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## ***Ultra160 SCSI Driver***

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The Adaptec Ultra160 is a storage I/O solution ideally matched to the ever-increasing demands of bandwidth-hungry applications. The Ultra160 SCSI (LVD) technology, delivers twice the speed of Ultra2 SCSI and four times that of Ultra Wide SCSI. It is 240% faster than UDMA's maximum data rate of just 66 MBytes/sec.

To ensure data integrity and reliability with high performance, Ultra160 SCSI includes two new additional features—CRC (Cyclical Redundancy Checking) and Domain Validation. CRC checks all transferred data, adding significantly to data integrity. Domain Validation intelligently verifies system configuration for improved reliability.

The Adaptec Ultra160 SCSI cards protect the integrity of your data and provide reliable connectivity. The advanced new features of the Ultra160 SCSI cards, such as CRC, detect and minimize such errors during data transfer, thereby providing the most reliable solution.

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### Device Drivers

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The Ultra160 provides one driver file for each operating system. Use the table below to determine the correct driver for your operating system.

<b>WindowsNT</b>	adpu160m.sys
<b>Windows 95/98</b>	adpu160m.mpd

### System Requirements

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The following are the minimum and recommended requirements needed to install the Ultra160 SCSI driver.

<b>Computer</b>	Intel® Celeron™/Pentium® III FC-PGA
<b>Monitor</b>	VGA Support, minimum 640x480 resolution
<b>Operating system</b>	DOS 5.0 or higher, Windows® 95/98 or Windows® NT 4.0
<b>CD-ROM</b>	Double Speed or Higher
<b>Chipset</b>	VIA® 694DP/VT82C686B chipset

## **For Windows® 95**

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If you are performing a first time Windows 95 installation, see the “Installing the Driver When Installing Windows 95” section. If Windows 95 is already installed on your system, see the “Updating the Driver for Windows 95” section.

***Note:** Windows 95 shipped in two different version - the Retail Edition and the OEM Service Release 2 (or OSR2) Edition. Both versions function the same, but the process of installing drivers is different.*

To determine which version you have, follow these steps:

**Step 1:** Select Control Panel under Settings from the Start Menu.

**Step 2:** Double-click the “System” icon.

**Step 3:** Under the “General” tab, it will display the version number of Windows 95 under the System category.

**Step 4:** If it displays “4.00.950”, you have the Retail Edition installed. If it displays “4.00.950 B” or “4.00.950 C”, you have OSR2.x installed.

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### Installing the Driver When Installing Windows 95

*Note: Follow the Windows 95 installation manual to install Windows 95.*

If your Windows 95 CD came with a Windows 95 Boot Diskette, you will need to update the Windows 95 Boot Disk. Copy the file `ASPI8U2.SYS` and `ASPICD.SYS` from the DOS directory of the Adaptec Ultra160 driver diskette to the Windows 95 Boot Disk. Refer to the sections “**Update Windows 95/98 installation diskettes**” and “**Install CD-ROM drivers on a DOS bootable diskette or hard drive**” on page 5-15/5-16 if you are unsure how to do this.

- Step 1:** If “New Hardware Found” is displayed, select “Driver from disk provided by hardware manufacturer”.
- Step 2:** Insert the Adaptec Ultra160 diskette into the floppy drive and type `a:\win95` as the path; follow the on-screen instructions.
- Step 3:** If you are prompted to reboot the system, select “no” if you have a dual channel adapter or if you have multiple Ultra160 adapters. Then repeat steps 1 through 3 for each SCSI channel until all Ultra160 adapters are found. Otherwise, select “Yes” to reboot the system.

## **Updating the Driver for Windows 95 (Retail version)**

To update or install the ADPU160M.MPD driver if Windows 95 is already installed, follow these instructions:

**Step 1:** Start Windows 95.

**Step 2:** Click the Start button on the Windows 95 task bar, and then point to Settings.

**Step 3:** Click Control Panel.

**Step 4:** Double-click the System icon.

**Step 5:** On the Device Manager tab, click the plus sign next to the SCSI controller icon.

*Note: If Windows 95 cannot determine the type of host adapter installed in your computer, a yellow question mark labeled Other devices appears instead of the SCSI controller icon. To continue, click the plus sign next to the question mark; a yellow question mark labeled PCI SCSI Bus Controller then appears.*

**Step 6:** Double-click the Ultra160 Family host adapter you wish to update, or if a yellow question mark labeled PCI SCSI Bus Controller is displayed, double-click the question mark.

