

KanexPro®

HDBASE70POE

4K HDBaseT Lite 70M – HDMI Extender w/Power over Ethernet



All Rights Reserved

Version: HDBASE70POE_2014V1.3

Preface

Read this user manual carefully before using this product. Pictures displayed in this manual are for reference only. Different models and specifications are subject to the actual product.

This manual is only for operational instruction, not for any maintenance usage. The functions described in this version are updated till Dec 2017. Any changes of functions and parameters since then will be informed separately. Please refer to the dealers for the latest details.

Trademarks

Product model and logo are trademarks. Any other trademarks mentioned in this manual are acknowledged as the properties of the trademark owner. No part of this publication may be copied or reproduced without the prior written consent.

FCC Statement

This equipment can generate, use, and radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. It has been tested and found to comply with the limits of a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation.

Operation of this equipment in a residential area is likely to cause interference, in which case the user at their own expense will be required to take whatever measures may be necessary to correct the interference

Any changes or modifications not expressly approved by the manufacture would void the user's authority to operate the equipment.



SAFETY PRECAUTIONS

To ensure the best from the product, please read all instructions carefully before using the device. Save this manual for further reference.

- Unpack the equipment carefully and save the original box and packing material for potential future shipment.
- Follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- Do not dismantle the housing or modify the module. It may result in electrical shock or burn.
- Using supplies or parts not meeting the products' specifications may cause damage, deterioration or malfunction.
- Refer all servicing to qualified service personnel.
- To prevent fire or shock hazard, do not expose the unit to rain or moisture. Do not install this product near water.
- Do not place any heavy items on the extension cable in case of extrusion.
- Do not remove the housing of the device as opening or removing housing may expose you to dangerous voltage or other hazards.
- Install the device in a place with fine ventilation to avoid damage caused by overheating.
- Keep the module away from liquids.
- Spillage into the housing may result in fire, electrical shock, or equipment damage. If an object or liquid falls or spills on to the housing, unplug the module immediately.
- Do not twist/pull by force the ends of the optical cable. It can cause malfunction.
- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power cord to the device before cleaning.
- Unplug the power cord when left unused for an extended period.
- Information on disposal for scrapped devices: Do not burn or mix with general household waste; please treat the devices as normal electrical waste.

Table of Contents

1. Introduction	1
1.1 Introduction to HDBASE70POE.....	1
1.2 Features	1
1.3 Package Contents	2
2. Introduction of Product Appearance.....	3
2.1 Appearance of HDMI Twisted Pair PoC Transmitter	3
2.2 Appearance of HDMI Twisted Pair PoC Receiver	4
3. System Connection.....	5
3.1 Usage Precautions	5
3.2 System Diagram	5
3.3 Connection Procedure	5
3.4 Application	6
3.5 Twisted Pair Cable Connection.....	6
3.6 Collocation Products.....	6
4. Specification	8
5. Panel Drawing	9
6. Troubleshooting & Maintenance	10
7. After-sales Service	11
8. Warranty.....	12

1. Introduction

1.1 Introduction to HDMI Twisted Pair PoC Extender

The KanexPro HDBASE70POE is a 4K compliant Transmitter-Receiver set made to extend UltraHD 4K, digital audio, wide-band IR and power over Ethernet (PoE) over a cost effective cat6a cable. It also supports computer resolutions up to 1920x1200, HD1080P/60 with Deep Color. This HDCP compliant extender routes distances up to 200 feet using HDBaseT™ Lite technology.

As an added benefit to the systems integrator - the extender provides remote power from either side Tx or Rx over the twisted pair connection, eliminating the need for a separate power supply at the remote unit. Ideal for use in digital signage applications, healthcare AV, control rooms, educational facilities, airports, commanding centers and home theater.

