

Ultra SCSI Disk Drive

# Installation and Using Guide

**Note**

Before you install this product and use this information, be sure to read the product warranties and notices information included with the system unit into which you are installing the product.

**Fourth Edition (December 2004)**

Before using this information and the product it supports, read the information in "Safety Information" on page v and Appendix B, "Notices," on page 23.

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# Contents

<b>Safety Information</b> . . . . .	v
<b>Handling Static-Sensitive Devices</b> . . . . .	vii
<b>About This Book</b> . . . . .	ix
References to AIX Operating System . . . . .	ix
ISO 9000 . . . . .	ix
Highlighting . . . . .	ix
Related Publications . . . . .	ix
Trademarks . . . . .	ix
<b>Chapter 1. Overview</b> . . . . .	1
Software Requirements . . . . .	1
<b>Chapter 2. Preparing to Install the Disk Drive</b> . . . . .	3
Verifying Your Hardware Requirements . . . . .	3
Checking Prerequisites . . . . .	3
Planning Your SCSI Device Layout . . . . .	3
Determining Your SCSI Device Addresses . . . . .	4
<b>Chapter 3. Installing the Disk Drive</b> . . . . .	7
Disk Drive Type . . . . .	7
9.1 and 18.2 GB Ultra SCSI Disk Drives - Type DPSS . . . . .	8
Setting the SCSI Address Jumpers . . . . .	8
Valid Addresses for 9.1 and 18.2 GB SCSI . . . . .	9
9.1, 18.2, and 36.4 GB Ultra SCSI Disk Drives - Type DDYS . . . . .	9
Setting the SCSI Address Jumpers . . . . .	9
Valid Addresses for 9.1, 18.2, and 36.4 GB SCSI . . . . .	11
9.1, 18.2, 36.4, and 73.4 GB Ultra SCSI Disk Drives - Type IC35L <del>nnn</del> UWD210-0 . . . . .	11
Setting the SCSI Address Jumpers . . . . .	11
Valid Addresses for 9.1, 18.2, 36.4, and 73.4 GB SCSI . . . . .	13
9.1, 18.2, 36.4, and 73.4 GB Ultra SCSI Disk Drives - Type ST3x . . . . .	13
Setting the SCSI Address Jumpers . . . . .	13
Valid Addresses for 9.1, 18.2, 36.4, and 73.4 GB SCSI . . . . .	15
9.1, 18.2, 36.4, and 73.4 GB Ultra SCSI Disk Drives - Type HUS . . . . .	15
Setting the SCSI Address Jumpers . . . . .	15
Valid Addresses for 9.1, 18.2, 36.4, and 73.4 GB SCSI . . . . .	16
Installing and Connecting the Drive . . . . .	17
Completing the Installation Procedure . . . . .	17
Configuring the Ultra SCSI Disk Drive . . . . .	17
Verifying the Installation . . . . .	17
<b>Appendix A. Communications Statements</b> . . . . .	19
Federal Communications Commission (FCC) Statement . . . . .	19
European Union (EU) Statement . . . . .	19
International Electrotechnical Commission (IEC) Statement . . . . .	20
United Kingdom Telecommunications Safety Requirements . . . . .	20
Avis de conformité aux normes du ministère des Communications du Canada . . . . .	20
Canadian Department of Communications Compliance Statement . . . . .	20
VCCI Statement . . . . .	20
Radio Protection for Germany . . . . .	21
<b>Appendix B. Notices</b> . . . . .	23



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## Safety Information

### DANGER

An electrical outlet that is not correctly wired could place hazardous voltage on metal parts of the system or the devices that attach to the system. It is the responsibility of the customer to ensure that the outlet is correctly wired and grounded to prevent an electrical shock.

Before installing or removing signal cables, ensure that the power cables for the system unit and all attached devices are unplugged.

When adding or removing any additional devices to or from the system, ensure that the power cables for those devices are unplugged before the signal cables are connected. If possible, disconnect all power cables from the existing system before you add a device.

Use one hand, when possible, to connect or disconnect signal cables to prevent a possible shock from touching two surfaces with different electrical potentials.

During an electrical storm, do not connect cables for display stations, printers, telephones, or station protectors for communication lines.



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## Handling Static-Sensitive Devices

**Attention:** Static electricity can damage this device and your system unit. To avoid damage, keep this device in its static protective bag until you are ready to install it. To reduce the possibility of electrostatic discharge, follow the precautions listed below:

- Limit your movement. Movement can cause static electricity to build up around you.
- Handle the device carefully, holding it by its edges or its frame.
- Do not touch solder joints, pins, or exposed printed circuitry.
- Do not leave the device where others can handle and possibly damage the device.
- While the device is still in its anti-static package, touch it to an unpainted metal part of the system unit for at least two seconds. (This drains static electricity from the package and from your body.)
- Remove the device from its package and install it directly into your system unit without setting it down. If it is necessary to set the device down, place it on its static-protective package. (If your device is an adapter, place it component-side up.) Do not place the device on your system unit cover or on a metal table.
- Take additional care when handling devices during cold weather, as heating reduces indoor humidity and increases static electricity.



