

- ✓ *WDM operation up to 16 channels, providing a multi-service mix on the same fiber*
- ✓ *Expansion port providing scalability and service flexibility*
- ✓ *Non-interruptive hot-swappable capability, eliminating down-time*
- ✓ *Passive optics provide the highest level of service reliability*
- ✓ *Low dB loss, enabling longer link distances*
- ✓ *Multi-drop application, enabling cost efficient multi-point service delivery*
- ✓ *System redundancy, providing point-to-point path protection*

4 channel Optical Filter Channel Mux and Demux

Utilizing reliable optical circuitry, the GigaMux Optical Four Channel Multiplexer and Demultiplexer Modules (OFCM/D) enable service providers to offer more than one service on the same access fiber facility. The OFCM/D is designed to multiplex and demultiplex up to four individual ITU wavelengths, each carrying a service delivered by the GigaMux's channel modules: the Optical Channel Module (OC-3/STM-1, OC-12/STM-4, OC-48/STM-16, FC (1.06 and 2.1 Gbps),GbE) and Multiplexing Channel Module (T1, 10/100Base-TX).

More services can be added by using multiple OFCM/D modules within the GigaMux enclosures. Using the OFCM/D expansion port, 4 wavelengths can be multiplexed to 16, delivering a mix of up to 16 high-speed services on a single access fiber facility.

The OFCM/D operates with any of the GigaMux channel modules and can be deployed in the GM 3234, GM 3217, or GM 1608. It supports standard ITU grid channels with 200 GHz spacing, providing industry-standard WDM.

The OFCM/D is also used with the GigaMux Fixed Add-Drop Module (FADM) to enable multi-drop wavelengths at different service points along the fiber access path. For instance, four gigabit services could be delivered from the carrier point of presence to four different customers on a single fiber pair. In addition to the support of multi-drop service delivery, the OFCM/D is also used in point-to-point, ring, and hub and spoke service architectures.

The OFCM/D is used in conjunction with the GigaMux's Unidirectional Path Switch Module (UPSM) to ensure end-to-end path protection of the multiplexed services. With the protection option, two levels of service can be offered—providing flexibility to the service offering. In addition, the OFCM/D module is designed with reliable passive optic circuitry ensuring the transport of traffic in case of a node power failure. The modules are fully managed through the command line interface (WavCommand) or the Optical Service Level Management NMS. The OFCM/D continuously operates even if the Management Processor Module (MPM) is removed from the system, providing higher service reliability.

The OFCM is used for multiplexing, the OFCD for demultiplexing; both are available in four versions—each pertaining to a set of four optical wavelengths, supporting a total WDM system of 16 wavelengths.

Technical Specifications

Dimensions

- 4" H x .8" W x 8.25" D
- (100 mm x 20 mm x 210 mm)

Interfaces

- LC/UPC connectors for all interfaces

Standards Support

- Mux/Demux Four channel Wavelength Division
- Multiplexing/Demultiplexing
- Channel Four input/output ports
- (six ports total)
- Mux/Demux of up to four wave
- lengths
- Port ITU-T(G.692)/Telcordia wavelengths
- Configuration Cascading of up to 16 ITU
- wavelengths
- Auxiliary Port Expansion In/Out
- Connector LC
- Channel plan Up to 16 ITU wavelengths (200
- GHz
- spacing)
- Band 2 1558.9834nm, 1557.3636nm,
- 1555.7473nm, 1554.1343nm
- Band 3 1550.9183nm, 1549.3152nm,
- 1547.7155nm, 1546.1191nm
- Band 4 1542.9362nm, 1541.3496nm,
- 1539.7663nm, 1538.1862nm
- Band 5 1535.0358nm, 1533.4655nm,
- 1531.8983nm, 1530.3344nm

Protocol Support

- OFCM
- Insertion Loss (Max): 2.8 dB
- Insertion Loss (Typical): 1.5 dB
- Expansion port Insertion Loss (Max): 2.3 dB
- Expansion port Insertion Loss (Typ): 1.4 dB
- OFCD
- Insertion Loss (Max): 3.1 dB
- Insertion Loss (Typical): 1.7 dB
- Expansion port Insertion Loss (Max): 2.5 dB
- Expansion port Insertion Loss (Typ): 1.4 dB

Regulatory Compliance

- (When properly installed in a GigaMux Chassis)
- CE (GM 3234/3217/1608)
- Telcordia NEBS Level 3 Compliant
- (GM 3234/3217)
- OSMINE TIRKS and NMA
- Safety UL 1950, 3rd Edition
- IEC 60950, 3rd Edition
- (according to CB Scheme)
- EMC FCC Part 15 Class A (USA)
- EN 55022 Class A (Europe) GM
- 3234/3217
- EN 55022 Class B (Europe) GM
- 1608/1602
- VCCI Class A (Japan)
- EN61000-3-2/3
- Harmonics/Flicker
- Immunity EN61000-4-2/3/4/5/6/11
- ESD/EI/EFT/Surge/LFCI/VDS
- ENV50140-RI
- Telecom FCC Part 68 (USA)

Operating Requirements

- Operating Temp 41° to 104° F (5° to 40° C)
- Storage Temp -40° to 167° F (-40° to 75° C)
- Relative Humidity 10% to 90% non-condensing



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