VANCO®
ADVANCING...CONNECTIVITY

HDBaseT™ Extender

Vanco Part Number:
HDBTEX70

Technical Support
www.vanco1.com • techsupport@vanco1.com • 800-626-6445

DEAR CUSTOMER

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

This product is 100% inspected and tested in the United States to verify HDMI performance parameters.

WARNING

1. Do not expose this unit to water, moisture, or excessive humidity.
2. Do not install or place this unit in a built-in cabinet, or other confined space without adequate ventilation.
3. To prevent risk of electrical shock or fire hazard, due to overheating, do not obstruct unit's ventilation openings.
4. Do not install near any source of heat, including other units that may produce heat.
5. Do not place unit near flames.
6. Only clean unit with a dry cloth.
7. Unplug unit during lightening storms, or when not used for an extended period of time. A surge protector is strongly recommended.
8. Protect the power cord from being walked on or pinched, particularly at the plugs.
9. Use unit only with accessories specified by the manufacturer.
10. Refer all servicing to qualified personnel.

CAUTION

HDMI is a very complex technology requiring continuous authentication of the signal and the same video resolution and audio settings on all electronic equipment in the system. When there are multiple sources and displays, the video resolution and audio setting on all connected units must be adjusted to correspond with that of the display having the lowest video and audio capability.

FEATURES

The Vanco HDBTEX70 HDBaseT Extender with Bi-directional IR, RS-232, and PoE, extends 4K/60Hz Ultra High Definition video and audio signals with 4:2:0 chroma subsampling, at a distance of up to 130ft/40m over a single shielded Cat6 cable. 1080p high definition video and audio signals can be extended up to 230ft/70m over a single Cat5e/6 cable. Power over Ethernet (PoE) Technology transmits power over Cat5e/6, allowing either the Transmitter or Receiver to be powered without the use of a power supply. No EDID or EQ adjustments are necessary as the units automatically adjust for compatibility and gain. In addition, RS-232 and bi-directional IR pass-through allows for source and/or display control. For extending HDMI signals over a single Cat6 with IR at a long distance, with Power over Ethernet, and maximum 4K and 1080p extension, the HDBTEX70 is a great plug and play solution for connecting the latest components!

HDBaseT™ Extender

Part # HDBTEX70

- Allows for transmission of HDMI audio and video, control, and power over a single Cat5e/Cat6 Cable up to 230ft/70meters (4K up to 130ft/40m) to a compatible display
- Features Power over Ethernet (PoE) Technology which transmits power over Cat5e/Cat6, allowing the transmitter and receiver to be powered off of a single power supply
- Supports resolutions up to 4K x 2K@60Hz, 4:2:0 up to 130ft/40m
- Full HD support of 1080p@60Hz@48 bit/pixels, 1080p@120Hz@24 bit/pixels, 3D 1080P60Hz and 4K x 2K@30Hz@24bit up to 230ft/70m
- Wide band Bi-directional IR and RS-232 system allowing for control of source or display (IR accessories included)
- Supports Dolby, DTS, and PCM multi-channel and stereo audio formats
- Slim and compact design
- HDCP 2.2 Compliant
- Power Supply: DC 24V 1A
- Dimensions: 3.9" W x .9" H x 2.6"

SPECIFICATIONS

Frequency Bandwidth	297MHz(10.2Gbps)
HDCP	2.2 (backwards compatible)
Resolution	4K x 2K@60Hz, 4:2:0, 1080p@60Hz@48 bit/pixels, 1080p@120Hz@24 bit/pixels, 3D 1080P60Hz and 4K x 2K@30Hz@24bit
Audio	Dolby, DTS, PCM multichannel and stereo audio formats
Transmitter Input/Output Ports	(1) HDMI Female port/(1) CAT5e/6,(1) IR Tx/(1) IR RX, (1) RS-232 Terminal Port/Connector
Receiver Input/Output Ports	(1) HDMI Female port/(1) CAT5e/6,(1) IR Tx/(1) IR RX, (1) RS-232 Terminal Port/Connector
Power Supply	DC 24V 1A
ESD Protection	± 8kV (air-gap discharge); Human Body Model: ± 4kV (contact discharge)
Dimensions (mm)	65(W) X 100 (D) X 25 (H)
Weight	200g x 2
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	10 W

