Congratulations on purchasing your CD–Changer from Academy Computer Services, Inc. This system takes up a small amount of space, but replaces millions of pages of text. Gigabytes of information are only seconds away. Your new changer system features:

- High Speed CD–ROM drive for fast data access.
- CD–ROM drive fully compatible with all major standards including ISO 9660, High Sierra, MPCIII, and Photo CD.
- SCSI CD–ROM drive for compatibility with all major computer platforms.
- Small footprint enclosure with ample power for your drive and cooling vents for long drive life.
- Adaptec interface—the industry standard—with DOS, Windows and Windows 95 drivers included as well as drivers available for most operating systems.

WARNING: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This manual explains how to install your new CD-Changer. You will need to:

1. Unpack and check the shipment
2. Create a Startup disk
3. Change the hardware settings on your Adaptec card
4. Install and test the Adaptec card
5. Connect the data cable, terminator and power cord
6. Install software drivers

The following sections describe each of these tasks:

Table of Contents

Unpacking Your Tower

Carefully unpack your shipping box:

WARNING: Tower units weigh as much as 62 pounds and should be lifted by two individuals. Observe the practice of bending the knees, not the back. Be certain both people have a firm grasp on the unit itself, not just the plastic wrap or other packing materials. Such materials will slide over the component and could cause the unit to drop. Dropping the tower will result in equipment damage and possible personal injury.

Check to see that the shipment is complete.

Large box:
CD–Changer
Adaptec Box:
Adaptec AVA-1505 card
3½" Adaptec EZ–SCSI Ver 4.00e Software Disk
Registration Card
Installation Guide for AT–to–SCSI Host Adapter
Accessory Bag:
Black Power Cord
Gray Half-pitch to Centronics SCSI Cable
Centronics Male Terminator Plug

Figure 1, Package Contents

Place your tower on a sturdy, flat surface. Academy recommends placement off the floor away from possible dust contamination. If your package is incomplete or irregular in any way, please contact Academy without delay at **800–385–6442**.

System Prerequisites

You will need the following hardware:

- DOS or Windows PC with
- one ISA or EISA expansion slot
- Two or more Megabytes of RAM
- Two or more Megabytes of space on your hard drive
- Phillips head screwdriver
- 3½” Floppy Diskette

Creating Startup Disk

Before you attach the Academy CD Tower to your computer, make a Startup Disk first. That way, you can always restore your computer's original configuration. For this procedure you will need a blank 3½" floppy.

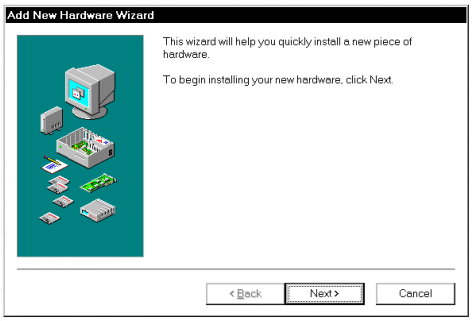

Figure 3. Add New Hardware Wizard

Making a Startup Disk in Windows 3.1, Windows for Workgroups or DOS

1. Exit Windows
2. Type **CD**
3. Insert floppy in drive
4. Type **FORMAT A:/S**
5. Once the floppy has completed transferring the system :

   COPY C:AUTOEXEC.BAT A:<RET>
   COPY C:CONFIG.SYS A:<RET>
   COPY C:\WINDOWS\WIN.INI A:<RET>
   COPY C:\WINDOWS\SYSTEM.INI A:<RET>
6. If SYSTEM.INI is not located in the WINDOWS directory, as is the case will earlier versions of Windows, you will see this error message:

   File not found – SYSTEM.INI
   0 file(s) copied

   In this case you will need to locate the SYSTEM.INI, usually in the C:\WINDOWS\SYSTEM subdirectory and copy it from there to the floppy.

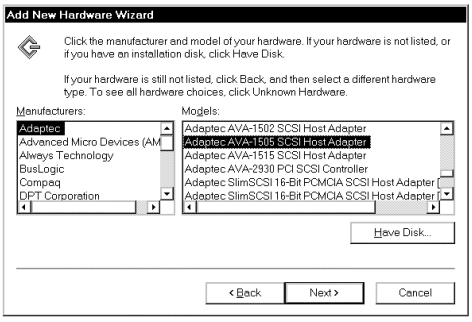

Figure 5, Select AVA-1505 Card

Making a Startup Disk in Windows 95

1. Click on Start
2. Select Settings, then Control Panel.
3. Select Add/Remove Programs, then Startup Disk (see Figure 2). Follow the directions on the screen

Operation of the Adaptec Card

The Adaptec card uses certain resources of your computer system in its operation. These are the Input/Output Range which is the location of the card in the system's memory, and IRQ which is the Interrupt Request channel. A depth of understanding of these terms is unnecessary to install the card. All that is necessary is the practical knowledge of how and when to change the values on the Adaptec card, which is explained below.

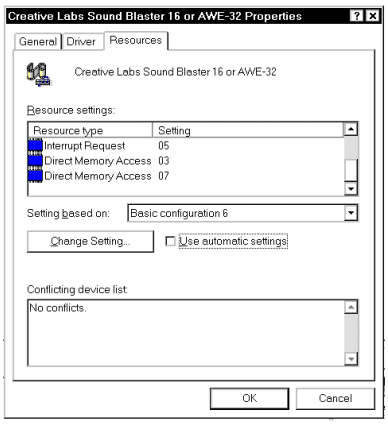

Figure 4: Sample of Card Settings. Your settings will differ.

Determining Correct Hardware Settings

Windows 95

You determine the correct hardware settings under Windows 95 by using the Add New Hardware Wizard. Use the steps below to determine the correct card settings for your computer:

1. Double Click on My Computer
2. Double Click on Control Panel
3. Double Click on Add New Hardware
4. Click on Next. (Figure 3)
5. When asked, "Do you want Windows to search for your new hardware?" Click NO then Next
6. Select SCSI Controllers then Next
7. Select Adaptec AVA-1505 SCSI Host Adapter. (Figure 5)
8. Write down the recommended configuration for the card (Figure 4). If instead of hardware settings the message "You are using other hardware that conflicts with the hardware you are trying to install." appears, go to the section titled Reallocating System Resources.
9. Click on Cancel.
10. Shut down Windows 95
11. Disconnect power from the computer.

