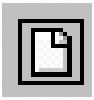
MICROTEK

IN-CIRCUIT EMULATORS

SW Plus PowerPack®

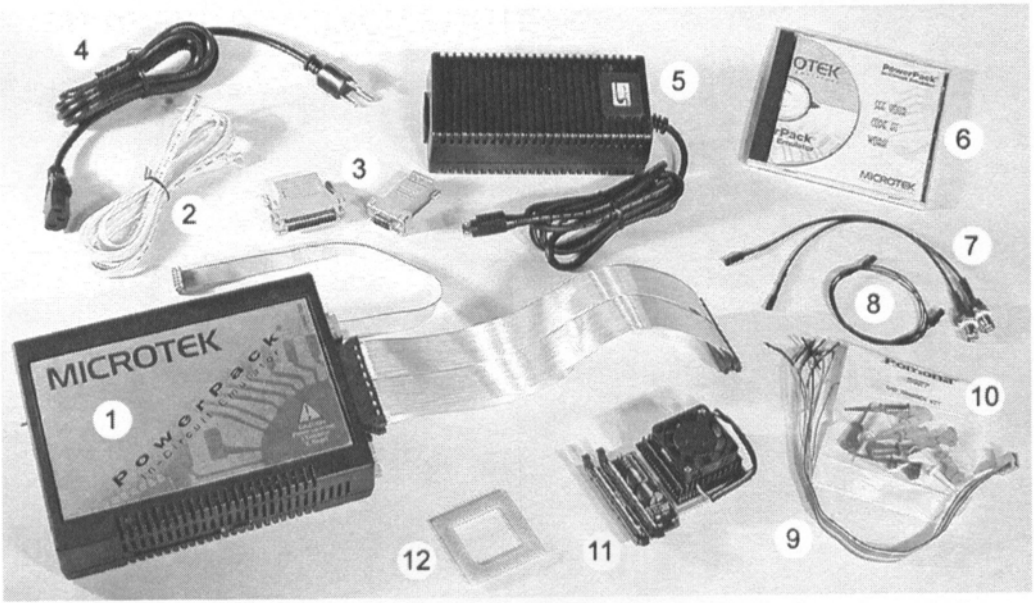
Note:
For best viewing,
Click the "Fit in Window"
button in the toolbar



Pentium® III FC-370 Installation Guide

This guide contains the following information:

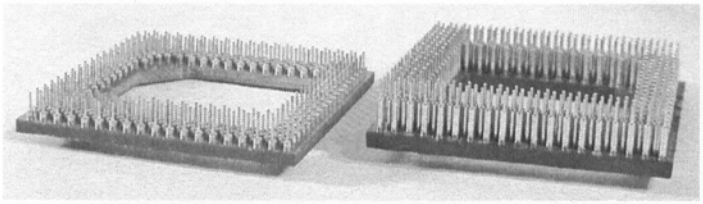
Parts and Accessories



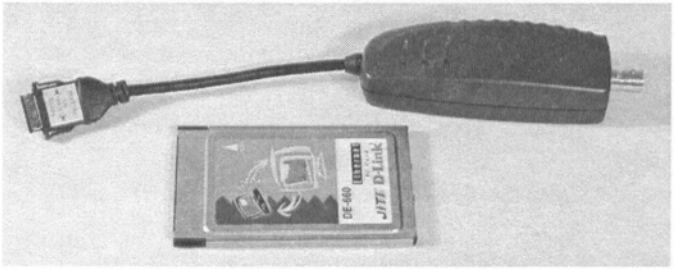
Microtek ships the PowerPack emulator chassis, header-to-chassis cables, and 10-wire gray ribbon cable as an assembled unit. This installation guide will help you assemble the pieces, and connect the emulator to your target board.

Your emulator package includes the following parts:

1. Emulator chassis with two 80-wire header-to-chassis ribbon cables and one 10-wire gray ribbon cable attached
2. RS232 serial cable
3. 25-pin and 9-pin serial port adapters
4. AC power cable
5. DC power supply
6. PowerPack Source-Level Debugger software (SLD)
7. Two BNC connector cables for connecting to external measuring equipment
8. 2-wire cable for connecting to Reset Out
9. 10-wire color-coded cable
10. Pomona SMD Grabber Kit (10 IC clips for connecting to 10-wire color-coded cable)
11. Pentium III FC-370 probe head, with heat sink and fan assembly attached
12. Socket 370 male-to-male pin header

