HDMI Extender over Cat5e/Cat6 (HD BaseT)
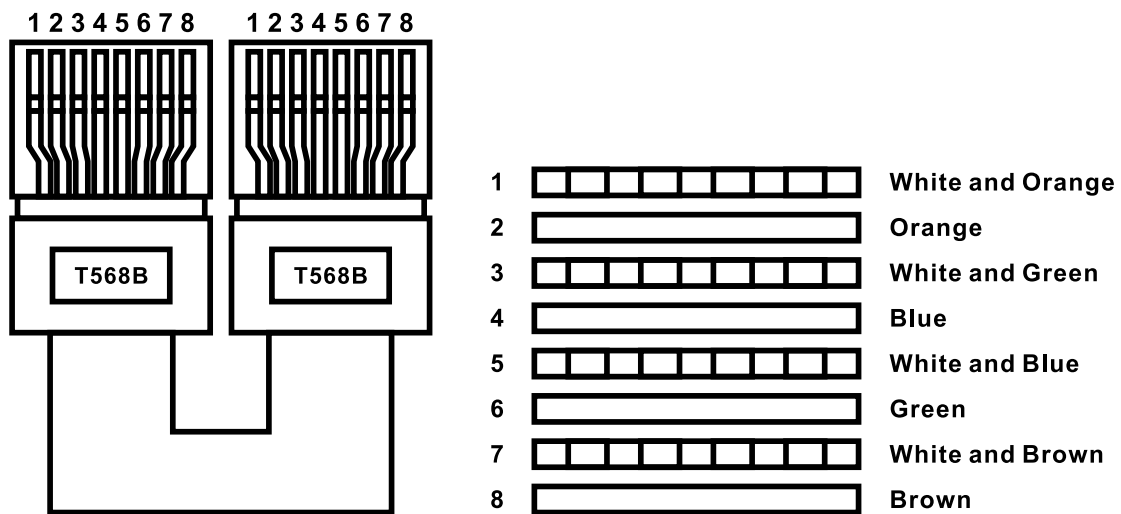
User manual

VER:1.3

Thank you for purchasing this product. For optimum performance and safety, please read the instruction carefully before connecting, operating or adjusting this product. Please keep the manual for future reference.
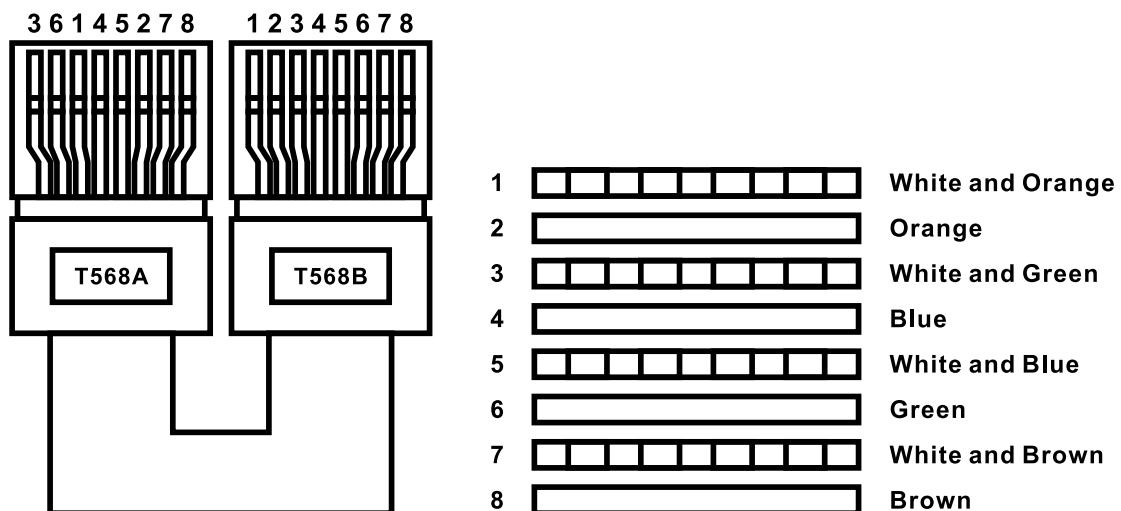
Caution:

The extender using UTP cable termination follows the standard of IEEE-568B.

