HP AT134A/SC11Xe Host Bus Adapter Installation Guide

Abstract

This document contains specific information that is intended for users of this HP product.

Contents

1 Features

Connectors on the adapter board
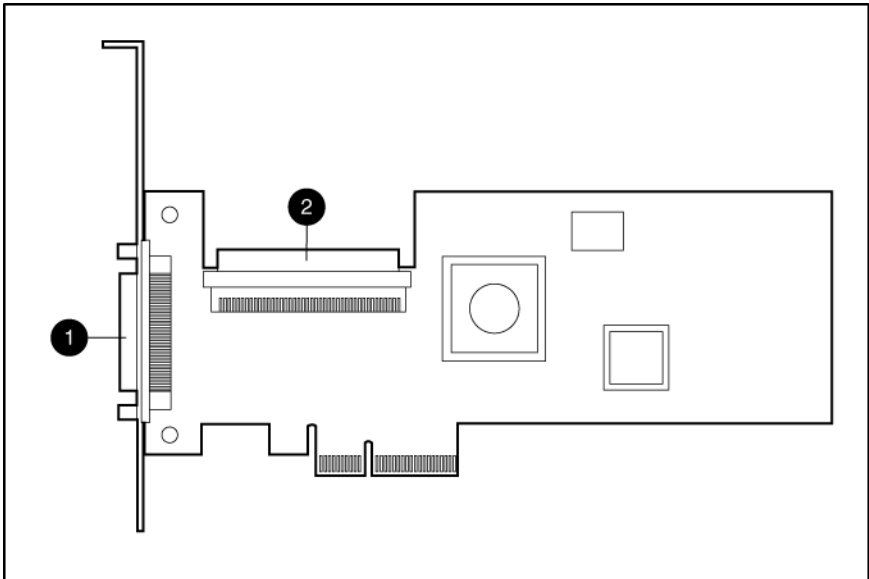
Item	Description
1	External VHDCI connector
2	Internal 68-pin Wide SCSI connector

Do not operate the adapter with devices connected to both connectors. Doing so causes the adapter to malfunction and might prevent the server from booting.

Summary of specifications

Feature	Details
Card type	Low-profile PCI Express
Slot connector	PCIe x4
Devices supported	Tape drives only
Device modes supported	LVD and SE
Number of peripherals that can be connected	15
Number of SCSI buses	1 (can be used for internal or external devices, but not for both types simultaneously)
SCSI modes supported	Ultra320, Ultra160, andUltra2
SCSI data transfer rate	Up to 320 MB/s

For more information about the adapter features, specifications, and compatibility, see the QuickSpecs on the product-specific page of the HP website:

http://www.hp.com

2 Installation procedure

Installation overview

⚠️ **WARNING!** To reduce the risk of personal injury or damage to the equipment, consult the safety information and user documentation provided with the server before attempting the installation.

WARNING! Many servers are capable of providing energy levels that are considered hazardous and are intended to be serviced only by qualified personnel who have been trained to deal with these hazards. Do not remove enclosures or attempt to bypass any interlocks that may be provided for the purpose of removing these hazardous conditions.

WARNING! To reduce the risk of personal injury or damage to the equipment, adequately stabilize the rack before extending a component outside the rack. Extend only one component at a time. A rack may become unstable if more than one component is extended.

The installation procedure involves the following steps:

Preparing the server

1. Update the server ROM. The update file is available on the HP website
   a. Go to the Contact HP United States webpage:

      http:// welcome. hp.com/country/us/en/contact_us.htm

   b. Select **Support and Driver downloads**.
   c. Select **Drivers and Software**.
   d. Enter a product name/number, and click **Search**.
   e. Click your server from the list of options.
   f. Click your operating system to retrieve an index of all available: drivers, system management applications, BIOS, firmware, software, and utilities.
   g. Flash server ROM by following the component installation instructions.
2. Back up all data.
3. Perform a normal system shutdown.
4. Power down the server.
5. Power down all peripheral devices that are connected to the server.
6. Unplug the AC power cord from the power outlet.
7. Unplug the power cord from the server.
8. Disconnect all peripheral devices from the server.

Installing the adapter hardware

⚠️ **CAUTION:** Electrostatic discharge can damage electronic components. Be sure you are properly grounded before beginning this procedure. For more information, see "Electrostatic discharge" (page 8).

1. Depending on the server model, remove or open the server access panel.

⚠️ **WARNING!** To reduce the risk of personal injury from hot surfaces, allow the drives and the internal system components to cool before touching them.

2. Locate the PCIe bus expansion slots, and select the slot that you want to use. (For more information, see the server documentation.)
3. Depending on the server model, remove the retaining screw or open the expansion slot latch that secures the PCIe slot.
4. Remove the slot cover and save it. You will need to put it back if you decide to remove the adapter and leave the slot empty.
5. Insert the adapter into the slot, and press it firmly into place. The contacts on the adapter edge must be fully seated in the system board connector.
6. Depending on the server model, secure the adapter by replacing the retaining screw or by closing the slot latch.