**Step 7:** Insert the Adaptec Ultra160 Family Manager Set Diskette into drive A:.

**Step 8:** Select the Driver tab.

*Note: If the version of Windows 95 you are using now displays a window with a Update Driver button instead of a Change Driver button, the remainder of your install procedure is covered in Updating the Driver for Windows 95, Version OSR 2.x*

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**Step 9:** Click Change Driver. You may be asked to select the hardware type; if so, select SCSI Controllers.

**Step 10:** Click the Have Disk button and enter a:\win95 as the path.

**Step 11:** Click OK.

**Step 12:** Select the Adaptec Ultra160 Family host adapter, and click OK.

**Step 13:** Again, click OK. The driver is now installed.

**Step 14:** You must restart your computer for the changes to take effect. Click Yes to restart your computer. Click No to return to the system properties window.

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### **Updating the Driver for Windows 95 (OSR2.x)**

This section covers the remaining steps to updating the driver on Windows 95OSR2.x.

*Note: If you have not already done so, follow the instructions in "Updating the Driver for Windows 95" section above.*

**Step 1:** Click Update Driver.

**Step 2:** Insert the Adaptec Ultra160 Family Manager Set diskette into drive A:.

**Step 3:** In the Update Device Driver Wizard, select Yes, and click Next.

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**Step 4:** Select Other locations.

**Step 5:** Under the Location edit box, type a:\win95, then click OK.

**Step 6:** Click the Finish button.

**Step 7:** At the message “Please insert the disk labeled ‘Ultra160 Family Manager Set Installation Disk’”, insert the Adaptec Ultra160 Family Manager Set diskette for Windows 95 and click OK.

**Step 8:** Another dialog box, Copying Files, appears with the message “The file ‘ADPU160M.MPD’ on Ultra160 Family Manager Set Installation Disk could not be found ...”. Type a:\win95 in the Copy Files from the edit box and click OK. The driver is now installed.

**Step 9:** You must restart your computer for the changes to take effect. Click Yes to restart your computer. Click No to return to the system properties window.

*Note: If you attempt to re-update the driver again, at step 3 above you will need to select No, click Next, and follow the on-screen instructions to re-update.*

## **For Windows® 98**

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If you are performing a first time Windows 98 installation, see the “Installing the Driver When Installing Windows 98 section. If Windows 98 is already installed on your system, see the “Updating the Driver for Windows 98” section.

### **Installing the Driver When Installing Windows 98**

**Step 1:** You will need to update the Windows 98 Boot Disk that came with your Windows 98 CD. Copy the file `ASPI8U2.SYS` and `ASPICD.SYS` from the DOS directory of the Adaptec Ultra160 Family Manager Set driver diskette to the Windows 98 boot Disk. Refer to the sections “**Update Windows 95/98 installation diskettes**” and “**Install CD-ROM drivers on a DOS bootable diskette or hard drive**” on page 5-15/5-16 if you are unsure how to do this.

**Step 2:** Power on the system, insert the updated Windows 98 Boot Disk into the floppy drive and the Windows 98 CD into the CD-ROM drive. Wait for the system to boot from the floppy.

**Step 3:** At the “Microsoft Windows 98 Startup Menu” screen, select,

*“1. Start Windows 98 setup from CD-ROM.” Follow the on-screen instructions to continue Windows 98 setup. Setup will run and restart your computer. If you are given an option, always select option “1. Start Windows 98 setup from CD-ROM.” Windows 98 installation will continue for some time.*

*Note: If at any time during installation Windows 98 needs files from the CD and it is not able to find the CD-ROM, cancel all file copies until you can install the driver for your SCSI device. You will be able to reinstall these cancelled devices after the SCSI driver and operating system is installed.*



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- Step 4:** When you see the “Add New Hardware Wizard” screen and “PCI SCSI Bus Controller” is displayed, click Next.
- Step 5:** Select “Search for the best driver...”, click Next.
- Step 6:** Select “Specify a location” and enter A:\WIN98 in the space provided. Insert the Adaptec Ultra160 Family Manager Set diskette into the floppy drive and click Next.
- Step 7:** When you see “Adaptec Ultra160 PCI SCSI Controller”, click Next.
- Step 8:** When you see “Windows has finished installing the software that your new hardware device requires.”, click Finish.
- Step 9:** If you are prompted to reboot the system, select “no” if you have a dual channel adapter or if you have multiple Ultra160 adapters. Then repeat steps 4 through 8 for each SCSI channel until all Ultra160 adapters are found. Otherwise, select “Yes” to reboot the system.
- Step 10:** Follow the on-screen instructions to complete the Windows 98 installation if needed.

