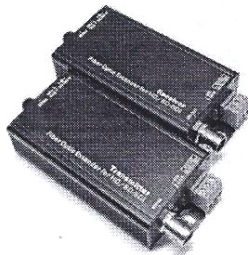


Full HD
1080

User Manual

HD-SDI Optical Transmitter & receiver



NOTE: The casing design is subject to change without notice.

This type HD-SDI Optical Transceiver is a mini HD-SDI optical transceiver. It is a perfect and economic transmission device to transmit HD/HD-SDI video, embedded audio and RS485 data via fiber-optic.

Transmitter is used as sending end, Receiver is used as receiving end. It supports SMPTE292M, SMPTE259M standard, as well as DVB-ASI (EN50083-9) digital TV signal format.

Features

- Support 1channel HD-SDI video embedded audio signal via fiber
- SD, HD auto-detection, supported transmission rate from 270M bit/s to 1.485G bit/s
- Transmission distance is from 0km to 80KM via multimode fiber or single mode fiber.
- Support SMPTE 259M (1.485Gbps), SMPTE 259M (270Mbps), and DVB-ASI
- Support plug and play function
- Operation status indication by LED

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4. Objects and liquid entry

Never push objects of any kind into this product as this may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill any kind of liquid on the product.

5. Cleaning

Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.

6. Servicing

Do not attempt to service this product by yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all service to qualified servicing personnel.

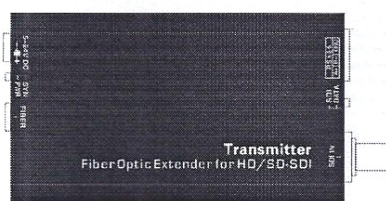
Package Contents

1. One (1) HD-SDI Optical Transmitter-Tx
2. One (1) HD-SDI Optical receiver-Rx
3. One (1) User Manual
4. Two (2) AC Adapter



For any returns, please include all components listed above with original packaging in **Resalable Condition**. Absolutely No Returns will be accepted if any component is missing/damaged.

Parts & Functions



ND8010HDL SD/HD-SDI Optical transmitter Top Panel Layout



Please read the **Manual** before attempting to use this product.
Specifications and appearance are subject to change without notice.



CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN!



TO REDUCE THE RISK OF ELECTRICAL SHOCK,
DO NOT OPEN COVERS (OR BACK).
NO USER SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED
SERVICE PERSONNEL.



Disposal of Old Electrical & Electronic Equipment (Applicable in the European Union and other European countries with separate collection systems).

This symbol on the product or on its packaging indicates that this product shall not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. The recycling of materials will help to conserve natural resources. For more detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.



Caution

1. Handle this product with care

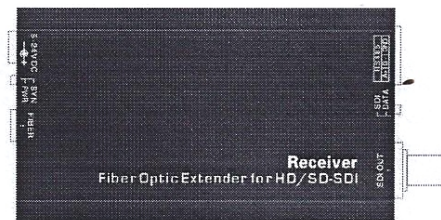
Avoid any shock or bumping of the product. Improper handling could damage the product. Do not handle the unit with wet hands. Provide proper ventilation and air circulation and do not use near water.

2. Requires a proper operating environment

This product is not waterproof and is designed for indoor use. The allowable temperature range for operation of this product is between 0°C~40°C / 32°F~104°F.

3. Check the power source voltage

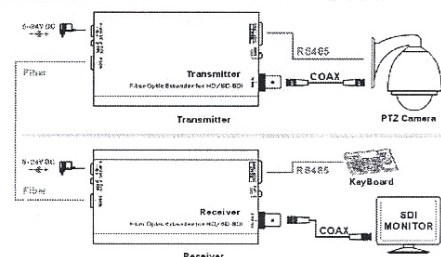
The power source voltage should be within the specified range. (Product must meet the specifications).



ND8010HDL SD/HD-SDI Optical receiver Top Panel Layout

Name	Color	Status	Description
SDI	Green	Flicker	SDI signal is active status.
		OFF	SDI signal is inactive status.
DATA	Green	Flicker	RS485 data is active
		OFF	No RS485 data
SYN	Green	ON	Normal connection
		OFF	Connection is not correct
PWR	Green	ON	Power source has been connected.
		OFF	Power source hasn't been connected.

Application Diagram



* The distance depends on the quality of the SDI signal from the HD camera source and also the Coax Cable & Connector

See page 8 for Important Notes about Cable and Connector for SDI HD Camera

Technical Specifications

Model	HD-SDI Optical Transmitter & Receiver
Quantity/Type	Single Mode, Single Fiber
Max. Distance	0m-20Km (40km/60km optional)
Connector	FC
Wave Length	1310nm/1550nm
Transmitted power	-10dbm ~ -3dbm
Maximum Receiving Sensitivity	<-34dbm
Signal Type	SD-SDI(270Mbps)/ HD-SDI(1.485Gbps)
Support Input Format	SD: 525i @ 59.94Hz, 625i @ 50Hz HD: 720p @ 25Hz / 29.97Hz / 30Hz 720p @ 50Hz / 59.94Hz / 60Hz 1080i @ 50Hz / 59.94Hz / 60Hz 1080p @ 23.98Hz/24Hz/25Hz/29Hz/30Hz
Video Standard	SMPTTE 292M and SMPTTE 259M
DATA comm. method	RS-485/Half duplex
Power Supply	5~24DC
Power Consumption	3~5 Watts
Operating Temperature	0°C ~ 60°C / 32°F ~ 140°F
Storage Temperature	-30°C ~ 70°C / -22°F ~ 158°F
Relative Humidity	20~90% RH (Non-condensation)
Dimension	109 x 48 x 25 mm / 4.29 x 1.89 x 0.98 inches
Weight	220g (Tx and Rx)

