NEC

zip ™ **drive** atapi **100**

Installation Guide
(Tools Zip version)

- *Installation and Configuration*
- *Issues*
- *Troubleshooting*
- *Drive Specifications*

Table of Contents

Installation Guide

1   Check system requirements.

- Pentium or higher IBM-compatible computer (recommended)
- Empty 3^1/$_2$ or 5^1/$_4$ inch drive bay with front panel access
- Embedded IDE interface or IDE card
- Windows NT, Windows 95, Windows 3.1, or DOS version 5.0 or higher
- Zip Tools software (included with the Zip ATAPI drive)

■ **BIOS Support:** *It is recommended that BIOS support for the Zip ATAPI drive be disabled in the CMOS setup. On some systems with autodetection, it will be necessary to specifically turn off autodetection for the Zip ATAPI drive. Refer to the Owner's Manual for your computer if you need more information*

The Zip ATAPI drive meets the latest ATAPI specifications; however some computers with early ATAPI support do not meet these specifications and so may not work correctly with removable ATAPI drives like the Zip ATAPI drive. ■

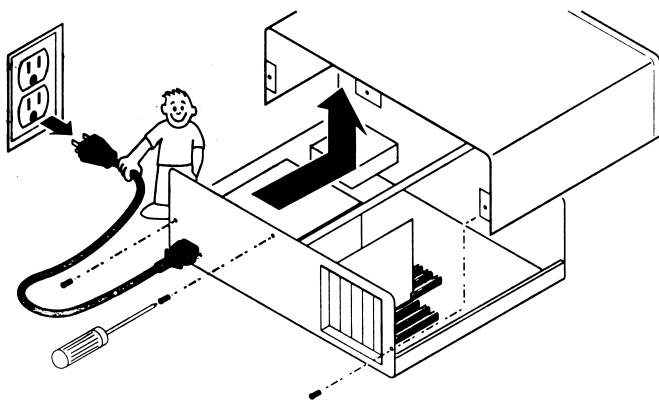## 2   Unpack the Zip ATAPI drive.

【CAUTION】 *Before handling the Zip ATAPI drive, touch a grounded metal object (like an unpainted metal screw on the back of your computer) to discharge any buildup of personal static electricity.* ■

Install Diskettes, and User's Guide

Zip ATAPI Drive

100MB Zip Tools Disk
(contains Tools software)
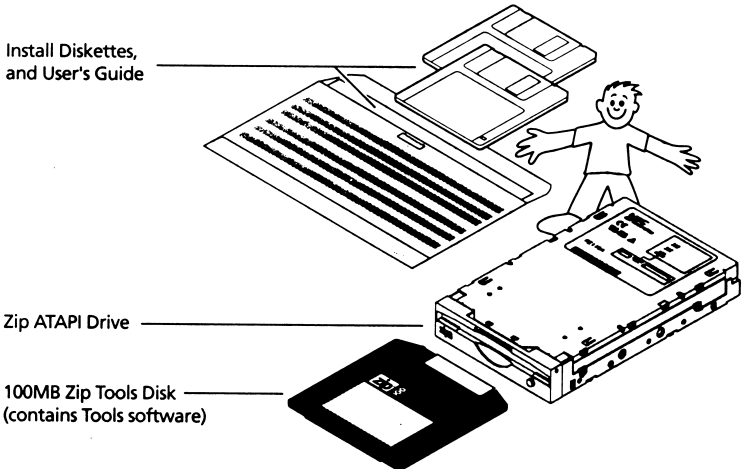
3

DISCONNECT the computer power cord and remove the cover. *(Refer to your computer manual if removal is unclear.)*

On some computers (especially tower models), you may need to remove the computer's face plate as well as the cover in order to access the drive bays.

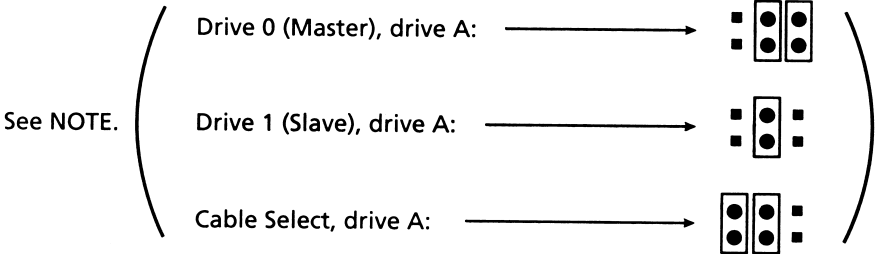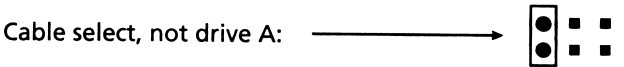*[WARNING] Always disconnect computer electrical power at power source before beginning a computer hardware change.* ■

Use the screw driver fitting for the screw.

4

Identify the IDE interface connection you want to use for the Zip ATAPI drive.

*   If the computer has an IDE hard drive, there may be an available connection on the primary IDE interface cable.

*   If there are two drives connected to the primary IDE cable, connect the Zip ATAPI drive on the secondary IDE channel or use an IDE interface card.

*   If there is not an existing IDE interface cable with an available connection, you will need a standard 40-pin IDE interface cable for connecting the Zip ATAPI drive.

5 Configure jumper settings on the Zip ATAPI drive as needed for your system.

The Zip ATAPI drive ships ready to install as the second drive on the IDE connection ("Drive 1 (slave), not drive A:" configuration). If the Zip ATAPI drive will be the only drive connected to the IDE interface cable, change the jumper setting to the "Drive 0 (master), not drive A:". If the computer is a Cable Select system, use the "Cable Select, not drive A:" jumper setting.

