

# HD/SD-SDI over Multimode LC type Fiber Optic Extender with Loop Out

## User's Guide



Models

FO-HDSDI-L-SET

# HD-SDI



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## Section 1: Getting Started

### 1.1 Important Safeguards

Please read all of these instructions carefully before you use the device. Save this manual for future reference.

#### What the warranty does not cover

- Any product, on which the serial number has been defaced, modified or removed.
- Damage, deterioration or malfunction resulting from:
  - Accident, misuse, neglect, fire, water, lightning, or other acts of nature, unauthorized product modification, or failure to follow instructions supplied with the product.
  - Repair or attempted repair by anyone not authorized by us.
  - Any damage of the product due to shipment.
  - Removal or installation of the product.
  - Causes external to the product, such as electric power fluctuation or failure.
  - Use of supplies or parts not meeting our specifications.
  - Normal wear and tear.
  - Any other causes which does not relate to a product defect.
- Removal, installation, and set-up service charges.

### 1.2 Safety Instructions

The FO-HSDSI-L-SET, HD/SD-SDI over Multimode LC-type Fiber Optic Extender with loop out has been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipments, the FO-HSDSI-L-SET should be used with care. Read the following safety instructions to protect yourself from possible injury and to minimize the risk of damage to the unit.

- Do not dismantle the housing or modify the module.
- Dismantling the housing or modifying the module may result in electrical shock or burn.
- Refer all servicing to qualified service personnel.
- Do not attempt to service this product yourself as opening or removing housing may expose you to dangerous voltage or other hazards
- Keep the module away from liquids.
- Spillage into the housing may result in fire, electrical shock, or equipment damage. If an object or liquid falls or spills on to the housing, unplug the module immediately.
- Have the module checked by a qualified service engineer before using it again.
- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.

### 1.3 Regulatory Notices Federal Communications Commission (FCC)

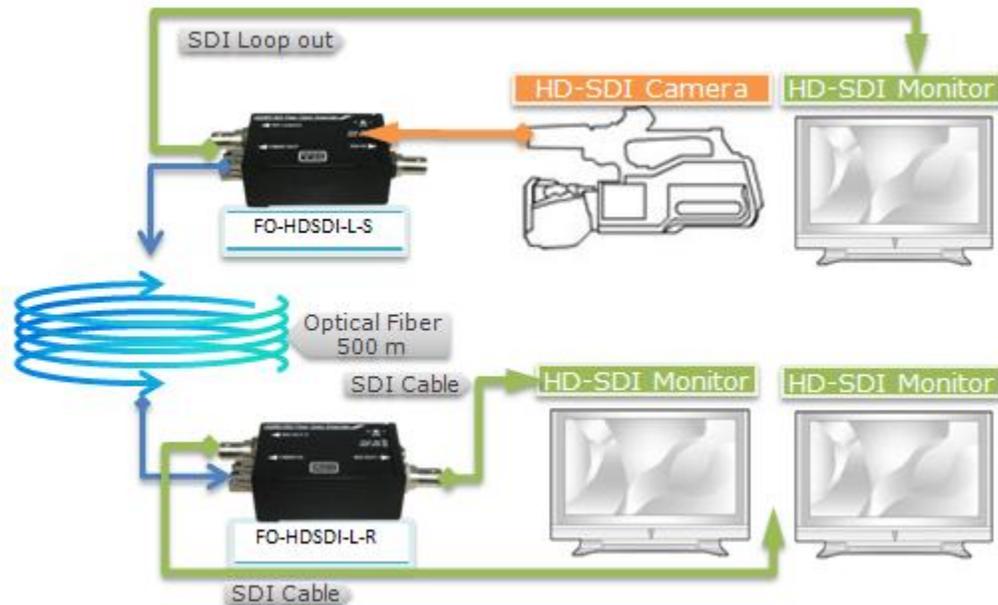
This equipment has been tested and found to comply with Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

Any changes or modifications made to this equipment may void the user's authority to operate this equipment.

### 1.4 Introduction

The FO-HDSDI-L-SET is an ideal and economic solution designed for transmission of multi-rate SDI video, with embedded audio and metadata over a multi-mode optical fiber cable.

The transmitter module (FO-HDSDI-L-S) receives one HD-SDI electrical input, perfectly converts SMPTE 292M, SMPTE 259M, or DVB-ASI electrical SDI signal to multi-mode optic SDI signals. The receiver module (FO-HDSDI-L-R) receives optical signal from input LC connector, and then perfectly converts it to electrical SDI signal. Both transmitter and receiver provide equalizing and re-clocking at input unit in order to re-construct the signal for consistent quality. The FO-HDSDI-L-SET is perfect for today's broadcast applications, including video production, video editing, studio to studio and studio to CATV head end. In addition, since transmission of content is inherently secure and immune to outside interference, fiber applications are favored in government, military, and medical environments.



## 1.5 Features

- Enable transmission of digital video signal over optical fiber up to 1 km
- Automatic cable EQ up to 300m (1000ft) at SD-SDI or 150m (500ft) for HD-SDI
- Standard LC-type fiber optic connector
- Supports following protocols:
  - o SMPTE 259M (270Mbps)
  - o SMPTE 259M (360Mbps)
  - o SMPTE 292M / HDTV (1.485Gbps and 1.485/1.001Gbps)
  - o DVB ASI (270Mbps)
- Automatic re-clocked / Manual bypass (optional upon request)
- One SDI loop-out and one SDI BNC Output
- HD/SDI Input signal detection
- Easy installation

## 1.6 Package Contents

Before you start the installation of the converter, please check the package contents.

