SCSI Parity Checking	Enabled
Host Adapter SCSI Term	Low OFF/High ON

#### Boot Device Options:

Boot Target ID	0
Boot LUN Number	0

4. Select SCSI Device Configuration and set the parameters as follows:

#### SCSI Device ID (tab to desired device)

Initiate Sync Negotiation	Yes
Maximum Sync Transfer Rate	20
Enable Disconnection	Yes
* Initiate Wide Negotiation	Yes

---

\*For Wide devices only.

Send Start Unit Command                      Yes

5. Press **Esc** to return to previous menu.
6. Select Advanced Configuration Options and set the parameters as follows:

Host Adapter BIOS (Config Util...)	Enabled
Support Removable Disks...	Boot Only
** Extended BIOS Translation...	Enabled
Display <CTRL-A> Message During BIOS Initialization...	Enabled
Multiple LUN Support	Disabled
BIOS Support for Bootable CD-ROM	Disabled
BIOS Support for Int 13 Extensions	Enabled
*** Support for Ultra SCSI Speed	Disabled
7. Press **Esc** to return to previous menu.
8. Press **Esc** until prompted to save configuration. Save the configuration and the system reboots.

---

**\*\*Extended BIOS Translation should be disabled, and the drive should be reformatted when using SCO Unix or SCO UnixWare. After changing settings, reboot the system before formatting.**

**\*\*\*Enable for use with Ultra drives only.**



# Installing Microsoft Windows NT Server 3.51

# Overview

This chapter discusses installing Microsoft Windows NT Server 3.51 on your server.

To install Windows NT Server 3.51 on your server, follow these steps:

- Confirm the CMOS settings using BIOS Setup - See Chapter 2
- Confirm the adapter settings using the Adaptec BIOS SCSISelect Utility - See Chapter 3
- Install Windows NT Server

# Performing a Full Installation of Windows NT Server 3.51

To install Windows NT Server 3.51, follow these steps:

1. Insert the Windows NT Server Setup Boot Disk into the flex disk drive. Power on the system.
2. You are next prompted to insert the Windows NT Server Setup Disk 2. Insert the disk and press **Enter**.

## Entering Windows Setup

To enter Windows Setup and proceed, follow these steps:

1. Setup prompts you to setup Windows now. To setup Windows now, press **Enter**.
2. You are prompted to select whether you want to perform an Express Setup or a Custom Setup. Press [C] to select an Custom Setup.
3. Select [S] to skip Mass Storage Device Detection.
4. Select [S] to specify additional SCSI adapters.
5. Select Other when presented with a list of SCSI devices.
6. When prompted, insert the Adaptec 7800 Family Manager disk V1.21L or greater for Microsoft Windows NT. Press **Enter**.
7. Select the following:  
Adaptec AHA-2940/AIC 78xx (PCI) NT v3.5x
8. Verify that Setup recognizes the Adaptec 7880.
9. Select [S] to specify additional SCSI adapters. Otherwise, press **Enter**.

**Note:** If the unit is configured with a Mylex DAC 960PL PCI RAID Adapter, you must use the software drivers on the DAC960 Software Kit disk Version 1.04. Do not use the drivers on the install CD.

## Inserting the Windows NT Server Setup Disk 3

When prompted to insert the Windows NT Server Setup Disk 3, follow these steps:

1. Insert the disk, and press **Enter**.
2. Verify that the bottom of the screen displays various drivers being loaded.

**Note:** If the installation hangs when loading any of the SCSI drivers, you must create a small DOS partition on each of the disk drives and perform a DOS format on each of these partitions before installing Windows NT Server 3.51.

3. You are informed which SCSI host adapter boards have been detected by the NT setup procedure.

Included in the list should be the Adaptec 294x/AIC 78xx (PCI) adapter. This adapter is embedded in the main system board of the server. Any additional adapters which are installed on your system should also be listed. Press **Enter** to accept this list of devices.

## Installing from the CD-ROM

When NT setup asks whether you want to install from the CD-ROM, or from the 3.5-inch flex drive, follow these steps:

1. Insert the Windows NT Server installation CD into the CD-ROM drive and press **Enter**.
2. You are now shown the hardware and software components in your system. If the list is correct, press **Enter**. Otherwise, change any incorrect settings before pressing **Enter**.

## Preparing the Hard Disk

You may receive a message indicating that the setup procedure has determined that your hard disk is new or has been erased. Follow these steps:

1. If you are certain that there is no valuable data on the disk, press **C** to continue.

**Note:** All of the data which was formerly on the disk will be erased when you select this option. If you do **not** want to erase the disk, you may exit the installation by pressing **F3**.

**Note:** Regardless of which drive you choose to install Windows NT to, certain files are placed on the first disk drive on the top plane (the disk drive with the lowest SCSI ID, referred to as C:, in order to allow the operating system to boot properly. We recommend that you install Windows NT on the first disk drive (C:), or that you do not remove the first disk drive while the system is operating, especially during system startup.

2. Next, you are prompted to select the area of the disk on which you want to install Windows NT Server.
3. If you want to partition an area of unpartitioned disk space, press **C**, and fill in the size of the partition to be created. If you want to use the entire unpartitioned space, simply press **Enter**.

**Note:** If installing to system drives connected to the Mylex DAC 960 PL PCI RAID Adapter, the following known limitation of the Windows NT 3.51 drivers and utilities may cause installation problems:

- NT forces the first partition size to be 1024 MB (half of the allowed size) if the following 3 conditions ALL apply:
- There are more SYSTEM DRIVES than 1 configured on the drives connected to the Mylex DAC 960 PL PCI RAID Adapter.
- The first SYSTEM DRIVE is larger than 1024 MB.
- There are no partitions already defined on the SYSTEM DRIVES.
- In addition, after the 1024 MB partition has been created during the NT installation, the reboot will fail (see step 8 below).
- If the reboot fails, begin the installation again. This time, you will be able to remove the 1024 MB partition and replace it with the full 2048 MB partition. After the 2048 MB partition has been created, the installation will proceed normally.

4. Next, select the file system you want to use. If the disk was previously formatted as FAT, you may be prompted to convert it to NTFS. Otherwise, you are prompted to format the disk as FAT or NTFS, or to retain the existing file structures. Select the option you prefer, and press **Enter**.
5. Setup formats the partition as you have instructed. This may take anywhere from a few minutes to a few hours, depending upon the size of the partition, and the type of disk and controller in your system.
6. After the formatting is complete, you are prompted for the name of the directory where Windows NT Server will be installed. Enter the name of the directory, and press **Enter**.
7. Press **Enter** again to allow setup to examine your hard disks. After examination is complete, you are prompted to insert the host adapter driver disk for each host adapter you have specified.
8. Files are copied onto your hard disk from the installation CD-ROM. Upon completion, you are informed that the current portion of setup has completed successfully, and that you should remove any flex disk and press **Enter**.

**WARNING:** Contrary to the instructions on the screen, **WAIT** several minutes before pressing Enter. If you do not wait, the server's caching disk controller may not have enough time to complete all writing operations, and your system disk may not be installed correctly.

9. Your system reboots, and you are automatically taken into Windows NT Server.

**Note:** If installing to system drives connected to the Mylex DAC 960 PL PCI RAID Adapter, and the reboot fails, begin the installation again. This time, in the procedure outlined in step 3 above, you will be able to remove the 1024 MB partition and replace it with the full 2048 MB partition. After the 2048 MB partition has been created, the installation will proceed normally.

## Completing User and Server Information

Continue the installation by completing user and server specific information. Follow these steps:

1. You are prompted for your name and company name. Complete the information and select CONTINUE. You are given the opportunity to change these entries next. When the entries are correct, select CONTINUE.
2. You are prompted for the Microsoft Product ID. Complete the number, and select CONTINUE. Again, you are given the opportunity to change the entry. When it is correct, select CONTINUE.
3. You are asked to select whether this system is to be a Domain Controller, or a Server. Select the appropriate button, and select CONTINUE.
4. You must next select whether your server software license has been purchased on a Per Server or a Per Seat basis. Select the appropriate box, enter the total number of licenses purchased, and select OK.
5. You are prompted to verify that you have read and that you understand the licensing agreement, and that you agree to abide by it. Select the box next to the sentence which begins I Agree, and select OK.
6. When prompted to specify this system's unique name, type the name, and select CONTINUE.  
**Note:** Do not include any spaces or backward slashes in the system name.
7. You are given the opportunity to change the name you have selected. When your entry is correct, select CONTINUE.
8. You are prompted to select the language for the system. This also determines the initial settings for currency, date, time, etc. Select the language to be used, and select CONTINUE.
9. You are prompted separately to perform specific tasks: setup network, setup printer, and setup applications on the hard drive. Select the appropriate tasks and press **Enter**.