*Specifications are subject to change without notice

Key Components

Components Made in USA for this product:

Name of Component	Manufacturer
Multi-Rate SDI Adaptive Cable Equalizer	Gennum
Multi-Rate SDI Automatic Reclocker	Gennum
Multi-Rate Dual Slew-Rate Cable Driver	Mindspeed & Gennum
SDI SPD	Bourns
HDMI ESD Protection	Semtech
Micro Controller Unit	Texas Instruments

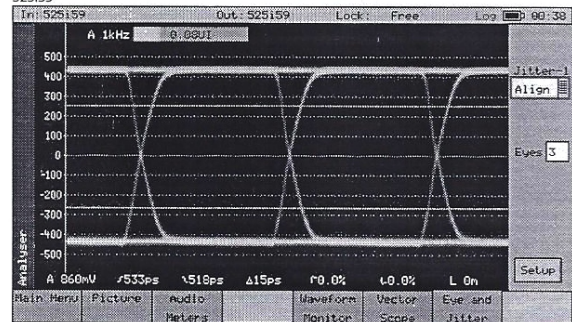
Components Made in China for this product:

Name of Component	Manufacturer
DC/DC Converter	Richtek

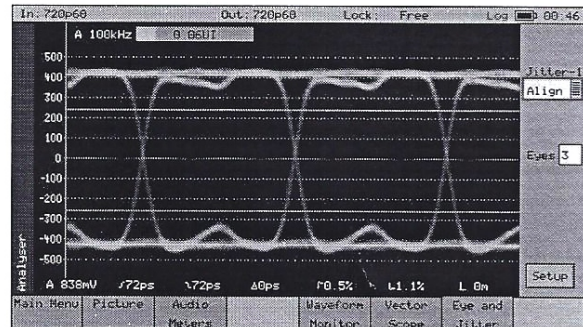
*Key components are listed by the manufacturer and are subject to change without notice

Eye Diagram

SD Mode 525i59



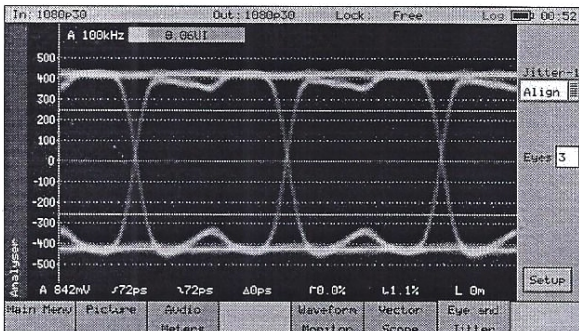
HD Mode 720p60



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1080p30



IMPORTANT NOTE: Cable & Connector for SDI HD Camera

In order to achieve the **Best Quality and Long Range** coax cable run of up to **200m / 600ft**, you will need:

- Good Quality Cable:** We suggest using RG6 Belden 1694A Low Loss Serial Digital coax cable because RG6 cables have better grounding than RG59 cables. RG6 is for Digital Signal and RG59 is for Analog Signal.
- Good Quality BNC Connectors:** Contact Plating Gold plated pins provide exceptional conductivity.
- Good Quality Installation:** Do not over cut the braid because it will affect the grounding. The image will have lines and noise.

Limited Warranty

LIMITED ONE (1) YEAR WARRANTY AND EXCLUSIONS

Manufacturer warrants to the original consumer purchaser and not for the benefit of anyone else that this product at the time of its sale by Manufacturer is free of defects in materials and workmanship under normal and proper use for one (1) year from the purchase date. Manufacturer's only obligation is to correct such defects by repair or replacement, at its option, if within such one (1) year period the product is returned prepaid, with proof of purchase date, and a description of the problem. This warrant excludes and there is disclaimed liability for labor for removal of this product or reinstallation. This warranty is voided if this product is installed improperly or in an improper environment, overloaded, misused, opened, abused, or altered in any manner, or is not used under normal operating conditions or not in accordance with any labels or instructions. There are no other implied warranties of any kind, including merchantability and fitness or a particular purpose, but if any implied warranty is required by the applicable jurisdiction, the duration of any such implied warranty, including merchantability and fitness of or a particular purpose, is limited to one (1) year. Manufacturer is not liable for incidental, indirect, special, or consequential damages, including without limitation, damage to, or loss of use of, any equipment, loss sales or profits or delay or failure to perform this warranty obligation. The remedies, provided therein are the exclusive remedies under this warranty, whether based on contract, tort or otherwise.

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