1		White and Orange
2		Orange
3		White and Green
4		Blue
5		White and Blue
6		Green
7		White and Brown
8		Brown

Direct interconnection method

Advanced:

The extender will in Automatic protection mode when using UTP cable termination follows the standard of IEEE-568A.

1		White and Orange
2		Orange
3		White and Green
4		Blue
5		White and Blue
6		Green
7		White and Brown
8		Brown

Cross interconnection method

I. Introduction

The cat5e/cat6 HDMI Extender is a tool which can extend your HDMI signal over 328fts/100meters to a compatible display. It is designed to convert HDMI signal to standard HD BaseT signal which can be transmitted by Internet cable. It also supports Transfer Bidirectional Infrared control signal \RS232 control signal\Internet signal together with the HDMI signal, so you can control the Source in the Sink side which is 328fts outside, also you can control the Sink in the Source side which is 328fts outside using the HDMI Extender.

II. Introduction

1. POE(Power Over Ethernet)function support, either TX or RX powered 24V@1A,another don't need power form the DC jack. POE Power Consumption less than 10W.
   ※ See the description 1
2. Use single UTP LAN cable (CAT-5E/6) to substitute HDMI cable to achieve long distances transmission.
3. UTP cable termination follows the standard of IEEE-568B.
4. Transmission distance: ※Over CAT6 cable
   100 meters: 1080P @60Hz36bit; 3D1080P@30Hz36bit;
   70 meters: 1080P @60Hz@48bit; 1080P @120Hz@24bit; 3D1080P@60Hz@36bit; 4K x 2K@30Hz@24bit.
5. Support display resolutions up to 4K x 2K@30Hz
6. Full HD support: 1080p@60Hz@48 bit/pixels, 1080p@120Hz@24 bit/pixels, 3D 1080P60Hz and 4K x 2K@30Hz@24bit
7. Transfer Bidirectional Infrared control signal together with the HDMI signal. **※ See the description 2.**
8. Transfer Bidirectional RS232 control signal together with the HDMI signal. **※ See the description 3.**
9. Transfer Bidirectional Ethernet signal together with the HDMI signal. **※ See the description 4.**

III. Package

1. HDMI Extender Transmitter ---------------------- 1PCS
2. HDMI Extender Receiver -------------------------- 1PCS
3. Wideband IR Tx ---------------------------------- 2PCS
4. Wideband IR Rx ---------------------------------- 2PCS
5. 24V1A DC Power Supply -------------------------- 1PCS
6. Operation Manual -------------------------------- 1PCS
7. Phoenix Contact --------------------------------- 2PCS
8. Mounting ears ----------------------------------- 4PCS

IV. Specifications

1.	Frequency Bandwidth	297MHZ [10.2Gbps]
2.	Transmitter Input/Output Ports	1x HDMI Female port/2xCAT6 1x IR Tx/1x IR Rx/1xPhoenix
3.	Receiver Input/Output Ports	1xHDMI Female port/2xCAT6 1x IR Tx/1x IR Rx/1xPhoenix
4.	Power Supply	DC 24V 1A
5.	ESD Protection Human Body Model:	± 8kV (air-gap discharge) ± 4kV (contact discharge)
6.	Dimensions (mm)	100(W) X 100 (D) X 25 (H)
7.	Weight	320g x 2
8.	Operating Temperature	0°C ~ 40°C / 32°F ~ 104°F
9.	Storage Temperature	-20°C ~ 60°C / -4°F ~ 140°F
10.	Relative Humidity	20~90% RH (Non-condensing)
11.	Power Consumption (Max)	10W

