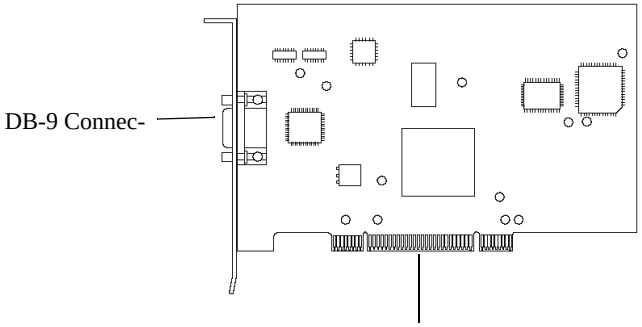
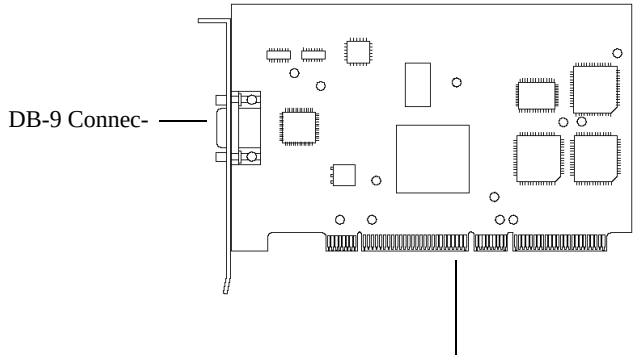
Introduction

This installation guide explains how to install and use your AHA-F940 and AHA-F950 Fibre Channel host adapters. The AHA-F940 is a 32-bit PCI-to-Fibre Channel adapter; and the AHA-F950 is a 64-bit PCI-to-Fibre Channel adapter. In this installation guide, the two adapters are collectively referred to as the AHA-F940/F950.

AHA-F940



AHA-F950



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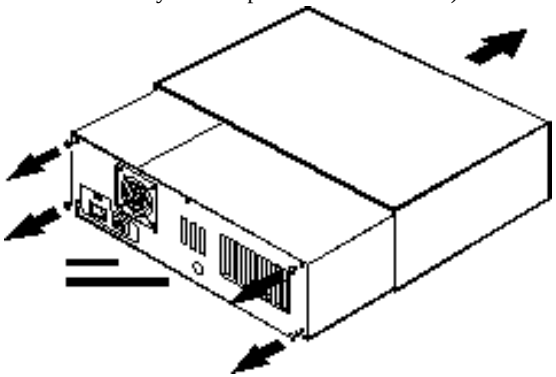
Installation and Setup

Installing the Adapter

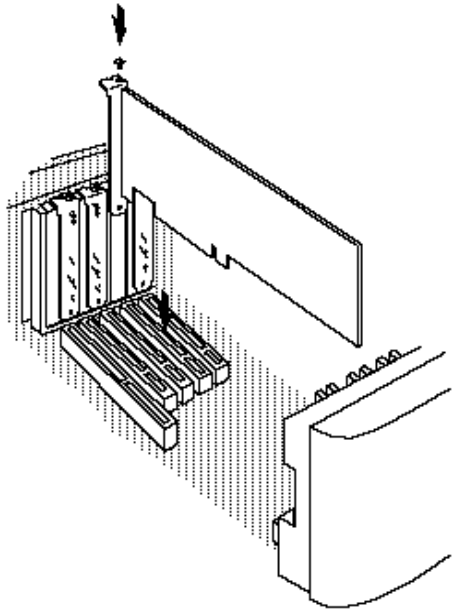
WARNING: Turn OFF power to the computer and disconnect the power cord.

1 Remove the cover from the computer case. (refer to the instructions in your computer documentation.)



2 If you are installing the AHA-F940, locate an unused 32-bit PCI expansion slot; if you are installing the AHA-F950, locate an unused 64-bit PCI expansion slot. PCI slots are typically white or ivory. Unscrew and remove the expansion slot bracket that covers the card-slot opening.

3 Insert the host adapter in the slot; press it down firmly so that the bus contacts are securely seated in the slot. Secure the host adapter bracket with the screw you removed in Step 2.



4 Replace your computer cover and connect all power cables; turn on your computer.

If your CMOS setup requires you to enable PCI bus parameters, do so now. Refer to your computer's documentation and also *Troubleshooting Checklist* on page 4.

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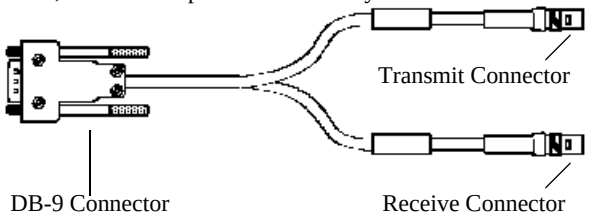
Connecting Cables

To connect devices to the AHA-F940/F950, obtain the appropriate cables, as described below. (See also *Fibre Channel Topologies* on page 4 for typical configurations.)

