

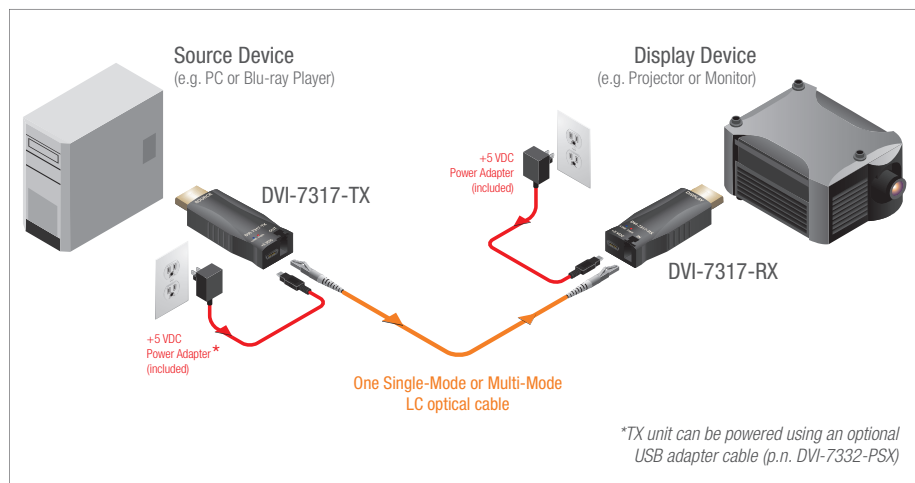
Introduction

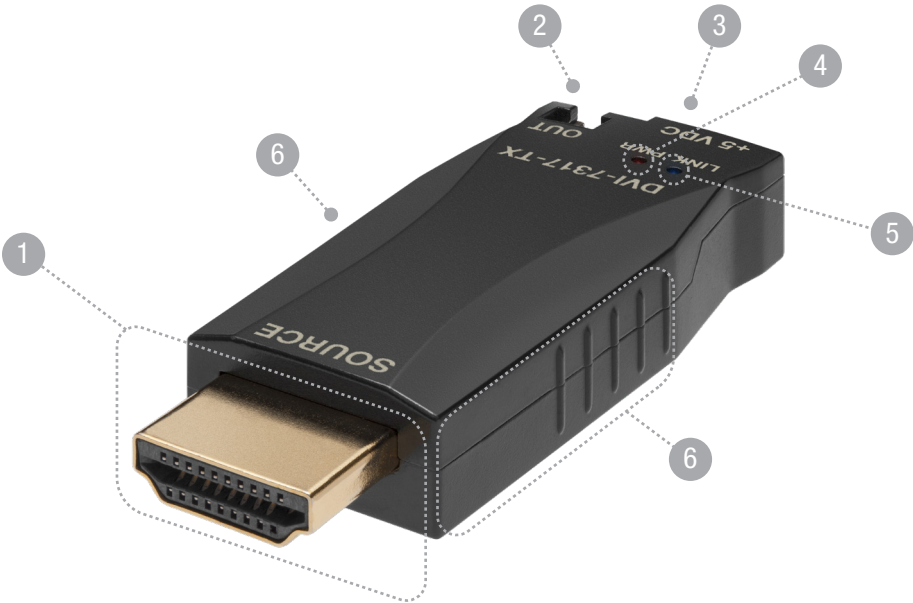
Unsurpassed Performance – The DVI-7317 is a high performance 4K Optical Extender that transmits high resolution HDMI signals over extreme distances using a single fiber optic cable. It supports HDMI v1.4 (HDCP compliant) signals with resolutions of up to 3840x2160 /30p (4:4:4) and 3840x2160 /60p (4:2:0) over cable distances of up to 1,000 ft. (~ 300 m).

Fiber Optic Extension – The extender set consists of an optical transmitter module that converts the HDMI signals into light pulses for transmission over a single strand of Multi-Mode or Single-Mode optical fiber cable. An optical receiver module converts the light pulses back to an HDMI signal for display on a monitor or projector.