V. Operation controls and Functions

Transmitter
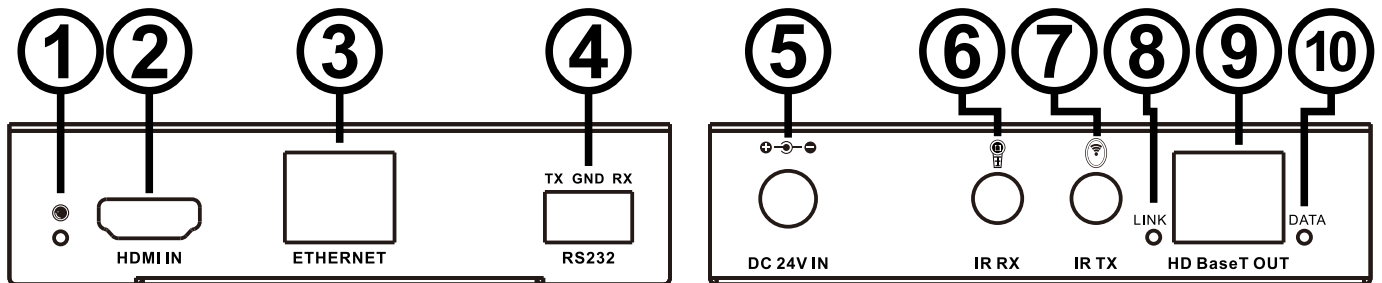
1. INPUT LED: The input status indicating lamp. This red LED illuminates when the HDMI signal plugs in.

2. HDMI IN: HDMI input port. This slot is where you connect the HDMI source.

3. ETHERNET: This slot provide Internet signal from receiver or to receiver.

4. RS232: Phoenix jack provide Serial port control signal from receiver or to receiver.

5. DC IN: Plug the 24V DC power supply into the unit.

6. IR RX: Chanel 1 IR Receiver. Connect with Wideband IR Rx.

7. IR TX: Chanel 2 IR Transmitter. Connect with Wideband IR Tx.

8. LINK LED: The connection status indicating lamp.

※ Illuminate: The Transmitter and Receiver are in good connections

※ Flashing: The Transmitter and Receiver are in poor connections

※Dark: The Transmitter and Receiver are in no connections

9. HD BaseT OUT: Standard HD BaseT signal output port. Connect HD BaseT receiver with a UTP cable following the standard of IEEE-568B.

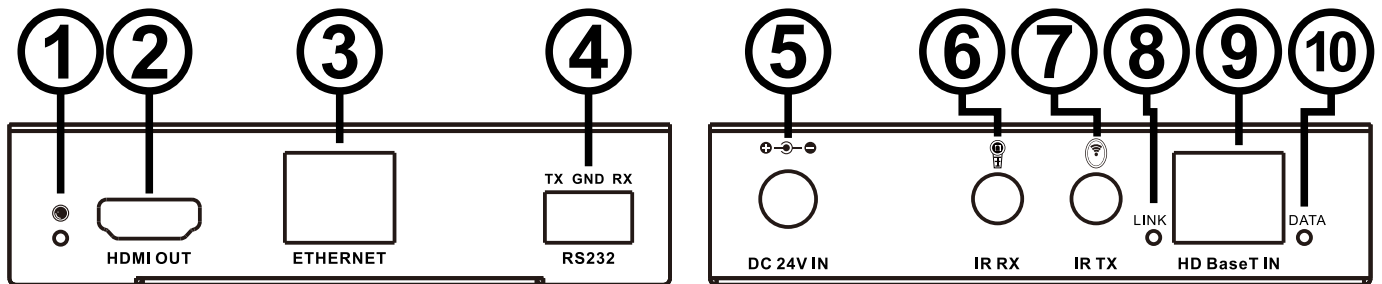**10. DATA LED:** The data status indicating lamp.

※Illuminate: The HDMI signal with HDCP.

※Flashing: The HDMI signal without HDCP.

※Dark: No HDMI signal.

Receiver

1. OUTPUT LED: The output status indicating lamp. This red LED illuminates when the TV plugs in with HDMI cable.

2. HDMI OUT: HDMI output port. This slot is where you connect the HDTV or monitor with HDMI cable.

3. ETHERNET: This slot provides Internet signal from transmitter or to transmitter.

4. RS232: Phoenix jack provides Serial port control signal from transmitter or to transmitter.

5. DC IN: Plug the 24V DC power supply into the unit.

6. IR RX: Chanel 2 IR Receiver. Connect with Wideband IR Rx.

7. IR TX: Chanel 1 IR Transmitter. Connect with Wideband IR Tx.

8. LINK LED: The connection status indicating lamp.

※ Illuminate: The Transmitter and Receiver are in good connections

※ Flashing: The Transmitter and Receiver are in poor connections

※Dark: The Transmitter and Receiver are in no connections

9. HD BaseT IN: Standard HD BaseT signal input port. Connect HD BaseT transmitter with a UTP cable following the standard of IEEE-568B.

