

# IQOTR40

## 3G/HD/SD-SDI Multichannel Fiber Transceiver

Bidirectional conversion of four 3G/HD/SD-SDI signals to/from single-mode fiber optic signals.

The IQOTR40 range provides bidirectional conversion of four 3G/HD/SD-SDI signals to/from single-mode fiber optic signals. The unit is available in single- or dual-width versions with either HD-BNC or BNC connectors.

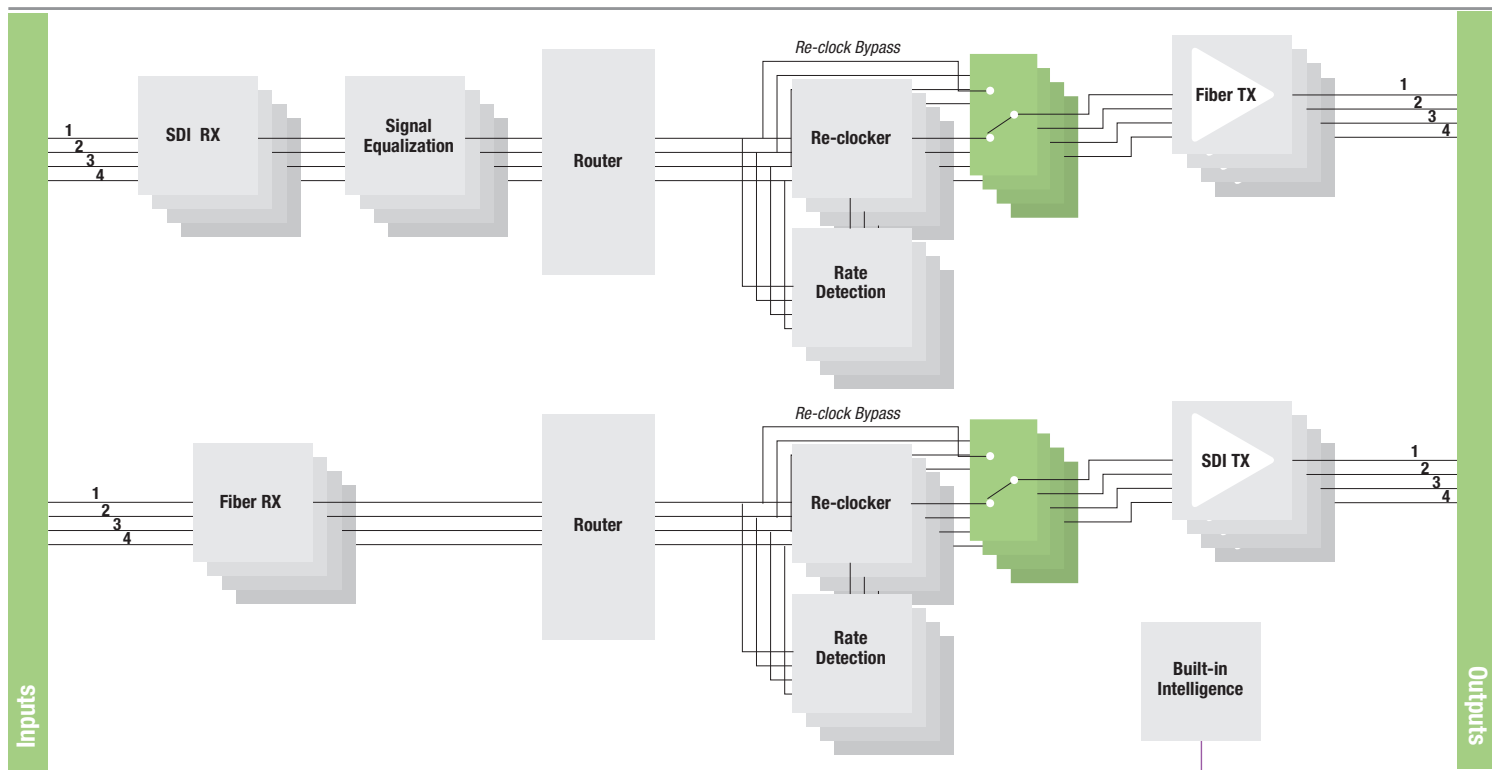
### Why should you choose this module?

