



PU-507-TX/RX

5Play™ HDBaseT™ Receiver (inc. PoC & single LAN, up to 100m)

OPERATIONS MANUAL



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Version 1.1

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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	SUMMARY OF CHANGE
VS1	29/02/12	First Release
VR2	02/03/12	PoC Support (Brand only)
VS3	23/03/12	Amended PoC function Updated the connection diagram and the specifications table
v1.01	20/09/13	Amended Link LED description
v1.02	08/10/13	Amended product description
v1.03	12/08/19	Update to Specifications



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1. INTRODUCTION

The HDMI over CAT5e/6/7 Transmitter and Receiver set can send uncompressed video/audio and IP data over an single run of CAT5e/6/7 cable up to 100m at 1080p and 70m at 4K. It has the added benefit of control through the built-in RS-232 pass-through and 2-way IR control and a LAN serving connection. Additionally, it has Power over Cable (PoC) functionality that allows for greater flexibility in installations

2. APPLICATIONS

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

3. PACKAGE CONTENTS

Transmitter Package

- 1×HDMI to CAT5e/6 (with LAN/IR/RS-232) Transmitter
- /// 1×IR Blaster
- **III** 1×IR Receiver
- **III** 1×24V/1.25 A DC Power Adaptor
- Operation Manual

Receiver Package

- ## 1×CAT5e/6 to HDMI (with LAN/IR/RS-232) Receiver
- **///** 1×IR Blaster
- /// 1×IR Receiver
- **///** Operation Manual

4. SYSTEM REQUIREMENTS

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





5. FEATURES

- **III** HDMI 1.x and DVI 1.0 compliant
- **III** HDCP compliant
- Supports HDMI 3D and 4K2K 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
- ## HDBaseT™ convergence: uncompressed high-definition Video and Audio, LAN serving, Power over Cable (PoC) and IR/RS-232 Control pass-through
- **///** Installation friendly

Note:

- 1. This system was tested with CAT6/23AWG cables, results may vary with cables of a different specification.
- 2. The PoC function is designed for powering compatible receiver units only—non-PoC receivers will need their own power supply. Receivers of another brand may not be compatible.
- 3. For playback of 4K2K HDMI source signals, a 4K2K capable display and High Speed HDMI cables are required.



6. OPERATION CONTROLS AND FUNCTIONS

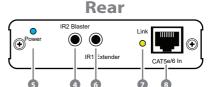
6.1 Transmitter Front and Rear Panels

- **1) HDMI In:** Connect to HDMI source equipment such as a DVD or Bluray player.
- **2 LAN:** Connect to an internet or network connection.
- (3) RS-232 In: Connect to a PC or laptop with D-sub 9-pin male cable for the transmission of RS-232 commands.
- Power LED: This blue LED will illuminate when the transmitter is connected to a power supply.
- **DC 24V:** Plug the 24V DC power supply into the unit and connect the adaptor to an AC outlet.
 - Note: Only the Transmitter unit needs to be powered and can power the Receiver unit via PoC.
- **GIR1 Blaster:** Connect to the IR Blaster cable for IR signal transmission. Place the IR blaster in direct line-of-sight of the equipment to be controlled.
- IR2 Extender: Connect to the IR Extender cable for IR signal reception. Ensure that remote being used is within the direct line-of-sight of the IR extender.
- (3) **Link LED:** The yellow LED will illuminate when both the input and output signals are connected.
- ② CAT5e/6 Out: Connect to the receiver unit with an single CAT5e/6/7 cable for transmission of all data signals.



