CYP

CH-1601RX

HDMI/Audio over CAT5e/6/7 Receiver

Operation Manual

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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

VERSION NO.	DATE DD/MM/YY	SUMMARY OF CHANGE
RDV1	20/10/14	Preliminary Release
RDV2	22/01/15	Add ARC Switch
RDV3	06/05/15	Add Update Switch

CONTENTS

1. INTRODUCTION

This HDMI and Audio over Single CAT5e/6/7 Receiver set can receive uncompressed audio/video along with controls, IP and USB data over a single run of CAT5e/6/7 cable up to 100m. It has the added benefit of control through the built-in RS-232 and IR ports and a bidirectional LAN serving connection. There is a bidirectional digital audio capability that gives users the convenience of an additional audio connection. This system also enabling a USB connection to up to 2 USB ports, giving the ability to act like a USB hub. The 48V PoE design can power the Receiver (PD) from the Transmitter (PSE), eliminating the need for a separate power supply for the Receiver.

2. APPLICATIONS

- Household entertainment extending and control
- Lecture room display and control
- Showroom display and control
- Meeting room presentation and control
- Classroom display and control

3. PACKAGE CONTENTS

- 1 x HDMI/Audio over CAT5e/6/7 Receiver
- 1 x IR Extender
- 1 x 48 DC Power adaptor
- Operational Manual

4. SYSTEM REQUIREMENTS

Input compatible Transmitter, audio signal source equipment, USB devices and HDMI equipped output display (TV or monitor).

5. FEATURES

- Supports HDBaseT 2.0 specification supporting over a single CAT6/7 cable up to 100m/328ft and CAT5e cable up to 90m/295ft
- Fully compliant with HDMI 1.4, and compatible with HDMI 2.0 (4K2K 60Hz with 4:2:0)
- Features 2 USB 2.0 ports
- HDMI (with 3D & 4Kx2K support), HDCP and DVI compliant
- HDBaseT 5Play™ convergence: High-Definition (HD) Video and Audio, 100BaseT Ethernet, PoE and Control (Bidirectional IR/RS-232 pass-through)
- Supports pass-through of audio formats: LPCM2/5.1/7.1CH, Dolby Digital 2~5.1Ch, Dolby Digital Plus, Dolby TrueHD and DTS-HD Master Audio
- Supports coaxial cable up to 1 meter with sampling rate up to 48kHz
- Supports 10/100 Ethernet network connection
- LAN and external digital audio capability
- Supports RS-232 baud rate from 110~115200bps

6. OPERATION CONTROLS AND FUNCTIONS

6.1 Front Panel
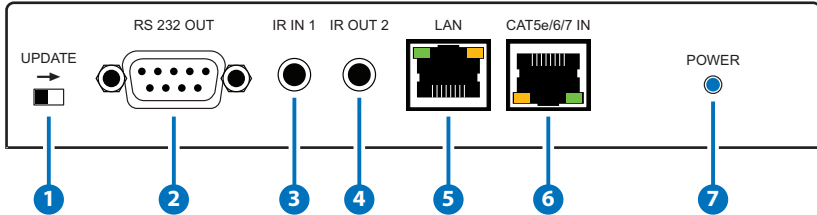
1 Update Switch

Switch this deep switch to right for firmware update use, under normal operation, leave the switch on left.

2 RS-232 OUT

Connect to the device that is to be controlled (via D-Sub 9-pin male cable) by RS-232 commands.

3 IR IN1

Connect to the supplied IR Extender cable for IR signal reception. Ensure that remote being used is within the direct line-of-sight of the IR Extender.

4 IR OUT 2

Connect to the supplied IR Blaster cable for IR signal transmission. Place the IR Blaster in direct line-of-sight of the equipment to be controlled.

5 LAN

Connect to an internet or network connection. The yellow LED will illuminate to represent the link with Receiver is steady, when it blink irregularly it represent the link error or when not illuminate it means no link with Receiver. The green LED will illuminate to represent the Ethernet speed is with 100Mbit/s.

6 CAT5e/6/7 IN

Connect to the Transmitter unit with a single CAT5e/6/7 cable for transmission of all data signals. The yellow LED will illuminate to represent the link from Receiver is steady, when it blink irregularly it represent the link error or when not illuminate it means no link with Receiver. The green LED will illuminate to represent the PoE activation.

7 POWER LED

This LED will illuminate when the device is connected with power supply.