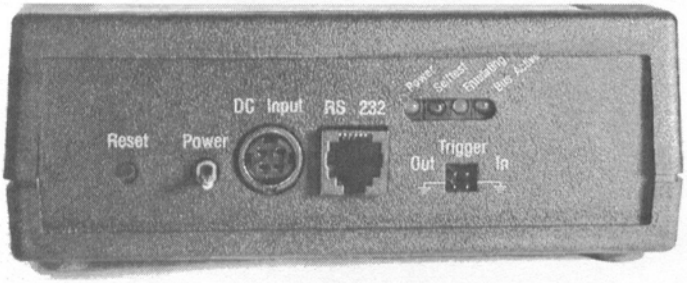


Optional spacer sockets provide extra space for clearing components on your target board. They are available from Microtek (part number 15940-000 or 15941-000).



If you ordered the ethernet option (10TX or 10B2), the PCMCIA ethernet card is installed, and your package includes the cable, and installation information.

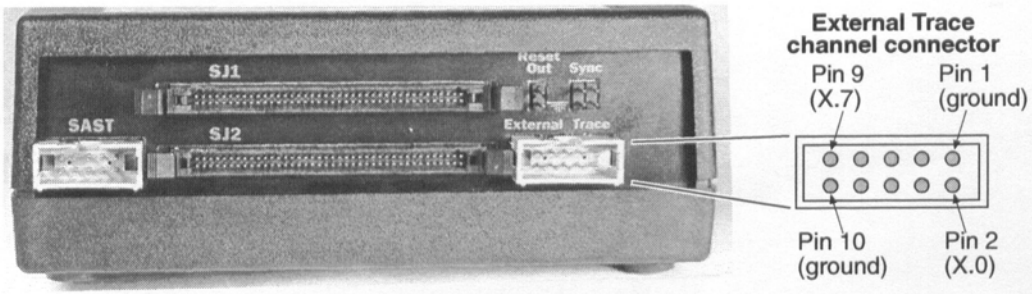
Connectors and Controls



Power and Status panel

The Power and Status panel contains the following connectors, controls, and indicators:

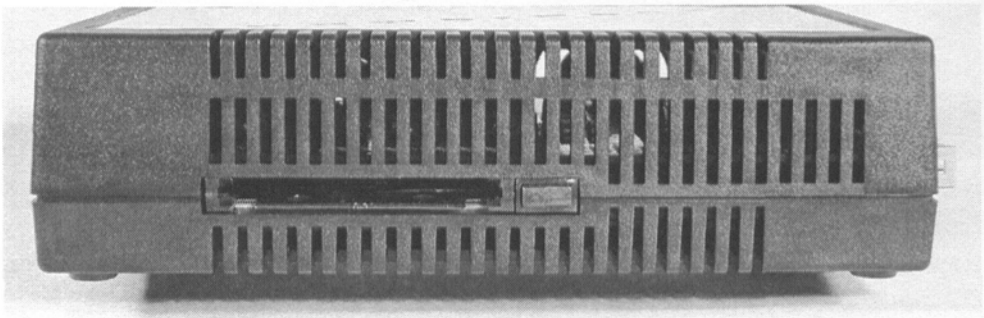
- **Reset.** Resets the emulator.
- **Power.** Turns power on (up) or off (down).
- **DC Input.** Connects the emulator to the DC power supply.
- **RS 232.** Connects the emulator to your PC's serial port.
- Status LEDs:
  Power. Glows when the emulator is turned on.
  Selftest. Glows while the emulator performs the power-up self tests.
  Emulating. Glows while the emulator is executing your target system code.
  Bus Active. Glows when the processor bus is active.
- **Trigger Out** and **In.** Provides an external source for triggering. The `ext` condition in the debugger Trigger window monitors the trigger input; the `ext out` action delivers a trigger output signal.



Emulation Signal panel

The Emulation Signal panel contains the following connectors:

- **SAST.** Not available at this time.
- **SJ1** and **SJ2.** Connectors for attaching the emulator chassis to the FC-370 probe head.
- **Reset Out.** Allows you to reset the entire target system remotely, using the `Reset Target` command. The lower pin is ground.
- **Sync.** Not available at this time.
- **External Trace.** Connector for tracing the probe-status or for the user-defined trace signals.



The PCMCIA Card slot on the side of the emulator chassis receives the optional ethernet card.

Your emulator requires the same physical environment as your host system:

- Avoid excessive heat and humidity. Maintain an ambient temperature within 0 - 40° C (32 - 104° F) and an ambient humidity range within 85% maximum relative humidity, noncondensing.
- Leave a few inches around the emulator for air circulation.
- Ground against electrostatic discharge.
- Avoid electromagnetic interference.