Jumper block ───────────────────────────────

Drive 0 (Master), not drive A: ──────────→

Drive 1 (Slave), not drive A:
(Factory setting) ──────────→

Cable select, not drive A: ──────────→

Drive 0 (Master), drive A: ──────────→

See NOTE.

Drive 1 (Slave), drive A: ──────────→

Cable Select, drive A: ──────────→
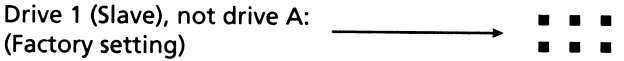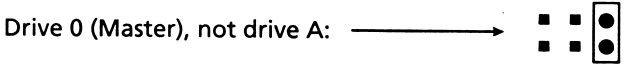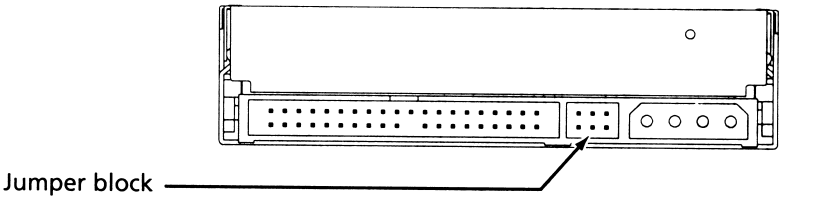
■ **NOTE:** The Zip drive has "Drive 0 (Master), drive A", "Drive 1 (Slave), drive A", and "Cable Select, drive A" configuration for the extension of the future. These configurations may have to use in the future, but can not use now. ■

Drive 0 (Master), not drive A:

The Zip ATAPI drive should be configured as a "Drive 0 (Master), not drive A:" if it will be the only drive connected to the IDE interface cable, or if there will be two drives connected to the cable and the other drive is configured as a "Drive 1 (Slave)". A Zip ATAPI drive which is configured as a "Drive 0 (Master), not drive A:" will support either a second Zip ATAPI drive which is configured as a "Drive 1 (Slave), not drive A:" or an IDE hard drive or CD-ROM which is configured as a "Drive 1 (Slave)".

Drive 1 (Slave), not drive A:

Use the "Drive 1 (Slave), not drive A:" jumper setting if the Zip ATAPI drive will be one of two drives connected to the IDE interface cable and the other drive is configured as a "Drive 0 (Master)" drive. If there is one drive connected to the cable before the Zip drive is installed, it is probably configured as a "Drive 0 (Master)"; however, some IDE drives require a different jumper setting when two drives are connected. If you encounter any problems, refer to the documentation that came with the existing IDE drive for additional jumper setting information.

Note that many CD-ROM drives will not support a "Drive 1 (Slave)" drive. If you connect the Zip ATAPI drive to the same IDE interface cable as a CD-ROM, you may need to configure the Zip ATAPI drive as the "Drive 0 (Master), not drive A:" and the CD-ROM as the "Drive 1 (Slave)".

Cable Select, not drive A:

Use this setting whenever the Zip ATAPI drive is installed on a computer that features "Cable Select". Note that this setting should be used whether the Zip ATAPI drive will be the only drive connected to the Cable Select IDE cable or one of two drives connected to the cable. On Cable Select systems, the drive closest to the IDE controller is automatically the "Drive 0 (Master)" drive.

■ *NOTE: If you do not have information from the computer manufacturer stating whether or not the system uses Cable Select, check the IDE interface cable. On a Cable Select system, there is an open connection on one of the wires between the first and second drive connectors. If there are no breaks or holes in the interface cable, it is probably not a Cable Select system.* ■

6 Check for correct mounting orientation before sliding the drive into the drive bay.
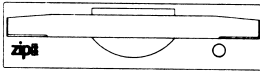
The horizontal
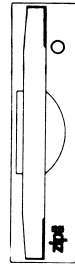
The vertical with the right or left side of drive down

Correct mounting orientations

7 Slide the Zip drive into the drive bay.

■ **NOTE:** If it makes it easier to connect cables on your computer, you can secure the Zip drive in the drive bay now. (See step 10 for instructions on securing the drive.) ■

8

Use a standard 40-pin interface cable to connect the Zip ATAPI drive to the computer's embedded IDE interface or IDE card.

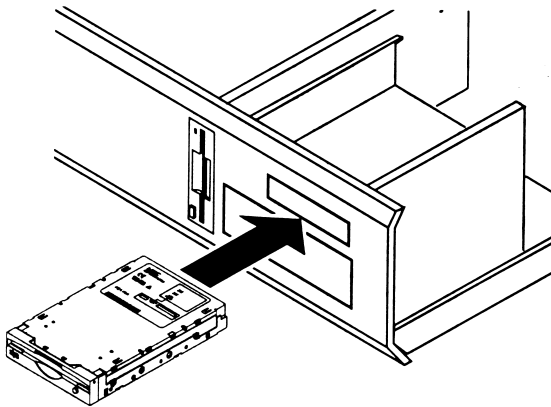**[CAUTION]** *Make sure PIN 1 on the cable connects to PIN 1 on the Zip ATAPI drive. All IDE interface cable connections must maintain correct pin 1 orientation in order for the Zip drive to be recognized by the system.* ■