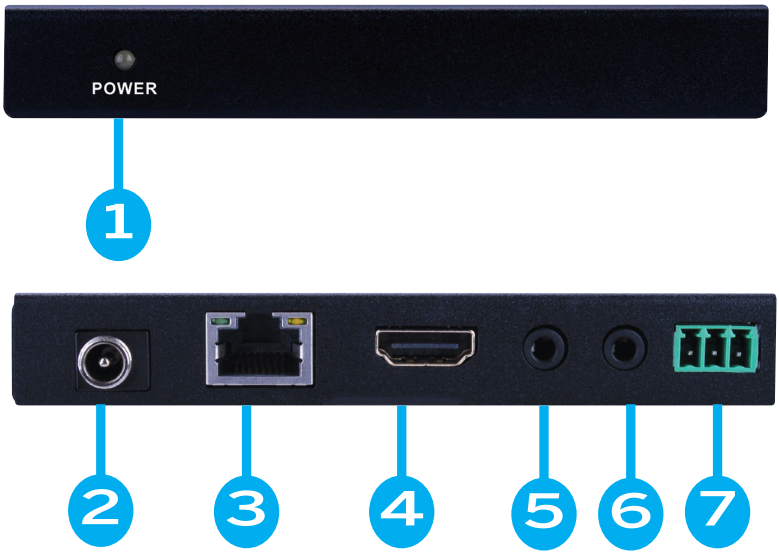
PACKAGE CONTENTS

Before attempting to use this unit, please check the packaging and make sure the following items are contained in the shipping carton:

- HDBaseT (TX & RX)
- (2) IR Transmitters
- (2) IR Receivers
- (2) Phoenix connectors for RS-232
- (1) DC 24V 1A power supply
- Rack mounting ears
- Product Manual

PANEL DESCRIPTIONS

TRANSMITTER:



1. POWER LED: Illuminates when the splitter is connected to power
2. DC 24V: Connect the included power supply (PoE feature allows for either Transmitter or Receiver to be plugged into power)
3. HDBaseT Out: Connect a single Cat5e/6 that runs to the display location (home-run cable strongly recommended)

LINK LED (LED on the left, and in GREEN): Connection status indicator

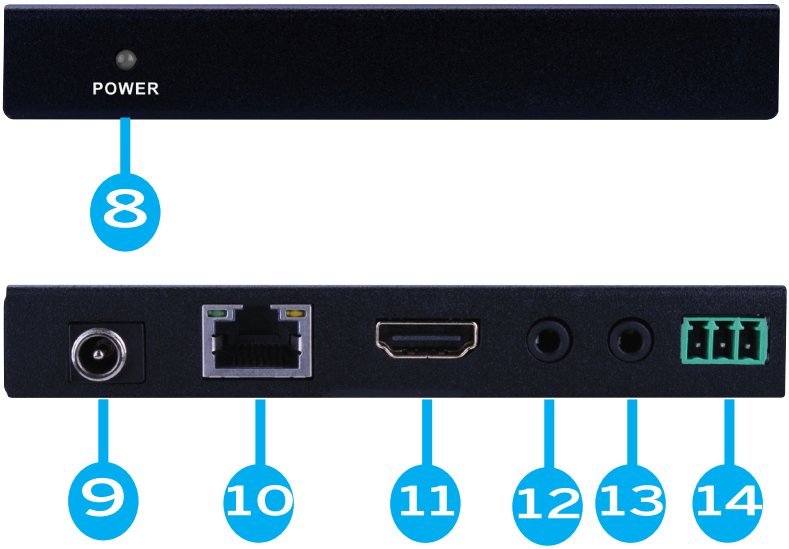
- Solid illumination: Transmitter and Receiver communication successful
- Flashing: Transmitter and Receiver communication has issues
- No light: Transmitter and Receiver not communicating, check power

HDCP LED (LED on the right, and in YELLOW): HDCP status indicator

- Solid illumination: HDCP signal verified
- Flashing: HDCP signal not foundes
- No light: No HDMI signal, check the source

4. HDMI IN: Connect a source such as a Cable box, Blu-ray player, game console, PC, etc.
5. IR IN: Connect the included IR Receiver (RX); see IR section for setup
6. IR OUT: Connect the included IR Transmitter (TX); see IR section for setup
7. RS-232 TX/RX: For RS-232 pass-through, the RS-232 signal can go in either direction, however not simultaneously, connect the included phoenix connector