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## About This Book

This provides information about the Ultra SCSI disk drive, installing the drives, planning your SCSI device layout, setting the SCSI addresses (also called SCSI IDs), and configuring device driver software. Use this book together with your specific system unit and operating system documentation.

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## References to AIX Operating System

This document may contain references to the AIX operating system. If you are using another operating system, consult the appropriate documentation for that operating system.

This document may describe hardware features and functions. While the hardware supports them, the realization of these features and functions depends upon support from the operating system. AIX provides this support. If you are using another operating system, consult the appropriate documentation for that operating system regarding support for those features and functions.

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## ISO 9000

ISO 9000 registered quality systems were used in the development and manufacturing of this product.

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## Highlighting

The following highlighting conventions are used in this book:

<b>Bold</b>	Identifies commands, subroutines, keywords, files, structures, directories, and other items whose names are predefined by the system. Also identifies graphical objects such as buttons, labels, and icons that the user selects.
<i>Italics</i>	Identifies parameters whose actual names or values are to be supplied by the user.
Monospace	Identifies examples of specific data values, examples of text similar to what you might see displayed, examples of portions of program code similar to what you might write as a programmer, messages from the system, or information you should actually type.

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## Related Publications

The following publications contain related information:

- System unit documentation for information specific to your hardware configuration
- Operating system documentation for information specific to your software configuration

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## Trademarks

The following term is a trademark of International Business Machines Corporation in the United States, other countries, or both:

- AIX

Other company, product, and service names may be trademarks or service marks of others.



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## Chapter 1. Overview

Table 1 lists the capacity of the Ultra capable 3.5-inch Ultra SCSI disk drive features:

*Table 1. Capacity*

Feature	Feature Capacity (bytes)	RPM
9.1 GB Ultra SCSI 1" High (25mm) Disk Drive	9,100,369,920	7,200
18.2 GB Ultra SCSI 1" High (25mm) Disk Drive	18,200,739,840	7,200
9.1 GB Ultra SCSI 1" High (25mm) Disk Drive	9,100,369,920	10,000
18.2 GB Ultra SCSI 1" High (25mm) Disk Drive	18,200,739,840	10,000
36.4 GB Ultra SCSI 1.6" High (42mm) Disk Drive	36,401,479,680	10,000
36.4 GB Ultra SCSI 1" High (25mm) Disk Drive	36, 401, 479, 680	10,000
73.4 GB Ultra SCSI 1" High (25mm) Disk Drive	73,407,488,000	10,000

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## Software Requirements

The following are software requirements:

- The Ultra SCSI 7,200 RPM disk drives are supported on AIX versions 4.1.5 (with PTF U445116 or PTF U446701) and 4.2.1 or later.
- The 9.1 GB Ultra SCSI 10,000 RPM disk drives are supported on AIX version 4.2.1 or later.
- The 18.2 GB, 36.4 GB, and 73.4 GB Ultra SCSI 10,000 RPM disk drives are supported on AIX version 4.3 or later.

If your system has an earlier level of AIX, contact your support representative for assistance in determining what maintenance is required to support this drive.

**Note:** If AIX is not installed on your system unit, install your disk drive before you install the operating system. (See Chapter 3, "Installing the Disk Drive," on page 7.) When you install AIX, your device driver software automatically installs.



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## Chapter 2. Preparing to Install the Disk Drive

This chapter helps you prepare to install your Ultra SCSI disk drive. Preparing to install the drive involves the following tasks:

- Verifying your hardware requirements
- Checking prerequisites
- Planning your SCSI device layout
- Determining your SCSI device addresses

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### Verifying Your Hardware Requirements

The Ultra SCSI disk drive requires the following hardware:

- A SCSI-2 fast/wide adapter or Ultra SCSI adapter, which is either *built into* or *on a separate adapter card inside* your system unit
- An available half-high disk bay

Some systems might require extra mounting devices to fit a media bay.

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### Checking Prerequisites

To install the drive, make sure you have the following on hand:

- The Ultra SCSI disk drive
- Your system unit documentation
- Four 6/32 x 3/16 inch screws
- A package of jumpers
- A small, flat-blade screwdriver
- A registration card

If any parts are missing or damaged, contact the place of purchase.

**Important:** Be sure to retain your proof of purchase as it might be required to receive warranty service.

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### Planning Your SCSI Device Layout

SCSI devices are attached in a daisy-chain configuration to a SCSI adapter installed inside the system unit. Devices include such hardware as disk drives, tape drives, scanners, printers, and CD-ROM drives.

Each device in the chain has a unique SCSI address (also called a SCSI ID). When you connect more than one SCSI device, it is important that you plan the location and address of each device in the chain. You must also be sure to connect a terminator at each end of the chain. The SCSI adapter is at one end of the chain, which provides termination for that end. The last attached device must terminate the other end of the chain. In some instances, you might have to connect an external terminator.

