

3Gbit Dual SDI Optical Transceiver

Description

The OTR 5840 is a flexible dual channel SDI electrical to optical transceiver suitable for SDI/ASI-DVB video signals up to 3Gbit/s. Each channel has automatic input clock rate and signal presence detection with selectable signal reclocking. This module is ideally suited for demanding digital multi-format broadcast and professional applications.

Two input channels can be switched between optical or electrical inputs. In non-reclocked mode the module will transparently pass any data between 15Mbit/s and 3Gbit/s. Support for ASI/DVB and SMPTE 310 signals is also provided.

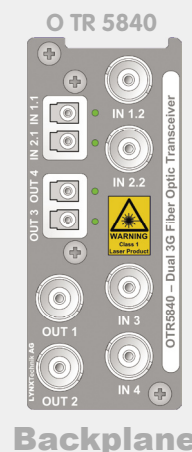
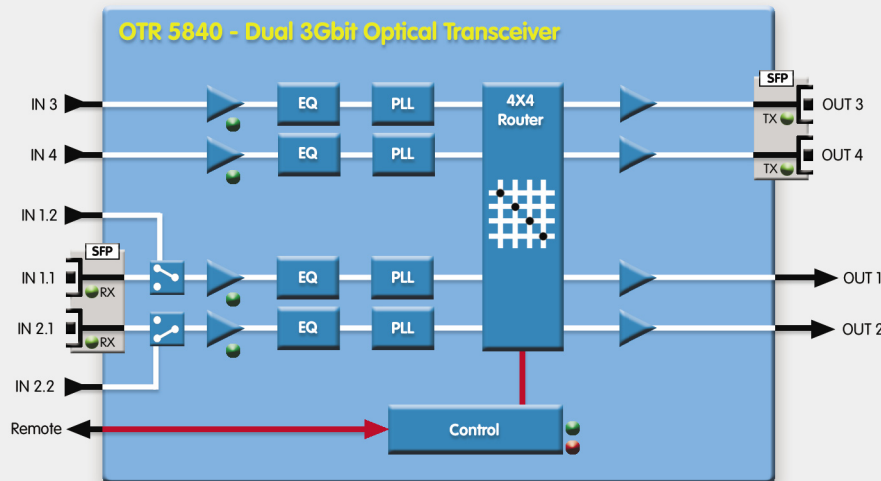
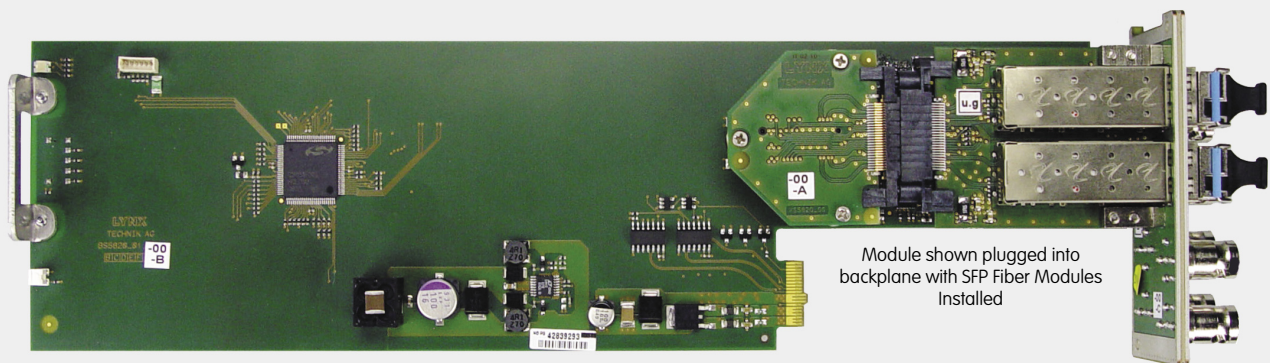
Select from 18 transmitter wavelengths for CWDM applications, or select dual 1310nm transmitter wavelengths for non CWDM applications.

An integral 4x4 signal router can be utilized to change I/O channel mapping when using the LYNX control system.

Up to 10 modules (or 20 fiber RX and 20 TX channels) can be supported in a standard LYNX 2RU rack frame. The Fiber SFP sub-modules are secured on the backplane allowing for module removal and hot swapping without removing any modules rear I/O fiber connections.

Features

- 2 Independent Fiber RX channels (1260nm - 1620nm)
- 2 Independent Fiber TX channels
- 2 channels selectable between optical or electrical inputs
- CWDM support, select from 18 wavelengths
- Supports SDI/ASI/DVB and SMPTE 310 up to 3Gbit/s
- Reclocking or non-reclocking mode for each channel
- Auto-detects input clock rate
- Transparently pass data between 15Mbit/s and 3Gbit/s in non-reclocked mode.
- Input presence detection with LED indication for each channel
- Internal 4x4 router for flexible I/O mapping (remote only)
- LC fiber connections, single mode or multimode fiber
- Fiber SFP modules secured in backplane. Module can be freely removed or replaced without disconnection of fiber cables
- Remote control, status monitoring and error reporting when used with LYNX control system
- SNMP error reporting when used with master controller option
- Hot Swappable



