

128-Port Asynchronous PCI Adapter Installation and User's Guide

Note

Before using this information and the product it supports, be sure to read the general information under "Product Warranties and Notices" included with your system unit.

Fourth Edition (October 1998)

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Safety Information

DANGER

An electrical outlet that is not correctly wired could place hazardous voltage on metal parts of the system or the devices that attach to the system. It is the responsibility of the customer to ensure that the outlet is correctly wired and grounded to prevent an electrical shock.

Before installing or removing signal cables, ensure that the power cables for the system unit and all attached devices are unplugged.

When adding or removing any additional devices to or from the system, ensure that the power cables for those devices are unplugged before the signal cables are connected. If possible, disconnect all power cables from the existing system before you add a device.

Use one hand, when possible, to connect or disconnect signal cables to prevent a possible shock from touching two surfaces with different electrical potentials.

During an electrical storm, do not connect cables for display stations, printers, telephones, or station protectors for communication lines.

Handling Static Sensitive Devices

Attention: Static electricity can damage this device and your system unit. To avoid damage, keep this device in its static protective bag until you are ready to install it. To reduce the possibility of electrostatic discharge, follow the precautions listed below:

- Limit your movement. Movement can cause static electricity to build up around you.
- Handle the device carefully, holding it by its edges or its frame.
- Do not touch solder joints, pins, or exposed printed circuitry.
- Do not leave the device where others can handle and possibly damage the device.
- While the device is still in its anti-static package, touch it to an unpainted metal part of the system unit for at least two seconds. (This drains static electricity from the package and from your body.)
- Remove the device from its package and install it directly into your system unit without setting it down. If it is necessary to set the device down, place it on its static-protective package. (If your device is an adapter, place it component-side up.) Do not place the device on your system unit cover or on a metal table.
- Take additional care when handling devices during cold weather, as heating reduces indoor humidity and increases static electricity.

About This Book

Use this book with your system unit documentation to install the 128-Port Asynchronous PCI Adapter. Included are device driver install, configure, and verify instructions.

ISO 9000

ISO 9000 registered quality systems were used in the development and manufacturing of this product.

Related Publications

This book refers to the following publications:

- Your system unit User's Guide
- *AIX Version 3.2 and 4 Asynchronous Communications Guide*, order number SC23-2488

Trademarks

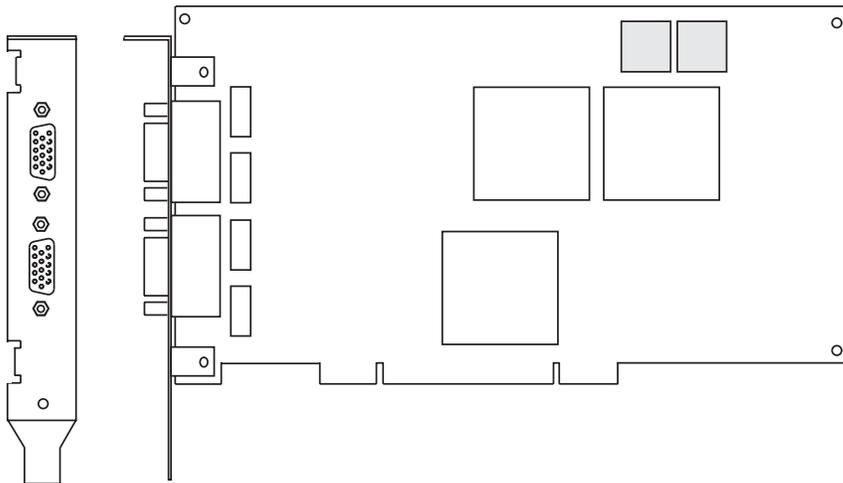
AIX is a registered trademark of International Business Machines Corporation.

Chapter 1. Overview

When used with one or more optional Remote Asynchronous Nodes (RANs), the 128-Port Asynchronous PCI Adapter supports attachment of a maximum of 128 EIA-232 or RS-422 asynchronous serial devices such as terminals, modems, and printers to a system unit.

Adapter features:

- Connects to the remote async node using (4 or 8 wire) direct cabling or via synnetronous modems
- Attaches up to eight remote async nodes
- Includes two 15-pin female high density D-shell connectors
- Has 1MB memory
- Includes controller line terminators (required for operation)
- Includes async wrap plug (supplied for diagnostics)



Software Requirements

The 128-Port Asynchronous PCI Adapter is supported on AIX Version 4.1.5 and 4.2.1 (with optional media containing device driver) or on later versions. Please insure this device is supported on your operating system prior to installation. Contact your support representative for assistance.

Chapter 2. Preparing for Installation

This section helps you prepare to install your 128-Port Asynchronous PCI Adapter.

The process includes:

- Taking an inventory of your installation materials
- Determining your cable needs
- Installing your device driver software
- Installing your adapter

Note: If AIX is not installed on your system unit, install your adapter before you install the operating system (refer to Chapter 4, “Installing Hardware” on page 4-1). When you install AIX, your device driver software automatically installs.

