CH-1601TX

HDMI/Audio over CAT5e/6/7 Transmitter with 48V PoE

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 Transmitter can send 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 LAN serving connection. There is a bidirectional digital audio capability that gives users the convenience of an additional audio connection. This system also allows the connection of any USB host, enabling USB signal transmission and an analog L/R audio input for external audio extending. The 48V PoE design can power the compatible Receiver (PD), eliminating the need for a separate power supply for the Receiver.

2. APPLICATIONS

- 48V PoE to Receiver (PD)
- 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 Transmitter
- 1 x IR Blaster
- 1 x 48 DC Power adaptor
- Operational Manual

4. SYSTEM REQUIREMENTS

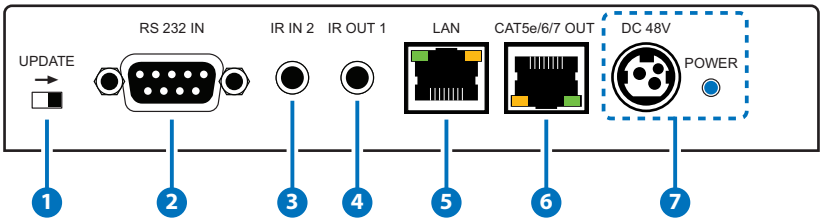
Input source equipment such as DVD/Blu-ray player, PC/Laptop, and output compatible Receiver.

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)
- 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 IN

Connect to a PC or Laptop with D-Sub 9- pin female cable for the transmission of RS-232 commands.

3 IR IN 2

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 1

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.

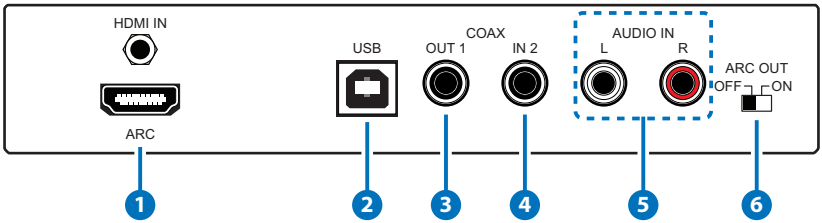
6 CAT5e/6/7 OUT

Connect to the Receiver 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 DC 48V & POWER LED

Plug the 48V DC power supply into the unit and connect the adaptor to an AC outlet and the LED will illuminate.

6.2 Rear Panel



1 HDMI IN

Connect to HDMI source equipment such as a DVD or Blu-ray player.

2 USB

Connect from PC or Laptop for data transmit to or control from the Receiver's USB slots.

3 COAX OUT 1

Connect to speaker with coaxial input for audio signal output from Receiver's COAX IN 1.

4 COAX IN 2

Connect to audio source equipment such as DVD or Blu-ray player for audio signal sending to Receiver's COAX OUT2.

5 AUDIO IN L/R

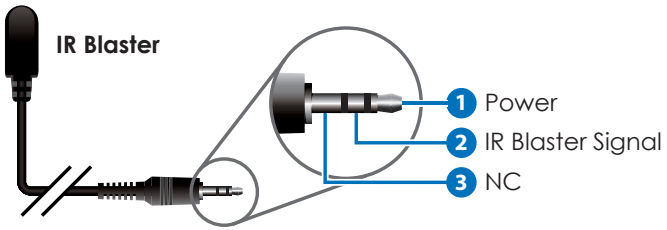
Connect with audio source equipment such as PC or CD player for audio signal sending to Receiver's AUDIO OUT L/R.

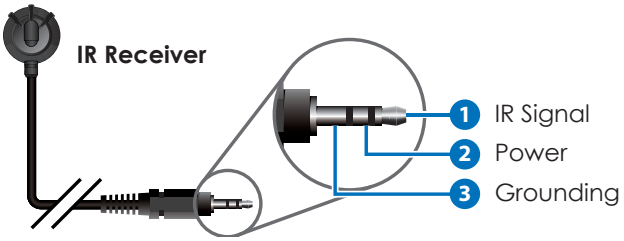
6 ARC OUT ON/OFF

Switch this dip switch to allows ARC (Audio Return Channel) function to be activate or not. Switch to OFF to disable ARC function.

Switch to ON allows Reciever's HDMI output audio to be routed back and output to both HDMI IN and COAX OUT 1.

