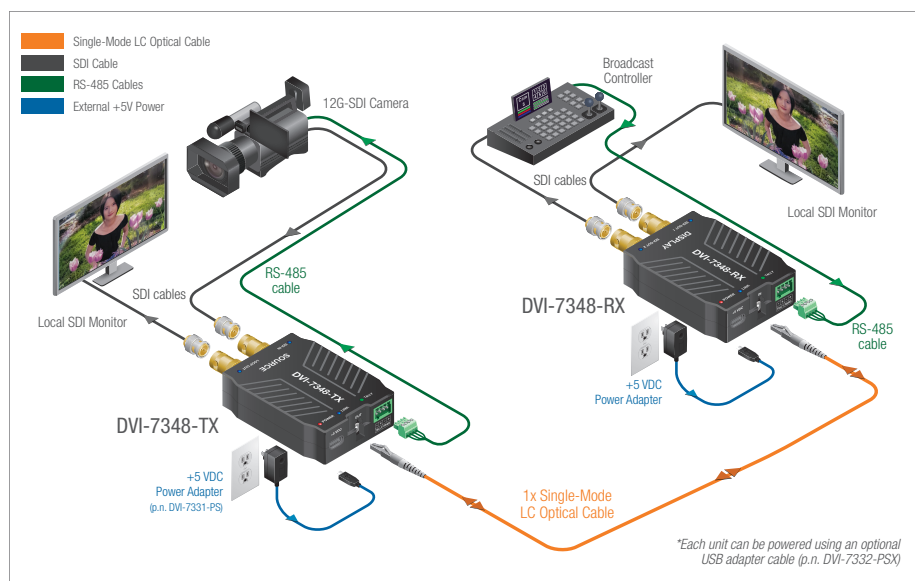


Introduction

High Performance — The DVI-7348 is a compact, high performance fiber optic extender that supports SDI, HD-SDI, 3G-SDI and 12G-SDI signal extension over a single strand of Single-Mode optical fiber at distances up to 6.2 miles (~10 km). This extender set consists of an optical transmitter unit that converts the SDI signals into light pulses for transmission over an optical fiber cable. An optical receiver unit converts the light pulses back to an SDI signal for downstream processing or display on a monitor.

Superior Design — The transmitter unit includes an SDI input with a buffered loop-through SDI output, plus connections for RS-485 and Tally Light control. The receiver unit includes two buffered SDI outputs, as well as connections for RS-485 and Tally Light control, which allows equipment in the control room to manage acquisition cameras over the optical link. Both units are housed in rugged, die-cast metal cases equipped with 75 ohm BNC connectors. A single LC fiber optic connection is used to link Tx and Rx units. These features make the DVI-7348 the perfect solution for extension of SDI, HD-SDI, 3G-SDI, and 12G-SDI signals over very long distances in even the most demanding broadcast, studio, and live production environments.

Typical Application



DVI-7348 12G-SDI Fiber Optic Extender, 1x LC



Package Contents

Each DVI-7348 extender set comes packaged with the following components:

- 1x DVI-7348-TX (transmitter)
- 1x DVI-7348-RX (receiver)
- 2x External AC Power Adapters (p.n. DVI-7331-PS) with USA plug
- 1x DVI-7348 Quick Start Guide

Note: Please retain the original packing material should the need ever arise to return the unit/s. If you find any items are missing, contact your reseller or DVI Gear immediately. Please have the Model Number, Serial Number and Invoice Number available for reference when you call.

Installation Instructions

This product consists of a transmitter unit and a receiver unit. These units are interconnected by means of a single LC optical cable, utilizing 9/125µ Single-Mode fiber. For a list of supported SDI standards and resolutions, please see page 3.

Note: No controls are present on either transmitter or receiver. Before attempting to use the extender set, please verify that the source functions properly with the display device by connecting the source and display devices together using a short coaxial cable.