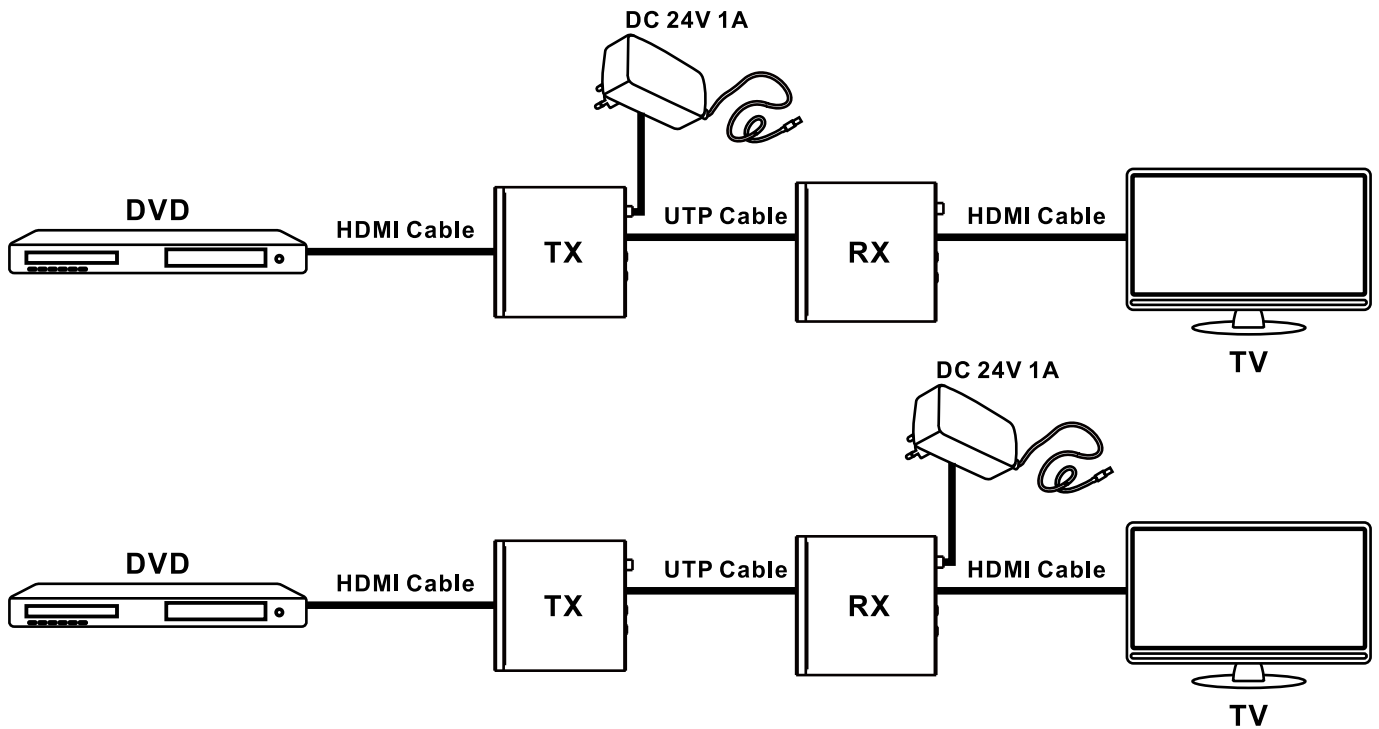**10.　DATA LED:** The data status indicating lamp.

※Illuminate: The HDMI signal with HDCP.

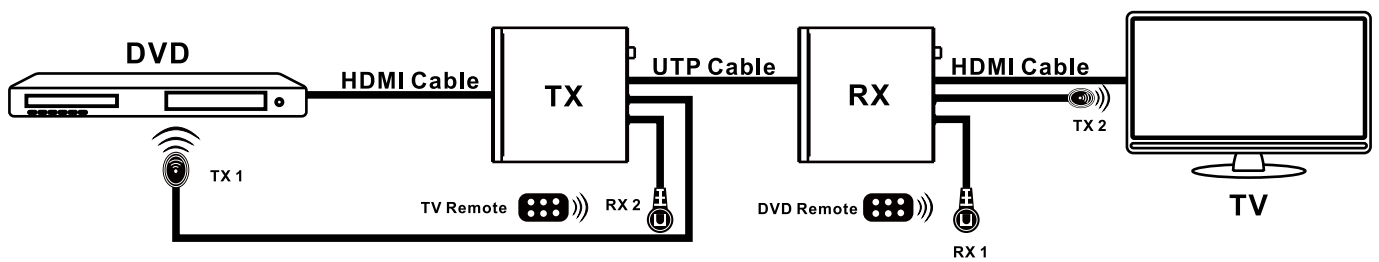※Flashing: The HDMI signal without HDCP.

