



GIGALIGHT UHD Video Optics Brochure



2x12G-SDI
Extender (Duplex)



4x3G-SDI
Extenders (Simplex)



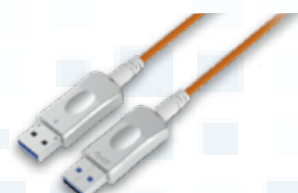
48G SDI
Extenders (Simplex)



12G-SDI
Extenders (Simplex/Duplex)



3G/12G-SDI
SFP



USB 3.0/3.1
AOC



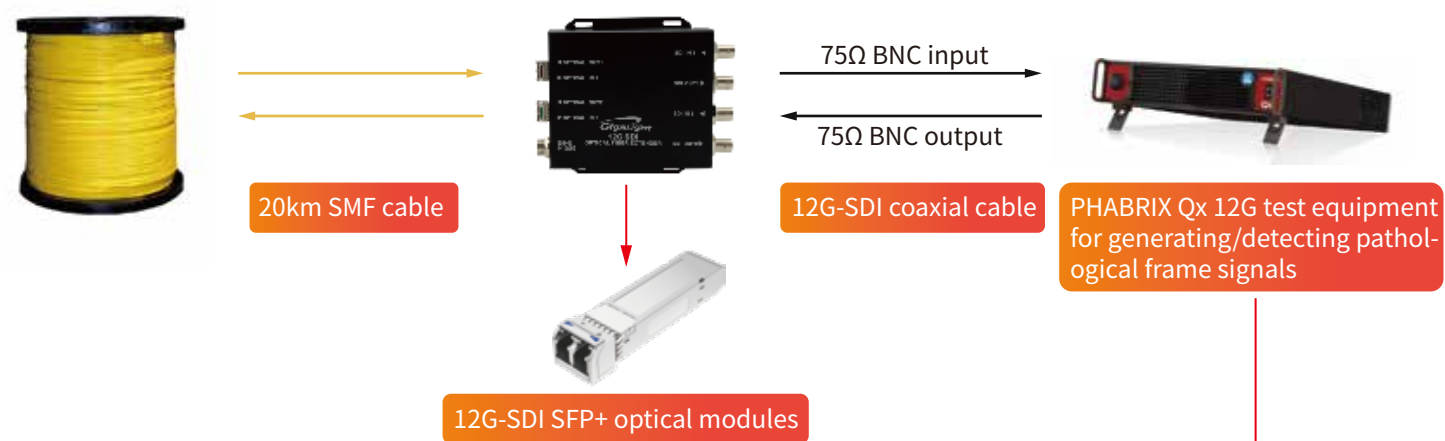
HDMI 2.0/2.1
AOC



- 3G/12G-SDI Video Optical Modules
- 4K/8K Video Optical Extenders
- HDMI/USB AOC

12G-SDI Testing Platform

- ✓ 100% patterns (e.g., 4096*2160 P47.95/P48/P50/P59.94/P60 and 3840*2160 P50/P59.94/60)
- ✓ Perfectly passed 12G-SDI zero BER pathological frame stress test
- ✓ Electric eye margin, amplitude, jitter and fall times are all compliant to SMPTE standards