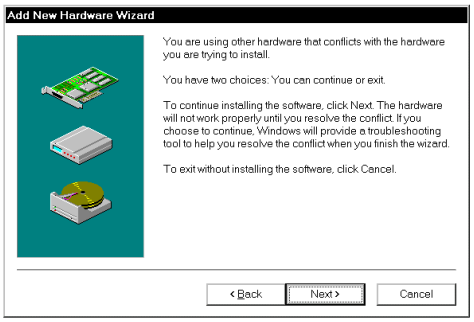

Figure 6, View Resources

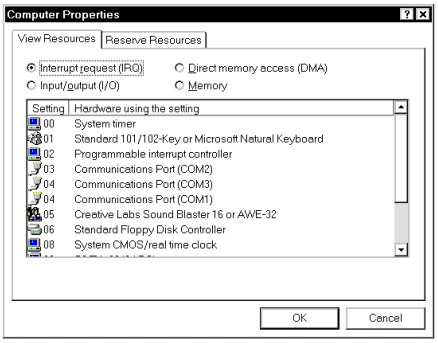

Figure 7, View Devices by Connection

Reallocating System Resources in Windows95

In a home entertainment computer, it may be necessary to rearrange or delete system options in order to make room for the tower. To reallocate system resources, use the following procedure from the starting screen:

1. Double Click on My Computer.
2. Double Click on System.
3. Select Device Manager.
4. With Computer highlighted, select View Devices by Connection, (Figure 7).
5. Select Properties
6. See if all possible IRQs for the AVA-1505 are occupied: 9,10,11, and 12. If the Add New Hardware wizard resulted in a message saying that Windows could not assign resources for the selected card, there are probably no IRQs free that the card can use. If there are free IRQs, the conflict lies in Input/Output Range. Whatever resource is fully utilized is the one that must be changed.
7. Escape back to Device Manager, this time highlight a peripheral that occupies a resource that could be used by the AVA-1505 card. Click Off the Use Automatic Settings box, highlight the setting you wish to change, click Change Setting and scroll through the choices, making note of alternatives that do not conflict with other devices. Often, devices with a higher (9 or greater) IRQ will work with a lower one (9 or less). There may be a lower one free, or occupied by an unused peripheral that can be deleted without losing functionality (e.g. unused external serial port). If after extensive exploring and reshuffling of resources fails at freeing up resources for the AVA-1505 card, there are further alternatives:
   7.1. Transfer the AVA-1505 to another computer that has fewer options.
   7.2. Try another card (at greater expense) such as the 1542 ISA card or the 2940 PCI card.

8. Once a usable IRQ or other problem resource is freed up, reboot the computer and retry the Determining Correct Settings Under Windows 95 procedure. If this second try results in a screen like figure 4, proceed to Installing the Adaptec Card.

Non-Windows 95 Operating Systems

In most cases, no changes of switch or firmware settings are necessary. The default settings of Input/Output Range of 340, and IRQ 11work with most basic computers. If your computer is basic proceed to the section titled Installing the Adaptec card. **The default setting of Input/Output Range 340 is not recommended with Windows 3.x.**

Determining Alternative Settings In Non-Windows 95 Environments

If neither default nor multimedia settings work, several methods help reduce the guesswork of arriving at the correct setting:

1. Study the documentation on the computer and cards already installed. Many cards have installation utilities that can tell you the current settings of the card. For example, **`C:\SB16\WINAPPL\CTCONFIG.SYS`** will invoke the Sound Blaster configuration utility under Windows 3.1 if present.
2. Utilize diagnostic software like the Microsoft Diagnostic Program (MSD.EXE). MSD.EXE is available under DOS 6.22 as well as Windows 3.1 and 3.11. To start type C:\DOS\MSD.EXE at the C:\> prompt. MSD will provide a starting point toward determining the correct settings, but cannot detect most cards that were added to the system after the initial design process. Third party technician-level software could be necessary.
3. Removing all non-essential cards and from the system, configuring the AVA-1505 and then adding the cards back one by one. When a conflict occurs, change the settings of the last card added.
4. Trial and Error: trying different settings of the AVA-1505 card and rebooting. Be sure to document settings already tried.

Jumper Block Settings

A jumper is a small black plastic “cap” that completes an electrical circuit between two upright metal pins. When the “cap” covers both pins in the pair it is considered to be ON. When the “cap covers only one pin, or covers neither pin, the circuit is not complete and is considered to be OFF.

The AVA-1505 can be manually configured in the following ways:

1. 2 choices of I/O port, **340*** and 140
2. 4 usable IRQ choices of 15 total: 9,10, **11***, and 12

*** defaults**

Interrupt Channel	Pin Pair Jumpers		Port Address	ALT Jumper
12	I12		140h-15Fh	On
11	I11		340h-35Fh	Off
10	I10			
9	I09			

Figure 8, Jumper Block Settings

Installing the Adaptec ISA Card(s)

Whether you are installing one, two or more Adaptec cards (for example: a 14 bay or two seven bay towers), install one card at a time. Make sure the first card is free of conflicts before beginning the second card installation. Each card must have a unique Input/Output Range . The AVA-1505 does not have BIOS or DMA. Several Adaptec cards do, which can lead to multiple address conflicts. Earlier computers such as some 486s cannot share IRQs or DMAs among cards. In that case all resources must be unique among cards and within the rest of the system.

WARNING: Before working with your computer or tower, unplug all units from their power receptacles. Failure to do so will result in personal or equipment injury. Also, to avoid static shock damage to either tower or computer, touch a bare metal portion of that system's chassis before touching any electronic component. Failure to do so could damage the equipment.

