

# IQOTX80-83

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

Multi-channel single-mode fiber optic transmitter for long distance applications.

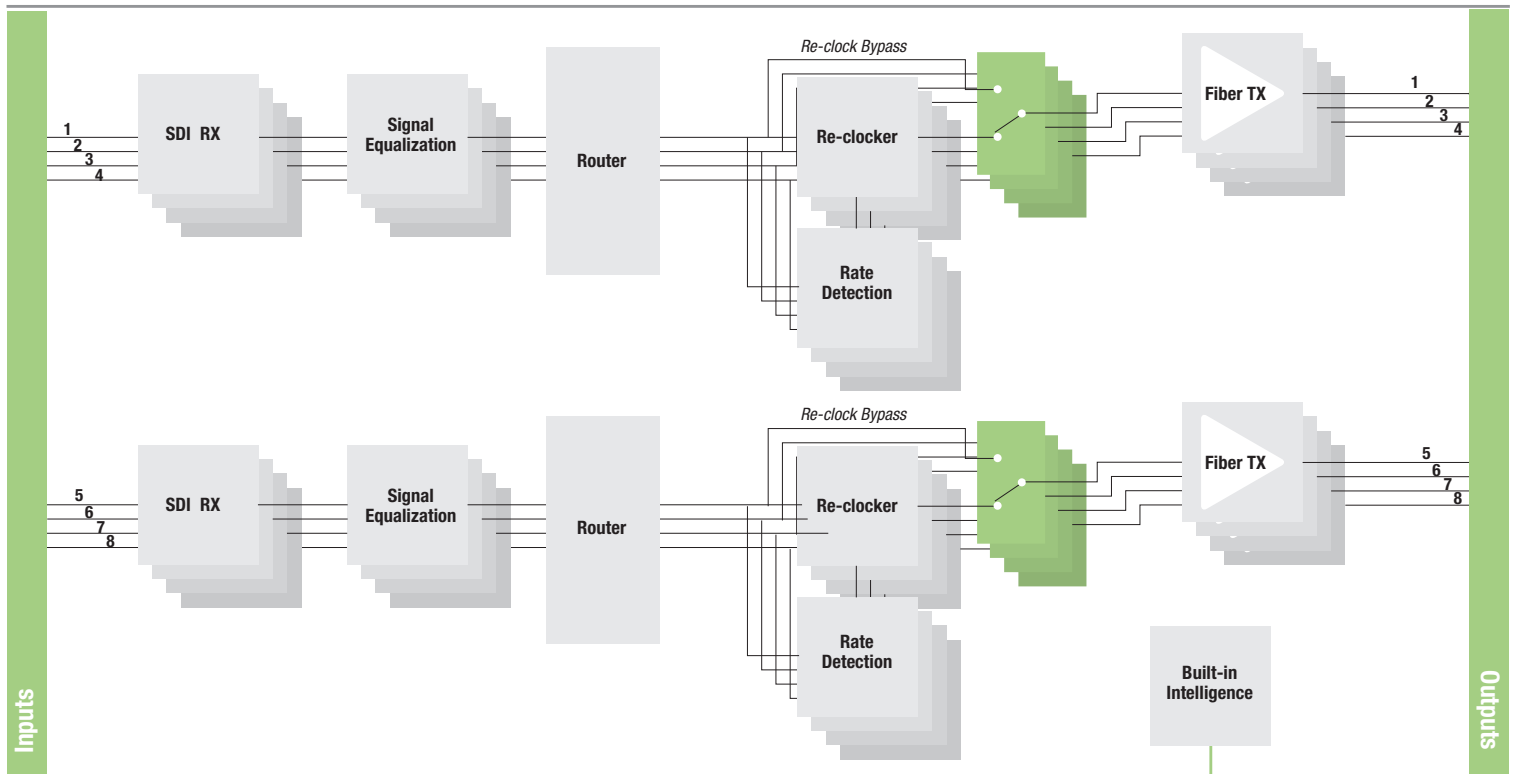
The IQOTX80-83 range from Grass Valley converts eight 3G/HD/SD-SDI signals into single-mode fiber optic signals. The unit is available in single- or dual-width versions with either HD-BNC or BNC connectors with a range of fiber wavelength transmitters suitable for CWDM applications.

### 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

- Multichannel single-mode fiber optic transmitter for 3G/HD/SD-SDI signals
- Output wavelengths from 1270 nm to 1610 nm suitable for CWDM applications
- 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 IQOTX8080-2B3.

Network Intelligence, Control & Monitoring

## SPECIFICATIONS

## Inputs and Outputs

## Signal Inputs

SDI inputs: 8x  
 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

## Fiber Signal Output

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)

Outputs: 8x

## 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: On/Off/Input Error  
 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 Wavelength  
 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

## 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 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

## CWDM

Wavelength: 1270-1610 nm  
 Spectral width (FWHM): 1 nm  
 Output power: 5 to 0 dBm (2.5 dBm typ.)  
 Rise and fall time:  
 130 ps @ 3 Gb/s  
 175 ps @ 1.5 Gb/s  
 300 ps @ 270 Mb/s  
 Extinction ratio: >9 dB

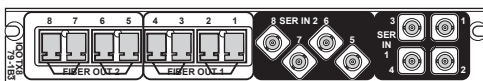
## Power Consumption

Module power consumption: 8 PR (B Frames)

## ORDERING

## IQOTX8079-1B3

3G/HD/SD-SDI multichannel fiber transmitter. 8x 3G/HD/SD-SDI inputs, 8x 1310 nm optical outputs.



## IQOTX8279-1B3

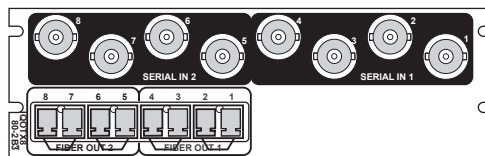
As IQOTX8079-1B3 but fitted with 1270-1410 nm CWDM optical transmitters.

## IQOTX8379-1B3

As IQOTX8079-1B3 but fitted with 1470-1610 nm CWDM optical transmitters.

## IQOTX8080-2B3

3G/HD/SD-SDI multichannel fiber transmitter. 8x 3G/HD/SD-SDI inputs, 8x 1310 nm optical outputs.



## IQOTX8280-2B3

As IQOTX8080-2B3 but fitted with 1270-1410 nm CWDM optical transmitters.

## IQOTX8380-2B3

As IQOTX8080-2B3 but fitted with 1470-1610 nm CWDM optical transmitters.

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