

## Chapter 5

# Channelized DS-3 to DS-1 Interfaces Operational Mode Command

This chapter describes the `show interfaces` command you use to monitor and troubleshoot channelized DS-3 to DS-1 interfaces.

### show interfaces (for Channelized DS-3 to DS-1 Interfaces)

---

<b>Syntax</b>	<code>show interfaces t1-<i>fpc/pic/port:channel</i> &lt;brief   detail   extensive&gt; &lt;destination-class <i>destination-class-name</i>&gt; &lt;interval&gt; &lt;media&gt; &lt;source-class <i>source-class-name</i>&gt; &lt;statistics&gt;</code>
<b>Description</b>	Display status information about channelized DS-3 to DS-1 router interfaces.
<b>Options</b>	<p><code>none</code>—Display information about all interfaces.</p> <p><code>t1-<i>fpc/pic/port:channel</i></code>—Name of an interface.</p> <p><code>brief</code>—(Optional) Display brief interface information.</p> <p><code>detail</code>—(Optional) Display detailed interface information.</p> <p><code>extensive</code>—(Optional) Display very detailed interface information.</p> <p><code>destination-class <i>destination-class-name</i></code>—(Optional) Name of a logical grouping of prefixes that count packets having the destination address matching those prefixes. Whenever a destination class is specified, you must also specify a particular logical interface, not all interfaces.</p> <p><code>interval</code>—(Optional) Display Channel Service Unit (CSU) interface alarm and error count in 15-minute intervals for the past 24 hours. If the system has been up for less than 24 hours, the maximum number of intervals available is displayed.</p> <p><code>media</code>—(Optional) Display media-specific information about network interfaces.</p>

source-class *source-class-name*—(Optional) Name of a logical grouping of prefixes that count packets having the source address matching those prefixes. Whenever a source class is specified, you must also specify a particular logical interface, not all interfaces.

statistics—(Optional) Display static interface statistics.

**Required Privilege Level** view

**Sample Output** show interfaces (standard) (for Channelized DS-3 to DS-1 Interfaces) on page 82  
 show interfaces brief (for Channelized DS-3 to DS-1 Interfaces) on page 83  
 show interfaces detail (for Channelized DS-3 to DS-1 Interfaces) on page 83  
 show interfaces extensive (for Channelized DS-3 to DS-1 Interfaces) on page 84  
 show interfaces interval (for Channelized DS-3 to DS-1 Interfaces) on page 86  
 show interfaces media (for Channelized DS-3 to DS-1 Interfaces) on page 86  
 show interfaces statistics (for Channelized DS-3 to DS-1 Interfaces) on page 87

**Output Fields at a Glance** Table 9 summarizes the information included in the output fields of each show interfaces command option for channelized DS-3 to DS-1 interfaces. In this table, output fields are listed in alphabetical order. Table 10 on page 77 lists the output fields in the order in which they are displayed.

**Table 9: Channelized DS-3 to DS-1 Show Interfaces Output Field Summary (Alphabetical Order)**

Options	Field Description
All	Active alarms and Active defects—T1 media-specific defects that can render the interface unable to pass packets.
Interval	Alarms and defects: <i>n</i> —Count of alarms and defects within each 15-minute interval.
Extensive	ANSI LMI settings—Settings for link management can be either ANSI LMI settings or ITU LMI settings. ANSI LMI settings is the default. The format is ANSI LMI settings: <i>value, value... xx</i> seconds.
Detail Extensive	BERT time period—Configured total time period that the BERT test is to run.
Extensive	Bucket Drops—Drops due to traffic load exceeding the interface transmit/receive leaky bucket configuration. The default is off.
All	Buildout—Buildout setting.
Detail Extensive	Broadcast—Broadcast address.
Standard Detail Extensive	CHAP state—Displays the state of the Challenge Handshake Authentication Protocol (CHAP) during its transaction.
All	Clocking—Reference clock source. It can be Internal or External.
All	Destination—IP address of the remote side of the connection.
Detail Extensive	Destination class—List of the names of destination class usage (DCU) counters per family and per class for this interface. The counters display Packets and Bytes going to designated user-selected prefixes.
All	Device Flags—Information about the physical device. Possible values are described in “Device Flags” on page 7.
Detail Extensive	DS1 BERT Algorithm—Type of algorithm selected for Bit Error Rate Testing.
Detail Extensive	DS1 BERT configuration—Configured and actual DS-1 Bit Error Rate Testing (BERT) information.
Detail Extensive	DS-3 BERT configuration—Configured and actual DS-3 Bit Error Rate Testing (BERT) information.
Extensive	DS3 media—Counts of T3 media-specific errors.
Extensive	DSU Configuration—Information about the DSU configuration. The last three lines (Bit count, Error bit count, and LOS information) are displayed only if a BERT test has ever been run on the interface.