If you have a configuration that includes both internal and external devices, you must connect a terminator to the last external device and ensure that you also terminate the internal SCSI cable. The adapter terminates one end of the chain and the last device terminates the other end.

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## Determining Your SCSI Device Addresses

**Attention:** Static electricity can damage the disk drive. Before you remove it from its static-protective bag, be sure that you read and follow the precautions contained in “Handling Static-Sensitive Devices” on page vii.

Before you install the Ultra SCSI disk drive, you must set the SCSI address on the drive. First, you must determine which SCSI addresses are available to use. Choose an address and install jumpers on the drive to set the selected address. You can use any available SCSI addresses for any device, as long as no two SCSI devices on the same chain use the same address. No device can use address 7, which is reserved for the SCSI adapter.

SCSI addresses are in sequential order from highest to lowest priority. For the priority associated with each SCSI address, see Table 2. For optimum performance, select the highest unused SCSI address between 6 and 0.

Table 2. Data Access Priorities for SCSI Addresses

Priority	SCSI Address	SCSI Device Name
Highest	7	SCSI-2 Fast/Wide PCI Adapter / Ultra SCSI Fast/Wide PCI Adapter
↓	6	
↓	5	
↓	4	
↓	3	
↓	2	
↓	1	
↓	0	
↓	15	
↓	14	
↓	13	
↓	12	
↓	11	
↓	10	
↓	9	
Lowest	8	

To find an available SCSI address on an AIX system:

1. At a system prompt, type:

```
lsdev -Cs scsi
```

2. Press Enter. Information similar to the following example displays:

```
hdisk1 Available 00-01-00-1,0 1.0 GB SCSI Disk Drive
```

This information is interpreted as follows:

Column 1: device name (for example, *hdisk1*)

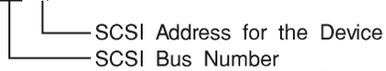
Column 2: device status (for example, *Available*)

Column 3: SCSI information (the format is: *00-01-00-1,0*)

Column 4: device type (*1.0 GB SCSI disk drive*)

In this example, the SCSI address for the device name (*hdisk1*) is 1 as shown in the 1,0 portion of the string in column 3. Column 3 displays the SCSI bus number for the installed device. The following figure shows how the SCSI bus number is identified.

00-01-00-1,0



00 = SCSI controller mounted on the system board  
01 = The first SCSI adapter installed in the system  
02 = The second SCSI adapter installed in the system  
(This number increases as SCSI adapters are installed)

3. Each SCSI bus supports up to 16 SCSI addresses. Select an available SCSI address for the Ultra SCSI disk drive. Be sure to select the highest-priority unused address for your drive. When selecting the SCSI address for the drive you are installing, be sure to select one that is not used by another device on the bus. On Table 2 on page 4, record the address that you selected for your disk drive, as well as the names and SCSI addresses of any other installed SCSI devices. Save this information for future reference.



## Chapter 3. Installing the Disk Drive

This chapter explains how to install and connect your Ultra SCSI disk drive, which involves the following tasks:

- Setting the SCSI address
- Installing any required jumpers on the drive
- Installing and connecting the drive in your system unit
- Configuring the device driver software
- Verifying a successful installation

### Disk Drive Type

Table 3 lists the different features and characteristics of the disk drive. All of the disk drives have a 3.5 in form factor.

*Table 3. Ultra SCSI Disk Drives Features and Characteristics*

Capacity (in GB)	Required Jumper	Drive Type	SCSI ID Jumper Settings
9.1	Yes	DPSS	See "Setting the SCSI Address Jumpers" on page 8
18.2	Yes	DPSS	See "Setting the SCSI Address Jumpers" on page 8
9.1	No	DDYS	See "Setting the SCSI Address Jumpers" on page 9
18.2	No	DDYS	See "Setting the SCSI Address Jumpers" on page 9
36.4	No	DDYS	See "Setting the SCSI Address Jumpers" on page 9
9.1	No	IC35LnnnUWD210-0	See "Setting the SCSI Address Jumpers" on page 11
18.2	No	IC35LnnnUWD210-0	See "Setting the SCSI Address Jumpers" on page 11
36.4	No	IC35LnnnUWD210-0	See "Setting the SCSI Address Jumpers" on page 11
73.4	No	IC35LnnnUWD210-0	See "Setting the SCSI Address Jumpers" on page 11
9.1	No	ST3x	See "Setting the SCSI Address Jumpers" on page 13
18.2	No	ST3x	See "Setting the SCSI Address Jumpers" on page 13
36.4	No	ST3x	See "Setting the SCSI Address Jumpers" on page 13
73.4	No	ST3x	See "Setting the SCSI Address Jumpers" on page 13
9.1	No	HUS	See "Setting the SCSI Address Jumpers" on page 15
18.2	No	HUS	See "Setting the SCSI Address Jumpers" on page 15
36.4	No	HUS	See "Setting the SCSI Address Jumpers" on page 15

Table 3. Ultra SCSI Disk Drives Features and Characteristics (continued)

Capacity (in GB)	Required Jumper	Drive Type	SCSI ID Jumper Settings
73.4	No	HUS	See "Setting the SCSI Address Jumpers" on page 15

To continue with installing the disk drive, refer to "Installing and Connecting the Drive" on page 17.

