

IQOTR32

3G/HD/SD-SDI Flexible Fiber Optic Interfacing Module

The IQOTR32 is a user configurable fiber optic transceiver for bi-directional conversion of 3Gbps, HD and SD-SDI signals to 1310nm optical signals. Ideal for mixed coax and fiber workflows, the IQOTR32 allows the user to configure the inputs and outputs to match their infrastructure needs.

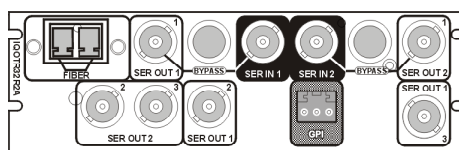
Features

- Single mode fiber optic receiver and transmitter for 3G/HD/SD-SDI signals
- Independent input selection for each channel, or all outputs follow input mode
- User selectable 3G/HD/SD-SDI outputs for fiber or coax inputs in accordance with SMPTE424M, SMPTE292M and SMPTE259M
- Input wavelength range 1260-1620 nm, output wavelength of 1310 nm
- 2 x GPI/O control interface

Why should you choose this module?

- Ideal for applications that require mixed coax and fiber interfacing, to integrate an existing router into a new 3G/HD operation for example
- Suitable for transporting 3G/HD-SDI signals over long distances either within the facility or between sites
- 2 x GPI control interface allows external control of input selection or status reporting
- Lower weight and higher density compared with copper cables
- Full RollCall and SNMP compatibility allows easy integration with Snell Centra, or third party, network management systems providing an all-inclusive monitoring and control solution

Order codes



IQOTR32TR2A3R

Flexible dual channel fiber optic transceiver for 3G/HD/SD-SDI. 2 x 3GHD/SD-SDI inputs, 6 x 3G/HD/SD-SDI outputs, 1 x optical input, 1 x 1310nm optical output.

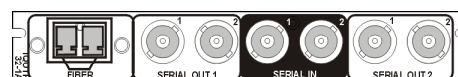
IQOTR321(2)T2A3R - 1(2) x 1310nm optical outputs.

IQOTR321(2)R2A3R - 1(2) x optical inputs.

IQOTR32992A3R - SDI inputs and outputs only.

For more details on enclosure types please refer to Frames and Hardware section.

Order codes



IQOTR32TR-1A3

Flexible dual channel fiber optic transceiver for 3G/HD/SD-SDI. 2 x 3GHD/SD-SDI inputs, 4 x 3G/HD/SD-SDI outputs, 1 x optical input, 1 x 1310nm optical output.

IQOTR321(2)T-1A3 - 1(2) x 1310nm optical outputs.

IQOTR321(2)R-1A3 - 1(2) x optical inputs.

IQOTR3299-1A3 - SDI inputs and outputs only.



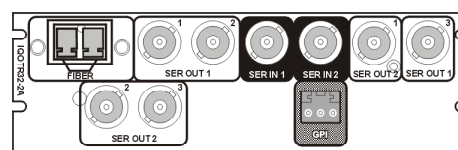
IQOTR32TR1A3G

Flexible dual channel fiber optic transceiver for 3G/HD/SD-SDI. 2 x 3GHD/SD-SDI inputs, 3 x 3G/HD/SD-SDI outputs, 1 x optical input, 1 x 1310nm optical output, 2 x GPI.

IQOTR321(2)T1A3G - 1(2) x 1310nm optical outputs.

IQOTR321(2)R1A3G - 1(2) x optical inputs.

IQOTR32991A3G - SDI inputs and outputs only.



IQOTR32TR-2A3

Flexible dual channel fiber optic transceiver for 3G/HD/SD-SDI. 2 x 3GHD/SD-SDI inputs, 6 x 3G/HD/SD-SDI outputs, 1 x optical input, 1 x 1310nm optical output, 2 x GPI.