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### Updating the Driver for Windows 98

To update or install the Adaptec Ultra160 Family Manager Set driver if Windows 98 is already installed, follow these instructions:

**Step 1:** Start Windows 98.

**Step 2:** Click the Start button on the Windows 98 task bar, and then point to Settings.

**Step 3:** Click Control Panel.

**Step 4:** Double-click the System icon.

**Step 5:** On the Device Manager tab.

**Step 6:** Click the plus sign next to the SCSI controller icon.

*Note: If Windows 98 cannot determine the type of host adapter installed in your computer, a yellow question mark labeled "Other devices" appears instead of the SCSI controller icon. To continue, click the plus sign next to the question mark; a yellow question mark labeled "PCI SCSI Bus Controller" then appears.*

**Step 7:** Double-click the Ultra160 Family host adapter you wish to update, or if a yellow question mark labeled "PCI SCSI Bus Controller" is displayed, double-click the question mark.

**Step 8:** Select the Driver tab.

**Step 9:** Click Update Driver.

**Step 10:** Insert the Adaptec Ultra160 Family Manager Set diskette into drive A:.

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**Step 11:** In the Update Device Driver Wizard, click Next.

**Step 12:** Select the button for “Search for a better driver than the one your device is using now. (Recommended)”. Click Next.

**Step 13:** Select “Specify a location”.

**Step 14:** In the “Specify a location” edit box, type “a:\win98”, then click Next.

**Step 15:** When Windows indicates “Location of driver:  
A:\WIN98\ADPU160M.INF”, click Next.

**Step 16:** Windows will now copy the files for your host adapter.

**Step 17:** Click “Finish”.

**Step 18:** You must restart your computer for the changes to take effect.

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# **For Windows® NT v4.0**

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This section describes installing and using the Adaptec Ultra160 SCSI Driver for Windows NT. If you are performing a first time Windows NT installation, see “Completing a Fresh Windows NT v4.0 Installation from CD-ROM” section below. If Windows NT is already installed on your system, see the “Updating the Adaptec driver under Windows NT v4.0” section.

## **Completing a Fresh Windows NT v4.0 from CD-ROM**

- Step 1:** Ensure your Windows NT v4.0 CD is inserted into the CD-ROM drive.
- Step 2:** Start your system. Immediate press and release the F6 key when you see the following message:  
“Setup is inspecting your computer’s hardware configuration...”
- Step 3:** When prompted, press S to specify an additional device.
- Step 4:** Press Enter to select Others; insert the Adaptec Ultra160 Family Manager Set for Windows NT diskette in your floppy drive.
- Step 5:** Use the arrow keys to highlight and select the desired driver, then  
press Enter.
- Step 6:** To add other host adapters that are not part of the Ultra160 Family,  
press S and repeat from Step 4 for each additional adapter and insert the appropriate driver disk.
- Step 7:** Press Enter to continue with the Windows NT operating system setup. Follow the instructions onscreen and in the Windows NT documentation to complete the installation.

## **Updating the Adaptec driver under Windows NT v4.0**

Follow these instructions only if Windows NT v4.0 is already installed.

- Step 1:** Click the Start button on the Windows NT task bar, and the point to Settings.
- Step 2:** Open the Control Panel, double-click on SCSI Adapters.
- Step 3:** Select the Drivers tab, and click the Add button.
- Step 4:** In the “Install Driver” window, click the Have Disk button.
- Step 5:** Insert the Adaptec Ultra160 Family Manager Set for Windows NT diskette.
- Step 6:** At the “Copy manufacturer’s files from” text box, type a:\nt4, and click OK.
- Step 7:** At the Install Driver window, select the driver, then click OK.
- Step 8:** In response to “Do you want to use the currently installed driver(s) or install new one(s)”, select the New button.
- Step 9:** Type a:\nt4 and click continue. The driver is now installed.
- Step 10:** You must restart your computer for the changes to take effect. Click Yes to restart your computer. Click No to return to the SCSI Adapters window.