## 9.1 and 18.2 GB Ultra SCSI Disk Drives - Type DPSS

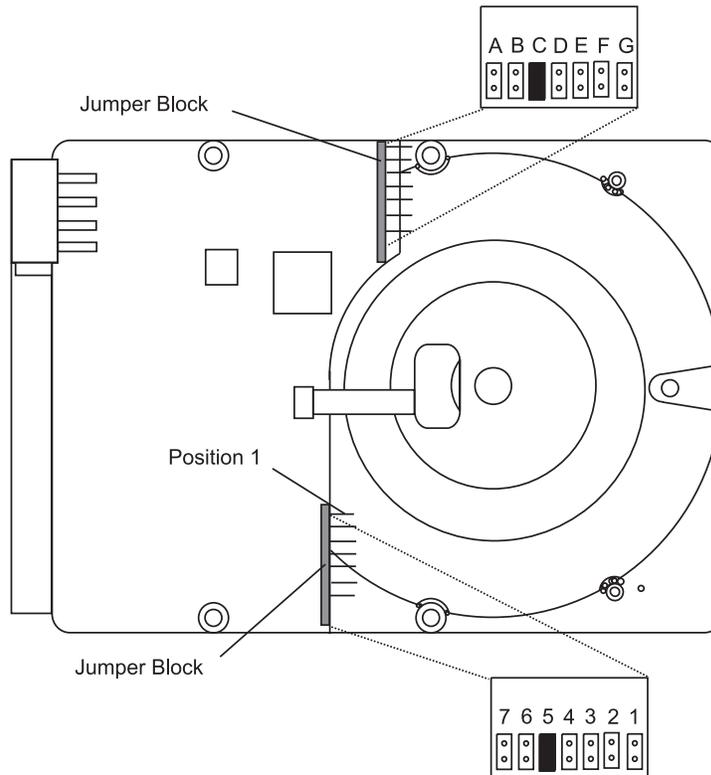
The 9.1 and 18.2 GB Ultra SCSI disk drives have a 3.5 inch form factor and mount in a half-height media position.

### Setting the SCSI Address Jumpers

**Attention:** Before you begin, be sure to read "Handling Static-Sensitive Devices" on page vii.

To set the SCSI address jumpers, remove the drive from its static-protective bag, making sure to hold it by the edges. Do not touch any exposed components on the drive. Place the drive on top of the bag on a flat surface.

**Note:** The device in the following illustration is shown with jumpers configured for SCSI address 0. The SCSI address of the 9.1 and 18.2 GB Ultra SCSI disk drives is set by jumpers located on the jumper block. Use Table 7 on page 14 to set the jumpers.



The previous illustration shows the pin positions on the 9.1 and 18.2 GB Ultra SCSI disk drives. Jumpers are required for positions C and 5.

## Valid Addresses for 9.1 and 18.2 GB SCSI

The following table lists valid addresses for jumper settings.

Table 4. Valid Jumper Addresses

Address	Jumper 4	Jumper 3	Jumper 2	Jumper 1
0	Off	Off	Off	Off
1	On	Off	Off	Off
2	Off	On	Off	Off
3	On	On	Off	Off
4	Off	Off	On	Off
5	On	Off	On	Off
6	Off	On	On	Off
7*	On	On	On	Off
8	Off	Off	Off	On
9	On	Off	Off	On
10	Off	On	Off	On
11	On	On	Off	On
12	Off	Off	On	On
13	On	Off	On	On
14	Off	On	On	On
15	On	On	On	On

\*Address 7 is reserved for the adapter.

To continue with installing the disk drive, refer to “Installing and Connecting the Drive” on page 17.

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## 9.1, 18.2, and 36.4 GB Ultra SCSI Disk Drives - Type DDYS

