PU-513L-KIT
HDMI over Single CAT5e/6/7 HDBaseT™ LITE Extender Kit

///// **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	SUMMARY OF CHANGE
VS1	10/10/2012	First release
v1.01	31/07/2013	Added USB Power Cable
v1.02	03/10/2013	Added statement about RS-232 Adapters

CONTENTS

1. INTRODUCTION

The PU-513L-KIT allows uncompressed HDMI, one-way IR and RS-232 signals to be transmitted over a Single CAT5e/6/7 cable to distances of up to 60m. Utilise the USB power output from a TV as an optional way of powering the PU-513L-RX receiver unit alternative to a mains power supply.

Designed with HDBaseT™ technology for greater flexibility in custom installations with full HDMI and control signal transfer over a single CAT5e/6 Cable.

2. APPLICATIONS

/// Commercial and residential multi-room AV environments

/// University lecture hall display and control

/// Retail sales display and control

/// Meeting room presentation and control

/// Commercial advertising display and control

3. PACKAGE CONTENTS

/// 1× HDMI to CAT5e/6 with IR/RS-232 Transmitter

/// 1× CAT5e/6 to HDMI with IR/RS-232 Receiver

/// 1× IR Blaster

/// 1× IR Extender

/// 1× 3.5 mm mini-jack to RS-232 female cable

/// 1× 3.5 mm mini-jack to RS-232 male cable

/// 2× 5 V/2.6 A DC Power Adaptor

/// Operation Manual

4. SYSTEM REQUIREMENTS

HDMI source equipment such as DVD/Blu-ray player/PC and TV/Monitor/ Projector with HDMI input and HDMI and CAT5e/6 connection cables.

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5. FEATURES

/// HDMI 1.4 with 3D, 4K×2K support, HDCP and DVI compliant

/// Supports HDMI 1.4 (including HDCP) over a single CAT5e/6/7 up to 60m

/// Complies with HDBaseT™- Lite specifications

/// Full HD resolution support (1080p@60Hz/36-bit), 3D over 60m, 4Kx2K over 40m and PC resolution support (VGA to WUXGA) over CAT5e/6 cable

/// HDMI input up to 15m with 8-bit deep colour, or 10m with 12-bit deep colour

/// Supports HDMI output up to 15m with 8/12-bit deep colour

/// Supports one-way IR and RS-232 Control

/// Supports High Definition LPCM 7.1CH, Dolby TrueHD, Dolby Digital Plus and DTS-HD Master Audio transmission

/// Choose to power the PU-513L-RX via the USB output from a TV (Cable available separately - APC-USB): *Please note the performance and consistency of USB power outputs from TV's can vary and cannot be guaranteed by CYP.*

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6. OPERATION CONTROLS AND FUNCTIONS

6.1 Transmitter Front and Rear Panels
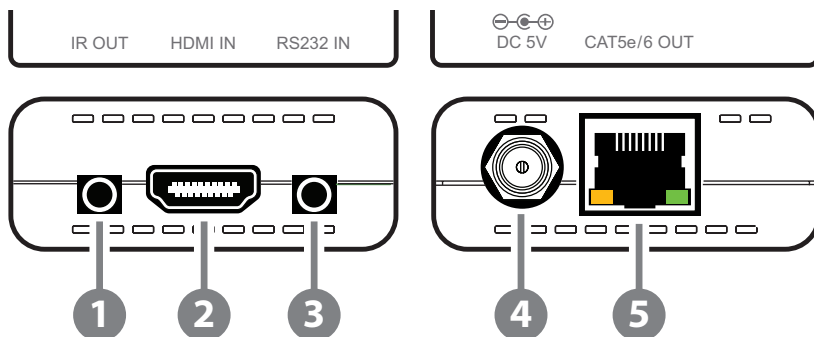
1 IR OUT

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

2 HDMI IN

Connect to the HDMI input source devices such as a DVD player or a Set-top Box with HDMI cable or DVI to HDMI cable.

3 RS 232 IN

Connect the 3.5mm mini-jack to D-Sub 9-pin female adaptor cable (included in the package) to a PC or control system with D-Sub 9-pin cable for the transmission of RS-232 commands.

4 DC 5V

Plug the 5V DC power supply into the unit and connect the adaptor to an AC outlet.

5 CAT5e/6/7 OUT

Connect to the receiver unit with a single CAT5e/6 /7cable for transmission of all data signals. The yellow LED will illuminate when both the transmitter and receiver are connected and are powered. The green LED will illuminate when the device is connected to the power supply.

6.2 Receiver Front and Rear Panels
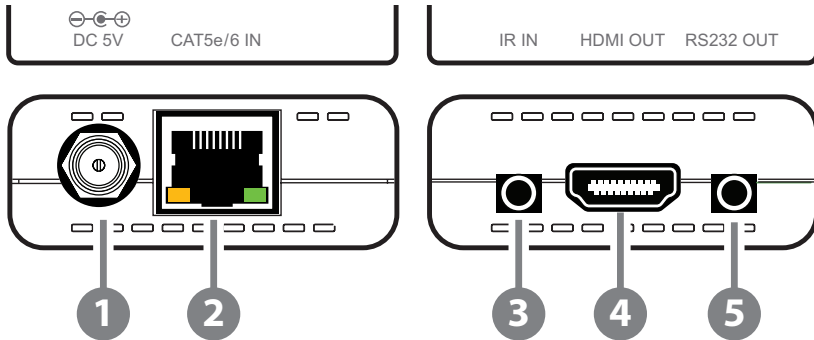
1 DC 5V

Plug the 5V DC power supply into the unit and connect the adaptor to an AC outlet.

