USER'S REFERENCE

SCSI CARD 2906

adaptec®

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SCSI Card 2906

User's Reference

adaptec®

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Understanding SCSI

SCSI (pronounced "scuzzy") stands for Small Computer System Interface. SCSI is an industry standard computer interface for connecting SCSI devices (such as a hard disk drive, CD-ROM drive, or scanner) to a common SCSI bus.

A SCSI bus is an electrical pathway that consists of a SCSI card (such as the SCSI Card 2906) installed in a computer and one or more SCSI devices. SCSI cables are used to connect the devices to the SCSI card.

For the SCSI bus to function properly, you must assign unique SCSI IDs to each SCSI device, and you must correctly terminate the SCSI bus. For information on terminating the SCSI bus, refer to *Terminating the SCSI Bus* on page 3.

SCSI IDs

You must assign a unique SCSI ID number from 0 to 7 to the SCSI Card 2906 and to each SCSI device attached to the SCSI Card 2906. A SCSI ID uniquely identifies each device on the SCSI bus and determines priority when two or more devices are trying to use the SCSI bus at the same time.

Refer to the device's documentation to set the SCSI ID. Here are some general guidelines for SCSI IDs:

- For internal SCSI devices, you generally set the SCSI ID by configuring a jumper on the SCSI device.

- For external SCSI devices, you generally set the SCSI ID with a switch on the back of the device.

- SCSI ID 7 has the highest priority on the SCSI bus. The priority of the remaining IDs, in descending order, is 6 to 0.

- Adaptec presets the SCSI Card 2906 to SCSI ID 7, giving it the highest priority on the SCSI bus. You should not change this setting.

- Use SCSI ID 0 for the first SCSI hard disk drive. Most internal SCSI hard disk drives come from the factory set to SCSI ID 0.

- In Windows®95/98, you can use the Device Manager to view the SCSI ID (and other details) assigned to each SCSI device installed, as well as the SCSI card.

SCAM Protocol

The SCSI Card 2906 supports the SCSI Configured AutoMatically (SCAM) protocol. This protocol assigns SCSI IDs dynamically and resolves SCSI ID conflicts automatically when you start the computer. If your computer includes SCSI disk drives or other SCSI devices that support SCAM, you do not need to assign SCSI IDs manually to these devices. To enable SCAM support, see *Configuring the SCSI Card 2906 with SCSISelect* on page 15.

Note: To determine if your SCSI device supports the SCAM protocol, check the SCSI device's documentation.

Terminating the SCSI Bus

To ensure reliable communication on the SCSI bus, you must terminate both ends of the SCSI bus. If the SCSI Card 2906 is connected at one end of the SCSI bus, you must still terminate the device at the other end. Termination prevents the signal from bouncing off the end of the cable and interfering with the original signal.

If the SCSI Card 2906 is connected in the middle of the SCSI bus, it will not terminate itself and you must terminate the SCSI devices connected at both ends of the SCSI bus.

The method for terminating a SCSI device varies widely. Refer to the SCSI device's documentation for instructions on how to enable or disable termination. Here are some general guidelines for termination.

- Termination on internal SCSI devices usually is controlled by manually setting a jumper or a switch on the device, or by physically removing or installing a terminator module on the device. The internal SCSI device at the end of the cable must be terminated.

- Termination on external SCSI devices usually is controlled by installing or removing a SCSI terminator. On some external devices, termination is controlled by setting a switch on the back of the device. The external SCSI device at the end of the cable must be terminated.

- By default, termination on the SCSI Card 2906 is set to *Automatic* (the preferred method). To manually set termination on the SCSI Card 2906, see *Configuring the SCSI Card 2906 with SCSISelect* on page 15.

- Most SCSI devices come from the factory with termination enabled. Some SCSI devices include a terminator block or pass-through terminator. See your SCSI device documentation for information on enabling and disabling termination.

Troubleshooting

Troubleshooting Hardware Checklist

Most problems with the SCSI Card 2906 result from errors in preparing and connecting devices on the SCSI bus. If you have problems, check these items first:

- Are all SCSI devices turned on?

- Are all SCSI cables and power cables properly connected?

- Is the SCSI Card 2906 firmly seated and secured in the PCI expansion slot? Turn OFF the power to the computer before checking the card.

