Hurdler-HQS Serial Card Installation Guide

Apple Computer, Inc.

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Apple Computer, Inc.
1 Infinite Loop
Cupertino, CA 95014-2084
(408) 996-1010

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Communications regulation information

FCC statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. See instructions if interference to radio or television reception is suspected.

Radio and television interference

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of 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 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 the dealer or an experienced radio/TV technician for help and for additional suggestions.

IMPORTANT The user is cautioned that changes or modifications not expressly approved by the manufacturer could void the user's authority to operate this equipment.

In order for an installation of this product to maintain compliance with the limits for a Class B device, shielded cables must be used.

DOC statement

DOC Class B Compliance This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled "Digital Apparatus," ICES-003 of the Department of Communications.

Observation des normes—Classe B Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe B prescrites dans la norme sur le matériel brouilleur : "Appareils Numériques", NMB-003 édictée par le ministre des Communications.

Limited warranty

Creative Solutions, Inc. makes the following nontransferable warranty to the original purchaser.

The Hurdler-HQS card is warranted to be free from defects in materials and workmanship for a period of one (1) year from the date of purchase. During this period, you may contact Creative Solutions, Inc. at (410) 776-4078 to arrange for the repair of the Hurdler-HQS board. It will be replaced without charge unless the Hurdler-HQS board was physically damaged. Products that have been subject to abuse, misuse, alteration, neglect, or unauthorized repair or installation are not covered by this warranty.

About this expansion card

When installed in a NuBus™ expansion slot of a Macintosh computer, the Hurdler-HQS Serial Card provides the computer with four additional serial ports. Depending on the number of NuBus slots available, up to four Hurdler-HQS cards can be installed, providing sixteen serial connections for an Apple Remote Access (ARA) MultiPort Server. The ports can be used to support any asynchronous serial device, such as a modem or an ISDN adapter. A high-speed serial cable (not included) is required to connect each device to the card.

This installation guide provides guidelines for safely installing the card, connecting devices, and troubleshooting startup problems.

For instructions on setting up and using an Apple Remote Access MultiPort Server, see the *Apple Remote Access MultiPort Server Administrator's Guide.*

IMPORTANT Keep the card inside its antistatic bag in the protective cardboard box until you're ready for installation.

System requirements

You can install and set up your card in any Macintosh computer that has NuBus expansion slot architecture. See your *Apple Remote Access MultiPort Server Administrator's Guide* for complete information on system software and random-access memory (RAM) requirements.

Installing and connecting the card and software

> **WARNING** To avoid damage to the card and to your other computer equipment, be sure that you have both turned off and unplugged the computer before beginning installation.

To install the card:

1. **Following the specific setup information that came with your Macintosh computer, unplug the power cord, open the back panel or lid, and locate an empty NuBus expansion slot inside the computer.**

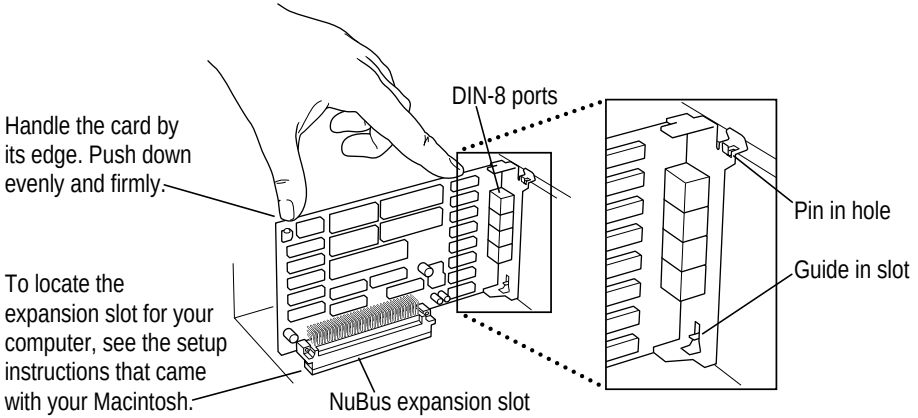
   Your computer setup guide includes instructions to help you avoid electric shock hazard or damage to your computer's components when installing the card.

2. **Remove the card from its antistatic bag.**

   Handle the card by its edges and avoid touching the components and connector as much as possible.