RECEIVER:



8. POWER LED: Illuminates when the splitter is connected to power

9. DC 24V: Connect the included power supply (PoE feature allows for either Transmitter or Receiver to be plugged into power)

10. HDBaseT In: Connect a single Cat5e/6 that runs from the source location (home-run cable strongly recommended)

LINK LED (LED on the left, and in GREEN): Connection status indicator

- Solid illumination: Transmitter and Receiver communication successful
- Flashing: Transmitter and Receiver communication has issues
- No light: Transmitter and Receiver not communicating, check power

HDCP LED (LED on the right, and in YELLOW): HDCP status indicator

- Solid illumination: HDCP signal verified
- Flashing: HDCP signal not found
- No light: No HDMI signal, check the source

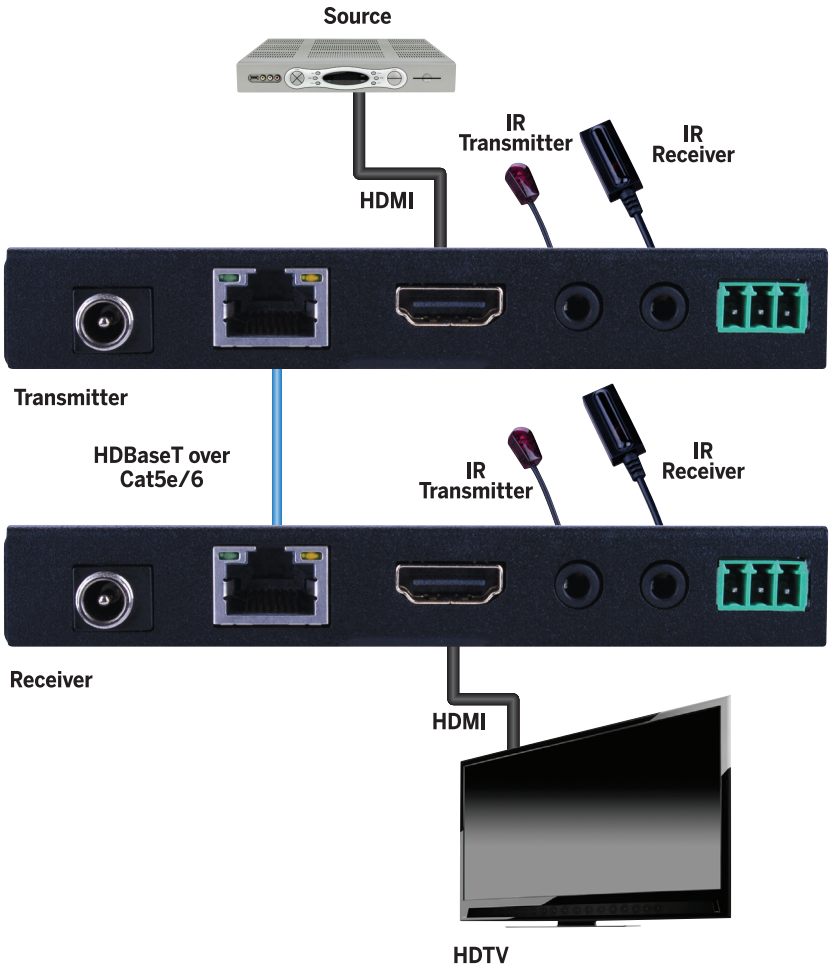
11. HDMI OUT: Connect a display such as an HDTV or HD Projector

12. IR IN: Connect the included IR Receiver (RX); see IR section for setup

13. IR OUT: Connect the included IR Transmitter (TX); see IR section for setup

14. RS-232 TX/RX: For RS-232 pass-through, the RS-232 signal can go in either direction, however not simultaneously, connect the included phoenix connector

CONNECT AND OPERATE



1. Connect a source such as a Blu-Ray Player, game console, A/V Receiver, Cable or Satellite Receiver, etc. to the HDMI input on the Transmitting unit.
2. Connect a display such as an HDTV or HD Projector to the HDMI output on the Receiving unit.
3. Connect a single Category 5e/6/7 to the UTP output of the Transmitting unit, and the other end to the UTP input of the Receiving unit.
4. For power, plug in either the Transmitting unit or Receiving unit with the included power supply, opposite unit will not have to be plugged in as it features Power over Ethernet (PoE).
5. Power on each device in the same sequence (receiver and transmitter will already be powered when either unit is plugged in.)

