



HDMI® Extender  
over Single Cat5e/  
Cat6 Cable

Vanco Part Number:  
HDMIEX50

**Technical Support**

[www.vanco1.com](http://www.vanco1.com) • [techsupport@vanco1.com](mailto: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 HDMIEX50 is an HDMI extender which can extend your HDMI and control signals over a single Cat5e/6 up to 164ft/50m to a compatible display. It also supports IR to control the either the source from the sink/display side to remotely change channels, etc. The HDMI Loop-out port allows the transmitter to act as a splitter to go to multiple displays. The EQ settings on the receiver allows for easy adjustment based on cabling distance while the EDID settings on the transmitter allow for EDID to be managed through either the HDMI Loop-out or the HDMI output of the receiver for an easy and cost effective solution.

### ***HDMI® Extender over Single Cat5e/Cat6 Cable***

#### ***Part # HDMIEX50***

- Allows HDMI audio/video and control to be transmitted up to 164 ft/ 50m using a single Cat5e or Cat6 cable
- Features HDMI Loop-out port on the transmitter to split of cascade audio and video signals for additional displays
- IR pass-through control from the receiver to the transmitter with the provided IR cables
- Full HD support of 1080p @60Hz
- Compatible with Dolby, DTS and PCM audio formats
- EQ settings on the receiver allows for easy adjustment based on cabling distance
- EDID settings on the transmitter allow for EDID to be managed through either the HDMI Loop-out of the HDMI output of the receiver for an easy and cost effective solution
- HDCP Compliant
- Power supplies: (2) 5V DC
- Dimensions: 3.3"W x .6" H x 2.6" D

## SPECIFICATIONS

Frequency Bandwidth .....	Single-link 165 MHz (4.95 Gbps)
Video Support .....	480i/480p/720p/1080i/1080p@60H
Audio Support .....	Dolby, DTS, PCM
Transmission Range .....	1080p 24-bit color up to 50m (164ft)
Input TMD Signal .....	3.3 volts
Input DDC Signal.....	5.0 volts/P-P
Power Supply .....	DC 5V 1A
ESD Protection .....	± 8kV (air-gap discharge); Human Body Model: ± 4kV (contact discharge)
Dimensions (mm) .....	8.4cm x 6.7cm x 1.5cm
Weight .....	460g
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

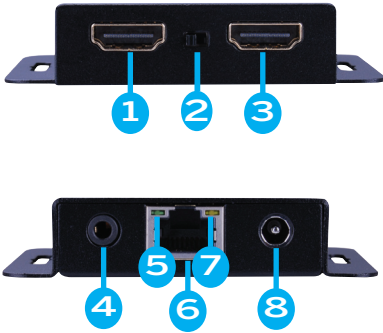
## PACKAGE CONTENTS

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

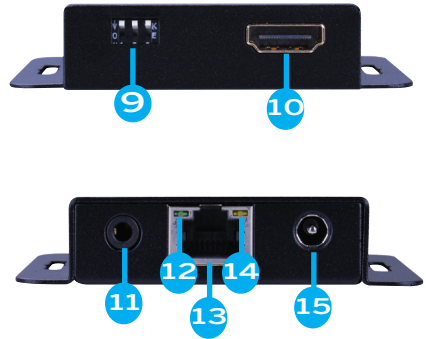
- HDMI Extender Set
- 1 Wideband IR Tx
- 1 Wideband IR Rx
- 2 DC 5V1A power supply
- 1 User Manual

