

R-STM-1E

STM-1 Synchronous Digital Multiplexer



FEATURES

- SDH transmission solution for access networks, expands local loops to 100 km / 62 miles
- Low power consumption and high reliability optimized for installation in outdoor cabinets
- Flexible configuration as an STM-1 terminal or ADM (Add&Drop Multiplexer) with full cross-connectivity and PDH interfaces
- Supports centralized management, including configuration, service, performance, security and fault management
- Integrated management system supporting Multi-service Access Platform (MAP) equipment
- Accurate transfer of timing to access equipment
- Low cost per line
- Flexible configurations

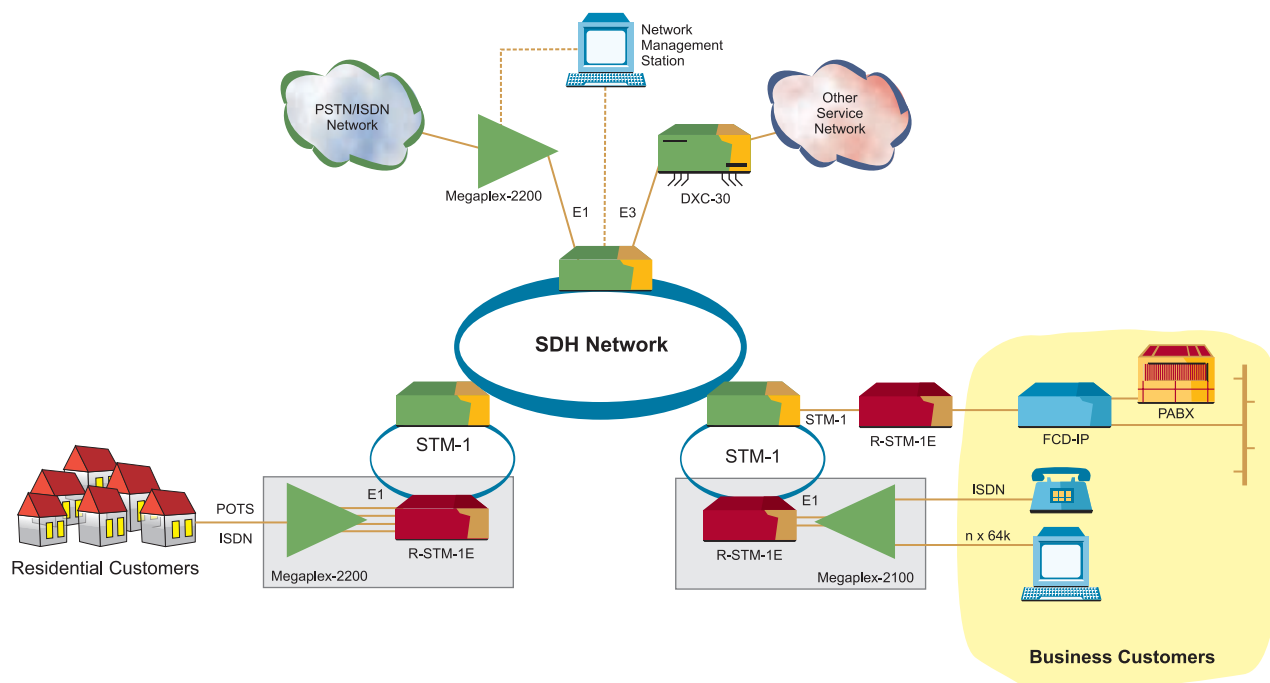
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DESCRIPTION

- R-STM-1E is a Synchronous Digital Hierarchy (SDH) transmission cores based multiplexer for deployment in the local loop.
- R-STM-1E can be deployed in access nodes as a terminal multiplexer (TM) or an add&drop multiplexer (ADM). It enables expansion of the local loop up to 100 km / 62 miles, creating a transmission layer fully compatible with regional and national SDH networks.
- R-STM-1E is available with either standard G.703 or fiber optical short/long haul aggregate interfaces.
- SDH transmission supports a full range of access systems, including Remote Subscriber Units (RSUs), Digital Line Carriers (DLCs), Passive Optical Networks (PONs), Digital Cross-Connect (DACs), and service multiplexers.
- R-STM-1E is fully compatible with 34 Mbps and 45 Mbps PDH signals, SDH microwave radio relays and existing SDH infrastructure.
- R-STM-1E supports the whole range of SDH network topologies:
 - Point-to-Point
 - Chain
 - STM-1 ring / folded ring
 - STM-4/16 ring / STM-1 structured ring-star and ring-ring.
- The interface capacity of R-STM-1E can be expanded from its 21x2 Mbps basic configuration to any of the following:
 - 63x2 Mbps (63xE1)
 - 3x34 Mbps (3xE3)
 - 3x45 Mbps (3xT3)by adding expansion modules (ordering options).
- DXC-STM-1E, a hybrid version of the R-STM-1E multiplexer and the DXC digital cross-connect, assembled in a single integrated chassis, is also available. It features both DXC 1/0 cross-connect and SDH ADM capabilities (see the DXC-STM-1E folder).
- The compact size and low power consumption of R-STM-1E allow easy rack or wall installation on customer premises, in telecommunications buildings, or in outdoor cabinets.
- A comprehensive array of installation accessories support, among others, vertical/horizontal rack installation, wall mounting, etc.