Connecting the adapter

This adapter supports only SCSI tape devices. You can connect up to 15 devices to this adapter through its one SCSI bus. However, you must use only one of the connectors (internal or external) at a time. The adapter will not function if both connectors are connected to devices.

- To connect external storage see "Connecting the adapter to external storage" (page 7)
- To replace the integrated SCSI controller see "Replacing the integrated SCSI controller" (page 7)
- To connect an internal tape drive see "Connecting an internal tape drive" (page 7)

SCSI IDs and SCSI bus termination

Each device on a SCSI bus must have a unique SCSI ID ranging from 6 to 0 or from 15 to 8. The ID value of 7 is reserved for the adapter, which has the highest priority. A device with an ID of 6 has high priority for accessing the SCSI bus, while a device with an ID of 8 has low priority. These IDs are automatically set on HP products that support hot-plug devices. In other situations, you must manually set the IDs by using switches or jumpers located on the device.

If you must manually set the IDs and you need to connect low- and high-throughput devices to the same bus, maximize bus performance by assigning higher SCSI priority to the low-throughput devices. This configuration enables the low-throughput devices to have access to the bus.

Both ends of a SCSI bus must be terminated to prevent signal degradation. Some devices (for example, this adapter) automatically provide termination at one end when they are connected to the bus. The situation for other devices is as follows:

- Non-hot-plug internal Ultra320, Ultra160, and Ultra2 tape drives require multimode or LVD-only termination on the ribbon cable.
- Hot-plug drives do not require termination on the ribbon cable because terminators are included on the drive backplane.
- Some HP tape storage systems provide termination. To determine whether a particular storage system provides termination, see the storage system documentation.

SCSI cables

SCSI cables are provided with most HP server products that need them. The following table lists some external cables that you can use with this adapter. For internal connections, the adapter uses a standard ribbon cable. All HP cables are keyed so that they cannot be installed incorrectly.

Description	Part number
1.8-m (6-ft) VHDCI-to-VHDCI external	341174-B21
3.7-m (12-ft) VHDCI-to-VHDCI external	341175-B21

Description	Part number
1.8-m (6-ft) VHDCI-to-Wide SCSI external	341176-B21
3.7-m (12-ft) VHDCI-to-Wide SCSI external	341177-B21

You can order extra cables from an authorized HP reseller or authorized HP service provider. For ordering information and locations of the authorized HP resellers, see the HP website:

http://www.hp.com

Connecting the adapter to external storage

1. Plug the appropriate end of the cable into the correct connector on the external storage system. If you are in doubt about which connector to use, see the storage system documentation.
2. Tighten the thumbscrews on the cable connector.
3. Plug the VHDCI end of the cable into the external connector on the adapter.
4. Tighten the thumbscrews on the cable connector.

Replacing the integrated SCSI controller

1. Locate the SCSI cable that connects the integrated SCSI controller to the system board.
2. Unplug the cable at the controller terminus.
3. Plug this end of the controller cable into the internal connector of the adapter.

   NOTE: In some server models, you might need to secure the cable by clipping it to another component in the server. For more information, see the server documentation.

4. Connect the controller to other SCSI devices or to a terminated ribbon cable.

Connecting an internal tape drive

1. If the tape drive is not already installed in the server, install it. For server-specific installation instructions, see the server documentation.
2. Plug either end of the internal cable into the internal connector of the adapter. If using an LVD tape drive, use an LVD-compatible internal cable.
3. Route the cable according to the instructions in the server documentation.
4. Plug the other end of the cable into the tape drive.

Completing the installation procedure

1. Verify that all cables are routed correctly and are not restricting other components or being pinched by them. For the correct cable routing, see the server documentation.
2. Connect peripheral devices to the server.
3. Plug the AC power cord into the server.
4. Plug the other end of the power cord into a grounded AC outlet.
5. Power on any peripheral devices attached to the server.
6. Power up the server.
7. Install the adapter drivers. The drivers are available on the CD in the adapter kit or the HP website:

   http://www.hp.com

   Instructions are provided with the driver files.

3 Electrostatic discharge

Preventing electrostatic discharge

To prevent damaging the system, be aware of the precautions you need to follow when setting up the system or handling parts. A discharge of static electricity from a finger or other conductor may damage system boards or other static-sensitive devices. This type of damage may reduce the life expectancy of the device.

To prevent electrostatic damage:

- Avoid hand contact by transporting and storing products in static-safe containers.
- Keep electrostatic-sensitive parts in their containers until they arrive at static-free workstations.
- Place parts on a grounded surface before removing them from their containers.
- Avoid touching pins, leads, or circuitry.
- Always be properly grounded when touching a static-sensitive component or assembly.

Grounding methods to prevent electrostatic discharge

Several methods are used for grounding. Use one or more of the following methods when handling or installing electrostatic-sensitive parts:

- Use a wrist strap connected by a ground cord to a grounded workstation or computer chassis. Wrist straps are flexible straps with a minimum of 1 megohm ±10 percent resistance in the ground cords. To provide proper ground, wear the strap snug against the skin.
- Use heel straps, toe straps, or boot straps at standing workstations. Wear the straps on both feet when standing on conductive floors or dissipating floor mats.
- Use conductive field service tools.
- Use a portable field service kit with a folding static-dissipating work mat.

