

Chapter 20

BERT Operational Mode Commands

Table 42 summarizes the command-line interface (CLI) commands you can use to monitor and troubleshoot the Bit Error Rate Test (BERT) on router interfaces. In the table, the commands are grouped by functionality. In the remainder of this chapter, they are explained in alphabetical order.

Table 42: Commands for Monitoring Interfaces with BERT

Task or Information to Monitor	CLI Command
Start bit error rate testing.	test interface bert-start on page 310
Stop bit error rate testing.	test interface bert-stop on page 310
Transmit over FDL to initiate or terminate a far-end line loopback.	test interface fdl-line-loop on page 311
Transmit over FDL to initiate or terminate a far-end payload loopback.	test interface fdl-payload-loop on page 312
Transmit the line loopback activate code word sequence on the interface's FEAC channel.	test interface feac-loop-initiate on page 313
Transmit the line loopback deactivate code word sequence on the interface's FEAC channel.	test interface feac-loop-terminate on page 314

test interface bert-start

Syntax test interface t3-*fpc/pic/port* <:*channel*> bert-start

Description Start bit error rate testing. Before starting a BERT test, you must disable the interface. You can run a BERT test on only one interface per PIC at any one time.

To configure the BERT parameters—the algorithm, bit error rate, and test duration—include the bert-algorithm, bert-error-rate, and bert-period statements, respectively, at the [edit interfaces *interface-name* t3-options] hierarchy level.

To display the results of the BERT test, use the show interfaces extensive command.

Options t3-*fpc/pic/port* <:*channel*>—Name of interface. Channel number indicates a channelized OC-12 interface.

Sample Output

```

user@host> test interface t3-5/2/0 bert-start
user@host> show interfaces t3-5/2/0 extensive
...
DSU configuration:
  Compatibility mode: None, Scrambling: Disabled, Subrate: Disabled
  FEAC loopback: Inactive, Response: Disabled, Count: 0
  BERT time period: 10 seconds, Elapsed: 10 seconds (completed)
  Algorithm: 2^3 - 1, Pseudorandom (1), Error rate: 10e-0
  Bit count : 5656, Overflows: 0
  Error bit count: 811, Overflows: 0
  LOS status: OK, LOS count: 1, LOS seconds: 9
...

```

Required Privilege Level view

See Also show interfaces on page 13
test interface bert-stop on page 310

test interface bert-stop

Syntax test interface t3-*fpc/pic/port* <:*channel*> bert-stop

Description Stop bit error rate testing.

To display the results of the BERT test, use the show interfaces extensive command.

Options t3-*fpc/pic/port* <:*channel*>—Name of a T3 interface. Channel number indicates a channelized OC-12 interface.

Required Privilege Level view

See Also show interfaces on page 13
test interface bert-start on page 310

test interface fdl-line-loop

Syntax test interface t1-*fpc/pic/port* <:*channel*> fdl-line-loop ansi | bellcore initiate | terminate

Description Send commands over the Facility Data Link (FDL) on a T1 interface to initiate or terminate a far-end line loopback using either an ANSI or Bellcore FDL command code. If the far end of the connection is in C-bit parity mode and it has been configured to accept line loopback requests from the near end, the far end executes the request.



NOTE: Juniper Networks T1 interfaces do not respond to this command. For more information, see the ANSI T1.107 specification.

Options t1-*fpc/pic/port* <:*channel*>—Name of a T1 interface. Channel number indicates a channelized DS-3 to DS-1 interface.

ansi—ANSI FDL command code.

bellcore—Bellcore FDL command code.

initiate—Initiate the far-end payload loopback.

terminate—Terminate the far-end payload loopback.

Required Privilege Level view

See Also test interface fdl-payload-loop on page 312

test interface fdl-payload-loop

Syntax test interface t1-*fpc/pic/port* <:*channel*> fdl-payload-loop ansi | bellcore initiate | terminate

Description Send commands over the Facility Data Link (FDL) on a T1 interface to initiate or terminate a far-end payload loopback using either an ANSI or Bellcore FDL command code. If the far end of the connection is in C-bit parity mode and has been configured to accept payload loopback requests from the near end, the far end executes the request.



NOTE: Juniper Networks T1 interfaces do not respond to this command. For more information, see the ANSI T1.107 specification.

Options t1-*fpc/pic/port* <:*channel*>—Name of a T1 interface. Channel number indicates a channelized DS-3 to DS-1 interface.

ansi—ANSI Facility Data Link (FDL) command code.

bellcore—Bellcore FDL command code.

initiate—Initiate the far-end payload loopback.

terminate—Terminate the far-end payload loopback.

Required Privilege Level view

See Also test interface feac-loop-initiate on page 313

test interface feac-loop-initiate

Syntax test interface t3-*fpc/pic/port* <:*channel*> feac-loop-initiate

Description Have the interface transmit the word sequence for the line loopback activate code on its FEAC channel. If the far end of the connection is in C-bit parity mode and has been configured to accept remote loopback requests from the near end, the far end places its interface into remote loopback. See the ANSI T1.107 specification for more details.

If the far end is a Juniper Networks router, it accepts the request and places itself into remote loopback if the following are true:

The router is configured to respond to FEAC loop requests; that is, the feac-loop-respond statement is included at the [edit interfaces *interface-name* t3-options] hierarchy level.

The router is running in C-bit parity mode (enabled by default).

The router has no locally configured local or remote loopback; that is, no loopback statement is included at the [edit interfaces *interface-name* t3-options] hierarchy level.

To display the state of FEAC-initiated loopback and the number of times the interface has placed itself into remote loopback using a FEAC request, use the show interfaces extensive command.

Options t3-*fpc/pic/port* <:*channel*>—Name of a T3 interface. Channel number indicates a channelized OC-12 interface.

Required Privilege Level view

See Also show interfaces on page 13
test interface feac-loop-terminate on page 314

For information about the feac-loop-respond statement and the loopback statement, see the *JUNOS Internet Software Network Interfaces and Class of Service Configuration Guide*.

test interface feac-loop-terminate

Syntax test interface t3-*fpc/pic/port* <:*channel*> feac-loop-terminate

Description Have the interface transmit the line loopback deactivate code word sequence on its FEAC channel. If the far end of the connection is in C-bit parity mode and has been configured to accept remote loopback requests from the near end, the far end clears remote loopback on the interface. See the ANSI T1.107 specification for more details.

If the far end is a Juniper Networks router that has been configured to respond to FEAC loop requests (that is, the feac-loop respond statement is included at the [edit interfaces *interface-name* t3-options] hierarchy level), is in C-bit parity mode (enabled by default), and has no locally configured local or remote loopback (that is, no loopback statement is included at the [edit interfaces *interface-name* t3-options] hierarchy level), the far-end interface accepts the request and clears remote loopback.

Options t3-*fpc/pic/port* <:*channel*>—Name of a T3 interface. Channel number indicates a channelized OC-12 interface.

Required Privilege Level view

See Also show interfaces on page 13
test interface feac-loop-initiate on page 313