

Infinity Series H.110

Basic Rate ISDN Board

INSTALLATION INSTRUCTIONS

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2.0 Quick Start

This section describes the first steps you should perform to determine if your Infinity Series H.110 Basic Rate ISDN Board is communicating correctly with your *CompactPCI* system. You can perform this quick check without connecting any cables. The exact procedure will vary depending on which operating system you are running. For each operating systems, drivers are required to interface to the boards. The drivers supplied by Amtelco have tests built into them to verify communications with the boards. These drivers also come supplied with utility programs that allow the developer to test communications with the board. Please consult the appropriate documentation for the driver and operating system you are using.

Quick Start Procedure

1. With the chassis power off, insert the board into a slot.
2. Turn on the computer.
3. If the Amtelco driver is not already installed, install it now, following the instructions supplied with the driver.
4. Most Amtelco drivers will display a list of boards that are installed (see the documentation for the particular driver that you are using). If the H.110 Basic Rate ISDN Board is listed, skip to step 6.
5. If the board is not listed, there may be a problem with the board not being seated correctly in the backplane. There may also be a problem with a memory or interrupt conflict. Power down the chassis and check that the board is properly seated

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in the connector and repeat steps 1-4. If this does not remedy the problem, try removing any other computer telephony boards in the system. If your chassis is unable to find the board, consult the number at the end of this section.

6. Run the program "xdsutil" supplied with the driver. Send the message "IN" to the H.110 Basic Rate ISDN Board. The board should respond with the message "IA".
7. Send the message "VC" to the board. Verify that the Receive Message reads: VCxxxxvvvvHBN (where xxxxvvvv is a variable indicating the firmware version).
8. If the Communications screen shows the correct command responses, your H.110 Basic Rate ISDN Board is communicating with the host. You may now power down the computer and attach the necessary cables (see section 3.4) For technical assistance, call Amtelco at 1-608-838-4194 ext.168.

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Figure 2: Location of Jumpers, Headers, and Connectors

3.0 Installation

This section describes how to install your Infinity Series H.110 Basic Rate ISDN Board into your computer and how to use the jumpers, headers, and connectors. Before you begin the installation procedure, be sure to test the board as described in section 2.0 (Quick Start).

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The Infinity Series H.110 Basic Rate ISDN Board actually consists of two boards. The front board which contains the processor, DSP's, switching, HDLC controllers, and logic. The rear board contains the interface and connectors to the Basic Rate Interface ports.

3.1 PCI Configuration

As Infinity Series boards conform to the PCI standards, there are no switches to set to configure the H.110 BRI Board's memory address, I/O addresses, or interrupt. The host processor's bios will automatically configure the board at boot time to avoid conflicts with other boards in the system.

3.2 Jumpers & Headers for the Front Board

The following is a complete list of all jumpers for the H.110 BRI ISDN Board:

JW1-1 Firmware Select. If firmware has been downloaded to the board, this jumper selects whether the downloaded firmware or the factory default firmware is used. When this jumper is installed, the factory default firmware is executed whenever the board is reset. When the jumper is not installed, the downloaded firmware will be executed after a reset if it is present. If no downloaded firmware is present, the factory default firmware is executed after reset.

JW1-2 DSP Firmware Select. Two separate firmware programs are included in the EROM, one for the board processor and one for the DSP. If JW1-2 is installed and downloaded DSP firmware is present, the factory DSP firmware is executed after reset. Otherwise, the downloaded firmware is executed if present. See JW1-1.

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JW1-3 Undefined, reserved for future use.

JW1-4 Undefined, reserved for future use.

P3 Diagnostic port. Never install jumpers here.

P4 This header is used for programming internal logic and should never be jumpered.

3.3 Connectors: J7, J8, & J9

J7 This connector is used for the installation of a mezzanine board.

J8 This connector is used for the installation of a mezzanine board.

J9 This connector is used for the installation of a mezzanine board.