10. If you selected Install Only Components I Select, then you are prompted to change the components. When done, press **Enter**.
11. If you want to set up a printer, select the name of the printer, the printer driver to use, and the port to be printed to, and select CONTINUE. If you do not wish to set up a printer at this time, select CANCEL.
12. You will next be prompted to specify the network interface board for the system. The installation procedure will ask you if you would like to have it auto-detect the boards present, or if you would like to specify the boards manually. Select Do Not Detect, and follow the prompts provided to specify your installed network board manually. Choose OTHER (requires disk from manufacturer) and select CONTINUE. Insert the driver diskette for the network interface board that was shipped with the documentation for your system and press Enter.

## Selecting Network Protocols

Continue the installation by selecting network protocols. Follow these steps:

1. The Windows NT Server installation procedure prepares your available choices for network protocols. You may select any of the protocol transports listed: NWLink (IPX/SPX), TCP/IP, or NetBEUI. When you have selected the checkboxes of all protocols you want to install, select CONTINUE.
2. The services you selected begin to install. You are prompted to select the frame type for the IPX/SPX protocol. You may select Automatic or Manual Frame type detection. If you select Manual detection, you may select from among the frame types shown. When you have finished, select OK.
3. Next, you are prompted to configure the parameters for the TCP/IP transport. Your network administrator should be able to give you the information you need to configure this service.

You may select to enable Dynamic Host Configuration Protocol, if this system is to be connected to a DHCP server. If not, you need to enter the appropriate IP Address and Subnet Mask for this system, and the Default Gateway if routing outside of your local subnet.



You may also select to enter the IP addresses of your primary and secondary WINS server. When you have finished, select OK.

4. If you do not fill in a WINS address in the preceding screen, you will get a message such as the one below. If you see such a message, select YES to continue.

At least one of the adapter cards has an empty Primary WINS address.

5. Installation of the network components continues. If you indicated earlier that you want this system to be a Domain Controller, you are asked to decide if this system is to be a Primary Domain Controller or a Backup Domain Controller.

In either case, you need to complete the domain name.

**Note:** Do not include spaces or backward slashes in the domain name. When you have finished, select OK.

If you previously indicated that you want this system to be a Server, you are prompted to indicate the name of the domain or workgroup this system will join.

## Providing Additional Setup Information

Continue the installation by providing the following information:

1. The installation process sets up program groups and icons for your system. You are prompted to enter the name and password for your Administrator. You need to enter the password twice. When you have finished, select CONTINUE. If the password is left blank, you are prompted to confirm.
2. You are prompted to enter the name and password for your initial user. You need to enter the password twice. When you have finished, select CONTINUE. If the password is left blank, you are prompted to confirm that No Password is what you want.
3. You are prompted to choose virtual memory settings. Select the recommended size and select CONTINUE.

4. The installation program prompts you to enter your current date, time, and time zone. After each item has been entered, select OK.
5. You may be prompted to identify various executable files which are installed on your disk which the installation procedure could not positively identify. These may include MS-DOS applications or other files. Select the appropriate option for each, and select OK.
6. You are shown the video adapter which has been detected by the installation process. Select OK to confirm the selection.
7. You are prompted to select the video driver configuration, including the resolution, number of colors, and scan rate.

After you have selected the desired parameters, select TEST to verify the video displays the resolution correctly. Follow the prompts on the screen to complete the test. When you are certain that the selections are correct, select OK to configure the video driver. Your system's configuration is saved.

8. You are asked whether you want to create an Emergency Repair Disk. We strongly recommend creating an Emergency Repair Disk.
9. Select YES to create an Emergency Repair Disk. You are prompted to insert a blank high-density disk into the drive. Select OK when you have inserted the disk. The disk is formatted, and appropriate files are copied to it.

## Completing the Installation

To complete the installation, follow these steps:

1. You are informed that the Windows NT installation is complete.

**WARNING:** Contrary to the instructions on the screen, WAIT several minutes before selecting REBOOT.

If you do not wait, the server's caching disk controller may not have enough time to complete all writing operations, and your system disk may not be installed correctly.

2. The system reboots, and if you selected the NTFS file system for any volume on your system, the file system is automatically converted to NTFS at this time.

The installation of Windows NT Server is now complete. If you want to utilize the Remote Diagnostic Management (RDM) feature, you must now install NCR Server Management from the NCR ValuePlus CD. Please refer to the NCR ValuePlus CD for BackOffice, Release 4.2 *User's Guide* for more information.



# Installing Microsoft Windows NT Server 4.0

## Overview

This chapter describes the installation procedure for Microsoft Windows NT Server 4.0 on your server.

The first part of the chapter discusses what you need to do to your system if Microsoft Windows NT Server was pre-loaded at the factory.

**WARNING:** If MS Windows NT Server was pre-loaded at the factory, heed this warning. Upon first powering on the server, make sure to follow all screen instructions and answer all questions.

Failure to do so or powering off the server before the installation is complete will require you to complete a FULL installation of the operating system.

The second part of the chapter discusses the procedure for installing Microsoft Windows NT Server on your system if it was not pre-loaded at the factory.

# Pre-Loaded Installation

If your system was pre-loaded at the factory with Microsoft Windows NT Server, you need to complete the installation of the system by providing several site-specific configuration items.

This section describes the procedure to complete the pre-loaded installation of Microsoft Windows NT on your server.

## Starting the Pre-Loaded Installation

To start the pre-loaded installation, follow these steps:

1. Carefully read the warning on the previous page.
2. Verify that both the mouse and the keyboard are plugged into the appropriate receptacles in the back of the system.
3. Verify your system is connected to the network onto which it will be installed. Before continuing, verify you have the following information:
  - The name of your domain
  - The unique name of this system
  - Whether this system will be the Primary Domain Controller (PDC) or a Backup Domain Controller (BDC)
4. Remove the yellow CAUTION label from the front of the system, and open the disk drive access door.
5. Power on the system by pressing the power button on the front panel or inside the disk drive access door. The system begins its POST tests and prepares for completion of the Windows NT installation.

## Entering the Setup Routine for NCR Server Manager

To enter the setup routine for NCR Server Manager, follow these steps:

1. After the POST tests have completed, and several Windows NT screens have briefly displayed, enter the setup routine for NCR Server Manager.

Depending on the version of NCR Server Manager loaded on your server, you may be asked about the type of system you are installing. Answer the questions appropriately for your system and site configuration.

2. Enter your name and company name, and select CONTINUE. You are given the opportunity to change these entries. When the entries are correct, select CONTINUE.
3. Specify this system's unique name. Type in the name, and select CONTINUE. Do not include any spaces or backward slashes in the system name. You are given the opportunity to change the name. When your entry is correct, select CONTINUE.
4. The installation procedure prepares to configure the network on your system, and copies the required files to the disk.
5. If no network board is found, you are asked whether the installation procedure should automatically detect the Network Interface Card (NIC), or whether you want to install the Microsoft Remote Access Service (MSRAS) on the system. You may be prompted for the full path for the Windows NT installation files. Select the default directory, which will be similar to C:\\$WIN\_NT\$.~ls\. Select CONTINUE to accept the default.

## Completing the Pre-loaded Installation

To complete the pre-loaded installation, follow these steps:

1. The installation procedure copies the files for the remainder of the Windows NT Server installation from the temporary installation directory into the Windows NT home directory.
2. Select the domain that the system will join. If this system is to be the Primary Domain Controller of a new domain, you need to select the appropriate button, and complete the name of the domain.
3. If it is to become a Backup Domain Controller, you must select the appropriate button, complete the name of the domain, and the name and password of an administrator on the domain. When you have completed your selections, select OK to continue. Icons and program groups are created for your Windows NT installation.



4. You are prompted to set the time, date and time zone on the system. When you are satisfied that the time is correct, select **OK**. After a short time, your system reboots.
5. Sign onto the system, using the administrator signon name and password created earlier.
6. Select the video driver configuration, including the resolution, number of colors, and scan rate.
7. Select **TEST** to verify the video displays the resolution correctly.
8. To complete the test, follow the prompts on the screen. When you are certain that the selections are correct, select **OK** to configure the video driver. Your system configuration is saved.

The pre-loaded installation of Windows NT Server is now complete.

## Non-Pre-Load Installation

If Windows NT Server was not pre-loaded on your server at the factory, use this section to prepare your system and install the software.

