DXC Modules

D4E1, D8E1

4-Port/8-Port E1 Interface Modules

DESCRIPTION

- D4E1 and D8E1 are four- or eight-port modules used with the modular Digital Cross-Connect units (DXC-8R, DXC-10A, DXC-30, DXC-30E and DXC-STM-1). The modules provide E1 links over copper cable and support E1 or fractional E1 rates.
- D4E1 and D8E1 support both 2 and 16 frames per multiframe (256N and 256S), or 2 Mbps unframed mode per ITU-T Rec. G.703.
- The following line interface options are available:
  - 120Ω balanced interface terminated with individual RJ-45 connectors (D4E1 or 6U-high D8E1) or two DB-25 female connectors (3U-high D8E1)
  - 75Ω unbalanced interface terminated with 1.0/2.3 mm coax connectors (D4E1 or 6U-high D8E1) or two DB-25 female connectors (3U-high D8E1).
- D4E1 and D8E1 modules are equipped with an integral LTU, ensuring ranges of up to 2.2 km (1.4 miles).
- Setup, control and diagnostics can be performed via a supervisory port using an ASCII terminal, or by the RADview SNMP network management System.
- Diagnostic capabilities include local and remote loopbacks on each E1 port. D4E1/D8E1 also features BER test on each port at timeslot level, and inband code-activated loopback as per ANSI T1E1.2/93-003.
- Line/single-slot redundancy (1:1) ensures protective switching within less than 50 msec, between ports on the same module (currently supported by DCL.2 only).
- When used in signaling monitoring applications, the D4E1 and D8E1 modules enable the DXC to collect signaling timeslots (such as SS7) from many leased lines and groom them over a full E1 link to the protocol analyzer at a central site (see Figure 3).

SPECIFICATIONS

- Number of Ports
  - D4E1: 4 E1 ports
  - D8E1: 8 E1 ports
- Data Rate
  - 2.048 Mbps per port
- Compliance
- Framing
  - G732N – 2 frames per multiframe, with or without CRC-4
  - G732S – 16 frames per multiframe, with or without CRC-4
  - Unframed
- Line Code
  - HDB3
- Line Attenuation
  - Short haul (DSU): -10 dB
  - Long haul (LTU): -36 dB
- Resistive Attenuation in Monitoring
  - Lower gain: 12 dB
  - Higher gain: 30 dB
- Jitter Performance
  - Per ITU-T Rec G.823; ETSI TBR 13
- Line Impedance
  - Balanced: 120Ω
  - Unbalanced: 75Ω
- Pulse Shape
  - Per ITU-T Rec. G.703

FEATURES

- Four- or eight-port E1 interface module for the DXC family
- Support 256N or 256S multiframes, with or without CRC-4 protection, or unframed mode
- High speed data rate up to 2.048 Mbps per port
- Four or eight-line interface with RJ-45, mini-BNC or DB-25 connectors
- Can be configured for increased E1 port sensitivity to support monitoring applications (such as SS7)
- Fit into any DXC chassis:
  - 3U-high versions fit into DXC-8R, DXC-10A, DXC-30, DXC-STM-1;
  - special 6U-high versions fit into DXC-30E chassis
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- **Connectors**
  - **D4E1 balanced:** 4 x RJ-45
  - **D4E1 unbalanced:** 4 pairs of mini-BNC (coax 1.0/2.3 mm, female)
  - **D8E1-6U balanced:** 8 x RJ-45
  - **D8E1-6U unbalanced:** 8 pairs of mini-BNC (coax 1.0/2.3 mm, female)
  - **D8E1-3U:** two DB-25 female, balanced or unbalanced

- **Timing**
  - Receive timing recovered from incoming line signal
  - Transmit timing locked to the DXC master clock

- **Timeslot Allocation**
  - User-defined, any timeslot to any timeslot mapping

- **Diagnostics**
  - Local and remote loopbacks on each module port
  - BER testing on each port
  - Inband code activated loopback as per ANSI T1E1.2/93-003

- **Power Consumption**
  - **D4E1:** 5.5W (1.1A at +5 VDC)
  - **D8E1:** 7.25W (1.45A at +5 VDC)

- **Configuration**
  - Programmable via DXC management by ASCII terminal or RADview Management System

- **Physical**
  - Occupies one DXC-8R/10A/30/30E or DXC-STM-1 module slot

**APPLICATIONS**

![Figure 1. Typical High-Density Grooming Application for DXC-30](image)

![Figure 2. High-Density T1/E1 Conversion and Cross-Connect Application for DXC-8R](image)

![Figure 3. Signaling Monitoring Application for DXC-8R](image)

**ORDERING**

- **DXC-M/4E1/</**
  - Four-port E1 Interface Module, 3U high version

- **DXC-M/8E1/</**
  - Eight-port E1 Interface Module, 3U high version

- **DXC-ME/4E1/</**
  - Four-port E1 Interface Module, 6U-high version

- **DXC-M/8E1/</**
  - Eight-port E1 Interface Module, 6U high version

< Specify line interface type:
  - **B** for balanced
  - **U** for unbalanced

- **CBL-D8E1-BNC**
  - Adaptor cable for D8E1, converting 2 x DB-25 connectors to 8 pairs of BNC unbalanced connectors

- **CBL-D8E1-MBNC**
  - Adaptor cable for D8E1, converting 2 x DB-25 connectors to 8 pairs of mini-BNC unbalanced connectors

- **CBL-D8E1-RJ45/X**
  - Adaptor cable for D8E1, converting 2 x DB-25 connectors to 8 x RJ-45 balanced connectors.

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Specifications are subject to change without prior notice.