Options	Field Description
All	Family flags—Information about the protocol family flags. Possible values are described in “Family Flags” on page 9.
Detail Extensive	Elapsed—Actual time elapsed since the start of the BERT.
All	Enabled—State of the interface. Possible values are described in “Enabled” on page 7.
All	Encapsulation—Encapsulation on the logical interface.
All	FCS—Frame check sequence on the interface (either 16 or 32). The default is 16 bits.
Detail Extensive	Filters—Name of the firewall filters to be evaluated when packets are received or transmitted on the interface. The format is Filters: Input: <i>input-filter-name</i> , Output: <i>output-filter-name</i> .
All	Framing—Physical layer framing format used on the link. It can be ESF or SF. The default is ESF.
Extensive	Framing errors—Sum of AAL5 packets that have FCS errors, AAL5 packets that have reassembly timeout errors, and AAL5 packets that have length errors.
Detail Extensive	Generation—A unique number for use by Juniper Networks Customer Support only.
Extensive	Giants—Frames received that are larger than the giant threshold.
Extensive	HDLC configuration—Information about the HDLC configuration.
Interval	<i>hh:mm-current</i> —The time of day (in hours and minutes) at the beginning of the latest counter interval. The value of the latest counter interval is always less than 15 minutes.
Interval	<i>hh:mm-hh:mm</i> —The time of day (in hours and minutes) at the beginning and end of each 15-minute interval.
Detail Extensive	Hold-times—Current interface hold-time up and hold-time down, in milliseconds.
Detail Extensive	Induced error rate—Configured rate at which the bit errors are induced in the BERT pattern.
Extensive	Input errors—Input errors on the interface.
Standard	Input rate, Output rate—Rate of bits and packets received and transmitted on the interface.
All	Interface Flags—Information about the interface.
All	Interface index—Physical interface’s index number, which reflects its initialization sequence.
Extensive	Interface transmit queues—Transmit queue statistics and configuration for each DS-1 channel on the Channelized DS-3 to DS-1 PIC.
Interval	Interval Total—The sum of all the alarm and defect counters for the last 24-hour period or the total time if the PIC was installed less than 24 hours ago.
Extensive	ITU LMI settings—Settings for link management can be either ANSI LMI settings or ITU LMI settings. ANSI LMI settings is the default. The format is ITU LMI settings: <i>value, value... xx</i> seconds
Standard	Keepalive Input, Output—Number of keepalive packets sent and received by PPP and how long ago the last keepalive packets were sent and received.
Detail Extensive	Keepalive settings—Configured settings for keepalives.
Detail Extensive	Keepalive statistics—Number of keepalive packets sent and received by PPP and how long ago the last keepalive packets were sent and received.
All	Last flapped—Date, time, and how long ago the interface went from down to up.
All	LCP state—Specific PPP bits. Opened indicates that they have been initialized and opened, which means that the link is healthy.
All	Link Flags—Information about the link. Possible values are described in “Link Flags” on page 8.
All	Link-level type—Encapsulation being used on the physical interface.
Extensive	LMI Statistics—Statistics about link management, including a count of packets sent and received, and the time of the last activity.
All	Local—IP address of the logical interface.

Options		Field Description
Detail	Extensive	Local statistics—Statistics for traffic received from and transmitted to the Routing Engine.
All		Logical interface, Index, SNMP ifIndex—Name of the logical interface, the logical interface's index number (which reflects its initialization sequence), and the logical interface's SNMP interface index number.
All		Loopback—Whether loopback is enabled and the type of loopback (either local or remote).
All		MTU—MTU size on the physical interface.
All		NCP state—Specific PPP bits. Opened indicates that they have been initialized and opened, which means that the link is healthy.
Extensive		Output errors—Output errors on the interface.
Extensive		Packet Forwarding Engine configuration—Information about how the Packet Forwarding Engine is configured.
All		Physical interface—Name of the physical interface.
All		Physical link—State of the physical interface. It can be Up or Down.
Detail	Extensive	Policer—Policers to be evaluated when packets are received or transmitted on the interface. The format is Policer: Input: <i>type-fpc/pic/port</i> -in-policer, Output: <i>type-fpc/pic/port</i> -out-policer.
All		Protocol—Protocol running on the logical interface, such as iso, inet6, mpls.
Detail	Extensive	RPF Failures: Packets: <i>xx</i> , Bytes: <i>yy</i> —The amount of incoming traffic (in packets and bytes) that failed a unicast Reverse Path Forwarding (RPF) check on this interface.
Extensive		Runts—Frames received that are smaller than the runt threshold.
All		SNMP ifIndex—SNMP index number for the physical interface.
Detail	Extensive	Source class—List of the names of source class usage (SCU) counters per family and per class for this interface. The counters display Packets and Bytes arriving from designated user-selected prefixes.
All		Speed—Speed at which the interface is running.
Detail	Extensive	Statistics last cleared—Time when the statistics for the interface were last zeroed.
Extensive		T1 media—Counts of T1 media-specific errors.
Extensive		T3 media—Counts of T3 media-specific errors.
Detail	Extensive	Traffic statistics—Number and rate of bytes and packets received and transmitted on the physical or logical interface.
Detail	Extensive	Transit statistics—Statistics for traffic transiting the router.

