

# IQOTX80-83

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

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

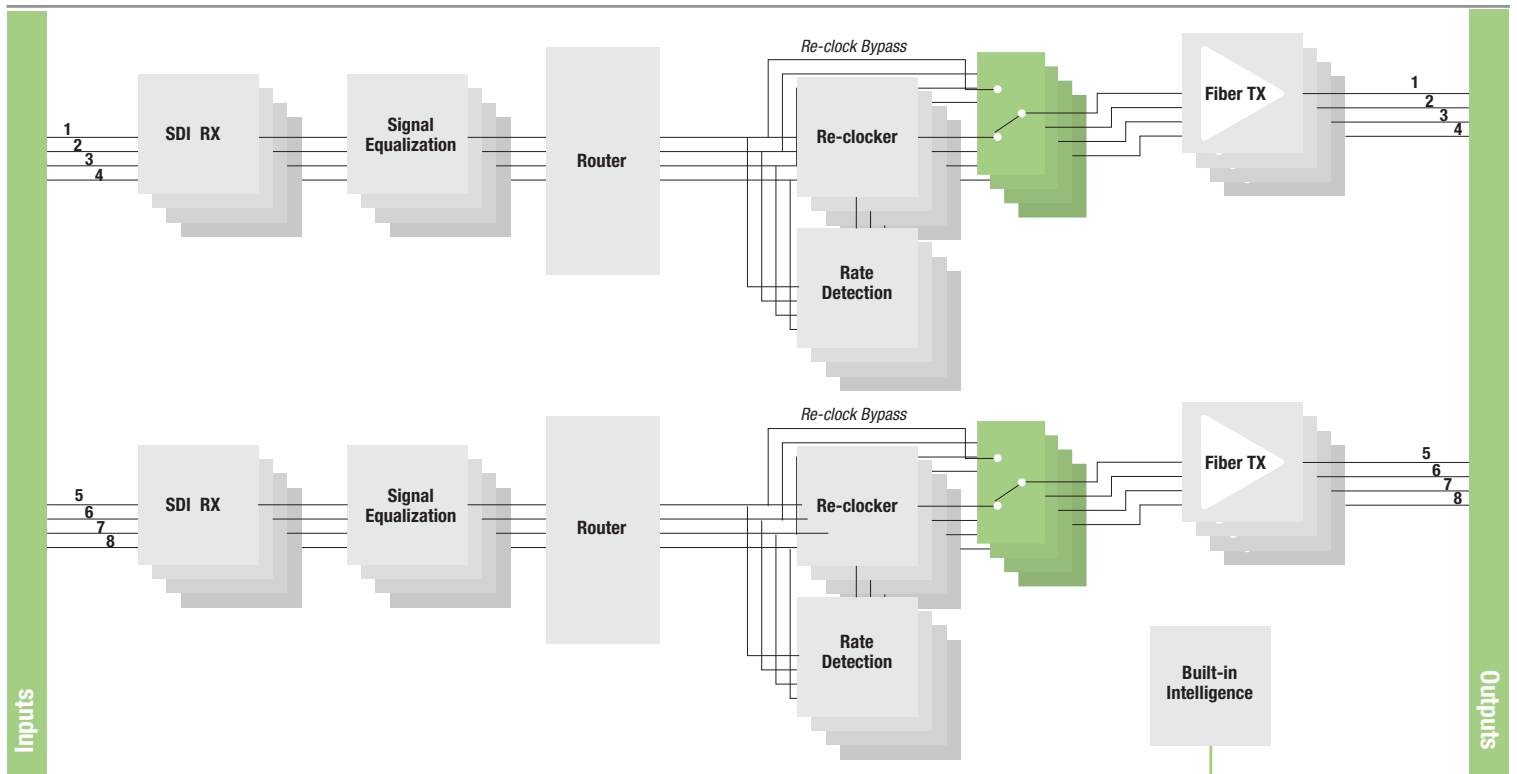
The IQOTX80-83 range from Grass Valley converts eight 3G/HD/SD-SDI signals into single-mode fiber optic signals. The unit is available in single- or dual-width versions with either HD-BNC or BNC connectors with a range of fiber wavelength transmitters suitable for CWDM applications.

### 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 GV Orbit compatibility provides an all-inclusive remote configuration, control and monitoring solution
- Comprehensive SNMP support allows easy integration with third-party Network Management Systems

### 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): &gt;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: &gt;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: &gt;9 dB

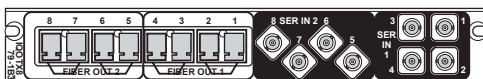
## Power Consumption

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

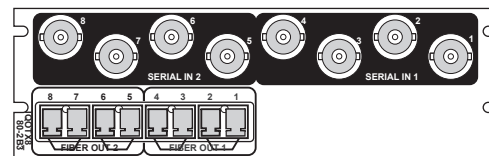
As IQOTX8079-1B3 but fitted with 1270-1410 nm CWDM optical transmitters.

## 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.



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



WWW.GRASSVALLEY.COM

Join the Conversation at [GrassValleyLive](#) on Facebook, Twitter, YouTube and [Grass Valley](#) on LinkedIn.

www.grassvalley.com/blog

This product may be protected by one or more patents. For further information, please visit: [www.grassvalley.com/patents](http://www.grassvalley.com/patents).

Grass Valley®, GV® and the Grass Valley logo are trademarks or registered trademarks of Grass Valley USA, LLC, or its affiliated companies in the United States and other jurisdictions. Grass Valley products listed above are trademarks or registered trademarks of Grass Valley USA, LLC or its affiliated companies, and other parties may also have trademark rights in other terms used herein.

Copyright © 2019-2021 Grass Valley Canada. All rights reserved. Specifications subject to change without notice.