

Telmar 1603 SM OC-3/OC-12 SONET Multiplexer

The 1603 SM product versatility results in reduced costs, faster service delivery, and simplified network operations and maintenance.



The 1603 SM, originally engineered and manufactured by Alcatel, was acquired by Telmar Network Technology in 2005.

Telmar's 1603 SM is a third-generation SONET system that redefines the meaning of network flexibility, efficiency and reliability. Its innovative design opens up new opportunities for network planning and operation while providing cost-effective solutions to the variety of challenges encountered in today's access environments.

Unique in its versatility, the 1603 SM can be configured to support a wide range of applications operating from a single, compact, 10.5-inch-tall shelf. Units can be easily combined and interchanged across the shelf slots, allowing customization of the system to fit the application whether it calls for OC-3, OC-12 cross-connect or OC-48 transport capacity; linear or ring transport; optical hubbing; or a combination of traffic payloads.

The versatility in the 1603 SM is more than just an efficient design characteristic; it translates into hard savings for your network's bottom line. It reduces costs, speeds up service delivery and simplifies network operations and maintenance.

When compared with conventional OC-3, OC-12 and OC-48 (transport only) systems, the 1603 SM's single-shelf versatility provides the following advantages for your network:

- Less equipment to purchase, install, engineer and maintain
- Improved equipment and facility utilization
- Faster response to service demand changes
- Simple configuration changes
- Reduced inventory
- Reduced training

*Call or visit us at
800 • 326 • 4949 or
www.telmarnt.com*

**Corporate
Headquarters**
901 Jupiter Road
Plano, TX 75074
O: 972 • 836 • 0400
F: 972 • 836 • 0430
sales@telmarnt.com

 **TELMAR**
NETWORK TECHNOLOGY

Telmar 1603 SM

OC-3/OC-12 SONET Multiplexer

Power

- Three load-sharing power supplies (-48 VDC):
 - > Input power range: -40 VDC to -57 VDC
 - > Power consumption: 100–225 W (varies by configuration)
 - > Power and ground distribution: 48 VDC with return, signal and frame ground
- Built-in fusing: (-48 VDC) and fuse failure alarm

Mechanical Dimensions

- Main shelf height: 10.5 in. (26.67 cm, or 6 rack spaces)
- Depth: 12 in. (30.48 cm)
- Width: 23 in. (58.42 cm) channel or unequal flange
- Weight: 60 lbs. (27.27 kg), fully populated Interface Specifications
- UPSR, 2F-BLSR, linear, terminal, linear taper, point-to-point

Optical

- Optical line rates
 - > 155.52 Mb/s (OC-3)
 - > 622.08 Mb/s (OC-12)
 - > 2.49 Gb/s (OC-48) (transport only*)
- Wavelength: 1,310 nm or 1,550 nm
- Optical connectors: ST, SC, FC

*Cross connects the first 12 STS 1's

Asynchronous

- Asynchronous line rates:
 - > 44.736 Mb/s (DS3)
 - > 1.544 Mb/s (DS1)
- Maximum distance to cross connect
 - > STS-1, DS3: up to 450 ft., depending upon cable type
 - > DS1: 655 ft. on 22 AWG ABAM; 450 ft. on 26 AWG ABAM
- Electrical connectors:
 - > STS-1: BNC
 - > DS3: BNC
 - > DS1: wire wrap or 64-pin connector

Environmental

- Fully temperature hardened optics:
 - 40°C to 65°C (-40°F to 50°F)
- Operating temperatures:
 - > Without fans: -40°C to 50°C (-40°F to 122°F)
 - > With fans: -40°C to 65°C (-40°F to 149°F)
- Storage temperatures of -40°C to 85°C (-40°F to 185°F)

Maintenance and Provisioning

- Provisioned and maintained through 1301 NMX network management system, a GUI application residing on an ordinary PC
- PC requirements: 50 MHz 486 processor, 32 MB RAM and 20 MB free disk space
- Communication and control interfaces: 12 external alarms and controls, 2 orderwire channels, office alarms, TBOS, RS-422, 802.3 LAN, 10Base-2 or 10Base-T, Direct X.25
- Local and express orderwire
- Customer definable alarms and controls and remote user telemetry byte-oriented serial interface

System Specifications

- Timing: 1.544 Mb/s sync, OC-3, OC-12, OC-48 or EC-1
- Sync features: holdover, synchronization messaging, internal, Stratum 3 stability, 4.6 ppm clock
- Transmission delay: VT groomed: 50 µs max, not VT groomed: 25 µs max
- Switching time: 50 ms maximum after detection of fault
- Remote control capability: SONET DCC, SML (DCC embedded in DS1), edge management gateway (SNMP), FTP, binary database backup

Interface Capacities (per shelf)

Line side:

- OC-3/OC-12 (STS-3C payload possible), one active and one protect east, one active and one protect west or ring
- OC-48 (transport only, ring application only)

Drop side:	OC-3	OC-12
10/100Base-T	12	12
(ATM mapped)		
DS1	84	84
DS3/STS-1	3	12
OC-3/OC-3c	1	3
OC-12/OC-12c	0	1

Corporate

Headquarters

901 Jupiter Road
Plano, Texas
O: 972 • 836 • 0400
F: 972 • 836 • 0430
sales@telmarnt.com

Operations and Repair

325 Veterans Memorial Highway
Council Bluffs, IA 51501
O: 800 • 326 • 4949
F: 712 • 366 • 1867
repair@telmarnt.com

7710 North 30th Street
Tampa, FL 33610
O: 813 • 237 • 2020
F: 813 • 237 • 4773

99 Signet Drive
Suite 200
Toronto, Ont M9L 1T6
O: 416 • 749 • 0110
F: 416 • 744 • 5208

Additional

Locations Throughout

North America, EMEA,
South America, Asia

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