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Specifications

SDI Optical Inputs	
Signal type	SMPT 297M - 2006
Connector	LC / PC Single Mode or Multimode*
No. Of inputs	2 - (on a dual channel SFP fiber sub module)
Receiver Sensitivity	-3 dBm to -16 dBm
Wavelength Range	1260nm - 1620nm

SDI Copper Inputs	
Signal type	Serial Digital Video SMPT 259M, 292M, 424M DVB-ASI and SMPT 310
Input level	0.8 v peak to peak
No. of Inputs	4 (2 fixed and 2 switchable)
Input Impedance	75 Ohms
Connector	BNC
Return Loss	> 15dB (1.485Gbit) > 10dB (2.97Gbit)

SDI Optical Outputs	
Signal type	SMPT 297M - 2006
Connector	LC / PC Single Mode or Multimode*
No. Of inputs	2 - (on a dual channel SFP fiber sub module)
Wavelength	Wavelengths selected from option table.
Power	Refer to wavelength option selections
CWDM	Select wavelengths and dual channel SFP modules from the table provided.
Non CWDM	Use OH-TT-1 Option for dual 1310nm non CWDM transmitter

SDI Video Outputs	
Signal Type	Serial Digital Video SMPT 259M, 292M, 424M DVB-ASI and SMPT 310
Video standard	Follows input
Output level	0.8 v peak to peak
Output impedance	75 Ohm
No. Of Outputs	2
Connector	BNC
Return loss	> 15dB (1.485Gbit) > 10dB (2.97Gbit)
Jitter	< 0.20 UI (270 MHz) < 1.0 UI - Timing Jitter - (1.485Gbit - 2.97Gbit) < 0.20 UI - Alignment Jitter - (1.485Gbit - 2.97Gbit)

Performance	
Cable equalization	Up to 250M using Belden 8281 (270Mbit) Up to 140m using Belden 1694A (1.485Gbit) Up to 80m using Belden 1694A (2.97Gbit)
Control	Remote control possible when used with LYNX controller
Status monitoring (LED)	Signal presence (each input channel) plus general alarm

Operation modes	
4 channel Transceiver	2 x independent RX channels and 2 x independent TX channels
Input / output mapping	A 4x4 Internal router can be used to freely assign I/O mapping when using the LYNX control system.
Re-clocking	Clocked or non-relocked operation (selectable for each channel)

Electrical Specifications	
Operating Voltage	12 VDC
Power Consumption	< 7W
Safety	IEC 60950/ EN 60950/ VDE 0805

Specifications subject to change

Mechanical	
Size	283mm x 78mm
Weight	CardModule 120g, connector plate 120g

Ambient	
Temperature	5°C to 40°C Maintaining specifications
Humidity	90% Max non condensing

Settings and Control

Local Settings	
Re-clocking	clocked / non re-clocked for each input channel
Input Select	Select Fiber/Copper inputs for channel 1 and 2

Settings Available from Control System	
4 x 4 Router Control	

On Board Indicators / LEDs	
Input 1 Present / No Input	
Input 2 Present / No Input	
Input 3 Present / No Input	
Input 4 Present / No Input	
General Alarm Indicator – 3 Color	
RX and TX fiber activity (on rear connection panel)	

*Note

We recommend the use of Single Mode fiber cable with these modules. Multimode operation is possible, but performance (distance) is heavily influenced by the type of Multimode cable. Single Mode cable **MUST** be used for any CWDM application.

CWDM Wavelength Selection

NOTE. Basic Module price **DOES NOT** include an SFP fiber transmitter module. The required CWDM fiber optic transmitter wavelengths are selected from the table below. Each SFP sub module supports two wavelengths Please specify one option. For non CWDM applications please specify the **OH-TT-1** option, this option has dual 1310nm non CWDM transmitters.

Specifications	
Connector	Dual LC / PC
Power	-1 dBm typ. (CWDM modules) -5dBm typ. for OH-TT-1 option (non CWDM)
Max Distance	40km (nominal) for all CWDM options 10km (nominal) for OH-TT-1 option (non CWDM)
Supported Cable	Single Mode
Wavelengths	Select from table below

SFP Module Selections	
Model Number	Wavelengths (dual channel)
OH-TT-1	1310nm, 1310nm (non CWDM)
OH-TT-4-1270-1290	1270nm, 1290nm (CWDM)
OH-TT-4-1310-1330	1310nm, 1330nm (CWDM)
OH-TT-4-1350-1370	1350nm, 1370nm (CWDM)
OH-TT-4-1390-1410	1390nm, 1410nm (CWDM)
OH-TT-4-1430-1450	1430nm, 1450nm (CWDM)
OH-TT-4-1470-1490	1470nm, 1490nm (CWDM)
OH-TT-4-1510-1530	1510nm, 1530nm (CWDM)
OH-TT-4-1550-1570	1550nm, 1570nm (CWDM)
OH-TT-4-1590-1610	1590nm, 1610nm (CWDM)

Ordering Information

Model #	Description	Includes
O TR 5840	3Gbit Dual SDI Optical Transceiver	CardModule, Rear termination Panel + Mounting Screws, and Reference Manual (on CD)
Option: OH-TT-X-XXXX-XXXX	Transmitter SFP Sub Module	Select (I) from table above. Includes SFP module pre-installed in module backplane