1. Turn off the monitor, and, if it is on top of the computer, set it to one side.
2. Follow your ISA (or EISA) personal computer's instruction manual to remove the system cover and expose the expansion slots and external access covers.
3. Locate a free 16–bit slot. The Adaptec card can be installed in either an ISA (black) or EISA (usually brown) slot. PCI slots (white) are not compatible with the card.
4. Remove the corresponding expansion board key for the 16–bit slot you selected. The key is a piece of sheet metal @ 3" x ½" in size that covers the opening needed by the external SCSI connector on the AVA–1505. Discard the key, but save its retention screw.
5. To avoid generating static sparks, touch a bare metal portion of the computer chassis before removing the plastic from the Adaptec card.
6. Align and insert the silver end of the ISA I/O bus connector on the bottom of the AVA–1505 into the chosen slot (Figure 9)
7. With a slimline computer chassis, the card will fit horizontally. If you have a slimline, brace your thumbs on the other side of the lot before inserting the card for leverage. Gently slide the card into the slot.
8. When the card is completely snug in the slot, replace the retainer screw.

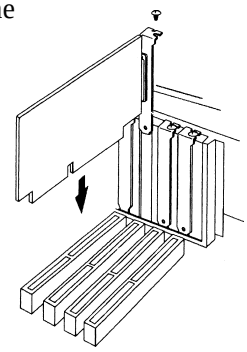

Figure 9, Inserting Card

Connecting Data Cable, Terminator and Power Cord

1. Insert the SCSI Terminator plug into an unused SCSI socket on the back of the tower.
2. Close the wings of the connector retainers (Figure 10).
3. Attach the tower to the computer with the gray data cable. Use extreme care when attaching the external SCSI connector to the back of your computer as the pins are small, delicate and easily bent. It is best to have the back of the computer facing you in good light so that the cable is not attached crooked. Both top and bottom clips must be secure (Figure 11).
4. Connect the power cable to the tower and plug it into the power strip or outlet. Use of a surge protector is strongly recommended for long system life.
5. Turn the power switch on; located at the back of the changer.
6. Plug in the computer and monitor and turn the computer on.

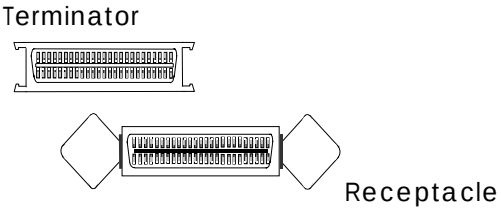

Figure 10, Terminator Plug Insertion

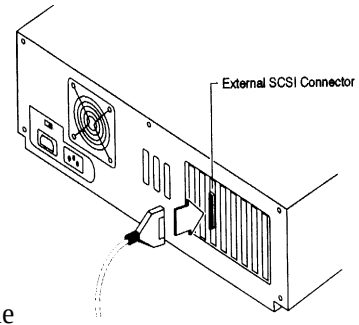

Figure 11, Carefully Connect Cable to Computer

Input/Output Range

Jumper ALT controls Input/Output range. Jumpers I09 through I12 control the IRQ address. If the Input/Output range of the AVA-1505 card conflicts with the Input/Output Range of other cards, the following symptoms will occur:

1. **`Hardware Timeout Reset Error`** appears on screen early in boot process
2. System freezes (becomes unresponsive) early in the boot process

The AVA-1505 can be set to one of two I/O ports: 140h-15Fh and 340h-35Fh. If the Windows95 Add New Hardware Wizard cannot assign an address to either of these ports due to a resource conflict, you must remove, disable, or reassign the conflicting resource. If the Adaptec EZ-SCSI software is unable to locate the card in Windows 3.x or DOS, a resource I/O conflict exists.

Interrupt Request, (IRQ)

If one but not all of the components of your system become inoperable after installing the AVA-1505, the culprit is usually an Interrupt Request. For example, the system might run smoothly except for the mouse, modem or network card. Change the IRQ to 9,10 or 12 by altering the jumper settings.

Interrupt Number	Defined Use	Other Uses	Comments
0	**Timer**		
1	**Keyboard**		
2	**Cascade for IRQ 8-15**	**Sound card, MPU-401 MIDI**	**Devices on IRQ 2 are relocated to IRQ 9**
3	**Serial port 2**	**Sound card, CD-ROM**	
4	**Serial port 1**		
5	**Printer port 2**	**Sound card, serial port 3 or 4**	
6	**Floppy disk controller**		
7	**Printer port 1**		
8	**Clock**		
9	**IRQ 2**	**SCSI host adapter**	
10	**<undefined>**	**Sound card, SCSI host adapter, CD-ROM**	
11	**<undefined>**	**Sound card, SCSI host adapter, network card, CD-ROM**	
12	**<undefined>**	**SCSI host adapter, network card**	
13	**Math coprocessor**		
14	**IDE/ATAPI hard disk controller**	**SCSI host adapter**	
15	**ATAPI secondary controller**	**SCSI host adapter, network card**	

Figure 12, Interrupt Usage in Standard Computers

Installing Software Drivers

If and only if all conflicts are resolved between the AVA-1505 card and other components of the system, the software drivers can be loaded. Loading software drivers before conflict are resolved usually necessitates a lengthy software uninstall. With a conflict-free hardware configuration, software installation is generally routine. Also, make sure all connections are snug and both the tower and computer have power and are turned on before installing software drivers.

Figure 13, Selecting AHA154X in Device Manager

Windows 95 Driver Installation

Repeat the steps under Determining Correct Hardware Settings Under Windows 95 described previously. Continue from the screen that starts “Windows can Install your hardware using the following setting”

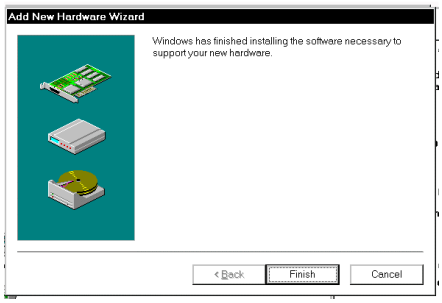

Figure 14, Software Installation Complete

1. Double Click on My Computer
2. Double Click on Control Panel
3. Double Click on Add New Hardware
4. Click on Next.
5. When asked, “Do you want Windows to search for your new hardware?” Click NO then Next (Figure 3)
6. Select SCSI Controllers then Next
7. Select Adaptec AVA-1505 SCSI Host Adapter (Figure 5)
8. Click Next. When prompted click Finish. (Figure 14)
9. Follow directions on screen
10. Shut down Windows
11. Reboot
12. Verify your installation by accessing Device Manager
    - 12.1 Double Click on My Computer.
    - 12.2 Double Click on Control Panel.
    - 12.3 Double Click on System.
    - 12.4 Select Device Manager
    - 12.5 Double Click on SCSI Controllers
    - 12.6 Make sure no **!** or **X** appears at the left the AVA-1505 line.