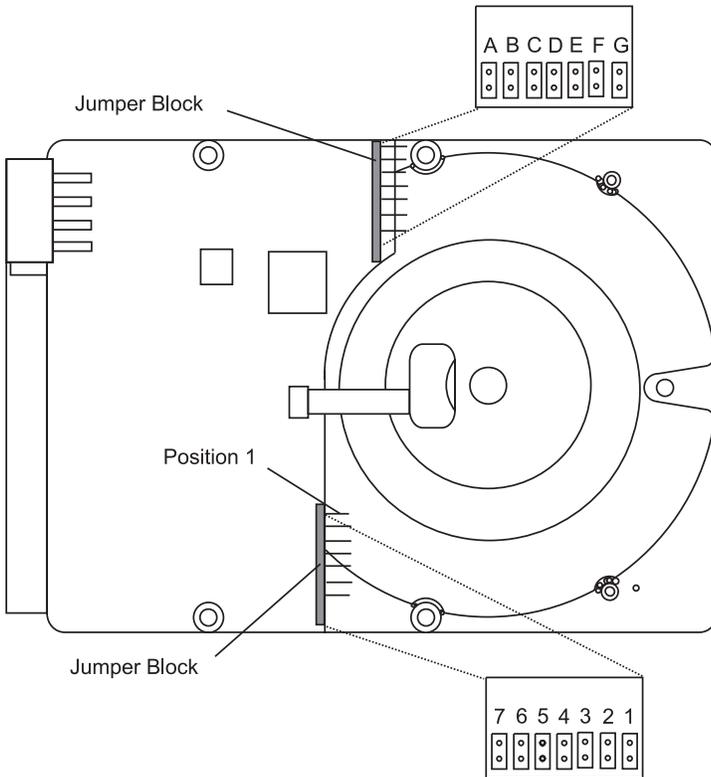
The 9.1, 18.2, and 36.4 GB Ultra SCSI disk drives have a 3.5 inch form factor and mount in a half-height media position.

### Setting the SCSI Address Jumpers

**Attention:** Before you begin, be sure to read “Handling Static-Sensitive Devices” on page vii.

To set the SCSI address jumpers, remove the drive from its static-protective bag, making sure to hold it by the edges. Do not touch any exposed components on the drive. Place the drive on top of the bag on a flat surface.

**Note:** The device in the following illustration is shown with jumpers configured for SCSI address 0. The SCSI address of the 9.1, 18.2, and 36.4 GB Ultra SCSI disk drives is set by jumpers located on the jumper block. Use the following illustration and Table 5 on page 11 to set the jumpers.



The previous illustration shows the pin positions on the 9.1, 18.2, and 36.4 GB Ultra SCSI disk drives. No jumpers are required.

## Valid Addresses for 9.1, 18.2, and 36.4 GB SCSI

The following table lists valid addresses for jumper settings.

Table 5. Valid Jumper Addresses

Address	Jumper 4	Jumper 3	Jumper 2	Jumper 1
0	Off	Off	Off	Off
1	On	Off	Off	Off
2	Off	On	Off	Off
3	On	On	Off	Off
4	Off	Off	On	Off
5	On	Off	On	Off
6	Off	On	On	Off
7*	On	On	On	Off
8	Off	Off	Off	On
9	On	Off	Off	On
10	Off	On	Off	On
11	On	On	Off	On
12	Off	Off	On	On
13	On	Off	On	On
14	Off	On	On	On
15	On	On	On	On

\*Address 7 is reserved for the adapter.

To continue with installing the disk drive, refer to “Installing and Connecting the Drive” on page 17.

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## 9.1, 18.2, 36.4, and 73.4 GB Ultra SCSI Disk Drives - Type IC35LnnnUWD210-0

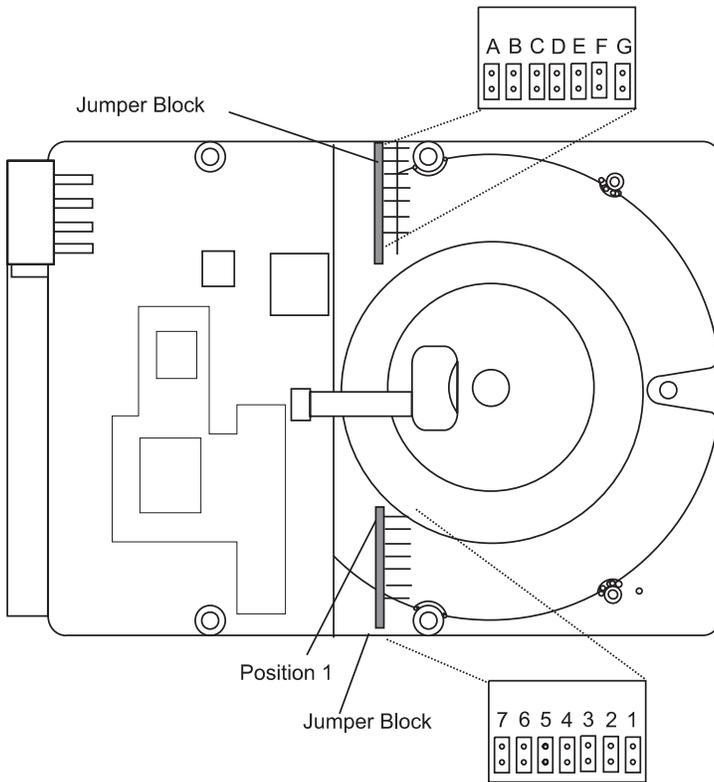
The 9.1, 18.2, 36.4, and 73.4 GB Ultra SCSI disk drives have a 3.5 inch form factor and mount in a half-height media position.