6.2 Rear Panel
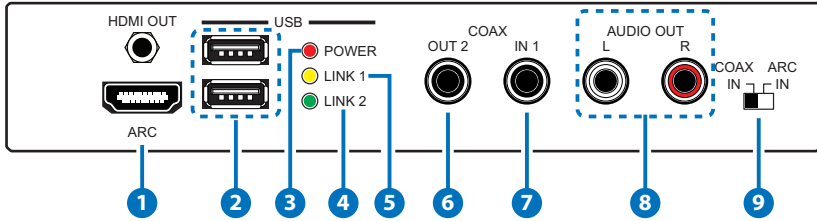
1 HDMI OUT

Connect to a HDMI equipped TV/monitor for display of the HDMI input source signal.

2 USB

Connect to USB peripheral devices such as printer, keyboard, flash driver or …etc. for data receiving or sending back to Transmitter.

3 POWER LED

This LED will illuminate when device is connected with USB power supply.

4 LINK 2

This LED will illuminated when the lower USB slot is connected with signal activated.

5 LINK 1

This LED will illuminated when the upper USB slot is connected with signal activated.

6 COAX OUT 2

Connect to speaker with coaxial input for audio signal output from Transmitter's COAX IN 2.

7 COAX IN 1

Connect to audio source equipment such as DVD or Blu-ray player for audio signal sending to Transmitter's COAX OUT1
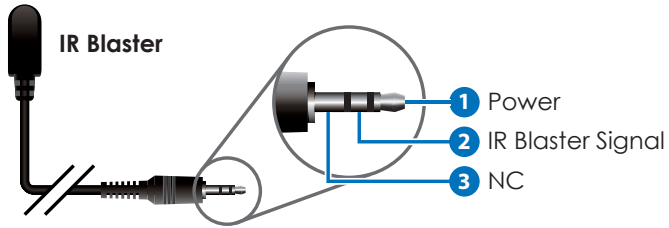
8 AUDIO L/R OUT

Connect to speaker with RCA input for audio signal output.

9 ARC IN/COAX IN

Switch this switch to select ARC channel. Switch to ARC IN to use HDMI OUT's audio or switch to COAX IN to use COAX IN 1's audio.

6.3 IR Cable Pin Assignment

IR Blaster

1 Power
2 IR Blaster Signal
3 NC

IR Receiver

1 IR Signal
2 Power
3 Grounding
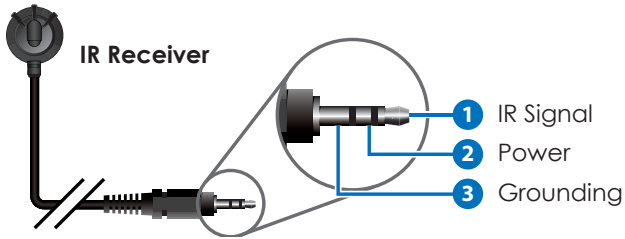
6.4 D-Sub 9-Pin Assignment

pin	Define TX / RX
1	N/C
2	TxD / RxD
3	RxD / TxD
4	N/C
5	GND
6	N/C
7	N/C
8	N/C
9	N/C

