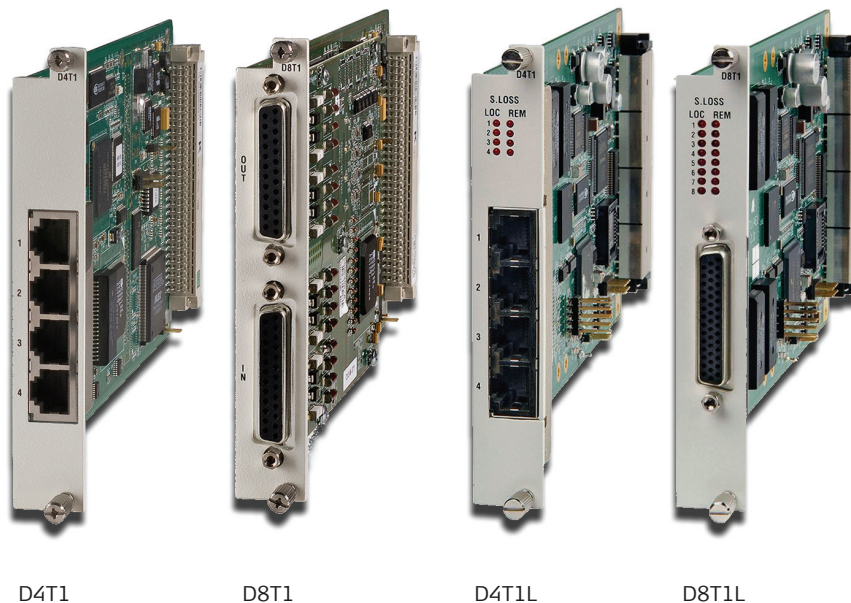DXC Modules

D4T1, D8T1, D4T1L, D8T1L

4/8-Port T1 Interface Modules

4- or 8-port T1
interface modules
for the DXC family
of modular digital
cross-connect units

D4T1   D8T1   D4T1L   D8T1L

- Four- or eight-port T1 interface modules for the DXC family
- D4 (SF) or ESF framing and unframed mode
- Data rate up to 1.544 Mbps per port
- AT&T TR-62411, ANSI T1.403,ITU-T Rec. G.703, G.704 and G.733 compliance
- Routing of up to 192 timeslots (D8T1 modules) and 96 timeslots (D4T1 module)

D4T1 and D8T1 are 4- or 8-port T1 interface modules for use with the DXC-8R, DXC-10A and DXC-30 modular digital cross-connect units (not including DXC-100). The modules provide T1 links over copper cable, and operate at T1 or fractional T1 rates.

D4T1 and D8T1 support D4 (SF) and ESF framing, as well as unframed mode. Special "light" module versions D4T1L and D8T1L can be ordered if only framed mode is needed. For long range applications, the modules feature an integral CSU option, operating at ranges of 2.2 km (1.4 miles).

RAD

data communications

The Access Company

D4T1 and D4T1L modules provide four balanced 4-wire interfaces terminated with an RJ-45 connector per port. D8T1 and D8T1L modules provide eight balanced 4-wire interfaces terminated with two DB-25 connectors and one DB-44 connector, respectively.

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

Diagnostic capabilities include remote, local, remote inband code-activated, FDL line, and FDL payload loopbacks. All loopbacks can be independently activated on each port.

When used in signaling monitoring applications, D4T1, D8T1, D4T1L and D8T1L modules enable DXC to collect the signaling timeslots (such as SS7) from multiple leased lines and groom them over a single full T1 link to the protocol analyzer at a central site (see *Figure 3*).

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

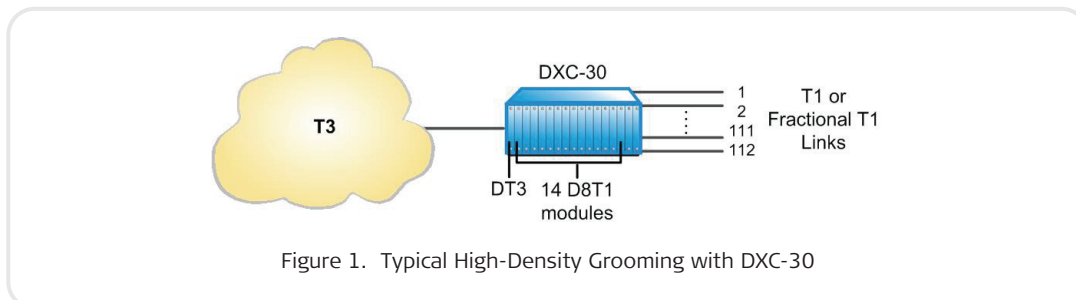The modules occupy one I/O slot in the DXC chassis.

