4 x 12G-SDI Optical Fiber Extender

G-SDI-E-4*12G-R

G-SDI-E-4*12G-T
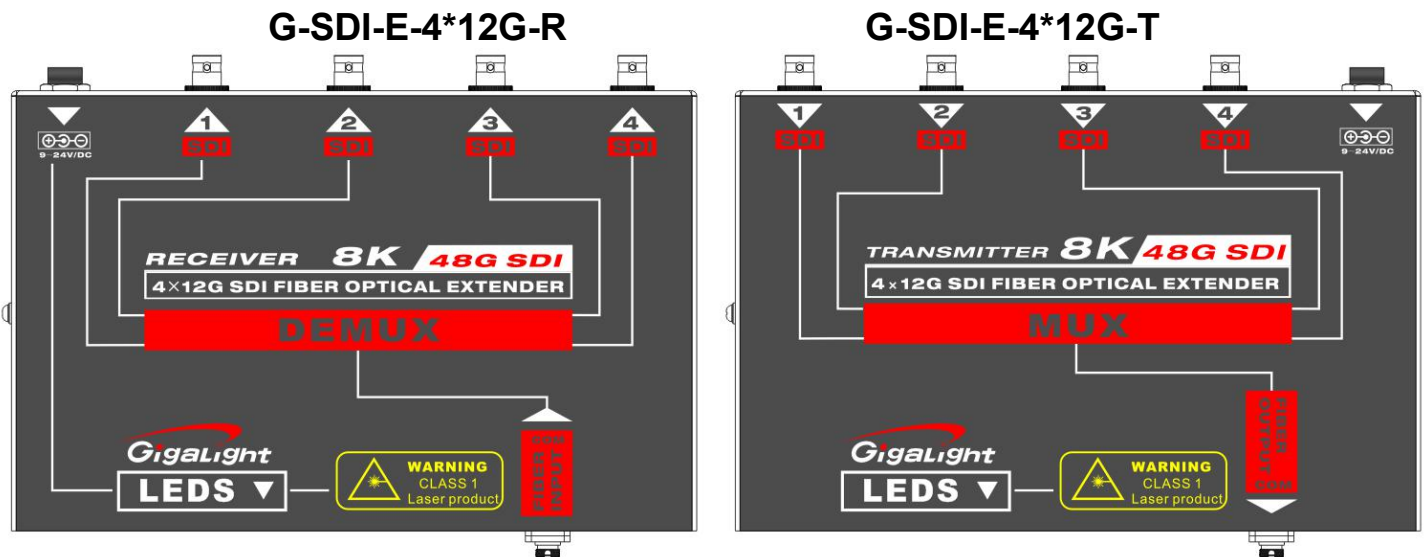

Features

✓ Support for 4 independent 12G/6G/3G/1.5G/270M channels

✓ Each channel can be SD,HD,3G,6G,12G input datarate detected Automatically

✓ Transport 8k (uncompressed) singals up to 20km

✓ Each channel supports resolutions up to 2160p/60Hz

✓ Each channel individually reclocked

✓ Supported format :

SMPTE ST 2082-1 (11.88Gbps/s),

SMPTE ST 2081-1 (5.94Gbps/s),

SMPTE ST 424 (2.97Gbps/s),

SMPTE ST 292 (1.485Gbps/s),

SMPTE ST 259(360Mb/s),DVB-ASI(270Mb/s),MADI (125Mb/s)

✓ Co-axis cable equalizer embedded in the transmitter：

70m at 11.88Gb/s: <0.2UI output jitter

90m at 5.94Gb/s: <0.15UI output jitter

180m at 2.97Gb/s: <0.1UI output jitter

240m at 1.485Gb/s: <0.1UI output jitter

300m at 270Mb/s: <0.1UI output jitter

✓ CDR embedded in the receiver

✓ SDI signal connecting status indicated by LED

✓ 12V DC power supply

✓ Operating case temperature range：-10 to +55°C（Power adapter not included）

Applications

✓ Live Broadcast

✓ 8K Screen

✓ 8K Camera

✓ Video Meeting

✓ Security Monitoring

Description

4 x 12G-SDI fiber optical extender makes possible transmission of four lanes of 12G SDI signals in long-distance,which are independent.The maximum transmission distances can reach 20km at 12G-SDI datarate.operating datarate is from 125Mbps to 11.88Gbps.Besides,MADI, DVB-ASI, SD-SDI, HD-SDI, 3G-SDI, 6G UHD–SDI formats are backward compatible.