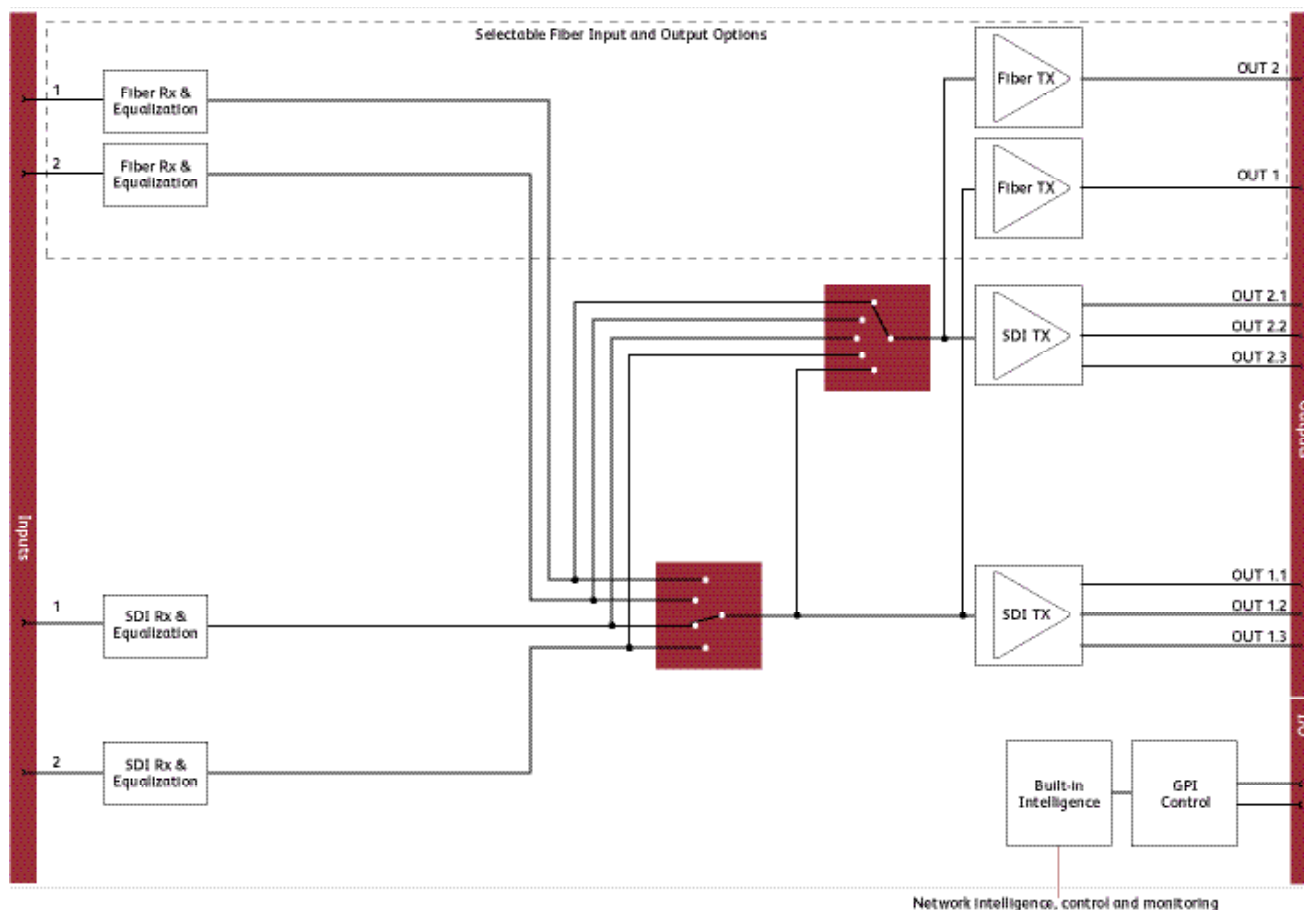
IQOTR321(2)T-2A3 - 1(2) x 1310nm optical outputs.

IQOTR321(2)R-2A3 - 1(2) x optical inputs.

IQOTR3299-2A3 - SDI inputs and outputs only.

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Block Diagram for IQOTR32-2A

Technical Specification

Inputs and Outputs

Signal Inputs

Electrical	3 GBit/s HD-SDI, 1.485 GBit/s HD-SDI or 270 Mbit/s SD-SDI
Connector / Format	BNC/ 75 ohm panel jack
Conforms to:	SMPTE 424M (HD level A/B) SMPTE 292M (HD) SMPTE 259M-C (SD)
Inputs	2
Input 1 Cable Length	Up to 70m Belden 1694A @ 3 Gbit/s Up to 160m Belden 1694A @ 1.5 Gbit/s >350m Belden 1694A @ 270 Mbit/s
Input 2 Cable Length	Up to 60m Belden 1694A @ 3 Gbit/s Up to 100m Belden 1694A @ 1.5 Gbit/s Up to 100m Belden 1694A @ 270 Mbit/s

