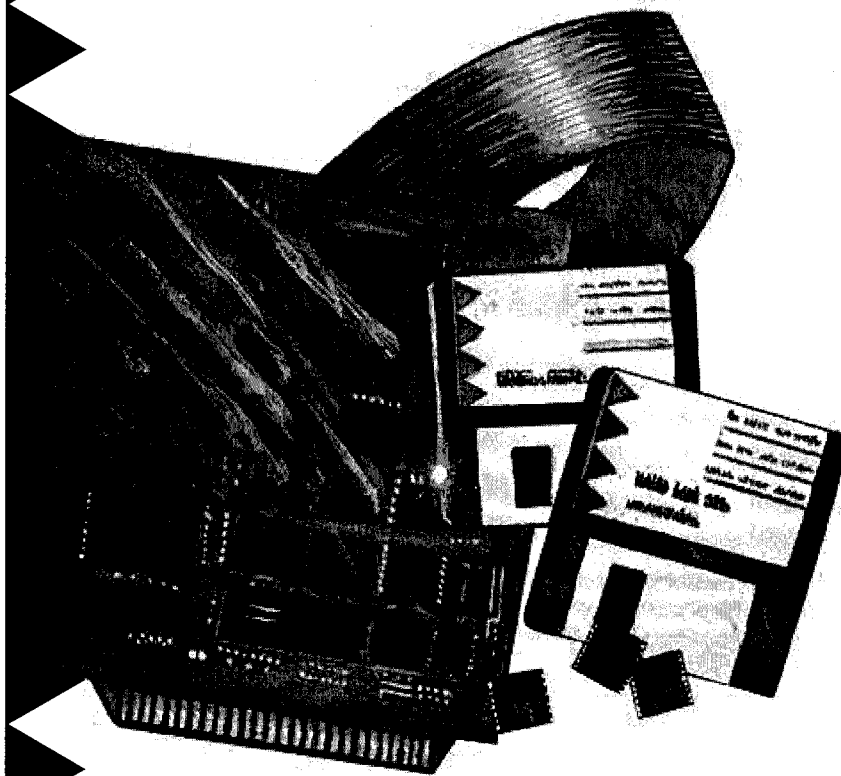


# Installation Guide



## APA-358 MiniSCSI EPP

Enhanced Parallel-to-SCSI Host Adapter

CISCO et al. v. CROSSROADS  
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## 1 Overview

This *Installation Guide* explains how to physically install and configure Adaptec APA-358 MiniSCSI™ EPP Enhanced Parallel-to-SCSI host adapters. Your adapter has been designed to provide simple, flexible control of most SCSI devices. The adapter's ultra high-speed operation enables it to be fully compatible with enhanced parallel ports (EPP), offering excellent performance while remaining compatible with bidirectional and unidirectional ports found on many older computer systems. Both SCSI and parallel printer interfaces may be operated simultaneously, with no performance degradation.

### Hardware Requirements

The MiniSCSI EPP is designed to be as universally usable as possible, but there are five primary hardware compatibility requirements:

- The parallel port must be *standard*—i.e., have a fully IBM®-compatible hardware design, including all ground lines. For highest performance, the computer's parallel port must be EPP compliant.
- The SCSI device chain must be properly terminated as per ANSI SCSI specifications.
- The SCSI device(s) connected to the MiniSCSI EPP must have the standard ANSI SCSI-specification TERMPOWER implemented, since the adapter draws its power from this line. See your dealer for details.
- IBM or compatible AT®, PS/2®, or similar computer.
- A 100% IBM-compatible BIOS. Operation with an incompatible BIOS may be possible but is not guaranteed.

### Checklist

You should have received the following items in your MiniSCSI EPP package:

- APA-358 MiniSCSI EPP host adapter
- 3.5-inch, 1.44-MBytes software diskettes

- *APA-358 MiniSCSI EPP Installation Guide*
- *Software User Guide*
- Product Registration card
- Microsoft® MSCDEX Registration card

If anything is missing, please contact your dealer.

## **2** What is EPP?

This section gives you a brief overview of the Enhanced Parallel Port (EPP) design and how the adapter functions to incorporate the increased performance of EPP.

EPP is a major breakthrough in enhancing parallel port performance. Current parallel ports achieve data transfer rates of between 50 and 260 KBytes/sec, but the EPP reaches up to 1 MBytes/sec.

How is this achieved? Current device drivers for parallel port peripherals require several instructions to be executed for each byte of data transferred. With EPP, each byte requires a single I/O instruction, substantially reducing overhead per byte. These features, plus improved hardware design, significantly improve the performance of parallel-connected peripherals.