**Table 10: Channelized DS-3 to DS-1 Show Interfaces Output Field Summary (Order of Appearance)**

Output Field	Output Field Description
<b>Physical Interface</b>	
Physical interface	Name of the physical interface.
Enabled	State of the interface. Possible values are described in “Enabled” on page 7.
Physical link	State of the physical interface. It can be Up or Down.
Interface index	Physical interface’s index number, which reflects its initialization sequence.
SNMP ifIndex	SNMP index number for the physical interface.
Generation	A unique number for use by Juniper Networks Customer Support only.
Link-level type	Encapsulation being used on the physical interface.
MTU	MTU size on the physical interface.
Clocking	Reference clock source. It can be Internal or External.
Speed	Speed at which the interface is running.
Loopback	Whether loopback is enabled and the type of loopback (local or remote).
FCS	Frame check sequence on the interface (either 16 or 32). The default is 16 bits.
Framing	Physical layer framing format used on the link. It can be G704, G704-NO-CRC4, or Unframed. The default is G704.
Device flags	Information about the physical device. Possible values are described in “Device Flags” on page 7.
Interface flags	Information about the interface.
Link flags	Information about the link. Possible values are described in “Link Flags” on page 8.
LMI settings	(Extensive output only) Settings for link management can be either ANSI LMI settings or ITU LMI settings. ANSI LMI settings is the default. The format is (ANSI or ITU) LMI settings: <i>value, value... xx</i> seconds, where <i>value</i> can be: n391dte—DTE full status polling interval (1..255) n392dce—DCE error threshold (1..10) n392dte—DTE error threshold (1..10) n393dce—DCE monitored event count (1..10) n393dte—DTE monitored event count (1..10) t391dte—DTE polling timer (5..30 seconds) t392dce—DCE polling verification timer (5..30 seconds)
LMI Statistics	(Extensive output only) Statistics about the Link Management. Input—Number of packets coming in on the interface ( <i>nn</i> ) and how much time has passed since the last packet arrived. The format is Input: <i>nn</i> (last seen <i>hh:mm:ss</i> ago). Output—Number of packets sent out on the interface ( <i>nn</i> ) and how much time has passed since the last packet was sent. The format is Output: <i>nn</i> (last sent <i>hh:mm:ss</i> ago).
Hold-times	Current interface hold-time up and hold-time down, in milliseconds.
Keepalive Input, Output	(Standard output only) Number of keepalive packets sent and received by PPP and how long ago the last keepalive packets were sent and received.

Output Field	Output Field Description
Keepalive settings	Configured settings for keepalives. interval <i>seconds</i> —The time in seconds between successive keepalive requests. The range is 10 seconds through 32,767 seconds, with a default of 10 seconds. down-count <i>number</i> —The number of keepalive packets a destination must fail to receive before the network takes a link down. The range is 1 through 255, with a default of 3. up-count <i>number</i> —The number of keepalive packets a destination must receive to change a link's status from down to up. The range is 1 through 255, with a default of 1.
Keepalive statistics	Information about keepalive packets. Input—Number of keepalive packets received by PPP. (last seen 00:00:00 ago)—Time since the last keepalive packet was received in the format <i>hh:mm:ss</i> . Output—Number of keepalive packets sent by PPP and how long ago the last keepalive packets were sent and received. (last seen 00:00:00 ago)—Time since the last keepalive packet was sent in the format <i>hh:mm:ss</i> .
LCP state	Specific PPP bits. Opened indicates that they have been initialized and opened, which means that the link is healthy.
NCP state	Specific PPP bits. Opened indicates that they have been initialized and opened, which means that the link is healthy.
Statistics last cleared	Time when the statistics for the interface were last zeroed.
CHAP state	Displays the state of the Challenge Handshake Authentication Protocol (CHAP) during its transaction. Not-configured—CHAP was not configured on the interface. Success—CHAP authentication was successful. Fail—CHAP authentication failed. Chap-Resp-received—Received response for the challenge sent, but not yet moved into the Success state. (Most likely with RADIUS authentication.) Chap-Resp-sent—Response sent for the challenge received. Chap-Chal-sent—Challenge sent. Chap-Chal-received—Challenge received but response not yet sent.
Last Flapped	Date, time, and how long ago the interface went from down to up. The format is Last flapped: <i>year-month-day hour:minute:second timezone (hour:minute:second ago)</i> . For example, Last flapped: 2002-04-26 10:52:40 PDT (04:33:20 ago).
Traffic statistics	Number and rate of bytes and packets received and transmitted on the physical interface. Input bytes, Output bytes—Number of bytes received and transmitted on the interface. Input packets, Output packets—Number of packets received and transmitted on the interface.
Input rate, Output rate	(Standard output only) Rate of bits (in bps) and packets (in pps) received and transmitted on the interface.