6.2 Receiver Front and Rear Panels Front

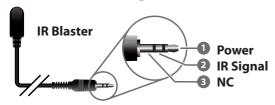
HDMI Out RS-232 Out Receiver AN LAN

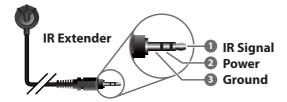


- **1) HDMI Out:** Connect to a HDMI equipped TV/monitor for display of the HDMI input source signal.
- LAN: Connect to a PC or Laptop to the Internet or network connection.
- **3 RS-232 Out:** Connect to the device that is to be controlled (via D-sub 9-pin female cable) by RS-232 commands.
- Power LED: This blue LED will illuminate when the receiver is receiving a power supply via PoC from a compatible transmitter unit.
- **Solution** IR2 Blaster: Connect to the IR Blaster cable for IR signal transmission. Place the IR blaster in direct line-of-sight of the equipment to be controlled.
- **6 IR1 Extender:** Connect to the IR Extender cable for IR signal reception. Ensure that remote being used is within the direct line-of-sight of the IR extender.
- Link LED: The yellow LED will illuminate when both the input and output signals are connected.
- **8 CAT5e/6 In:** Connect to the transmitter unit with an single CAT5e/6/7 cable for transmission of all data signals.



6.3 IR Cable Pin Assignment



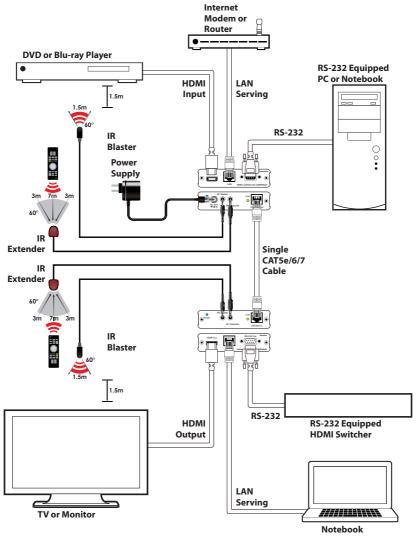


6.4 RS-232 Cable Pin Definitions

PIN	ASSIGNMENT (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



Note: Only the Transmitter unit needs to be powered and can power the Receiver unit via PoC.





8. SPECIFICATIONS

8.1 Technical Specifications

Video Bandwidth 340 MHz/10.2 Gbps

Ethernet Speed 100 Mbps

Transmitter

Input Ports 1×HDMI, 1×LAN, 1×IR Extender,1×RS-232

Output Ports 1xCAT5e/6/7, 1xIR Blaster

Receiver

Input Ports 1×CAT5e/6/7, 1×IR Extender

Output Ports $1 \times HDMI$, $1 \times LAN$, $1 \times IR$ Blaster, $1 \times RS$ -232

IR Frequency 30 – 50kHz

(30 – 60kHz under ideal conditions)

Baud Rat Up to 115200/sec

Power Supply 24V/1.25 A DC (US/EU Standards, CE/FCC/UL

certified)

ESD Protection Human Body Model:

±8 kV (air-gap discharge) ±4 kV (contact discharge)

Dimensions $102 \text{ mm (W)} \times 113 \text{ mm (D)} \times 25 \text{ mm (H)} / TX$

 $102 \,\text{mm} \,(\text{W}) \times 107 \,\text{mm} \,(\text{D}) \times 25 \,\text{mm} \,(\text{H}) / \text{RX}$

Weight 252 g/TX, 256 g/RX

Chassis Material Aluminum

Silkscreen Colour Silver

Operating Temperature $0 ^{\circ}\text{C} \sim 40 ^{\circ}\text{C} / 32 ^{\circ}\text{F} \sim 104 ^{\circ}\text{F}$

Storage Temperature $-20\,^{\circ}\text{C}\sim60\,^{\circ}\text{C}\,/\,-4\,^{\circ}\text{F}\sim140\,^{\circ}\text{F}$

Relative Humidity 20~90 % RH (non-condensing)

Power Consumption 13W



8.2 Cable Specifications

	1080p		4K30	4K60	
Cable Length	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	10	0m	70	m	

1080p (FHD Video)

- Up to 1080p@60Hz, 12-bit colour
- 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 colour
- Data rates higher than 5.3Gbps or above 225MHz TMDS clock but below 10.2Gbps

9. 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



CYP (UK) Ltd., Unit 7, Shepperton Business Park, Govett Avenue, Shepperton, Middlesex, TW17 8BA

Tel: +44 (0) 20 3137 9180 | Fax: +44 (0) 20 3137 6279

Email: sales@cypeurope.com www.cypeurope.com v1.03