Drive Letter Assignment

Altering Drive Letter Order In Windows 95

Sometimes Windows 95 automatically places the internal CD drive at the end of the alphabet after the CD tower. To restore it to the first CD drive letter use the following procedure:

1. Click on Start
2. Select Settings, then Control Panel
3. Select System, sometimes scrolling to the bottom of the Window helps (Figure 28)
4. Select Device Manager
5. Select the first CD-ROM drive
6. Enter the Start drive letter desired, and the same under the End drive letter.
7. Repeat this procedure for the CD tower, making sure no letters are duplicated. In the case of a 5 disc changer with one internal CD, the following is often the case.

Alteration Table for 7 Bay Under Win 95	Current Letter Assignment	Desired Letter Assignment
Internal	I:	D:
(Top) Changer Drive 1	D:	E:
Changer Drive 2	E:	F:
Changer Drive 3	F:	G:
Changer Drive 4	G:	H:
Changer Drive 5	H:	I:

Figure 15, Altering Drive Letters to Make Internal Drive First

Dos, Windows 3.1 and Windows for Workgroups Driver Installation

Installing EZ–SCSI Software

EZ–SCSI software enables your PC to communicate with the CD–ROM tower. EZ–SCSI loads the following files onto your system:

To install the EZ–SCSI software, follow these steps:

Wait for the "Waiting for SCSI ID #0" message to disappear, and the system startup messages end with the DOS prompt (for example, **C:\>** or **C:\WINDOWS>**).

Place the 3 ½" floppy disk in your floppy drive.

At the DOS prompt, type the letter of your floppy drive and hit <**Return**>, as follows:

```
C:\WINDOWS> A:
```

Type the install command followed by <**Return**>, for example:

```
A:\> install
```

```
AFDISK   HL_ 4,183 03-14-94 3:31a
ASPI2DOS SY_ 14,111        03-14-94 3:31a
ASPI4DOS SY_       9,953   01-24-94  3:30a
ASPI7DOS SY_       24,870  03-14-94  1:31a
ASPI8DOS SY_       21,309  03-14-94  1:00a
ASPIBUF  SY_ 2,996         01-24-94 1:00a
ASPICD   SY_       13,125  01-24-94 3:10a
ASPIDISK SY_ 8,137         03-14-94 3:31a
ASPIEDOS SY_       7,999   01-24-94 1:30a
EXPAND   EXE       15,285  03-23-92 3:10a
EZSCSI   CW!       13,799  03-14-94 3:01a
EZSCSI   EX!       147,078 03-14-94 3:01a
EZSCSI   HL!       2,360   03-14-94  3:01a
EZSCSI   INF       225     03-21-94 3:01a
INSTALL  BAT       1,117   03-21-94 3:01a
README   TX_ 5,366         03-21-94 3:01a
README   TXT       12,563  03-21-94 3:01a
SCSIFMT  CW_       11,203  03-14-94 1:31a
SCSIFMT  EX_       141,035 03-14-94 1:31a
SCSIFMT  HL_       2,375   03-14-94 1:31a
VASPID   38_ 2,780         01-24-94 1:10a
WINASPI  DL_       2,897   09-04-92 1:00a
```

Figure 16, EZ-SCSI File Expansion

This begins the menu–driven EZ–SCSI program. You can press <F1> from any menu for on-line help.

Here is the first screen that appears:

Press <Enter> to continue

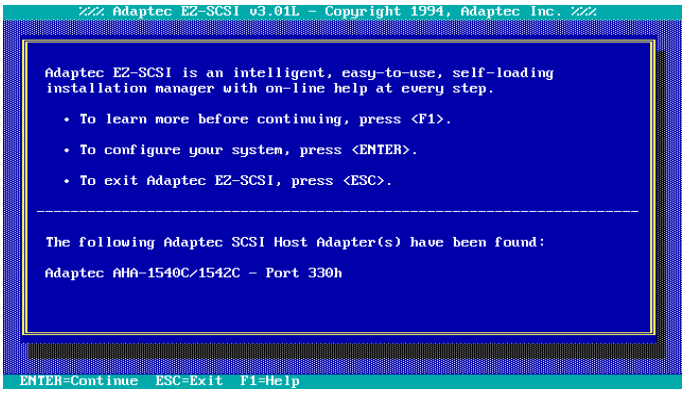

Figure 17, EZ-SCSI Introductory Screen

Verify that all devices physically present also appear on this screen. In the example above, SCSI ID #6 can be made visible by scrolling the window. If one or more devices are not detected, exit the program and recheck all wiring. If no devices are detected, make sure the I/O Port address for your adapter card is unique (not shared by any other device).

If the information above is correct, press **<ENTER>** to continue.

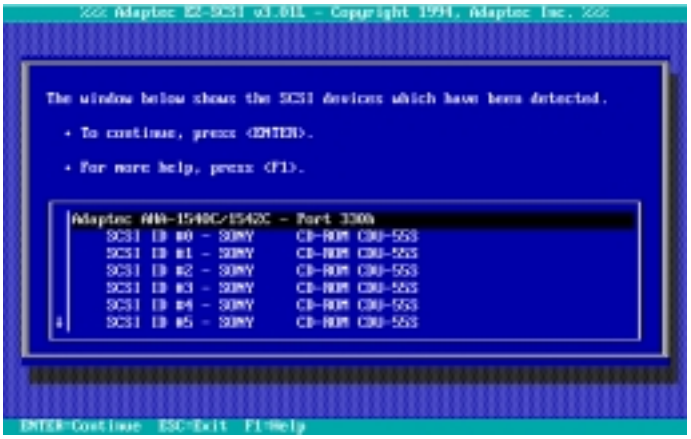

Figure 18, EZ-SCSI Devices

Normally, you should accept this default setting.