Output Field	Output Field Description
Input errors	<p>(Extensive output only) Input errors on the interface. The following paragraphs explain the counters whose meaning might not be obvious:</p> <p>Errors—Sum of the incoming frame aborts and FCS errors.</p> <p>Drops—Number of packets dropped by the output queue of the I/O Manager ASIC. If the interface is saturated, this number increments once for every packet that is dropped by the ASIC's RED mechanism.</p> <p>Framing errors—Sum of AAL5 packets that have FCS errors, AAL5 packets that have reassembly timeout errors, and AAL5 packets that have length errors.</p> <p>Bucket Drops—Drops due to traffic load exceeding the interface transmit/receive leaky bucket configuration. The default is off.</p> <p>Giants—Frames received that are larger than the giant threshold.</p> <p>Runts—Frames received that are smaller than the runt threshold.</p> <p>Policed discards—Frames that the incoming packet match code discarded because they were not recognized or of interest. Usually, this field reports protocols that the JUNOS software does not handle, such as CDP.</p> <p>L3 incompletes—Increments when the incoming packet fails Layer 3 (usually IPv4) sanity checks of the header. For example, a frame with less than 20 bytes of available IP header would be discarded and this counter would increment.</p> <p>L2 channel errors—Counter increments when the software could not find a valid logical interface for an incoming frame.</p> <p>L2 mismatch timeouts—Count of malformed or short packets that causes the incoming packet handler to discard the frame as unreadable.</p> <p>SRAM errors—This counter increments when a hardware error has occurred in the SRAM on the PIC. The value in this field should always be 0. If it increments, the PIC is broken.</p> <p>HS link FCS errors—Count of errors on the high-speed links between the ASICs responsible for handling the router interfaces.</p>
Output errors	<p>(Extensive output only) Output errors on the interface. The following paragraphs explain the counters whose meaning might not be obvious:</p> <p>Carrier transitions—Number of times the interface has gone from down to up. This number should not increment quickly, increasing only when the cable is unplugged, the far-end system is powered down and up, or a similar problem occurs. If it increments quickly (perhaps once every 10 seconds), then either the cable, the far-end system, or the PIC is broken.</p> <p>Errors—Sum of the outgoing frame aborts and FCS errors.</p> <p>Drops—Number of packets dropped by the output queue of the I/O Manager ASIC. If the interface is saturated, this number increments once for every packet that is dropped by the ASIC's RED mechanism.</p> <p>Aged packets—Number of packets that remained in shared packet SDRAM for so long that the system automatically purged them. The value in this field should never increment. If it does, it is most likely a software bug or possibly broken hardware.</p>
Active alarms and Active defects (T1)	<p>T1 media-specific defects that can render the interface unable to pass packets. When a defect persists for a certain amount of time, it is promoted to an alarm. Based on the router configuration, an alarm can ring the red or yellow alarm bell on the router, or turn on the red or yellow alarm LED on the craft interface.</p> <p>LOS—Loss of signal.</p> <p>LOF—Loss of frame.</p> <p>AIS—Alarm indication signal.</p> <p>YLW—Yellow alarm. Indicates errors at the remote site receiver.</p>
T1 media	Counts of T1 media-specific errors.
T3 media	Counts of T3 media-specific errors.