To install Windows NT Server 4.0 on your server, follow these steps:

- Confirm the CMOS settings using BIOS Setup - See Chapter 2
- Confirm the adapter settings using the Adaptec BIOS SCSISelect Utility - See Chapter 3
- Install Windows NT Server

# Performing a Full Installation of Windows NT Server 4.0

To install Windows NT Server 4.0, follow these steps:

1. Insert the Windows NT Server Setup Boot Disk into the flex disk drive. Power on the system.
2. When prompted, insert the Windows NT Server Setup Disk 2 and press Enter.

## Entering Windows Setup

To enter Windows Setup and proceed, follow these steps:

1. When prompted to setup Windows now, press **Enter**.
2. When prompted, press Enter to have setup detect the mass storage devices. Your system is then inspected to determine which mass storage devices are installed.
3. When prompted, insert the Windows NT Server Setup Disk 3. and press **Enter**.
4. Upon completion of the inspection process, you are informed which SCSI host adapter boards have been detected by the NT setup procedure. If the boards are not auto-detected, you are given the opportunity to manually add them. Some drivers may not be auto-detected.
5. Included in the list should be the Adaptec AHA-294x/AHA-394x/AIC-78xx SCSI adapter. This adapter is embedded in the main system board of the server. Any additional adapters which are installed in your system should also be listed. Press **Enter** to accept this list of devices.
6. A screen message may display indicating that your hard disk has more than 1024 cylinders. Read the message and press **Enter**.
7. When prompted, read the Microsoft License Agreement. Press **Page Down** until you have read all of it, and press **F8** or **Esc**.

8. When prompted to validate your system settings, make any necessary changes and press **Enter** to continue.

## Preparing the Hard Disk

If a message displays indicating that the setup procedure has determined that your hard disk is new or has been erased, follow these steps:

1. If you are certain that there is no valuable data on the disk, press **C** to continue.

**Note:** All of the data which was formerly on the disk will be erased when you select this option. If you do **not** want to erase the disk, you may exit the installation by pressing **F3**.

**Note:** Regardless of which drive you select to install Windows NT onto, certain files are placed on the first disk drive on the top plane (the disk drive with the lowest SCSI ID, referred to as C:) in order to allow the operating system to boot properly. We recommend that you install Windows NT on the first disk drive (C:), or that you do not remove the first disk drive while the system is operating, especially during system startup.

2. Select the area of the disk on which you want to install Windows NT Server.
3. If you want to partition an area of unpartitioned disk space, press **C**, and fill in the size of the partition to be created. If you want to use the entire unpartitioned space, simply press **Enter**.

**Note:** If installing to system drives connected to a Mylex DAC 960/Digital SWXCR-EX RAID controller adapter, the following known limitation of the Windows NT 4.0 drivers and utilities may cause installation problems:

- NT forces the first partition size to be 1024 MB (half of the allowed size) if the following 3 conditions ALL apply:
  - There are more **SYSTEM DRIVES** than one configured on the drives connected to the Mylex DAC 960/Digital SWXCR-EX RAID controller adapter.

- The first SYSTEM DRIVE is larger than 1024 MB.
  - There are no partitions already defined on the SYSTEM DRIVES.
  - In addition, after the 1024 MB partition has been created during the NT installation, the reboot will fail (see step 8 below).

If the reboot fails, begin the installation again. This time, you will be able to remove the 1024 MB partition and replace it with the full 2048 MB partition. After the 2048 MB partition has been created, the installation will proceed normally.
4. Select the file system you want to use. If the disk was previously formatted as FAT, you have the option to convert it to NTFS. Otherwise, you have the option to format the disk as FAT or NTFS, or to retain the existing file structures. Select the option you prefer, and press Enter.
  5. Setup formats the partition as you have instructed. This may take from a few minutes to a few hours, depending upon the size of the partition and the type of disk and controller in your system.
  6. After the formatting is complete, you are prompted for the name of the directory where Windows NT Server will be installed. Enter the name of the directory, and press Enter. Files are copied onto your hard disk from the installation CD-ROM.
  7. When informed that the current portion of setup has completed successfully, remove any flex disk still in the drive and press Enter.

**WARNING:** Contrary to the instructions on the screen, wait several minutes before pressing Enter. If you do not wait, the server's caching disk controller may not have enough time to complete all writing operations, and your system disk may not be installed correctly.
  8. Your system reboots and automatically loads Windows NT Server.

**Note:** If installing to system drives connected to the Mylex DAC 960/Digital SWXCR-EX RAID controller adapter, and the reboot fails, restart the installation. This time, in the procedure outlined in step 3 above, you will be able to remove the 1024 MB partition and replace it with the full 2048 MB partition. After the 2048 MB partition has been created, the installation will proceed normally.

## Completing User and Server Information

Continue the installation by completing user and server specific information. Follow these steps:

1. When the Windows NT Setup screen displays, press Enter.
2. When prompted, enter your name and organization, and select NEXT to continue.
3. Select the licensing mode that suits your organization, and select NEXT to continue.
4. When prompted to specify this system's unique name, enter the name, and select NEXT.

**Note:** Do not include any spaces or backward slashes in the system name.

5. When prompted to select whether this system is to be a Primary Domain Controller, Backup Domain Controller or a Stand-Alone Server, select the appropriate button, and select NEXT.
6. Enter a password for the Administrator account. You need to enter the password twice. When finished, select NEXT. If the password is left blank, you are prompted to confirm.
7. To create an Emergency Repair Disk, select NEXT.
8. When prompted to select the operating system components you would like to install, make your selections, and select NEXT.
9. When the Windows NT Setup Status Screen displays, select Next to continue.

## Installing the Network

Continue the installation by installing the network. Follow these steps:

1. Select how your server will participate on the network, and select NEXT.
2. When prompted if you would like to install Microsoft's Internet Information Server, make your selection, and select NEXT.

3. When prompted to have the setup utility search for your network adapters, choose Select from List and Have Disk.
4. Insert your network interface board driver disk. Select the appropriate driver, and select NEXT.

## Selecting Network Protocols

Continue the installation by selecting network protocols. Follow these steps:

1. The Windows NT Server installation procedure prepares your available choices for network protocols. You may select any of the protocol transports listed: NWLink (IPX/SPX), TCP/IP, or NetBEUI. When you have selected the checkboxes of all protocols you want to install, select NEXT.
2. Verify the network services that will be installed to the system. Make any needed changes and select NEXT.
3. To install the selected components, select NEXT.
4. When prompted, setup your network boards, and select CONTINUE.
5. When prompted to configure the parameters for the TCP/IP transport, and you chose to install it, ask your network administrator for information you need to configure this service.
6. You may choose to enable the Dynamic Host Configuration Protocol, if this system is to be connected to a DHCP server. If not, you must enter the appropriate IP Address and Subnet Mask and the Default Gateway, if routing outside of your local subnet.
7. You may also choose to enter the IP addresses of your primary and secondary WINS server. When finished, select OK.
8. Installation of the network components continues. If you indicated earlier that you want this system to be a Domain Controller, you are prompted to choose if this system is to be a Primary Domain Controller or a Backup Domain Controller. In either case, you must complete the domain name.

**Note:** Do not include spaces or backward slashes in the domain name. When you have finished, select OK.

9. If you previously indicated that you want this system to be a Server, you are prompted to indicate the name of the domain or workgroup this system will join.

## Entering Additional Setup Information

Continue the installation by entering additional setup information. Follow these steps:

1. When prompted, enter the current date, time, and time zone. After each item has been entered, select CLOSE.
2. When prompted, select the video driver configuration, including the resolution, number of colors, and scan rate.
3. After you have selected the desired parameters, select TEST to verify the video displays the resolution correctly. Follow the instructions on the screen to complete the test. When you are certain that the selections are correct, select OK to configure the video driver. Your system's configuration is saved.
4. After windows NT Setup copies some files, you are prompted to insert a blank high-density disk into the drive to create an Emergency Repair Disk. This happens only if you chose to create an Emergency Repair Disk earlier in the installation.
5. Insert the disk, and select OK. The disk is formatted and appropriate files are copied to it.
6. When prompted, reboot your system.

After rebooting, the installation of Windows NT Server is complete.



# Installing Windows NT Server 4.0 Enterprise Edition

# Overview

This chapter describes the installation of Microsoft Windows NT Server 4.0 Enterprise Edition. The installation of NT Server 4.0 Enterprise Edition consists of the following:

- Installing NT Server 4.0 Enterprise Edition
- Installing Service Pack 3

Before installing or re-installing the NT Server 4.0 Enterprise Edition, use the table below to determine which section of this book to reference.