- Suitable for transporting 3G/HD-SDI signals over long distances either within the facility or between sites
- Lower weight and higher density compared with copper cables
- Full RollCall and SNMP compatibility allows easy integration with Grass Valley or third-party network management systems, providing an all-inclusive monitoring and control solution

### KEY FEATURES

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- Multichannel single-mode fiber optic receiver for 3G/HD/SD-SDI signals
- 1310 nm input wavelengths support
- Multichannel single-mode fiber optic transmitter for 3G/HD/SD-SDI signals
- Reclocking for 3 Gb/s, 1.5 Gb/s HD-SDI and 270 Mb/s SDI signals, or asynchronous operation for other frequencies (input range 50 Mb/s to 3 Gb/s)



Block Diagram for IQOTR4080-2B3

Network Intelligence, Control & Monitoring

**SPECIFICATIONS**

**Inputs and Outputs**

**Signal Inputs**

SDI inputs: 4x  
 Input cable length:  
 Up to 80m Belden 1694A @ 3 Gb/s  
 Up to 140m Belden 1694A @ 1.5 Gb/s  
 Inputs 1-3, up to 350m Belden 1694A @ 270 Mb/s  
 Inputs 4-8, up to 160m Belden 1694A @ 270 Mb/s

**Signal Outputs**

SDI outputs: 4x

**Fiber Signal Input**

Inputs: Up to 4  
 Optical: 3 Gb/s HD-SDI, 1.485 Gb/s HD-SDI or 270 Mb/s SD-SDI  
 Connector/format: LC singlemode  
 Conforms to:  
 SMPTE ST 297-2006  
 SMPTE ST 424 (HD level A/B)  
 SMPTE ST 292 (HD)  
 SMPTE ST 259-C (SD)

**Fiber Signal Output**

Outputs: 4x  
 Optical: 3 Gb/s HD-SDI, 1.485 Gb/s HD-SDI or 270 Mb/s SD-SDI  
 Connector/format: LC singlemode  
 Conforms to:  
 SMPTE ST 297-2006  
 SMPTE ST 424 (HD level A/B)  
 SMPTE ST 292 (HD)  
 SMPTE ST 259-C (SD)

**Controls**

**Indicators**

Power: OK (Green)  
 CPU: OK (Green flashing)  
 Input 1-8: 3G-OK (Blue), HD-OK (Green), SD-OK (Yellow), Bypass (Rate color flashing), Loss (Red)

**Video Controls**

Input 1 - 8 rate select: 3G, HD, SD, other  
 Reclock bypass: On/Off  
 Output 1-4 select: Input 1-4  
 Output 5-8 select: Input 5-8  
 Laser disable (Tx): On/Off/Input Error  
 Output mute (Rx): On/Off  
 Output mute on I/P error (Rx): On/Off  
 Input 1-4 configuration: 1, 2  
 Input 5-8 configuration: 1, 2

Configuration rules:  
 Primary input OK  
 Primary input error  
 Secondary input error

**Mode use:**

Config 1  
 Use Config 2  
 Use Rules

**Delay for rules actions:**

OK Timer 0-5s  
 Error Timer 0-5s

Input status: Present, Loss, Unknown, Data Rate

**Logging:**

Input 1-8 Identifier  
 Input 1-8 Name  
 Input 1-8 Type  
 Input 1-8 Data Rate  
 Input 1-8 Present  
 Input 1-8 Error  
 Input 1-8 Loss

**Optical logging:**

Output 1-8 Tx Laser Bias High Warning  
 Output 1-8 Tx Laser Bias Current  
 Output 1-8 Tx Power Low Warning  
 Output 1-8 Tx Power High Warning  
 Output 1-8 Tx Power  
 Output 1-8 Tx Wavelength  
 Input 1-8 Rx Power High Warning  
 Input 1-8 Rx Power Low Warning  
 Input 1-8 Rx Power Measurement  
 Input/Output 1-8 SFP State