- Is each SCSI device and the SCSI Card 2906 assigned a unique SCSI ID? (See Step 1 in either *Connecting Internal SCSI Devices* or *Connecting External SCSI Devices* in the *SCSI Card 2906 Installation Guide.*)

- Are all SCSI devices terminated properly? (See Step 2 in *Connecting Internal SCSI Devices* or Step 3 in *Connecting External SCSI Devices* in the *SCSI Card 2906 Installation Guide.*)

- When your computer allows you to set up configuration options when the computer first boots up (through CMOS setup), are the following options set up as specified?

  - If there is an Interrupt Type or Interrupt Line option in the Setup program, select **Int-A** or **Interrupt Type** = **A** (you also may be required to change a motherboard jumper setting).

  - If there is a Triggering Interrupt option, select **Level**.

  - If there is an option to enable or disable bus mastering for the PCI slots, select **Enabled**. Bus mastering must be enabled. Check your computer documentation for more information on bus mastering.

  - If there is an option to enable or disable individual PCI slots, be sure the slot in which you install the SCSI Card 2906 is **Enabled**.

– If your computer has a combination of ISA or EISA boards and PCI boards, you may need to mark the IRQs used by ISA/EISA boards as **Used** so the computer BIOS will not try to assign these IRQs to other PCI boards. Never use an IRQ below IRQ9 for a SCSI card.

Some configuration options apply to a specific PCI bus slot, so if you change any option, be sure you are applying the change to the correct slot. Check your computer documentation to determine the correct PCI bus slot identification and configuration.

If you still experience problems, try installing the SCSI Card 2906 in another PCI slot, starting with the first PCI slot.

Troubleshooting Questions and Answers

When I start Windows 95/98, the system locks up when the Windows logo is displayed. How can I get the system to start so that I can verify that the SCSI card is functioning normally?

1 Start or restart your computer. View the messages that appear onscreen.

2 When the message Starting Windows 95/98 appears, press and release the **F8** key while the text is on your screen.

3 From the menu displayed, select **Safe Mode.** (It may take extra time for Windows 95/98 to load.)

4 Verify that the SCSI Card 2906 software driver is loading properly (see the information in the next question).

How can I tell if the SCSI Card 2906 software driver is loading properly?

1 Click the **Start** button, point to **Settings**, then click **Control Panel**.

2 Double-click the **System** icon.

3 Click the **Device Manager** tab.

4 Double-click the **SCSI Controller** icon. The driver for the SCSI Card 2906 is listed as Adaptec AIC-7850 PCI SCSI Controller.

  ■ If the driver is listed without any extra 95/98 symbols or marks, the SCSI Card 2906 driver is loading properly.

■ If the driver is listed but has an exclamation mark inside a yellow circle, the software driver may be in conflict with other hardware using the same resources. Double-click the icon to see the device status and possible solutions.

■ If the driver is listed but has an "X" inside a red circle, the SCSI Card 2906 software driver is disabled and isn't loading (see below).

■ If the SCSI Controller icon or the SCSI Card 2906 driver is not listed, reinstall the driver.

Note: Software upgrades (including downloadable drivers) for Adaptec products are available on the Adaptec Web Site at *http://www.adaptec.com*.

Why does an "X" inside a red circle appear by the SCSI Card 2906 software driver in Device Manager?
The SCSI Card 2906 software driver is disabled and isn't loading. To enable the driver:

1 Double-click the **SCSI card software driver** in Device Manager.

2 Open the **General** tab and check the **Original Configuration** (current) box.

Note: In most caes, this is the result of an IRQ conflict. Refer to the information *In Windows 95/98, where do I check for conflicting or unavailable resources?* on page 8.

In Windows 95/98, why is there a yellow ! beside my driver(s) in Device Manager?

The yellow ! may appear for many reasons. Use Table 1 to trouble-shoot this problem. Some of the reasons are listed by level of difficulty, the first being the easiest to solve.

Table 1. Troubleshooting Table.

Reason	See Page
Faulty cables, termination, or device	7
Master Boot Record was modified	7
Conflicting or unavailable resources	8

In Windows 95/98, how do I check for faulty cables, termination, or damaged device ?

