

CH-301TX & RX

HDMI over One CAT6 Transmitter & Receiver

Operation Manual



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• **Trademark Acknowledgments**

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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**

<u>Version No</u>	<u>Date</u>	<u>Summary of Change</u>
VR0	20110106	Preliminary Release

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1. Introduction

The HDMI™ Transmitter and Receiver over One CAT6 is an intelligent device for extending your HDMI signal over long distances to a compatible display. Instead of buying expensive, long distance HDMI cables, your existing CAT6 cables can be utilized to perform advanced functions, like transferring Deep Color (12 bits/color) video and high Definition (Dolby TrueHD, Dobby Digital Plus and DTS HD Master Audio) digital audio, with a bandwidth up to 2.25Gbps per channel. Powered by its USB connection which also makes it easier to install, this device is a fine addition to existing media setups.

2. Applications

- HDMI signal extension over CAT6
- HDMI signal transmitting over long distance

3. Package Contents

- HDMI over CAT6 Transmitter
- HDMI over CAT6 Receiver
- Operation Manual
- 2 x 5V/1A USB Power Adaptor

4. System Requirements

Input HDMI signal source and output HDMI input display with HDMI connection cables and CAT6 cable in between the transmitter and receiver .

5. Features

- Supports digital video formats up to 36 bits
- Support high definition input/output up to WUXGA/1080p
- Uses one CAT6 cable for data/DDC transmission
- Equalizes and recovers incoming TMDS data before re-transmitting it in optimal quality
- HDMI Cable testing showed that with WUXGA/1080p 8bit resolution, input/output device can run to 12 meters away and with WUXGA/1080p12bit resolution it can run up to 10 meters away
- When transmitting a signal in 1080p 8bit resolution the CAT6 operating distance is 40 meters, and when the signal is in 12bit resolution the CAT6 operating distance is 15 meters
- It is recommended to use power adaptor on both transmitter and receiver side to get the best performance and long distance operating.

- Using power adaptor on transmitter side only, receiver side powered over CAT6 cable, the operating CAT6 cable distance will decrease to 20 meters or less when transmitting 8 bits signal.

Note:

A. This system was tested with CAT6 cable with its specification and result follow:

- 24AWG/Standard/UTP/568B
1080p/8bit =25 meters
1080p/12bit =12meters
- 23AWG/Standard/UTP/568B
1080p/8bit =40 meters
1080p/12bit =15 meters

B. Cable distance tested with a PS3 & 40" Samsung LED UA40B700 12-bits LCD TV.

C. Figures provided in this manual are for reference only, acutal figures may depend on the source and display used along with the cable's specifications.

6. Specifications

Transmitter

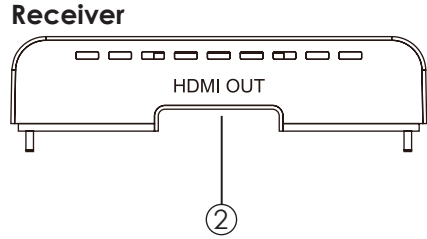
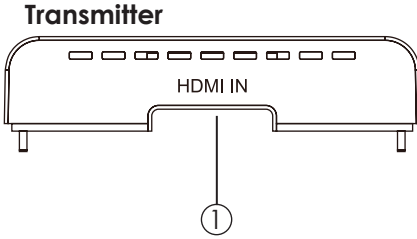
Input 1 x USB (for Power), 1 x HDMI
Output 1 x CAT6

Receiver

Input 1 x USB (for Power), 1 x CAT6
Output 1 x HDMI
Input Cable Distance 12M/ WUXGA or 1080p 8 bits,
10M/ WUXGA or 1080p 12 bits
Output Cable Distance 12M/ WUXGA or 1080p 8 bits,
10M/ WUXGA or 1080p 12 bits
CAT6 Cable Distance 40M/ WUXGA or 1080p 8 bits,
15M/ WUXGA or 1080p 12 bits
ESD Protection Human Body Model: ± 8kV (air-gap discharge)
: ± 4kV (contact discharge)
Operating Temperature 0°C ~ 45°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/TX 2W/RX

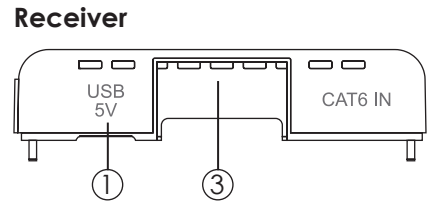
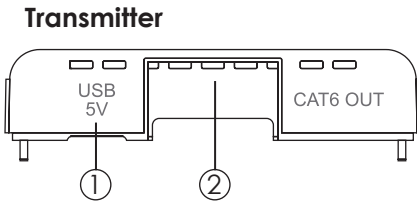
7. Operation Controls and Functions

7.1 Front Panel



- ①. HDMI IN: This slot is to connect with source equipment such as DVD or Blu-Ray player for input signal sending.
- ②. HDMI OUT: This slot is to connect with display monitor or TV for image display.

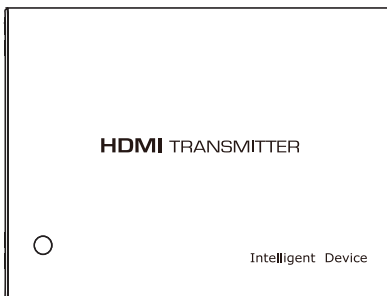
7.2 Rear Panel



- ①. USB 5V: This slot is to connect with USB 5V power adaptor included in the device's package.
- ②. CAT6 OUT: This slot is to connect with CAT6 cable to the receiver side.
- ③. CAT6 IN: This slot is to connect with CAT6 cable from the transmitter side.

7.3 Top Panel

Transmitter



Receiver



- ①. Power LED: The blue LED will illuminate when the device is connected with power and detected the signal.

8. Connection and Installation



DVD

or

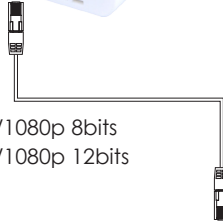
Blu-Ray



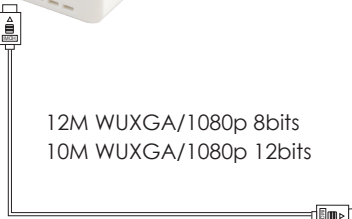
12M WUXGA/1080p 8bits
10M WUXGA/1080p 12bits



40M WUXGA/1080p 8bits
15M WUXGA/1080p 12bits



12M WUXGA/1080p 8bits
10M WUXGA/1080p 12bits



HDTV

Acronyms



Acronym

Complete Term

CAT6	Category 6 cable
DDC	Display Data Channel
HDMI	High-Definition Multimedia Interface
TMSD	Transition Minimized Differential Signaling
WUXGA	Widescreen Ultra eXtended Graphics Array



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