2 CAT5e/6/7 IN

Connect to the transmitter unit with a single CAT5e/6/7 cable for HDMI Audio/Video and IR/RS-232 control signal transmission. The yellow LED will illuminate when both the transmitter and receiver are connected and are powered. The green LED will illuminate when the device is connected to the power supply.

3 IR IN

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

4 HDMI OUT

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

5 RS 232 OUT

Connect the 3.5mm mini-jack to D-Sub 9-pin female adaptor cable included in the package to a PC or control system with D-Sub 9-pin cable for the transmission of RS-232 commands.
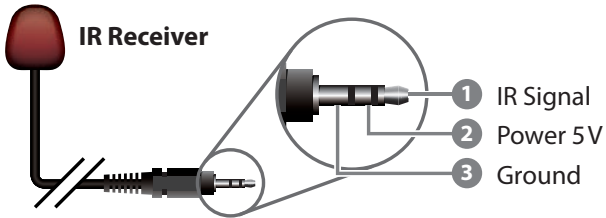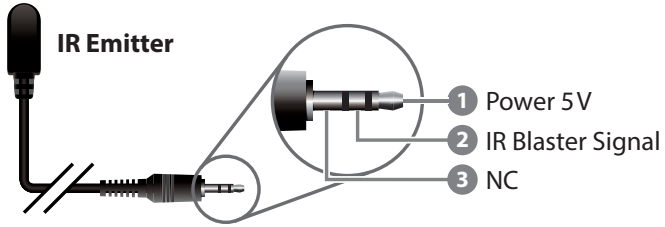
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6.3 IR Pin Assignment

IR Emitter

1. Power 5V
2. IR Blaster Signal
3. NC

IR Receiver

1. IR Signal
2. Power 5V
3. Ground

6.4 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
9	NC

7. SPECIFICATIONS

Video Bandwidth	300 MHz/9 Gbps
Transmitter	
Input	1× HDMI, 1× RS-232
Output	1× RJ45, 1× IR Emitter
Receiver	
Input	1× RJ45, 1× IR Receiver
Output	1× HDMI, 1× RS-232
ESD Protection	Human Body Model: ±8kV (air-gap discharge) ±4kV (contact discharge)
Power Supply	2× 5V/2.6A DC for Transmitter and Receiver (US/EU standards, CE/FCC/UL certified)
Dimensions	55mm (W) × 82mm(D) × 22.5mm(H)/each
Weight	56g (TX), 64g (RX)
Chassis Material	Plastic
Silkscreen Colour	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	3W (TX), 5.5W (RX)

8. CONNECTION AND INSTALLATION
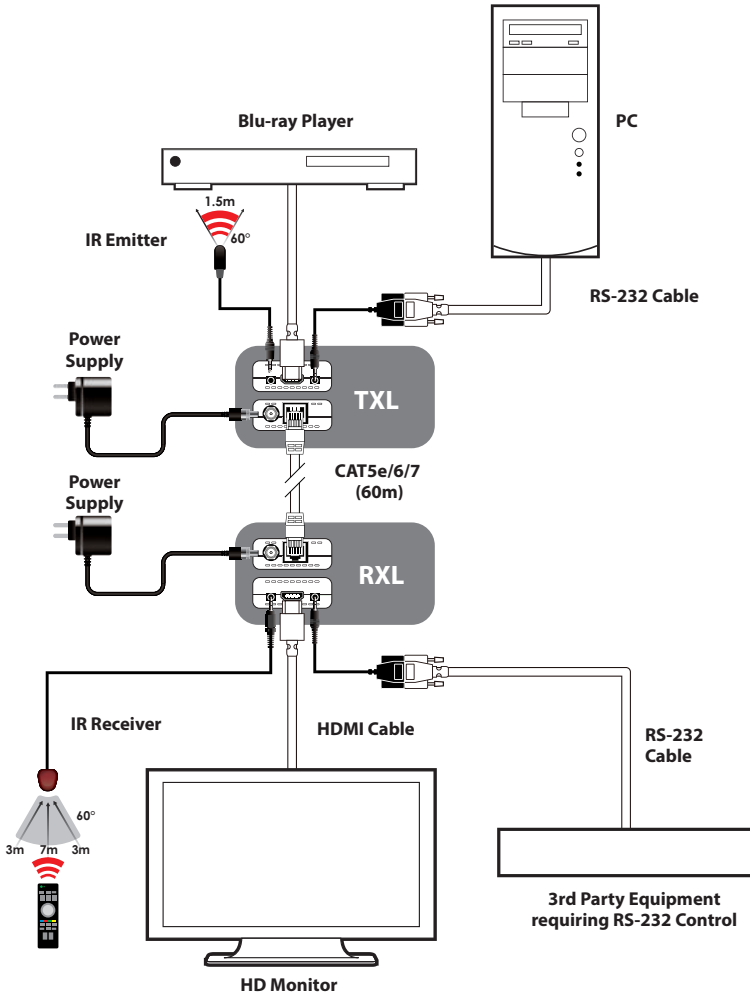
NOTE: The TX unit must have the female D-sub connector fitted, and the RX the male D-sub connector. There are no baud rate settings required as this is a pass through only

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