6.3 IR Cable Pin Assignment

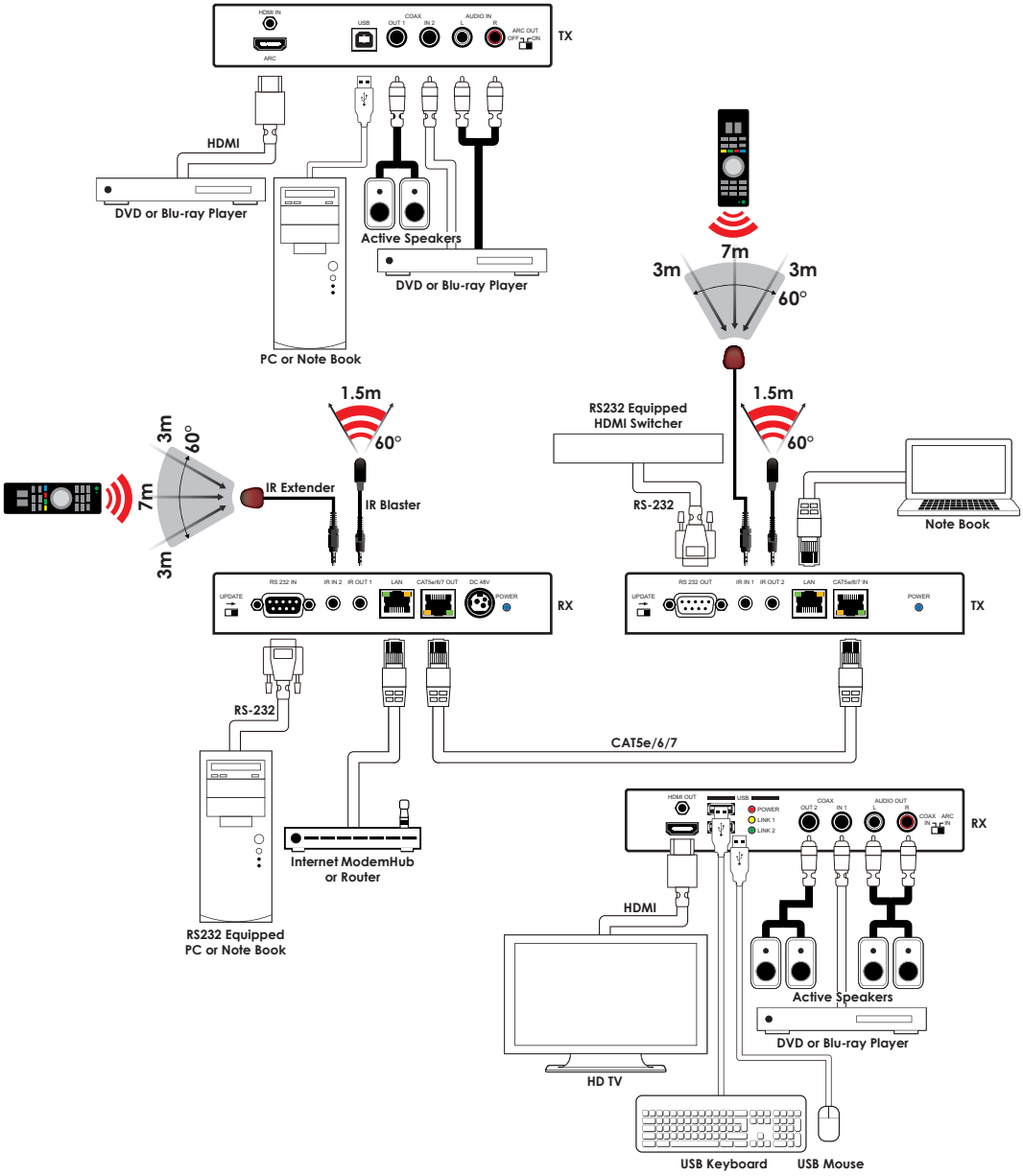




6.4 D-Sub 9-Pin Assignment

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 HDMI 1 x LAN, 1 x RS-232, 1 x IR, 1 x USB, 1 x Coaxial, 1 x L/R
Output ports	1 x CAT5e/6/7, 1 x IR 1 x Coaxial
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	624g
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	9w

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

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