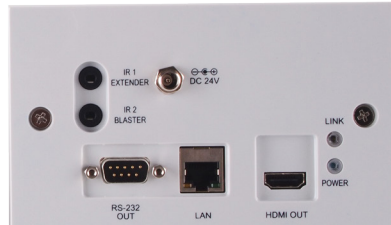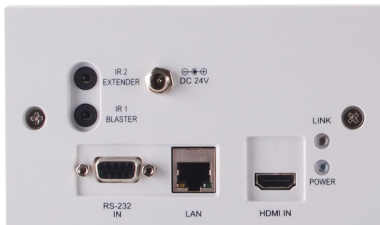# CYP

CH-507TXWPBD & RXWPBD
HDMI over Single CAT5e/CAT6

Operation Manual

DISCLAIMERS

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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	25/04/13	Preliminary Release
RDV2	25/07/19	Update Format and Cable Distance

CONTENTS

1. INTRODUCTION

The HDMI over single CAT5e/6/7 wall-plate transmitter and receiver setcan transmit and receive uncompressed audio/video over a single run of CAT5e/6/7 cable up to 100m/328ft at 1080p and 70m/229ft at 4K with bi-directional PoC & IR functions,LAN of a data transmission rate of 100Mbps & RS-232 features. A true HDBaseT 5Play solution to make your home or office more efficient and easy with control.

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

- HDMI over Single CAT5e/CAT6 Transmitter x 1
- HDMI over Single CAT5e/CAT6 Receiver x 1
- IR Blaster x 1
- IR Receiver x 1
- 24V DC Power Adaptor x 1
- Operation Manual

4. SYSTEM REQUIREMENTS

Input HDMI source equipment such as DVD/Blu-ray player and HDMIequipped output display (TV or monitor)with HDMI input jack.

5. FEATURES

- HDMI 1.x and DVI 1.0 compliant
- HDCP compliant
- Supports HDMI 3D and 4K x 2K features
- Supports HDCP repeater and CEC bypass
- Supports distance up to 100m/328ft at 1080p and 70m/229ft at 4K through CAT5e/6/7 cable
- HDMI input resolutions up to 4K@60Hz (YUV 4:2:0, 8-bit) or 4K@30Hz (YUV 4:4:4, 8-bit)
- Supports pass-through of audio formats including LPCM 2.0/5.1/7.1, and Bitstream over HDMI
- 5Play™ convergence: HDMI, bi-directional PoC, (bi-directional IR & RS232) & LAN
- Wall plate design and Installation Friendly

Note: This system was tested with CAT6/23AWG and CAT5e/24AWG cable, so if using cables of another type, results may vary.

In order to send and receive HDMI contain of 4k x 2k, equivalencesource, display and HDMI cable specification is required to ensureproper output.
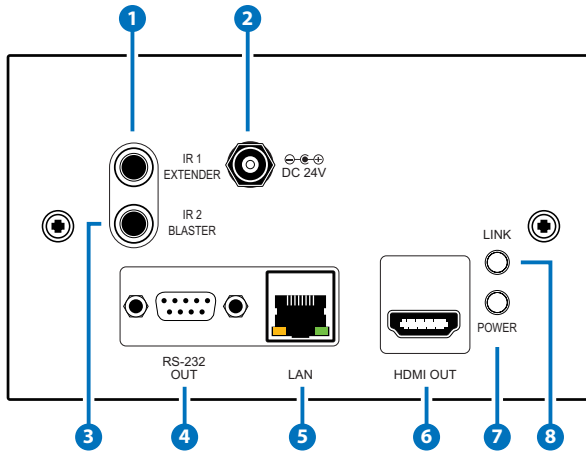
6. OPERATION CONTROLS AND FUNCTIONS

6.1 Transmitter
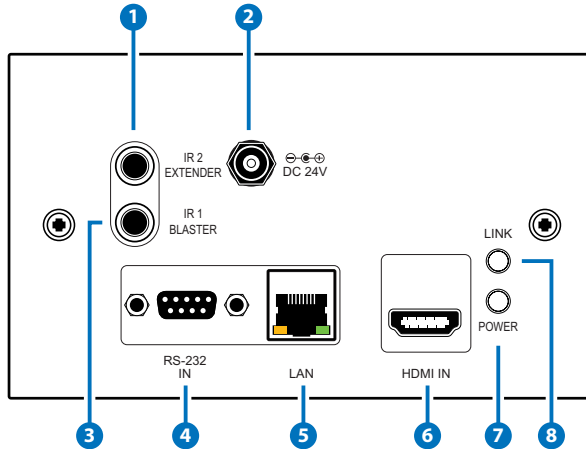
1 IR 2 EXTENDER: This slot is to connect with the IR receiver cable included in the package for IR signal receiving.