12G-SDI Zero BER Pathological Frame Stress Test

Patterns	Number(pairs)	Result
4096x2160P47.95 YCbCr4:2:2:10 12G	8192	PASS
4096x2160P48 YCbCr4:2:2:10 12G	8192	PASS
4096x2160P50 YCbCr4:2:2:10 12G	8192	PASS
4096x2160P50.94 YCbCr4:2:2:10 12G	8192	PASS
4096x2160P60 YCbCr4:2:2:10 12G	8192	PASS
3840x2160P50 YCbCr4:2:2:10 12G	7680	PASS
3840x2160P59.94 YCbCr4:2:2:10 12G	7680	PASS
3840x2160P60 YCbCr4:2:2:10 12G	7680	PASS
4096x2160P30 YCbCr4:2:2:10 6G	8192	PASS
4096x2160P29.97 YCbCr4:2:2:10 6G	8192	PASS
4096x2160P25 YCbCr4:2:2:10 6G	8192	PASS
4096x2160P24 YCbCr4:2:2:10 6G	8192	PASS
4096x2160P23.98 YCbCr4:2:2:10 6G	8192	PASS
4096x2160P20 YCbCr4:2:2:10 6G	7680	PASS
4096x2160P19.94 YCbCr4:2:2:10 6G	7680	PASS
4096x2160P18 YCbCr4:2:2:10 6G	7680	PASS
4096x2160P17 YCbCr4:2:2:10 6G	7680	PASS
4096x2160P16 YCbCr4:2:2:10 6G	7680	PASS
4096x2160P15 YCbCr4:2:2:10 6G	7680	PASS
4096x2160P14 YCbCr4:2:2:10 6G	7680	PASS
4096x2160P13 YCbCr4:2:2:10 6G	7680	PASS
4096x2160P12 YCbCr4:2:2:10 6G	7680	PASS
4096x2160P11 YCbCr4:2:2:10 6G	7680	PASS
4096x2160P10 YCbCr4:2:2:10 6G	7680	PASS
4096x2160P9 YCbCr4:2:2:10 6G	7680	PASS
4096x2160P8 YCbCr4:2:2:10 6G	7680	PASS
4096x2160P7 YCbCr4:2:2:10 6G	7680	PASS
4096x2160P6 YCbCr4:2:2:10 6G	7680	PASS
4096x2160P5 YCbCr4:2:2:10 6G	7680	PASS
4096x2160P4 YCbCr4:2:2:10 6G	7680	PASS
4096x2160P3 YCbCr4:2:2:10 6G	7680	PASS
4096x2160P2 YCbCr4:2:2:10 6G	7680	PASS
4096x2160P1 YCbCr4:2:2:10 6G	7680	PASS
4096x2160P0 YCbCr4:2:2:10 6G	7680	PASS
4096x2160P0 YCbCr4:4:4:10 3G A	4096	PASS



Highlights of GIGALIGHT 12G-SDI Video Optical Modules



Built-in CDR chip
Eliminate the jitter noise accumulated by the signal source, reduce jitter, and improve signal quality



Flexible Customization Options
Five module types (TR, 2Tx, 2Rx, Tx, Rx) and two PIN types (MSA, Non-MSA) optional to meet the needs of various application scenarios



Zero Latency
Transmit uncompressed original digital baseband signal with no delay



CWDM Solution Optional
8 CWDM wavelengths (1270nm to 1450nm) optional to save fiber resources by using with passive CWDM MUX/DEMUX



Passed Pathological Frame Stress Test
3G/6G/12G-SDI pathological frame stress test passed



Trusted Reliability
Adopt mature chips and pass the 2000-hour reliability test compliant to GR-468 standards



Compliant to SMPTE Standards

SMPTE ST-2082: 12G-SDI
SMPTE ST-2081: 6G-SDI
SMPTE 424M: 3G-SDI



4x12G-SDI Integrated 8K UHD Video over Fiber Solution

- ✓ Easy Useage
- ✓ Easy Installation
- ✓ Avoid Mistakes
- ✓ Easy Maintenance

4K/8K UHD Video over Fiber Long-Reach Transmission Solution

Single 4K Bi-directional



12G Extender
(1x12G-SDI, Dual Fiber)

Dual 4K Bi-directional



24G Extender
(2x12G-SDI, 2x Dual Fiber)

Single 8K Unidirectional



48G Extender
(4x12G-SDI, Single Fiber)

- ✓ Built-in CDR chip on Rx channel
- ✓ Support automatic detection of SD/HD/3G/6G/12G-SDI signals
- ✓ Compliant to SMPTE ST 2082-1 (11.88Gb/s)
- ✓ Compatible with SMPTE ST 2081-1 (5.94Gb/s)
- ✓ Compatible with SMPTE ST 424 (2.97Gb/s)