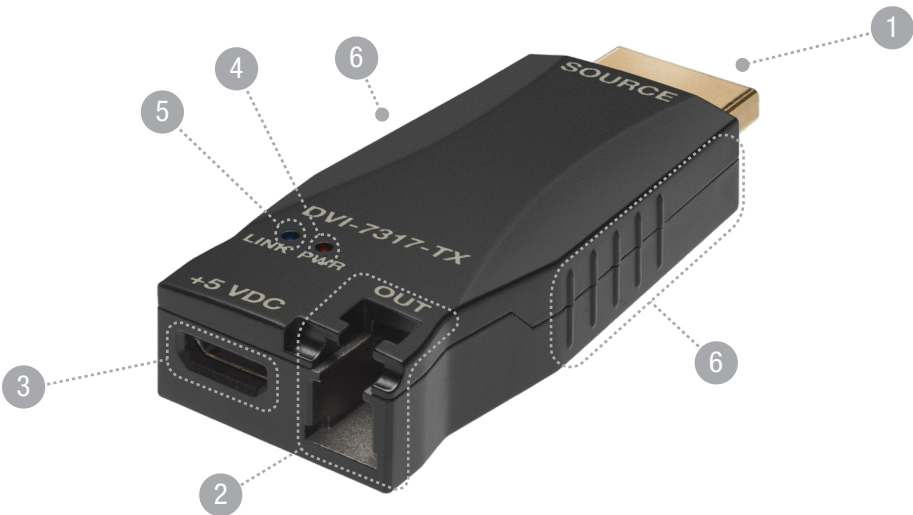
Multiple Signals Over One Cable – While the video component of the signal is one-way, the unit also simultaneously supports extension of bidirectional signals, such as EDID and HDCP. The data rate from the TX to RX is 10.3 Gbps, while the reverse channel travels from RX to TX at 250 Mbps. The extender uses wavelength-division multiplexing (WDM) to enable both signals to travel over a single strand of optical fiber. This enables DDC communications without the need for additional cables. These features make the DVI-7317 the ideal future-proof choice for system designers and integrators who need to support high resolution HDMI / DVI signals, with or without HDCP, over extreme distances.

Typical Application





DVI-7317-TX Input View



DVI-7317-TX Output View

1. HDMI Connector	DVI-7317-TX connects to the source DVI-7317-RX connects to the display or projector
2. Fiber Optic Connector	1x LC optical connector for fiber optic cable
3. USB Connector	This port is used to power the unit. Connect the External AC Power Adapter to this receptacle. Alternatively, it is also possible to power the TX from a USB port that can supply adequate power.
4. Power LED	Illuminates Red when DC power is applied
5. Link LED	Illuminates Blue when optical link between the TX and RX is operating properly
6. Optional Heat Pad ⁽²⁾	Apply the included heat insulation pads in the spaces shown. ⁽²⁾

Note 1: The DVI-7317-TX and DVI-7317-RX use the same type of enclosure and have the same connections.

Note 2 – WARNING: The metallic cases of the TX and RX can achieve relatively high temperatures in some applications. Prior to operation, it is recommended that the included heat insulation pads be applied on the sides of the units in the spaces shown. When handling the units, be certain to grip the units using these pads.

Installation Instructions

This product consists of a DVI-7317-TX Transmitter Unit and a DVI-7317-RX Receiver Unit. These units are interconnected by means of 1x LC-terminated optical cable, utilizing either 50/125µ Multi-Mode fiber or 9/125µ Single-Mode fiber. For maximum cable lengths, please see the chart on page 4.

1. Apply the included heat insulation pads on the sides of the TX and RX units in the spaces shown. *See the warning above.*⁽²⁾
2. Connect the TX unit to the output port of the signal source (e.g. PC or Blu-ray player).
3. Connect the RX unit to the input port of a destination device (e.g. display or projector).
4. Each unit has one (1) Optical port. Connect an LC-terminated fiber optic cable between the TX unit and the RX unit.
5. Connect the included External AC Power Adapters to the USB Micro-B ports on the TX and RX. Then connect the power adapters to working outlets.
Alternatively, the TX unit may be powered by a USB port, provided that it can supply adequate power. To do this, connect the USB Micro-B port on the unit to the USB port on the source device using an appropriate adapter cable (see below for details).
6. Power on the display, then power on the source device. A picture will appear on the display within a few seconds.

Power Sources

The TX unit can be powered using either the supplied External AC Power Adapter or a functioning USB port. In installations in which a USB port will be used to provide power to the TX, it is important to be certain that adequate power is available on the USB port being used. In this case, a standard USB Type A Male to USB Micro-B Male cable such as the DVI-7332-PSX should be used.



EDID and HDCP Communications

On the fiber optic link, the video component of the signal always travels in one direction, from TX to RX. However, the extender employs wavelength-division multiplexing (WDM) to support additional bidirectional signals over the same optical fiber. This enables the device to support live EDID and HDCP communications.

Maximum Cable Lengths

The maximum cable length supported by the extender pair will vary based on whether or not the signal is HDCP encrypted as well as the type of fiber being used. The HDCP encryption handshake process occurs every two seconds, and the response from the display must be received by the source within a finite period of time. Regardless of the cable type being used, at lengths beyond 1,000 ft. (~ 300 meters), the propagation delay as the signal transverses the optical fiber is greater than the response time allowed by the HDCP standard. For non-encrypted signals, however, much greater extension distances are possible. See the chart below for more details.

HDCP	Cable Length	Recommended Cable Type
Yes	1,000 ft. (~ 300 m)	All Fiber Types
No	> 1,800 ft. (~ 500 m)	50/125µ OM3 Multi-Mode Fiber
No	> 2,600 ft. (~ 800 m)	50/125µ OM4 Multi-Mode Fiber
No	> 1.2 miles (~ 2,000 m)	9/125µ Single-Mode Fiber



WARNING: Invisible Laser Radiation
Do not view directly with optical instruments or look into beam.

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