# PANEL DESCRIPTIONS

Transmitting Unit

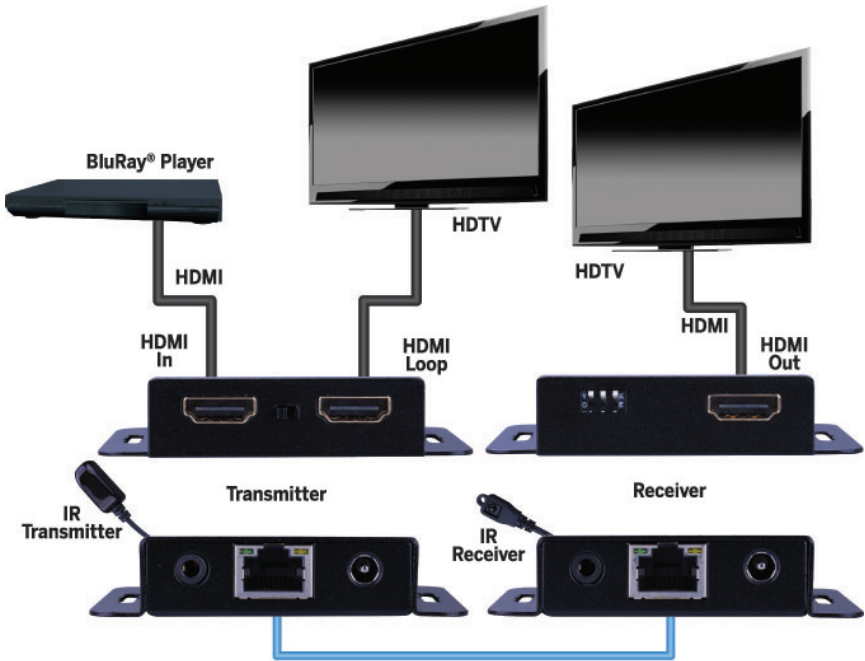


Receiving Unit



1. HDMI In: This is where you connect the HDMI output port of your source
2. EDID: The HDMIEX50 can copy EDID information from the display at the receiver (left position) or the HDMI-Loopout (right position)
3. HDMI Out: Use this port to connect to another HDMI input or display
4. IR Out: Connect the IR emitter cable included in the package for IR signal to be transmitted to the source
5. Power LED: Illuminates when the device is connected to a power supply
6. CAT: Connect a well terminated Cat5e/6 cable to go to the CAT input of the receiver
7. Link LED: Illuminates when the device is connected to a HDMI source
8. DC 5V: 5v Power Supply Connection to AC outlet
9. EQ Switcher: Adjusts EQ based on length of CAT cable run
10. HDMI Out: Connects to the HDMI port of the display/sink
11. IR In: Using the included IR Receiver, connect to send IR signals back to be transmitted at the transmitter end.
12. Power LED: Illuminates when the device is connected to a power supply
13. CAT: Connect a well terminated Cat5e/6 from the CAT output of the transmitter
14. Lock LED: Illuminates when the HDMI signal from the transmitter is stable
15. DC 5V: 5v Power Supply Connection to AC outlet





## 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 the provided 5v power supplies to both the transmitter and receiver.
5. Power on each device in the same sequence

# RECEIVER EQUALIZATION ADJUSTMENTS

If you encounter flickering, blinking or distortion on the display, changing the EQ switch settings can improve the image. Use the chart below as reference but remember that couplers, wall-plates, or patch panels can result in different settings being needed.

Position	Cable Length
 0      1	Under 15m (49.5)
 2      3	15-50m (49.5 - 99)
 4      5	20-40m (99 - 132)
 6      7	40-50m (132 - 164)

## IR

The IR control can receive an IR signal from TV end to control the source (Blu-ray DVD), as well as from a control system or rack to control a display. u-ray DVD), as well as from a control system or rack to control a display.

1. Insert the 3.5mm IR TX Emitter included with the unit into the IR TX Emitter port.
2. Some later adjustment may be needed to the location of the sensor to achieve the best performance results - sometimes moving the sensor to different areas on the source can improve IR performance.
3. Insert the 3.5mm IR RX Receiver included with the unit into the IR RX Receiver port.

IR RECEIVER

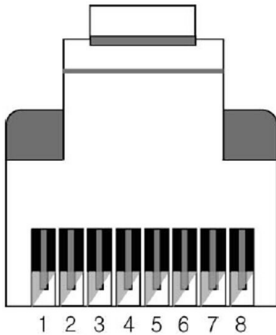


IR BLASTER



## 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.



	TIA/EIA-568B
Pin	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 HDMIEX50 has been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipment, the HDMIEX50 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. All rights are reserved. No parts of this manual may be reproduced or transmitted by any form or means electronic or mechanical, including photocopying, recording or by any information storage or retrieval system without the written consent of the publisher.

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](mailto: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](http://vanco1.com)

# Vanco® International

506 Kingsland Drive  
Batavia, Illinois 60510  
call: 800.626.6445  
fax: 630.879.9189  
visit: [www.vanco1.com](http://www.vanco1.com)