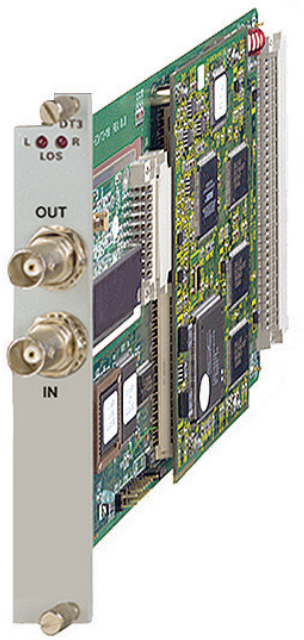
Data Sheet

DXC Module

DT3

T3 Multiplexer Modules



- Direct connection to T3 networks or DS3 equipment
- Grooming of T1/FT1, E1/FE1, n x 64 data, and n x T1 inverse multiplexer traffic
- Framing and multiplexing format compliant with M13 or C-bit parity per ANSI T1.404
- Up to 28 T1 multiplexed channels
- DS3 unbalanced copper, or fiber optic with VSCEL or laser link interfaces

DT3 is a T3 multiplexer module for RAD's DXC-8R/10A/30 family, providing access to standard T3 interfaces over unbalanced copper or fiber lines.

As a terminal multiplexer, the module is used as a feeder for a T3 network, or to access channelized DS3 ports of higher order switches in PDH or SONET networks. In this capacity, it grooms traffic and multiplexes T1/Fractional T1, E1/Fractional E1 and n x 64 kbps data. In conjunction with the DIM inverse multiplexer module, it also operates at n x T1 data rate (where n = 1 to 8).

***Note**: DT3 grooms FT1 data frames into T3, and transparently maps FT1 voice frames into T3 frames.*

Any internal T1 channel can be used as the source clock or the fallback clock for the DXC system. The user can choose the master clock or the fallback clock from any internal T1 channel of the T3 interface, or from any T1, E1 or HS module.

The DT3 module provides the full channelization functionality of an M13 multiplexer required to multiplex and demultiplex 28 independent T1 channels into and from a single T3 interface.

Copper or fiber T3 multiplexer module for the DXC family of modular cross-connects

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DT3
T3 Multiplexer Modules

The T3 link interface can be either unbalanced copper or fiber optic. A number of fiber optic link options are available including: 850 nm multimode, 1310 nm single mode with laser and 1550 nm single mode with laser.

Maintenance and diagnostic capabilities include individual T1 remote loopbacks and T3 local and remote loopbacks, to enable rapid location of faults.

Setup, control and diagnostics can be performed via a supervisory port using an ASCII terminal, or by the RADview SNMP network management system. Remote units are controlled via a dedicated management timeslot in the T3 path.

Line and hardware redundancy are ensured by installing a second module in the chassis as a standby backup.

Transmit direction waveform can be selected to optimally match the length of the cable connected to the OUT connector.

The DT3 module occupies one I/O slot in a DXC-8R, DXC-10A or DXC-30 chassis.

