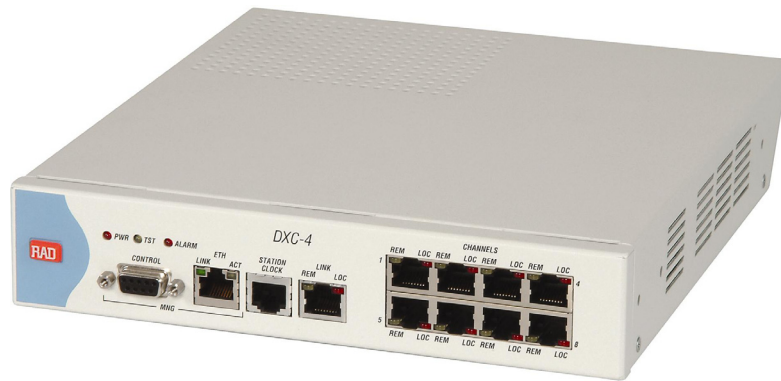


# DXC-4

## E1/T1 Grooming Device



- The E1 interface meets ITU recommendations G.703, G.704, G.706, and G.732. It supports either 2 or 16 frames per multiframe, with or without CRC-4. Line coding is HDB3 or AMI. The user-selectable integral LTU ensures a range of up to 2 km/1.2 miles.
- The T1 interface complies with AT&T TR-62411, ANSI T1.403 and AT&T Pub. 54016. The T1 interface supports D4 and ESF framing formats. Zero suppression over the line is selectable for either transparent, B7ZS or B8ZS. The user-selectable integral CSU ensures a range of up to 2.1 km (1.3 miles).
- Scalable design allows the unit to be ordered with 4 or 8 ports, to support 4 or 8 link channels.

### FEATURES

- Standalone unit for grooming E1/T1 digital transmission lines
- Grooms timeslots on up to 8 E1/T1 links over a single E1/T1 uplink
- Improves network performance
- Includes SNMP management:
  - Out-of-band via V.24 or Ethernet supervisory port
  - Inband via dedicated timeslot
- Local and remote loopbacks on the uplink and link channels
- Optional redundant power supply
- Ready for ETSI rack installation

### DESCRIPTION

- DXC-4 is a standalone unit used for grooming E1/T1 digital transmission lines. DXC-4 can groom DS0 timeslots including the signaling information, into a single E1/T1 link towards a central location. It can also groom traffic from up to 8 fractional E1/T1 links into a single E1/T1 uplink.
- Status and diagnostic information is defined, configured, and monitored using one of the following methods:
  - Serial connection using a local terminal
  - Ethernet connection using SNMP and RADview, RAD's client-server, or CORBA-based Network Management System
  - Telnet
  - Web browser
  - Inband, using a dedicated timeslot over the E1/T1 uplink (for remote units).

# DXC-4

## E1/T1 Grooming Device

- The E1 uplink interface is switch-selectable for a 120Ω balanced interface, or 75Ω unbalanced interface. T1 links have a 100Ω balanced interface.
- DXC-4 can operate in the following timing modes:
  - Internal: The internal oscillator of DXC-4 provides clock signals to the E1/T1 uplink and link channels
  - Station: The unit uses a station clock from its station input as the transmit clock for the uplink and link channels. It can also transmit the station clock to another DXC-4 device. The station clock rate is 2.048 Mbps for E1 links and 1.544 Mbps for T1 links.
  - External (LBT): Clocking is taken from one of the received clocks from the uplink or from any of the link channels
  - Automatic: DXC-4 checks the link channels for synchronization and uses the receive clock of the first synchronized channel.
- Diagnostic capabilities include local and remote loopbacks on the E1/T1 uplink and link channels.
- The device has a combined AC/DC power supply with optional redundancy.
- DXC-4 is a compact standalone unit. One or two units can be installed side-by-side in a 19-inch rack using an optional rack mount adapter kit.