1. First, remove the plastic dust covers from the LC fiber optic connectors on the Tx and Rx units.
2. Using an SDI cable, connect the *transmitter's* **SDI In** port to the SDI output port of the signal source, such as a 12G-SDI camera.
3. Using an SDI cable, connect the *transmitter's* **Loop Out** port to the SDI input port of a local monitor.
4. Using an RS-485 twisted pair cable, connect the *transmitter's* **RS-485 port** to that of the signal source, such as a 12G-SDI camera.
5. Using an SDI cable, connect the *receiver's* **SDI Out 1** port to an SDI destination device such as a broadcast controller or SDI monitor.
6. Using an SDI cable, connect the *receiver's* **SDI Out 2** port to an SDI destination device such as a broadcast controller or SDI monitor.
7. Using an RS-485 twisted pair cable, connect the *receiver's* **RS-485 port** to a suitable controller device.
8. Each unit has one (1) optical port. Connect an LC-terminated single-mode fiber optic cable between the Transmitter Unit and the Receiver Unit.
9. Connect the External AC Power Adapters to the power input jacks on both Tx and Rx units.
10. Apply power to the destination device, then apply power to the source device. The signal should be available for the display or other destination device within a few seconds.

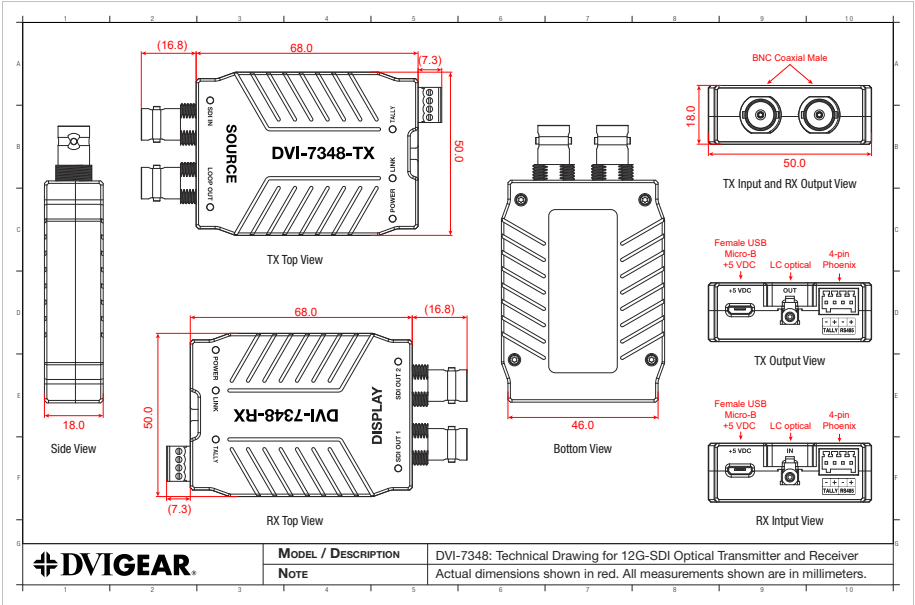
Note: Always install the dust covers on the LC fiber connectors when not in use

Supported Formats

The DVI-7348 supports a wide range of SDI signal formats, including those shown below.

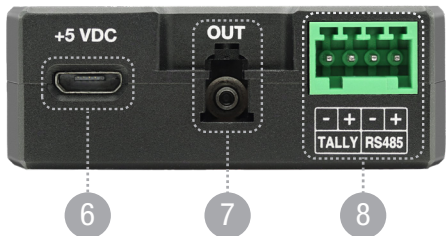
Name	Standard	Bitrates (Mbit/s)	Example Video Formats
SD-SDI	SMPTE 259M	270, 360, 143, 177	480i, 576i
ED-SDI	SMPTE 344M	540	480p, 576p
HD-SDI	SMPTE 292M	1485 and 1485/1.001	720p, 1080i
3G-SDI	SMPTE 424M	2970 and 2970/1.001	1080p60
6G-SDI	SMPTE ST 2081	6000	1080p120, 2160p30
12G-SDI	SMPTE ST 2082	12000	2160p60