each lanes of SDI signals are transmitted or received independently.signals.
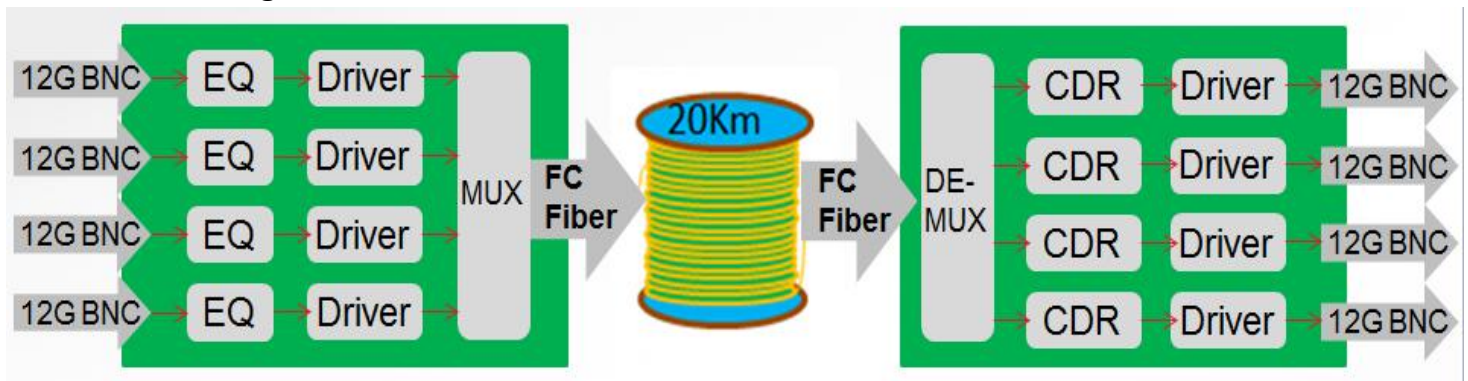
Hardware Configuration

Figure 1. Block diagram

LED	Display	Description
POWER	Off	Power off
	Green	Power on
Channel1	Off	SDI IN1(or OUT1) signal connecting to NG
	Green	SDI IN1(or OUT1)) signal connecting OK
Channel 2	Off	SDI IN2(or OUT2) signal connecting NG
	Green	SDI IN2(or OUT2) signal connecting OK
Channel 3	Off	SDI IN3(or OUT3) signal connecting to NG
	Green	SDI IN3(or OUT3) signal connecting OK
Channel 4	Off	SDI IN4(or OUT4) signal connecting NG
	Green	SDI IN4(or OUT4) signal connecting OK

Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Storage Temperature	T_s	-20	+95	ºC
Power Supply Voltage	Vcc	9	26	V

Technical Specifications

Parameter	Symbol	Min	Typical	Max	Unit
48G-SDI Optical fiber extender Operating Temperature	Tc	-10		70	°C
AC to DC Power adapter Operating Temperature	Tc	0		40	°C
Operating Humidity	-	5		85 non-cond	%
Power Supply Voltage	Vcc	9	12	24	V
Power Supply current(without transceivers)	Icc(12V)		580	620	mA
Physical Dimensions（Power adapter not included）		230(W)x147(D) x37.7(H)			mm