If AIX is operating on your system, install your device driver software prior to installing your adapter (refer to Chapter 3, “Installing Device Driver Software” on page 3-1).

Inventory

To install the 128-Port Asynchronous PCI Adapter, you need:

- The adapter
- Two terminators
- RJ-45 10-pin wrap plug
- The system unit User's Guide
- A flat-blade screwdriver
- (Optional) media containing device driver

Determining Cable Needs

For more information about cables and cabling, refer to your system unit User's Guide and the *AIX Version 3.2 and 4 Asynchronous Communications Guide*.

Chapter 3. Installing Device Driver Software

This section explains how to install device driver software.

AIX Device Driver Software Installation

1. Be sure you have read Chapter 2, "Preparing for Installation" on page 2-1.
 - Determine if you should install your device driver software first or if you should install your adapter hardware first.
 - If you should install your device driver software first, go to step 2 and continue with this section.
 - If you should install your hardware first, go to Chapter 4, "Installing Hardware" on page 4-1. When you install AIX, your adapter device driver automatically installs.
2. Turn the system unit power on.
3. Log in as **root**.
4. Insert the media containing the device driver software (example: CD-ROM) into the appropriate media device.
5. Type the following
smitty devinst
and press Enter.
6. The Install Additional Device Software screen highlights the "**INPUT device/directory for software**" option.
7. Select or type *your input device*:
 - Press **F4** to display the input device list. Select the *name of the device* (example: CD-ROM) that you are using and press Enter.
-- or --
 - In the Entry Field, type the *name of the input device* you are using and press Enter.
8. The Install Additional Device Software window highlights the **SOFTWARE to install** option.
9. Press **F4** to display the SOFTWARE to install window.

10. Type the following to display the Find window:

/

11. Type the following

`devices.pci.4f111b00`

and press Enter. (The system finds and highlights this device driver software.)

12. Press **F7** to select the highlighted device driver software.

Screen appears. Example:

4.2.1.0 `devices.pci.4f111b00` ALL

13. Press Enter.

14. The Install Additional Device Software screen displays. Entry data fields are automatically updated. Press Enter to accept the data.

15. The ARE YOU SURE window displays. Press Enter to accept the data.

16. The **COMMAND STATUS** screen appears.

- The term **RUNNING** is highlighted to indicate that the install and configure command is in progress.
- When **RUNNING** changes to **OK**, scroll down to the bottom of the page and locate the Installation Summary.
- After a successful installation, **SUCCESS** appears in the Result column of the summary at the bottom of the page.

17. Remove the installation media from the drive.

18. Press **F10** to exit SMIT.

19. Refer to your system unit documentation to shutdown your system unit.

20. Go to adapter install procedure, Chapter 4, "Installing Hardware" on page 4-1.

Chapter 4. Installing Hardware

This section provides the guidance necessary to install a PCI adapter. Before you begin, be sure you have read “Handling Static Sensitive Devices” on page vii.

Attention: Do not remove the 128-Port Asynchronous PCI Adapter from its anti-static package at this time.

Installing the Adapter

1. Be sure you have read Chapter 2, “Preparing for Installation” on page 2-1.
 - Determine if you should install your adapter hardware first or if you should install your device driver software first.
 - If you should install your adapter hardware first, go to Step 2 and continue with this section.
 - If you should install your device driver software first, go to Chapter 3, “Installing Device Driver Software” on page 3-1 and return here to install your hardware.
2. Refer to the User's Guide that shipped with your system unit to perform the following and return to this document to continue.
 - Shutdown your system unit.
 - Install the PCI adapter in your system unit.

Note: You remove a slot plate/screw to install the adapter. Store the plate and use the screw to secure the endplate to the system unit chassis. The adapter endplate must be screwed to the system unit chassis to comply with Federal Communications Commission (FCC) rules, Part 15.
3. Refer to the *Asynchronous Communications Guide* to install the Remote Asynchronous Nodes (RANs).
4. Connect your external devices.
5. Turn on both your system unit and your display. Follow any instructions on the screen.

Verifying Adapter Available for Use

To verify that your newly installed 128-Port Asynchronous PCI Adapter is available for use, follow the steps below:

1. If necessary, turn your system unit power on.
2. Log in as **root**.
3. At the prompt, type

```
lsdev -Cc adapter | grep cpx
```

and press Enter.
4. A list of adapters displays. Verify that the 128-Port Asynchronous PCI Adapter is in Available mode. Example:

```
cpxa0 Available 04-04 IBM 128-Port Async (PCI) Adapter
```

Note: If the adapter is not available for use, go to “Problem Determination,” Step 2.

Problem Determination

Installation problems are often resolved using a few basic troubleshooting steps:

1. Verify that your adapter is **Available** for use. Go to “Verifying Adapter Available for Use” and return here.
2. Is your adapter on the list?
NO Go to “Verify Software Installation” on page 4-3.
YES Continue to Step 3.
3. Is your adapter in **Available** mode?
NO Go to “Check Cables and Adapter Seating.”
YES Your adapter is recognized by the system and is functioning properly. (Even though the system recognizes your adapter, it is possible to have a configuration problem. If the problem persists, call your support representative.)

