



Installing the TR1034™ Digital / Ethernet PCI Board

The TR1034 Digital/Ethernet combination PCI boards are full-sized, single slot, PCI-bus-compatible boards with T1/E1, Ethernet, and H.100 capabilities. The TR1034 delivers 33.6 Kbps (V.34) fax transmission speeds, up to 30 fax channels per board, Adaptive Call Progress, Error Correction Mode, MMR fax compression, and an onboard T1/E1 interface (see Figure 6). The Ethernet connector is used for T.38 Fax over IP.

The TRxStream board has access to off-board resources using the H.100 bus interface. Using a bus adapter (available separately), the H.100 can interoperate with an MVIP or SCbus interface.

You need a separate fax application to use the TR1034 Digital/Ethernet PCI board. Please contact your application provider for the correct operating system driver, supporting files, and firmware.

Operating/Environmental Specifications

This device must be installed in an enclosure that meets the following electrical and mechanical requirements.

- ♦ Power requirements:
 - Base: 4A at 5VDC = 20 W
 - Base + Mezzanine: 5A at 5VDC = 25W
- ♦ Temperature: 0°C - 50°C
- ♦ Humidity: 10% - 95% (noncondensing)
- ♦ Cooling: Direct forced-air flow is required.
- ♦ 33 MHz PCI 2.2 Universal card (3.3/5V signaling)

Setting the Module Number (SW1)

You must set each TRxStream board to a unique module number to identify the resources associated with a specific board in a multi-board system. SW1 (Figure 1) is a rotary switch (see location in Figure 4). Use it to set the module number for each TRxStream board. The available settings are 2 - F (0 and 1 are reserved).

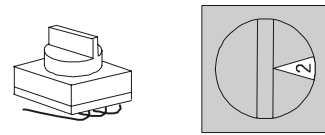


Figure 1 Rotary Switch - SW1

Using the H.100 Termination Switch (SW2)

On a single TR1034 or on multiple TR1034 boards installed in the same chassis, leave SW2 in the OFF position. See Figure 4 for its location. Multiple TR1034 boards in the same system do not require the use of a connecting H.100 cable.

If you have TR1034 and other boards that need to be connected using an H.100 cable (not supplied), you must terminate the H.100 clock signal. Only the boards at each end of the cable **must** be terminated. All other boards **must not** be terminated (see Figure 2).

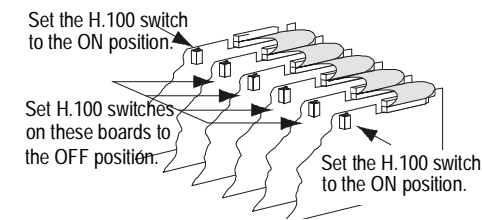


Figure 2 Setting Clock Termination in a Series of Boards Connected by an H.100 Bus

SW2 (see Figure 3) controls termination for the H.100 clock signals. Set the switch to ON to terminate the H.100 clock on a TRxStream board. See Figure 4 for its location on the board. The SW2 LED lights when SW2 is set to the ON position.