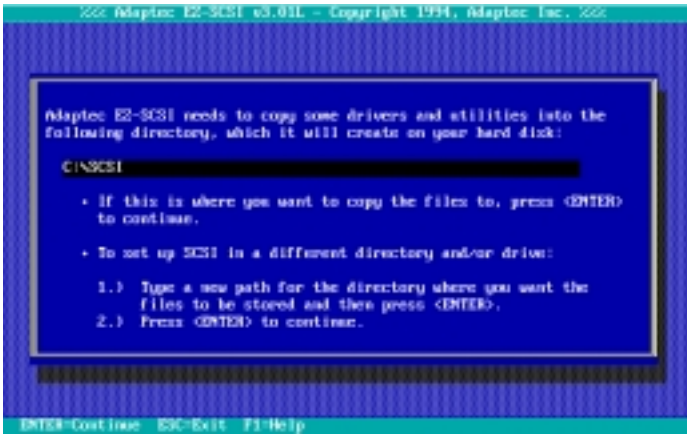

Figure 19, EZ-SCSI Directory Default

This screen will progress through the expansion/copying sequence.

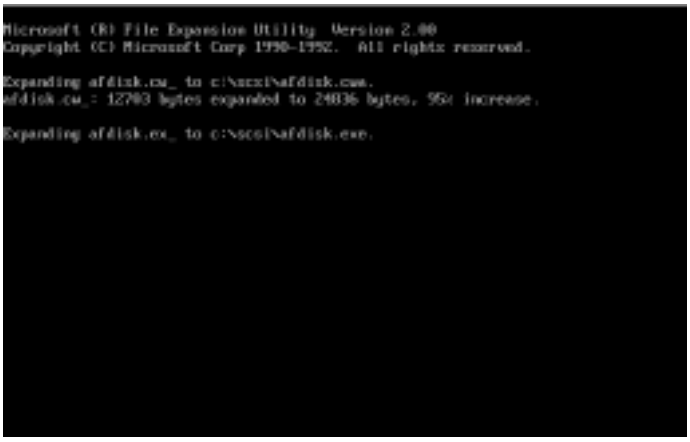

Figure 20, EZ-SCSI Expansion/Copying Sequence

Usually, EZ–SCSI will select the correct drive letter. However, if your system has a gap in its drive letter sequence (i.e., you have a floppy drive A:, a hard drive C: and a network drive F:), this letter should be changed. Select a starting drive letter that has five letters free above it. For example, starting letter H: will result in adding CD–ROM drives H: through L: in a 5 Disc Changer installation.

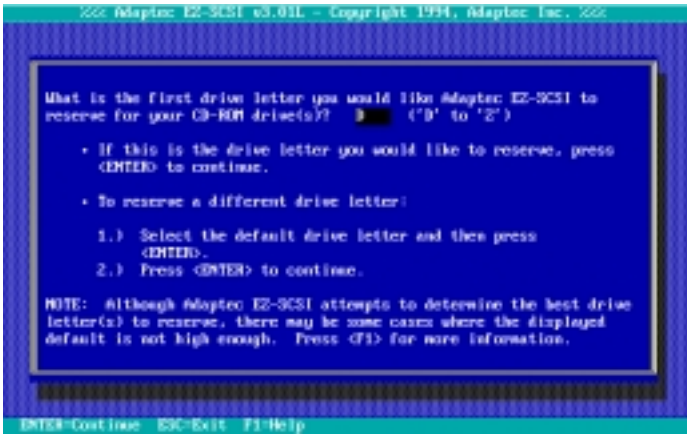

Figure 21, EZ-SCSI Starting Drive Letter Selection

This is the associated help screen to the drive letter assignment screen.

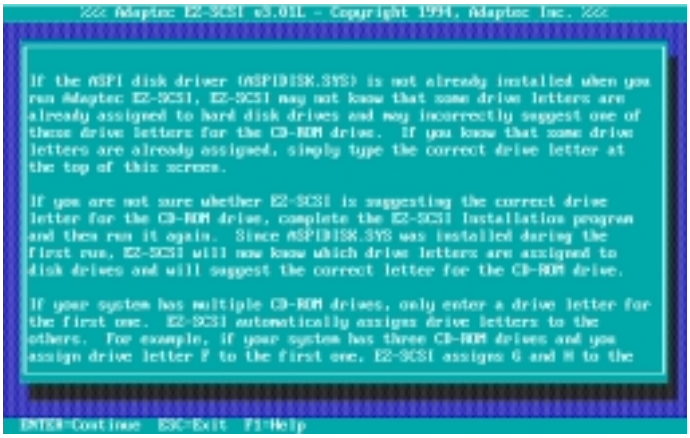

Figure 22, Drive Letter Help Screen

These modifications are generally correct. However, if you later have to restore an internal drive, you will need to edit the LASTDRIVE command to accommodate the addition. Here the new command would need to be

LASTDRIVE = Y

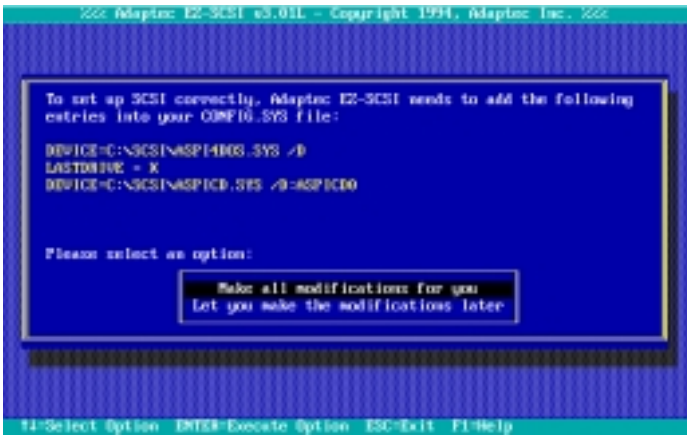

Figure 23, CONFIG.SYS Automatic Alterations

Press **<Esc>** to continue.