2 DC 24V: Connect the power adaptor included in the package and then connect to AC power to activate the device.

3 IR 1 BLASTER: This slot is to connect with the IR blaster cable included in the package for IR signal transmitting.

4 RS-232 IN: This slot is to connect with D-Sub 9-pin cable from PC/loptop device RS-232 commands sending.

5 LAN: Connect to an active network for LAN serving and Telnet/Web GUI control.
When the transmitter or any compatible LAN equipped receivers are connected to a network, this allows the network access (including internet access if available) to be shared between the transmitter and all connected receivers. Connect any Ethernet equipped device e.g. a Smart TV or games console to the LAN port of a receiver for that device to share the network/internet access.

6 **HDMI IN:** This slot is to connect with HDMI source equipment such as DVD/Blu-ray player with HDMI source signal.

7 **Power LED:** This LED will illuminate when the device is connected to a power supply.

8 **LINK LED:** This LED will illuminate when the both CAT5e/6/7 input and output signal is connected.

6.2 Receiver

1 **IR 1 EXTENDER:** This slot is to connect with the IR receiver cable included in the package for IR signal receiving.

2 **DC 24V:** Connect the power adaptor included in the package and then connect to AC power to activate the device.

3 **IR 2 BLASTER:** This slot is to connect with the IR blaster cable included in the package for IR signal transmitting.

4 **RS-232 OUT:** This slot is to connect with D-Sub 9-pin cable from device equipment for receiving RS-232 commands.

5 **LAN:** Connect to an active network for LAN serving and Telnet/ Web GUI control.

When the transmitter or any compatible LAN equipped receivers are connected to a network, this allows the network access

(including internet access if available) to be shared between the transmitter and all connected receivers. Connect any Ethernet equipped device e.g. a Smart TV or games console to the LAN port of a receiver for that device to share the network/internet access.
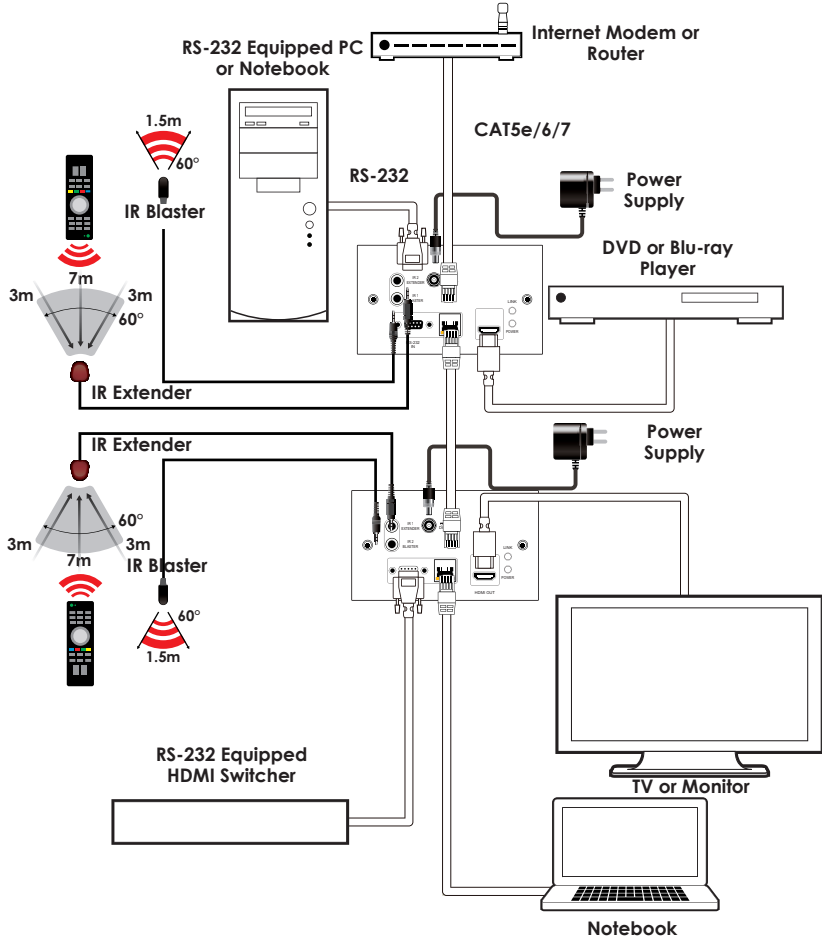
6 **HDMI OUT:** This slot is to connect with HDMI TV/monitor for display HDMI input source signal.

7 **Power LED:** This LED will illuminate when the device is connected to a power supply.

8 **LINK LED:** This LED will illuminate when the both CAT5e/6/7 input and output signal is connected.