Zip ATAPI Drive

Pin 1

PIN 1

40-pin Interface Cable Connector

Stripe on Interface Cable indicates Pin 1
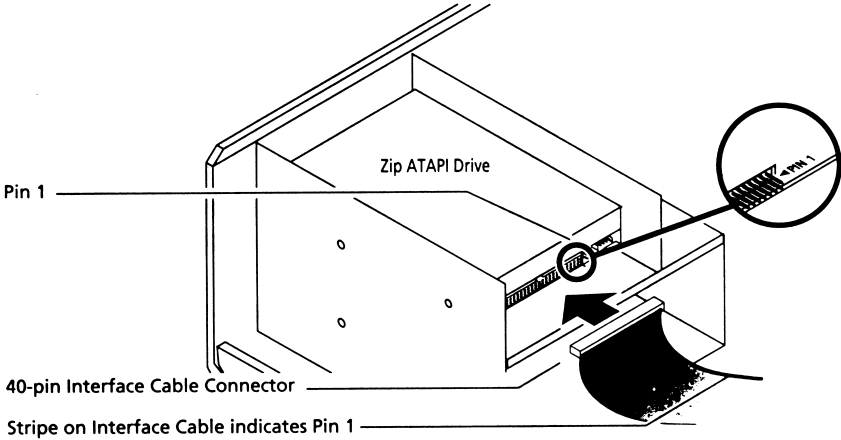
9

Connect a computer power supply cable.

■ NOTE: *If all available power supply cables have micro connectors, you will need a power cable converter. If the computer does not have a spare power supply cable, you will need a power Y-cable.* ■

Zip ATAPI Drive

5 vdc

Power Supply Cable from Computer

5 vdc
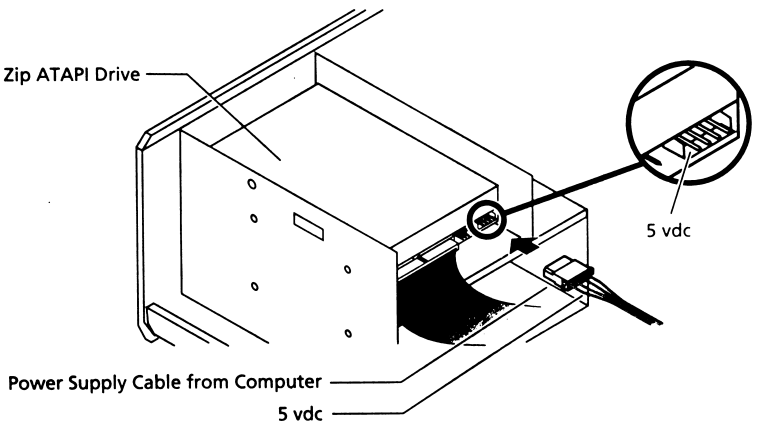
[CAUTION] *Make sure the power supply cable is securely connected to the Zip drive.* ■

10 Secure drive in drive bay.

Align the front of the Zip drive with other drives installed in the computer. If there is not clear access to the drive bay mounting holes, refer to your computer manual for additional instructions. Note that if the drive is held in place securely by rails, you will not need to use the mounting screws.

Drive Bay Mounting Screws (M3)
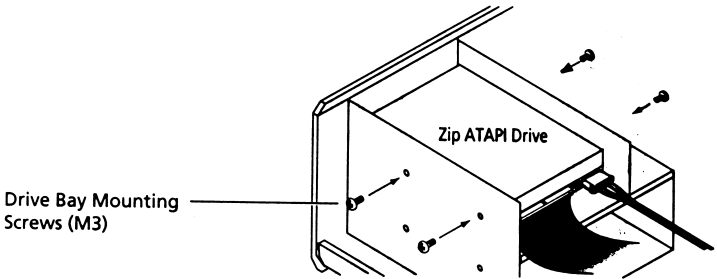
Zip ATAPI Drive

[CAUTION] *Mounting screws must not extend into the Zip ATAPI drive farther than 4.0 mm (about 0.16 inch). Mounting screws that are too long could damage the drive.* ■

11 Check all connections, arrange the cables to fit under the cover, and replace the computer cover.
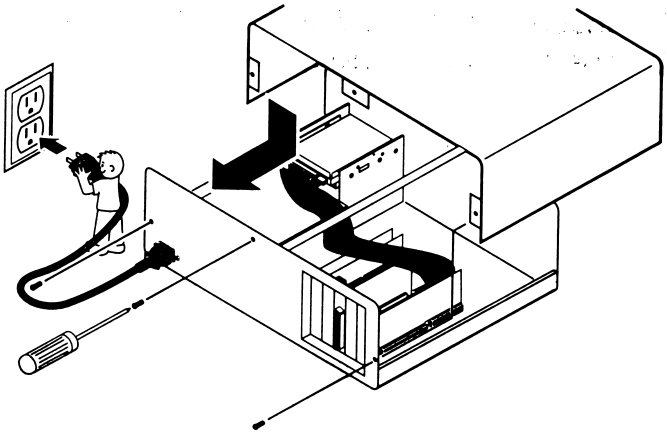
Use the screw driver fitting for the screw.

12 Reconnect power cord, turn ON power switch, and wait for the operating system to load.

13 Insert the 100MB Zip "Tools" disk into the Zip drive.

[CAUTION] *Always make sure computer power is ON before inserting a Zip disk!* ■

When you insert a Zip disk, the green busy light in the eject button will flash momentarily. When the eject button is pushed, the drive takes a few seconds to deliver the disk.

Insert Gently!