RollTrack controls: On/Off, Index, Source, Address, Command, Status, Sending

**RollTrack sources:**

Unused  
 Input 1-8 Present  
 Input 1-8 Rate Unknown  
 Input 1-8 Error  
 Input 1-8 Loss  
 Input 1-8 3G  
 Input 1-8 HD  
 Input 1-8 SD  
 Output 1-8 Tx Laser Bias High/Low Warning  
 Input 1-8 Rx Power High Warning  
 Input 1-8 Rx Power Low Warning

## SPECIFICATIONS

### Other Controls

User memories: Name, save and recall 16 user memories

### General Specifications

Electrical:

3 Gb/s SDI, SMPTE ST 424

1.5 Gb/s HD-SDI, SMPTE ST 292

270 Mb/s SDI, SMPTE ST 259-C / DVB-ASI

Connector/format: BNC/75Ω panel jack on standard Grass Valley connector panel

Return loss:

> -15 dB (270 Mb/s, 1.5 Gb/s)

> -10 dB (3 Gb/s)

Output jitter:

SD-SDI 0.2 UI (10 Hz) / 0.2 UI (1 kHz)

3G/HD-SDI 1.0 UI (10 Hz) / 0.2 UI (100 kHz)

### Optical Rx

Input wavelength range: Min. 1260 nm, Max. 1620 nm

Input sensitivity: -21 dBm

Optical power input range: > -0 dBm, < -20 dBm

Optical return loss: -27 dB

Link distance:

Up to 30 km @ 270 Mb/s

Up to 21 km @ 1.5 Gb/s

Up to 10 km @ 3 Gb/s

### Optical Tx

Wavelength: 1310 nm

Spectral width (FWHM): >1.5 nm (typ)

Output power: 0 to -5 dBm typical (-2 dBm typical)

Rise and fall time:

135 ps @ 3 Gb/s

270 ps @ 1.5 Gb/s

1.5 ns @ 270 Mb/s

Extinction ratio: >7.5:1 (typ)

Link distance:

Up to 30 km @ 270 Mb/s

Up to 21 km @ 1.5 Gb/s

Up to 10 km @ 3 Gb/s

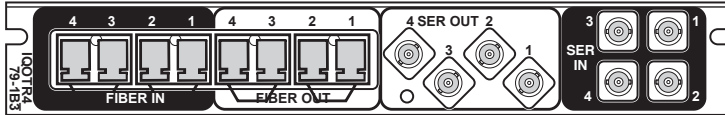
### Power Consumption

Module power consumption: 8 PR (B Frames)

## ORDERING

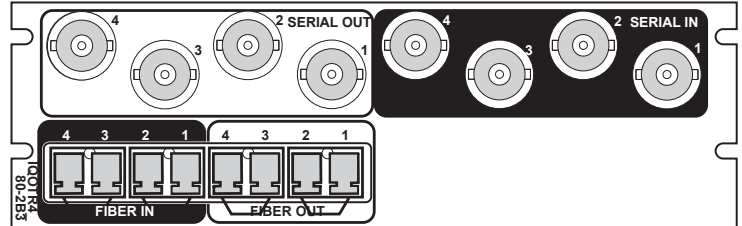
### IQOTR4079-1B3

3G/HD/SD-SDI multichannel fiber transceiver. 4x HD-BNC 3G/HD/SD-SDI inputs to 4x 1310 nm optical outputs and 4x optical inputs to 4x HD-BNC 3G/HD/SD-SDI outputs.



### IQOTR4080-2B3

3G/HD/SD-SDI multichannel fiber transceiver. 4x BNC 3G/HD/SD-SDI inputs to 4x 1310 nm optical outputs and 4x optical inputs to 4x BNC 3G/HD/SD-SDI outputs.



For more details on enclosure types please refer to the IQ Modular Enclosures datasheet.



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