

5810/01 4G Multi-Service Muxponder

A TDM multiplexer for multiple services

Key benefits:

- Plug and play and automatic provisioning providing easy and fast installation
- Transparent transport of SDH/SONET, Gigabit Ethernet and SAN formats
- High wavelength utilization via Transmode's iWDM™ concept using 4Gb/s line rate
- Multi-functional plug-in unit. Same hardware can be used as Muxponder and Regenerator
- Technology agnostic. Pluggable transceivers enable usage in CWDM as well as DWDM networks.
- Dual line ports enabling sub 50ms protection
- Low Power Design ensures low total cost of ownership

The 5810/01 4G Multi-Service Muxponder is a powerful part of Transmode's TS-Series platform enabling optimized and cost efficient transport networks based on CWDM/DWDM technology.



Optimized for Metro/Access applications

The 4G Multi-Service Muxponder (5810/01 MS-MXP) is an extremely powerful device for the Metro/access applications where multi-service support, compact design and low power consumption are crucial components. The 5810/01 MS-MXP can be optimized for its purpose by initiating tailored traffic images. Different traffic combinations can be addressed while still maintaining low power consumption and the 4Gb/s line rate provides high utilization of the wavelength capacity. As an example, the MS-MXP can be configured to carry 2x Gigabit Ethernet signals plus 2x STM-1/OC-3 or STM-4/OC-12 signals, i.e. far better than traditional SDH/SONET solutions that would require multiple plug-in units to support this capacity.

The combination of STM-1/OC-3 and Gigabit Ethernet is a perfect solution for mobile transmission networks where a combination of circuit switched and packet based connections is needed to/from the base station clusters. The 5810/01 can support these networks and also provide a seamless transition to an all-Ethernet solution. This traffic combination is also a powerful option for broadband networks having a mix of ATM/STM-1/OC-3 and Gigabit Ethernet signals.

The 5810/01 can also address large enterprise customers where a combination of Gigabit Ethernet and SAN formats can be seen. The MS-MXP can support 1G as well as 2G Fibre Channel signals in combination with Gigabit Ethernet.

True transparency multiplexing of SDH/SONET

The 5810/01 4G Multi-Service Muxponder (MS-MXP) is based on Transmode's "intelligent WDM" (iWDM) concept enabling true transparent transport of SDH/SONET signals as compared to SDH/OTN multiplexers where the Section Overhead (SOH) is terminated and thus prevents the usage of the inherent data channels (DCC-channels) of the SDH/SONET frames.

Two operating modes

The MS-MXP can be configured into a Muxponder mode or a Regenerator mode, see figure 1.

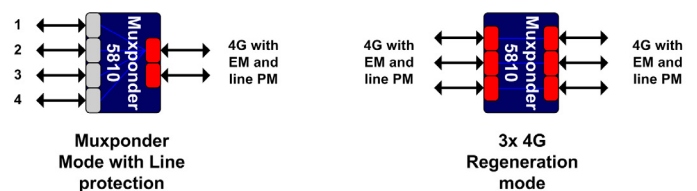


Fig. 1 The two main operating modes of the 5810/01 MS-MXP

This reduces the Operational Expenditures (OPEX) since the same plug-in unit can be used to multiplex client signals as well as regenerate the line signal to extend the bridgeable distance. The regenerator mode can also be used to convert from a CWDM to a DWDM network by using corresponding transceivers (SFPs) on the interfaces. Another application is to use the regenerator mode to convert from one DWDM wavelength to another.

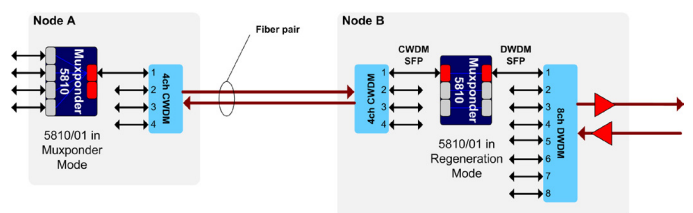


Fig. 2 CWDM to DWDM transition example

Tailored Network Element options

The MS-MXP can be mounted in any of the TS-Series two chassis options;

- 1U TS-100 chassis
- 6U TS-1100 chassis

This enables a tailored setup depending on current and future capacity needs of the site.

Embedded Management

The embedded management (EM) channels enable easy remote management via the line signal. There is thus no need to provide access to the customer DCN network if the 5800/01 MS-MXP is placed at a customer site.

Low Power Design

A fully equipped MS-MXP consumes less than 14W. Low power consumption in combination with a small footprint reduces site costs and enables more capacity to be handled at sites with restrictions on power consumption, cooling and space. As an example, a 5810/01 mounted in a 1U TS-100 chassis will consume less than 24W, see figure 3.



Fig. 3 TS-100 chassis example configuration

Technical specifications:

Supported traffic formats	STM-1/OC-3, STM-4/OC-12, STM-16/OC-48 Gigabit Ethernet 1G/2G FC (and FICON)
Layer-1 performance monitoring	SDH/SONET: Based on B1 calculations Gigabit Ethernet: Based on CRC and 8B10B coding errors SAN formats: Based on CRC and 8B10B coding errors Line signal: Block error based on coding and framing errors
Layer-2 performance Monitoring	Channel utilization (%) on GbE clients
Protection	Via two line ports set in 1+1 protection. Non-revertive switching <50ms
Power consumption	Max 14W, worst case (with all client ports active and using DWDM SPFs)
Misc line interface features	Embedded management channels on line signals
Operational modes	Muxponder mode (4 client ports + 2 line ports) 3x Regenerator mode (with embedded management channels on all 6 line ports)
Released traffic combinations	1xGbE + 1x STM-16/OC-48 2xGbE + 2x STM-1/OC-3 or STM-4/OC-12 2xGbE + 2x1G FC/FICON 2xGbE + 1x2G FC/FICON Other traffic combinations are provided on request
Interfaces	Client interfaces: SFP MM, SM @ 1310nm/1550nm versions covering ranges from 100m up to 15km. MultiRate 100Mb/s – 2,125Gb/s. Dedicated STM-1/OC-3 (S-1.1). Electrical SFP for Gigabit Ethernet. Line interfaces: SFP 4Gb/s 40km/70km CWDM (up to 16 channels) or 80km DWDM (up to 40 channels)

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