

COH-Tx & COH-Rx

HDMI to Optical Transmitter and Receiver

Operation Manual



COH-Tx & COH-Rx

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• **Safety Precautions**

Please read all instructions before attempting to unpack or install or operate this equipment, and before connecting the power supply. Please keep the following in mind as you unpack and install this equipment:

- Always follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Never spill liquid of any kind on or into this product.
- Never push an object of any kind into this product through module openings or empty slots, as you may damage parts.
- Do not attach the power supply cabling to building surfaces.
- Do not allow anything to rest on the power cabling or allow it to be abused by persons walking on it.
- To protect the equipment from overheating, do not block the slots and openings in the module housing that provide ventilation.

• **Revision History**

| <i>Version No</i> | <i>Date</i> | <i>Summary of Change</i> |
|-------------------|-----------------|---------------------------------|
| V1 | 20100728 | Preliminary Release |
| VR2 | 20110526 | Add PC Support Timing |
| VR3 | 20110929 | TV Support Timing Change |

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1. Introduction

While HDMI is becoming more common around the world, some consumers have been wishing for a way to transmit HDMI signals at very long distances. Enter the HDMI to Optical Transmitter and Receiver which uses fiber optical cables to give you a longer transmission distance, up to 300m while also providing you with thinner lighter cables for easy installations. With this system the HDMI signal is not compressed and is fully compliant with HDMI and HDCP.

2. Applications

- Digital signage, airport displays, advertising, video walls or special events
- Surveillance systems

3. Package Contents

- HDMI to Optical Transmitter
- Optical to HDMI Receiver
- 5V DC Power adaptor x 2
- Operation Manual

4. System Requirements

Input source devices such as DVD or Blu-Ray players with HDMI cables and output displays such as HDTV's and monitors with HDMI ports.

5. Features

- HDMI v1.2, HDCP and DVI compliance
- Long distance transmission up to 300M or more
- Thinner and lighter cables for better looking and easier installations
- Faster data transmission
- Lower power consumption
- Supports EDID reading

6. Specifications

Transmitter

| | |
|-------------|---|
| Input Port | 1 x HDMI |
| Output Port | 1 x Duplex Multi-Mode Fiber Optical with LC connector |

Receiver

| | |
|-------------|---|
| Input Port | 1 x Duplex Multi-Mode Fiber Optical with LC connector |
| Output Port | 1 x HDMI |

Dimensions (mm) 114(W) x 65(D) x 26(H)

Weight(g) 200

Chassis Material Metal

Silkscreen Color Black

Operating Temperature 0°C ~ 40°C / 32°F ~ 104°F

Storage Temperature -20°C ~ 60°C / -4°F ~ 140°F

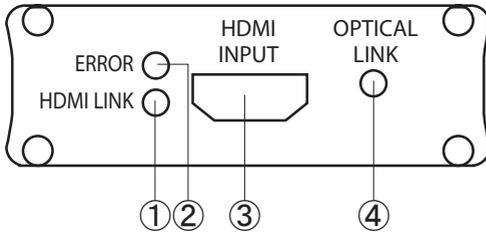
Relative Humidity 20-90% RH (non-condensing)

Power Consumption 3.5W/each

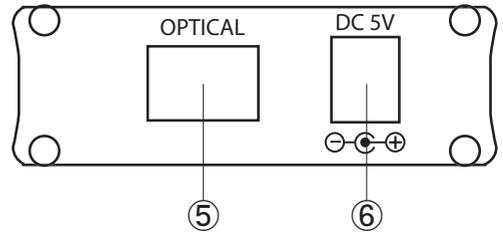
7. Operation Controls and Functions

7.1 Transmitter

Front Panel

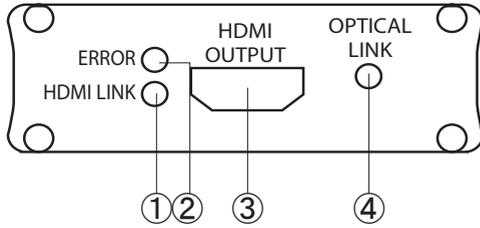


Rear Panel

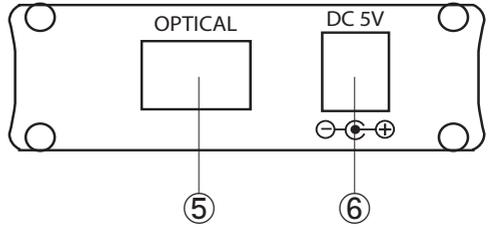


- ① HDMI LINK: This LED will illuminate in blue when at least one optical cable is connected and has successfully detected and communicated between Tx and Rx with video or audio data sending.
- ② ERROR: This LED will illuminate in red when there appears to be an error in the input signal data rate that is higher than 75MHz or the HDMI output is not output able.
- ③ HDMI INPUT: This slot is to connect with an input source such as a DVD or Blu-Ray player with HDMI cable.
- ④ OPTICAL LINK: This LED will turn illuminate in blue when the optical cable is connected and has successfully detected and communicated between Tx & Rx with data sending. If the LED is not illuminate users need to check the connection of the fiber cable and then make sure the connection is well and the cable itself is good.
- ⑤ OPTICAL: Connect both ends of the fiber optical cable to each side of the device in order send a signal.
Note: Connector Type: LC-LC, Fiber: Duplex Multi-mode Fiber
- ⑥ DC 5V: Plug the 5V DC power supply into the unit and connect the adaptor to an AC outlet. The LED will switch on when the power cable is plugged in.