1.2 Features

- Two-way remote power: Tx to Rx or Rx to Tx using PoE (Power over Ethernet)
- Route uncompressed HDMI signals over Single CAT6a
- Extend up to 200 feet
- Supports 4K UHD resolutions
- Supports HDMI 1.4, 3D, and full HD 1080p/60
- HDCP & EDID compliant
- CEC Pass-through
- Bi-directional IR & RS-232 for control
- Supports all frequencies IR pass through, 5V & 12V, Crestron and Xantech IR control signal compatible
- Front panel LED's for signal & power
- Supports high bandwidth up to 10.2 Gbps
- Compatible with HDMMX modular matrix switchers
- One locking power supply included
- Aluminum case enclosure with separate mounting ears
- Backed by KanexPro 3-Year Parts and Labor Warranty

Note: Please use a CAT5e cable with low impedance (Shielded twisted pair will be

better and should be well grounded) for good transmission effect.

1.3 Package Contents

- 1 x HDMI Twisted Pair PoC Transmitter
- 1 x HDMI Twisted Pair PoC Receiver
- 4 x Mounting brackets (Separated from HDMI Twisted Pair PoC Extender)
- 8 x Plastic cushions
- 2 x RS232 cables
- 8 x Screws
- 2 x Power adapters (DC 24V)
- 1 x User manual

Notes: Please confirm if the product and the accessories are all included, if not, please contact with the dealers.

2. Introduction of Product Appearance

2.1 Appearance of HDMI Twisted Pair PoC Transmitter

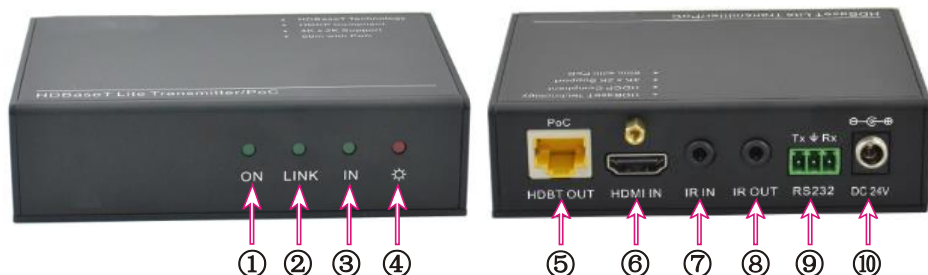


Figure 2-1 Appearances of HDMI Twisted Pair PoC Transmitter

- 1) ON: Working status indicator of this device. When the device works fine, this green LED will keep blinking. And it will get off when the device stops work.
- 2) LINK: Twisted Pair Link status indicator, green LED. It will keep on when connection is successful.
- 3) IN: When connected with devices support HDCP and work normally this LED will keep on. If devices not support HDCP, this green LED will blink.
- 4) POWER LED: LED indicator of power. When connect with power, red LED will keep on.
- 5) HDBT OUT: Connect to the HDBT IN port of HDMI Twisted Pair PoC Receiver with a CAT5e cable.
- 6) HDMI IN: Connect to HDMI source.
- 7) IR IN: Connect with IR receiver, the IR signal received from this port can only send out in HDMI Twisted Pair PoC Receiver.
- 8) IR OUT: Connect with IR sender, the sending IR signal are received from HDMI Twisted Pair PoC Receiver.
- 9) RS232: RS232 connector.
- 10) DC 24V: Connect with power supply (Not necessary if HDMI Twisted Pair PoC Receiver connects with power).

Note: Pictures shown on this manual are for reference only, different model and specifications are subject to real product.