## APPLICATIONS

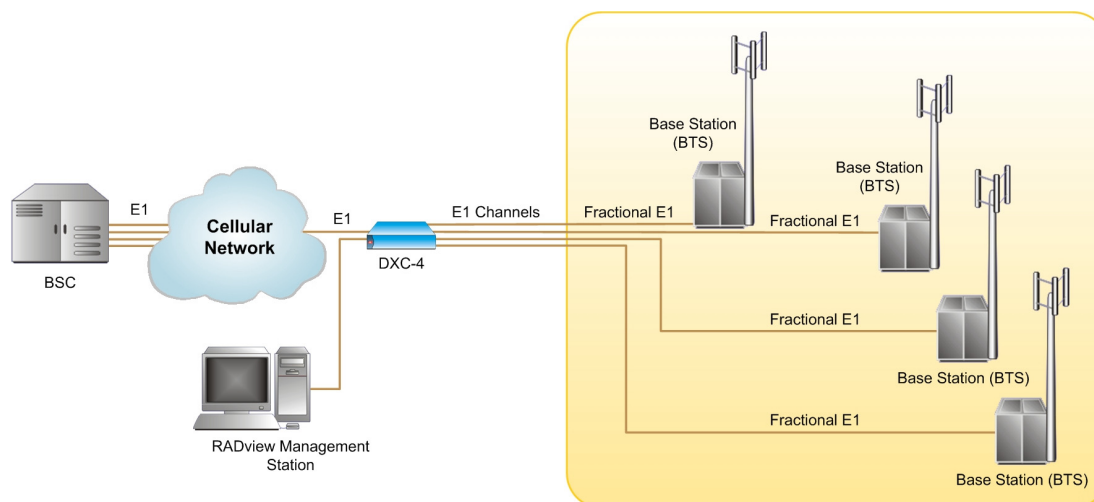


Figure 1. Aggregating Fractional Traffic to E1 Lines

## E1/T1 Grooming Device

### SPECIFICATIONS

#### E1 UPLINK AND LINK CHANNELS

- **Number of Uplinks**  
1
- **Number of Link Channels**  
4 or 8 (see *Ordering*)
- **Framing**
  - G732N, with or without CRC-4
  - G732S, with or without CRC-4
- **Bit Rate**  
2.048 Mbps
- **Line Code**  
HDB3 or AMI
- **Signal Level**
  - Receive, uplink:  
0 to -10 dB, balanced, with DSU  
0 to -6 dB, unbalanced, with DSU  
0 to -36 dB, balanced, with LTU
  - Receive, link channels:  
0 to -15 dB with DSU  
0 to -36 dB with LTU
  - Transmit:  
±3V (±10%), balanced  
±2.37V (±10%), unbalanced
- **Line Impedance**
  - 120Ω, balanced
  - 75Ω, unbalanced
- **Connectors (per port)**
  - Balanced:  
RJ-45, 8-pin
  - Unbalanced:  
RJ-45 (requires adapter cable CBL-RJ45/2BNC/E1 to convert to a pair of BNC connectors)

- **Timing**
  - Internal accuracy: ±30 ppm
  - Loopback timing: ±130 ppm
  - Station timing: ±130 ppm
- **Compliance**  
AT&T TR-62411, AT&T Pub. 54016, ANSI T1.403
- **Jitter Performance**  
As per ITU G.823, ETSI TBR-12 and TBR-13
- **Pulse Shape**  
Per ITU-T Rec. G.703

#### T1 UPLINK AND LINK CHANNELS

- **Number of Uplinks**  
1
- **Number of Link Channels**  
4 or 8 (see *Ordering*)
- **Framing**
  - D4
  - ESF
- **Bit Rate**  
1.544 Mbps
- **Line Code**  
AMI
- **Zero Suppression**  
Transparent, B7ZS, B8ZS
- **Line Impedance**  
100Ω, balanced
- **Timing**  
Internal accuracy: ±30 ppm  
Loopback timing: ±130 ppm  
Station timing: ±130 ppm

- **Signal Level**
  - Receive, uplink:  
0 to -10 dB without CSU  
0 to -36 dB with CSU
  - Receive, link channels:  
0 to -15 dB without CSU  
0 to -36 dB with CSU
  - Transmit:  
0, -7.5, -15, -22.5 dB with CSU  
±3V ±10% soft adjustable at  
0 to 655 ft without CSU
- **Compliance**  
AT&T TR-62411, AT&T Pub. 54016, ANSI T1.403
- **T1 Jitter Performance**  
As per AT&T TR-62411
- **Pulse Shape**  
Per ITU-T Rec. G.703
- **Connectors (per port)**  
RJ-45, 8-pin

