



CHDBX-1H1CE

1 by 2 CAT5e/6/7 over HDMI & CAT5e/6/7 with LAN
and IR Splitter



Operation Manual

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SAFETY PRECAUTIONS

Please read all instructions before attempting to unpack, 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 any openings or empty slots in the unit, as you may damage parts inside the unit.
- Do not attach the power supply cabling to building surfaces.
- Use only the supplied power supply unit (PSU). Do not use the PSU if it is damaged.
- Do not allow anything to rest on the power cabling or allow any weight to be placed upon it or any person walk on it.
- To protect the unit from overheating, do not block any vents or openings in the unit housing that provide ventilation and allow for sufficient space for air to circulate around the unit.

REVISION HISTORY

VERSION NO.	DATE DD/MM/YY	SUMMARY OF CHANGE
RDV1	14/04/14	Preliminary Release
RDV2	03/10/14	Connection Diagram



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1. INTRODUCTION

The CAT5e/6/7 over HDMI and CAT5e/6/7 Splitter can convert a single CAT5e/6/7 input, 2-way IR control and LAN serving to a single CAT5e/6/7 output and includes a simultaneous HDMI bypass output. It supports resolutions up to 1080p Full HD, 4K×2K timing, 3D and multi-channel digital audio formats (such as LPCM 7.1CH, Dolby TrueHD, Dolby Digital Plus and DTS-HD). The HDMI output can be connected to an HDMI display or cascaded to another splitter. The CAT5e/6/7 output can be connected to a CAT5e/6/7 to HDMI Receiver to extend the operating distance up to 100 meters.

Additionally, the LAN connectivity will allow a 100BaseT network to be served to smart TVs or games consoles.

2. APPLICATIONS

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

3. PACKAGE CONTENTS

- CAT5e/6/7 over HDMI & CAT5e/6/7 with LAN & IR Splitter
- IR Blaster x 1
- IR Extender x 1
- 24V DC Power Adaptor
- Operation Manual

4. SYSTEM REQUIREMENTS

- Source equipment with HDMI over CAT5e/6/7 Transmitter
- Display TV/Monitor with HDMI input connector
- HDMI over CAT5e/6/7 Receivers with industry CAT5e/6/7 cables

5. FEATURES

- HDMI with 3D & 4Kx2K supported, HDCP and DVI compliant
- Simultaneous HDMI and CAT5e/6/7 outputs
- Supports data rate from 250Mbps up to 3Gbps
- Supports wide range of PC resolutions from VGA to WUXGA and HDTV resolutions up to 4Kx2K (3840x2160@24/25/30Hz, 4096x2160@24Hz and 4K2K@60 YUV_420)
- Supports LPCM 7.1CH, Dolby TrueHD, Dolby Digital Plus and DTS-HD Master Audio transmission (32-192kHz sample rate)
- Supports distances up to 100 meters through CAT5e/6/7 cables
- Supports Ethernet network rate up to 100Mbps
- Can select EDID
- Supports USB service port
- Supports control of devices via 2-way IR
- The 3D signal display follow by display TV's EDID

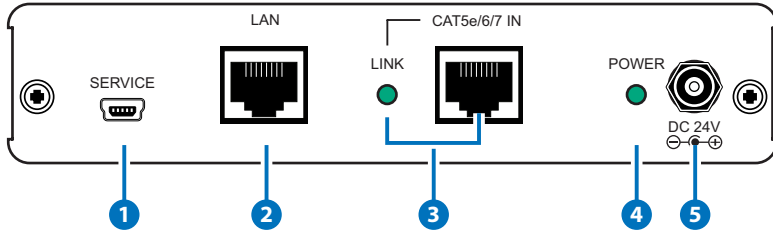
Note:

1. *This system was tested with CAT6/23AWG cables, results may vary with cables of a different specification.*
2. *Displaying HDMI 4Kx2K resolution require the standard 4Kx2K HDMI cable and display in order for proper image displaying.*
3. *This device obtain the last memory function therefore, the device will use last output port's EDID when the output is not connected to a display after power cycling.*

The unit will detect HDMI output's EDID when it obtain a 4Kx2K EDID and send out the signal accordingly to other output ports. If the HDMI output is without a 4Kx2K's EDID the unit will detect all output's EDID and send out the signal that all outputs can accept.

