

DXC Modules

D4E1, D8E1

4/8-Port E1 Interface Modules



4- or 8-port E1 interface modules for the DXC family of modular digital cross-connect units

- Four- or eight-port E1 interface modules for the DXC family
- 256N or 256S multiframes, with or without CRC-4 protection, and unframed mode
- Data rate up to 2.048 Mbps per port
- Compliance with ITU-T Rec. G.703, G.704, G.706, G.732 and G.823 standards
- Monitoring applications (such as SS7) enabled by increased E1 port sensitivity

D4E1 and D8E1 are 4- or 8-port E1 interface modules used with the DXC-8R, DXC-10A and DXC-30 modular digital cross-connect units (not including DXC-100). The modules provide E1 links over copper cable and operate at E1 or fractional E1 rates.

D4E1 and D8E1 support both 2 and 16 frames per multiframe (256N and 256S), as well as 2 Mbps unframed mode per ITU-T Rec. G.703. For long-range applications, D4E1 and D8E1 feature an integral LTU option, ensuring ranges of up to 2.2 km (1.4 miles).



data communications

The Access Company

D4E1, D8E1

4/8-Port E1 Interface Modules

The line interface for D4E1 terminates in four RJ-45 connectors while D8E1 terminates in one DB-44 connector. The interface detects the type of cable attached and provides 120Ω balanced or 75Ω unbalanced E1 depending on the adaptor cable (see *Ordering*).

Setup, control, and diagnostics can be performed via a supervisory port using an ASCII terminal, or by RADview-EMS.

The diagnostic capabilities include local, remote, and inband code-activated loopbacks on each E1 port.

Single-slot line redundancy (1:1) ensures protective switching between ports on the same module, within less than 50 msec.

LED indicators on the front panel alert the user to sync loss on the local or remote units.

When used in signaling monitoring applications, the D4E1 and D8E1 modules enable DXC to collect signaling timeslots (such as SS7) from multiple leased lines and groom them over a single full E1 link to the protocol analyzer at a central site (see *Figure 3*).

The modules occupy one I/O slot in a DXC-8R, DXC-10A or DXC-30 chassis.

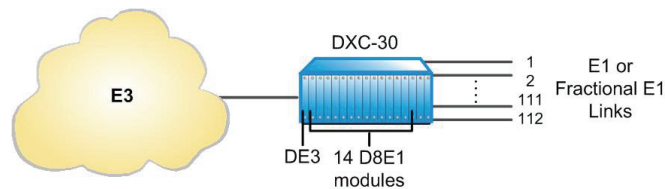


Figure 1. Typical High-Density Grooming with DXC-30

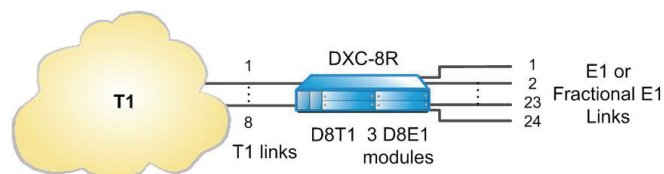


Figure 2. High-Density T1/E1 Conversion and Cross-Connect with DXC-8R

Specifications

Number of E1 Ports

D4E1: 4
D8E1: 8

Data Rate

2.048 Mbps per port

Compliance

ITU-T Rec. G.703, G.704, G.706, G.732

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

Transmit Level

$\pm 3V \pm 10\%$

Line Attenuation

Short haul (DSU): -10 dB

Long haul (LTU): -36 dB

Resistive Attenuation in Monitoring

Lower gain: 20 dB

Higher gain: 32 dB

Jitter Performance

Per ITU-T Rec G.823; ETSI TBR 13

Line Impedance

Balanced: 120 Ω

Unbalanced: 75 Ω

(Determined by use of adaptor cables)

Pulse Shape

Per ITU-T Rec. G.703

Port 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

Connectors

D4E1: 4 x RJ-45

D8E1: DB-44 female

Indicators (per port)

Sync loss (red): LOC, REM

Diagnostics

Local and remote loopbacks on each module port

Inband code activated loopback per ANSI T1.403

Power Consumption

D4E1: 5.5W (1.1A at +5 VDC)

D8E1: 7.25W (1.45A at +5 VDC)

Physical

Occupies a single slot in a DXC-8R, DXC-10A or DXC-30 chassis

For comparison of DXC chassis, see *Table 2*. For the list of DXC I/O modules, refer to the DXC-8R/10A/30 folder.