- FO-HDSDI-L-SET x 1
- Power Adapter (+5VDC) x2
- User's Manual x1

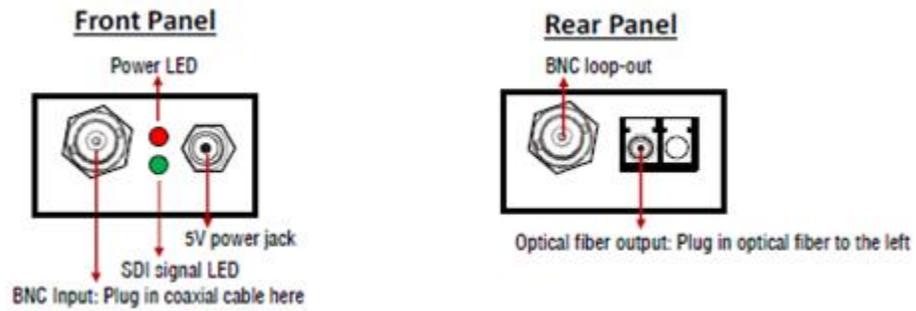
## 1.7 Before Installation

- Put the product in an even and stable location. If the product falls down or drops, it may cause an injury or malfunction.
- Don't place the product in too high temperature (over 50°C), too low temperature (under 0°C) or high humidity.
- Use the DC power adapter with correct specifications. If inappropriate power supply is used then it may cause a fire.
- Do not twist or pull by force ends of the optical cable. It can cause malfunction.

## 1.8 Panel Description

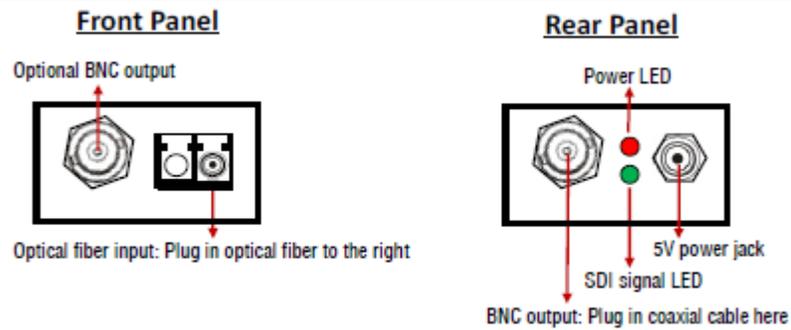
### TRANSMITTER

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### RECEIVER

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## Section 2: Installation

Follow these instructions for installation of FO-HDSDI-L-SET:

1. Connect a camera or other HD/SD-SDI device to transmitter of FO-HDSDI-L-SET
2. Connect devices equipped with HD/SD-SDI inputs (e.g. monitors or video processors) to receiver FO-HDSDI-L-SET
3. Plug power adapter to 5V DC power jack of FO-HDSDI-L-R & FO-HDSDI-L-S

## Section 3: Specifications

Item	Description	
Model	FO-HDSDI-L-S	FO-HDSDI-L-R
Model	Transmitter (TX)	Receiver (RX)
SDI Standards	SD-SDI & HD-SDI	
Auto HD/SD-SDI Detection	Yes	
Supported Protocols	SMPTE 259M (270Mbps / 360Mbps), DVB ASI (270Mbps) SMPTE 292M / HDTV (1.485Gbps and 1.485/1.001Gbps)	
Video Bandwidth	[1.485Gpbs & 1.485/1.001Gbps]	
Data Rates	270 / 1483 / 1485 Mbps	
Supported Video	[HD] 720p50/59.94/60, 1035i50/59.94/60, 1080i50/59.94/60, 1080p24/30 [SD] NTSC@59.94Hz, PAL@50Hz	
SDI signal type	SMPTE-292M, SMPTE-259M, DVB-ASI	
Output impedance	75Ω	
Auto Reclocking Mode	Automatic detection: 270Mbps / 1.483Gbps / 1.485Gbps Automatic bypass: 177Mbps / 360Mbps / 540Mbps	
Cable equalization	[HD-SDI] up to 150m (500ft) [SD-SDI] up to 300m (1000ft)	[HD-SDI] up to 125m (410ft) [SD-SDI] up to 300m (1000ft)
Loop Out	1 re-clocking SDI Loop Out	
Audio support	Yes	
RP-918 pathological patterns	Immune	
Input Connectors	1x BNC (SDI)	1 x Optical LC (SDI)
Output Connectors	1x Optical LC (SDI) 1 x BNC (SDI – Loop Out)	2 x BNC (SDI)
BNC connector	75Ω inter-locked socket	
Optical Fiber Connector	LC Type	
Fiber Optics	Wavelength: 850 nm Extinction ratio: 8-10 Overshoot < 10% Optical power: -4 to -10 dBm Type: Multi-mode Jitter < 0.2 UI Rise/fall < 500 pS Receiver sensitivity: -17 dBm	
Dimensions	4.3" x 1.6" x 1.2" (L x W x H)	
Weight	155g	
Power Supply	5V 4A DC	
Power Consumption	5 Watts (max)	
Operating Temperature	0~40°C [32~104°F]	
Storage Temperature	-20~60°C [-4~140°F]	
Relative Humidity	20~90% RH [no condensation]	



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