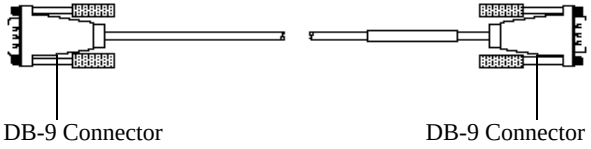
DB-9 Copper Interface Connector

You can use one of two types of cables to connect to the DB-9 copper interface connector on the AHA-F940/F950.

- *Intra-cabinet* cables are used to route signals within a cabinet, such as backplanes or disk arrays.

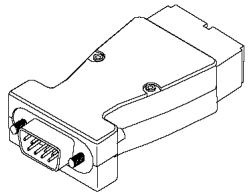


- *Inter-cabinet* cables are for point-to-point and fabric (cross-point switch) topologies.



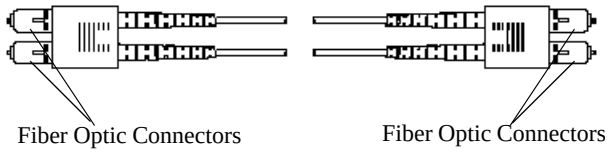
Media Interface Adapter (MIA)

An MIA can be installed at the DB-9 connector on the adapter to convert copper electrical signals into optical signals to allow for data transfer over extended distances.



Media Interface Adapter (MIA)

The cable used to connect to the MIA consists of two small joined strands with a pair of standard Duplex SC fiber optic connectors at each end.



Installing Drivers

AIC-1160 Drivers must be installed to your system. Refer to the instructions for your operating system in the Adaptec 1160 Family Management Set User's Guide to correctly install drivers. The 1160 Family Manager Set works with the following operating systems:

- Novell NetWare
- Sun Solaris
- Microsoft Windows NT
- SCO UnixWare

Congratulations! Installation of your host adapter is complete. For helpful information on using your host adapter, refer to *Using Your Fibre Channel Adapter*.

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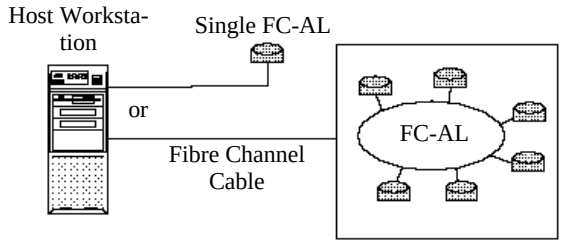
Using Your Fibre Channel Adapter

Fibre Channel Topologies

Fibre Channel-Arbitrated Loop

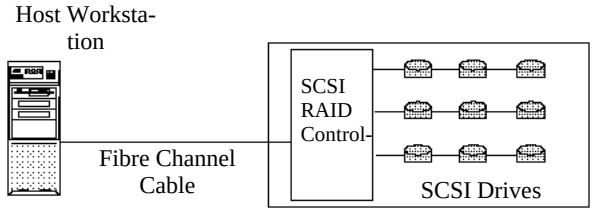
The Fibre Channel-Arbitrated Loop (FC-AL) topology allows you to attach up to 127 nodes without hubs and switches. FC-AL is a time-shared, full-bandwidth, distributed topology where each port includes the minimum necessary connection function. Workstations or servers can be connected to a single disk or a disk loop with either optical fibre or copper media depending on the distance requirement. The following figure shows an example of this configuration.



Note: Disk drives connected in this configuration must have an FC-AL interface.

Point-to-Point

The Point-to-Point topology uses Fibre Channel, without the loop overhead, to increase performance and simplify cabling between a RAID storage box and a host or multiple hosts. The following figure shows an example of this configuration.



Troubleshooting Checklist

If you have problems using your host adapter, check these items first.

- Are all devices powered?
- Are all cables properly connected?
- Is the host adapter firmly seated and secured in the PCI bus slot?
- Does your system CMOS setup require you to enable PCI bus parameters? If so, refer to your computer's documentation for instructions. Check that IRQ channel assignment, board, and BIOS settings have been made.
- Some configuration options apply to a specific PCI bus slot, so if you change these options be sure you are applying them to the slot in which the host adapter is installed.

  Check your computer documentation to verify which slot corresponds to which number.

  - If there is an interrupt type or interrupt line option in the setup program, be sure to select **Int-A** or **Interrupt Type = A**. Depending on your system design, you may also be required to change a motherboard jumper setting.
  - If there is a triggering interrupt option, be sure to select **Level**.
  - If there is an option to enable or disable bus mastering for the PCI slots, be sure to select **Enabled**.
  - If there is an option to enable or disable individual PCI slots, be sure the slot in which you install the host adapter 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 system BIOS will not try to assign these IRQs to other PCI boards.
  - In some systems the BIOS reserves a set of available IRQs for PCI boards, and you have to assign these IRQs manually.

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FCC Compliance 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 residential installations. 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. 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 the 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/TV technician for a 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. AHA-F940/F950

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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Installation Guide

AHA-F940/F950

PCI-to-Fibre Channel Host Adapter

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