Action	Reference
Windows NT Server Enterprise Edition was pre-loaded at the factory	<p>“Complete a Pre-loaded Installation” in Chapter 5</p> <p>“Install Service Pack 3” section in this chapter, and</p> <p>“Enable 4 GB Support” section in this chapter</p>
Windows NT Server Enterprise Edition was <b>not</b> pre-loaded at the factory	<p>“Performing a Full Installation” section in Chapter 5</p> <p>“Install Service Pack 3” section in this chapter, and</p> <p>“Enable 4 GB Support” section in this chapter</p>

Before beginning to install your operating system, read the introductory sections of the Microsoft *Start Here, Basics and Installation Guide for Microsoft Windows NT Server*.

**CAUTION:** NT Setup may fail on some machines with mixed processor steppings. Typically, the floppy drive fails to operate, although other failures may occur. In such cases, it is necessary to enter BIOS Setup and disable all processors. After installing NT, you should reenable the processors.

**Note:** NT 4.0 Enterprise Edition supports only eight processors.

# Install Service Pack 3

After installing NT 4.0 by inserting the NT 4.0 EE CD and double clicking on the *setup.exe* application and following the instructions on the screen to install the software, you are ready to install Service Pack 3.

To install Service Pack 3, follow these steps:

1. Go to the SP3 directory and execute the *update.exe* application. This installs Service Pack 3 over the base NT 4.0 operating system.
2. Now you are ready to update the *boot.ini* file to enable 4GB.

**Note:** Future updates to the service packs are available from the Microsoft web page (<ftp://ftp.microsoft.com.bussy/winnt/winnt-public/fixes/usa/nt40/ussp3/>).

## Enable 4 GB Support

After installing NT Server 4.0 and installing Service Pack 3, you must update the *C:\boot.ini* file to enable 4GB support.

To update the *C:\boot.ini* file, follow these steps:

1. The *boot.ini* file is a hidden file. You must “unhide” the file before you can select it for editing. Through Explorer, select View, select Options, and then select “Show All Files.”
2. You also must change the properties associated with the *boot.ini* file to something other than “read-only” so that you can edit the file. Through Explorer, select *boot.ini*, select File, and then select Properties. Select something other than “read-only.”
3. Edit the file and add the */MAXMEM:3GB* option to the NT start-up line.

**Note:** Refer to the “Enabling 4GB Support in Your Application” section of the *Windows NT Enterprise Edition Installation Guide* for additional information.

### Boot.ini File Before Modification Example

For example, **before** modification, your *boot.ini* file might look like the following:

```
[boot loader]
timeout=30
default=multi(0)disk(0)rdisk(0)partition(2)\WINNT
[operating systems]
multi(0)disk(0)rdisk(0)partition(2)\WINNT="Windows NT Server
Version 4.00"
multi(0)disk(0)rdisk(0)partition(2)\WINNT="Windows NT Server
Version 4.00[VGA mode]" /basevideo /sos/basevideo /sos
```

## Boot.ini File After Modification Example

For example, **after** modification after modification, your *boot.ini* file might look like the following:

```
[boot loader]
timeout=30
default=multi(0)disk(0)rdisk(0)partition(2)\WINNT
[operating systems]
multi(0)disk(0)rdisk(0)partition(2)\WINNT="Windows NT Server
Version 4.00" /MAXMEM:3GB
multi(0)disk(0)rdisk(0)partition(2)\WINNT="Windows NT Server
Version 4.00[VGA mode]" /basevideo /sos/basevideo /sos
```

Enable 4 GB Support

# Installing Netware

# Overview

After you have setup the system and configured it, you are ready to install the operating system.

This chapter discusses installing NetWare on your server.



# Installation Overview

To install NetWare on your server, follow these steps:

- Confirm CMOS configuration - See Chapter 2
- Configure adapter settings using the Adaptec BIOS SCSISelect Utility - See Chapter 3
- Reboot the system and create a primary DOS partition
- Load the controller's drivers
- Install the NetWare software

## Rebooting the Server and Creating a Primary DOS Partition

To reboot the server, and create a primary DOS partition, follow these steps:

1. Insert the DOS boot disk into Drive A.
2. Reboot the server.
3. To create a primary DOS partition, do the following:
  - Using the FDISK program from the DOS disk, install a 15 MB PRIMARY DOS partition on the existing hard drive and make it “active.” Your machine will then reboot.
  - If storing more than the “normal” amount of driver and executable files on the local drive (C:, for example), you may need a larger DOS partition.
4. Using the FORMAT program from the DOS disk, use the following syntax to make the C: partition bootable:

```
FORMAT C: /S /U /V:NW41SERVER  
[use any 11-character label]
```

When completed, reboot the system. After the system begins its boot process, remove the DOS disk.

5. Reboot to test system files. NetWare does not use any external memory management or software caching.

Verify no HIMEM, EMM386, or SMARTDRV lines exist in the CONFIG.SYS or AUTOEXEC.BAT files.

6. Insert your NetWare 4.1 CD-ROM into the drive label-up. Keep your NetWare 4.1 License disk close by, because it will be read by your flex drive during the installation.
7. You may want to create a DOS subdirectory to contain DOS utilities to use them without having to insert a DOS disk.

You are asked later if you want to automatically start the NetWare file server initialization upon boot (creation of an AUTOEXEC.BAT file).

Editing this file later requires some type of utility program, such as the DOS EDIT program.

**Note:** If duplexing, repeat the boot steps 3-7 for the second hard disk.

## Loading the Controller's Drivers

In NetWare, you must install from CD-ROM. Load your controller's CD-ROM drivers into a CONFIG.SYS file according to the controller's instructions.

You must also copy your DOS version's MSCDEX.EXE into a C:\DOS (for example) subdirectory.

### Using an Adaptec Controller

If using an ADAPTEC controller, follow these steps:

1. Insert the Adaptec EZ-SCSI for DOS/Windows disk into Drive A and follow the instructions on the label for syntax. In most cases, type DOSINST and press **Enter**.

Your MSCDEX file is located in the C:\DOS subdirectory. By default, your CD-ROM drive letter is drive D.

This Adaptec EZ-SCSI process should copy the appropriate files and place two lines in your CONFIG.SYS and one line in your AUTOEXEC.BAT file as follows:

CONFIG.SYS file:

```
DEVICE=C:\SCSI\ASPI8DOS.SYS /D  
DEVICE=C:\SCSI\ASPICD.SYS /D:ASPICD0
```

AUTOEXEC.BAT file:

```
C:\DOS\MSCDEX.EXE /D:ASPICD0 /M:12
```

2. You must also install the following lines in your CONFIG.SYS file as a prerequisite for DOS CD-ROM access:

```
files=12  
buffers=15
```

3. Reboot to load the CD-ROM drivers.
4. Test the CD-ROM drive by inserting a CD into the drive, accessing it with the DOS letter assigned, and performing a directory listing.

**Note:** You may also install NetWare from CD-ROM by using the .DSK drivers and mounting the CD as a NetWare volume.

If using the CD-ROM drive **only** to install NetWare, we recommend using the DOS-level drivers. If you plan to use the CD-ROM as a volume later in your network, you may load those **different** NetWare drivers at that time.

## Loading the CD-ROM as a NetWare Volume

To load the CD-ROM as a NetWare Volume, follow these steps:

1. If loading multiple AIC-7870.DSU drivers, load ASPICD directly **after** the .DSU slot load (LOAD AIC 7870 Slot=X) for the HBA slot controlling the CD-ROM.
2. To load the CD-ROM as a NetWare Volume, at the server system prompt {:], type the following:

```
:LOAD AIC7870 Slot=32
:LOAD AIC7870 Slot=33
  :LOAD ASPICD
  :LOAD CDROM
  :CD MOUNT volumename
```

# Installing NetWare

During the installation processes, you are asked many hardware-specific questions. Most of these can be answered by choosing the default (highlighted) option, but in some cases specific information is required.

**Note:** Know your hardware before attempting this installation. You should install all drivers for your network interface boards on the hard drive where they can be accessed easily. For example, for SMC adapters, you should install the files in the directory, `c:\smc`.

To install NetWare, follow these steps:

1. At the CD-ROM drive letter prompt (D:, for example), type **INSTALL**.
2. When prompted to “Select the type of installation desired,” select NetWare Server Installation and press **Enter**.
3. When prompted to “Choose the product you want to install,” select NetWare 4.1 and press **Enter**.
4. When prompted to “Select the type of installation you are performing,” select Simple Installation of NetWare 4.1 and press **Enter**.
5. When prompted to “Specify the server name,” enter a short descriptive alphanumeric title and press **Enter**.
6. Assign an internal IPX number. To select the default, press **Enter**.
7. Select the source and destination paths. To select the defaults, press **Enter**.
8. Select a local configuration and press **Enter**.
9. Select a filename format. Press **Enter** to select DOS.
10. To specify special startup commands, select Yes and press **Enter**. Otherwise, select No.
11. To allow NetWare to run from AUTOEXEC.BAT, select Yes and press **Enter**. Otherwise, select No.