2.2 Appearance of HDMI Twisted Pair PoC Receiver

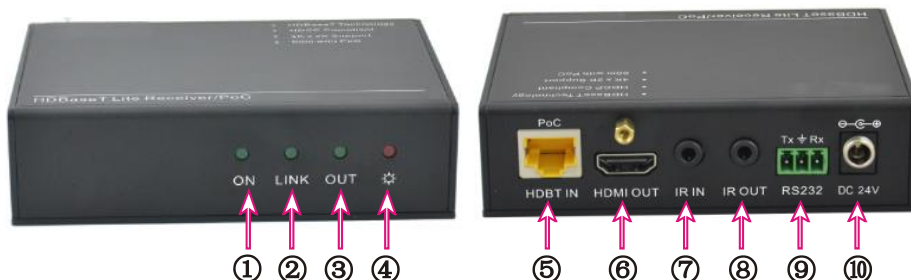


Figure 2-2 Appearances of HDMI Twisted Pair PoC Receiver

- 1) ON: Working status indicator of this device. When the device works fine, this green LED will keep blinking. And it will get off when the device stops work.
- 2) LINK: Twisted Pair Link status indicator, green LED. It will keep on when connection is successful.
- 3) OUT: When connected with devices support HDCP and work normally this LED will keep on. If devices not support HDCP, this green LED will blink.
- 4) POWER LED: When connect with power, red LED will keep on.
- 5) HDBT IN: Connect to the HDBT OUT port of HDMI Twisted Pair PoC Transmitter with a CAT5e cable.
- 6) HDMI IN: Connect to HDMI display device.
- 7) IR IN: Connect with IR receiver, the IR signal received from this port can only send out in HDMI Twisted Pair PoC Transmitter.
- 8) IR OUT: Connect with IR emitter, the sending IR signal are received from HDMI Twisted Pair PoC Transmitter.
- 9) RS232: RS232 connector.
- 10) DC 24V: Connect with power supply (Not necessary if HDMI Twisted Pair PoC Transmitter connects with power).

Note: Pictures shown on this manual are for reference only, different model and specifications are subject to real product.

3. System Connection

3.1 Usage Precautions

- 1) System should be installed in a clean environment and has a prop temperature and humidity.
- 2) All the power switches, plugs, sockets and power cords should be insulated and safety.
- 3) All devices should be connected before power on.

3.2 System Diagram

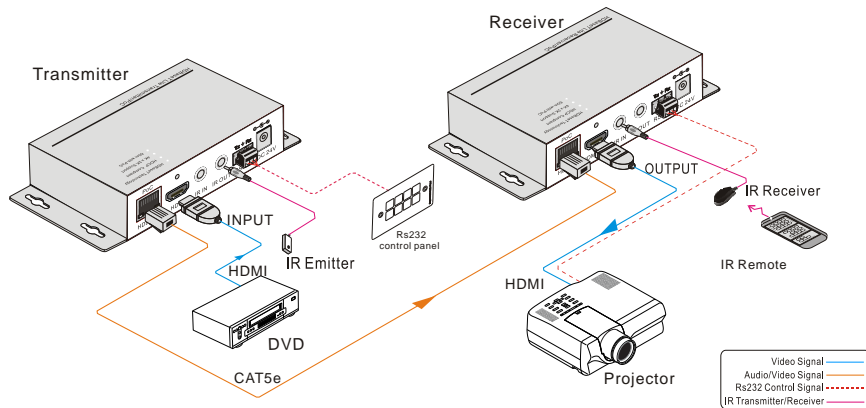


Figure 3-1 System Connection Diagram

3.3 Connection Procedure

- Step1.** Connect HDMI source (such as Blue-ray DVD) to HDMI IN port of transmitter HDMI Twisted Pair PoC Transmitter with HDMI cable.
- Step2.** Connect HDBT OUT port of HDMI Twisted Pair PoC Transmitter and HDBT IN port of HDMI Twisted Pair PoC Receiver, with single CAT5e/CAT6 cable.
- Step3.** Connect HDMI display (such as HDTV) to HDMI OUT port of HDMI Twisted Pair PoC Receiver with HDMI cable.
- Step4.** Both HDMI Twisted Pair PoC Transmitter and HDMI Twisted Pair PoC Receiver have IR IN and OUT. When one end is used as an IR receiver, the signal sent from the end can only be transmitted via the other end.
For example: When “IR IN” of HDMI Twisted Pair PoC Transmitter connects with an IR receiver, the IR transmitter must connect to IR OUT of HDMI Twisted Pair PoC Receiver.
- Step5.** Connect the RS232 port of the devices to be controlled and the receiver or the transmitter.
- Step6.** Connect with DC24V power adaptor(s) (One is enough if any end of HDMI Twisted Pair PoC Transmitter and HDMI Twisted Pair PoC Receiver is

connected with adapter as its PoC function).