### Setting the SCSI Address Jumpers

**Attention:** Before you begin, be sure to read “Handling Static-Sensitive Devices” on page vii.

To set the SCSI address jumpers, remove the drive from its static-protective bag, making sure to hold it by the edges. Do not touch any exposed components on the drive. Place the drive on top of the bag on a flat surface.

**Note:** The device in the following illustration is shown with jumpers configured for SCSI address 0. The SCSI address of the 9.1, 18.2, 36.4, and 73.4 GB Ultra SCSI disk drives is set by jumpers located on the jumper block. Use the following illustration and Table 6 on page 13 to set the jumpers.



The previous illustration shows the pin positions on the 9.1, 18.2, 36.4, and 73.4 GB Ultra SCSI disk drives. No jumpers are required.

## Valid Addresses for 9.1, 18.2, 36.4, and 73.4 GB SCSI

The following table lists valid addresses for jumper settings.

Table 6. Valid Jumper Addresses

Address	Jumper 4	Jumper 3	Jumper 2	Jumper 1
0	Off	Off	Off	Off
1	On	Off	Off	Off
2	Off	On	Off	Off
3	On	On	Off	Off
4	Off	Off	On	Off
5	On	Off	On	Off
6	Off	On	On	Off
7*	On	On	On	Off
8	Off	Off	Off	On
9	On	Off	Off	On
10	Off	On	Off	On
11	On	On	Off	On
12	Off	Off	On	On
13	On	Off	On	On
14	Off	On	On	On
15	On	On	On	On

\*Address 7 is reserved for the adapter.

To continue with installing the disk drive, refer to “Installing and Connecting the Drive” on page 17.

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## 9.1, 18.2, 36.4, and 73.4 GB Ultra SCSI Disk Drives - Type ST3x

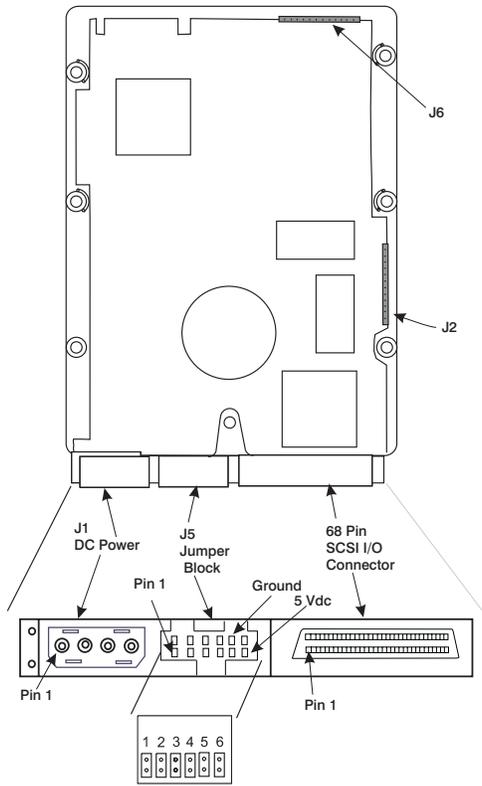
The 9.1, 18.2, 36.4, and 73.4 GB Ultra SCSI disk drives have a 3.5 inch form factor and mount in a half-height media position.

### Setting the SCSI Address Jumpers

**Attention:** Before you begin, be sure to read “Handling Static-Sensitive Devices” on page vii.

To set the SCSI address jumpers, remove the drive from its static-protective bag, making sure to hold it by the edges. Do not touch any exposed components on the drive. Place the drive on top of the bag on a flat surface.

**Note:** The device in the following illustration is shown with jumpers configured for SCSI address 0. The SCSI address of the 9.1, 18.2, 36.4, and 73.4 GB Ultra SCSI disk drives is set by jumpers located on the jumper block. Use the following illustration and Table 7 on page 15 to set the jumpers.



The previous illustration shows the pin positions on the 9.1, 18.2, 36.4, and 73.4 GB Ultra SCSI disk drives. No jumpers are required.

## Valid Addresses for 9.1, 18.2, 36.4, and 73.4 GB SCSI

The following table lists valid addresses for jumper settings.

Table 7. Valid Jumper Addresses

Address	Jumper 4	Jumper 3	Jumper 2	Jumper 1
0	Off	Off	Off	Off
1	Off	Off	Off	On
2	Off	Off	On	Off
3	Off	Off	On	On
4	Off	On	Off	Off
5	Off	On	Off	On
6	Off	On	On	Off
7*	Off	On	On	On
8	On	Off	Off	Off
9	On	Off	Off	On
10	On	Off	On	Off
11	On	Off	On	On
12	On	On	Off	Off
13	On	On	Off	On
14	On	On	On	Off
15	On	On	On	On

\*Address 7 is reserved for the adapter.