## Choosing Drivers

This process looks for SCSI controller drivers to enable use of the hard disk(s) and other storage devices attached to that SCSI channel.

1. When prompted to “Choose the Server Drivers - Disk Driver,” select AIC7870.DSK and press **Enter**. The listings are always in alphabetical order so you may have to scroll up or down using the arrow keys.
2. When prompted, “Do you want to select an additional Disk driver?” select No and press **Enter**. The “Scanning for available drivers....” message displays. This process looks for the network interface board (.LAN) drivers.
3. When prompted to “Choose the Server Drivers - Network Drivers,” press **F10** to continue without selecting.
4. When the “Choose the Server Drivers - Summary” screen displays, choose Select/Modify driver parameters and press **Enter**. You must enter your Slot # [the bus slot where the EISA /PCI controller board is located, in the case of the S16, the embedded SCSI controller is listed as slot #32], press ↓ to Save the parameters and continue, and press **Enter**.
5. At the Driver Actions menu, select Continue installation.
6. Press **Enter** to select “slot=32” and continue installing the drivers.
7. When prompted that no LAN driver has been installed, press **Enter**.
8. When the “Choose the Server Drivers - Summary” and “Driver Actions” screens display, select Continue installation and press **Enter**.

## Switching to the System Console Screen

To switch to the System Console Screen, follow these steps:

1. When the “Control will be switched to the system console screen...” message displays, press **Enter**. The console prompt { : } then displays.
2. Your .LAN driver loads and prompts you to verify the slot number. If correctly listed, press **Enter** to load the driver.

3. When prompted to “Insert disk MAIN SERVER LICENSE,” insert your red-labeled user authorization disk into Drive A, and press **Enter**.
4. NetWare attempts to mount the CD-ROM as a volume. This process may take longer than the allotted 20 seconds and fail. Follow the on-screen procedures and go to the system console screen (or press **Alt + Esc**). Within several seconds, the CD-ROM mounts correctly and file copying begins. This copying may last up to 15 minutes or longer, depending on the speed of your CPU and SCSI channel.
5. The installation and configuration of your drive partitions and volumes is AUTOMATIC under the “simple” installation. The process partitions ALL the remaining disk space as the NetWare volume, SYS.
6. If an existing NetWare partition exists, you are asked whether to “Delete existing non-bootable disk partitions?.” Enter **Y** for Yes and press **Enter** to continue.
7. A “File copy...” percentage bar displays on the screen.
8. You are prompted to “Please wait...” while several files are copied to the hard disk. Upon completion, an information screen displays your Directory tree name, Directory context, and Administrator name. **Write this information down for safe-keeping.** Press **Enter** to continue.
9. A “File Copy Status (Main Copy)” screen and percentage completed graphic bar displays.
10. When the “Other Installation Actions” screen displays, select Continue installation and press **Enter**.

## Completing the Installation

1. At the “Complete” screen, press **Enter** to exit to the system console screen and the “:” prompt.
2. At the “:” prompt, type LOAD INSTALL and press **Enter**.
3. At the “Installation Options” screen, highlight NCF files options and press **Enter**. Highlight Edit AUTOEXEC.NCF and press **Enter**. The 4.1 install defaults your frame type to Ethernet\_802.2.



4. If your topology requires a different type or additional type support (such as Ethernet\_802.3, Ethernet\_II or Ethernet\_SNAP, etc.), change the line which loads your SMCPWR .LAN driver to read:

```
LOAD SMCPWR SLOT=? FRAME=???? NAME=SMCPWR_1_E83
```

Or, add additional LOAD statements to load more frame types. If attaching this server to existing wiring, you must also edit the NET= entry on the BIND statement to mirror the existing network segment number.

#### Sample AUTOEXEC.NCF File

A typical AUTOEXEC.NCF file might appear as follows:

```
set Time Zone = EST5EDT
set Daylight Savings Time Offset = 1:00:00
set Start Of Daylight Savings Time = (APRIL SUNDAY
  FIRST 2:00:00 AM)
set End Of Daylight Savings Time = (OCTOBER SUNDAY
  LAST 2:00:00 AM)
set Default Time Server Type = SINGLE
set Bindery Context = O=ATT
file server name ATT_41
ipx internal net 2F24147B
LOAD SMCPWR SLOT=16 AUTODETECT LINE_SPEED=10
FRAME=ethernet_802.3 NAME=SMCPWR_1_E83
BIND IPX SMCPWR_1_E83 NET=ABCDDCBA
mount all
```

5. Press **F10** to save any changes.
6. At the Installation Options screen, highlight NCF files options and press **Enter**. Highlight Edit STARTUP.NCF and press **Enter**. Familiarize yourself with the contents of the file in the event of catastrophic failure and/or corruption of the file.
7. Press **Esc** three times to exit.
8. At the : prompt, type DOWN and press **Enter** to end the server processes and dismount all drives. Verify no users are logged in before bringing the server down.
9. At the : prompt, type EXIT and press **Enter** to exit to the DOS prompt.
10. Reboot the server and watch the boot up process for any errors.

**Note:** If you did not add the SERVER.EXE load to your AUTOEXEC.BAT file, you must manually add a line to this file. In a

default installation, the SERVER.EXE file is found in the C:\NWSERVER subdirectory.

The installation of NetWare is now complete.

# Installing SCO UNIX

# Overview

After you have setup the system and configured it, you are ready to install the operating system.

This chapter discusses installing the following operating system software on your server:

- SCO UNIX SCO Open Server Release 5
- SCO Open Server Release 3.0

# Installation Overview

To install SCO UNIX on your server, follow these steps:

- Confirm the hardware setup
- Confirm CMOS configuration - See Chapter 2
- Configure adapter settings using the Adaptec BIOS SCSISelect Utility - See Chapter 3
- Reboot the system and install the operating system
- SCO Release 3: Install TCP/IP communications
- SCO Release 5: Install TCP/IP communications

# Rebooting the Server and Installing the Operating System

To reboot the server, follow these steps:

1. Insert the N1 disk into the system, and boot the server.
2. For SCO Release 5, at the BOOT: prompt, press **Enter**. When prompted, select the installation media of choice.
3. For SCO Release 3, at the BOOT: prompt, enter “link.” Then, at the What packages? prompt, enter “alad” for the AIC-7880 Adapter, or “mdac” for the Mylex Adapter.
4. For SCO Release 3, insert the proper BTL D disk when prompted. The correct BTL D is supplied from Mylex or Adaptec. The Adaptec alad driver is also available on the SCO Advanced Hardware Supplement 3.4 disk, but not the Mylex driver (at this time). Observe the system message that the BTL D was successfully loaded before going to the next step.
5. For SCO Release 3, insert the N2 (file system) disk when prompted.
6. For SCO Release 3, reinsert the N1 disk when prompted.
7. Select Keyboard type.
8. Enter the serial number and activation key code using the **exact** syntax on the yellow tag.

## Entering Setup Information

To enter setup information, follow these steps:

1. At the Installation Setup screen, select Overwrite (entire primary hard drive).
2. At the Software Setup screen, enter a unique name or use “scosysv,” which is the default for the system name. The default selection for Domain Name is normally okay.
3. At the Software Setup screen, select Traditional Security.

4. For SCO Release 3, at the Hardware Setup screen, the Installation Media is SCSI CD-ROM. For SCO Open System software release 3.0, you must have the CD-ROM on host adapter 0 and SCSI ID 5.
5. At the Hardware Setup screen, select Hi-Resolution Keyboard Mouse. You must provide the correct information for your particular monitor in the Video selection. For most newer network adapters, you need to select the Deferred for the Network option.
6. At the Filesystem Setup screen, customize to your particular needs except for Swap Space. As a rule, swap space=2 X Total RAM

## Inserting the CD-ROM

To insert the CD-ROM, follow these steps:

1. Insert the CD-ROM when promoted.
2. Normally select all addition service components.
3. For SCO Release 3, reinsert the BTLD disk and verify choice. CD-ROM file extraction begins -- (20 min. plus...).
4. Assign the root password and verify.

## Inserting the Supplement Volume Disk

To insert the Supplement Volume Disk, follow these steps:

1. For SCO Release 3, insert the Supplement Volume disk. You are prompted for this disk twice.
2. For SCO Release 3, at the Packages? prompt, select “mdac” or “alad.”  
Installation automatically generates subdirectories and files. After all copying/extraction is complete, a new kernel is built. Installation is now complete.