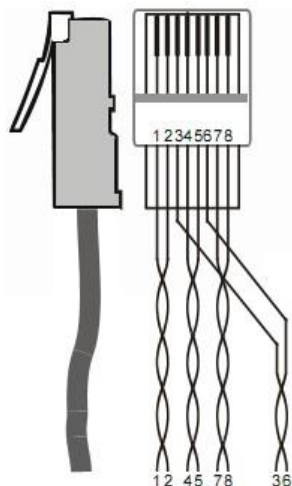
3.4 Application

HDMI Twisted Pair PoC Extender has a good application in various occasions, such as computer realm, monitoring, big screen displaying, meeting room, education and bank & securities institution etc.

3.5 Twisted Pair Cable Connection

The twisted pair used in this extender **MUST** be a straight-through cable.

TIA/EIA T568A		TIA/EIA T568B	
Pin	Cable color	Pin	Cable color
1	green white	1	orange white
2	green	2	orange
3	orange white	3	green white
4	blue	4	blue
5	blue white	5	blue white
6	orange	6	green
7	brown white	7	brown white
8	brown	8	brown
1st Ground	4--5	1st Ground	4--5
2nd Ground	3--6	2nd Ground	1--2
3rd Group	1--2	3rd Group	3--6
4th Group	7--8	4th Group	7--8



Notice: Cable connectors **MUST** be metal one, the shielded layer of cable **MUST** be connected to the connector's metal shell, to make a better

transmission.

3.6 Collocation Products

HDMI Twisted Pair PoC Extender usually work together with other devices to extend the transmission distance of HDMI/IR/RS232 signal. Here are the most common collocation products.

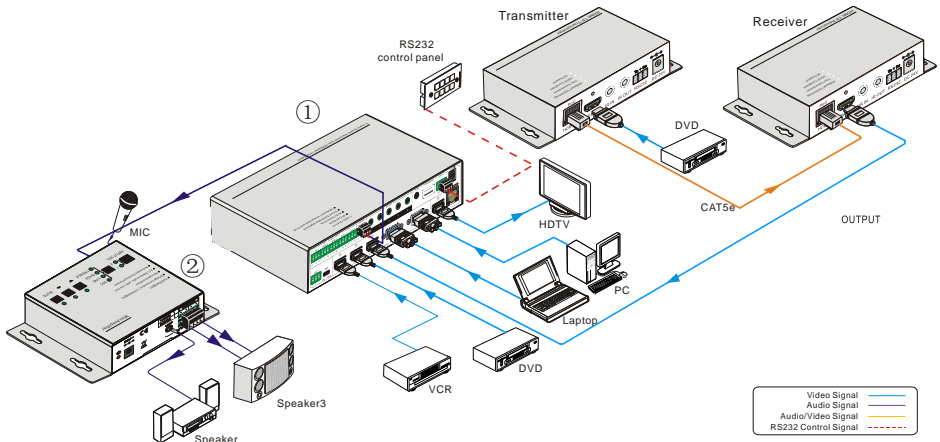


Figure 3-2 Collocation Products Connection Diagram

Description:

1) Mini scaler switcher

- 6 video Inputs: 2 x HDMI, 1 x VGA, 1 x YPbPr, 1 x C-video & 1 x S-video, and upscale to HDMI output at 1080P.
- Support VGA resolutions: 640x480, 800x600, 1024x768, 1280x1024, 1280x768, 1360x768@60Hz, 1920x1080.
- Built-in PAL/NTSC and audio format automatic identification technologies, with good video and audio processing technology for high performance.
- 3 audio outputs: HDMI embedded audio, 3.5mm stereo audio and Coaxial (SPDIF).
- Output display H/V size, position, image color adjustable and output image freezable.
- Built-in breakpoint memory and power-off protection function.