Disk Inserted

Eject Button / Green Busy Light
(Flashes when drive is transferring data, or when inserting or ejecting a disk)
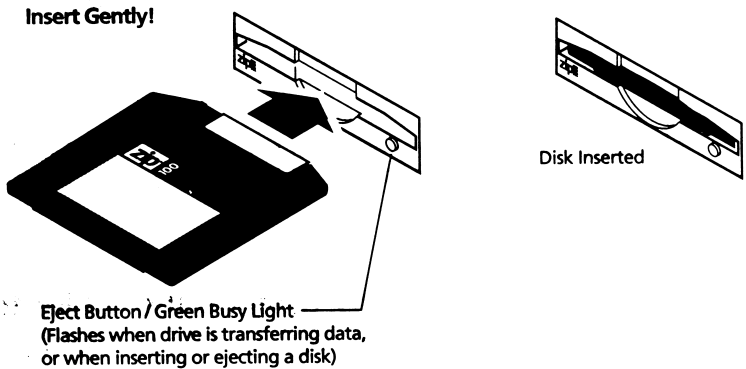
14 Insert the *INSTALL* diskette for your system into the computer's floppy drive.
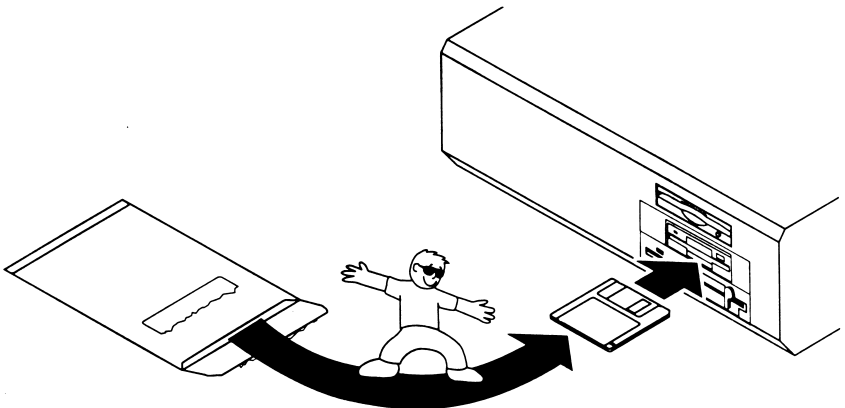
15 Start the Setup program as described below and follow the screen instructions to install Tools software for the Zip drive.

■ *IMPORTANT!* *Installing the Tools software package installs the software drivers needed for the Zip ATAPI drive. If the drivers are not installed, the Zip drive may not be recognized or may not work correctly on the system.* ■

Windows₀ 95 Users:

You may need to run Setup.exe twice from the Windows 95 Install diskette - once to automatically install the updated drivers needed by Windows 95 for the Zip ATAPI drive, the second time to install Tools 95 software to support all features of the Zip drive.

1. Click the Start button and choose Run.

2. Type **a:\Setup** in the command line dialog box and click OK.

3. If Setup restarts the system before completing the Tools installation, run Setup again from the Install diskette after Windows 95 restarts.

If you need Help, refer to the electronic manual (MANUAL.EXE) located on the Windows/DOS Install diskette or to the Troubleshooting section of this guide.

Windows NT Users:

You may need to run SetupNT.exe twice from the Windows NT Install diskette - once to install the **Iomega Zip IDE / ATAPI** driver, the second time to install ToolsNT software. Reboot the system after installing the Zip ATAPI driver and before installing the ToolsNT package.

■ **IMPORTANT!** *You must have administrator privileges for your local computer in order to install software drivers under Windows NT. You must also have administrator privileges for your computer to run the ToolsNT utilities.* ■

Installing Zip Tools Software under Windows NT 4.0:

1. Run **a:\Setupnt.exe** from the Windows NT Install diskette.

   • If the SetupNT program is unable to locate the "Tools" disk, make sure it is fully inserted and click "OK". If SetupNT is still unable to locate the "Tools" disk, click "OK" again and SetupNT will automatically open the "SCSI Adapters" Control Panel so that you can install the Iomega Zip IDE / ATAPI driver.** Continue to step 2.

   ■ ****NOTE:** *Windows NT installs drives or adapters that use the IDE interface as SCSI adapters.* ■

   • If the necessary driver is already present on the system, SetupNT will be able to locate the "Tools" disk and install ToolsNT software. After Windows NT reboots, the Zip ATAPI drive will be ready to use.

2. Select the "Drivers" tab and click the "Add" button.

3. When the list of Iomega adapters appears, double-click the **Iomega Zip IDE/ATAPI** driver.

4. Choose "Current" in the Windows NT dialog box. Windows NT will then add the necessary driver to the list of installed drivers found on your system.

5. At the next Windows NT dialog box, select "Yes" to reboot the system. Remove the Install diskette from the floppy drive while Windows NT reboots.

6. After Windows NT reboots, run **SetupNT** again from the Install diskette to install the ToolsNT software package.

■ **IMPORTANT!** *If the SetupNT program still cannot locate the "Tools" disk, refer to the NTReadme.txt file on the install diskette for instructions on manually installing the driver.* ■

Installing Zip Tools Software under Windows NT 3.51:

1. Run **a:\setupnt.exe** from the Windows NT Install diskette.

   • If the SetupNT program is unable to locate the "Tools" disk, make sure it is fully inserted and click "OK". If SetupNT is still unable to locate the "Tools" disk, click "OK" again and SetupNT will automatically run the "Windows NT Setup" program so that you can install the Iomega Zip IDE/ATAPI driver. Continue to step 2.

   • If the necessary driver is already present on the system, SetupNT will be able to locate the "Tools" disk and install ToolsNT software. After Windows NT reboots, the Zip ATAPI drive will be ready to use.