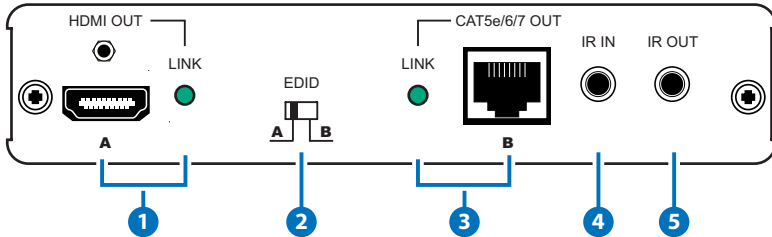
6. OPERATION CONTROLS AND FUNCTIONS

6.1 Front Panel



- 1 SERVICE:** This slot is reserved for firmware update only.
- 2 LAN:** Connect to intranet or internet service system for a total sharing rate of 100Mbps within the link of Transmitter.
Warning: DO NOT connect this slot with any of the CAT5e/6/7 port, doing so may trigger a power shot down and ruin the device.
- 3 CAT5e/6/7 IN & LINK LED:** Connect from HDMI over CAT5e/6/7 Transmitter device along with source device for input signal distribution up to 100m. Once the connection is made with active signal the LINK LED will illuminate.
- 4 POWER LED:** Once the power supply is connected the LED will illuminate.
- 5 DC 24V:** Plug the 24V DC power supply into the unit and connect the adaptor to an AC outlet.

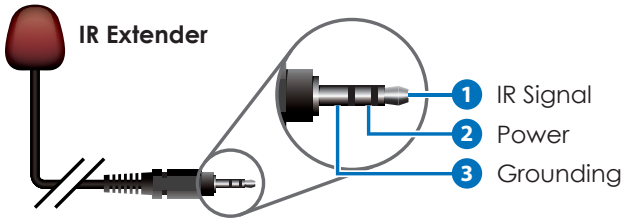
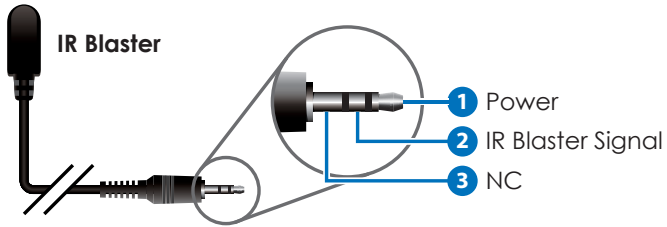
6.2 Rear Panel



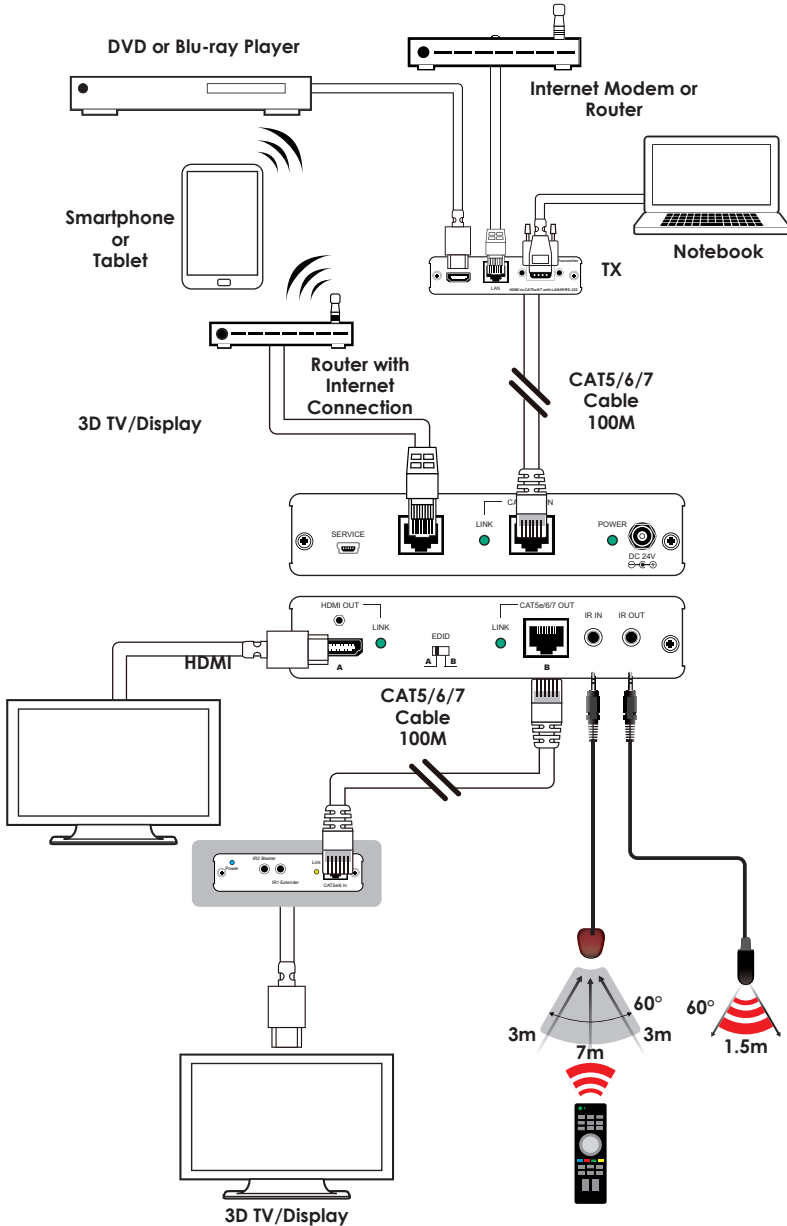
- 1 HDMI OUT & LINK LED:** Connect to HDMI display for instant image display or cascade with another family type Transmitter. The LINK LED will illuminate once and active display signal is detected.