To continue with installing the disk drive, refer to “Installing and Connecting the Drive” on page 17.

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## 9.1, 18.2, 36.4, and 73.4 GB Ultra SCSI Disk Drives - Type HUS

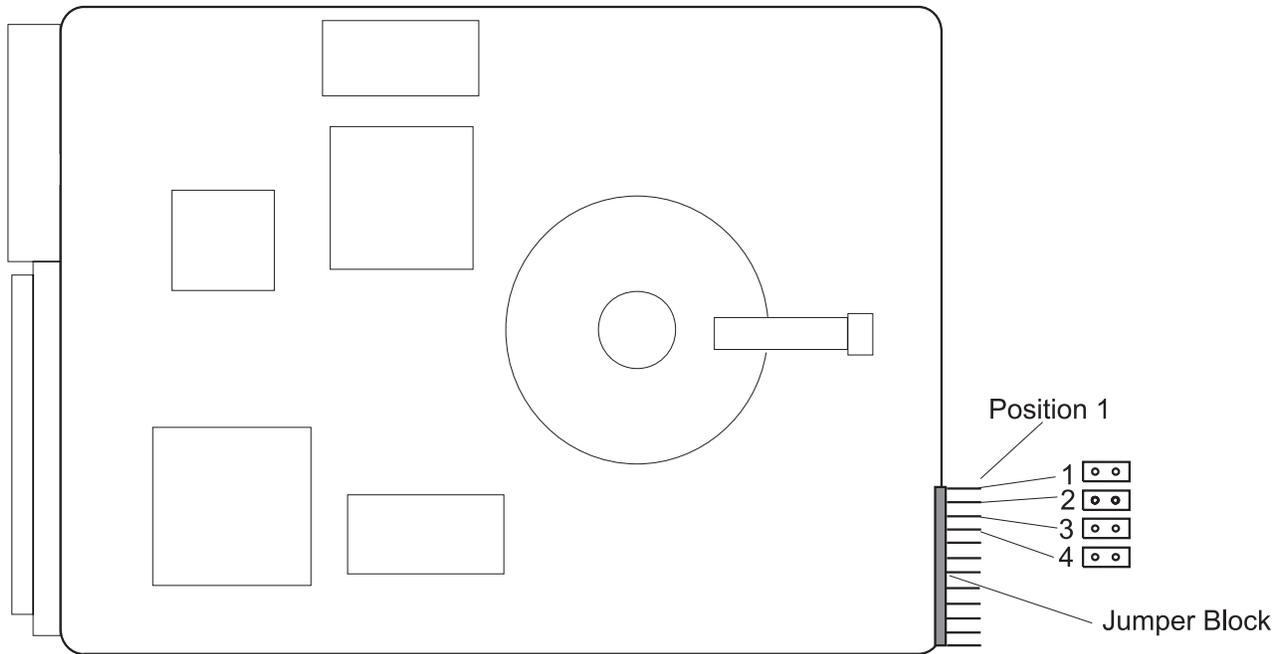
The 9.1, 18.2, 36.4, and 73.4 GB Ultra SCSI disk drives have a 3.5 inch form factor and mount in a half-height media position.

### Setting the SCSI Address Jumpers

**Attention:** Before you begin, be sure to read “Handling Static-Sensitive Devices” on page vii.

To set the SCSI address jumpers, remove the drive from its static-protective bag, making sure to hold it by the edges. Do not touch any exposed components on the drive. Place the drive on top of the bag on a flat surface.

**Note:** The device in the following illustration is shown with jumpers configured for SCSI address 0. The SCSI address of the 9.1, 18.2, 36.4, and 73.4 GB Ultra SCSI disk drives is set by jumpers located on the jumper block. Use the following illustration and Table 8 on page 16 to set the jumpers.



The previous illustration shows the pin positions on the 9.1, 18.2, 36.4, and 73.4 GB Ultra SCSI disk drives. No jumpers are required.

## Valid Addresses for 9.1, 18.2, 36.4, and 73.4 GB SCSI

The following table lists valid addresses for jumper settings.

Table 8. Valid Jumper Addresses

Address	Jumper 4	Jumper 3	Jumper 2	Jumper 1
0	Off	Off	Off	Off
1	On	Off	Off	Off
2	Off	On	Off	Off
3	On	On	Off	Off
4	Off	Off	On	Off
5	On	Off	On	Off
6	Off	On	On	Off
7*	On	On	On	Off
8	Off	Off	Off	On
9	On	Off	Off	On
10	Off	On	Off	On
11	On	On	Off	On
12	Off	Off	On	On
13	On	Off	On	On
14	Off	On	On	On
15	On	On	On	On

\*Address 7 is reserved for the adapter.

To continue with installing the disk drive, refer to “Installing and Connecting the Drive.”

---

## Installing and Connecting the Drive

After you set the SCSI address on the drive, you can install it in your system unit.