- ✓ Compatible with SMPTE ST 292 (1.485Gb/s)
- ✓ Compatible with SMPTE ST 259 (360Mb/s)
- ✓ Compatible with DVB-ASI (270Mb/s)
- ✓ Compatible with MADI (125Mb/s)



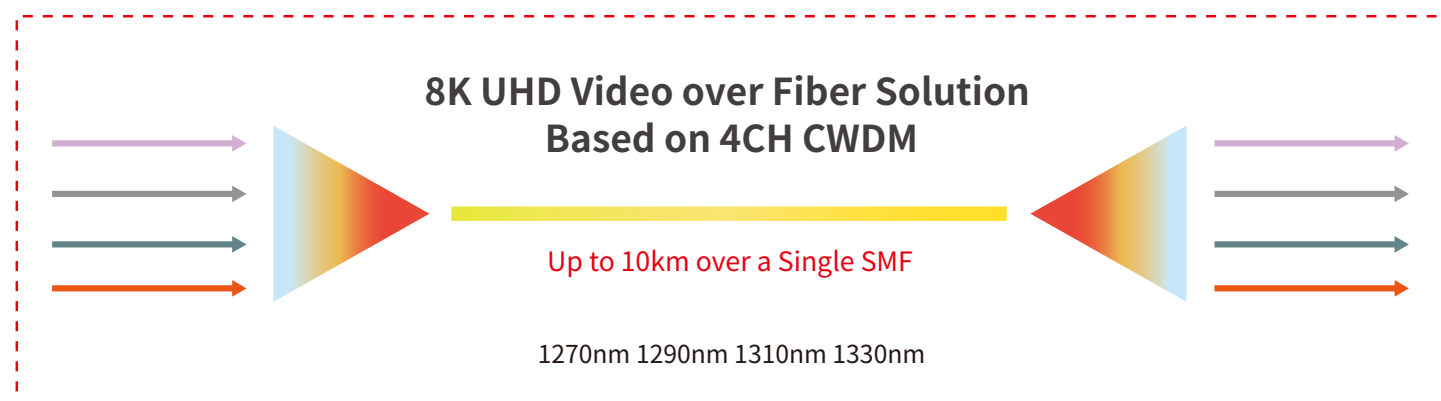
4x 12G-SDI Extenders

4x 12G-SDI SFP+

1x 4CH CWDM MUX



48G Extender (4x12G-SDI, Single Fiber)



HDMI 2.0/2.1 AOC



High-speed transmission
with super performance

Compatible with all HDMI
Type-A interface devices

Optical devices adopt high-end
nanoscale precision processing
technology

Lossless transmission up
to 300 meters

Stable performance and long ser-
vice life ensured by first-line brand
optical chips

USB 3.0/3.1 AOC (Type-C & Armored Optional)

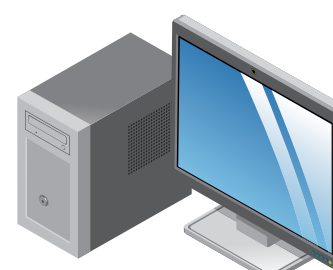
Protocol	USB 3.0/3.1 Backward compatible with USB 2.0/1.1
Function	USB 3.0/3.1 data transmission over fiber
Interface	Type-A (Male/Female), Type-C (optional)
Data Rate	5Gbps (USB 3.0) 10Gbps (USB 3.1)
Power supply	Host Device (Male), external Micro USB Type-B Port (Female)
Max. Cable Length	100m



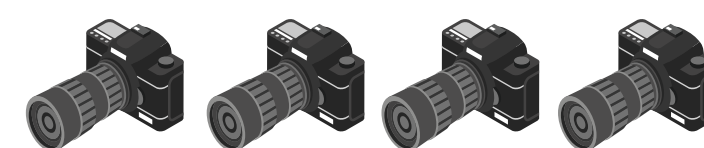
5Gbps USB 3.0
Type-A AOC

10Gbps USB 3.1 Type-A
Male to Famlle AOC

10Gbps USB 3.1
Type-C AOC



Computer/Monitor



USB3.0 Camera



Application Scenario

USB 3.0 Hub