Output Field	Output Field Description
HDLC configuration	<p>(Extensive output only) Information about the HDLC configuration.</p> <ul style="list-style-type: none"> <li>Policing bucket—Configured state of the Rx policer.</li> <li>Shaping bucket—Configured state of the Tx shaper.</li> <li>Giant threshold—Giant threshold programmed into the hardware.</li> <li>Runt threshold—Runt threshold programmed into the hardware.</li> <li>Timeslots—Configured time slots for the interface.</li> <li>Line encoding—Line encoding used. It can be B8ZS or AMI.</li> <li>Byte encoding—Byte encoding used. It can be Nx64K or Nx56K.</li> <li>Data inversion—HDLC data inversion setting. It can be Enabled or Disabled.</li> <li>Buildout—Buildout setting.</li> </ul>
Interface transmit queues	<p>Name of the transmit queues and their associated statistics for each DS-1 channel on the Channelized DS-3 to DS-1 PIC.</p> <ul style="list-style-type: none"> <li>B/W—Queue bandwidth as a percentage of the total interface bandwidth.</li> <li>WRR—Weighted round robin (in percent).</li> <li>Packets—Number of packets transmitted.</li> <li>Drops—Number of packets dropped.</li> <li>Errors—Number of packet errors.</li> </ul>
DSU Configuration	<p>Information about the DSU configuration. The last three lines (Bit count, Error bit count, and LOS information) are displayed only if a BERT test has ever been run on the interface.</p> <ul style="list-style-type: none"> <li>Compatibility mode—CSU/DSU compatibility mode. It can be None, Larscom, Kentrox, or Digital-Link.</li> <li>Scrambling—Payload scrambling. It can be Enabled or Disabled.</li> <li>Subrate—Configured subrate setting. Applies only when Digital-Link compatibility mode is used. It can be Disabled or display units in kbps.</li> </ul>
Buildout	Buildout setting.
DS-3 BERT, DS-1 BERT configuration	<p>BERT (Bit Error Rate Testing) checks the quality of the line. This output only appears when BERT is run on the interface (see “test interface bert-start” on page 310).</p> <ul style="list-style-type: none"> <li>BERT time period—Configured total time period that the BERT test is to run.</li> <li>Elapsed—Actual time elapsed since the start of the BERT (in seconds).</li> <li>Induced error rate—Configured rate at which the bit errors are induced in the BERT pattern.</li> <li>Algorithm—Type of algorithm selected for the BERT. It can be Pseudorandom, Repetitive, or All ones.</li> </ul>

Output Field	Output Field Description
Packet Forwarding Engine configuration	(Extensive output only) Information about the configuration of the Packet Forwarding Engine: Destination slot—FPC slot number. PLP byte—Packet Level Protocol byte. Stream number—Stream used by the ASIC on the FPC. CoS transmit queue—The queue number and its associated user-configured forwarding class name. Bandwidth %—Percentage of bandwidth allocated to the queue. Bandwidth bps—Bandwidth allocated to the queue (in bps). Buffer %—Percentage of buffer space allocated to the queue. Buffer Bytes—Number of bytes allocated to the queue. This value is only non-zero if the buffer size is configured in terms of time. Priority—Queue priority. Possible values are low and high. Limit—Displayed if rate limiting is configured for the queue. Possible values are none and exact. If exact is configured, the queue will only transmit up to the configured bandwidth, even if there is excess bandwidth available. If none is configured, the queue will transmit beyond the configured bandwidth if there is bandwidth available.
<b>Logical Interface</b>	
Logical interface, Index, SNMP ifIndex	Name of the logical interface, the logical interface's index number (which reflects its initialization sequence), and the logical interface's SNMP interface index number.
Flags	Information about the logical interface. Possible values are described in "Logical Interface Flags" on page 9.
Protocol	Protocol running on the logical interface, such as iso, inet6, mpls.
Encapsulation	Encapsulation on the logical interface.
Traffic statistics	Total number of bytes and packets received and transmitted on the logical interface. These statistics are the sum of the local and transit statistics. When a burst of traffic is received, the value in the output packet rate field might briefly exceed the peak cell rate. It takes a while (generally, less than 1 second) for this counter to stabilize. Input rate—Rate of bits and packets received on the interface. Output rate—Rate of bits and packets transmitted on the interface.
Local statistics	Statistics for traffic received from and transmitted to the Routing Engine. When a burst of traffic is received, the value in the output packet rate field might briefly exceed the peak cell rate. It takes a while (generally, less than 1 second) for this counter to stabilize.
Transit statistics	Statistics for traffic transiting the router. When a burst of traffic is received, the value in the output packet rate field might briefly exceed the peak cell rate. It takes a while (generally, less than 1 second) for this counter to stabilize.
MTU	MTU size on the logical interface.
Flags	Information about the protocol family flags. Possible values are described in "Family Flags" on page 9.
Generation	A unique number for use by Juniper Networks Customer Support only.
Filters	Name of the firewall filters to be evaluated when packets are received or transmitted on the interface. The format is Filters: Input: <i>input-filter-name</i> , Output: <i>output-filter-name</i> .
RPF Failures: Packets: xx, Bytes: yy	The amount of incoming traffic (in packets and bytes) that failed a unicast Reverse Path Forwarding (RPF) check on this interface.
Destination class	List of the names of destination class usage (DCU) counters per family and per class for this interface. The counters display Packets and Bytes going to designated user-selected prefixes.

