## Processor Monitoring

- Shows detailed information on processor power up sequence
  - Monitors the serial port during the power on self test
  - Requires a Personal Computer
- Recover an instrument with a blank or corrupted hard drive
- Applications
  - Instrument troubleshooting and recovery when instrument does not fully power up

Power Up Monitoring is a technique that can be used to diagnose turn on problems or errors with the 8960. There are three types of monitoring; Host Processor Logging, DSP Processor Logging, and Protocol Processor Logging.

During Boot-Up each of the processors communicate with various modules to collect data for serial numbers, calibration data, and module type, and operation readiness. Some module failures can cause boot-up errors. Processor logging will show detail about which module is experiencing boot-up problems. This should help to determine which module may need replaced.

Processor Monitoring

Serial Port

8960

Serial Port In

Personal Computer
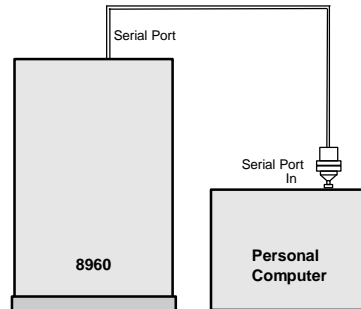
Connect a serial cable between one of the serial ports on the 8960 and the serial Com 1 port on the PC.

Connect a serial cable between one of the serial ports (Host, DSP, or Protocol) on the 8960 and the serial input port on the PC. On the E5515A the ports are labeled Host, DSP, and Protocol. On the E5515B the ports are labeled Serial 1 for the Host, Serial 2 for DSP, and Serial 3 for the Protocol.

The E5515A uses one type of connection for the Host and DSP ports and a different connection for the Protocol. The E5515B uses a common type connection for all of the ports.

The serial connection may require the use of special adapters between the E5515A RJ-12 serial port and the Laptop 9-pin D type Connector. See the following page labeled 'Cable Adapter Wiring'.

**Troubleshooting
Power Up Monitoring**

Cable Adapter Wiring

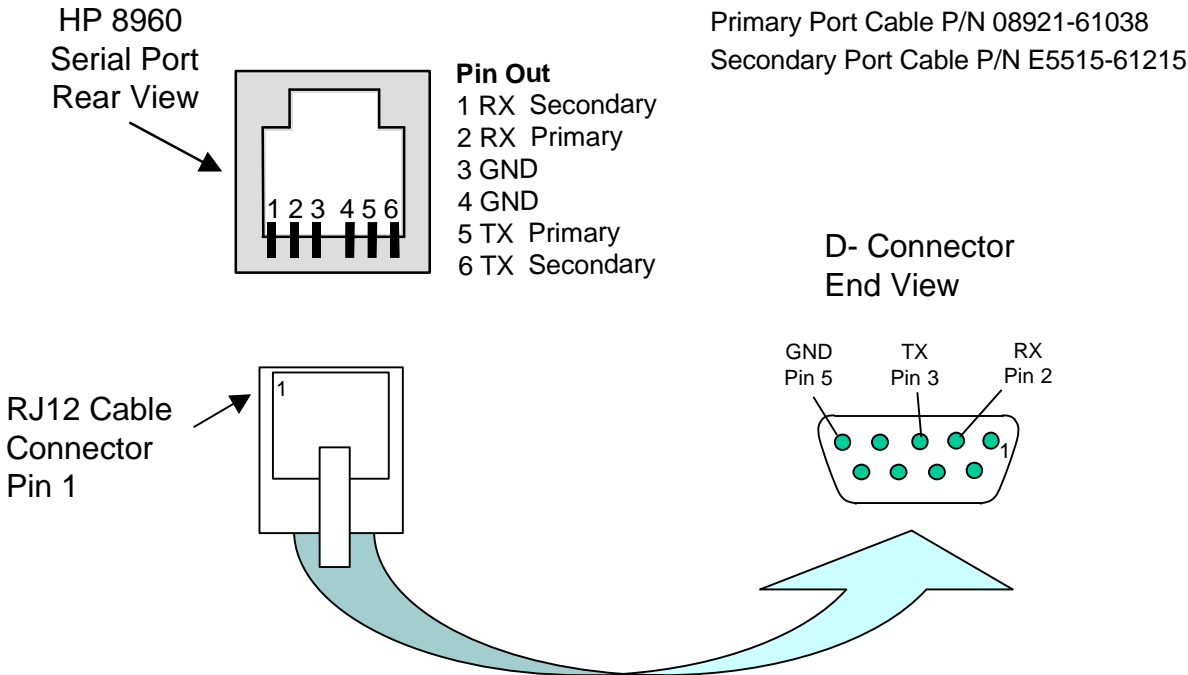Each serial port on the 8960 has a primary port and a secondary port.