※Dark: No HDMI signal.

※ Dscription 1

POE(Power Over Ethernet) Application Example

DC 24V 1A

DVD ──HDMI Cable── **TX** ──UTP Cable── **RX** ──HDMI Cable── **TV**

DC 24V 1A

DVD ──HDMI Cable── **TX** ──UTP Cable── **RX** ──HDMI Cable── **TV**

※ Dscription 2

Bidirectional Infrared control Application Example

DVD ──HDMI Cable── **TX** ──UTP Cable── **RX** ──HDMI Cable── **TV**
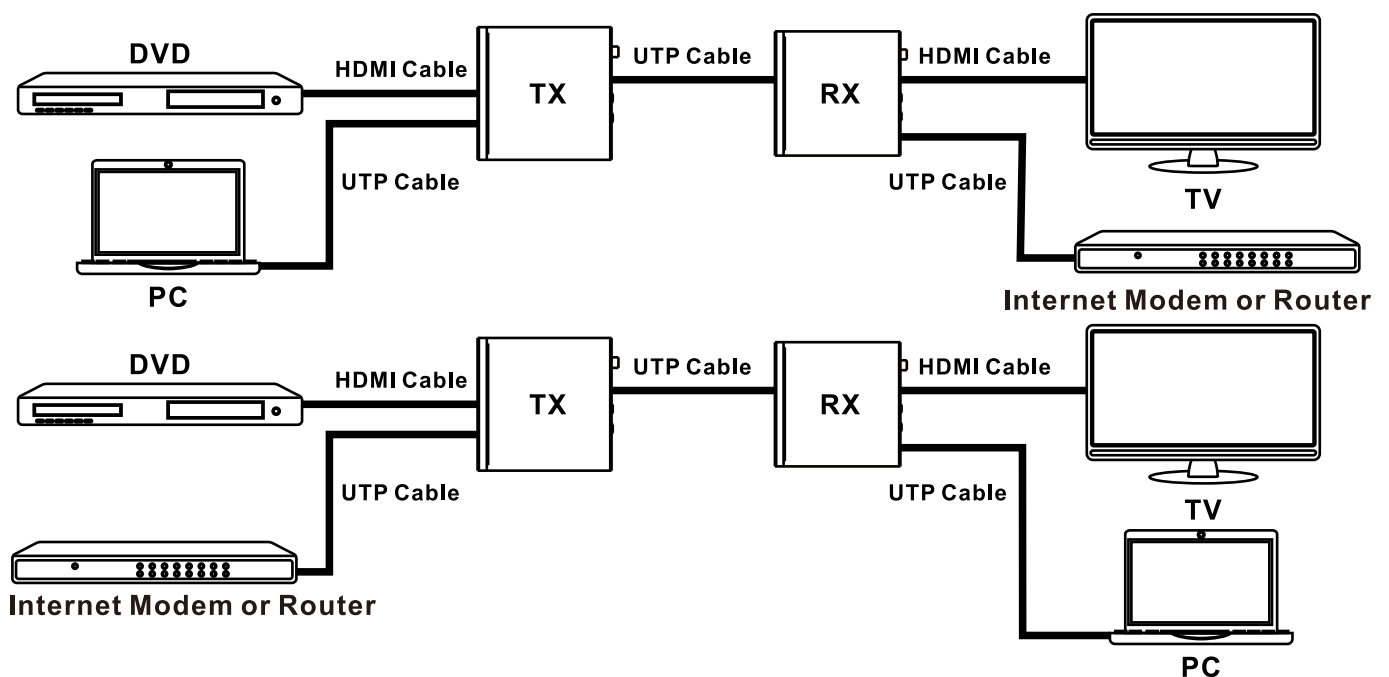
TX 1