Optical and Electrical Characteristics

Main Frame	
BNC	Standard BNC，75 Ohm
Transmission rate	125 Mbps to11.88 Gbps
Standard	SMPTE ST 2082-1, SMPTE ST 2081-1, SMPTE ST 424, SMPTE ST 292-1, SMPTE ST 259, DVB-ASI(270M),MADI(125M)
RL	>15dB @1.5GHz
	>10dB @3GHz
	>7 dB @6GHz
	>4 dB @12GHz
Wavelength	1270nm/1290nm/1310nm/1330nm
Jitter	< 2.0UI @10Hz
	< 0.3UI @100KHz
Output Swing	800mV (+/-10%)
Overshoot	<10%
Rise/fall time	<135ps @3G-SDI
	<80ps @6G UHD-SDI

<45ps @12G UHD-SDI	

Mechanical Dimensions
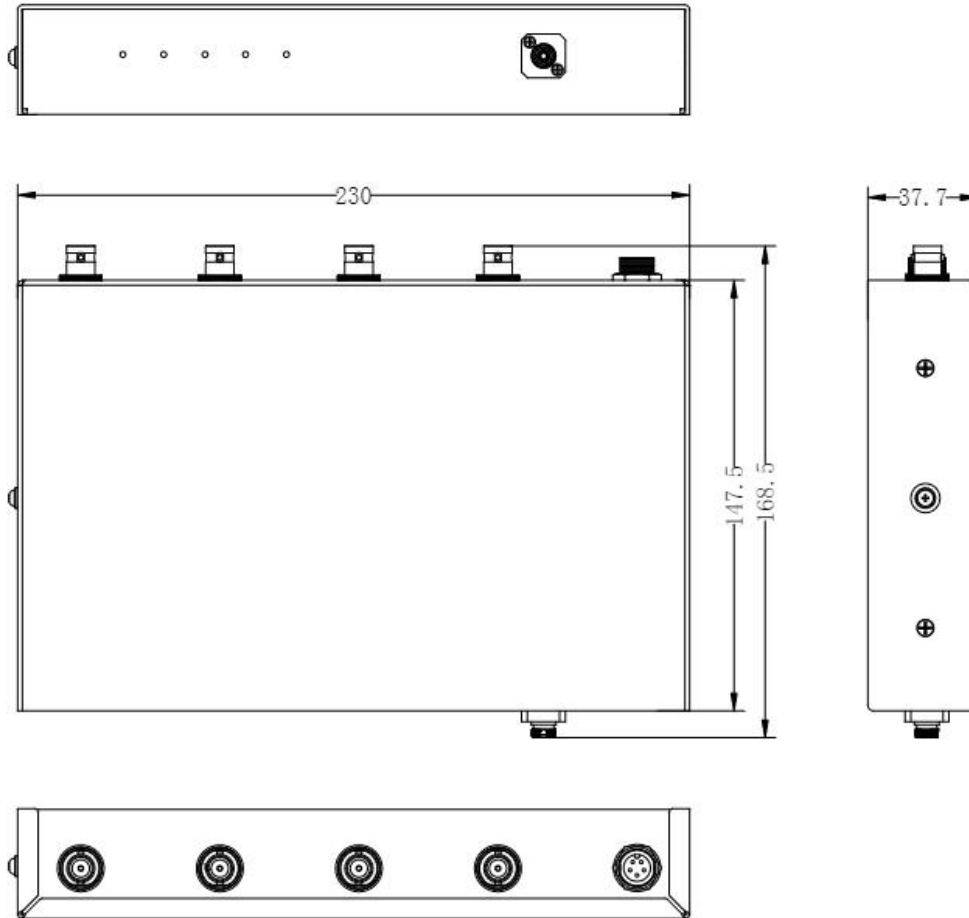
Figure 2. Mechanical Specifications（Power adapter not included）

Ordering Information

Part Number	Product Description
G-SDI-E-4*12G-T	4 x 12G-SDI Transmitter Optical Extender
G-SDI-E-4*12G-R	4 x 12G-SDI Reciver Optical Extender

Important Notice

Performance figures,data and any illustrative material provided in this data sheet are typical and must be specifically confirmed in writing by Gigalight before they become applicable to any particular order or contract. In accordance with the Gigalight policy of continuous improvement specifications may change without notice.

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Revision History

Revision	Date	Description
V0	16-Aug- 2022	Advance Release.