3.4 Jumpers & Connectors for the Rear Board

J1 Basic Rate ISDN Connections for port 0-15. This connector is a 68 pin SCSI-3 type connector. It contains two pairs for each Basic Rate ISDN port or interface on the board. See Figure 3.

J2 Basic Rate ISDN Connections for ports 16-31. This connector is a 68 pin SCSI-3 type connector. It contains two pairs for each Basic Rate ISDN port or interface on the board. See Figure 3.

JW1-8 These jumpers terminate the individual BRI ports. Termination is required if the port is to be used as an NT (network termination) or if it the last or only TE (terminal)

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Figure 3: J1 & J2 Pin Assignments (equipment) on the interface. The jumpers should be installed when termination is required. Each port requires two jumpers with port 0 using the first pair of jumpers on JW1, and port 31 using the last pair of jumpers on JW8.

3.4 Installation

To install the H.110 BRI ISDN Board in your system:

1. Do not connect the board to the PSTN. Follow the quick check procedures described in section 2.0.
2. If the quick check is successful, turn off the chassis power and remove the board from the chassis.
3. Install any necessary board jumpers. See section 3.2 for jumper configurations.

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Figure 4: Installing Cables on J1 and J2

4. Reinsert the front board into the chassis. Seat it properly in a slot in the chassis and secure it with the front panel handles. Do not connect the board to the PSTN.
5. Insert the rear board into the corresponding slot on the rear panel.
6. Connect the host chassis to the mains supply using a socket-outlet with protective earthing connection and connect any additional protective earthing used.

7. Connect the telephone cables to J1 & J2. The telephone cable terminates in a 68 pin SCSI-3 male connector. Secure with mounting screws. If it is subsequently desired to open the host equipment chassis for any reason, the PSTN cable must be detached prior to effecting access to any internal parts which may carry telecommunications network voltages.

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3.5 Hot Swapping a Board

The Infinity Series H.110 Basic Rate ISDN Board can be "hot swapped, that is it can be removed from a functioning system without turning the power off or interrupting applications. However, to be able to do this, the host processor must be equipped with suitable hot swap drivers as well as a hot swap manager which will alert applications when a board has been inserted or removed from the system so that resources can be properly managed. It is beyond the scope of this manual to describe the operation of either the hot swap driver or hot swap manager. Each H.110 board is equipped with a switch linked to the lower ejector tab and a blue LED. This combination is used to coordinate the actions of an operator with the system software. When inserting a board, the board is pushed in part of the way until the blue LED is illuminated. The insertion may then be completed. When the connection process is complete, the LED will go out. To remove a board, the lower ejector handle is depressed until it is in the unlatched position. When the blue LED comes on, the board may be removed from the system.

The rear board **MUST ALWAYS** be inserted **BEFORE** the front board, and removed **AFTER** the front board.

To install the front board in a system under power:

1. Insert the board with the ejector tabs spread apart until partially engaged.
2. Wait until the blue LED is illuminated.
3. Finish inserting the board by pushing the ejector tabs towards each other. The LED should then go out.

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To remove the front board from a system under power:

1. Depress the lower ejector tab until it is in the unlatched position.
2. Wait until the blue LED is illuminated.
3. Finish removing the board by spreading the ejector tabs apart until the board is ejected.

To insert the rear panel board into a system under power:

1. The rear board should be disconnected from the PSTN. Make sure there is no board in the corresponding front panel slot.

2. Insert the rear board.
3. Connect the telephone cables to J1 & J2. The telephone cable terminates in a 68 pin SCSI-3 male connector. Secure with mounting screws.
4. Insert the front board as described above.

To remove a rear panel board from a system under power:

1. Remove the front board as described above.
2. Disconnect the PSTN cables from J1 and J2.
3. Remove the rear board from the system.

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Figure 6: Front Panel with Aux and Hot Swap LED and top and bottom ejector handles