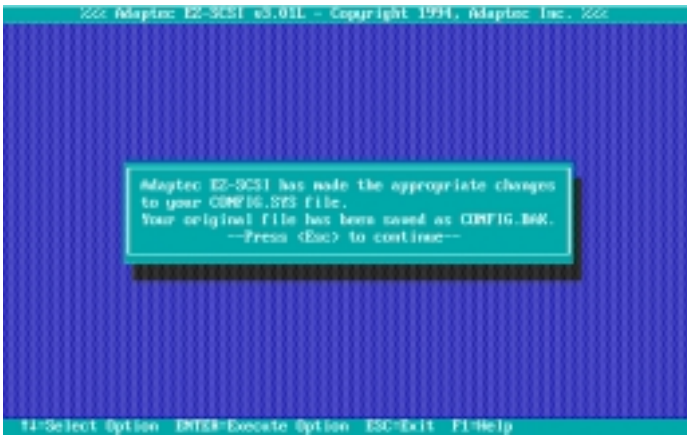

Figure 24, EZ-SCSI Confirms changes to CONFIG.SYS

7In most cases, EZ–SCSI will select the correct modification for you. However, if you already have a CD–ROM drive and are adding a tower, you will need to modify this line after you exit the program. First, from your original AUTOEXEC.BAT file (now renamed autoexec.bak), copy the device name of your original CD–ROM drive. To list the contents of your autoexec.bak file type:

CD

TYPE AUTOEXEC.BAK

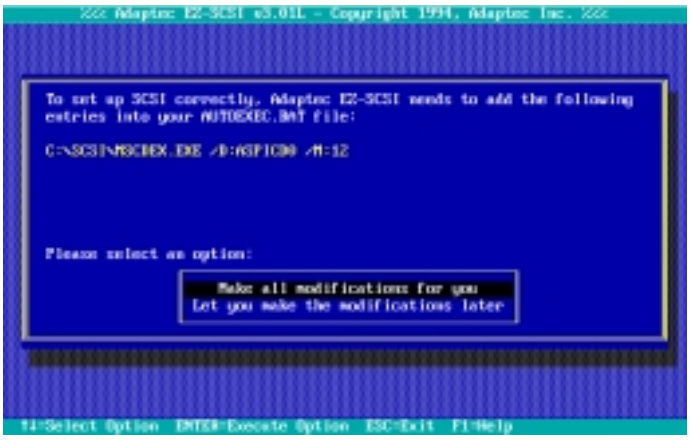

Figure 25, EZ-SCSI Default Changes to AUTOEXEC.BAT

The device name consists of the characters directly after /D: up to the next space. To modify your autoexec.bat type:

CD

C:\DOS\EDIT

C:\AUTOEXEC.BAT

Then modify the line that begins
C:\SCSI\MSCDEX.EXE to:

C:\SCSI\MSCDEX.EXE /D:<internal drive name**> /D:ASPICD0 /M:12**

Press **ALT F S** to save then **ALT F X** to exit.

This is the screen you will see if you select "Let you make the modifications later." On the previous screen.

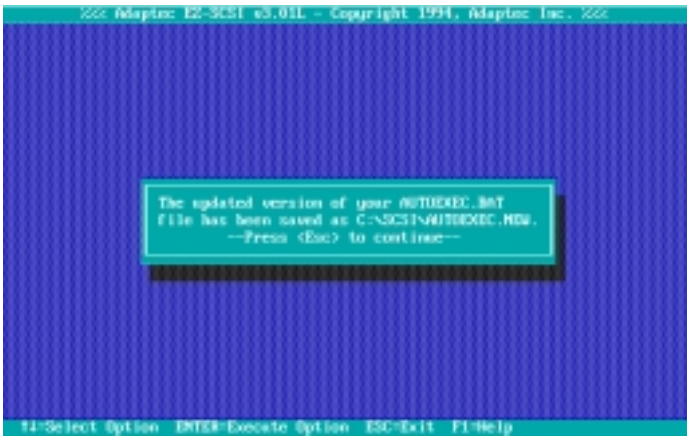

Figure 26, EZ-SCSI Confirms changes to AUTOEXEC.BAT

This completes your EZ–SCSI installation.

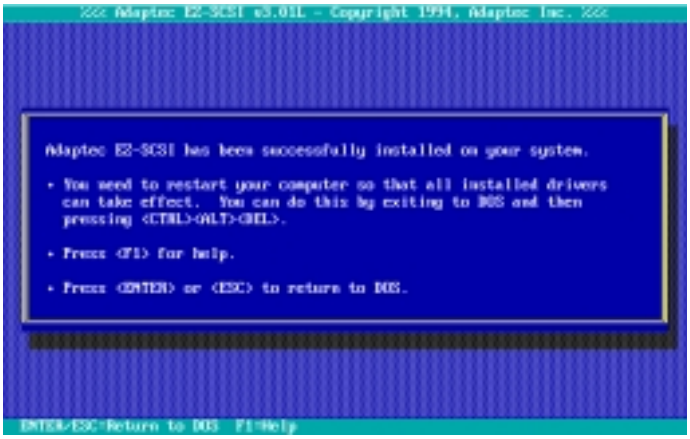

Figure 27, EZ-SCSI Finish Screen

If you edited out the **win** command during installation, here is how to reinstate Windows loading at bootup: Set default to the root directory, by entering the following command at the DOS prompt:

> CD\C:

Edit the AUTOEXEC.BAT file, using the following command:

> C:\DOS\EDIT AUTOEXEC.BAT

If you previous booted directly into Windows delete the word "rem" and any spaces before the word "win".

Save the file with **ALT F S** and exit with **ALT F X**.

Reboot by pressing **Control–Alt–Delete**.

Installing MJ Series Support Software

DOS and Windows 3.x operating systems require additional drivers for the Nakamichi 5 Disc Changer. The floppy labeled MJ Series Support Software is used to add these drivers. These drivers are unnecessary in Windows 95, and do not need to be added for full utilization of the changer in that operating system.