Technical Drawing





DVI-7348-TX Top View



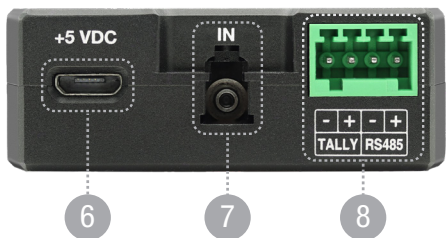
DVI-7348-TX Output View

1. SDI IN Connector	DVI-7348-TX receives input from a source device such as an SDI camera	
2. LOOP OUT Connector	Use the buffered loop-through output to connect a local monitor	
3. Status Indicator LED	Power	Red when 5 VDC Power is present
4. Status Indicator LED	Link	Blue when Laser is working
5. Status Indicator LED	Tally	Green when receiving a Tally Light signal from the Receiver unit
6. DC IN Connector	Connect the External AC Power Adapter to this receptacle	
7. Fiber Optic Connector	1x LC optical connector for bidirectional single-mode fiber optic cable transmission	
8. Tally / RS-485	RS-485 and Tally Light signal output port, unidirectional signal transmission	

Note: The DVI-7348 Transmitter units and Receiver units utilize rugged die-cast metal cases



DVI-7348-RX Top View



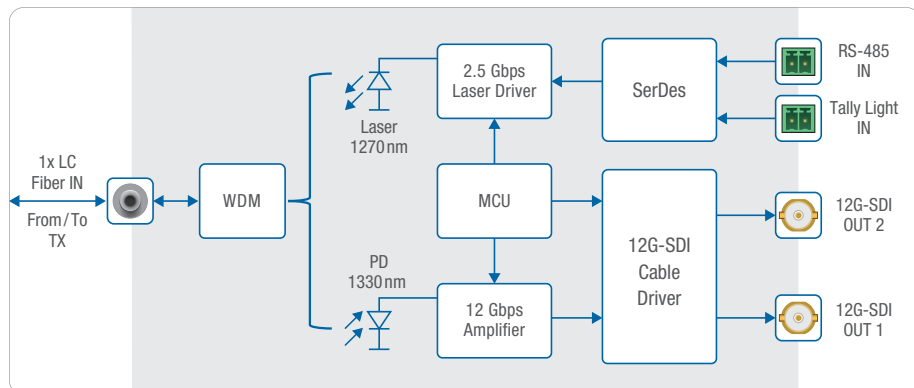
DVI-7348-RX Input View

1. SDI OUT 1 Connector	Connect to an SDI destination device such as a broadcast controller or SDI monitor	
2. SDI OUT 2 Connector	Connect to an SDI destination device such as a broadcast controller or SDI monitor	
3. Status Indicator LED	Power	Red when 5 VDC Power is present
4. Status Indicator LED	Link	Blue when Laser is working
5. Status Indicator LED	Tally	Green when receiving a Tally Light signal from the destination device
6. DC IN Connector	Connect the External AC Power Adapter to this receptacle	
7. Fiber Optic Connector	1x LC optical connector for bidirectional single-mode fiber optic cable transmission	
8. Tally / RS-485	RS-485 and Tally Light signal input port, unidirectional signal reception	

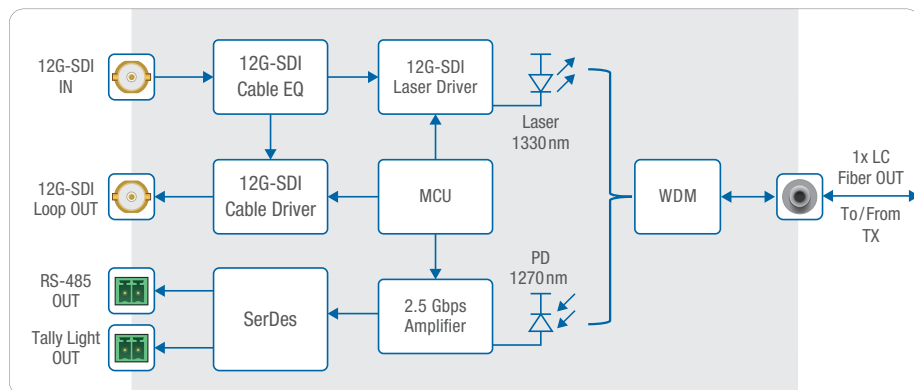
Note: The DVI-7348 Transmitter units and Receiver units utilize rugged die-cast metal cases

