

8830/01 8831/01, 8832/01



TS-Series is a versatile platform with modularity both in channel count and transmission reach. It is scalable up to 16 CWDM channels and 38 C/DWDM channels by adding one or several channels at a time without any service downtime or impact on existing traffic.

The protocol transparent nature of TS-Series provides support for a wide range of services including Gigabit Ethernet, Fast Ethernet, SDH/SONET, Fibre Channel, FICON, ESCON, ETR etc.

The protocols can be mixed between C/DWDM and even between TDM channels.

The TS-series Transponders and Aggregators are used to generate the CWDM and DWDM wavelength channels with lowest cost and with the highest utilization of the available channel capacity. It is equally important to have a flexible solution for the addition and extraction of wavelengths to/from the fiber.

The TS-platform provides a range of CWDM and DWDM Mux/DeMuxes and CWDM Add/Drop filters that can be combined to provide flexible and scalable networking solutions for point-to-point, bus and ring configurations. This

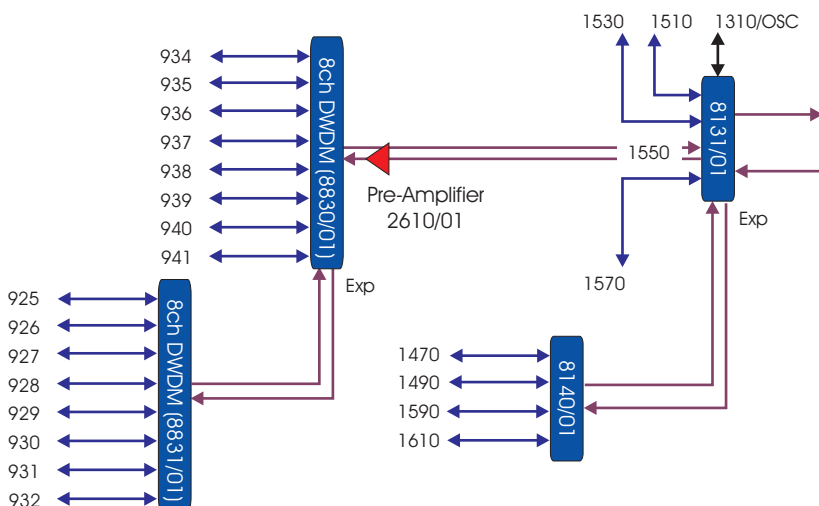
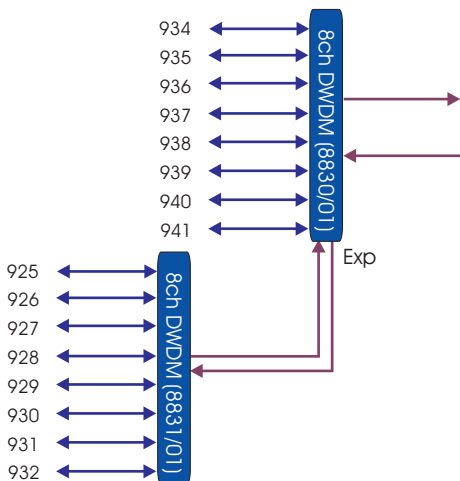
8830/01 is an 8ch Mux/DeMux unit covering the 8 DWDM channels 934, 935.. 941.

The unit has an Express port that can be used as an upgrade port for additional 8 DWDM channels via the **8831/01** unit that covers the channels 925, 926... 932.

This combination enables a 16 channel DWDM solution that can be used with an optical amplifier (EDFA) and Dispersion Compensation (DCU) to extend the transmission distance.

The DWDM channels are compliant with G.694.1 and use 100GHz channels spacing. The channel number is equal to the three significant digits in the channel frequency, e.g. 193,40THz corresponds to channel 934.

The example below shows a combined DWDM/CWDM configuration. The 8830/01 & 8831/01 units provide 16 DWDM channels that can optionally be connected to an optical pre-amplifier (**2610/01**) and a 40km



The 16 DWDM channels from the 8830/01 unit are connected to the 1550nm port of the CWDM Mux/DeMux **8131/01**. This gives a combination of 3x CWDM and 16x DWDM channels on the same fiber-pair.

A further upgrade can be provided by adding the **8140/01** CWDM Mux/DeMux to the Express port giving an additional 4 CWDM channels.

Fully upgraded, this configuration gives 7 CWDM channels and 16 DWDM channels on the same fiber-pair.

An OSC-channel can also be added to the 8131/01 as this wavelength is added/extracted before the optical amplifier and thus avoids the blocking effect of the amplifier.