Output Field	Output Field Description
Source class	List of the names of source class usage (SCU) counters per family and per class for this interface. The counters display Packets and Bytes arriving from designated user-selected prefixes.
Policer	Policers to be evaluated when packets are received or transmitted on the interface. The format is Policer: Input: <i>type-fpc/pic/port-in-policer</i> , Output: <i>type-fpc/pic/port-out-policer</i> .
Addresses	Addresses associated with the logical interface.
Flags	Information about the address flags. Possible values are described in "Address Flags" on page 10.
Destination	IP address of the remote side of the connection.
Local	IP address of the logical interface.
Broadcast	Broadcast address.
<i>hh:mm-current</i>	(Interval output only) The time of day (in hours and minutes) at the beginning of the latest counter interval. The value of the latest counter interval is always less than 15 minutes.
Alarms and defects: <i>n</i>	Count of alarms and defects within each 15-minute interval.
<i>hh:mm-hh:mm</i>	(Interval output only) The time of day (in hours and minutes) at the beginning and end of each 15-minute interval.
Interval Total	(Interval output only) The sum of all the alarm and defect counters for the last 24-hour period or the total time if the PIC was installed less than 24 hours ago.

### show interfaces (standard) (for Channelized DS-3 to DS-1 Interfaces)

```

user@host> show interfaces t1-0/0/0:0
Physical interface: t1-0/0/0:0, Enabled, Physical link is Up
  Interface index: 210, SNMP ifIndex: 14
  Link-level type: PPP, MTU: 1504, Clocking: Internal, Speed: 640kbps,
  Loopback: None, FCS: 16, Mode: C/Bit parity, Framing: ESF
  Device flags   : Present Running
  Interface flags: Point-To-Point SNMP-Traps
  Link flags    : Keepalives
  Keepalive settings: Interval 10 seconds, Up-count 1, Down-count 3
  Keepalive: Input: 26 (00:00:07 ago), Output: 24 (00:00:12 ago)
  LCP state: Opened
  NCP state: inet: Opened, inet6: Not-configured, iso: Not-configured, mpls:
  Not-configured
  CHAP state: Not-configured
  Last flapped   : 2002-05-23 17:30:12 PDT (17:29:01 ago)
  Input rate    : 16 bps (0 pps)
  Output rate   : 16 bps (0 pps)
  DS1 alarms   : None
  DS3 alarms   : None
  DS1 defects  : None
  DS3 defects  : None

Logical interface t1-0/0/0:0.0 (Index 11) (SNMP ifIndex 23)
  Flags: Point-To-Point SNMP-Traps Encapsulation: PPP
  Bandwidth: 0
  Protocol inet, MTU: 1500
  Flags: None
  Addresses, Flags: Is-Preferred Is-Primary
    Destination: 21.21.21.2, Local: 21.21.21.1
    
```

## show interfaces brief (for Channelized DS-3 to DS-1 Interfaces)

---

```

user@host> show interfaces t1-0/0/0:0 brief
Physical interface: t1-0/0/0:0, Enabled, Physical link is Up
Link-level type: PPP, MTU: 1504, Clocking: Internal, Speed: 640kbps,
Loopback: None, FCS: 16, Mode: C/Bit parity, Framing: ESF
Device flags   : Present Running
Interface flags: Point-To-Point SNMP-Traps
Link flags     : Keepalives
Keepalive settings: Interval 10 seconds, Up-count 1, Down-count 3
Keepalive: Input: 27 (00:00:11 ago), Output: 26 (00:00:05 ago)

Logical interface t1-0/0/0:0
Flags: Point-To-Point SNMP-Traps Encapsulation: PPP
inet 21.21.21.1   --> 21.21.21.2

```

## show interfaces detail (for Channelized DS-3 to DS-1 Interfaces)

---

```

user@host> show interfaces t1-0/0/0:0 detail
Physical interface: t1-0/0/0:0, Enabled, Physical link is Up
Interface index: 210, SNMP ifIndex: 14, Generation: 2977
Link-level type: PPP, MTU: 1504, Clocking: Internal, Speed: 640kbps,
Loopback: None, FCS: 16, Mode: C/Bit parity, Framing: ESF
Device flags   : Present Running
Interface flags: Point-To-Point SNMP-Traps
Link flags     : Keepalives
Hold-times     : Up 0 ms, Down 0 ms
Keepalive settings: Interval 10 seconds, Up-count 1, Down-count 3
Keepalive statistics:
  Input : 28 (last seen 00:00:08 ago)
  Output: 27 (last sent 00:00:02 ago)
LCP state: Opened
NCP state: inet: Opened, inet6: Not-configured, iso: Not-configured, mpls:
Not-configured
CHAP state: Not-configured
Last flapped   : 2002-05-23 17:30:12 PDT (17:29:26 ago)
Statistics last cleared: Never
Traffic statistics:
Input bytes   :      896      16 bps
Output bytes  :     1114      16 bps
Input packets:      62      0 pps
Output packets:    78      0 pps
DS1  alarms   : None
DS3  alarms   : None
DS1  defects  : None
DS3  defects  : None
DS-3 BERT configuration:
  BERT time period: 10 seconds, Elapsed: 0 seconds
  Algorithm: Unknown (0), Induced error rate: 10e-0
DS1 BERT configuration:
  BERT time period: 10 seconds, Elapsed: 0 seconds
  Induced Error rate: 10e-0, Algorithm: 2^15 - 1, O.151, Pseudorandom (9)

Logical interface t1-0/0/0:0 (Index 11) (SNMP ifIndex 23) (Generation 497)
Flags: Point-To-Point SNMP-Traps Encapsulation: PPP
Bandwidth: 0
Protocol inet, MTU: 1500, Generation: 576, Route table: 0
Flags: None
Addresses, Flags: Is-Preferred Is-Primary
Destination: 21.21.21.2, Local: 21.21.21.1, Broadcast: Unspecified,
Generation: 977