2. From the Windows NT Setup window, choose the Options pull-down menu and select "Add/Remove SCSI adapters".

■ **NOTE:** *Windows NT installs drives or adapters that use the IDE interface as SCSI adapters.* ■

3. When the list of adapters appears, click "Add", then click "OK" in the message box.

4. Click the down arrow next to the window for "Select SCSI Adapter Option" to open the adapter list.

5. Scroll down the list of adapters and select the **Iomega Zip IDE/ATAPI** driver.

6. Click the "Install" button.

7. Choose "Current" in the Windows NT dialog box. Windows NT will then add the necessary driver to the list of installed adapters found by the operating system.

8. Click the "Close" button and exit Windows NT Setup.

9. Click "OK" and reboot the system. Remove the Install diskette from the floppy drive while Windows NT reboots.

10. After Windows NT reboots, run **SetupNT** again from the Install diskette to install the ToolsNT software package.

■ **IMPORTANT!** *If the SetupNT program still cannot locate the "Tools" disk, refer to the NTReadme.txt file on the Install diskette for instructions on manually installing the driver.* ■

Windows 3.1 Users:

Run **Setup.exe** from the Install diskette for Windows/DOS.

1. Start Windows.

2. In the Windows Program Manager, select the File menu and choose Run.

3. In the Command Line box, type **a:setup** if the Windows/DOS Install floppy is in drive a: (or **b:setup** if it is in drive b:).

4. Click OK or press the Enter key to start the Setup program.

DOS Users (Windows not installed):

1. At the DOS prompt, type **a:guest** if the Install diskette is in drive a: (or **b:guest** if it is in drive b:).

2. Press Enter and note the drive letter Guest assigns to your Zip drive.

3. At the DOS prompt type: **d:\dosstuff\install** (use the Zip drive letter in place of d:), then press Enter.

4. After the software installation is complete, reboot the computer.

■ *Saving Files to the Tools Disk:* *If you attempt to save files to the Zip "Tools" disk and find that the disk is write-protected, run* **d:\dosstuff\reclaim** *(use the Zip drive letter in place of d:).* ■

If you need Help, refer to the *Troubleshooting* section which starts on the following page. The electronic manual (**MANUAL.EXE**) located on the Windows/DOS Install diskette also includes problem solving information for software installations under Windows 95, Windows 3.1, and DOS.

Congratulations! When the software installation is complete, your Zip drive will be ready to use.

Use your Zip drive just like any other drive on your system. Your Zip drive will have its own drive letter, and you can store and copy files to and from the Zip drive using the same methods you use for other drives. For additional information on using the Zip drive and Tools software, refer to the *Zip ATAPI User's Guide* and to the **README.TXT** file on the Windows/DOS Install diskette.

Windows® 95 issues

IDE Drivers for Windows 95

The Zip Tools Setup program for Windows 95 installs updated versions of two system files, ESDI_506.PDR and VOLTRACK.VXD, which are needed to correctly support the Zip ATAPI drive under Windows 95. (These files are located in the Windows/System/Iosubsys directory.) If Windows 95 is reinstalled on the computer, the Tools 95 software package must also be reinstalled. Refer to the *Installation Guide* section for software installation instructions. This is documented for end-users in the *Zip ATAPI User's Guide*.

BIOS / CMOS Support

It is recommended that BIOS support for the Zip ATAPI drive be disabled in the CMOS setup. On some systems with autodetection, it will be necessary to specifically turn off autodetection for the Zip ATAPI drive. Refer to the Owner's Manual for your computer if you need more information.

If you are unable to disable BIOS support for the Zip drive in the CMOS setup, you may encounter one of the following problems:

- **The computer hangs while booting after the Zip ATAPI drive is installed.**

- **The Zip ATAPI drive does not appear on the system.**

Either of these problems indicates that the computer has an incompatible BIOS that does not correctly understand removable ATAPI drives. You may be able to solve the problem by obtaining an updated BIOS from the computer manufacturer. If an updated BIOS is not available, it may be possible to install the Zip ATAPI drive successfully using an IDE card.

ATAPI CD-ROM's

There may be a conflict when the Zip ATAPI drive is connected as a master with some ATAPI CD-ROM drives. If this occurs, the Zip drive may appear as a hard drive or may not appear at all on the system. To solve the problem, connect the Zip ATAPI drive as a slave drive on either the primary or secondary IDE channel.

Inserting Zip Disks

Computer power should be ON before a disk is inserted into the Zip drive. If a Zip disk is inserted while the computer is without power, it may fail to seat properly and will not spin up and acquire correctly. This is documented for end-users in the *Zip ATAPI User's Guide*.

Microsoft Disk Copy Utilities

Do **not** run Microsoft DISKCOPY.EXE or the right mouse CopyDisk utility with the Zip ATAPI drive. These utilities were designed for floppy drives and do not handle other removable disk drives correctly. This problem is documented in the *Zip ATAPI User's Guide.*

Changing Drive Letters under Windows 95

To assign a specific drive letter to the Zip ATAPI drive under Windows 95, use the following procedure:

1 Righ mouse click on the icon for *My Computer* and select "Properties".

2 Click on the "Device Manager" tab.

3 Click the plus sign (+) next to "Disk drives", then click on the icon for the Zip ATAPI drive to select it.

4 Click on the "Properties" button located at the lower left of the Device Manager window.

5 Click on the "Settings" tab.

6 The Settings windows will tell you the current drive letter for the Zip ATAPI drive. To set a specific drive letter for the Zip drive, select the desired drive letter in the dialog box for "Start drive letter". Note that the same drive letter should appear in the dialog box for "End drive letter".