7. CONNECTION DIAGRAM
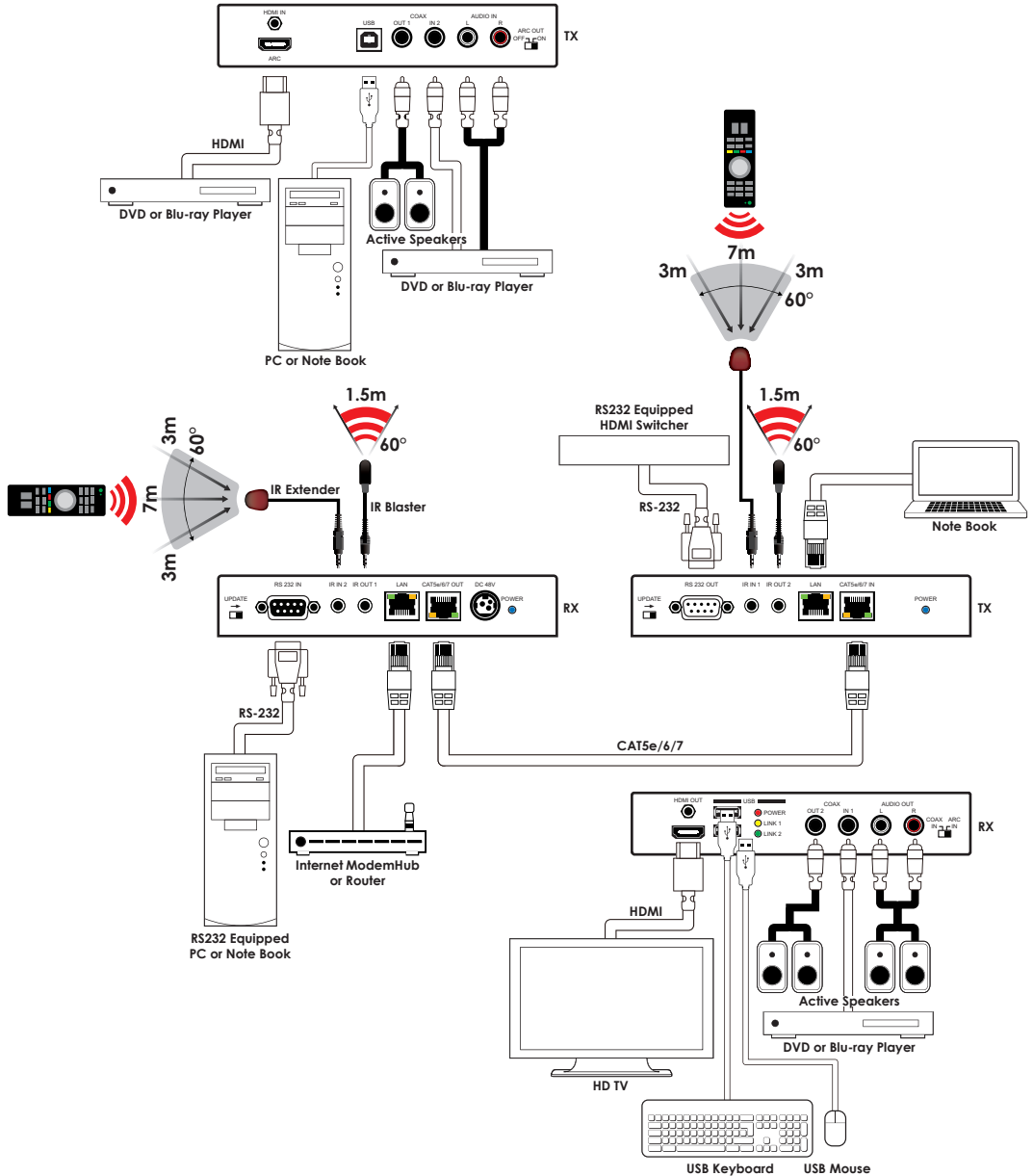
8. SPECIFICATIONS

Video Bandwidth	340MHz/10.2Gbps
Input Ports	1 x CAT5e/6/7, 1 x IR, 1 x Coaxial
Output Ports	1 x HDMI, 1 x RS-232, 1 x LAN, 1 x Coaxial, 1 x IR, 2 x USB
IR Frequency	30~50kHz
Baud Rate	Up to 115200bps
Power Supply	48VDC/0.83A (US/EU standards, CE/FCC/ UL certified)
ESD Protection	Human body model: ±8kV (air-gap discharge) ±4kV (contact discharge)
Dimensions	160mm (W) x 130mm (D) x 30mm (H)/ Jacks Excluded 165mm (W) x 141mm (D) x 33mm (H)/ Jacks Included
Weight	618g
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 (no condensation)
Power Consumption	10w

8.1 CAT5e/6/7 Cable Specification

Cable Type	Range	Pixel clock rate	Video Data Rate	Supported Video
CAT5e/6/7	100 m	<=225 MHz	<=5.3 Gbps (HD Video)	Up to 1080p, 60 Hz, 36 bits, 3D (data rates lower than 5.3 Gbps or below 225 MHz TMDS clock).
	90 m/CAT5e 100 m/ CAT6/7	>225 MHz	> 5.3 Gbps (Ultra HD Video)	4K2K, 30Hz video formats

9. ACRONYMS

ACRONYM	COMPLETE TERM
DTS	Digital Theater System
DVI	Digital Visual Interface
EDID	Extended Display Identification Data
HDCP	High-bandwidth Digital Content Protection
HDMI	High-Definition Multimedia Interface
HDTV	High-Definition Television
LCM	Liquid Crystal Monitor
USB	Universal Serial Bus
VGA	Video Graphics Array
WUXGA	Wide Ultra Extended Graphics Array