TS-1100
9013 Chassis



TS-100
9002 Chassis

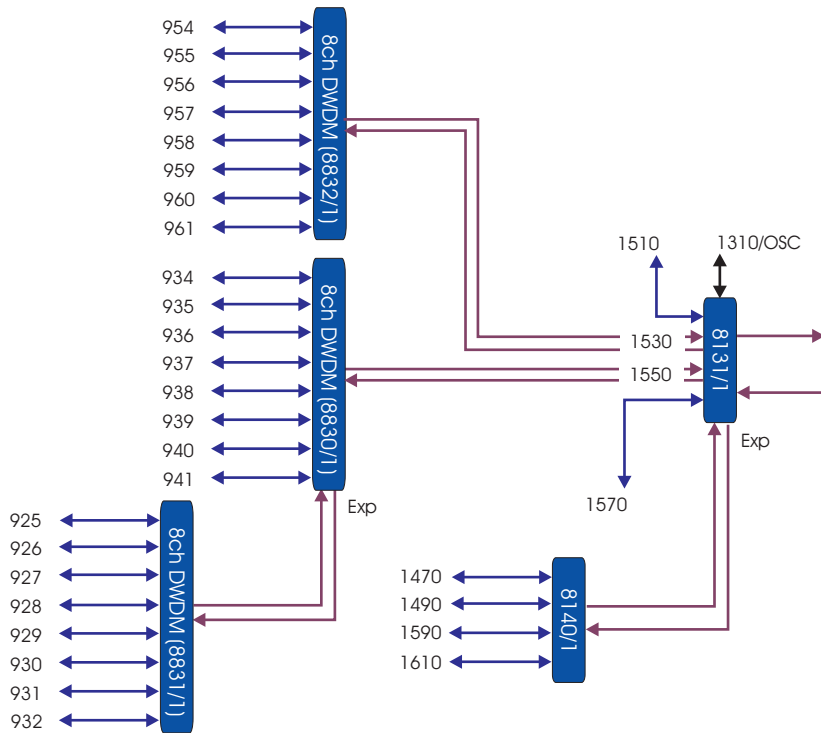


MultiRate
Transponder
7700



4G FC
Transponder
7400





Another powerful enhancement is to introduce the third 8ch DWDM Mux/DeMux **8832/1**. The DWDM channels of this unit match the 1530nm port of the 8131/1 CWDM Mux/DeMux.

In total, this gives a combined 24 DWDM channel and 6 CWDM channel configuration.

The 1310nm port on the 8131/1 CWDM Mux/DeMux can alternatively be used for legacy 1310nm SDH/SONET equipment to further utilize the fiber-pair.

Due to the highly modular design of the Transmode TS-1100 Mux/DeMux units a wide variety of applications can be addressed using these building blocks, some of which have been addressed in this datasheet.

Other possible applications include the addition of 10 Gbit/s channels to existing CWDM networks.

The TS-Series Transponders provide a completely integrated solution to convert client signals to run over C/DWDM channels. There are several modules available covering a wide range of protocols from 100Mb/s to 10Gb/s. The TS-Series Transponders are bit rate transparent requiring no pre-configuration or on-site provisioning.



Muxponder 5400/03

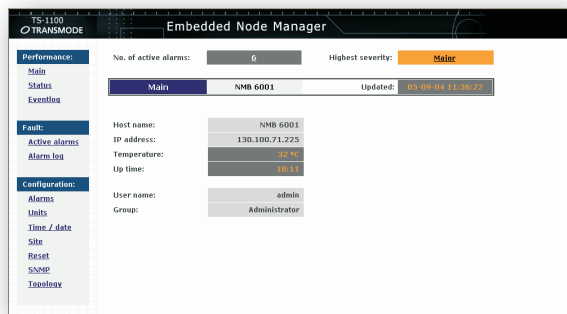


10G Transponder 7900



Mux/DeMux & AD-filters

The Mux/DeMux units can be combined with Transponders and Aggregators and mounted in a common chassis with other plug in units. For example, a mixed DWDM/CWDM node can be housed in the 9013 chassis and managed on



The 9013 chassis can house both DWDM and CWDM units

The node manager TS ENM is accessed via a CLI or Graphical User Interface (GUI) using a standard web browser. See separate material for more information about Transponders, Aggregators and management solutions.

Technical Data

Module type / combination	Insertion Loss link level (Mux & DeMux)
8131/01	3.2dB
8830/01	6.0dB
8830/01 + 8831/01	7.3dB
8131/01 + 8140/01	4.0dB
8831/01	4.9dB
8832/01	4.9dB

Transmode patented IWDW technology entails "Protocol Recognition" and "Speed Watch" that introduces true Plug-and-Play simplicity to wdm networking by allowing the Transponders to recognize the attached signal and auto-provision the optimum parameters.

Speed Watch allows the operator to restrict the traffic flow based on a maximum allowable bit rate and/or protocol type.

The specifications and information within this document are subject to change without further notice. All statements, information and recommendations are believed to be accurate but are presented without warranty of any kind.

