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## Overview of features

When attached to the HST-3000 base unit, the DDS Local Loop (DDS-LL) SIM lets you perform physical layer test operations necessary for provisioning transmission circuits. The DDS-LL test option includes the following features:

- BER testing on all supported rates, including end-to-end (straightaway) testing or loopback testing using another test device at the far end.
- Channel service unit/data service unit (CSU/DSU) emulation.
- A single 8-pin, RJ-48 DDS-LL interface connector. For pin assignments, see [Table 7 on page 6](#).
- Copper testing. See the *HST-3000 Copper Testing User’s Guide*.
- Frame Relay testing (optional). See the *HST-3000 Frame Relay Testing User’s Guide*.

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## Status LEDs

Six status LEDs are located on the front of the HST-3000, above the LCD screen. [Table 6](#) describes the LEDs.

**Table 6**      Status LEDs

LED	Description
Sync	<p>A two-color LED that reports the signal status.</p> <ul style="list-style-type: none"><li>– Green indicates a signal is present and there is frame synchronization.</li><li>– Red indicates that at least one of the channels does not have signal or frame synchronization.</li><li>– If the Sync LED is not illuminated, no signal has been detected.</li></ul>

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**Table 6** Status LEDs (Continued)

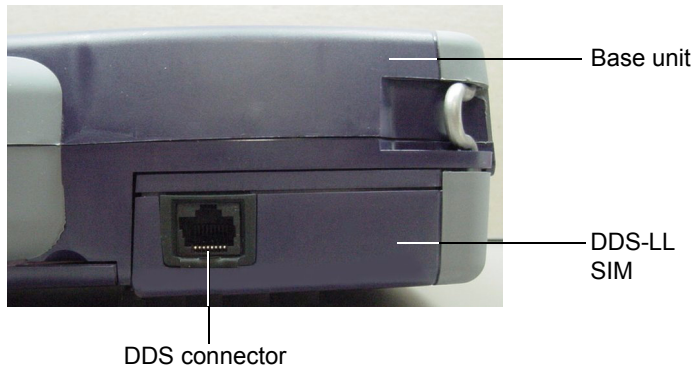
LED	Description
Data	<p>A two-color LED that reports pattern synchronization status.</p> <ul style="list-style-type: none"> <li>– Green indicates pattern synchronization has been achieved on all active channels.</li> <li>– Red indicates that at least one of the active channels does not have pattern synchronization.</li> <li>– If the Data LED is not illuminated, no pattern synchronization has been detected on any active channel.</li> </ul>
Error	<p>An LED that reports error conditions.</p> <ul style="list-style-type: none"> <li>– Solid red indicates an error.</li> <li>– If the Error LED is not illuminated it means all Summary results are OK.</li> </ul>
Alarm	<p>This LED is not used in DDS local loop testing.</p>
LpBk	<p>An LED that shows when the HST is in loopback.</p> <ul style="list-style-type: none"> <li>– Green indicates that the HST has been successfully looped up.</li> <li>– If the LpBk LED is not illuminated, then the loopback is active.</li> </ul>

**Table 6**      Status LEDs (Continued)

LED	Description
Batt	<p>A three-color LED that indicates the battery status.</p> <ul style="list-style-type: none"><li>– The Batt LED is off when the battery has a useful charge.</li><li>– Solid or flashing amber indicates the battery capacity indicator (“gas gauge”) needs to be reset (see the <i>HST-3000 Base Unit User’s Guide</i>).</li><li>– Solid green indicates a power source is plugged in.</li><li>– Solid red indicates the battery is at about 20 percent or below full charge.</li><li>– Flashing red indicates about five minutes of use remains. When this happens, the battery should be charged or replaced immediately. For information about recharging or changing the battery, see the <i>HST-3000 Base Unit User’s Guide</i>.</li></ul>

## DDS-LL interface

The electrical interface for the DDS-LL testing is an eight position modular connector located on the side of the SIM (see [Figure 1](#)). Four conductors are used on the connector. For pin assignments, see [Table 7 on page 6](#).



**Figure 1** DDS interface connector

### NOTE:

The DDS interface connector is protected by a flexible dust cap. The dust cap is a permanent fixture and should not be removed.



### 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 telephone-network voltage (TNV) signals only to TNV ports.

Table 7 shows the pin assignments for the DDS-LL interface. For additional interface specifications, see [“Interface specifications” on page 44](#).

**Table 7** DDS connector pin outs (CSU/DSU Emulation)

Pin Number	Function
1	Ring Lead, Transmit data (Tx)
2	Tip Lead, Transmit Data (Tx)
3	Not Used
4	Not Used
5	Not Used
6	Not Used
7	Tip Lead, Receive Data (Rx)
8	Ring Lead, Receive Data (Rx)

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## Test modes

DDS-LL tests are performed in Terminate mode. In Terminate mode, the HST separates the transmit and receive sides of a DDS path. The input signal is terminated at the receive side, and a totally independent signal is generated for the output.