7 Click OK to close the properties window. Note that the new drive letter will not take effect until you restart the computer.

> ■ **NOTE:** If the Zip ATAPI drive is supported in the computer's BIOS, you will not be able to change the drive letter. In this case, the dialog boxes under "Reserved drive letters" are grayed out. ■

Installing Applications to the Zip Drive

Certain applications and games will install only to a fixed disk. In order to install these programs to the Zip drive, first right mouse click on the Zip drive icon in either *My Computer* or *Windows Explorer* and select "Make Nonremovable." This enables the software to install by making the Zip drive appear as a hard drive to the system. After the software installation is complete, again right mouse click on the Zip drive icon and select "Make Removable" to restore disk removability.

"System Error" while Installing Software

Some third party install packages scan devices attached to the system and require media present in order to scan properly. If a disk is not inserted in the Zip ATAPI drive during such an installation, a "System Error" blue screen reading the Zip drive letter will occur. Insert a disk in the Zip drive to continue the installation.

Windows 95 DOS Mode

Operation of the Zip ATAPI drive under Windows 95 DOS mode is not fully supported at this time. Until full support is available, the user must perform a clean reboot when switching to or from DOS mode in order for the Zip drive to operate properly.

To switch to DOS mode: (1) Restart the computer and press F8 at the prompt that says, "Starting Windows 95". (2) When the menu appears, select "Command Prompt Only". (3) After the system boots into DOS mode, insert a Zip disk in the Zip ATAPI drive. (4) Run GUEST.EXE from the "w31stuff" holder on the Tools CD-ROM or from the "Tools_95" folder on drive C.

To return to the Windows 95 graphical interface, restart the computer. Do **not** type "WIN" at the DOS prompt after running GUEST.EXE as this will cause drive letter ghosting.

Windows NT® issues

ATAPI Driver Issues

The Iomega Zip ATAPI driver "IMGATAPI.SYS" must be installed before the Zip ATAPI drive will operate correctly. If the Zip ATAPI driver is not installed, disks will not format correctly in the Zip ATAPI drive. Refer to the *Installation Guide* section for instructions on installing the driver. Note that if Windows NT is reinstalled, the Zip ATAPI driver must also be reinstalled. This is documented for end-users in the *Zip ATAPI User's Guide*.

In addition to the Iomega Zip ATAPI driver, the Zip ATAPI drive requires an updated SCSI disk class driver (DISK.SYS for Windows NT 4.0; SCSIDISK.SYS for 3.51) which is automatically installed by the Iomega SetupNT program. If the Zip ATAPI drive appears as a floppy drive (b:), it indicates that the new SCSI disk driver has not been installed. Run **Setup.exe** from the Zip Tools. Refer to the *Installation Guide* section for instructions.

BIOS / CMOS Support

It is recommended that BIOS support for the Zip ATAPI drive be disabled in the CMOS setup. On some systems with autodetection, it will be necessary to specifically turn off autodetection for the Zip ATAPI drive. Refer to the Owner's Manual for your computer if you need more information.

If you are unable to disable BIOS support for the Zip drive in the CMOS setup, you may encounter one of the following problems:

- The computer hangs while booting after the Zip ATAPI drive is installed.

- The Zip ATAPI drive does not appear on the system.

Either of these problems indicates that the computer has an incompatible BIOS that does not correctly understand removable ATAPI drives. You may be able to solve the problem by obtaining an updated BIOS from the computer manufacturer. If an updated BIOS is not available, it may be possible to install the Zip ATAPI drive successfully using an IDE card.

ATAPI CD-ROM's

There may be a conflict when the Zip ATAPI drive is connected as a master with some ATAPI CD-ROM drives. If this occurs, the Zip ATAPI drive may appear as a hard drive or may not appear at all on the system. To solve the problem, connect the Zip ATAPI drive as a slave drive on either the primary or secondary IDE channel.

Zip ATAPI Disk Eject

Sometimes a Zip ATAPI disk will not eject because Windows NT locks the disk due to the way it handles disk caching. Eventually, NT will free up the disk for ejecting. This issue is being addressed by Microsoft.

In addition to this problem, a Zip disk may not eject for the following reasons:

- A disk opened from *My Computer* or *Windows Explorer* may not eject until the view window is closed.

- A disk will not eject if the Iomega Zip ATAPI driver is not loaded correctly – reinstall the driver following the instructions in the *Installation Guide* section.

Information on these issues is included in the *Zip ATAPI User's Guide*.

Inserting Zip Disks

Computer power should be **ON** before a disk is inserted into the Zip drive. If a Zip disk is inserted while the computer is without power, it may fail to seat properly and will not spin up and acquire correctly. This is documented for end-users in the *Zip ATAPI User's Guide*.

Microsoft Disk Copy Utilities

Do **not** run Microsoft DISKCOPY.EXE or the right mouse CopyDisk utility with the Zip ATAPI drive. These utilities were designed for floppy drives and do not handle other removable disk drives correctly. This problem is documented for end-users in the *Zip ATAPI User's Guide*.

Windows NT Page File Relocation

If there is not sufficient space available on the default hard drive, Windows NT may set the Zip ATAPI drive as the location for the system page file. If this happens, the computer will not boot unless a disk is present in the Zip ATAPI drive. To eliminate the problem under Windows NT 4.0, use the System Control Panel to change the location of the system page file.