3. **Align the card over the expansion slot and press down firmly and evenly on both ends until the card fits snugly into place.**

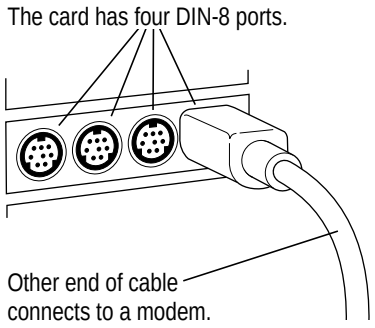
   Test to see if the card is properly connected by lifting the card slightly. If it resists and stays in place, it's connected.



4 **Following the directions that came with your computer, replace the back panel or lid and then plug in the computer.**

5 **Attach the DIN-8 connector on a serial cable to one of the four DIN-8 ports on the card.**

A high-speed, hardware-handshaking (RS-232) serial cable probably came with your modem or ISDN device. If not, you can purchase one at an Apple-authorized dealer near you. Be sure that the cable interface is consistent with the illustration shown later in this booklet, in the section “High-Speed Serial Cable Interface.”



6 **Attach the other end of the cable to the port on your serial device.**

7 **Repeat steps 5 and 6 as necessary to attach up to four serial cables.**

8 **Start up the computer and insert the *Hurdler-HQS Serial Driver* floppy disk in your disk drive.**

9 **Open the disk icon and drag the CSI Serial Init to your System Folder.**

10 **Click OK when alerted that the file will be put in the Extensions folder.**

11 **Restart the computer.**

Troubleshooting

For handling common software problems that may arise, follow the guidelines provided in your *Apple Remote Access MultiPort Server Administrator's Guide.*

If you suspect that your card is defective, you can check the card's self-diagnostics by following these instructions:

1. **Shut down your Remote Access Manager software, if it's running.**
2. **Shut down the server computer.**
3. **Open the computer's lid.**
4. **While watching the light-emitting diode (LED) on the card in question, restart your computer.**

   On startup, the LED should blink four times and then go dark. The LED may glow dimly during high serial input, but it should not blink brightly except during startup. If it does, the board may be defective.

If you suspect the card is defective, the following procedure may help:

1. **Remove all non-Apple extensions from the System Folder, with the exception of the CSI Serial Init.**
2. **Restart the server computer.**

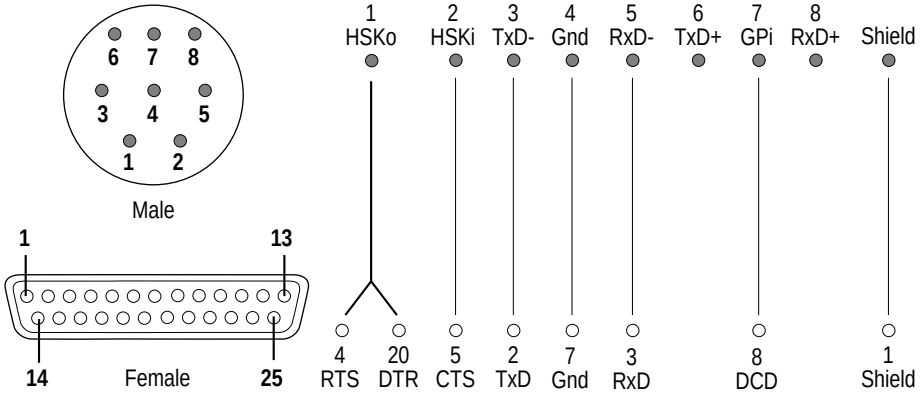
If this does not solve the problem, you can:

1. **Remove the Hurdler-HQS card and inspect it for bent pins on all socketed chips and the NuBus connector.**
2. **Replace the card, preferably in a new slot.**
3. **Restart the server computer.**

If the problem remains, contact your Creative Solutions technical support at 410-766-4078.

Specifications

On-board processor	7.5456 MHz Motorola 68008
RAM	32K x 8
ROM	32K x 8
Serial driver chip	2 Zilog 8530 SCC
Macintosh interface	8-bit NuBus slave
Serial ports	Four
Speed	Each port programmable to 57,600 baud
Total throughput	25,000 bytes/second
Macintosh drivers	Macintosh-style Full Duplex Asynch RS 422/423
Serial connectors	One 8-pin DIN connector per port
Signals	TXD+, TXD-, RXD+, RXD-, CTS, DTR. DCD
RFI	FCC Class B compliant
Power consumption	+5V DC: 1.0A maximum -12V DC: 50 mA typical
Dimensions	4.0 x 7.0 inches
Operating temperature	0˚–70˚ C
Humidity	5–95%

High-speed serial cable interface

Proper connection of a serial device requires a DIN-8 to DB-25 cable that follows the wiring diagram pictured below: