DVIGEAR®

DisplayPort 1.4 Fiber Optic Extender

DVI-7380-TX
DisplayPort 1.4 Fiber Optic Transmitter, 1x LC

DVI-7380-RX
DisplayPort 1.4 Fiber Optic Receiver, 1x LC

Designed for Extreme Requirements — The DVI-7380 is a high-performance, cost-effective, DisplayPort Optical Extender designed to meet and exceed even the most demanding system requirements. It supports a wide array of signal types, provides long-distance extension over a single fiber cable, and supports ultra-high resolutions up to 8K (UHD) at 30Hz (4:4:4).

Multiple Signals Extended over a Single Cable — This extender supports DisplayPort signals with resolutions up to 8K /30p, embedded audio, bi-directional IR, RS-232 and two 10/100 BaseT Ethernet ports, using only a single fiber optic cable. It can extend these signals over cable distances of more than 5.0 miles (> 8,000 meters) using SMF.
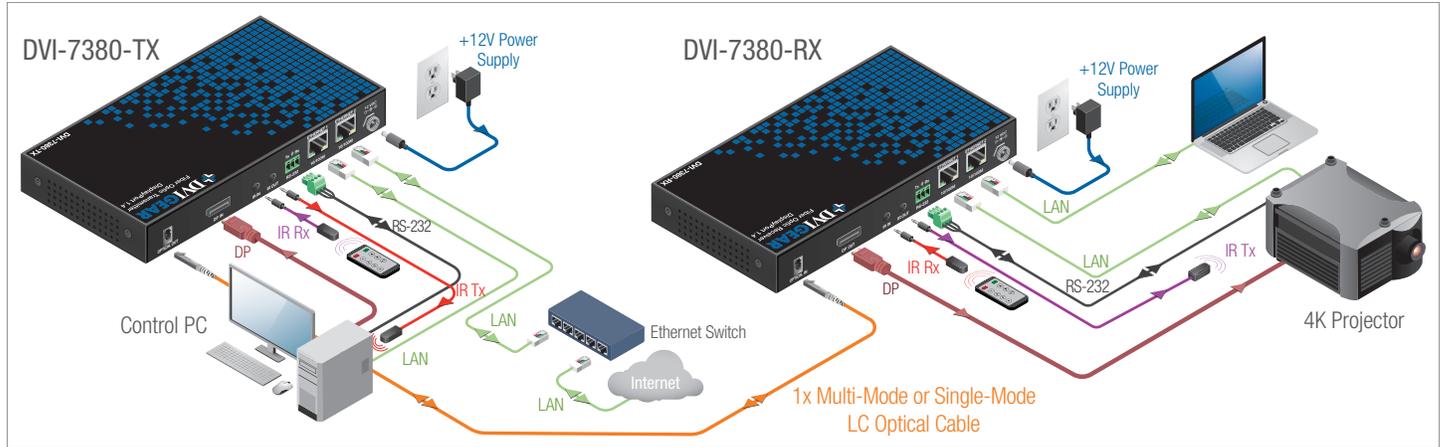
Advanced Fiber Optic Technology — Each extender set consists of an optical transmitter unit and an optical receiver unit. The transmitter converts the AV signals into light pulses for transmission over a single strand of Multi-Mode or Single-Mode fiber optic cable. The receiver converts the light pulses back to AV signals for the display, as well as other downstream devices. By using advanced fiber optic technology, without any compression, this product provides superior picture quality over greater distances than other extension methods, such as copper cables or CAT-X extenders. Together, these features make the DVI-7380 the ideal, cost-effective solution for system designers and integrators who need to extend high resolution DisplayPort signals over extreme distances with flawless image quality.
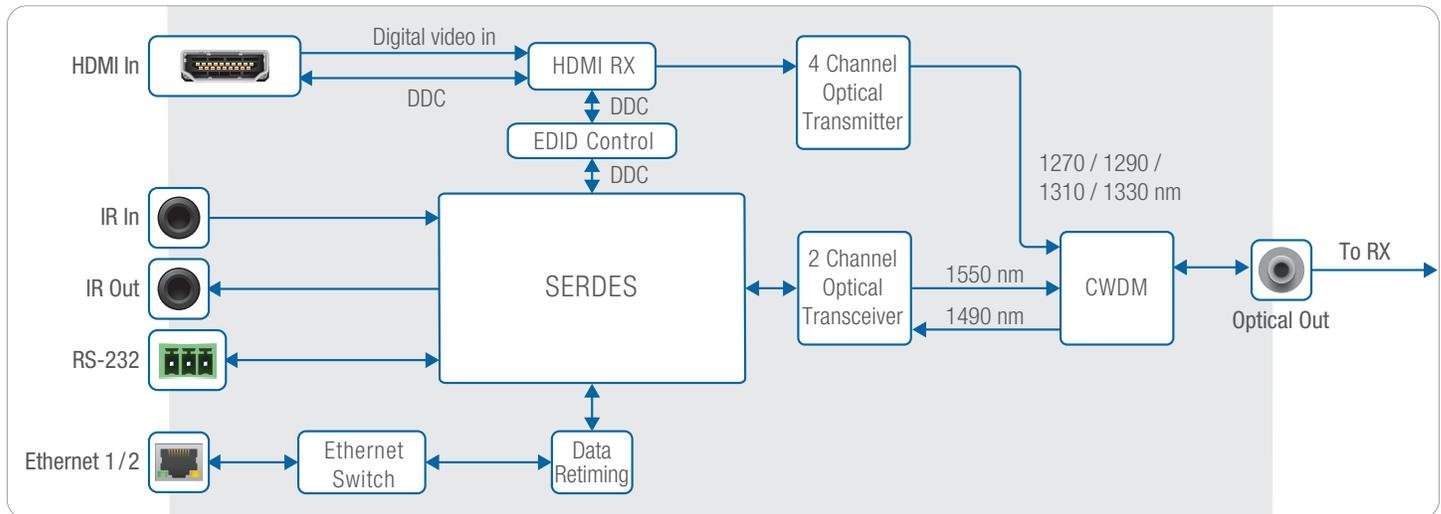
FEATURES

- Supports resolutions up to 7680×4320 /30p (4:4:4), without using compression

- Extends DisplayPort, Ethernet (10/100Base-T), RS-232, and bidirectional IR over a single strand of fiber optic cable

- HDCP 1.4 and HDCP 2.2 compliant

- Maximum extension distances:

  Single-Mode Fiber: > 5.0 miles (~ 8,000 m)

  OM3 Multi-Mode Fiber: > 1,000 ft. (~ 300 m)

- Optical fiber transmission is immune to environmental signal noise

- Low RFI / EMI profile for sensitive applications

- Locking DC power connectors for added security and reliability

- Heavy-duty mounting brackets are included

STAND-ALONE DIAGRAM

DVI-7380-TX

+12V Power Supply

IR Rx

RS-232

DP

IR Tx

Control PC

LAN

LAN

LAN

Ethernet Switch

Internet

LAN

DVI-7380-RX

+12V Power Supply

LAN

LAN

RS-232

IR Rx

DP

IR Tx

4K Projector

1x Multi-Mode or Single-Mode LC Optical Cable

DVI-7380-TX INTERNAL BLOCK DIAGRAM

HDMI In

Digital video in

DDC

HDMI RX

DDC

EDID Control

DDC

4 Channel Optical Transmitter

1270 / 1290 / 1310 / 1330 nm

IR In

IR Out

RS-232

SERDES

2 Channel Optical Transceiver

1550 nm

1490 nm

CWDM

To RX

Optical Out

Ethernet 1 / 2

Ethernet Switch

Data Retiming

DVI-7380-RX INTERNAL BLOCK DIAGRAM

4 Channel Optical Receiver

HDMI TX

Digital video out

DDC

HDMI Out

1270 / 1290 / 1310 / 1330 nm

DDC

From TX

Optical In

CWDM

1550 nm

1490 nm

2 Channel Optical Transceiver

SERDES

IR In

IR Out

RS-232

Data Retiming

Ethernet Switch

Ethernet 1 / 2
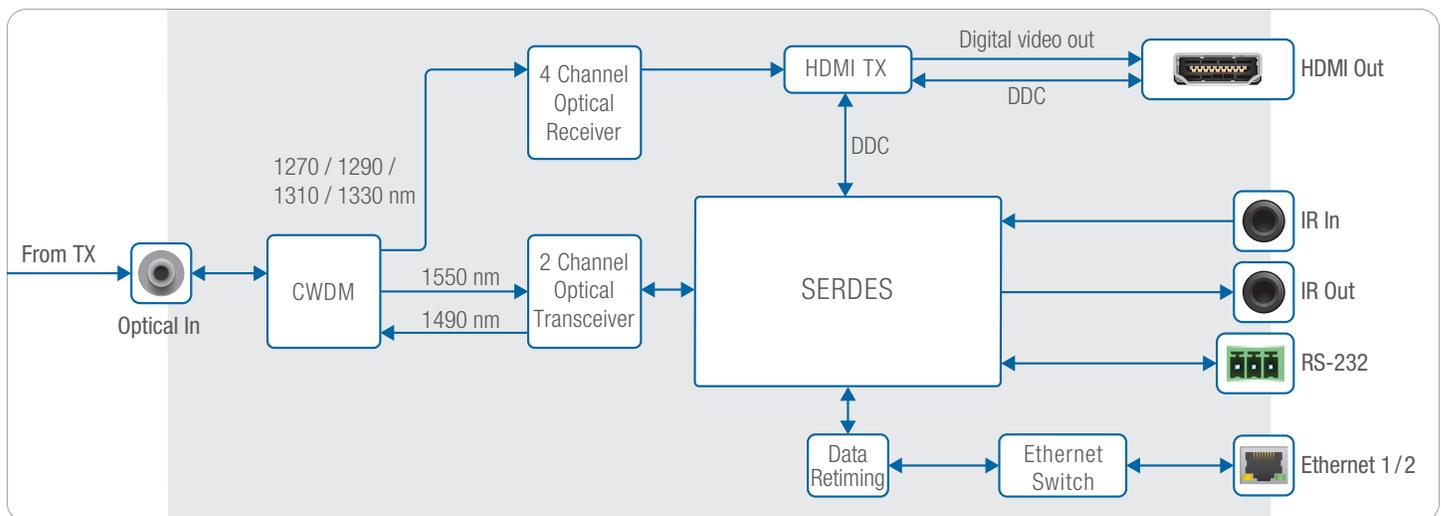
DVI-7380-TX
Front View

DVI-7380-TX
Rear View

DVI-7380-RX
Front View

DVI-7380-RX
Rear View

SPECIFICATIONS

Performance	
Standards Compliance	DisplayPort v 1.4, HDCP 1.4 / 2.2
Maximum Video Bit Rate	Supports HBR3 data rates: 4x Lanes @ 8.1Gbps, 32.4Gbps aggregate
Ethernet	10/100 BaseT
Supported Color Depth	Up to 48-bits per pixel
Supported Resolutions	Up to 8K: 7680 x 4320 / 30Hz (4:4:4)
Digital Audio Support	Up to 32 channels of inline 24-bit, 1536 kHz uncompressed PCM audio
Connections	
DisplayPort Input / Output	1 ea. 20-pin female DisplayPort connector
Optical	1 ea. LC fiber optic connector
Ethernet	2 ea. RJ-45 female connector
RS-232	1 ea. 3-pin Phoenix connector
IR Input / IR Output	IR IN: 1 ea. 3.5mm stereo mini-jack / IR OUT: 1 ea. 3.5mm mini-jack
Power	1 ea. Screw-Locking 2.1 / 5.5 mm female connector
AUX Channel Support	
AUX Channel Communications	Supports bidirectional communications for EDID, HDCP, Link Training, etc.
AUX Channel Data Rate	1 Mbps
LED Indicators	
TX / RX Units	Front Panel LEDs: for Power, Optical Link, Status, HPD and Ethernet
Optical	
Optical Technology	CWDM (Coarse Wavelength Division Multiplexing) using 6 optical wavelengths
Laser Diodes	1270 / 1290 / 1310 / 1330nm 10Gbps CWDM DFB Lasers 1490nm / 1550nm 2.5Gbps CWDM DFB Lasers
Photo Diodes	1100 – 1620nm PIN Photo Detectors
WDM Filter Wavelengths	1270nm / 1290nm / 1310nm / 1330nm / 1490nm / 1550nm
Optical Wavelengths / Actual Data Rates	DisplayPort Lanes: 1270nm / 1290nm / 1310nm / 1330nm = 8.1Gbps AUX Channel, IR, RS-232, Ethernet Signals: 1490nm / 1550nm = 1.25Gbps
Optical Link Power Budget	8.0 dB (minimum)

SPECIFICATIONS (CONTINUED)

Cable	
Maximum Cable Length (typical)	9/125μ Single-Mode Fiber: > 5.0 miles (~ 8,000 meters) 50/125μ OM3 Multi-Mode Fiber: > 1,000 ft. (~ 300 meters)
DVIGear Fiber Cable	OFNP, Plenum rated – additional data and custom lengths available on request
Cable Jacket	OFNP, Plenum-rated, Black PVC Jacket
Cable Outside Diameter	0.2" (4.4 mm)
Mechanical	
Case Dimensions (H x W x D)	Without Brackets: 1.0" x 7.5" x 3.9" (26.0 mm x 190.0 mm x 99.5 mm) Width with Brackets: 8.5" (215.5 mm)
Weight	TX Unit: 568g / RX Unit: 563g
Construction	High-impact metal enclosure with jet black finish
Mounting Options	Mounting Brackets are included
Environmental	
Operating Temperature	14° to +158° F (-10° to +70°C)
Storage Temperature	-40° to +185° F (-40° to +85°C)
Operating Humidity	5% to 80% (non-condensing)
Storage Humidity	5% to 95% (non-condensing)
Power Requirements	
Optical Transmitter / Receiver	Both TX and RX units must be powered by the supplied external power adapters
External AC Power Adapters	Model No: DVI-7216-PS Input: 100-240VAC / 50-60Hz 0.8A Output: 12VDC, 2.0A
Maximum Power Consumption	DVI-7380-TX: 530 mA (6.0 watts) DVI-7380-RX: 450 mA (5.4 watts)
Regulatory Approvals	
Fiber Optic Extender Unit	FCC Class B, CE, RoHS
Laser	US-FDA CDRH Class 1
External AC Power Adapters	FCC, CE, UL, C-UL, BSMI, CB, CCC, LVD, LPS, PSE, RCM, RoHS, WEEE
Warranty	
Limited Warranty	3 Years Parts and Labor
Model Numbers[1]	
DVI-7380-TX	DisplayPort 1.4 Fiber Optic Transmitter, 1x LC
DVI-7380-RX	DisplayPort 1.4 Fiber Optic Receiver 1x LC
DVI-CUST-OPT	Custom Fiber Optic Cable, Plenum rated Specify: Length, Fiber Type (MMF, SMF) and Optical Connector (LC)

Accessories Included[1]	Optional Accessories
1x External AC Power Adapter (DVI-7216-PS) with USA plug 1x User Guide 1x 3-Pin Phoenix Connector (Phoenix p.n. 1840379) 1x IR Transmitter (DVI-7360-IR-TX) (ships with DVI-7380-TX) 1x IR Receiver (DVI-7361-IR-RX) (ships with DVI-7380-RX) 2x Mounting Brackets with Screws	External AC Power Adapter (p.n. DVI-7216-PS) with Euro, UK, or Australia plugs +12 VDC Power Distribution Unit (p.n. DVI-7520-PDU) Custom Optical Cables (contact DVIGear for details)

Note 1: The Transmitter and Receiver units are sold separately. The accessories shown here are included per unit.