2) Mini digital amplifier

- 2x20Watt@4Ω as the default amplifier output.
- Bridge connection function. User can switch the amplifier to be 1x40Watt@8Ω by bridge connection.
- 48V phantom power to support condenser microphone.
- MIC port can support balance/unbalance signal, suppress the external noise effectively.

4. Specification

Model	HDMI Twisted Pair PoC Transmitter	HDMI Twisted Pair PoC Receiver
Spec		
Input		
Input Signal	1 HDMI,1 IR & 1 RS232	1 IR, 1 RJ-45 & 1 RS232
Input Connector	HDMI female, 3.5mm mini jack, 3-pin captive screw connector	3.5mm mini jack, RJ-45, 3-pin captive screw connector
Video Signal	HDMI1.4	HDMI1.4
Audio	Digital audio, transmit through HDMI audio	Digital audio, transmit through HDMI audio
Output		
Output	1 RJ-45, 1 IR, 1 RS232	1 HDMI, 1 IR, 1RS232
Output Connector	RJ-45, 3.5mm mini jack, 3-pin captive screw connector	HDMI female, 3.5mm mini jack, 3-pin captive screw connector
Video signal	HDMI1.4	HDMI1.4
Transmission Mode	HD Base T	
General		
Resolution	800x600@60Hz, 1024x768@Hz, 1280x720@60Hz, 1280x1024@60Hz, 1366x768@60Hz, 1600x1200@60Hz, 1920x1080@60Hz, 1920x1200@60Hz, 3D, 4K×2K	
Transmission Distance	Max distance 70M	
SNR	>70dB@ 100MHz-100M	
Bandwidth	10.2Gbps	
THD	<0.005%@1KHz	
HDMI Standard	Support HDMI1.4, 3D and HDCP	
Impedance	75Ω	
Temperature	-10 ~ +40℃	
Humidity	10% ~ 90%	
Power Supply	Input: 100VAC~240VAC, 50/60Hz Output: DC 24V, 1.25A	
Power Consumption	9.6W	
Case Dimension	W110.16xH28x D77 mm	W113.03xH28x D77 mm
Net Weight	0.5Kg	0.5Kg

NOTE: All nominal levels are at ±10%.