1 Turn OFF your computer and disconnect the cables from the SCSI card.

2 Turn ON your computer, restart Windows, and verify that the yellow ! disappeared in Device Manager.

If the yellow ! disappeared, the cabling, termination, or device is faulty, or there may be an IRQ conflict in your system.

In Windows 95/98 where do I check to see if the Master Boot Record was modified?

1 Click the **Start** button, point to **Settings**, and then click **Control Panel**.

2 Double-click **System**.

3 In the System Properties window, open the **Performance** tab. One of the following messages may appear:

   a The Master Boot Record has been modified.

   b Your system is configured for optimal performance.

   c <Drive letter> using MS-DOS compatibility mode file system.

If the first message (a) appears, click the **Details** button in the **Performance** tab for more information. If needed, contact your computer manufacturer for additional help.

If the second message (b) appears, you must update or install the driver. For information on downloadable drivers, refer to the Adaptec Web Site *http://www.adaptec.com/support/index.html.* Click on the **Drivers** section for more information on how to download the correct driver.

If the third message (c) appears, remove the DOS driver from config.sys and autoexec.bat.

1 Click the **Start** button, and then click **Run**.

2 In the Run window, type sysedit and then click **OK**.

3 Go to the Autoexec.bat window. If there are lines containing files with *.exe, *.com,* or *.bat* extensions, type rem xx at the beginning of those lines.

4 Go to the Config.sys window. If there are lines that start with Device or Device High, type rem xx at the beginning of those lines.

5 Save the changes and reboot your computer.

In Windows 95/98, where do I check for conflicting or unavailable resources?

1 Click the **Start** button, point to **Settings**, and then click **Control Panel.**

2 Double-click **System**.

3 In the System Properties window, open **Device Manager**.

4 In Device Manager, double-click **Computer** at the top of the list.

5   In the Computer Properties window, click **Interrupt request (IRQ)**, as shown in the following sample screen.
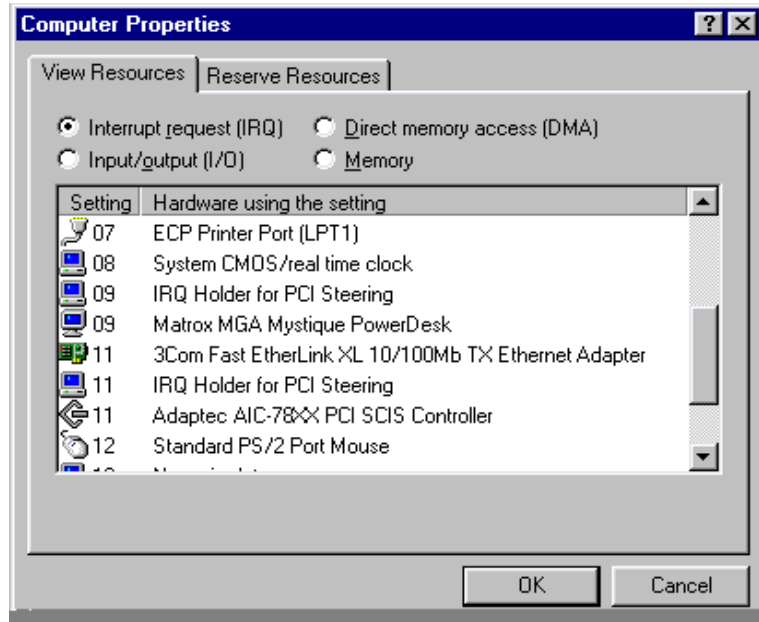
The Settings column lists the IRQs in use. IRQ settings range between 0 and 15. If an IRQ setting is not listed under Settings, this means it is available. In the screen above, setting 10 is not listed and, therefore, is an available IRQ.

Note: Do not use an IRQ below IRQ 9 for a SCSI Card 2906. Do not allow the SCSI Card 2906 and another card to share the same IRQ.

In Windows NT 4.0, where can I check which resources are available on my computer?

> **Note:** You must log in as an Administrator to complete the following steps.