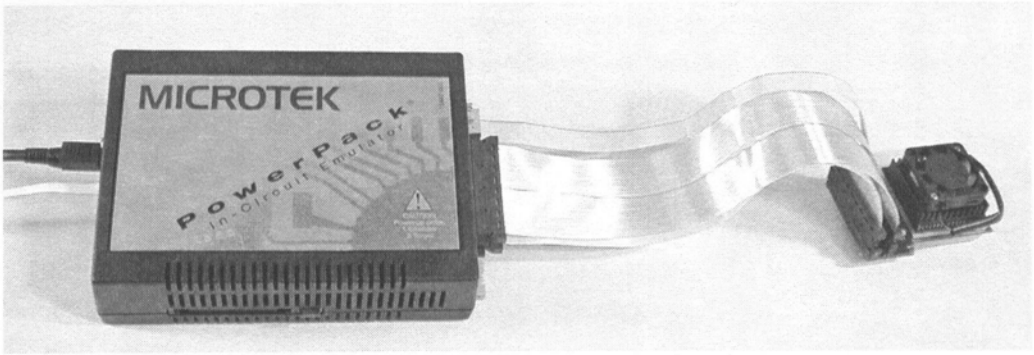
WARNING

To avoid severely damaging both your target board and the emulator, ensure that emulator power is on whenever you turn target board power on or off:

Turn on the emulator before the target board.

Turn off the target board before the emulator.

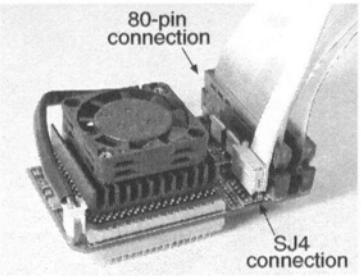
Setup



To assemble the emulator, follow these procedures (for reference, see Connectors and Controls).

First, Connect the FC-370 probe head to the emulator chassis:

1. Connect the 80-pin ribbon cable to the SJ1 and SJ2 connectors on the emulator chassis.
2. Connect the other ends of the cables to the mating connectors on the probe head.
3. Connect one end of the 10-wire gray cable to the External Trace connector on the emulator chassis. Align Pin 1 on the cable (near red wire) with Pin 1 on the External Trace connector (see Emulation Signal panel, page 4).
4. Connect the other end of the cable to the probe head SJ4 pins, aligning Pin 1 on the cable near the ▷ symbol.



Second, connect the emulator to your host PC:

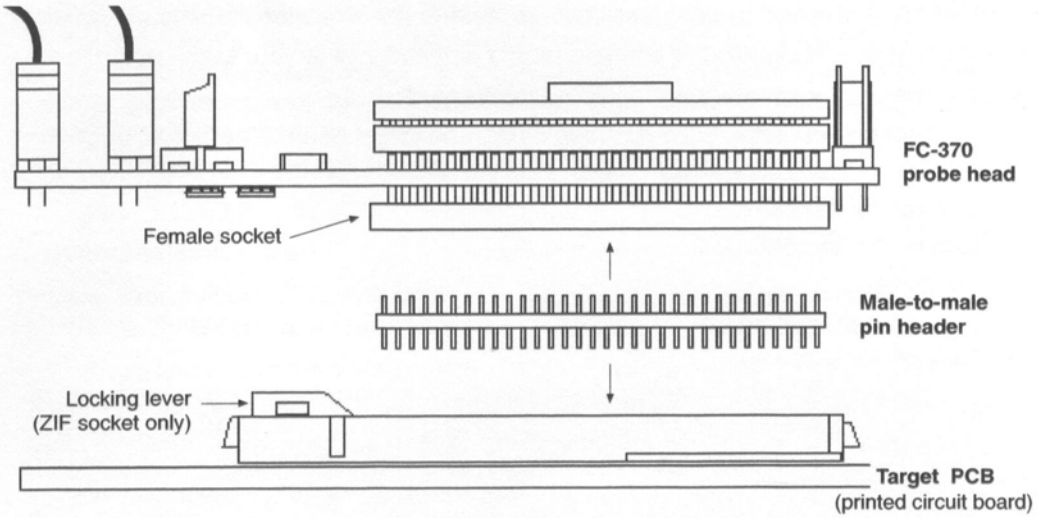
1. Connect the RJ11 connector on one end of the RS232 cable to the RS232 connector on the emulator chassis (see Power and Status panel, page 3).
2. Connect the other end of the RS232 cable to the 25-pin or 9-pin serial adapter.
3. Connect the serial adapter to your PC's COM1, COM2, COM3, or COM4 serial port, and tighten the screws.
   Note: The RS232 cable resembles a telephone cable because of the RJ11 connectors, but the wiring is different. Do not try to use a telephone cable in place of the RS232 cable.