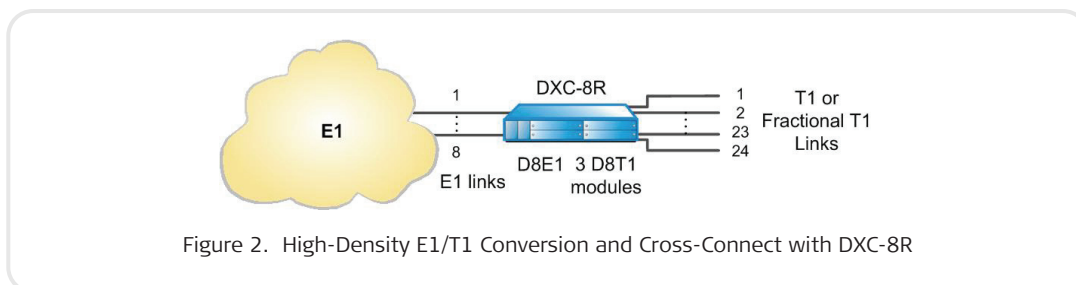Figure 1. Typical High-Density Grooming with DXC-30

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

Specifications

Number of T1 Ports
D4T1, D4T1L: 4
D8T1, D8T1L: 8

Data Rate
1.544 Mbps per port

Compliance
AT&T TR-62411, ANSI T1.403,
ITU-T Rec. G.703, G.704, G.733

Framing
D4T1, D8T1: SF (D4), ESF, unframed
D4T1L, D8T1L: SF (D4), ESF

Line Code
Bipolar AMI

Zero Suppression
Transparent (no zero suppression)
B7ZS
B8ZS

Transmit Levels
DSU emulation:
±3V ±10%, soft-adjustable, measured at 0
through 655 ft
CSU mode:
0, -7.5, -15, -22.5 dB, soft-selectable LBO

Line Attenuation
Short Haul (DSU): -10 dB
Long Haul (CSU): -36 dB

Resistive Attenuation in Monitoring
Lower gain: 12 dB
Higher gain: 20 dB

Jitter Performance
Per AT&T TR-62411

Line Impedance
4-wire, 100Ω

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
D4T1, D4T1L: 4 × RJ-45
D8T1: 2 x DB-25 female
D8T1L: 1 x DB-44 female

Indicators (per port)
D4T1, D8T1: no indicators
D4T1L, D8T1L:
Sync loss (red) – LOC, REM

Diagnostics
Local and remote loopbacks on each
module port

Inband code activated loopback as per
ANSI T1.403

Power Consumption
D4T1, D4T1L: 5.5W (1.1A at +5 VDC)
D8T1, D8T1L: 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 using DXC management via
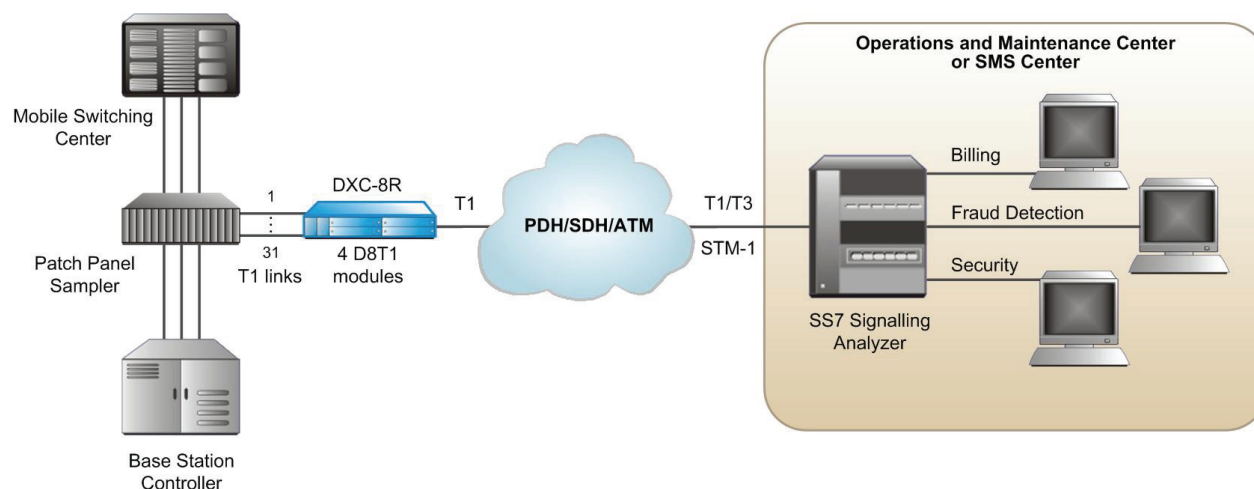ASCII terminal, Telnet, or RADview-EMS

Figure 3. Signaling Monitoring with DXC-8R

D4T1, D8T1, D4T1L, D8T1L

4/8-Port T1 Interface Modules

Ordering

DXC-M-4T1
4-port framed and unframed T1 interface module

DXC-M-8T1
8-port framed and unframed T1 interface module

DXC-M-4T1L
4-port framed T1 interface module

DXC-M-8T1L
8-port framed T1 interface module

OPTIONAL ACCESSORIES

CBL-D8T1-RJ45/X
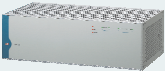Adapter cable for converting two DB-25 connectors to 8 RJ-45 connectors (D8T1 only)

CBL-G703-8/RJ45/ST
Splitter cross-cable with station clock for splitting the 44-pin module connector to 8 RJ-45 connectors (D8T1L only)

CBL-G703-8/RJ45/X
Splitter cross-cable for splitting the 44-pin module connector to 8 RJ-45 connectors (D8T1L only)

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.

www.rad.com

Order this publication by Catalog No. 803224

RAD
data communications
The Access Company