Windows 3.1/DOS issues

BIOS / CMOS Support

It is recommended that BIOS support for the Zip ATAPI drive be disabled in the CMOS setup. On some systems with autodetection, it will be necessary to specifically turn off autodetection for the Zip ATAPI drive. Refer to the Owner's Manual for your computer if you need more information.

If you are unable to disable BIOS support for the Zip drive in the CMOS setup, you may encounter one of the following problems:

- The computer hangs while booting after the Zip ATAPI drive is installed.
- The Zip ATAPI drive does not appear on the system.

Either of these problems indicates that the computer has an incompatible BIOS that does not correctly understand removable ATAPI drives. You may be able to solve the problem by obtaining an updated BIOS from the computer manufacturer. If an updated BIOS is not available, it may be possible to install the Zip ATAPI drive successfully using an IDE card.

ATAPI CD-ROM's

There may be a conflict when the Zip ATAPI drive is connected as a master with some ATAPI CD-ROM drives. If this occurs, the Zip ATAPI drive may appear as a hard drive or may not appear at all on the system. To solve the problem, connect the Zip ATAPI drive as a slave drive on either the primary or secondary IDE channel.

Inserting Zip Disks

Computer power should be ON before a disk is inserted into the Zip drive. If a Zip disk is inserted while the computer is without power, it may fail to seat properly and will not spin up and acquire correctly. This is documented for end-users in the *Zip ATAPI User's Guide*.

32-bit Access

When using Copy Machine in Windows 3.11 or Windows for Workgroups, turn off 32-bit disk and/or file access. (This option is available when changing virtual memory options under **386 Enhanced** in the Windows **Control Panel**.) If 32-bit access is not turned off, the hard drive will not appear for selection in the Copy Machine window.

Microsoft Backup

Microsoft Backup does not support removable disk drives other than floppy drives. Copy Machine can be used to back up files on the hard disk to the Zip drive, or the user can use Windows drag-and-drop to copy files.

Microsoft DISKCOPY

Do **not** run Microsoft DISKCOPY.EXE with the Zip ATAPI drive. This utility was designed for floppy drives and does not handle other removable disk drives correctly. This problem is documented in the *Zip ATAPI User's Guide*.

Windows Format Utility

Do not use the format utility available in Windows File Manager to format Zip disks. (Disks do not format correctly.) When formatting disks, open the Tools program available in the Iomega Tools group and use the Iomega format utility (either short or long format). This is documented for end-users in the *Zip ATAPI User's Guide*.

Installing Applications to the Zip Drive

Certain applications and games will install only to a fixed disk. To install these programs to the Zip drive, use the Iomega Tools "Make Nonremovable" or "Lock" utility to make the Zip drive appear as a hard drive to the system. After the software installation is complete, use "Make Removable" or "Unlock" to restore disk removability.

Third Party Software Installations

Some third party install packages scan devices attached to the system and require media present in order to scan properly. If a disk is not inserted in the Zip ATAPI drive during such an installation, a "System Error" blue screen reading the Zip drive letter will occur. Insert a disk in the Zip drive to continue the installation.

Troubleshooting

If you encounter a problem while installing or using your Zip drive, check this section for help.

[CAUTION] *Electrical power should be turned off before connecting or disconnecting any cables; otherwise, computer equipment could be damaged.* ∎

1 **The green busy light on the Zip drive does not turn on.**

(a) Make sure the computer is receiving power.

(b) Make sure the power cable connection to the Zip ATAPI drive is secure.

(c) Make sure there is a disk in the drive.

2 **The Zip drive is not assigned a drive letter, or the Zip Tools software cannot find the Zip drive.**

(a) Make sure pin 1 is properly connected on all IDE interface connections. The stripe on the interface cable should align with pin 1 on each connection. If the cable dose not have a keyed connector, make sure the connector is not shifted a pair of pins.

(b) Make sure the Zip ATAPI drive is configured correctly. Refer to the configuration information in step 5 of the installation instructions.

(c) If there is another drive on the same IDE channel, make sure it is also properly configured. Refer to the documentation that accompanied the other IDE drive for configuration information (often this information is on the hard disk case). If you cannot locate the documentation, contact the manufacturer of the drive.

(d) Make sure BIOS support for the Zip ATAPI drive is disabled in the computer's CMOS setup. Note that this may require turning off autodetection for the Zip ATAPI drive. Refer to the Owner's Manual for the computer if you need instructions on disabling autodetection.

If you are unable to disable BIOS support for the Zip drive in the CMOS setup and the Zip ATAPI drive does not appear on the system, the computer may have an incompatible BIOS that does not correctly understand removable ATAPI drives. You may be able to solve the problem by obtaining an updated BIOS from the computer manufacturer. If an updated BIOS is not available, it may be possible to install the Zip ATAPI drive successfully using an add-on IDE card.

(e) Make sure the software drivers for the Zip ATAPI drive are correctly installed on the computer system. The necessary drivers are included with the Zip Tools software package. Carefully follow the installation instructions given for the computer's operating system in step 15 of the Installation Guide section.

(f) If the computer's operating system is Windows 95, make sure the system is running in 32-bit mode (Protected mode). To check whether the system is running in 32-bit mode, right mouse click on *My Computer* and select "Properties". Click the "Performance" tab and check that "File System" and "Virtual Memory" are listed as 32-bit. If the mode is 16-bit, refer to the Windows 95 documentation for instructions on improving the system performance to 32-bit.

(g) Some IDE hard drives do not work properly unless they are in a certain position on the IDE cable. You may need to reverse the position of the master drive and the Zip ATAPI (slave) drive on the cable for the master drive to work properly.