IR PASS THROUGH

The bi-directional IR system allows you to control the source that is connected to the extender unit, from the display; or the display from the source, not simultaneously. There are two important things to note when setting up the IR system:

1. The IR Receiver (IR RX) is always what you point your remote at to send an IR signal. This pigtail is placed at the display for controlling the source; or at the source for controlling the display.
2. The IR Transmitter (IR TX) is what sends the IR signal to what you are intending to control, whether it's the source or the display. This pigtail is placed at the source; either pointed at the source, or placed on the front panel of the source, see below for placement tips. Or placed at the display to control the display from the source.

IR RECEIVER

IR TRANSMITTER

IR TRANSMITTER (TX)

To control the source: Plug IR Transmitter into IR OUT port of transmitter unit (HDBTEX70-TX); place transmitter in front of the IR eye of the source.

To control the display: Plug IR Transmitter into IR IN port of receiver unit (HDBTEX70-RX); place transmitter in front of the IR eye of the display.

Note: Placement of the IR Transmitter is important and can result in the IR system not working if improperly placed.

- First, locate the IR eye or window on the source
- If placing the IR transmitter right on the front panel of the source, do not stick right on top of the IR eye or IR window. The IR signal cannot travel through the double-sided tape on the Transmitter. Instead place the transmitter on either side, or on the top or bottom of the IR eye or window, with the tip of the transmitter facing the IR eye or window. See below for illustration of where IR signal shoots from on IR Transmitter:

IR RECEIVER (RX)

To control the source: Plug IR Receiver into IR IN port of receiver unit (HDBTEX70-RX); place receiver at or near display.

To control the display: Plug IR Receiver into IR OUT port of transmitter unit (HDBTEX70-TX); place receiver in position where it is able to receive remote signals.

To Control the Source:

1. **Plug the IR Transmitter into the IR Out Port on the Transmitter**

2. **Plug the IR Receiver into the IR In Port on the Receiver**

To Control the Display:

1. **Plug the IR Receiver into the IR In Port on the Transmitter**

2. **Plug the IR Transmitter into the IR Out Port on the Receiver**

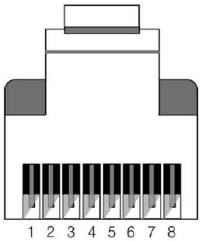
NOTICE

1. Vanco HDMI and Cat5e/6 cables are strongly recommended for use with this product to ensure best results.

2. Incorrect placement of IR Transmitter and Receiver may result in the failure of the IR extenders. Please check carefully before plugging in the IR extender to the respective IR sockets.

3. The transmission length is largely affected by the type of Cat5e/6 cables utilized, the type of HDMI sources, and the type of HDMI display. The testing result shows solid UTP cables (usually in the form of 300m (1,000ft) bulk cables) can transmit a lot longer signals than stranded UTP cables (usually in the form of fixed length patch cords). Shielded STP cables are better suited than unshielded UTP cables. A solid UTP Cat5e/6 cable shows longer transmission range than stranded STP Cat-6 cable. For long extension applications, use solid UTP/STP category cables.

4. EIA/TIA-568-B termination (T568B) for Cat5e/6 cables is recommended for better performance



Pin	TIA/EIA–568B Wire color
1	Orange/ White
2	Orange
3	Green/ White
4	Blue
5	Blue/ White
6	Green
7	Brown/ White
8	Brown

5. To reduce the interference among the unshielded twisted pairs of wires in Cat5e/6 cables, one can use shielded STP cables to improve EMI problems, which worsens in long cable transmission.

6. The quality of Cat5e/6 cables can have a major effect on how long the transmission limit can achieve and quality of picture, the actual transmission range is subject to the Cat5e/6 cable utilized. For the best results, Cat6 is recommended.

7. If your HDMI display has multiple HDMI inputs, it is found that the first HDMI input (HDMI input #1) generally can produce better transmission performance among all HDMI inputs.