## **DOS Mode CD-ROM Drivers**

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Install the CD-ROM drivers only if DOS mode access to a SCSI CD-ROM drive is required. DOS mode access is needed during certain Windows 95 and Windows 98. If Windows 95, Windows 98, is already installed, or if the CD-ROM drive is not connected to a SCSI adapter, these drivers do not need to be copied or installed. However, you may choose to install these drivers if you are having trouble accessing your CD-ROM from Windows 95/98.

*Note: You do not need these drivers for Windows NT or UNIX.*

The following CD-ROM driver files are provided on the Adaptec Ultra160 Family Manager Set driver diskette:

`\DOS\ASPI8U2.SYS`

`\DOS\ASPICD.SYS`

You might also need the file MSCDEX.EXE available from MS-DOS 6.0 or higher, Windows boot diskettes, or the Microsoft website.

## **Update Windows 95/98 Installation Diskettes**

To update the Windows 95 or 98 Boot Diskette that came with your Windows 95 or 98 CD, make a backup of the Boot Diskette. Then copying ASPI8U2.SYS and ASPICD.SYS from the DOS directory of the Adaptec Ultra160 Family Manager Set driver diskette to the root directory of the Windows 95 or Windows 98 Boot Diskettes. The steps to do this will depend on your system setup. This is easier to do on a system that has DOS, Windows 95, or Windows 98 already installed. Here is one example:

Insert the Adaptec Ultra160 Family Manager Set driver diskette in drive a: and at the DOS prompt type:

```
copy a:\dos\aspi8u2.sys c:\  
copy a:\dos\aspicd.sys c:\
```

Then insert the backup Windows Boot Disk in drive a: and type:

```
copy c:\aspi8u2.sys a:\  
copy c:\aspicd.sys a:\
```

To begin installation, follow the section titled “Microsoft Windows 95/98 Installation”.

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### Install CD-ROM Drivers on a DOS Bootable Diskette or Hard Drive

Follow these steps if you want to enable SCSI CD-ROM access from either a bootable DOS diskette or a bootable hard drive.

The following systems files will be modified:

- CONFIG.SYS
- AUTOEXEC.BAT

**Step 1:** Copy the files ASPI8U2.SYS and ASPICD.SYS from the DOS directory of the Adaptec Ultra160 Family Manager Set driver diskette to the appropriate drive (either A: or C:) and directory in which they will be used (for example c:\SCSI).

**Step 2:** Modify the CONFIG.SYS file for loading ASPI8U2.SYS and ASPICD.SYS.

If you do not currently have a CONFIG.SYS file, create this file in the A:\ or C:\ directory. Otherwise, add these lines to the existing CONFIG.SYS.

Below is an example of what the command strings should look like:

```
DEVICE=C:\SCSI\ASPI8U2.SYS/D
DEVICE=C:\SCSI\ASPICD.SYS/D:ASPICD0
```

*Note: Make sure you customize the command strings above to reflect the actual location or path of the ASPI8U2.SYS and ASPICD.SYS files.*



**Step 3:** Modify the AUTOEXEC.BAT file for loading MSCDEX. If you do not currently have an AUTOEXEC.BAT file, create this file in the A:\ or C:\ directory. Otherwise, add these lines to the existing AUTOEXEC.BAT.

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

This will assign the CD-ROM to the next available driver letter, typically D: if there is only one DOS drive.

*Note: Make sure you customize the command strings above to reflect the actual location or path of the MSCDEX.EXE file. For example if your MSCDEX.EXE file is located in the c:\windows\command directory, either copy the MSCDEX.EXE file to the DOS directory above or change C:\DOS to reflect the new path.*

*Note: If you are using MS-DOS 5.0 and do not already have MSCDEX.EXE, you will need to either upgrade to MS-DOS 6.0 or above, or download MSCDEX.EXE from Microsoft BBS or CompuServe forum.*

**Step 4:** Reboot your system. You are now able to access your CD-ROM drive from the command line and from Windows or Netware.

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