If you do not have any of the suggested equipment for proper grounding, have an authorized reseller install the part.

For more information on static electricity or assistance with product installation, contact an authorized reseller.

4 Regulatory compliance notices

Federal Communications Commission notice

Part 15 of the Federal Communications Commission (FCC) Rules and Regulations has established Radio Frequency (RF) emission limits to provide an interference-free radio frequency spectrum. Many electronic devices, including computers, generate RF energy incidental to their intended function and are, therefore, covered by these rules. These rules place computers and related peripheral devices into two classes, A and B, depending upon their intended installation. Class A devices are those that may reasonably be expected to be installed in a business or commercial environment. Class B devices are those that may reasonably be expected to be installed in a residential environment (for example, personal computers). The FCC requires devices in both classes to bear a label indicating the interference potential of the device as well as additional operating instructions for the user.

FCC rating label

The FCC rating label on the device shows the classification (A or B) of the equipment. Class B devices have an FCC logo or ID on the label. Class A devices do not have an FCC logo or ID on the label. After you determine the class of the device, refer to the corresponding statement.

Class A equipment

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 instructions, 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 personal expense.

Class B 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 instructions, 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 harmful interference to radio or television 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 into an outlet on a circuit that is different from that to which the receiver is connected.
- Consult the dealer or an experienced radio or television technician for help.

Declaration of conformity for products marked with the FCC logo, United States only

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.

For questions regarding this product, contact us by mail or telephone:

- Hewlett-Packard Company

  P. O. Box 692000, Mail Stop 530113

  Houston, Texas 77269-2000

- 1-800-HP-INVENT (1-800-474-6836). (For continuous quality improvement, calls may be recorded or monitored.)

For questions regarding this FCC declaration, contact us by mail or telephone:

- Hewlett-Packard Company

  P. O. Box 692000, Mail Stop 510101

  Houston, Texas 77269-2000

- 1281- 514-3333

To identify this product, refer to the part, series, or model number found on the product.

Modifications

The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by Hewlett-Packard Company may void the user's authority to operate the equipment.

Cables

Connections to this device must be made with shielded cables with metallic RFI/EMI connector hoods in order to maintain compliance with FCC Rules and Regulations.

Canadian notice (Avis Canadien)

Class A equipment

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

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

Class B equipment

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.

European Union regulatory notice

Products bearing the CE marking comply with the following EU Directives:

- Low Voltage Directive 2006/95/EC

- EMC Directive 2004/108/EC

- Ecodesign Directive 2009/125/EC, where applicable

CE compliance of this product is valid if powered with the correct CE-marked AC adapter provided by HP.

Compliance with these directives implies conformity to applicable harmonized European standards (European Norms) that are listed in the EU Declaration of Conformity issued by HP for this product or product family and available (in English only) either within the product documentation or at the following HP website (type the product number in the search field).

The compliance is indicated by one of the following conformity markings placed on the product:

For non-telecommunications products and for EU harmonized telecommunications products, such as Bluetooth® within power class below 10mW.

$$CE$$

For EU non-harmonized telecommunications products (If applicable, a 4-digit notified body number is inserted between CE and !).

$$CE \ (!)$$

Please refer to the regulatory label provided on the product.

The point of contact for regulatory matters is Hewlett-Packard GmbH, Dept./MS: HQ-TRE, Herrenberger Strasse 140, 71034 Boeblingen, GERMANY.

BSMI notice

警告使用者:

這是甲類的資訊產品，在居住的
環境中使用時，可能會造成射頻
干擾，在這種情況下，使用者會
被要求採取某些適當的對策。

Japanese notice

ご使用になっている装置に VCCI マークが付いていましたら、次の説明文を
お読み下さい。

この装置は、クラス B 情報技術装置です。この装置は、家庭環境で使用するこ
とを目的としていますが、この装置がラジオやテレビジョン受信機に近接して
使用されると、受信障害を引き起こすことがあります。取扱説明書に従って
正しい取り扱いをして下さい。

VCCI-B

VCCI マークが付いていない場合には、次の点にご注意下さい。

この装置は、クラス A 情報技術装置です。この装置を家庭環境で使用すると電
波妨害を引き起こすことがあります。この場合には使用者は適切な対策を講ず
るよう要求されることがあります。

VCCI-A

Korean notice

Class A equipment

A급 기기 (업무용 방송통신기기)	이 기기는 업무용(A급)으로 전자파적합등록을 한 기기이오니 판매자 또는 사용자는 이 점을 주의하시기 바라며, 가정 외의 지역에서 사용하는 것을 목적으로 합니다.

Class B equipment

B급 기기 (가정용 방송통신기기)	이 기기는 가정용(B급)으로 전자파적합등록을 한 기기로서 주로 가정에서 사용하는 것을 목적으로 하며, 모든 지역에서 사용할 수 있습니다.