## Rebooting the System

To reboot the system, follow these steps:

1. Reboot and watch for any errors.
2. Login as “root” (administrator) and test the system.
3. Press **Ctrl + Alt + F1** for login prompt on the main console screen.
4. Motif GUI is the default startup screen in multi-user mode. Press **Ctrl + Alt + F2** to return to Motif GUI screen.



# SCO Release 3: Installing TCP/IP Communications

Always defer Network Installation, because there may not be a driver listed within the SCO UNIX Installation for the NIC configured in the unit.

Use the latest SCO UNIX drivers for your SCSI controller and NIC.

To install TCP/IP, follow these steps:

1. Enter Maintenance Mode (Press **Enter** on boot; init 1 or shutdown -i).
2. Begin an Install (/etc/custom, install or sysadmsh, System, Software, Install).
3. Select A NEW PRODUCT.
4. Select PACKAGES.

## Inserting the Latest SMC Driver Disk

To insert the latest SMC driver disk, follow these steps:

1. Insert the latest SMC driver disk and press CONTINUE.
2. The “Select packages from which to choose files and press <Return>” message displays. Select the following:  
SMC 8432, 8434 and 9332 Ethernet driver v1.0.2a
3. When the “Insert the requested volume and press <Return> to continue the installation” message displays, press **Enter**. Verify that the SMC driver is installed correctly, then exit.
4. At the # prompt, type “netconfig.”
5. Select “1. Add a chain.” “Sco\_tcp->lo0” is a “loopback” test and cannot be used for active IP connections. For the SMC, an entry similar to the following is listed if installed:

```
"sco_tcp->smpw0
smpw0 smpw SMC8432, 8434 and 9332 Ethernet Adapter, board
0"
```

6. Select your specific driver from the list and enter the corresponding number at the prompt. If your driver is not listed, you must complete the previous steps first.
7. When the “Add chain SCO\_TCP->smpw0?” prompt displays, enter “YES.”
8. Enter the correct internet address (IP) for this interface (192.0.0.1, for example).

## Completing the Installation

To complete the installation, follow these steps:

1. Use the default subnet mask for your chosen IP Class, or select the one that matches your network.
2. Use the defaults.
3. At the “Verify?” prompt, enter “YES.”
4. Enter a “Local host name:”, such as “scosysv”. The “Adding host name...” (to the /etc/hosts file) message displays.
5. At the “Host ttys?” prompt, use the defaults.
6. The TCP configuration is complete. Back at the beginning, “sco\_tcp->smpw0” should now be listed.
7. At the “Relink kernel now?” prompt, enter “YES.”
8. At the “Boot by default?” prompt, enter “YES.”
9. Type “init 6” to shutdown and reboot; watch for errors.

# SCO Release 5: Installing TCP/IP Communications

To install TCP/IP, follow these steps:

1. Enter Maintenance Mode (Press **Enter** on boot, init 1 or shutdown -i1).
2. Type “/etc/custom” and press **Enter**.
3. Select Software and then Install New.
4. At the “What host to install from?” prompt, press **Enter**.

## Inserting the SMC SuperDisk

To insert the SMC SuperDisk, follow these steps:

1. When prompted to insert the media and select the media device, insert the SMC SuperDisk for SCO UNIX into the flex drive. Verify the Media Device is set for Floppy Disk Drive 0. Press ↓ to get the choices for the media devices.
2. Observe the message, “Installing: SMC-SCO LLI 3.4 Super Disk (version 1.1.3a).”
3. At the “Do you want a FULL or PARTIAL installation?” prompt, select FULL.
4. Ignore all error messages.
5. After the SMC software drivers are installed, return to the UNIX prompt.

## Completing the Installation

To complete the installation, follow these steps:

1. At the # prompt type “netconfig.”
2. Select Hardware and Add New LAN Adapter.
3. Select “smpw SMC 8432, 8434 and 9332 Ethernet Adapter, board 0.”

4. Select Add Protocol. Observe the following:

```
"Select one networking product to be added to:  
smpw SMC8432, 8434 and 9332 Ethernet Adapter, board 0
```

```
HW smpw SMC 8432, 8434 and 9332 Ethernet Adapter, board 0  
* - SCOTCP/IP  
  - SCOIPX/SPX"
```

5. Select the desired protocol, and press **Enter**.
6. If TCP/IP is selected, configure the TCP/IP settings.
7. After the desired protocol is successfully added, observe the following if TCP/IP was selected (IPX/SPX may be slightly different):

```
"Current networking configuration:
```

```
HW SCO TCP/IP Loopback driver  
  SCO TCP/IP  
    - SCO NFS Runtime System  
HW smpw SMC 8432, 8434 and 9332 Ethernet Adapter, Board 0  
  SCO TCP/IP  
    - SCO NFS Runtime System"
```

8. Relink the kernel and reboot for these changes to take effect.

# Installing UnixWare

# Overview

After you have setup the system and configured it, you are ready to install the operating system.

This chapter discusses installing UnixWare on your server.

# Installation Overview

To install UnixWare on your server, follow these steps:

- Confirm the hardware setup
- Confirm CMOS configuration - See Chapter 2
- Configure adapter settings using the Adaptec BIOS SCSISelect Utility - See Chapter 3
- Reboot the system and install the operating system

# Rebooting the Server and Installing the Operating System

To reboot the server, follow these steps:

1. Insert the SCO UnixWare Install Disk 1 of 1 into the system, and boot the server.
2. The SCO splash screen displays.
3. When the blue Welcome screen displays, press **Enter**.
4. When prompted for the Keyboard Type, press **Enter** to select the default (US ASCII), or enter the appropriate keyboard type.
5. Enter the code and activation key and press **Enter**.

## Inserting the Host Bus Adapter (HBA) Driver

To insert the Host Bus Adapter (HBA) driver, follow these steps:

1. When prompted to install the host bus adapter drivers, insert the SCO UnixWare Host Bus Adapter Drivers disk and press **Enter**.
2. The “Please wait, Loading from disk...” message displays.
3. If using another HBA, you are prompted to install another HBA disk. Select Continue Installation with the arrow keys, and press **Enter**.
4. Skip the Device Configuration Utility (DCU) advanced options as it is not required for the on-board Adaptec.
5. The “Please wait while the system hardware drivers are loaded” message displays.



## Selecting the Installation Method

To select the installation method, follow these steps:

1. When prompted to select the installation method, select Install from CD-ROM (the default), and press **Enter**.
2. When prompted to verify your selection, select Yes, continue the installation, and press **Enter**.
3. When the “Destructive Installation” prompt displays, you must choose how much disk space for UnixWare to use. Select Use the ENTIRE DISK (erases all partitions), and press **Enter**.
4. When prompted to choose the system node name, enter a short, descriptive name and press Enter. Press **F1** for help.
5. When prompted to enter the date and time, verify all entries and press **F10** to apply.
6. At the verification screen, press **Enter**.
7. At the “Install Menu” prompt, select Accept ALL Settings and Install Now, and press **Enter**.

## Observing Screen Messages

The “Loading...” message briefly displays. Then the “Checking the Primary Hard Disk” message displays.

A bar graph displays showing installation progress. When this process is complete, the “Making File Systems” and “Installing Software” messages display.

Then another bar graph showing installation progress displays.

## Reinserting the Host Bus Adapter (HBA) Driver Disk

To reinsert the Host Bus Adapter (HBA) driver disk, follow these steps:

1. When prompted to reinsert the HBA driver disk you used earlier, insert the disk and press **Enter**. The “Setting up UnixWare” message displays. Please wait.  
  
The “Building the Operating System” message displays. Please wait.
2. At the “UnixWare 2.1 installation is complete” prompt, remove any disk and CD.

## Rebooting the System

To reboot the system, follow these steps:

1. Press **Enter** to reboot and restart UnixWare. If the network board(s) in your system are recognized, then the “Installing drivers for the Network Card(s)” message displays. If not, then skip to step 5, and install your driver after the OS installation is complete.
2. At the Network Interface Card Support Utility prompt, select “Accept all entries.”
3. When the system is rebuilt, you are prompted to press **Enter** to reboot.
4. When the “Inet Setup Values from System Files” prompt displays, enter any values where necessary (IP, DNS info., for example) and press **F10** to continue. When done, select Exit.
5. When the “Language Supplement Installation” prompt displays, enter the country information (press ← to select “United States”) and Apply. Please wait.
6. When the “Mouse Selection” prompt displays, select 3. PS/2-compatible Mouse, and press **Enter**.
7. When the “Select number of mouse buttons” prompt displays, press → to select 3 (or leave 2 if shipped with Microsoft mouse). Apply, and press **Enter**.

