CYP

CH-506TX & RX
CH-506TXL & RXL
HDMI/IR/RS-232 over Single CAT5e/CAT6 Extender

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
VR0	12/12/11	Preliminary Release
VS1	26/04/12	Updated format, diagrams and statements
VS2	26/07/12	IR cable updated
VR3	28/09/12	Add Light Version

CONTENTS

1. INTRODUCTION

The HDMI with RS-232 over Single CAT5e/CAT6 transmitter and receiver set can send uncompressed audio/video over a single run of CAT5e/6 cable up to 100 m* and has the added benefit of control through the built-in RS-232 and IR ports.

*Light version can run up to 60m

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

- 1×HDMI & IR over Single CAT5e/CAT6 Transmitter
- 1×HDMI & IR over Single CAT5e/CAT6 Receiver
- 2×IR Blaster
- 2×IR Extender
- 2×3.5 mm Phone Jack to RS-232 Cable
- 2×5 V/2.6 A DC Power Adaptor
- Operation Manual

4. SYSTEM REQUIREMENTS

Input HDMI source equipment such as DVD/Blu-ray players and HDMI equipped output display (TVs or monitors).

5. FEATURES

- HDMI including 3D, 4k×2k supports, HDCP and DVI compliant
- Supports HDCP repeater and CEC function
- Simultaneous transmission of uncompressed data over a single CAT6/CAT5e cable up to 100 m/328 ft*
- Uncompressed video 1080p, 60 Hz, 36-bit
- Audio support up to LPCM 7.1CH, Dolby TrueHD and DTS-HD Master Audio
- 3Play convergence: HDMI & Control (IR & RS-232)
- Installation friendly

Note: This system was tested with CAT6/23AWG cable. Results may vary with cables of different specifications.

**Light version CAT6/CAT5e cable up to 60m/196.8ft*

6. OPERATION CONTROLS AND FUNCTIONS

6.1 Transmitter Front and Rear Panels

Front   **Rear**
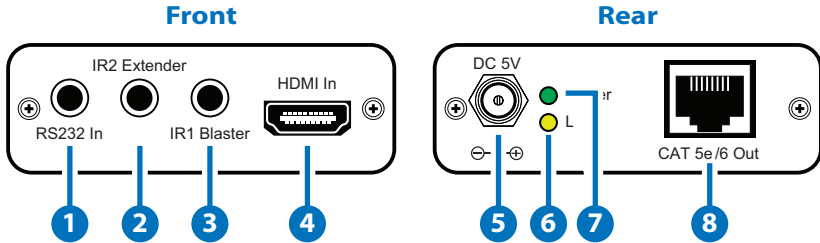
1 **RS-232 In:** Connect to a PC/laptop or RS-232 enabled device(with supplied 3.5mm phone jack to D-Sub 9 pin adaptor) for the transmission of RS-232 commands.

2 **IR2 Extender:** Connect to the supplied IR extender cable for IR signal reception. Ensure that remote controller being used is within the direct line-of-sight of the IR extender.

3 **IR1 Blaster:** 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.

4 **HDMI In:** Connect to HDMI source equipment such as a DVD or Blu-ray player.

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

6 **Link:** The yellow LED will illuminate when both the input and output CAT5e/6 signals are connected.

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

8 **CAT5e/6 Out:** Connect to the receiver unit with a single CAT5e/6 cable for transmission of all data signals.
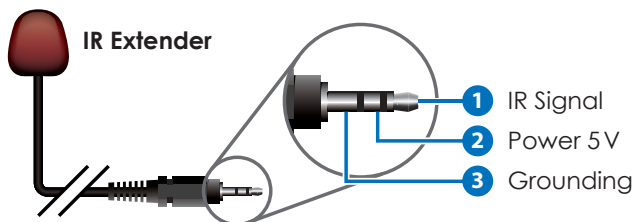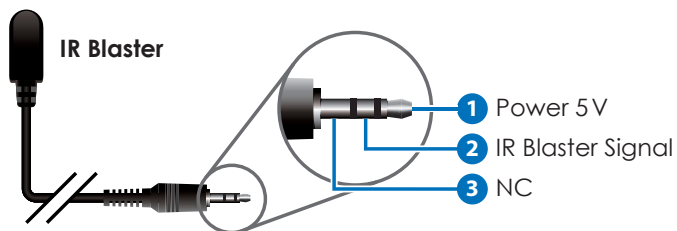
6.2 Receiver Front and Rear Panels
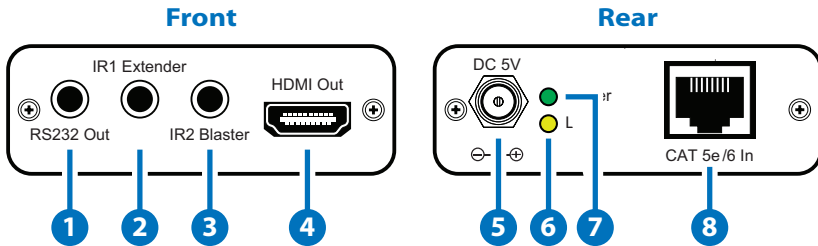
1 RS-232 Out: Connect to the device that is to be controlled (with the supplied 3.5mm phone jack to D-Sub 9-pin adaptor) by RS-232 commands.