Fiber Signal Input

Inputs	Up to 2
Optical	3 GBit/s HD-SDI, 1.485 GBit/s HD-SDI or 270 Mbit/s SD-SDI
Connector / Format	LC singlemode
Conforms to:	SMPTE 297-2006 SMPTE 424M (HD level A/B) SMPTE 292M (HD) SMPTE 259M-C (SD)

Signal Outputs

Electrical	3 GBit/s HD-SDI, 1.485 Gbit/s HD-SDI or 270 Mbit/s SD-SDI
Connector / Format	BNC/ 75 ohm panel jack
Outputs	2 x 2 selectable reclocked
Conforms to:	SMPTE 424M (HD level A/B) SMPTE 292M (HD) SMPTE 259M-C (SD)

Fiber Signal Output

Optical	3 GBit/s HD-SDI, 1.485 Gbit/s HD-SDI or 270 Mbit/s SD-SDI
Connector / Format	LC singlemode
Conforms to	SMPTE 297-2006 SMPTE 424M (HD level A/B) SMPTE 292M (HD) SMPTE 259M-C (SD)

Outputs

Up to 2, selectable per Channel

Control Interface

GPI I/O	2 x closing contact via screw terminal connector (ST)
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Controls

Indicators

Power	OK (Green)
CPU running	OK (Green flashing)
FPGA running	OK (Yellow flashing)
Status	OK (Green)
Warning (Yellow)	
Error (Red)	
Input 1	OK (Green)
Input 2	OK (Green)
Rx 1	OK (Green)

Controls

Video Controls

Output 1 Select	Serial 1, Serial 2, RX1, RX2
Output 2 Select	Serial 1, Serial 2, RX1, RX2, Follow Output 1 Selection
Laser Disable	On/Off

Other Controls

User Memories	16 x Save, Recall, Rename
GPI Inputs	Memory recall 1 to 16, Memory toggle
GPI Outputs	Input Present or Loss for SDI 1, 2, Fiber 1, 2
Memory Naming	User configurable naming of memories 1 – 16
Information Window	Video Input Status
RollTrack Index	Up to 70 RollTrack destinations
Optical Logging*	Tx Laser Bias High Warning Tx Power Low Warning Tx Power High Warning
Laser Wavelength	Input 1 (2) Rx Power High Warning Input 1 (2) Rx Power Low Warning Input 1 (2) Rx Power Measurement
RollTrack Sources	Unused, Input Present, Input Loss, Input Rate/Std, Tx Laser Bias High Warning*, Input 1 Rx Power High Warning*, Input 2 Rx Power High Warning*, Input 1 Rx Power Low Warning*, Input 2 Rx Power Low Warning*
Factory Default	Resets all module settings to factory specified default values and clears memories
Default Settings	Resets all module settings to factory specified defaults but does not clear memories
Restart	Software restart of the module
Module Information	*Reports following module information: Software version, Serial number, Build number, KOS version, Firmware version, PCB version

Specifications

Electrical	3Gbit/s SDI, SMPTE 424M 1.5Gbit/s HD-SDI, SMPTE 292M 270 Mbit/s SDI, SMPTE 259M-C / DVB-ASI
Connector / Format	BNC/ 75ohm panel jack on standard IQ connector panel
Return loss	>-15dB (270Mbit/s, 1.5Gbit/s) >-10dB (3Gbit/s)
Output Jitter	SD-SDI 0.2 UI (10Hz) / 0.2 UI (1KHz) 3G/HD-SDI 1.0 UI (10Hz) / 0.2 UI (100KHz)

Optical 1310 nm 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 @ 3Gbit/s 270 ps @ 1.5Gbit/s 1.5 ns @ 270Mbit/s
Extinction ratio	>7.5:1 (typ)
Optical Return Loss	-27 dB
Link distance	Up to 30 Km @ 270Mbit/s Up to 21 Km @ 1.5Gbit/s Up to 10 Km @ 3Gbit/s

Optical Rx

Input wavelength range	Min. 1260 nm, Max. 1620 nm
Input Sensitivity	-21 dBm
Optical power input range	> -0 dBm, < -20 dBm
Link distance	Up to 30 Km @ 270Mbit/s Up to 21 Km @ 1.5Gbit/s Up to 10 Km @ 3Gbit/s

Video Standards

1125(1080)/50p (A & B), 1125(1080)/59p (A & B)
750(720)/50p, 750(720)/59p,
1125(1080)/25i, 1125(1080)/29i
625(576)/25i, 525(480)/29i

Power Consumption

Module Power Consumption	8.8W Max (A Frames) 8.5 PR (B Frames) 9W (PR) Max with relay bypass
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