1 Click the **Start** button, point to **Programs**, point to **Administrative Tools**, select **Windows NT Diagnostics** and then click **Resources Tab.**

2 Select the resource from the Used Resources list, for example IRQ, DMA, etc.

3 In the SCSI Adapters window, click the **Properties** button to find which resources are in use.

What if there is no SCSI Controller icon under Device Manager, or the software driver for the SCSI Card 2906 does not appear under Device Manager?
Generally, when the SCSI Card 2906 software driver is not listed in the Device Manager, the system BIOS is not giving the SCSI Card 2906 any resources. Check for available resources (see the previous question). If resources are available, install the SCSI Card 2906 in another PCI slot.

> **Note:** The SCSI Card 2906 software driver may also be listed as "PCI SCSI Bus Controller" under the Other Devices icon in Device Manager. If it is listed there, reinstall the driver as explained on the next page.

If the SCSI Controllers icon or the software driver do not appear:

1 Double-click the **Add New Hardware** icon in Control Panel.

2 Select **Yes** on the second screen of the Add New Hardware Wizard to have Windows search for the SCSI Card 2906.

3 Follow the onscreen instructions.

If Windows 95/98 does not detect the SCSI card, run the Add New Hardware wizard again:

1 In the Control Panel, double-click the **Add New Hardware** icon.

2 In the second screen of the wizard, click **No.**

3 Select **SCSI controllers** on the next screen.

4 Select the model of your Adaptec SCSI Card.

If SCSI Card 2906 is not on the list, you may be able to install a SCSI card driver from the Windows 95/98 CD-ROM (or from the Adaptec EZ-SCSI Setup Diskette). Follow these steps:

1 Place the Windows 95/98 CD-ROM in your CD-ROM drive (or insert the Adaptec EZ-SCSI Setup Diskette in the floppy disk drive) and run the Add New Hardware wizard.

2 Select **No** on the second screen of the wizard.

3 Select **SCSI controllers** on the next screen.

4 Click the **Have Disk** button, then click the **Browse** button.

5 Look in the *\drivers\storage* directory of the CD-ROM and select the model of your SCSI card or go to a:\win95\98 on the Adaptec EZ-SCSI Setup Diskette.

How can I check the status of a resource (for example, IRQ, Memory, I/O)?

1 Click the **Start** button, point to **Settings**, then click **Control Panel**.

2 Double-click the **System** icon.

3 Click the **Device Manager** tab.

4 Click **Computer**, and then click **Properties**.

5 Open the **View Resources** tab, click the option button for the type of resource you want to check.

6 The setting and the hardware using the setting displays.

- If a specific resource is not listed, the resource is not used by a device.

- If a resource is listed more than once, the resource is used by more than one device.

- If a resource is used by an unknown device, the resource is used but the device using the resource cannot be detected.

How do I use the Hardware Conflict Troubleshooter in Windows 95/98?

1 Click the **Start** button, then click **Help**.

2 From the **Contents** tab, double-click **Troubleshooting**.

3 Double-click **If you have a hardware conflict.**

4 Follow the step-by-step instructions in the Windows Help window.

Common Error Messages

"Device connected, but not ready"

The SCSI card received no answer when it requested data from an installed SCSI device.

- Make sure the drive is set to spin up when the power is switched on. (See the documentation for the device.) If you still have problems, you may have a bad drive. If you can still access your computer, follow these steps:

  a Click the **Start** button, point to **Programs**, **Accessories**, **System Tools**, and then click **ScanDisk**.

  b Click **Start** and then wait a few moments for results.

"Time-out failure during..."
An unexpected time-out occurred.

- Verify that the SCSI bus is properly terminated.

- Verify that all cables are properly connected.

- Disconnect the SCSI cables from the SCSI card and then start the computer. If the computer successfully restarts, one of the SCSI devices, cable, or terminator may be defective.

Using the SCSI Card 2906 and SCSI Devices

This section provides useful information on using the SCSI Card 2906 and your SCSI devices. For specific information, refer to the documentation that came with your SCSI device.

Using SCSI Devices

Hard Disk Drives

■ You cannot boot your computer from a drive connected to the SCSI Card 2906. To boot your system, a bootable hard disk drive must already be installed on a different SCSI card or IDE card.

■ If both SCSI and non-SCSI (for example, IDE) disk drives are installed and the SCSI Card 2906 is the only SCSI card in your system, then the non-SCSI disk drive is usually the boot drive.