Note: To use the emulator on your local network, see the *Network Installation* card that is supplied when you order the ethernet option.

Third, connect the power supply:

1. Ensure the emulator's power switch is off (down).
2. Plug the DC power supply cable into the DC Input connector on the emulator chassis (see Power and Status panel, page 3).
3. Plug the AC power cable female connector into the matching DC power supply socket.
4. Plug the other end of the AC power cable into a grounded AC power source.

Target System Installation



To connect the probe head to the target:

1. Connect the male-to-male pin header to the female socket on the probe head.
2. Raise the locking lever on the target PCB (ZIF socket only).
3. Gently push the assembled header into the socket on the target PCB.
4. Lower the lever until it latches (ZIF socket only).

Applying Power

Caution: Before connecting any power cables, ensure the emulator power is turned off.

Connect one power supply to the emulator and a different one to your target board.

To apply power to the emulator and to your target board:

1. Connect the emulator, FC-370 probe head, and target board (see Setup, page 5).
2. Connect power to the target board.
3. Turn on the emulator.
4. Turn on the target board.

To turn off power:

1. Turn off the target board.
2. Turn off the emulator.

Caution: To avoid severely damaging both your target board and the emulator, ensure that emulator power is on whenever you turn target power on or off.

Always remember to:

- Turn on the emulator before turning on the target.
- Turn off the target before turning off the emulator.

Installing the Source-Level Debugger

The Source-Level Debugger (SLD) is the interface you use to run the emulator. To install SLD on your PC, follow the instructions on the CD case inserts.

Installing the Reset Cables

The Reset Out pins (see Emulation Signal Panel, page 4) allow you to reset your target remotely. Two signals are provided:

- Ground reference, which is marked on the panel (⏚).
- Configurable active high/low/open-collector signal. When connected to your target board's reset circuitry, this signal can reset all target board logic.

Collecting External Trace

Use the External Trace input on the Emulation Signal panel to collect trace and trigger on additional signals. To configure these signals as user-defined (X and EXT mnemonics) or as additional status signals (processor mnemonics) in event definitions and trace displays, choose **Probe Status Channels** or **External Signals** from the SLD Trace window View menu.

In the SLD Trace or Event window you will see:

```
XØ, X1, X2, ... X7
```

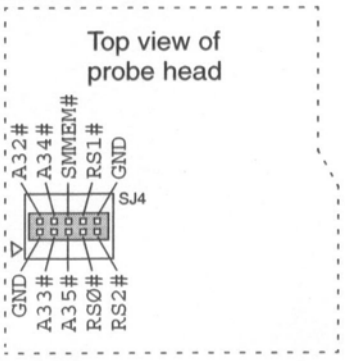
To connect external trace:

To trace default Probe Status Channels (A[35:32]#, SMMEM#, and RS[2:0]#):

1 Connect one end of the 10-wire gray cable to the External Trace connector on the emulator chassis. Align Pin 1 on the cable (near red wire) with Pin 1 on the External Trace connector (see Emulation Signal panel, page 4).

2 Connect the other end of the cable to the SJ4 connector on the probe head, aligning Pin 1 on the cable near the ▷ symbol.

The default signals on the SJ4 connector are as follows:



To trace your own external signals (X[7:0]):

1 Connect the 10-wire color-coded cable to the External Trace connector on the emulator chassis, positioning the brown (ground) wire near the outer edge of the chassis.

2 Connect the color-coded wires to locations on your target board, using the IC clips provided.

The signals in the Trace or Event window are:

Brown (gnd)	
Red	X.Ø
Orange	X.1
Yellow	X.2
Green	X.3
Blue	X.4
Violet	X.5
Gray	X.6
White	X.7
Black (gnd)	

Contacting Microtek

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Telephone

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(503) 533-4463

Fax

(503) 533-0956

Please note: If you are calling for technical support, please have the following information available:

- Emulator serial number (found on the emulator chassis)
- Software version number (enter the `version` command on the Shell window command line)
- Information about your target processor

Notes

Part Number 15936-000