Install the Device Driver from DOS

This will copy information into a subdirectory named **C:\MJ_UTIL**.

1. Boot the computer.
2. Type **A:MJSETUP** <Enter>
3. Follow the instructions that appear on the screen.
4. Remove the floppy disk and reboot the computer.

If only the first disc is recognized by the operating system, LUN support must be added to **CONFIG.SYS.** This is done by adding the switch **/L** to the line that loads ASPI2DOS.SYS

Install the Device Driver from Windows 3.x

This will copy information into a subdirectory named **C:\MJ_UTIL**. The utilities "CDList" and "MJAudio" will be installed in a program manager group named "MJ Utilities"

1. Start Windows 3.x
2. Insert the MJ Series Support Software disk into the floppy drive.
3. Double-click on "Main".
4. Double-click on "File Manager".
5. Click on the Floppy Disk Icon.
6. Double-click on the file "SETUP.EXE"
7. Follow the instructions that appear on the screen.

Troubleshooting

Most installations occur without trouble. When an installation does not work correctly, you can usually solve the problem yourself. Check the following items first:

1. Is the tower plugged in and switched on?
2. Are all cables and connectors completely plugged in, including the terminator?
3. Is the card firmly seated, not at an angle? Power off before touching computer components.

Cautions

- CD-Singles (8cm or 3-inch CDs) cannot be used with this unit. Do not attempt to load such discs, either with or without an adapter.
- Do not use commerially available CD accessories (i.e. CD-Single adapters, cleaning discs, disc stabilizers, etc.)
- Do not move the unit while it is in use.
- Remove all discs from the unit before moving, shipping, or transporting it.
- Do not disassemble the unit, or look at the laser source.

Error Messages

Error messages that occur during bootup have limited direct meaning; rather they are best viewed as a code, as below:

When You See	It Usually Means
ASPI4DOS installation failed	Drives undetectable due to Input/Output Range, or IRQ or conflict. See pages 8 and 9
Hardware Timeout Reset Error	Input/Output Range in conflict See page 8
No SCSI devices found	Loose wiring, IRQ conflict See pages 8 and 9

Figure 28, Error Messages

Common Problems and Solutions

Symptom	Diagnosis	Corrective Action
My tower shipment is missing some or all accessories.	Completely unpack tower. If opened upside down, 4 and 7 bay boxes have a false bottom with the accessories under the tower. The 14 bay comes in two boxes: one just for the tower, the other, smaller one for the accessories.	Pull up inner box under tower. Make sure you have all boxes for your shipment. Compare your components to the packing list (See page 3, figure 1). Call Academy Computer Services immediately so we can file a theft claim if components are still incomplete.
My tower make a loud whirring sound, like a bicycle with a playing card striking its spokes, when I turn it on.	A fan, a top one in the 7 or 14, the one underneath the tower in the four, or in the back of the changer, is rubbing on its housing or the outside case.	With the 7 or 14, loosen then retighten the four screws holding the noisy fan. With the 4 and changer fan, loosen each screw a half-turn.
One of the fans has stopped working.	Excessive dust in fan, loose fan connection or fan worn out.	Check and tighten electrical connections. Use compressed air can to clean fan. If still inoperable, return for replacement.
The card doesn't fit in my computer	Computer has no free Industry Standard Architecture (ISA) slots. Computer has case out of tolerance so key is mis-aligned. Power supply must be removed to insert card (some slimline cases).	Read computer manual to make sure computer has ISA slots. If not, (e.g. notebooks, Macintosh and PS/2s) contact Academy Computer Services for a return/replacement. If ISA slots exist but are filled, remove other card, use other computer, or, if the computer has other kinds of slots free (e.g. a PCI slot in a Pentium), trade up to that kind of card by calling Academy Computer Services at 800-38-Logic. If card is difficult to put in, gently bend key to fit case. Sometimes sliding in one end at a time helps, rather than all at once, but the card must be uniformly inserted at the end of the operation. If card insertion isn't possible in a slimline case due to lack of room, remove power supply then try.
The unit does not operate "normally"	Unknown	It is possible to reset the changer by shutting down the PC, pressing disc

		buttons 1 and 5 at the same time, and restarting the PC. Keep the disc buttons depressed for at least one second after turning the computer on.

Symptom	**Diagnosis**	**Corrective Action**
Computer Freezes and Doesn't Load Windows	Check to see where system freezes. Reboot and watch closely. Use pause key to allow you to hold messages still so they don't scroll off the top of the screen before you can read them. The problem may be an improperly seated card (See figure 9) or conflict in the Input/Output Range or the IRQ address	Remove and reseat card. Sometimes older computers or ones with particularly stiff connectors will take several insertions for proper contact. Test by rebooting, if still no a system freeze, change Input/Output Range or IRQ address to non-conflicting settings using the jumpers on the card
I completed installation, and now my system has stopped working.	Card or software conflict. Difficult to further diagnose with non-working computer.	Remove card. Utilize Start-Up floppy to restore original computer configuration. Note card settings and other changes you performed on computer or AVA-1505 card to this point. Call 800-38-Logic, Academy Computer Services for help.
CD-ROM drive indicator lights are amber for a few seconds when initially turned on but do not flash amber during the computer's boot process.	Loose or flawed connection in the SCSI chain.	Check connection on the back of the computer for a bent pin (See figure 11). Check terminator plug and data cable on the back of the tower for snug connection.
Drives never indicate amber, and tower light at bottom is not green.	Power Problem	Check to make sure power outlet is active, tower is firmly connected to power cord, and switch is On (I). If still no indication of power, including no fan activity, the likely cause is a bad power supply. Do not attempt to service yourself; return to Academy.
CD-ROM drives are not available under Windows for Workgroups/Windows 3.1	If the AVA-1505 is free of address conflicts the LASTDRIVE statement in CONFIG.SYS not high enough to accommodate all drives or the MJ UTILITIES software has not been loaded.	At C:> prompt type EDIT C:\CONFIG.SYS. Alter LASTDRIVE statement to LASTDRIVE=Z or other sufficient value, save and reboot. See the appropriate page in this guide for further instruction on the MJ UTILITIES software.
CD-ROM drives work fine under DOS, but not Windows 3.1/Workgroups	Insufficient memory. Windows for Workgroups loads network drivers that utilize additional IRQs than DOS	Upgrade to DOS 6.22 or Windows 95. Under 6.22, run C:\DOS\MEMMAKER to optimize memory. Consult software products to see if EMM can be disabled, thereby increasing available conventional memory. If using Windows for Workgroups, check to see if network card is the same IRQ as the SCSI card. If so, change SCSI card IRQ using jumpers on card.
Two or more CDs not	Loose data or power connection. CD	Open tower and reinsert power and data

working, but some working.	media missing or incorrectly inserted. Drive contaminated by dust.	connections. Open drive drawer and use air jet to flush contaminants.