7. D-SUB 9 PIN DEFINITIONS

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

8. CONNECTION DIAGRAM

Option 1: Point to Point

Option 2: Matrix System

DC

CAT5e/6/7

RS-232 Cable

HDMI Cable

IR1 Blaster

IR2 Receiver

60°
1.5m

Blu-ray

60°
3m   3m
7m

TV/HD Monitor's Remote

RS-232 Cable

HDMI Cable

IR2 Blaster

IR1 Receiver

60°
1.5m

HD Monitor or TV

Projector

PC

60°
3m   3m
7m

Blu-ray's Remote
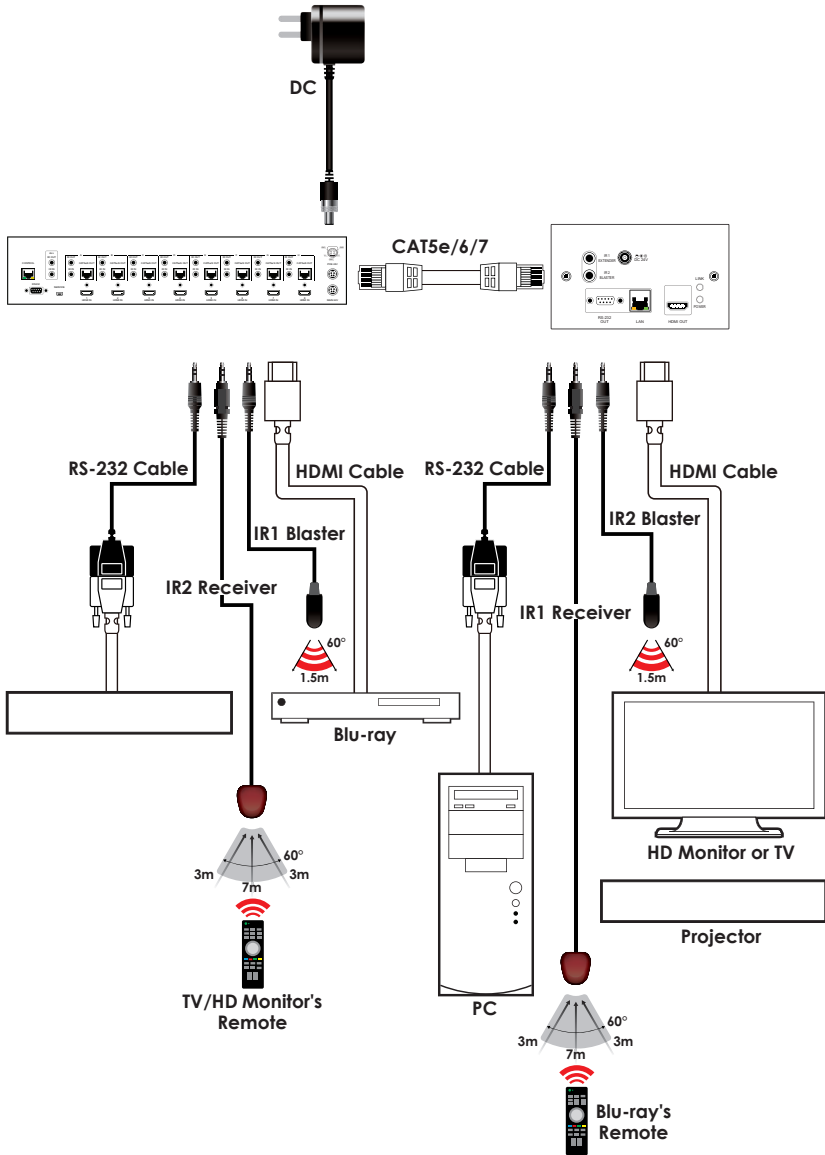
9. SPECIFICATIONS

Video Bandwidth	300MHz/9Gbps
Transmitter	
Input	1×HDMI, 1×IR Extender, 1xLAN, 1×RS-232
Output	1×CAT5e/6/7, 1×IR Blaster
Receiver	
Input	1×CAT5e/6/7, 1×IR Extender, 1xLAN
Output	1×HDMI, 1×RS-232, 1×IR Blaster
ESD Protection	Human-body Model: ±8kV (air-gap discharge) ±4kV (contact discharge)
IR Frequency	30 - 50kHz (30 - 60kHz under ideal conditions)
Baud Rate	up to 115200/sec
Power Supply	24 V/1.25 A DC (US/EU Standards, CE/FCC/ UL certified)
Dimensions (mm)	146(W) x 86(D) x 48.5(H)
Weight (g)	156/Tx, 160/Rx
Chassis Material	Plastic
Silkscreen Color	White
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	TX: 11.8W, RX: 12W

9.1 Cable Specifications

Cable Length	1080p		4K30	4K60
	8-bit	12-bit	(4:4:4) 8-bit	(4:2:0) 8-bit
High Speed HDMI Cable				
HDMI Input	15m	10m	5m	5m
HDMI Output	15m	10m	5m	5m
Ethernet Cable				
Cat.5e/6/7	100m		70m	

- **1080p (FHD Video)**
  - Up to 1080p@60Hz, 12-bit color
  - Data rates lower than 5.3Gbps or below 225MHz TMDS clock
- **4K30 (UHD Video)**
  - 4K@24/25/30Hz & 4K@50/60Hz (4:2:0), 8-bit color
  - Data rates higher than 5.3Gbps or above 225MHz TMDS clock but below 10.2Gbps

10. ACRONYMS

ACRONYM	COMPLETE TERM
CAT5e	Category 5 Cable
CAT6	Category 6 Cable
CEC	Consumer Electronics Control
DVI	Digital Visual Interface
HDCP	High-bandwidth Digital Content Protection
HDMI	High Definition Multimedia Interface
IR	Infrared