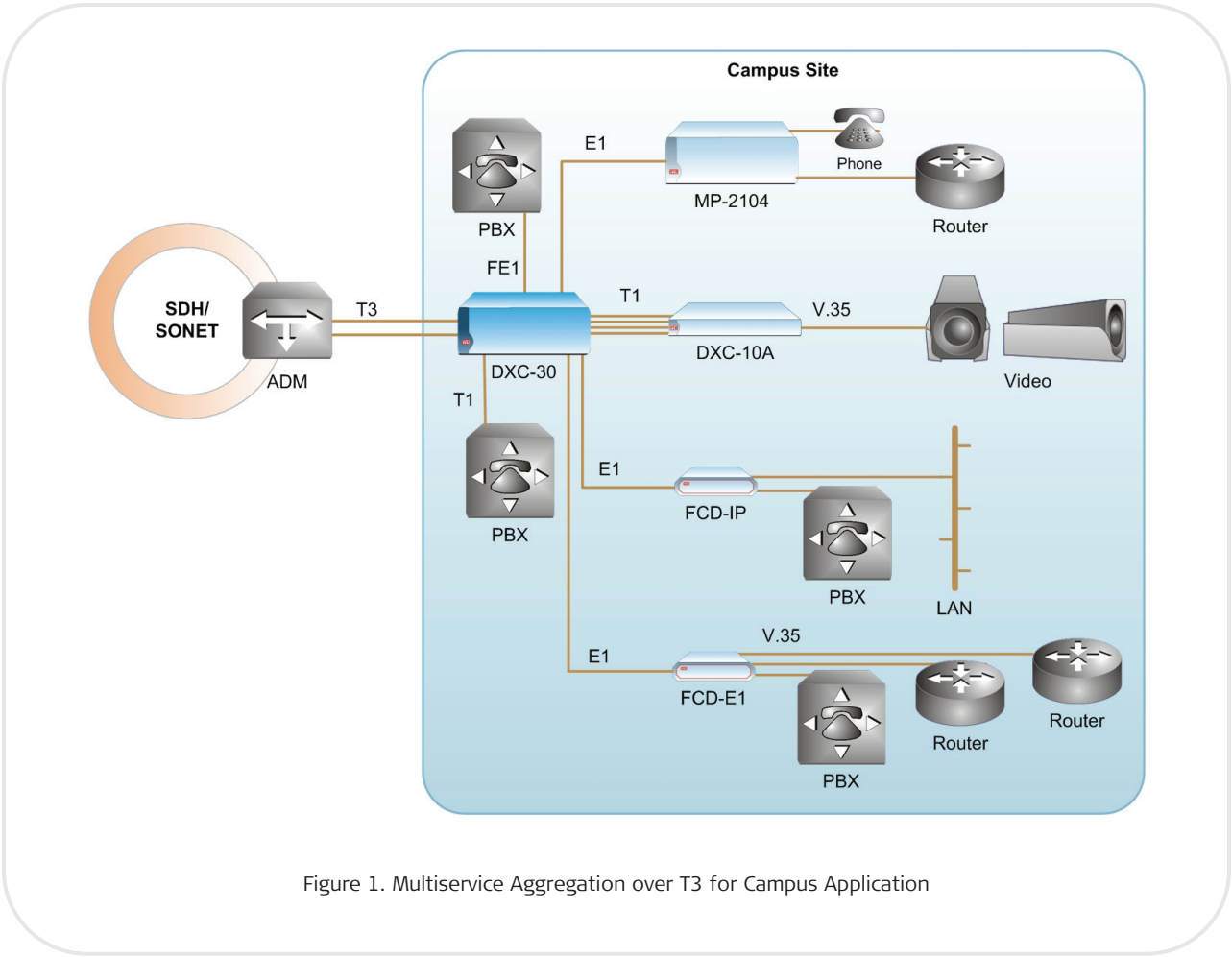


Figure 1. Multiservice Aggregation over T3 for Campus Application

Specifications

T3 INTERFACE

Framing Options
C-bit parity per ANSI T1.107 and ANSI T1.107a
Synchronous M13 (SYNTRAN) per ANSI T1.107 and T1.107a
Complies with DSX-3 requirements per ANSI T1.102

Data Rate
44.736 Mbps

COPPER LINK

Line Code
B3ZS

Line Impedance
75Ω

Pulse Shape
ANSI T1.102_1993, ITU-T Rec. G.703

Connector
BNC, female

FIBER OPTIC LINK

Compliance
G.921, G.956

Operating Characteristics
See *Table 1*.

Connectors
ST, FC/PC or SC (see *Ordering*)

GENERAL

DXC System Timing
Internal clock (±32 ppm)
Station clock
Receive clock (from any link or from any internal T1 channel of the T3 interface)

Indicators (LEDs)
L LOS (red) - local sync loss
R LOS (red) - remote sync loss

Diagnostics
Loopbacks:
T3 local/remote loopbacks
Local loopbacks on each internal T1 port

T3 performance monitoring:
Complies with RFC 1407,
ANSI T1 107/107a

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 data sheet.

Power Consumption
Copper: 7.0W
Fiber Optic: 8.0W

Table 1. Fiber Optic Interface Characteristics

Wavelength and Transmitter Type [nm]	Fiber Type [µm]	Output Power [dBm]	Receiver Sensitivity [dBm]	Typical Maximum Range [km]	[mi]
850 VCSEL	62.5/125 multimode	–14 to -20	–26	2.0	1.2
1310 laser	9/125 single mode	–8 to -15	–31	38.0	23.6
1550 laser	9/125 single mode	–8 to -15	–31	25.0	15.5

DT3

T3 Multiplexer Modules

Ordering

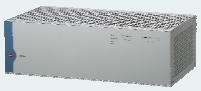
DXC-M-T3/#/+

Legend

Link connector (default is copper interface with coaxial BNC connectors):
- **ST** ST connectors
- **FC** FC/PC connectors
- **SC** SC connectors

+ Laser optical interface wavelength and transmitter (not relevant with copper interface):
- **85L** 850 nm, multimode
- **13L** 1310 nm, single mode
- **15L** 1550 nm, single mode

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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