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## Options

You can order software options to add functionality to the HST-3000. For DDS-4WLL, the following option is available:

- Frame Relay — Allows you to test frame relay services. Available for E1, T1, Datacom, and DDS local loop SIMs. (Ordering number: HST3000-FR)

For information about purchasing options for the HST-3000, contact your JDSU representative or your local JDSU sales office. You can also contact JDSU through the company web site, [www.jdsu.com](http://www.jdsu.com).

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## Launching an application

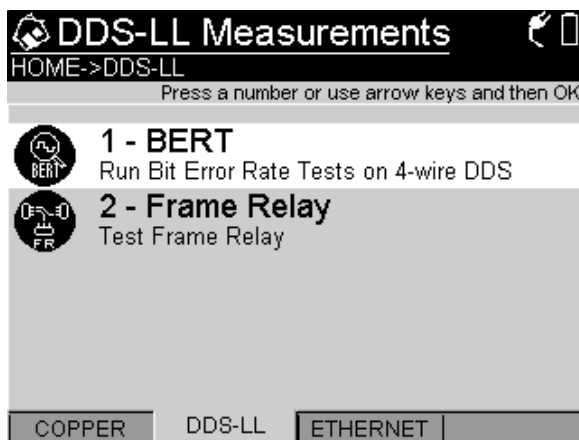
Before you can launch an application, you must have a DDS-LL SIM. Make sure the SIM is properly connected to the HST base unit before you power on the unit. For information about connecting a SIM and powering the HST, see the *HST-3000 Base Unit User's Guide*.

The following procedure describes how to launch an application.

### To launch the DDS-LL application

- 1 Power on the HST-3000.
- 2 Press the **DDS-LL** soft key.

The DDS-LL Measurements menu appears. This menu lists the available DDS-LL test applications. Menu items vary depending on the options you purchased.



- 3** Press a number key that corresponds to the application you want to launch. For example, press the 1 key to launch the BERT application. You can also use the up and down arrow keys to highlight your selection, and the press the OK key. The following table lists all currently available T1 applications.

Application	Select...
Bit error rate testing on the DDS four-wire local loop	<b>BERT</b>
Frame relay testing	<b>Frame Relay</b> For information about Frame Relay testing, see the <i>HST-3000 Frame Relay Testing User's Guide</i> .

The HST launches the application.

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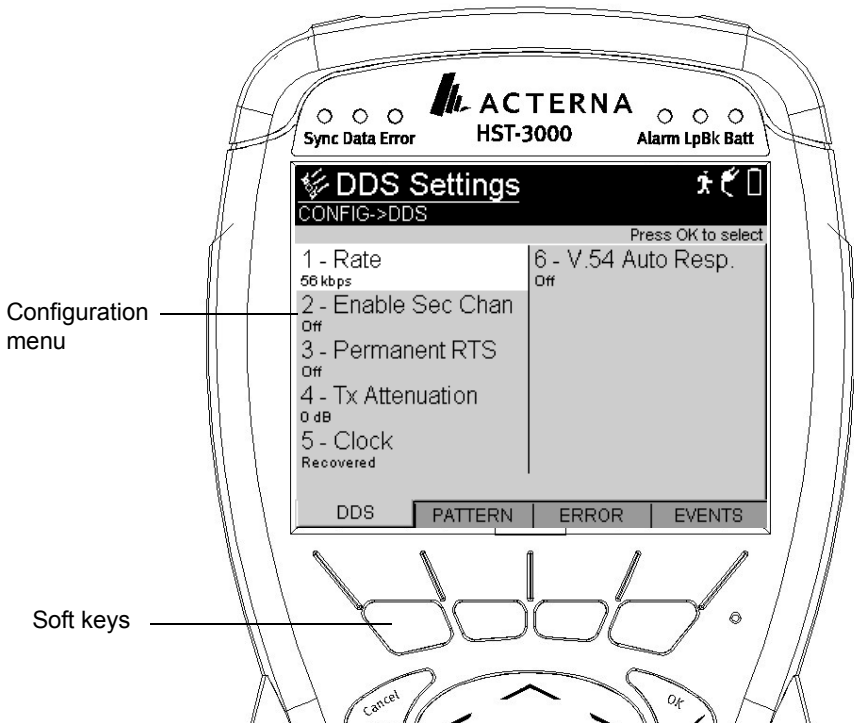
## Accessing the test configuration menus

To configure test settings, you must access the configuration settings menus. The following procedure describes how to access the menus.

**To access the test configuration menus**

- 1** Launch the **DDS-LL** application. See [“Launching an application” on page 7](#).
- The HST launches the application and a test result screen appears.
- 2** Press the **Configure** navigation key.

A settings menu appears. Menus vary depending on the application you selected.



- 3 To view a different menu, press the corresponding soft key.

For example, to configure a test pattern, press the PATTERN soft key.

You have accessed the test configuration menus.



## **Instrument settings and user preferences**

For information about changing instrument and preference settings, such as date and time format, port settings, sound, and screen settings, see the *HST-3000 Base Unit User's Guide*.