TROUBLE-SHOOTING

1. Best results are usually achieved when the source and display resolutions are the same. If resolutions differ, the extenders will try to adjust the signal to match the resolution of the HDTV with the lowest resolution. This will result in a picture with a lower resolution on the other HDTV sets.
2. If you do not get audio and video, access the “setup” menu on the TV to adjust the audio and video settings. If the HDMI control circuit cannot establish a handshake, then there usually will be no audio or video in addition to a blue or black screen with a statement similar to “this protocol not supported” or “weak signal”.
3. If the above mentioned messages display, reset the receiver by disconnecting the power supply. You can also disconnect all of the HDMI and power cables, wait 15 minutes for any voltages to decay and then reconnect all of the cables.
4. If you are still encountering issues, attempt the “hot-plug” concept. With all of the HDMI cables disconnected, turn on the source and plug in the HDMI cable into it’s output, then power up the Vanco unit and plug the HDMI cable into it’s input, finally turn on the display and plug the HDMI cable from the receiver into it. This activates all of the devices in corresponding order and results in a signal being plugged into a device that is on and will attempt to connect the signal.
5. Most of the major source and display manufacturers employ a proprietary control channel to communicate between devices from the same manufacturer (CEC). Sometimes this can interfere with the HDMI control circuit or the authentication of the signal. Call the manufacturer if you experience this issue. Sometimes a player, an audio/video receiver, or a cable/satellite box may not have the latest software update, usually this can be downloaded from the manufacturer’s website.
6. If you have problems with the IR control circuit, make sure that the IR RX pigtail is plugged into extender receiver and pointed at the display, and the IR TX pigtail is attached to the extender sender and pointed at the source.

SAFETY AND NOTICE

The HDMIEX70 has been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipment, the HDMIEX70 should be used with care. Please read and follow the safety instructions to protect yourself from possible injury and to minimize the risk of damage to the unit.

- Follow all instructions and warnings marked on this unit.
- Do not attempt to service this unit yourself, except where explained in this manual.
- Provide proper ventilation and air circulation and do not use near water.
- Keep objects that might damage the device and assure that the placement of this unit is on a stable surface.
- Use only the power adapter and power cords and connection cables designed for this unit.
- Do not use liquid or aerosol cleaners to clean this unit.
- Always unplug the power to the device before cleaning.

LIMITED WARRANTY

With the exceptions noted in the next paragraph, Vanco warrants to the original purchaser that the equipment it manufactures or sells will be free from defects in materials and workmanship for a period of two years from the date of purchase. Should this product, in Vanco's opinion, prove defective within this warranty period, Vanco, at its option, will repair or replace this product without charge. Any defective parts replaced become the property of Vanco. This warranty does not apply to those products which have been damaged due to accident, unauthorized alterations, improper repair, modifications, inadequate maintenance and care, or use in any manner for which the product was not originally intended.

Items integrated into Vanco products that are made by other manufacturers, notably computer hard drives and liquid crystal display panels, are limited to the term of the warranty offered by the respective manufacturers. Such specific warranties are available upon request to Vanco. A surge protector, power conditioner unit, or an uninterruptible power supply must be installed in the electrical circuit to protect against power surges.

If repairs are needed during the warranty period the purchaser will be required to provide a sales receipt/sales invoice or other acceptable proof of purchase to the seller of this equipment. The seller will then contact Vanco regarding warranty repair or replacement.

LIABILITY STATEMENT

Every effort has been made to ensure that this product is free of defects. The manufacturer of this product cannot be held liable for the use of this hardware or any direct or indirect consequential damages arising from its use. It is the responsibility of the user and installer of the hardware to check that it is suitable for their requirements and that it is installed correctly.

Manufacturer reserves the right to revise any of its hardware and software following its policy to modify and/or improve its products where necessary or desirable. This statement does not affect the legal rights of the user in any way.

TECHNICAL SUPPORT

In case of problems, please contact Vanco Technical Support by dialing 1-800-626-6445. You can also email technical support issues to techsupport@vanco1.com.

When calling, please have the Model Number, Serial Number (affixed to the bottom of the unit) and Invoice available for reference during the call.

Please read this Instruction Manual prior to calling or installing this unit, since it will familiarize you with the capabilities of this product and its proper installation.

All active electronic products are 100% inspected and tested to insure highest product quality and trouble-free installation and operation. The testing process utilizes the types of high-definition sources and displays typically installed for entertainment and home theater applications.

For additional information, such as helpful installation videos, glossary of terms, etc. please visit vanco1.com

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