

# 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**

<b><i>Version No</i></b>	<b><i>Date</i></b>	<b><i>Summary of Change</i></b>
<b>V1</b>	<b>20100728</b>	<b>Preliminary Release</b>
<b>VR2</b>	<b>20110526</b>	<b>Add PC Support Timing</b>

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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 optic 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**

- Fixed installations like conference rooms and home theaters
- 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**

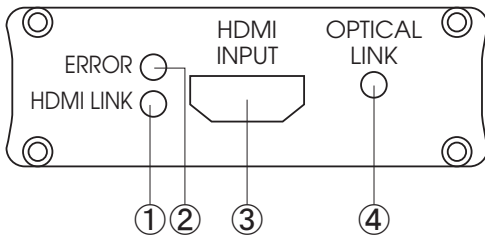
- HDMI v1.2, HDCP and DVI compliance
- Long distance transmission up to 300M or more
- Thinner and lighter cables for better looking and easier installations
- Faster data transmission
- Lower power consumption
- FPGA-based solution
- Supports EDID reading and CEC function
- Supports 720p/60, 1080i/60 and 1080p/30&24 video resolutions

6. Specifications

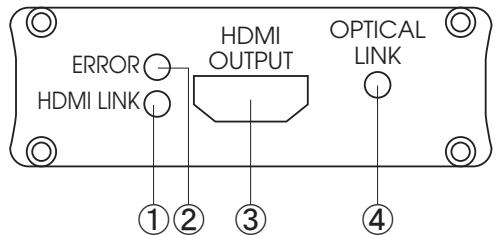
Transmitter	
Input Port	1 x HDMI
Output Port	1 x Fiber Optical
Receiver	
Input Port	1 x Fiber Optical
Output Port	1 x HDMI
Dimensions (mm)	114(W) x 65(D) x 26(H)
Weight(g)	200
Chassis Material	Metal
Silkscreen Color	Black
Operating Temperature	0°C ~ 40°C / 32°F ~ 104°F
Storage Temperature	-20°C ~ 60°C / -4°F ~ 140°F
Relative Humidity	20~90% RH (non-condensing)
Power Consumption	3W/each

## 7. Operation Controls and Functions

### 7.1 Front Panel Transmitter Side

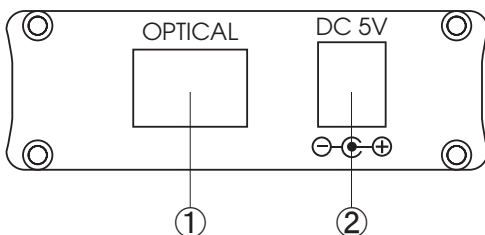


### Receiver Side

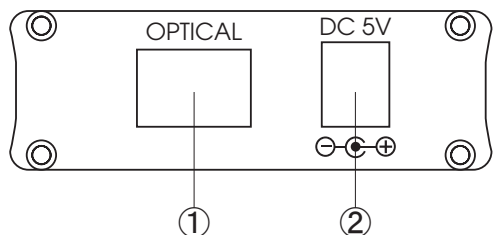


- ① HDMI LINK: This LED will turn blue when the device receives a signal from the source or display.
- ② ERROR: This LED will turn red when there appears to be an error in the input signal or it is not supported and the output has not yet received the signal.
- ③ HDMI INPUT/HDMI OUTPUT: This slot is to connect with an input source such as a DVD or Blu-Ray player and output display such as an HDTV or monitor with HDMI cables.
- ④ OPTICAL LINK: This LED will turn blue when the optical cable is connected and successfully sending a signal.