8. Press **Enter** to start the mouse test. Follow the on-screen instructions to test.
9. When the “Owner’s Account” prompt displays, enter a name and login ID. Select Apply, and press **Enter**.

## Entering a Password and Completing the Installation

To enter a password and complete the installation, follow these steps:

1. Press **Enter** at the “Password” prompt. Enter the password and reenter it for verification.
2. At the information prompt, press **Enter** to continue.
3. Enter password, and press Enter.
4. Press Enter to continue.
5. The “The system is coming up” message displays.

The installation of UnixWare is complete.



# Installing OS/2

# Overview

After you have setup the system and configured it, you are ready to install the operating system.

This chapter discusses installing OS/2 on your server.

# Installation Overview

To install OS/2 on your server, follow these steps:

- Confirm the hardware setup
- Confirm CMOS configuration - See Chapter 2
- Configure adapter settings using the Adaptec BIOS SCSISelect Utility - See Chapter 3
- Reboot the system and install the operating system

# Rebooting the Server and Installing the Operating System

To reboot the server, follow these steps:

1. Insert the Installation Disk for CD-ROM and power up the system. At the Welcome screen, press **Enter**.
2. When prompted, remove the Installation Disk for CD-ROM and insert the OS/2 Disk 1.
3. When the Welcome screen displays, press **Enter** to select Easy Installation.
4. When the Preparing the Hard Drive screen displays, select 1. Accept the predefined installation partition, and press **Enter**.
5. When prompted, remove the disk and press **Enter**.
6. When the Select File System screen displays, select 1. High Performance File System, and press **Enter**.

## Completing the Installation

To complete the installation, follow these steps:

1. Wait for the format to complete, then remove the disk and press **Enter**.
2. When the next window displays, select Install All Features, and select OK.
3. When the System Configuration window displays, verify contents and select OK.
4. When the list of printers displays, select your printer, if any, and select OK.
5. When the System Configuration screen displays, select OK.
6. When the Advanced Options screen displays, select OK.
7. When the Configure WIN-OS/2 Desktop screen displays, select Install Standard WIN-OS/2 Desktop, and select OK.



8. When the Advanced Options screen displays, select OK.
9. When the Complete screen displays, select OK.

## Editing CONFIG.SYS and Rebooting

To edit CONFIG.SYS and reboot, follow these steps:

1. After completing the installation, you must edit the CONFIG.SYS file on your bootable fixed disk drive and again add the following line(s) (as appropriate) to the file:

```
BASEDEV=AIC7870 .ADD  
BASEDEV=DAC960 .ADD
```

2. If using the Mylex controller you **must** remark out the following line:

```
BASEDEV=IBMINT13 . I13
```

3. Verify that the install copied the files from your boot flex diskette to the fixed disk. If the file(s) were not copied, you must copy the files manually. Without the addition of the line(s), your CD-ROM will cease to function.
4. Reboot and watch the screen for any errors. If errors display, write them down if possible.

The installation of OS/2 is complete.



# Installing MP-RAS

## Overview

After you have setup the system and configured it, you are ready to install the operating system. Refer to the section, “Configuration Settings Required for Installing MP-RAS,” at the end of this chapter.

This chapter discusses installing NCR UNIX SVR4 MP-RAS 3.01.01 on your server.

**Note:** The procedure described in this chapter is a default installation. All options are not included. For the complete installation process, refer to Installing NCR UNIX SVR4 MP-RAS, Rel 3.01.01.

Contact your NCR sales representative for information on ordering this book. Ask for publication BST0-2139-87.

# Installation Overview

To install MP-RAS 3.01.01 on your server, follow these steps:

- Confirm the CMOS settings using BIOS Setup - See Chapter 2
- Confirm the adapter settings using the Adaptec BIOS SCSISelect Utility - See Chapter 3
- Reboot the system and install the operating system

# Rebooting the Server and Installing the Operating System

When installing NCR UNIX SVR4 MP-RAS 3.01.01, you may perform a **default** or **interactive** installation, using either tape or CD-ROM installation media.

Using CD-ROM installation media is the preferred method. If you are installing MP-RAS 3.01.01 using tape media, refer to *Installing NCR UNIX SVR4 MP-RAS, Release 3.0* guide.

## Default Installation Overview

Default installation is the quickest and easiest way to install the software. The installation software uses default values to automatically partition, slice, and create file systems on your root disk, and then installs a standard set of packages. The slices are determined according to the amount of space needed to install the packages. Once the system is installed, you may add additional packages and configure other disks.

For default installations, follow these steps:

1. Boot from the installation media (Boot flex #1 and #2).
2. Select the type of installation (default or interactive).
3. Enter the system name.
4. Set the date and time.
5. Select the install media device.
6. Specify the secondary disks.
7. Install licenses (CD-ROM install only).
8. Reboot the system.

Additional administrative tasks may also be performed.

**Note:** On the drive being installed, a log (`/var/spool/install/log.install`) is kept of all events during the installation process. If the initial installation fails, you

may boot using the maintenance disks, mount the drive on which the installation failed, and read the LOG.INSTALL file in the /var/spool/install directory.

## Restarting the Installation

If the installation process is interrupted (canceled) at any time during the performance of the installation procedures discussed in the following sections, you can restart it by using one of the following methods:

- If you accidentally remove Boot flex #2 or Boot flex #3 before the installation completes, you must restart by rebooting the system from Boot flex #1.
- If you interrupt (cancel) the installation, you may restart the process by pressing **Ctrl + D**.

# Performing a Default Installation

The following sections outline the default installation procedure.

## Booting from the Installation Media

To install the NCR UNIX SVR4 MP-RAS 3.01.01 operating system software, you must boot the system from Boot flex #1. Follow these steps:

1. Insert Boot flex #1 in the flex disk drive.
2. This step depends on the current operating state of the system.
  - If the system is powered down, turn on the monitor and the main unit, and go to Step 4.
  - If the machine is currently up and running, you must perform an orderly shutdown of the operating system. Go to Step 3.
3. Perform an orderly shutdown by logging in as **root** and entering the following command from the / (root) directory:

```
# shutdown -y -i6 -gx
```

(where x=number of seconds to wait until shutdown)

As the system performs its shutdown procedure, a series of messages displays. This may take awhile.

4. During the UNIX system boot process, the following message displays:  
Please insert Boot flex #2 and press ENTER >
5. Remove Boot flex #1. Insert Boot flex #2 and press **Enter**. A series of messages displays.

If a message similar to the following displays, go to Step 6. Otherwise, go to Step 7.

```
Remote Console has been detected. Terminal type is  
set to vt100.  
Do you wish to change it to AT386? (n)/y >
```

6. If you want to change the terminal type, type **y** and press **Enter**. If you do not want to change the terminal type, press **Enter**.



7. When you are prompted by the system, remove the Boot flex #2 from the flex drive now.

The following menu displays:

Select one of the following:

1. Perform Installation
2. Perform System Maintenance
3. Perform System Restore (OA/BASE only)
4. Perform Micro Channel Configuration

Type selection number, then press ENTER >.

8. When the menu displays, type 1, and press **Enter**.
9. Continue with the next section, "Selecting the Type of Installation."

## Selecting the Type of Installation

The following menu displays to let you select the type of installation you want to perform.

**NOTE:** A new installation of the UNIX System will destroy all files currently on the system.

Select one of the following

1. Interactive Installation
2. Installation using System Defaults
3. Installation using Custom/Clone Defaults
4. Help
5. Cancel Installation

Type selection number, then press ENTER >.

**Note:** If you select Cancel Installation and then wish to continue, press **Ctrl + D** to restart the installation selection process.

**WARNING:** If, in addition to the UNIX operating system, another operating system, such as MS-DOS, is also on the disk, selecting Installation using System Defaults destroys that operating system. Selecting Interactive Installation permits you to install UNIX in a partition and save the other operating system in its own partition.

1. To perform a default installation, type 2 and press **Enter**.
2. Continue with the next section in this chapter, "Entering the System Name, Date, and Time."

## Entering the System Name, Date, and Time

After you select the type of installation, the following messages display:

```
## Please enter a System Name for this system.  
## This will set the node name and the system name.  
## This name will be used for uucp(1) and networking.  
Enter System name: >
```

1. Enter a system name.

After you enter the system name, a message similar to following displays.

```
Current date and time is:  
Fri Jan 13 13:11:31 EST 1995  
Do you wish to change it y/(n) [default = n] >
```

**Note:** Verify the date is correct. If you install the software with an incorrect date, installation may not complete successfully and may terminate.