2 IR1 Extender: 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.

3 IR2 Blaster: 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.

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

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

6 Link: The yellow LED will illuminate when both the input and output CAT5e/6 signals are connected.

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

8 CAT5e/6 In: Connect to the transmitter unit with a Single CAT5e/6 cable for transmission of all data signals.

6.3 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

6.4 IR Cable Pin Assignment

IR Blaster

1 Power 5V
2 IR Blaster Signal
3 NC

IR Extender

1 IR Signal
2 Power 5V
3 Grounding

7. CONNECTION DIAGRAM

DVD or Blu-ray Player

HDMI

RS-232 Adaptor

RS-232 Equipped PC or Notebook

1.5m
60°

IR Blaster

3m   3m
60°
7m

IR Extender

Power Supply

TX

Single CAT5e/6 Cable

Power Supply

RX

IR Blaster
60°
1.5m

RS-232 Adaptor

RS-232 Equipped Device

IR Extender
60°
3m   3m
7m

HDMI

Display
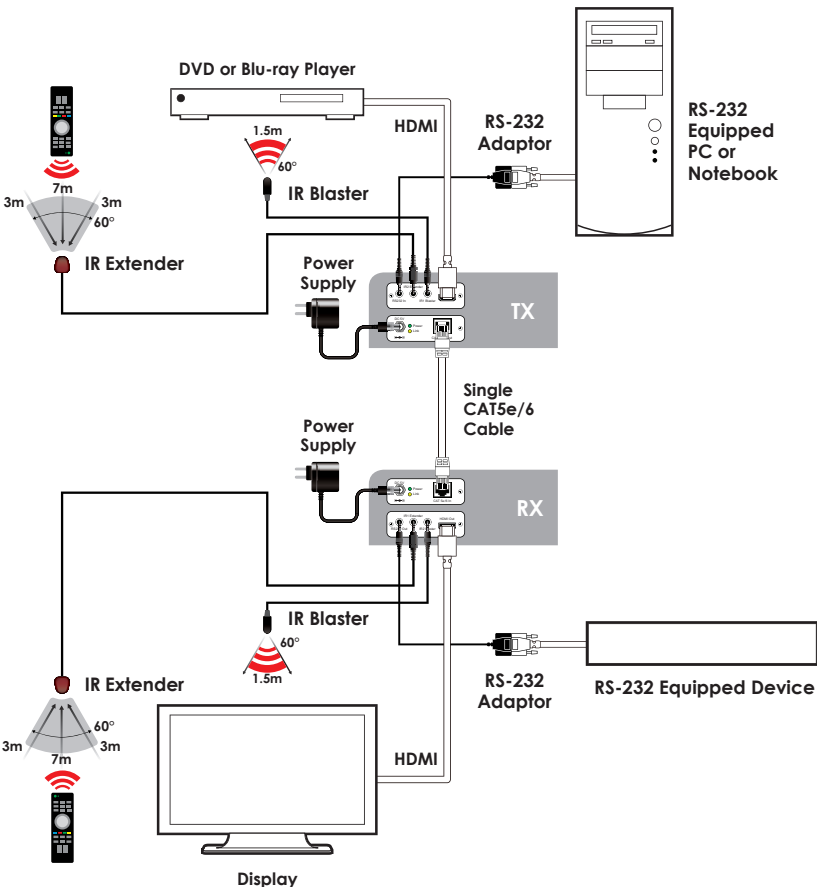
8. SPECIFICATIONS

Video Bandwidth	225MHz/6.75Gbps
Transmitter	
Input	1×HDMI, 1×IR Extender, 1×RS-232
Output	1×CAT5e/6, 1×IR Blaster
Receiver	
Input	1×CAT5e/6, 1×IR Extender
Output	1×HDMI, 1×RS-232, 1×IR Blaster
HDMI I/O Cable Distance	10m/8bits
	6m/12bits/input, 15m/12bits/output
ESD Protection	Human-body Model:
	±8 kV (air-gap discharge)
	±4 kV (contact discharge)w
IR Frequency	30~50 kHz
Dimensions	71 mm (W)×79 mm (D)×23 mm (H)
Weight	240 g (TX), 245 g (RX)
Chassis Material	Aluminum
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 (non-condensing)
Power Consumption	3 W (TX), 6 W (RX)

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