7.2 Receiver Front Panel



Rear Panel



- ① HDMI LINK: This LED will illuminate in blue when at least one optical cable is connected and has successfully detected and communicated between Tx and Rx with video or audio data sending.
- ② ERROR: This LED will illuminate in red when there appears to be an error in the input signal data rate that is higher than 75MHz or the HDMI output is not output able.
- ③ HDMI OUTPUT: This slot is to connect with an output display such as an HDTV or monitor with HDMI cable.
- ④ OPTICAL LINK: This LED will turn illuminate in blue when the optical cable is connected and has successfully detected and communicated between Tx & Rx with data sending. If the LED is not illuminate users need to check the connection of the fiber cable and then make sure the connection is well and the cable itself is good.
- ⑤ OPTICAL: Connect both ends of the fiber optical cable to each side of the device in order send a signal.
Note: Connector Type: LC-LC, Fiber: Duplex Multi-mode Fiber
- ⑥ DC 5V: Plug the 5V DC power supply into the unit and connect the adaptor to an AC outlet. The LED will switch on when the power cable is plugged in.

8. Support Timing Chart

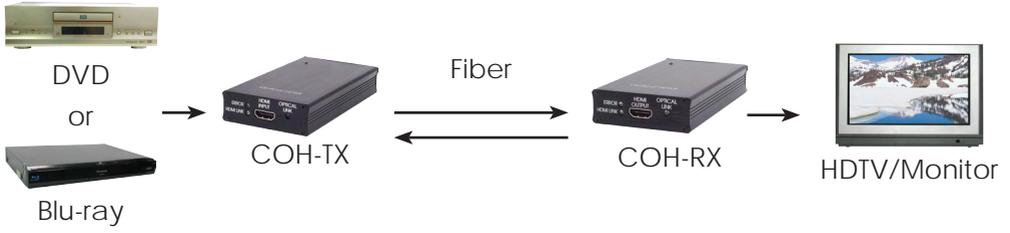
8.1 TV Timing

| NO. | Formats | Field Rate | Picture Aspect Ratio |
|-----|----------------|--------------|----------------------|
| 1 | 720x480p | 59.94Hz/60Hz | 4:3 |
| 2 | 720x480p | 59.94Hz/60Hz | 16:9 |
| 3 | 1280x720p | 59.94Hz/60Hz | 16:9 |
| 4 | 1920x1080i | 59.94Hz/60Hz | 16:9 |
| 5 | 720(1440)x480i | 59.94Hz/60Hz | 4:3 |
| 6 | 720(1440)x480i | 59.94Hz/60Hz | 16:9 |
| 7 | 720x576p | 50Hz | 4:3 |
| 8 | 720x576p | 50Hz | 16:9 |
| 9 | 1280x720p | 50Hz | 16:9 |
| 10 | 1920x1080i | 50Hz | 16:9 |
| 11 | 720(1440)x576i | 50Hz | 4:3 |
| 12 | 720(1440)x576i | 50Hz | 16:9 |
| 13 | 1920x1080p | 23.97Hz/24Hz | 16:9 |
| 14 | 1920x1080p | 25Hz | 16:9 |
| 15 | 1920x1080p | 29.97Hz/30Hz | 16:9 |

8.2 PC Timing

| Pixel Format | Refresh Rate | Horizontal Frequency | Pixel Frequency | Standard Type |
|--------------|--------------|----------------------|-----------------|-------------------|
| 640 x 350 | 85 Hz | 37.9 kHz | 31.500 MHz | VESA Standard |
| 640 x 400 | 85 Hz | 37.9 kHz | 31.500 MHz | VESA Standard |
| 720 x 400 | 85 Hz | 37.9 kHz | 35.500 MHz | VESA Standard |
| 640 x 480 | 60 Hz | 31.500 kHz | 25.175 MHz | Industry Standard |
| 800 x 600 | 60 Hz | 37.9 kHz | 40.000 MHz | VESA Guidelines |
| 1024 x 768 | 60 Hz | 48.4 kHz | 65.000 MHz | VESA Guidelines |
| 1280 x 720 | 60Hz | 37.9KHz | 40.000MHz | VESA Guidelines |
| 1280 x 768 | 60Hz | 37.9KHz | 40.000MHz | VESA Guidelines |

9. Connection and Installation



A

Acronyms

Acronym

HDCP

HDMI

Complete Term

High-bandwidth Digital content protection

High-Definition Multimedia Interface



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