APPLICATION



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- R-STM-1E features a controlled centralizes management application to facilitate management of the access network. The application combines both the powerful RADView and the SDH transmission layer network management applications. The centralized network management application uses embedded management channels for communication with remote access equipment. Centralized management enables the building of flexible, responsive and optimized SDH access networks to fit any customer's needs.
- The 2 Mbps output signals of R-STM-1E can be resynchronized by the R-STM-1E multiplexer clock. In addition, pointer justification events can be filtered out, eliminating phase hits. This creates an accurate signal, clear of phase hits and suitable for synchronization of access equipment. Since the SDH network is usually synchronized by the national synchronization network, this accurate timing is transferred to the access equipment.

SPECIFICATIONS

GENERAL

- **SDH Level**
STM-1 (155.520 Mbps)
- **Multiplexing Structure**
Complies with Figure 1.1 in G.709 standard
- **Cross-Connect Level**
VC-12 or multiples
- **Error Performance**
Complies with G.826 - High grade
- **Jitter**
Aggregate line:
complies with G.783, G.823, G.958
Tributary line:
complies with G.783, G.823
- **Diagnostics**
Performance monitoring according to G.826, G.784
External alarms
- **Indicators**
ACTIVE (green)
FAIL (red)
PROG (orange)
ALARM (red)
ACK (orange)
LASER ON (green)
- **Power Supply**
Input voltage:
-2.5 VDC to -75 VDC
Nominal power source:
-48 VDC to -60 VDC
Typical power consumption:
23W (for 21 x 2 Mbps)
- **Physical**
Compatible with ETSI rack
Height: 300 mm / 11.8 in
Width: 90 mm / 3.5 in
Depth: 220 mm / 8.7 in
Weight 2.0 kg / 4.4 lb

ELECTRICAL AGGREGATE

- **Physical level**
G.703, paragraph 12
- **Line Code**
CMI
- **Bit Rate**
155.520 Mbps

OPTICAL AGGREGATE

- **Physical Level**
G.957, Table 2 – optical aggregate
- **Transmission Line**
Dual fiber optic cable
- **Operating Wavelength**
1285 nm to 1300 nm, per G.707, G.958
- **Bit Rate**
155.520 Mbps
- **Transmitter Power**
Short haul:
-8 dBm to -15 dBm
Long haul:
0 dBm to -5 dBm
- **Receiver Sensitivity**
-34 dBm @ BER < 1 x 10⁻¹⁰

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TRIBUTARIES

2 Mbps (E1)

- **Physical Level**
G.703, paragraph 6
- **Bit Rate**
2.048 Mbps
- **Line Code**
HDB3
- **Frame**
Unframed

34 Mbps (E3)

- **Physical Level**
G.703, paragraph 8
- **Bit Rate**
34.368 Mbps
- **Line Code**
HDB3
- **Frame**
G.751

45 Mbps (T3)

- **Physical Level**
ANSI T1.105.03-1994
- **Bit Rate**
44.736 Mbps
- **Line Code**
B3ZS

MANAGEMENT

- **Complete Network Management**
RADView software on SUN workstation
- **Network Element Monitoring**
Element Manager software on PC or laptop

ORDERING

R-STM-1E/B/*

Expandable STM-1 Synchronous Digital Multiplexer

- * Specify aggregate interface type:
CX for coax interface
FC13L for 1300 nm, laser, FC/PC connector
FC15L for 1550 nm, laser, FC/PC connector

EXTENSION MODULES

R-STM-1E/EXT42

42 x 2 Mbps (E1) expansion module

R-STM-1E/EXT34

3 x 34 Mbps (E3) expansion module

R-STM-1E/EXT45

3 x 45 Mbps (T3) expansion module

ACCESSORIES

R-STM-1/PS/AC

External AC power supply adapter

R-STM-1E/TRAY

Tray kit for vertical mounting of R-STM-1E on shelf

R-STM-1E/HOR

Horizontal mounting shelf for R-STM-1E

R-STM-1/SHELF

Shelf for three vertical-mounted R-STM-1Es (trays + units)

R-STM-1/DOOR

Door kit for shelf

CABLES

CBL-R-STM-1

R-STM-1E splitter cable (splits the DB-25 tributaries connector into 11 x RJ-45). Cable length is 2m (6 ft)

CBL-R-STM-1/DC/S

DC power cable. Cable length is 2.7m (8.9 ft)

CBL-R-STM-1/ALM

Alarm cable for R-STM-1E

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