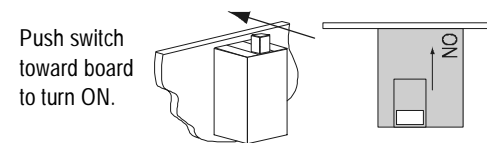


Figure 3 SW2 - H.100 Clock Termination Switch

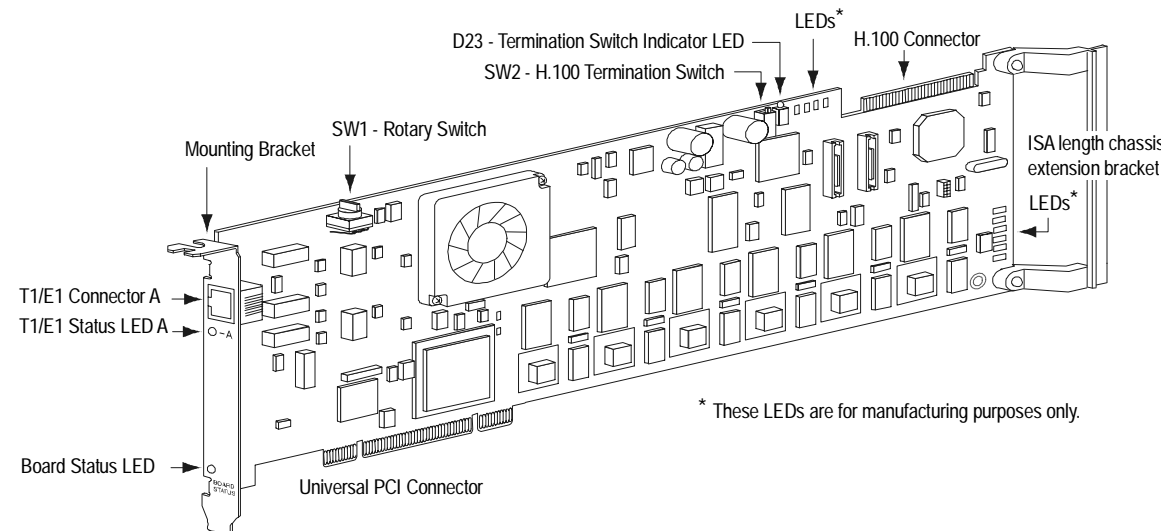


Figure 4 TR1034 Digital/Ethernet PCI Board

Installing the TR1034 Board

CAUTION

A small amount of static electricity can destroy the sensitive components on your board. To prevent static damage, always connect yourself to ground using a ground strap before touching a circuit board. Handle boards only by the edges or metal brackets. Transport boards in an anti-static bag.

To install the board:

1. Power off the computer.
2. Remove the computer cover. If the system has a board hold-down bar, remove it as well.
3. Locate an unused PCI expansion slot and remove the blank bracket.

The TR1034 board comes with an extension bracket that allows it to fit snugly into an ISA form-factor chassis. If you have a PCI form-factor chassis, use a Phillips-head screwdriver to remove the extender bracket (see Figure 4).

4. Holding the TR1034 board at each top corner, insert the board firmly into the PCI slot, sliding the extender into the side of the chassis, if necessary.
5. Screw the board's mounting bracket securely to the computer's frame. See Figure 4.
6. Attach the connector on the H.100 cable to the connector on the board, if needed.
7. Replace the computer cover.
8. Turn on the computer.

The board status LED (see Figure 4) continuously flashes yellow when you turn the computer on.

WARNING

When installing the board, be sure that the bracket is securely fastened to the chassis and the chassis is plugged into a grounded three prong plug. Improper chassis or bracket grounding can result in component damage.

Brooktrout boards should not be present in the computer during the installation of any operating system. The operating system can misinterpret the board as being some other device, with unpredictable consequences.

Recognizing PCI Slots

The PCI connectors in the computer chassis usually appear as white slots, unlike ISA connectors, which are dark brown or black. The different variations of PCI connectors that can be used with the TR1034 board are shown in Figure 5. The TR1034 board has a Universal PCI board edge connector. It can be inserted into any of the PCI slots shown in Figure 5.

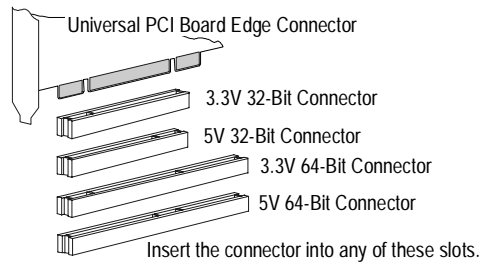


Figure 5 PCI Slots

Connecting to the Telephone Service

An RJ-48C telephone jack on the board mounting bracket (see Figure 6) provides the connection to the T1/E1 service.