To install and connect the Ultra SCSI disk drive, do the following:

1. Remove the covers from your system unit, following the instructions provided in your system unit documentation.
2. Install the disk drive, following the instructions provided in your system unit documentation for installing devices.

**Important:** Be sure to use the 6/32 x 3/16 inch screws provided with this drive. Using the wrong size screws might cause damage to the drive.

3. After the disk drive is installed, replace your system unit covers. Follow the instructions provided in your system unit documentation.

Save this book and store any extra parts in a safe place in case you ever change your configuration.

---

## Completing the Installation Procedure

When you start your system unit, turn on all attached devices first, then turn on the system unit power. If you encounter any problems with the drive, turn off all attached devices, then shut down the system unit power and check that:

- The cables are installed correctly.
- No jumpers or cables are loose.
- The SCSI address is correctly set.
- No two SCSI devices on the same bus have the same SCSI address.
- The termination is correctly set.

Turn on all attached devices, then turn on the system unit power. If the problem still exists, refer to the diagnostics information in your system unit documentation.

---

## Configuring the Ultra SCSI Disk Drive

To configure the disk drive after installation, start your system unit. Device drivers are provided in AIX and other operating systems that support the Ultra SCSI disk drive. Your operating system should recognize the drive and should automatically update your system unit configuration.

---

## Verifying the Installation

See the instructions provided in your system unit documentation for verifying the successful installation of the Ultra SCSI disk drive. To verify the installation on an AIX system, type:

```
lscdev -Cs scsi
```

Press Enter. A list of SCSI devices displays. An *Available* status indicates that the drive is installed.



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## Appendix A. Communications Statements

The following statement applies to this product. The statement for other products intended for use with this product appears in their accompanying documentation.

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### Federal Communications Commission (FCC) Statement

**Note:** The Ultra SCSI Disk Drive been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult an authorized dealer or service representative for help.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. Proper cables and connectors are available from authorized dealers. Neither the provider nor the manufacturer are responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**Responsible Party:**

International Business Machines Corporation  
New Orchard Road  
Armonk, New York 10504  
Telephone: (919) 543-2193



FOR HOME OR OFFICE USE

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### European Union (EU) Statement

This product is in conformity with the protection requirements of EU Council Directive 89/336/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility. The manufacturer cannot accept responsibility for any failure to satisfy the protection requirements resulting from a non-recommended modification of the product, including the fitting of option cards supplied by third parties. Consult with your dealer or sales representative for details on your specific hardware.

This product has been tested and found to comply with the limits for Class B Information Technology Equipment according to CISPR 22 / European Standard EN 55022. The limits for Class B equipment were derived for typical residential environments to provide reasonable protection against interference with licensed communication devices.

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## International Electrotechnical Commission (IEC) Statement

This product has been designed and built to comply with IEC Standard 950.

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## United Kingdom Telecommunications Safety Requirements

This equipment is manufactured to the International Safety Standard EN60950 and as such is approved in the UK under the General Approval Number NS/G/1234/J/100003 for indirect connection to the public telecommunication network.

The network adapter interfaces housed within this equipment are approved separately, each one having its own independent approval number. These interface adapters, supplied by the manufacturer, do not use or contain excessive voltages. An excessive voltage is one which exceeds 70.7 V peak ac or 120 V dc. They interface with this equipment using Safe Extra Low Voltages only. In order to maintain the separate (independent) approval of the manufacturer's adapters, it is essential that other optional cards, not supplied by the manufacturer, do not use main voltages or any other excessive voltages. Seek advice from a competent engineer before installing other adapters not supplied by the manufacturer.

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## Avis de conformité aux normes du ministère des Communications du Canada

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

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## Canadian Department of Communications Compliance Statement

This Class B digital apparatus complies with Canadian ICES-003.

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## VCCI Statement

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスB情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。  
取扱説明書に従って正しい取り扱いをして下さい。

The following is a summary of the VCCI Japanese statement in the box above.

This product is a Class B Information Technology Equipment and conforms to the standards set by the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). This product is aimed to be used in a domestic environment. When used near a radio or TV receiver, it may become the cause of radio interference. Read the instructions for correct handling.

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## **Radio Protection for Germany**

Dieses Gerät ist berechtigt in Übereinstimmung mit dem deutschen EMVG vom 9.Nov.92 das EG-Konformitätszeichen zu führen.

Der Aussteller der Konformitätserklärung ist die IBM Germany.

Dieses Gerät erfüllt die Bedingungen der EN 55022 Klasse B.



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## Appendix B. Notices

This information was developed for products and services offered in the U.S.A.

The manufacturer may not offer the products, services, or features discussed in this document in other countries. Consult the manufacturer's representative for information on the products and services currently available in your area. Any reference to the manufacturer's product, program, or service is not intended to state or imply that only that product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any intellectual property right of the manufacturer may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any product, program, or service.

The manufacturer may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to the manufacturer.

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Part Number: 80P6678

Printed in USA

SA23-2565-03



(1P) P/N: 80P6678

