

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.

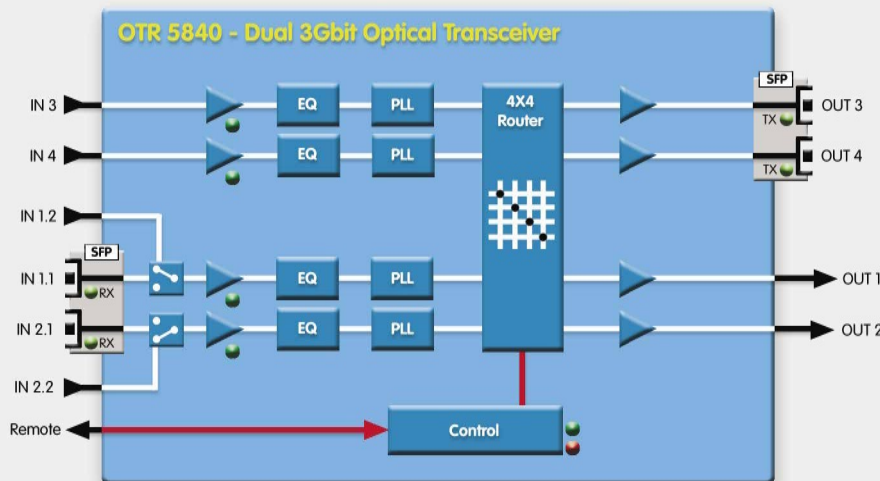
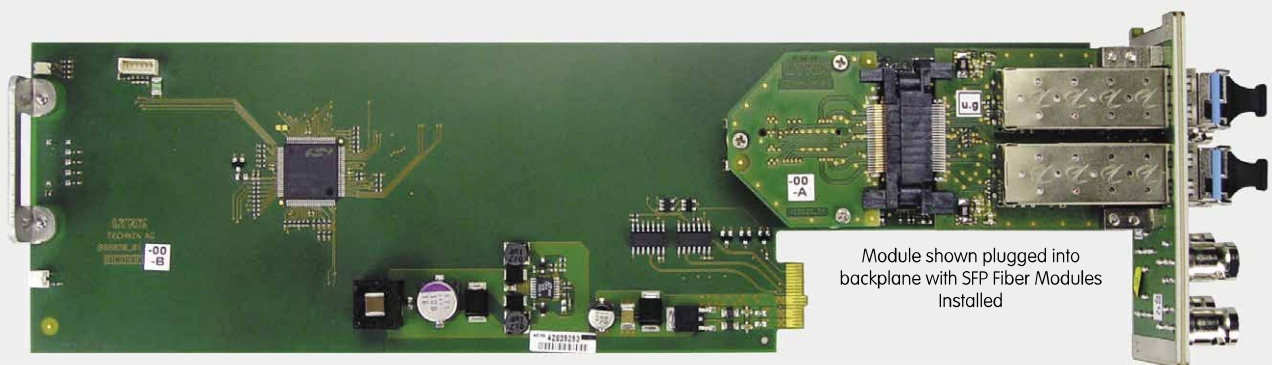
Select from 18 transmitter wavelengths for CWDM applications, or select dual 1310nm transmitter wavelengths for non CWDM applications.

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-LC 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-reclocked 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-LC** 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-LC option (non CWDM) |
| Max Distance | 40km (nominal) for all CWDM options 10Km (nominal) for OH-TT-1-LC option (non CWDM) |
| Supported Cable | Single Mode |
| Wavelengths | Select from table below |

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

Ordering Information

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