Symptom	**Diagnosis**	**Solution**
The drive sounds loud after I put a disc in. Sometimes data readout is slow.	CD media warped. High rotation speed creates audible vibration noise. Data readout delayed by media problem.	Change the rotation speed by pressing disc buttons 1 and 2 at the same time. All disc lights will briefly flash, to indicate speed change. To return to original speed, press buttons 1 and 3 at the same time.
One drive is not working	CD media bad, incorrectly inserted, dirty or missing. CD data or power cables loose. Rarely, drive bad.	Reinsert media, try different media, open tower and reinsert power and data connections. Open drive drawer and use air jet to flush contaminants. If all else fails, return drive for service.
Drive drawer will not open.	Non-problem in Novell environments: eject button is disabled when drive is mounted. Otherwise, media jammed in drive, motor power to drive has loose connector, or data connector to drive loose.	Un-jam media by inserting straightened paper clip in hole to the left of the eject button. Reinsert media carefully. Do not use warped media, as these are unsuitable for high-speed drives such as the Nakamichi 16X, rather request good media from the media supplier. Reinsert power connector. Check all data connections for snug fit.
The changer works fine, but the internal drive no longer works under Windows 3.1/Windows for Workgroups	The MSCDEX switches were modified by the EZ-SCSI program to run the tower, but in the process deleted the switch to run the internal drive.	The AUTOEXEC.BAT file should be modified. See directions on page 15.
I cannot find the name of the internal drive to add it back in under DOS/Windows 3.1	EZ-SCSI installed more than once so AUTOEXEC.BAK does not have drive name.	Use Start-Up disk version of AUTOEXEC.BAT to find name of internal drive. Insert floppy, type TYPE A:AUTOEXEC.BAT and write down the /D:<name of internal drive> you see after C:\<PATH>\MSCDEX.EXE. Use this name to for insertion under directions on page 15.

Figure 29, Common Problems and Solutions

Fixes for Specific Computer Models

While only one exact make and model has been proven to work with each fix, if your computer is similar the fix might still work. For example, the fix for the Compaq Presario holds for all computers with no free IRQs.

Computer	Analysis and Comment	Fix Procedure
ACER Aspire	Works best with a DOS style software installation even if the operating system is Windows 95	Use the directions for installing EZ-SCSI Lite as directed in the section titled Installing Software under DOS/Windows
Compaq Presario	Compaq Presarios have no unused Interrupt Requests. Towers cannot work unless one or more accessories are defeated, reallocated and/or removed.	Determine through accessing Control Panel, then System, and then Device Manager viewing devices by connection, the devices that are occupying IRQs 9,10,11,12,14 and 15. Discover which one of these can be moved to an unused IRQ or defeated. Perform that operation and reboot. Use the Add New Hardware Wizard to determine the correct hardware settings and proceed accordingly.
Dell Dimension P100	Dell Dimension Computers require changes of all AVA-1505 settings	IRQ 10. Follow software installation instructions for your particular operating system
Gateway P5-133	The Gateway P5-133 requires a change in IRQ setting. And, it has a Windows CD driver that is incompatible with the AHA-1542CP card.	In the **C:\WINDOWS\SYSTEM.INI** file, delete the line that reads: **Device=wdcdrv.386**. Load software as normal for your particular operating system.

Figure 30, Fixes for Specific Computer Models

Support Numbers:

Academy Computer Services: 800–385–6442, Fax: 617-279-4262

Adaptec Web Site: **http://www.adaptec.com/**

Adaptec BBS: 408–945–7727 (8, 1, N 14.4)

Adaptec Technical Support: 800–959–SCSI

Adaptec Literature Hotline: 800-934-2766

Adaptec Fax–on–Demand Service: 408–945–6776

Warranty and Disclaimer Information

Specifications subject to change without notice. All trademarks the property of their respective companies. Warranty: One year parts and labor from date of purchase. This warranty is in lieu of all other express warranties which now or hereafter might otherwise arise with respect to this product, implied warranties, including those of merchantability, fitness for a particular purpose and non–infringement shall (A) have no greater duration that 1 year from the date of purchase (B) terminate automatically at the expiration of such period and (C) to the extent permitted by law be excluded. In the event this product becomes defective during the warranty period, the purchaser's exclusive remedy shall be repair. Incidental or consequential damages, including without limitation loss of data or inaccurate retrieval of data, arising from breach of any express or implied warranty are not the responsibility of Academy Computer Services, Inc. and, to the extent permitted by law, are hereby excluded both for property damage, and to the extent not unconscionable, for personal injury damage.

Options

Many installations require modifications or additions for optimal functionality. To this purpose we offer CD changers/jukeboxes, MacIntosh interfaces, OS/2 drivers, Ornetix Software for CD management in Novell or Windows NT environments, dual channel SCSI cards for multiple towers, multiplexers, and the Virtual CD™ Family of towers and other options too numerous to list. We have extensive experience with large and custom installations. Please call 800-385-6442 for a tailored quotation.

Recommendations for Further Study

Elshami, Ahmed M. Networking CD-ROMs. American Library Association. Chicago. IL. 1996. 800-545-2433 press 7 to order.

Ridge, Peter M. The Book of SCSI, *A Guide for Adventurers*. No Starch Press. Daly City. CA. 1995. 800-788-3123 to order.