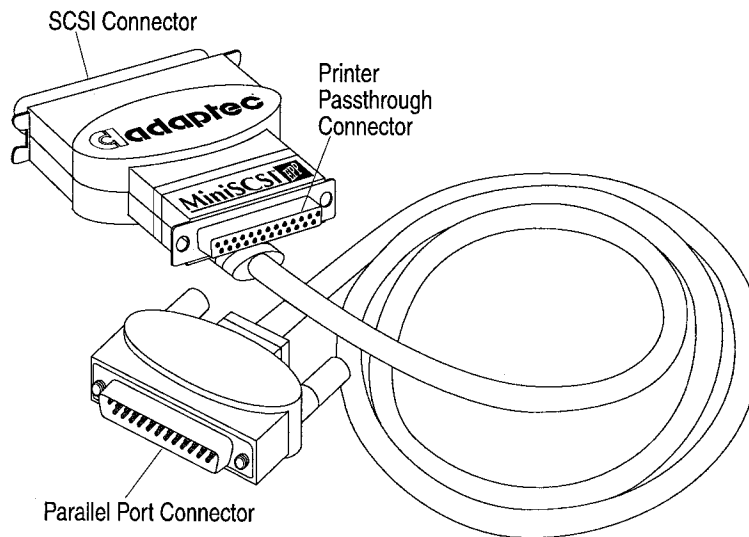
There is no need to specify whether an EPP device is being connected—faster EPP transmission rates are automatic. When *not* running in EPP mode, the port operates at standard parallel rates, providing compatibility between EPP and non-EPP parallel ports and peripherals.

With the new MiniSCSI EPP, you can take advantage of this new EPP technology and achieve the best performance for your peripherals. The adapter provides easy connection of peripherals and is roughly as fast as a conventional 8-bit ISA-bus SCSI adapter.

The MiniSCSI EPP is also backward compatible with non-EPP unidirectional and bidirectional parallel ports. Simply connect the adapter to your parallel port, and it detects which port you have.

### 3 Host Adapter Layout

This diagram shows the APA-358 components.



### 4 Default Settings

The MiniSCSi EPP operates correctly with its factory default settings in most PCs. The default settings are

Parameter	Default Setting
Host Adapter SCSI ID	7
Host Adapter Termination	Enabled
Port Address	378h (Options: 278h, 3BCh <sup>1</sup> )
Speed Selection	Fastest possible for EPP <sup>2</sup>
Extended Translation for Drives Over 1 GByte	Automatic (Enabled)

<sup>1</sup> The 3BCh setting can only be used for bidirectional and unidirectional configurations; it is not applicable for EPP.

<sup>2</sup> Use the /M switch to lower the transfer rate as required for certain parallel ports. See *The MiniSCSI EPP Does Not Function* on page 7 and the *Software User Guide* for more details on the /M options.

### 5 Installation

Hardware installation involves plugging the MiniSCSI EPP into a parallel printer port and connecting it to the applicable SCSI device(s). Follow the steps carefully in each subsection below to correctly install the MiniSCSI EPP.

## Connecting the MiniSCSI EPP



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**WARNING:** Turn OFF the computer, printer, and SCSI devices when connecting or disconnecting the MiniSCSI EPP. This protects against damage to any components.

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Connect the MiniSCSI EPP parallel port connector to a parallel printer port on your computer. You may use either LPT1, LPT2 or LPT3—the MiniSCSI EPP drivers automatically detect which port is in use.

If your parallel printer port has a copy-protection device (commonly known as a *dongle*) or other non-printer product connected to it, you should remove the device from your printer port and connect it to the printer passthrough connector on the MiniSCSI EPP. If this arrangement causes any problems, either the *dongle* or the MiniSCSI EPP must be relocated to a different parallel port.

## Connecting SCSI Peripherals

- 1 Connect the first SCSI device to the SCSI connector on the MiniSCSI EPP.
- 2 Connect other SCSI devices (up to seven total) by daisy-chaining them to the first SCSI device.

SCSI devices are daisy-chained by connecting cables in a single, continuous series called the *SCSI bus*. SCSI bus cables must run directly from one device to the next, with no branches. The SCSI connector on the MiniSCSI EPP is a 50-pin Centronics-type external connector.



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**Caution:** The MiniSCSI EPP supports only *single-ended SCSI* devices. *Do not* connect *differential SCSI* devices to it. Read the device's documentation to determine whether it is single-ended or differential.

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