#### STATION CLOCK PORT

- **Format**  
Framed / Unframed 1s  
G.703 compatible
- **Bit Rate**  
E1: 2.048 Mbps  
T1: 1.544 Mbps
- **Line Code**  
E1: HDB3  
T1: B8ZS
- **Connector**  
RJ-45, 8-pin

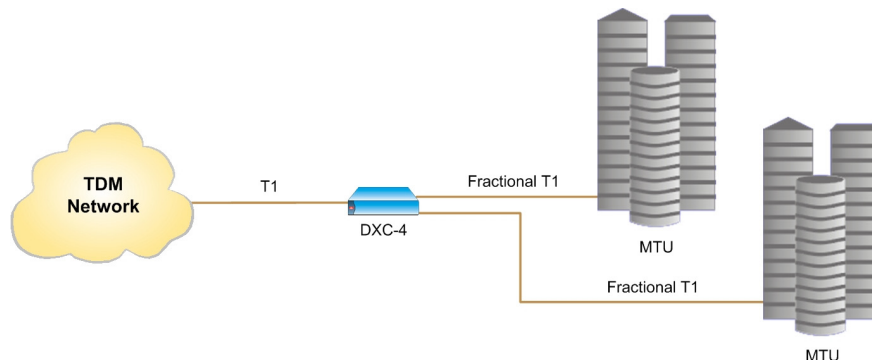


Figure 2. MTU Fractional Service Aggregation

# DXC-4

## E1/T1 Grooming Device

### SUPERVISORY AND MANAGEMENT PORTS

- **V.24/RS-232 CONTROL Port**  
Interface: V.24/RS-232  
Connector: 9-pin D-type, female  
Format: Asynchronous  
Baud rate: 9.6 to 115.2 kbps  
Character: no parity, odd or even parity  
Stop bits: 1, 1.5, or 2
- **ETH Port**  
Interface: 10/100BaseT  
Connector: RJ-45 shielded

### GENERAL

- **Indicators**  
General:
  - PWR (green) – On when the power supply is on
  - TST (yellow) – On when a loopback test is active
  - ALARM (red) – On when an alarm enters the alarm buffer
 E1/T1 Uplink:
  - LOC (red) – On when the local uplink is not synchronized
  - REM (yellow) – On when remote uplink is not synchronized
 Link Channels:
  - LOC per channel (red) – On when the local uplink is not synchronized
  - REM per channel (yellow) – On when the remote uplink is not synchronized
 ETH Management Port:
  - LINK (green) – On when a 10/100BaseT link is established
  - ACT (yellow) – On when activity is present on the management link

- **Timeslot Allocation**  
User-defined, any timeslot maps to any other timeslot
- **Diagnostics**  
Local and remote loopbacks on the E1/T1 uplink and link channels
- **Power**  
Combined AC/DC power supply with redundancy:  
100 to 240 VAC, 7VA  
–48 VDC, 7W
- **Physical**  
Height: 4.4 cm (1.7 in)  
Width: 21.5 cm (8.5 in)  
Depth: 21.3 cm (8.4 in)  
Weight: 0.9 kg (2.0 lb)
- **Environment**  
Temperature: 0–50°C  
(32–122°F)  
Humidity: Up to 90%,  
non-condensing

## ORDERING

### DXC-4/#/&

E1/T1 Grooming Device

- # Specify number of link channels:  
4 for 4 E1/T1 ports  
8 for 8 E1/T1 ports
- & Specify **R** for redundant power supply

### SUPPLIED ACCESSORIES

AC/DC power cord

### OPTIONAL ACCESSORIES

### RM-35/@

Hardware kit for mounting one or two units in a 19-inch rack

- @ Specify rack mount kit type:  
P1 for mounting one unit  
P2 for mounting two units

**RAD**

data communications

**CB**  
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