Scanners

■ You must install the scanner manufacturer's proprietary software drivers. See your scanner's documentation for details. If the Adaptec driver loads successfully and you have problems with your system, contact your scanner manufacturer for support.

■ You may need to make the following two system changes to help your scanner work well in your system. Run 2906 *cfg.exe* to begin SCSI*Select.* Select **Configure/View Host Adapter Settings**. Then select the **SCSI Device Configuration** option and find the device ID for your scanner (0 through 6).

  – Change **Initiate Sync Negotiation** to **No**.

  – Change **Sync Transfer Rate** to **5.0**.

Installing Multiple SCSI Cards

■ You can install multiple SCSI cards in your computer; you are limited only by the available system resources (for example, IRQ settings, I/O port addresses, etc.) not used by other cards installed in your computer.

■ Each SCSI card you install forms a separate SCSI bus with a different set of SCSI devices. SCSI IDs can be reused as long as the ID is assigned to a device on a different SCSI card (for example, each SCSI card can have a device with SCSI ID 2).

Using SCSI and IDE (or EIDE) Devices

■ All Adaptec SCSI cards can coexist with another controller (IDE, EIDE, RLL, etc.) installed in the computer.

■ If you have both an IDE hard disk drive and a SCSI hard disk drive, the IDE drive will be the boot drive.

■ You cannot connect an IDE device to a SCSI card, or a SCSI device to an IDE card (controller).

Replacing a Non-Adaptec SCSI Card with an Adaptec SCSI Card

To use a hard disk drive previously connected to a non-Adaptec SCSI card, you must low-level format the drive after connecting it to the Adaptec SCSI card. (See *Using SCSI Disk Utilities* on page 19.)

Caution: A low-level format destroys all data on the drive. Be sure to back up your data before performing a low-level format.

Configuring the SCSI Card 2906 with SCSI*Select*

SCSI*Select* (included on a separate diskette in your package) enables you to change SCSI*Select* settings without opening the computer or handling the card. SCSI*Select* also enables you to low-level format or verify the disk media of your SCSI hard disk drives. Table 2 lists the available and default settings for each SCSI*Select* option.

> **Note:** The default settings are appropriate for most systems. Run SCSI*Select* if you need to change or view current settings, or, if you would like to run the SCSI disk utilities. See the descriptions of each option in *SCSI Bus Interface Definitions* on page 17.

Table 2. SCSI*Select* Settings

SCSI*Select* Option	Available Settings	Default Setting
SCSI Bus Interface Definitions:		
Host Adapter SCSI ID	0-7	7
SCSI Parity Checking	Enabled, Disabled	Enabled
Host Adapter SCSI Termination	Automatic, Enabled, Disabled	Automatic
Additional Options		
SCSI Device Configuration:		
Initiate Sync Negotiation	Yes, No	Yes (Enabled)
Maximum Sync Transfer Rate	10.0, 8.0, 6.7, 5.0	10.0
Enable Disconnection	Yes, No	Yes (Enabled)
Advanced Configuration Options:		
Plug-and-Play SCAM Support	Enabled, Disabled	Disabled

Starting SCSI*Select*

Follow these steps to start SCSI*Select*:

   1   Turn ON or restart your computer. Allow it to boot to a DOS
          prompt.

   2   At the DOS prompt, insert the SCSI*Select* diskette and change
          to the a:\ prompt.

   3   At the a:\ prompt, type 2906cfg.exe.

   4   From the menu that appears, use the ↑ and ↓ keys to move the
          cursor to the option you want to select, then press **Enter**.

> **Note:** If you have difficulty viewing the display, press **F5** to
> toggle between color and monochrome modes. (This feature
> may not work on all monitors.)

Exiting SCSI*Select*

Follow these steps to exit SCSI*Select*:

   1   Press **Esc** until a message prompts you to exit (if you changed
          settings, you are prompted to save the changes before you exit).

   2   At the prompt, select **Yes** to exit, then press any key to reboot
          the computer. Any changes you made in SCSI*Select* take effect
          after the computer boots.

Using SCSI*Select* Settings

To select an option, use the ↑ and ↓ keys to move the cursor to the option, then press **Enter**.

In some cases, selecting an option displays another menu. You can return to the previous menu at any time by pressing **Esc**.