### 7.2 Rear Panel Transmitter Side



### Receiver Side



- ① OPTICAL: Connect both ends of the fiber optic cable to each side of the device in order send a signal.
- ② 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

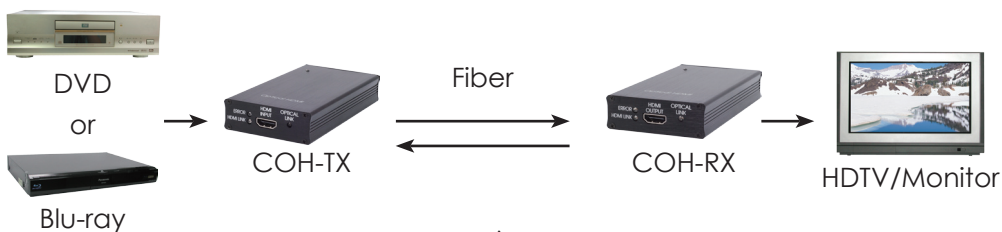
VIC	Formats	Field Rate	Picture Aspect Ratio	V/X
1	640x480p	59.94Hz/60Hz	4:3	✓
2	720x480p	59.94Hz/60Hz	4:3	✓
3	720x480p	59.94Hz/60Hz	16:9	✓
4	1280x720p	59.94Hz/60Hz	16:9	✓
5	1920x1080i	59.94Hz/60Hz	16:9	✓
6	720(1440)x480i	59.94Hz/60Hz	4:3	✓
7	720(1440)x480i	59.94Hz/60Hz	16:9	✓
8	720(1440)x240p	59.94Hz/60Hz	4:3	✓
9	720(1440)x240p	59.94Hz/60Hz	16:9	✓
10	2880x480i	59.94Hz/60Hz	4:3	✓
11	2880x480i	59.94Hz/60Hz	16:9	✓
12	2880x240p	59.94Hz/60Hz	4:3	✓
13	2880x240p	59.94Hz/60Hz	16:9	✓
14	1440x480p	59.94Hz/60Hz	4:3	✓
15	1440x480p	59.94Hz/60Hz	16:9	✓
16	1920x1080p	59.94Hz/60Hz	16:9	✗
17	720x576p	50Hz	4:3	✓
18	720x576p	50Hz	16:9	✓
19	1280x720p	50Hz	16:9	✓
20	1920x1080i	50Hz	16:9	✓
21	720(1440)x576i	50Hz	4:3	✓
22	720(1440)x576i	50Hz	16:9	✓
23	720(1440)x288p	50Hz	4:3	✓
24	720(1440)x288p	50Hz	16:9	✓
25	2880x576i	50Hz	4:3	✓
26	2880x576i	50Hz	16:9	✓
27	2880x288p	50Hz	4:3	✓
28	2880x288p	50Hz	16:9	✓
29	1440x576p	50Hz	4:3	✓
30	1440x576p	50Hz	16:9	✓

31	1920x1080p	50Hz	16:9	✗
32	1920x1080p	23.97Hz/24Hz	16:9	✓
33	1920x1080p	25Hz	16:9	✓
34	1920x1080p	29.97Hz/30Hz	16:9	✓
35	2880x480p	59.94Hz/60Hz	4:3	✗
36	2880x480p	59.94Hz/60Hz	16:9	✗
37	2880x576p	50Hz	4:3	✗
38	2880x576p	50Hz	16:9	✗
39	1920x1080i (1250 total)	50Hz	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
	72 Hz	37.861 kHz	31.500 MHz	VESA Standard
	75 Hz	37.500 kHz	31.500 MHz	VESA Standard
	85 Hz	43.269 kHz	36.000 MHz	VESA Standard
800 x 600	56 Hz	35.1 kHz	36.000 MHz	VESA Guidelines
	60 Hz	37.9 kHz	40.000 MHz	VESA Guidelines
	72 Hz	48.1 kHz	50.000 MHz	VESA Standard
	75 Hz	46.9 kHz	49.500 MHz	VESA Standard
	85 Hz	53.7 kHz	56.250 MHz	VESA Standard
1024 x 768	60 Hz	48.4 kHz	65.000 MHz	VESA Guidelines
	70 Hz	56.5 kHz	75.000 MHz	VESA Guidelines

## 9. Connection and Installation





# Acronyms

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## **Acronym**

## **Complete Term**

DVI

Digital Visual Interface

HDCP

High-bandwidth Digital content protection

HDMI

High-Definition Multimedia Interface



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Home page: <http://www.cypress.com.tw>

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