About ADSL testing

The HST-3000 ADSL testing feature uses modem emulation (ATU-R, ATU-C) to turn up and troubleshoot ADSL services as well as provide ATM statistics and analysis. The internet protocol (IP) suite software allows IP/PPP troubleshooting. The on-board web browser option validates an internet connection.

The capabilities of the ADSL feature include the following:

– Variety of ADSL testing modes for service verification, local loop testing, and network connectivity.

Mode	Function
ADSL Modem emulate mode	Used to test basic ADSL physical layer rates, quality and line statistics. Also used for testing the following types of lines: IP over Ethernet, IP over ATM, PPP over Ethernet, and PPP over ATM.
ADSL Through mode	Used for testing the following types of lines: Bridged Ethernet, IP over ATM, PPP over Ethernet, and PPP over ATM.
ATM Loopback	Used to loopback ATM cells.
Ethernet TE mode	Used for testing IP over Ethernet and PPP over Ethernet.

– Variety of line modulations:

Modulation	Modem(s)
ANSI T1.413 DMT Full Rate	ATU-R/C
ITU-T G.992.2 (G.Lite)	ATU-R
ITU-T G.992.1 (G.DMT) Full Rate Annex A	ATU-R/C

Modulation	Modem(s)
ITU-T 992.1 (G.DMT) Full Rate Annex B	ATU-R/C
Multimode (Annex A)	ATU-R

– Wide range of compatibility with industry standards

– On-board web browser for validating the customer's internet connection

– Trace route and FTP/HTTP throughput capability

– Customer premise equipment emulation to turn up and troubleshoot ADSL service, including Ethernet terminal equipment (TE)

– ATM F5 loopback capability

– ATM BERT capability

Quick tour

The following sections describe the HST's LED status indicators and connector applicable to ADSL.

Status LEDs These indicators report the status of the application. The function of each LED is described in Table 6.

Table 6   Status LEDs

LED	Function
Sync	A two-color LED used to indicate synchronization on the transport layer (for example, ADSL or Ethernet). **For xDSL:** – Flashing green indicates that the modems are training. – Solid green indicates that the modems have synchronized. – Solid red indicates a synchronization error has occurred. **For Ethernet:** – Solid green indicates 10/100 activity has been detected.
Data	A two-color LED that reports the status of the data connection. – Flashing green indicates that the data connection is not yet established. – Solid green indicates that a data connection has been established with the network (so that the HST-3000 may send and receive data on the network). In DHCP mode, it indicates that we have achieved an IP address assignment. In Static IP mode, it indicates that 10/100 activity has been detected. – Solid red indicates a data connection error. – If no data link is present, the Data LED will be dark.
Error	A red LED that indicates an error condition.
Alarm	A red LED that indicates an alarm condition.
LpBk	An amber LED that indicates a local loopback has been achieved.

Table 6 Status LEDs (Continued)

LED	Function
Batt	Indicated battery status. For more information, see the *HST-3000 Base Unit User's Guide*.

Connector The connector for ADSL is located on the right side of the SIM, as shown in Figure 1.

Base unit

SIM
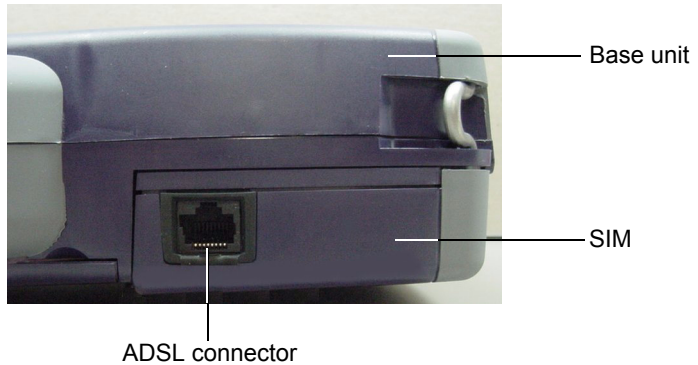
ADSL connector

Figure 1 ADSL connector

Use the 8-pin modular jack (ADSL connector) for connection to ADSL circuits. If in through mode, connect an Ethernet cable to the Ethernet jack on the top panel.

WARNING: ELECTRICAL SHOCK

Electrical shock may result in serious injury or death. Use care when connecting to telecommunications circuits, to be sure that you do not come in contact with exposed conductors or power mains. Connect TNV signals to TNV ports only.

⚠️ **CAUTION: INSTRUMENT DAMAGE**

Using a cable that is not specified for the port can damage the port. For example, using a RJ-11 connector in a RJ-45 or RJ-48 port will damage the port. Use only appropriate cables.

User interface navigation

You can use the Home and Config keys to cycle through the applications. The menus cycle in order, top to bottom as shown on the main application screen.

For example, if you are in the Modem Emulate application, pressing Home will move to the Data application, and then the VoIP application, and then IP Video.

The same methodology applies to the configuration menus. If you are viewing the General modem settings, pressing Config will move to the Data settings, and then VoIP General settings, and then the Video Settings.

Sealing current terminator

The sealing current terminator, HST3000-SC, is an optional accessory available for DSL service. It is used when sealing current or wetting current must be terminated. Typically this occurs in an all-digital environment, but is not typical in DSL since the equipment (NT1 or telephone) provides termination.

The LED on the module indicates presence of sealing current. Place the module in-line, using the provided test cable.

The module is designed to terminate voltages under 80 volts, anything over 80V may make the module act erratic (LED flicker, go dim, etc.)

NOTE:

It is not recommended leaving the sealing current terminator on the line in the presence of a repeater because the module oscillates and could cause signal integrity issues effecting HST test results.

CAUTION: DAMAGE TO MODULE

Placing the sealing current terminator on a line with voltage over 150 volts may damage the unit.