The serial port configuration is different between the E5515A and the E5515B versions of the 8960. The configurations are as follows:

A primary cable can be constructed to monitor the Protocol Processor on the E5515A. RJ12-pin 2 connects to D-Connector pin 2, RJ12-pin 5 connects to D-Connector pin 3, and RJ12- pins 3 and 4 connect to D-Connector pin 5. Primary Port Cable P/N 08921-61038
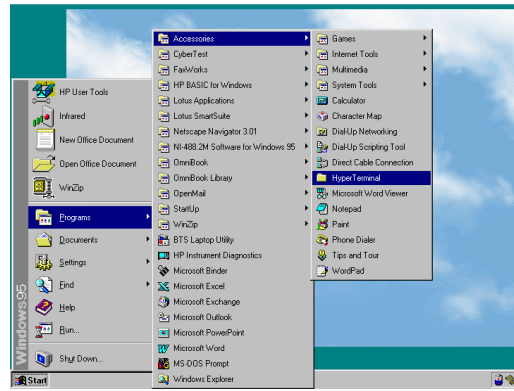
A secondary cable can be constructed to monitor the Host and DSP processors on the E5515A and will monitor the Host, DSP, and Protocol processors on the E5515B. RJ12-1 connects to D-Connector pin 2, RJ12-6 connects to D-Connector pin 3, and RJ12-3,4 connects to D-Connector pin 5. Secondary Port Cable P/N E5515-61215

E5515A:	Host Serial Port	DSP / Logging Serial Port	Protocol Interface port
Primary Port	No Connection	No Connection	Protocol
Secondary Port	Host	DSP	No Connection

E5515B:	Serial 1	Serial 2	Serial 3
Primary Port	No Connection	No Connection	No Connection
Secondary Port	Host	DSP	Protocol

HP 8960
Serial Port
Rear View

Pin Out
1 RX Secondary
2 RX Primary
3 GND
4 GND
5 TX Primary
6 TX Secondary

1 2 3 4 5 6

Primary Port Cable P/N 08921-61038
Secondary Port Cable P/N E5515-61215

D- Connector
End View

GND   TX   RX
Pin 5 Pin 3 Pin 2

RJ12 Cable
Connector
Pin 1

1

Processor Monitoring

On the PC press 'Start', 'Programs', 'Accessories', and 'HyperTerminal'
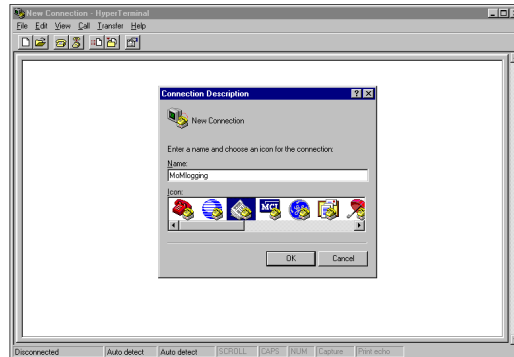
On the PC press:

'Start'

'Programs'

'Accessories'

'HyperTerminal'

Processor Monitoring

Type in a name and Select an Icon.