TV Remote　RX 2　　DVD Remote　RX 1　TX 2

※ Dscription 3

Bidirectional RS232 control Application Example
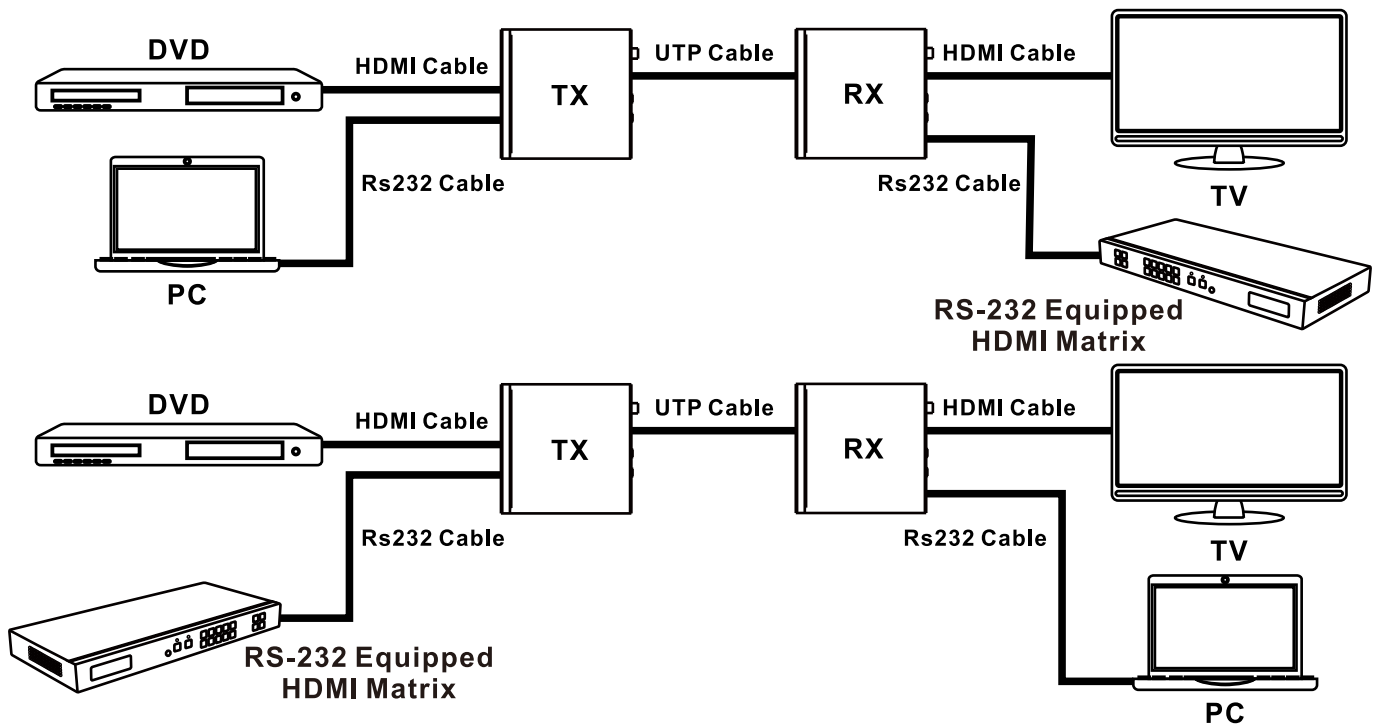
※ Dscription 4

Bidirectional Ethernet signal Application Example

VI. Application Example

Internet Modem or Router

RS-232 Equipped PC or Notebook

DVD or Blu-ray Player

HDMI

CAT5e/6

RS-232

1.5m

60°

7m
3m
3m
60°

IR TX

IR RX

Power Supply

HDMI IN   ETHERNET   RS232

DC 24V IN   IR RX   IR TX   HDBaseT OUT

LINK   DATA

Transmitter

CAT5e/6

Receiver

Power Supply

DC 24V IN   IR RX   IR TX   HDBaseT IN

LINK   DATA

RS-232 Equipped HDMI Matrix

IR TX

IR RX

60°
3m
7m
3m
60°
1.5m

HDMI OUT   ETHERNET   TX GND RX

RS-232

HDMI

CAT5e/6

TV

PC