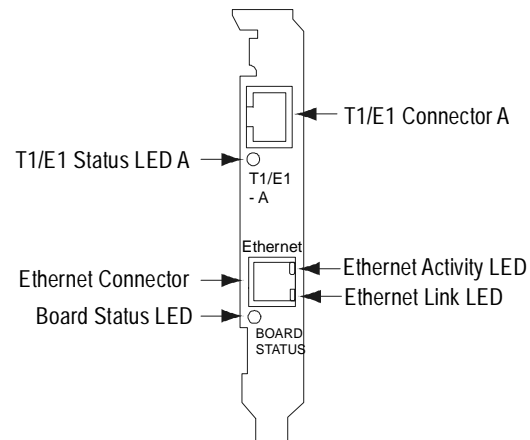


Figure 6 Front View of Mounting Bracket

The TR1034 PCI board, when used with a T1/E1 line, is approved as a DSX-1 device and must be connected to the telecommunications network through a PBX or CSU.

WARNING 	Do not connect the Ethernet cable into the T1/E1 connector, or vice versa. It can cause serious damage to the board.
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Pinouts for the T1/E1 Connector

RJ-48C provide T1/E1 data paths to and from the board. The connector pins are configured as shown in the table below and in Figure 7.

Signal Name	RJ-48 Pin
Transmit (TX) Tip	5
Transmit (TX) Ring	4
Receive (RX) Tip	2
Receive (RX) Ring	1

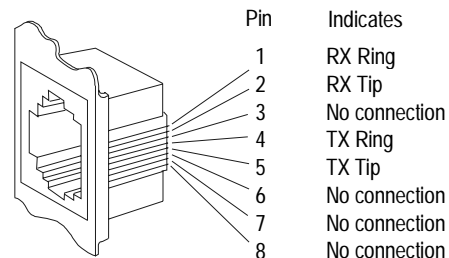


Figure 7 T1/E1 RJ48C Pinouts

Ethernet Specifications

- Media: 10BASE-T/100BASE-TX
- Connector: RJ-45 (Pin 1=TD+, Pin 2=TD-, Pin 3=TD+, Pin 6=RD-)
- Cabling: Category 5 UTP up to 100m (328 feet)

Status Indicators

Ethernet Status LEDs

The Ethernet interface LEDs are located on the mounting bracket Ethernet connector (see Figure 6).

Ethernet Status LEDs	Indicates
Activity (Flashing yellow)	Activity on Ethernet.
Link (Green)	Link is established.

Board Status LED

The Board Status LED indicates the overall status of the TR1034 board:

Board Status LED	Indicates
Off	Board has no power.
Flashing yellow	Board powered up and ready to load firmware.
Steady red	Board powered up, but failed tests.
Flashing yellow and green	Board is downloading firmware.
Flashing green	Firmware is downloaded and the board is ready for use.

T1/E1 Status LED

The T1/E1 Status LED on the bracket represents the T1/E1 service status as shown:

T1/E1 Status LED	Indicates
Off	The software has not yet initialized the board with the telephony configuration.
Green	Normal error-free operation; layer 1 is up.
Red	Red alarm (loss of incoming network signal).
Yellow	Yellow alarm (transmitting alarm – board is failing to synchronize with incoming signal).
Green with flashing red	Clocking error, bipolar violation, cyclic redundancy error, or other error.

Using the TR1034 Board

Once you have installed the TR1034 board, install and configure your fax software application according to instructions included with the software. After you have set up your software to support the TR1034 board, you can send and receive faxes.

Serial Number and MAC Address

You can find the board serial number (2 letters and 9 digits) and MAC address (00A08A and 6 more digits) on white labels on the back of the board.

Getting Help

If you have a problem installing your TR1034 board, first check with the provider of your board to determine if there is a problem. If your provider cannot solve your problem, then contact Brooktrout Technical Support.

Brooktrout Technical Support

Brooktrout provides technical support for customers who have purchased hardware or software products from Brooktrout. If you purchased products from a reseller, please contact that reseller for technical support.

This equipment contains no user-serviceable parts and is not intended for repair by unauthorized personnel.

If the equipment is causing harm to the telephone network, the telephone company might request that you disconnect the equipment until the problem is resolved.

If you experience trouble with the TRxStream Digital/Ethernet board, for repair or warranty information, please use the contact information below.

To obtain technical support, please use one of the following methods:

Web: <http://www.brooktrout.com/support>

Email: techsupport@brooktrout.com

Phone:

North America: +1 781-433-9600

Belgium: +32 2-658 0170

United Kingdom: +44 1344-380-280

Japan: +81 3-3518-3530

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