5. Panel Drawing

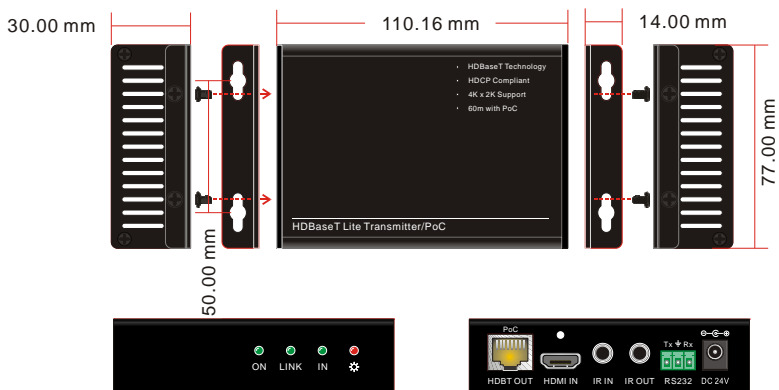


Figure 5-1 Panel drawing of HDMI Twisted Pair PoC Transmitter

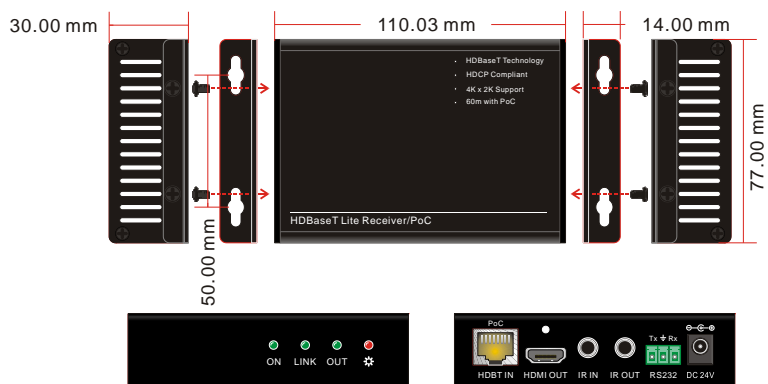


Figure 5-1 Panel drawing of HDMI Twisted Pair PoC Receiver

6. Troubleshooting & Maintenance

Problems	Causes	Solutions
Output images in display show with ghost	Incorrect setting on the display	Check the display's setting
	A cable of inferior quality	Try another high-quality connection cable
No output image when switching	No signal at the input / output end	Check with oscilloscope or multimeter if there is any signal at the input / output end.
	Fail or loose connection	Make sure the connection is good
	The extender is broken	Send it to authorized dealer for repairing.
Cannot control the device by control device (e.g. a PC) through RS232 port	Wrong RS232 communication parameters	Make sure the RS232 communication parameters are correct.
	The device has already been broken	Send it to authorized dealer for repairing.
Static becomes stronger when connecting the video connectors	Bad grounding	Check the grounding and make sure it is connected well.
Cannot control the device by RS232 / IR	The device has already been broken	Send it to authorized dealer for repairing.

If your problem persists after following the above troubleshooting steps, seek further help from authorized dealer or our technical support.

7. After-sales Service

If problems arise when operating the device, please refer to this user manual. Any transport costs are borne by the users during the warranty.

- 1) Product Limited Warranty:** We warrant that products will be free from defects in materials and workmanship for **three years**, which starts from the first day the product exits warehouse. (Make note of the serial number on the product)

Proof of purchase in the form of a bill of sale or receipted invoice **MUST** be presented to obtain warranty service.

2) What the warranty does not cover:

- Warranty expiration.
- Factory applied serial number has been altered or removed from the product.
- Damage, deterioration or malfunction caused by:
 - Normal wear and tear
 - Use of supplies or parts not meeting our specifications
 - No certificate or invoice as the proof of warranty.
 - The product model showed on the warranty card does not match with the model of the product for repairing or had been altered.
 - Damage caused by force majeure.
 - Servicing not authorized
 - Any other causes which does not relate to a product defect
- Delivery, installation or labor charges for installation or setup of the product

- 3) Technical Support:** Email or call our after-sales department if there are any problems or any unanswered questions. Please inform us the following information about your cases:

- Product version and name.
- Detailed failure situations.
- The formation of the cases.

Remarks: For any questions or problems, please try to get help from your local distributor or contact kanexpro.com or call us at 888-975-1368 for further support.

9. Warranty

A. LIMITED WARRANTY

KanexPro™ warrants that (a) its products (the “Product”) will perform greatly in agreement with the accompanying written materials for a period of 36 months (3 full years) from the date of receipt and (b) that the product will be free from defects in materials and workmanship under normal use and service for a period of 3 years.

B. CUSTOMER REMEDIES

KanexPro’s entire liability and Customer’s exclusive remedy shall be, at KanexPro option, either return of the price paid for the product, or repair or replacement of the Product that does not meet this Limited Warranty and which is returned to KanexPro with a copy of customers’ receipt. This Limited Warranty is void if failure of the Product has resulted from accident, abuse, or misapplication. Any replacement Product will be warranted for the remainder of the original warranty period of 3 years, whichever is longer.

C. NO OTHER WARRANTIES

To the maximum extent permitted by applicable law, KanexPro disclaims all other warranties, either express or implied, including, but not limited to implied warranties of merchantability and fitness for a purpose, regarding the product and any related written materials. This limited warranty gives customers specific legal rights. Customers may have other rights depending on the jurisdiction.

D. NO LIABILITY FOR DAMAGES

To the maximum extent permitted by applicable law, in no event shall KanexPro be liable for any damages whatsoever (including without limitation, special, incidental, consequential, or indirect damages for personal injury, loss of business profits, business interruption, loss of business information, or any other pecuniary loss) arising out of the use of or inability to use this product, even if KanexPro has been advised of the possibility of such damages.

KanexPro®

1405 pioneer street

Brea, CA 92821