Block Diagrams

DVI-7348-RX



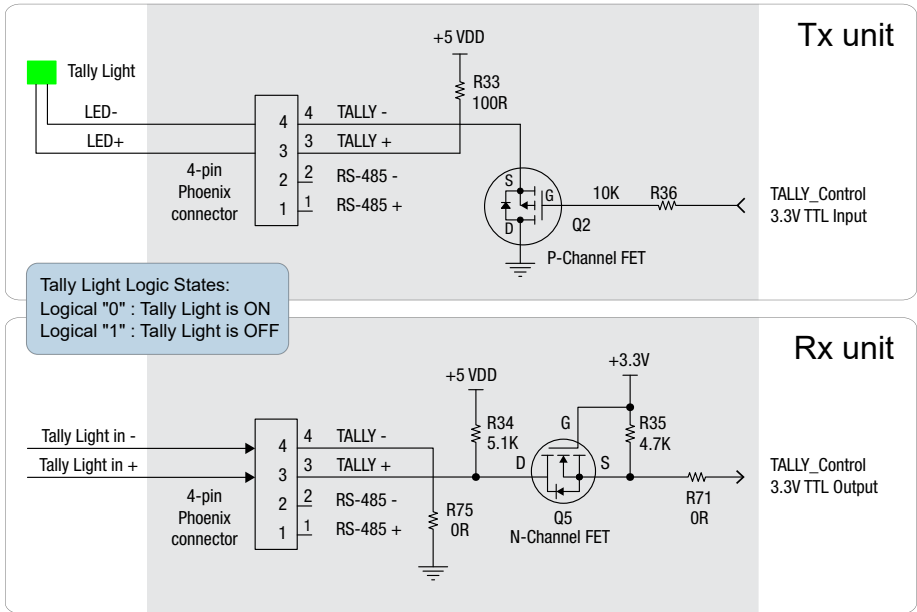
DVI-7348-TX



The DVI-7348 utilizes wavelength-division multiplexing (WDM) to enable bidirectional communications over the optical link. Using this technique, several signals can be distributed over a single strand of fiber optic cable by using different optical wavelengths.

A Serializer/Deserializer (SerDes) converts control signals for transmission over the optical link and then restores the signals at the receiving end. A microcontroller unit (MCU) oversees the operational functions of the extender to ensure error-free performance.

Tally Light Schematic



Tally Lights are used to indicate the status of a camera in a live event production environment. For example, when the Tally Light is turned ON, a remote operator knows that their camera has been selected for the live production. In practice, the Tally Light is normally controlled by a production switcher or similar control device in a studio or an OB van (Outside Broadcast van).

This extender uses 3.3V TTL logic over the optical fiber to turn ON / OFF the Tally Light. The same control device in the studio can send RS-485 data over the optical fiber to control other camera functions.



Limited Warranty

Subject to the limitations stated below, DVIgear warrants that this product will be free from defects in materials and workmanship for a period of three (3) years from the date of purchase.

Should the product, in DVIgear's opinion, prove defective within the warranty period stated above, DVIgear, at its option, will repair or replace this product without charge. Any defective parts replaced become the property of DVIgear. This warranty does not apply to products that have been damaged due to accident, unauthorized alterations, improper repair, modifications, inadequate maintenance and care, or use in any manner for which the product was not intended.

If repairs are necessary under this warranty policy, the original purchaser must obtain a Return Merchandise Authorization Number from DVIgear and return the product freight prepaid to a location designated by DVIgear. After repairs are complete, the product will be returned, freight prepaid.

The foregoing warranty is the sole and exclusive warranty given by DVIgear, express or implied, and DVIgear disclaims all implied warranties, including but not limited to implied warranties of merchantability or fitness for a particular use.

LIMITATIONS—The liability of DVIgear with respect to any defective products will be limited to the repair or replacement of such products. In no event shall DVIgear be responsible or liable for any damage arising from the use of such defective products, including but not limited to loss of use, revenue or profit, whether such damages are direct, indirect, consequential or otherwise and whether such damages are incurred by the reseller, end user, or any third party.

Regulatory Compliance

This product is compliant with appropriate FCC, CE and RoHS rules and regulations. The optional AC Power Adapter is compliant with FCC, CE, UL, C-UL, CEC, GS, PSE and RoHS rules and regulations.



WARNING: Invisible Laser Radiation

Do not view directly with optical instruments or look into beam.

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