```

## show interfaces extensive (for Channelized DS-3 to DS-1 Interfaces)

---

```

user@host> show interfaces t1-0/0/0:0 extensive
Physical interface: t1-0/0/0:0, Enabled, Physical link is Up
Interface index: 210, SNMP ifIndex: 14, Generation: 2977
Link-level type: PPP, MTU: 1504, Clocking: Internal, Speed: 640kbps,
Loopback: None, FCS: 16, Mode: C/Bit parity, Framing: ESF
Device flags : Present Running
Interface flags: Point-To-Point SNMP-Traps
Link flags   : Keepalives
Hold-times   : Up 0 ms, Down 0 ms
Keepalive settings: Interval 10 seconds, Up-count 1, Down-count 3
Keepalive statistics:
  Input : 30 (last seen 00:00:05 ago)
  Output: 29 (last sent 00:00:00 ago)
LCP state: Opened
NCP state: inet: Opened, inet6: Not-configured, iso: Not-configured, mpls:
Not-configured
CHAP state: Not-configured
Last flapped : 2002-05-23 17:30:12 PDT (17:29:43 ago)
Statistics last cleared: Never
Traffic statistics:
  Input bytes :          944          16 bps
  Output bytes :         1162          16 bps
  Input packets:          66           0 pps
  Output packets:          82           0 pps
Input errors:
  Errors: 1, Drops: 0, Framing errors: 1, Policed discards: 8,
  L3 incompletes: 0, L2 channel errors: 1, L2 mismatch timeouts: 0,
  HS link CRC errors: 0, SRAM errors: 0
Output errors:
  Carrier transitions: 3, Errors: 0, Drops: 0, Aged packets: 0
DS1 alarms : None
DS3 alarms : None
DS1 defects : None
DS3 defects : None
T1 media:
  Seconds  Count State
SEF        0      0 OK
BEE        11      5 OK
AIS        28      1 OK
LOF        27      1 OK
LOS         0      0 OK
YELLOW     23      1 OK
BPV         0      0
EXZ         0      0
LCV        11    20574
PCV         0      0
CS          0      0
LES        28
ES         28
SES        39
SEFS       50
BES         0
UAS         0

```

```

DS3 media:      Seconds   Count State
PLL Lock        0         0 OK
Reframing       0         0 OK
AIS             0         0 OK
LOF             1         1 OK
LOS             1         1 OK
IDLE            0         0 OK
YELLOW         0         0 OK
BPV             2       131070
EXZ             3       49910
LCV             5       180980
PCV             2         327
CCV            12      264558
LES             3
PES             3
PSES           2
CES            13
CSES           13
SEFS           1
UAS            35

Interface transmit queues:
      B/W WRR   Packets   Bytes   Drops   Errors
Queue0 95 95     0         0       0       0
Queue1  5  5     82       1162    0       0

HDLC configuration:
Giant threshold: 1514, Runt threshold: 3
Timeslots      : 1-10
Line encoding: B8ZS, Byte encoding: Nx64K, Data inversion: Disabled
DS-3 BERT configuration:
BERT time period: 10 seconds, Elapsed: 0 seconds
Algorithm: Unknown (0), Induced error rate: 10e-0
DS1 BERT configuration:
BERT time period: 10 seconds, Elapsed: 0 seconds
Induced Error rate: 10e-0, Algorithm: 2^15 - 1, O.151, Pseudorandom (9)
Packet Forwarding Engine configuration:
Destination slot: 0, PLP byte: 2 (0x00)
CoS transmit queue      Bandwidth      Buffer Priority Limit
      %      bps %      bytes
0 best-effort           95   608000 95     0   low none
3 network-control      5    32000  5     0   low none

Logical interface t1-0/0/0.0 (Index 11) (SNMP ifIndex 23) (Generation 497)
Flags: Point-To-Point SNMP-Traps Encapsulation: PPP
Bandwidth: 0
Protocol inet, MTU: 1500, Generation: 576, Route table: 0
Flags: None
Addresses, Flags: Is-Preferred Is-Primary
  Destination: 21.21.21.2, Local: 21.21.21.1, Broadcast: Unspecified,
  Generation: 977