Check Cables and Adapter Seating

1. Turn off the system and repeat the Chapter 4, “Installing Hardware” on page 4-1 instructions to make sure the adapter is seated properly and the cable is attached properly.
2. If problems persist, call your support representative.

Verify Software Installation

If you tried “Verifying Adapter Available for Use” on page 4-2 and your adapter was not in the list, it may be because the device driver for your operating system has not yet been installed or did not install successfully.

1. Login as **root**.

2. Type:

```
lslpp -l | grep devices.pci.4f111b00
```

and press Enter.

Example output follows:

Fileset	Level	Status	
devices.pci.4f111b00.asw	4.2.1.x	COMMITTED	PCI 128-Port Asynchronous
devices.pci.4f111b00.diag	4.2.1.x	COMMITTED	RISC PC PCI Async 128 Port
devices.pci.4f111b00.rte	4.2.1.x	COMMITTED	PCI 128-Port Asynchronous
devices.pci.4f111b00.rte	4.2.1.x	COMMITTED	PCI 128-Port Asynchronous

Did example type information appear?

NO Go to Step 5.

YES Continue to Step 3.

3. Are the filesets `devices.pci.4f111b00.rte` and `devices.pci.4f111b00.asw` installed at a level higher than 4.1.5.0?

NO Go to Step 5.

YES Continue to Step 4.

4. For AIX Version 4.1.5 or later, type:

```
lslpp -l devices.mca.ffe1.rte
```

and verify this fileset level is higher than 4.1.5.11.

For AIX Version 4.2.1 or later, type:

```
lslpp -l devices.common.IBM.cx
```

and verify this fileset level is higher than 4.2.1.0.

5. If the filesets are not installed (or are not installed at the correct level), install the software using either instructions found in Chapter 3, “Installing Device Driver Software” on page 3-1 or the instructions supplied with your installation media.

6. If your installation problems persist, call your support representative.

Appendix A. Communications Statements

The following statement applies to this product. The statement for other products intended for use with this product appears in their accompanying documentation.

Federal Communications Commission (FCC) Statement

Note: The 128-Port Asynchronous PCI Adapter 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 different from that to which the receiver is connected.
- Consult an authorized dealer or service representative for help.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. Proper cables and connectors are available from authorized dealers. Neither the provider nor the manufacturer are responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

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.

Responsible Party:

International Business Machines Corporation
New Orchard Road
Armonk, New York 10504
Telephone: (919) 543-2193



Tested to Comply
With FCC Standards

FOR HOME OR OFFICE USE

European Union (EU) Statement

This product is in conformity with the protection requirements of EU Council Directive 89/336/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility. The manufacturer cannot accept responsibility for any failure to satisfy the protection requirements resulting from a non-recommended modification of the product, including the fitting of option cards supplied by third parties. Consult with your dealer or sales representative for details on your specific hardware.

This product has been tested and found to comply with the limits for Class B Information Technology Equipment according to CISPR 22 / European Standard EN 55022. The limits for Class B equipment were derived for typical residential environments to provide reasonable protection against interference with licensed communication devices.

International Electrotechnical Commission (IEC) Statement

This product has been designed and built to comply with IEC Standard 950.

United Kingdom Telecommunications Safety Requirements

This equipment is manufactured to the International Safety Standard EN60950 and as such is approved in the UK under the General Approval Number NS/G/1234/J/100003 for indirect connection to the public telecommunication network.

The network adapter interfaces housed within this equipment are approved separately, each one having its own independent approval number. These interface adapters, supplied by the manufacturer, do not use or contain excessive voltages. An excessive voltage is one which exceeds 70.7 V peak ac or 120 V dc. They interface with this equipment using Safe Extra Low Voltages only. In order to

maintain the separate (independent) approval of the manufacturer's adapters, it is essential that other optional cards, not supplied by the manufacturer, do not use main voltages or any other excessive voltages. Seek advice from a competent engineer before installing other adapters not supplied by the manufacturer.

Avis de conformité aux normes du ministère des Communications du Canada

Cet appareil numérique de la classe B est conform à la norme NMB-003 du Canada.

Canadian Department of Communications Compliance Statement

This Class B digital apparatus complies with Canadian ICES-003.

VCCI Statement

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づきクラス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。

The following is a summary of the VCCI Japanese statement in the box above.

This product is a Class B Information Technology Equipment and conforms to the standards set by the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). This product is aimed to be used in a domestic environment. When used near a radio or TV receiver, it may become the cause of radio interference. Read the instructions for correct handling.

Radio Protection for Germany

Dieses Gerät ist berechtigt in Übereinstimmung mit dem deutschen EMVG vom 9.Nov.92 das EG-Konformitätszeichen zu führen.

Der Aussteller der Konformitätserklärung ist die IBM Germany.

Dieses Gerät erfüllt die Bedingungen der EN 55022 Klasse B.



Part Number: 08L0511



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recovered post-consumer fiber.

08L0511