To restore the original SCSI*Select* default values, press **F6** from the main SCSI*Select* screen.

SCSI Bus Interface Definitions

- **Host Adapter SCSI ID**—Sets the SCSI ID for the SCSI card. The SCSI Card 2906 is set at ID 7, which gives it the highest priority on the SCSI bus. You should not change this setting.

- **SCSI Parity Checking**—When set to **Enabled**, verifies the accuracy of data transfer on the SCSI bus. Leave this setting enabled unless any SCSI device connected to the SCSI card does not support SCSI parity. If one SCSI device does not support SCSI parity, set parity on the 2906 to **Disabled**.

- **Host Adapter SCSI Termination**—Determines the termination setting for the SCSI card. The default setting is *Automatic*, which determines termination as follows:

  - If a cable is only connected to the SCSI card's internal **or** external SCSI connector, the terminators are *enabled*, if the 2906 termination is set for automatic. (The SCSI card is at the *end* of the SCSI bus.)

  - If a cable is connected to the SCSI card's internal **and** external SCSI connector, the terminators are *disabled.* (The SCSI card lies *between* the ends of the SCSI bus.) You can also disable the terminators by setting **Host Adapter Termination** in SCSI*Select* to **Disable**.

  You should leave this setting at Automatic.

  Note: The option is for terminating the SCSI card, not for terminating devices. Be sure that both ends of the SCSI bus are terminated (see the *SCSI Card 2906 Installation Guide* for details).

SCSI Device Configuration

> **Note:** To configure settings for a SCSI device, you must know its SCSI ID (see *Using SCSI Disk Utilities* on page 19).

- **Initiate Sync Negotiation**—When set to **Enabled**, initiates synchronous data transfer negotiation (Sync Negotiation) between the device and SCSI card. Leave this setting enabled unless any attached SCSI device connected to the SCSI card does not support synchronous negotiation.

- **Maximum Sync Transfer Rate**—Determines the maximum synchronous data transfer rate the SCSI card supports. The default value is *10.0 MBytes/sec.*

- **Enable Disconnection**—When set to Yes, allows the SCSI device to disconnect from the SCSI bus. Leave the setting at Yes if two or more SCSI devices are connected to the SCSI card. If only one SCSI device is connected, changing the setting to **No** results in slightly better performance.

Advanced Configuration Options

> **Note:** Do not change the Advanced Configuration Options unless absolutely necessary.

- **Plug-and-Play SCAM Support**—When set to **Enabled**, the SCSI card automatically assigns SCSI IDs to SCSI devices that support the SCAM protocol (see *SCSI IDs* on page 2). The default is *Disabled,* but you can set it to **Enabled** even if you have a non-SCAM device.

Using SCSI Disk Utilities

To access the SCSI disk utilities, follow these steps:

1 Select the **SCSI Disk Utilities** option from the menu that appears after starting SCSI*Select.* SCSI*Select* scans the SCSI bus to determine the devices installed and displays a list of all SCSI IDs and the devices assigned to each ID.

2 Use the ↑ and ↓ keys to move the cursor to a specific ID and device, then press **Enter**.

3 A small menu appears, displaying the options Format Disk and Verify Disk Media.

- **Format Disk**—Allows you to perform a low-level format on a hard disk drive. *Most SCSI disk drives are preformatted at the factory and do not need to be formatted again.* Each hard disk drive must be low-level formatted before you can use your operating system's partitioning and file preparation utilities, such as MS-DOS Fdisk and Format.

  Caution: A low-level format destroys all data on the drive. Be sure to back up your data before performing this operation. You *cannot* abort a low-level format once it is started. Therefore, do not turn power OFF to abort this operation.

- **Verify Disk Media**—Allows you to scan the media of a hard disk drive for defects. If the utility finds bad blocks on the media, it prompts you to reassign them; if you select yes, those blocks are longer used. You can press **Esc** at any time to abort the utility.