```

## show interfaces interval (for Channelized DS-3 to DS-1 Interfaces)

---

```

user@host> show interfaces interval t1-0/0/0:0
Physical interface: t1-0/0/0:0, SNMP ifIndex: 19
20:02-current:
  ES-S: 0, SES-S: 0, SEFS-S: 0, ES-L: 0, SES-L: 0, UAS-L: 0, ES-P: 0, SES-P: 0, UAS-P: 0
19:47-20:02:
  ES-S: 267, SES-S: 267, SEFS-S: 267, ES-L: 267, SES-L: 267, UAS-L: 267, ES-P: 267, SES-P: 267, UAS-P: 267
19:32-19:47:
  ES-S: 56, SES-S: 56, SEFS-S: 56, ES-L: 56, SES-L: 56, UAS-L: 46, ES-P: 56, SES-P: 56, UAS-P: 46
19:17-19:32:

```

```

ES-S: 0, SES-S: 0, SEFS-S: 0, ES-L: 0, SES-L: 0, UAS-L: 0, ES-P: 0, SES-P: 0, UAS-P: 0
19:02-19:17:
ES-S: 0, SES-S: 0, SEFS-S: 0, ES-L: 0, SES-L: 0, UAS-L: 0, ES-P: 0, SES-P: 0, UAS-P: 0
18:47-19:02:
ES-S: 1, SES-S: 1, SEFS-S: 1, ES-L: 1, SES-L: 1, UAS-L: 0, ES-P: 1, SES-P: 1, UAS-P: 0
Interval Total:
ES-S: 324, SES-S: 324, SEFS-S: 324, ES-L: 324, SES-L: 324, UAS-L: 313, ES-P:

```

## show interfaces media (for Channelized DS-3 to DS-1 Interfaces)

---

```

user@host> show interfaces t1-0/0/0:0 media
Physical interface: t1-0/0/0:0, Enabled, Physical link is Up
Interface index: 210, SNMP ifIndex: 14
Link-level type: PPP, MTU: 1504, Clocking: Internal, Speed: 640kbps,
Loopback: None, FCS: 16, Mode: C/Bit parity, Framing: ESF
Device flags : Present Running
Interface flags: Point-To-Point SNMP-Traps
Link flags   : Keepalives
Keepalive settings: Interval 10 seconds, Up-count 1, Down-count 3
Keepalive: Input: 31 (00:00:03 ago), Output: 30 (00:00:02 ago)
LCP state: Opened
NCP state: inet: Opened, inet6: Not-configured, iso: Not-configured, mpls:
Not-configured
CHAP state: Not-configured
Last flapped : 2002-05-23 17:30:12 PDT (17:29:52 ago)
Input rate   : 24 bps (0 pps)
Output rate  : 24 bps (0 pps)
DS1 alarms  : None
DS3 alarms  : None
DS1 defects : None
DS3 defects : None
T1 errors:
BPV: 0, EXZ: 0, LCV: 20574, PCV: 0, CS: 0
DS3 errors:
BPV: 131070, EXZ: 49910, LCV: 180980, PCV: 327, CCV: 264558
Interface transmit queues:
      B/W WRR   Packets   Bytes   Drops   Errors
Queue0 95 95     0      0      0      0
Queue1  5  5     85    1198   0      0

```

## show interfaces statistics (for Channelized DS-3 to DS-1 Interfaces)

---

```

user@host> show interfaces t1-0/0/0:0 statistics
Physical interface: t1-0/0/0:0, Enabled, Physical link is Up
Interface index: 210, SNMP ifIndex: 14
Link-level type: PPP, MTU: 1504, Clocking: Internal, Speed: 640kbps,
Loopback: None, FCS: 16, Mode: C/Bit parity, Framing: ESF
Device flags : Present Running
Interface flags: Point-To-Point SNMP-Traps
Link flags   : Keepalives
Keepalive settings: Interval 10 seconds, Up-count 1, Down-count 3
Keepalive: Input: 31 (00:00:09 ago), Output: 31 (00:00:00 ago)
LCP state: Opened
NCP state: inet: Opened, inet6: Not-configured, iso: Not-configured, mpls:
Not-configured
CHAP state: Not-configured
Last flapped : 2002-05-23 17:30:12 PDT (17:29:58 ago)
Statistics last cleared: Never
Input rate   : 24 bps (0 pps)
Output rate  : 24 bps (0 pps)

```

Input errors: 3, Output errors: 0

DS1 alarms : None

DS3 alarms : None

DS1 defects : None

DS3 defects : None

Logical interface t1-0/0/0:0.0 (Index 11) (SNMP ifIndex 23)

Flags: Point-To-Point SNMP-Traps Encapsulation: PPP

Bandwidth: 0

Protocol inet, MTU: 1500

Flags: None

Addresses, Flags: Is-Preferred Is-Primary

Destination: 21.21.21.2, Local: 21.21.21.1