This device obtain the last memory function therefore, the device will use the last output port's EDID when The output port is not connected to a display after power cycling.
- 2 EDID:** Switch to A/B to allows device to output image according to output A/B (A: HDMI, B:CAT OUT) port's EDID. For example, switch to A and both input and output A is connect to 4K2K's equivalence signal, both output A and B will obtain a 4K2K's signal however if output B is not connected with 4K2K's display there will be no image.
- 3 CAT5e/6/7 OUT & LINK LED:** Connect this port to CAT5e/6/7 to HDMI Receiver with CAT5e/6/7 cable along with display to extend the signal up to 100m. Once the connection is made with active signal the LINK LED will illuminate.
- 4 IR IN:** Connect with the supplied IR Extender to receive IR signal from Transmitter side and blast out at Receiver side. Ensure that remote controller being used is within the direct line-of-sight of the IR Extender.
- 5 IR OUT:** Connect with the supplied IR Blaster to blast out the IR signal received from the Receiver side. Place the IR Blaster in direct line-of-sight of the equipment to be controlled.

6.3 IR Cable Pin Assignment



7. CONNECTION DIAGRAM





8. SPECIFICATIONS

Video Bandwidth	340Mbps/10.2Gbps
Input ports	1 x CAT5e/6/7, 1 x IR IN, 1 x LAN, 1 x USB (Service only)
Output ports	1 x HDMI, 1 x CAT5e/6/7 1 x IR OUT,
Resolution	Up to 4Kx2K (3840x2160@24/25/30Hz/4096x 2160@24Hz/4K2K@60Hz YUV_420)
HDMI Input & Output Cable Distance	Up to 10m@8 or12-bit 1080p
CAT5e/6/7 Output Cable Distance	Up to 100m
IR Frequency	30~50kHz
Power Supply	24V / 1.25A DC (US/EU standards, CE/FCC/ UL certified)
Dimensions	145 mm(W) x 160 mm(D) x 30 mm(H)/ Jacks Excluded 45 mm(W) x 172.75 mm(D) x 35 mm(H)/ Jacks Included
Weight	662g
Chassis Material	Metal
Silkscreen Color	Black
ESD Protection	Human body model: ±8kV (air-gap discharge) ±4kV (contact discharge)
Operating Temperature	0°C ~ 40°C
Storage Temperature	-20°C ~ 60°C / -4 °F ~ 140 °F
Relative Humidity	20 ~ 90% RH (non-condensing)
Power Consumption	22.33W/with Receiver connected

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).
	70 m	>225 MHz	> 5.3 Gbps (Ultra HD Video)	4K2K, 30Hz video formats
CAT6A/7	100 m	>225 MHz	> 5.3 Gbps (Ultra HD Video)	4K2K, 30Hz video formats

9. ACRONYMS

ACRONYM	COMPLETE TERM
4Kx2K	3840x2160 / 4096x2160
DTS	Digital Theater System
EDID	Extended Display Identification Data
HDCP	High-bandwidth Digital Content Protection
HDMI	High-Definition Multimedia Interface
HDTV	High-Definition Television



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