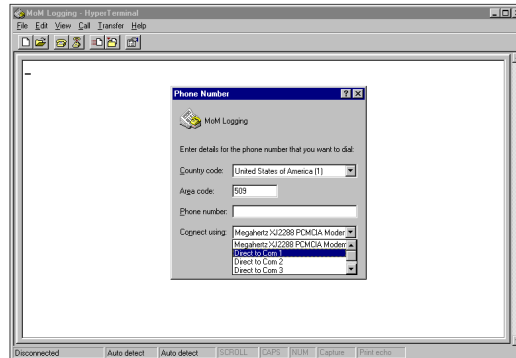In the Connection Description box:

> **Type in a name**
>
> **Select an Icon**
>
> **Press OK**

You can select any name and icon you would like such as "8960 Troubleshooting". This new name and icon will appear as a selection in the HyperTerminal window.

Processor Monitoring

Choose a Com port (usually Com 1).

The Phone Number box will appear.

> **Choose a Com port** (usually Com 1).
>
> **Press OK**

Warning: Some programs can force one of the Com ports to be dedicated full time. One example is the 'Hot Synch' software for the Palm Pilot PDA. The 'Hot Synch' software will keep Com 1 permanently active and render it inaccessible. If your computer reports errors concerning control of Com 1, you must check for other active programs.
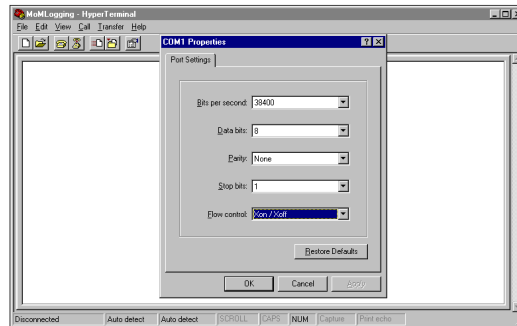
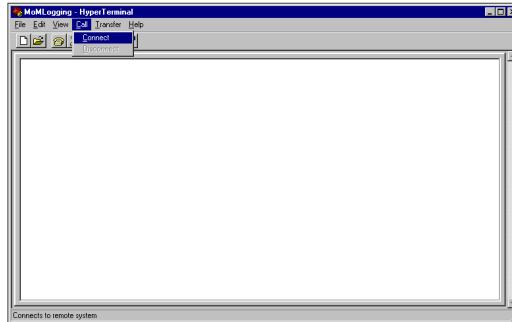Set "Bits per second' to 38400 and 'Flow Control' to Xon/Xoff.

In the Com 1 Properties window you must

Set "Bits per second' to 38400

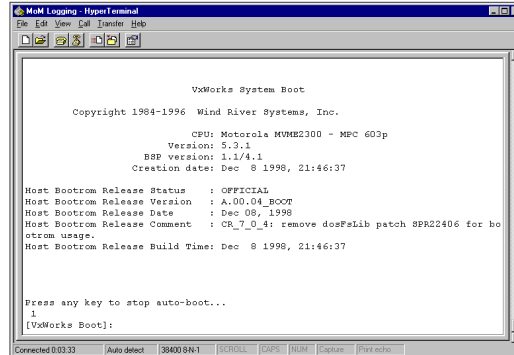**Set 'Flow Control' to Xon/Xoff**

Press OK

Processor Monitoring

Set the 'Call' field to 'Connect'.

It may be necessary to **set the 'Call' field to 'Connect'** when the HyperTerminal logging screen appears.

Processor Monitoring

Turn on the 8960. Watch for errors.

Turn the 8960 on.

After a few seconds the computer screen should begin to display Processor communication data. The data scrolling may stop if the Processor detects a fault, if not it will be necessary to scroll backwards when the data stops to review for any possible errors.