2. If the current date and time is not correct, type **y** and enter the new date when you are requested to do so.

If the current date and time is correct, press **Enter**.

## Selecting the Install Media Device

After you set the date and time, a series of messages displays.

1. If your system has more than one type of installation device, a message similar to the following displays. Go to Step 2.

```
These are the Install Media drives equipped in the  
system.  
1: SCSI CD-ROM Disk - /dev/rdisk/c100t2d0s0  
2: SCSI Tape Drive - /dev/rmt/c100t3d0s0  
Type the number of the Install Media device that you are  
using, and press ENTER
```

2. Type the number of the Install Media device that you are using, and press **Enter**. A message similar to the following displays.

```
Please insert the Unix System V Release 4.0  
Installation media into the tape drive,  
/dev/rmt/c100t3d0s0 and press ENTER
```

3. Insert the installation media (“Core”) into the appropriate device, and press **Enter**. If you insert the media in the wrong device, a message prompts you to insert it in the correct device.

Do not remove the media until installation is complete.

4. The following important message displays:

Among your install media, you will find media labeled “Compatibility Updates.” These updates provide corrections for problems reported against various operating system and add-on packages.

For the model/class of the machine you are installing, it is mandatory to install the “Compatibility Updates” during the system installation. You will NOT be given the option to skip the “Compatibility Updates.”

Ensure that the “Compatibility Updates” are installed.

5. Continue with the next section, “Specifying the Secondary Disk.”

## Specifying the Secondary Disk

The system automatically selects your root disk. However, you can change the secondary disk location. You can select /usr, /var, and dump space for the secondary disk.

1. The following message displays:

```
Default secondary disk is /dev/rdisk/c100t1d0s0
NOTE:      Selecting the secondary disk will DESTROY
all the data on that disk. Would you like to change it?
(y)/n>
```

2. If you want to change the secondary disk, enter **y** and press **Enter**. Go to Step 3.

If you do not want to change the secondary disk, enter **n** and press **Enter**. Go to the “Installing Licenses” section.

3. The following message displays:

```
Root Disk: /dev/rdisk/c100t0d0s0
These are the other hard disks available
in the system
0: No SECONDARY DISK SELECTION
```

```
1: 2047 Megabyte SCSI Disk /dev/rdisk/c100t1d0s0
2: 4095 Megabyte SCSI Disk /dev/rdisk/c110t4d0s0
To select a SECONDARY (non-root) disk, type the disk
number and press ENTER.
```

**Note:** The above list may vary depending on the disks installed in your system. This list includes all the disks installed in your computer.

4. Enter the number of the Secondary Disk you want to use and press **Enter**. Go to the next section, “Installing Licenses.”

## Installing Licenses

If you are installing via CD-ROM, the following menu displays. This menu allows you to select the source of any software licenses that you are installing.

```
INSTALL LICENSES METHODS:
1. Flex - Install license(s) from the NCR license flex.
2. File - Install license(s) from a readable ascii file.
3. Manual - Type in the license by hand.
Select Method to Install License(s)
(v) View Licenses Installed on Machine (x) Exit
----- Notes on Installing Licenses -----
```

You are accessing packages from an NCR licensed media. You should have received with your media shipment a license flex containing the licenses for the products purchased. Select option 1 to copy the licenses from the flex to the machine. Select from the flex the licensed products that are to be installed on this machine. These licenses are then copied to the machine for future use. Alternatively, you can install licenses from a file accessible to this machine or enter one in manually. If you do not have the required licenses, contact your support person.

The options for the Install License menu are shown in the following table.

**Table 11-1. Install License Menu Options**

Option	Meaning
Flex	Select this option usually when initially installing NCR UNIX on your system. Licenses for a fresh install are usually contained on a flex disk.

Option	Meaning
File	Select this option when your licenses are contained in a readable ASCII file, such as when a license file has been e-mailed to you from the NCR support organization.
Manual	Select this option when the NCR support organization has provided you, probably via telephone, with a character string that is to be used as a license.
View Licenses Installed on Machine	Select this option to view a list of licenses that are already installed on the machine.
Exit	Select this option to exit the screen.

1. Type **1** to install licenses from your license disk. A screen similar to the following displays:

```
NCR UNIX SVR4 MP-RAS 3.0 LICENSE INSTALLATION FACILITY
FLEX INSTALLATION OF LICENSE
Please Insert License Flex
Press <Enter> when Ready
```

2. Insert the license flex into the flex disk drive, and press **Enter**. A screen similar to the following displays a list of licenses that are available on the license flex.

```
Install License - Selection
Following Licenses Found
  LPID
  F-801-1151-0000 user32
  F-541-4010-0000 scde
  F581-6110-0000 C/SFOE
more

(License 1 of 9)
Description=1-32 users
(a) Add      (u) Unselect      (q) Quit/Abort
(A) Add all (U) Unselect all (x) Save+Exit
```

3. Press **↓** to see more licenses. Select each license that you want to install by pressing **↑** and **↓** to point to the license, and press **a**. To select all licenses, press **A**.
4. When you are finished selecting licenses, press **x** to save your selections and exit this screen. The previous menu shown displays again.

5. If you are finished selecting licenses to install, type **x** to exit the Installing Licenses screen.
6. Remove the license flex when prompted. No further user interaction is required until the “Compatibility Updates” media is requested.
7. Remove the “Core” media in the install drive, and replace it with the “Compatibility Updates” media.

# Turning the System Off

Never turn the system off without performing an orderly shutdown. Use the following procedure to perform an orderly shutdown:

**Note:** This procedure is not part of the installation. You are not required to turn your system off at this point. This information is to be used later, whenever you need to turn your system off.

1. Log in as **root** and enter the following command from the / (root) directory:

```
# shutdown -y -i0 -gx
```

(where x=number of seconds to wait until shutdown)

2. When the system displays the following message, turn the power switch off:

```
# Shutdown complete  
# You may reboot the system now.
```

**Note:** The first time you try to log in after the reboot, you are prompted to set the **root** password.

# Performing Additional Administrative Tasks

After you have completed the installation, you may need to perform some or all of the following administrative tasks to make your system fully operational:

- Log in to the system administrator menus
- Set a password for the **sysadm** login
- Set the date, time, and time zone
- Set system name and network node name
- Add disk, tape, tty or SCSI printer devices to your system
- Install additional software
- Add terminals to your system
- Add printers to your system
- Add classes of printers
- Add users
- Add groups of users
- Performing a system backup
- Turn on and check peripherals

Some of these tasks cannot be performed until after you have installed specific software package(s). For example, you should not add printers or classes of printers until you have installed **lp**.



# Configuration Settings Required for Installing MP-RAS

The configuration settings required for MP-RAS are listed in this section.

## Hard Disk Group

- On-Board IDE Hard Disk Controller – Disabled

## Parallel Port

- Enabled - base address 3BCh

## Serial Port Group

- Port 1 – Enabled – address 03F8h
- Port 2 – Enabled – address 02F8h

## Shadow Options

- E0000h - FFFFFh (System BIOS) – Enabled
- C0000h - C7FFFh (Video BIOS) – Enabled
- Memory at 15 MB-16 MB – Reserved for System Use

## Cache

- L1 and L2 Cache – Enabled
- ECC/Parity Mode Selection – ECC
- Operation of ECC Correction Enabled

## Other Configuration Settings

- Keyboard control – Enabled
- On Board PS/2 Mouse (IRQ 12) – Enabled
- Num Lock after boot – Enabled

### **Embedded Adaptec AIC-7880 SCSI Controller**

- On Board SCSI AIC-7880 – Enabled
- Boot device – Enabled
- Configure the on board SCSI to IRQ 11

### **Disk Array Adapter Mylex RAID Controller**

- Disable the on board SCSI boot device in BIOS Setup. This is the “Boot Device” found **under** “On Board SCSI AIC-7880” in the BIOS Setup.
- Do **not** disable the “On Board SCSI AIC-7880” if the intended boot drive is not connected to the RAID controller.
- Configure IRQ 14 (INTA 14) to RAID controller.

## Used Resources

The table below indicates IRQ resources.

**Table 11-2. IRQ Settings**

IRQ	Use
0	System resources
1	System resources
3	Serial port 2
4	Serial port 1
5	PCI VGA or Ethernet adapter (if present)
6	Floppy controller
7	Parallel port
9	Ethernet adapter (if present)
10	Token Ring adapter (if present)
11	AIC-7880
12	Mouse controller
13	System resources
14	RAID disk array adapter (if present)
15	Unused

# Configuration Settings Required for Installing MP-RAS