Configuration

Programmable via ASCII terminal, Telnet, or RADview-EMS

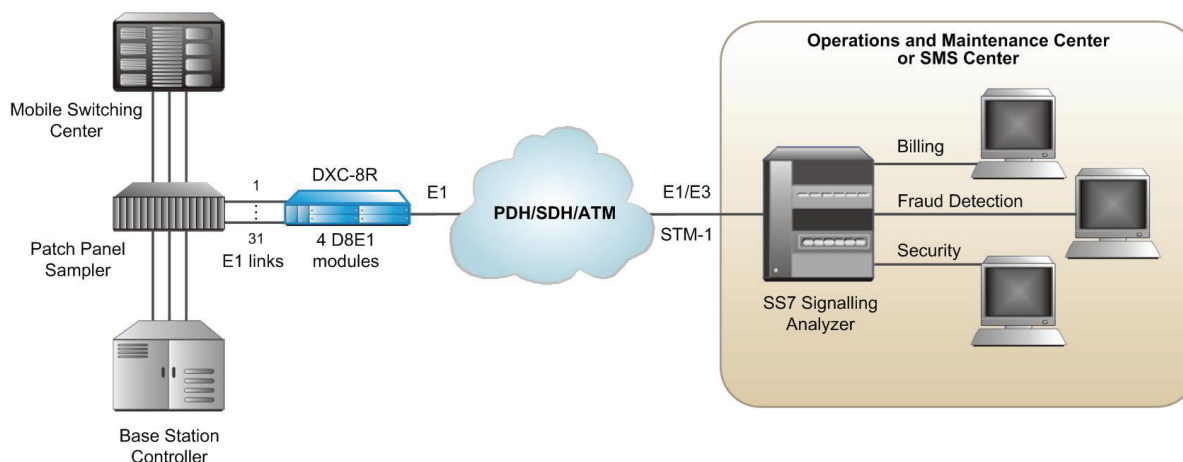


Figure 3. Signaling Monitoring with DXC-8R

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Ordering

DXC-M-4E1

4-port E1 interface module

DXC-M-8E1

8-port E1 interface module

OPTIONAL ACCESSORIES

CBL-G703-8/RJ45/ST

Splitter cable with station clock for splitting the 44-pin module connector to 8 E1 balanced RJ-45 connectors (D8E1 only)

CBL-G703-8/RJ45/X

Splitter cross-cable for splitting the 44-pin module connector to 8 E1 balanced RJ-45 connectors (D8E1 only)



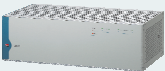

CBL- G703-8/COAX

Adapter cable for converting the DB-44 connector to 8 pairs of BNC unbalanced connectors (D8E1 only)

CBL-RJ45/2BNC/E1/X

Adapter cable for converting the RJ-45 connector to BNC unbalanced connectors

Table 2. DXC Chassis Comparison Table

Feature	DXC-8R	DXC-10A	DXC-30	DXC-100*
				
Height	1U	1U	3U	6U per nest
Maximum number of ports	32	40	120	688 (8 nests)
Number of I/O slots	4	5	15	86 (8 nests)
System redundancy	Built-in	None	Optional	Optional
E1, T1, E3, T3, STM-1 modules	✓	✓	✓	✓
XDSL, inverse multiplexing modules	✓	✓	✓	-
n x 56/64 kbps modules	✓	✓	✓	✓
Router, OC-3 modules	-	-	-	✓
ASCII, SNMP, RADview management	✓	✓	✓	✓

**The DXC-8R/10A/30 modules and DXC-100 modules are not interchangeable.*

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