(h) If the computer still does not recognize the Zip ATAPI drive, it may be that the existing IDE master drive does not allow access to a slave drive on the same cable. Try installing the Zip ATAPI drive on the secondary IDE channel.

3 Computer does not recognize a slave drive connected to the same IDE connection with a Zip ATAPI master drive.

(a) Make sure pin 1 is properly connected on all IDE interface connections. The stripe on the interface cable should align with pin 1 on each connection. If the cable does not have a keyed connector, make sure the connector is not shifted a pair of pins.

(b) Make sure the slave drive is correctly jumpered as a slave. Refer to the documentation that accompanied the slave drive for configuration information (often this information is on the hard disk case). If you cannot locate the documentation, contact the manufacturer of the drive.

(c) Some IDE hard drives do not work properly unless they are in a certain position on the IDE cable. You may need to reverse the position of the slave drive and the Zip ATAPI (master) drive on the cable for the slave drive to work properly.

(d) If the computer still does not recognize the slave drive, configure the jumper settings on the Zip ATAPI drive for the Cable Select option. Refer to the configuration information in step 5 of the installation instructions.

4 Computer fails to boot correctly or hangs while booting after the Zip ATAPI drive is installed.

Make sure BIOS support for Zip ATAPI drive is disabled in the computer's CMOS setup. Note that this may require turning off autodetection for the Zip ATAPI drive. Refer to the Owner's Manual for the computer if you need instructions on disabling autodetection.

If you are unable to disable BIOS support for the Zip drive in the CMOS setup and the computer hangs during boot-up, the computer may have an incompatible BIOS that does not correctly understand removable ATAPI drives. You may be able to solve the problem by obtaining an updated BIOS from the computer manufacturer. If an updated BIOS is not available, it may be possible to install the Zip ATAPI drive successfully using an add-on IDE card.

5 Computer will not boot under Windows NT unless a disk is present in the Zip ATAPI drive.

This happens if Windows NT has set the Zip ATAPI drive as the location for the system page file. To eliminate the problem under version 4.0, open the Control Panel and double click on the "System" icon. Click the "Performance" tab and change the location of the system page file. Note that you may not be able to use the default hard drive as the location for the system page file if it does not have sufficient space available. (This may be why Windows NT set the Zip drive as the system page file location).

6 Data transfer problems or drive operation is erratic.

Make sure the Zip ATAPI drive is electrically grounded. If the drive bay mounting screws do not make contact with a direct metallic path to the Zip drive chassis (for example, if you are using a plastic carrier to mount the drive in a 5¹/4" bay), then you need to provide a grounding strap. The grounding strap should be a wire from the ground lug on the right side of the drive by the power connector to a solid, metal connection on the computer chassis.

7 Computer locks up when the Zip driver program runs, or fails to recognize the Zip ATAPI drive.

These problems may occur if the computer is using as IDE caching controller. IDE caching controllers do **not** support ATAPI or removable IDE drives and **cannot** be used with the Zip ATAPI drive.

Warranty

This product carries a one year limited warranty. For complete warranty information, refer to the detailed warranty statement shipped with this product.

Drive specifications

Electrical Power Requirements

Voltage Requirements

5 vdc +/-5%

Maximum continuous .... 800 mA rms

Peak .... 1.8 amps

+5 vdc maximum ripple.. 100 mV P-P

Power Dissipation

Maximum continuous .... 4.0 Watts

Performance Characteristics

Data Transfer Rate

Sustained .... Up to 11.2 Mbits/sec

Burst .... Up to 88.9 Mbits/sec

Seek Time

Minimum .... 4.0 ms

Average .... 29.0 ms

Maximum .... 55.0 ms

Reliability Features

Nonrecoverable Errors .... Less than 10 errors in 10^{13} bits

Drive Mean Time Between Failure .... 100,000 hours

Insertion/Removal Cycles (multiple disks)............. 10,000 minimum

Physical Characteristics

Height .... 25.4 mm (1.00 inch)

Width .... 101.4 mm (3.99 inches)

Length .... 163.6 mm (6.44 inches)

Weight .... Less than 400 grams (14.11 ounces)

Environmental Limits

Operating Temperature*

Drive with disk inserted .... 10° to 51°C (50° to 123°F)

* Operating temperature limits must not be exceeded at the head/disk interface.

Storage Temperature (6 months)

Drive .... -22° to 51°C (-8° to 123°F)

Disk .... -22° to 51°C (-8° to 123°F)

Shipping Temperature (96 hours)

Drive .... -40° to 60°C (-40° to 140°F)

Disk .... -40° to 51°C (-40° to 123°F)

Relative Humidity (noncondensing)

Operating humidity .... 20 to 80%

Storage / Shipping .... 10 to 90%

Maximum Wet Bulb

Operating .... 26.7°C (80°F)

Storage / Shipping .... 29.4°C (85°F)

Max Temperature Gradient

Operating .... 12°C/hr (22°F/hr)

Altitude

Operating .... To 3,048 m (10,000 ft)

Shock

Operating .... 7g, $^{1}/_{2}$ sine wave for 11 msec

Shipping (96 hr) .... 100g for 11 msec

Vibration (Sweep rate = 1 oct/min)

Operating .... 0.4g, 0-peak at 5-20 Hz
0.2g, 0-peak at 20-250 Hz

Shipping .... 1.3g, 0-peak at 5-27 Hz
2.0g, 0-peak at 27-60 Hz
5.0g, 0-peak at 60-500 Hz