Obtaining SCSI Cables

High-quality cables are required in high-performance SCSI systems to ensure data integrity. Adaptec provides the highest quality SCSI cables designed specifically for use with Adaptec SCSI cards. For purchasing information, see page *24*.
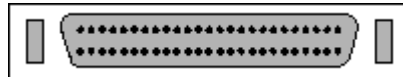
External Cables

Description	Retail Cable Number
DB25-pin to DB25-pin Cable (3 ft)	100
DB25-pin to High-density 50-pin Cable (3 ft)	200

External Connector Diagrams

The following diagram shows a DB25-pin connector:
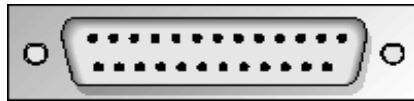
The following diagram shows a High-density 50-pin connector:

Internal Cable

Description	Retail Cable Number
5 position (4 devices and SCSI card) standard 50-pin connectors (1.5 m)	1100

Internal Connector Diagrams

The following diagram shows a Standard 50-pin internal connector:

Maximum Cable Lengths

The total length of cabling (internal and external) on the SCSI bus may not exceed the maximum lengths listed in the following table.

Maximum Cable Length	Data Transfer Rate	Maximum Devices Supported[1]
3 m (9.8 ft)	Fast SCSI (10 MBytes/sec)	8
6 m (19.7 ft)	5 MByte/sec (asynchronous or synchronous)	8

[1] Includes the SCSI card.

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Contacting Adaptec

If you have questions about installing or using your Adaptec product, check this *User's Reference* first—you will find answers to most of your questions here. If you need further assistance, please contact us. We offer the following support and information services:

Electronic Support

Technical information, including product literature, answers to commonly asked questions, information on software upgrades and other topics is available electronically through the following:

- Adaptec World Wide Web (WWW) site at http://www.adaptec.com.

- File Transfer Protocol (FTP) server at ftp.adaptec.com.

- Adaptec USA Bulletin Board Service (BBS); supports up to 28,800 bps (bits per second), 8 data bits, 1 stop bit, no parity. No product literature is available on the Adaptec BBS.

  USA: (408) 945-7727

  Belgium: (32) 2-352-3454

  Germany: (49) 89-45640618

  France: (33) 1-30609539

  UK: (44) 1276-684184

- Interactive Fax System available 24 hours a day, 7 days a week.

  USA: (408) 957-7150

  Europe: (32) 2-352-3869

Technical and Product Support

- For technical support and information about many of Adaptec's electronic support services, call 800-959-7274 or 408-945-2550, 24 hours a day, 7 days a week.

- To use the Adaptec Interactive Support System, call 800-959-7274 or 408-945-2550, 24 hours a day, 7 days a week. The system prompts you with questions regarding your problem and then provides step-by-step troubleshooting instructions.

- To speak with a product support representative, call 408-934-7274, M–F, 6:00 A.M. to 5:00 P.M., Pacific Time. After hours, on weekends, and on holidays, product support is also available for a fee at 800-416-8066.

- To speak with a product support representative in Europe call:
  French: (32) 2-352-3460
  English: (32) 2-352-3470
  German: (32) 2-352-3480

Sales and Ordering Information

- For sales information, call 800-959-7274 or 408-945-2550, M–F, 6:00 A.M. to 5:00 P.M., Pacific Time.

- To order Adaptec software and SCSI cables, call 800-442-7274 or 408-957-7274, M–F, 6:00 A.M. to 5:00 P.M., Pacific Time.

- To request additional documentation for Adaptec products, call 800-934-2766 or 510-732-3829, M–F, 6:00 A.M. to 5:00 P.M., Pacific Time.

- For sales information in Europe call:
  France: (33) 1-34-523434
  Germany: (49) 89-4564060
  UK: (44) 1276-854500

**Federal Communications Commission Radio Frequency Interference Statement**

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.

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

• Reorient or relocate the receiving antenna.

• Increase the separation between equipment and receiver.
• Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.

• Consult the dealer or an experienced radio/television technician for help.

Use a shielded and properly grounded I/O cable and power cable to ensure compliance of this unit to the specified limits of the rules.

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

Adaptec, Inc.	AVA-2906
FC	Tested To Comply With FCC Standards
FOR HOME OR OFFICE USE	
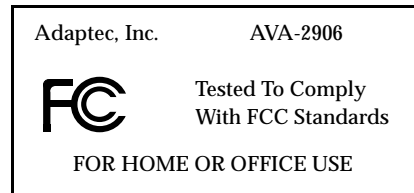
Canadian Compliance Statement

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

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