

HDMI® /VGA EXTENDER

over single Cat5e/Cat6 Cable



**Vanco Part Number
EVEXVGAHD**

**HDMI® and VGA
Extender over Single
Cat5e/Cat6 Cable**

EVOLUTION
BY 

www.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.

INTRODUCTION

The EVEXVGAHD extender over Cat5e/6 cable allows for HDMI or VGA with Audio inputs, bi-direction IR and POE to be transmitted up to 50m over a single Cat5e/6. The transmitter combines HDMI or VGA video, audio, control signal, and wideband 20-60KHz IR signals. Receivers gets these signals, separate signals and rebuild video, audio and control output through HDMI or VGA video interfaces. It also supports CEC pass through. The special POE feature supports a single power adapter input from either the transmitter or receiver for complete flexibility in an installation. The transmitter can automatically select HDMI or VGA as main live video input, and the receiver supports output video by both HDMI and VGA port at the same time.

HDMI® and VGA Extender over Single Cat5e/Cat6 Cable

Part # EVEXVGAHD

- Allows HDMI or VGA with Audio + bi-direction IR and POE to be transmitted up to 164 ft/50m over a single Cat5e/Cat6 Cable
- 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
- Transmitter can automatically select HDMI or VGA as main live video input, and the receiver supports output video by both HDMI and VGA port at the same time
- Transmission Range: 164ft/50m at 1080p 3D or 1920x1200 60fps, 270ft/80m at 1080i/720p
- HDMI port supports Dolby True HD, DTS-master, etc.
- HDMI port supports 3D signals (all 7 formats), such as Frame Packing, Side-by-Side, Top-to-Bottom, etc.
- Supports EDID call back as well as manual EDID management
- Supports CEC pass through
- Bi-directional Wide Band IR (20-60KHz)
- Priority to VGA input and dual VGA/HDMI output
- Analog stereo audio extender input and output
- HDCP 2.0 compatible
- Compatible DVI 1.0
- Supports cascade to enhance extending distance
- Dimensions: 3.7" W x .8" H x 3.5" D

SPECIFICATIONS

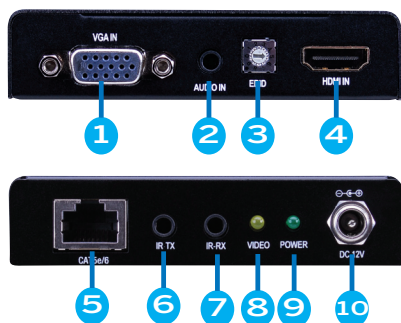
Transmitters	HDMI input, VGA input, IR output (3.5mm Mono), IR input (3.5mm Stereo), RJ45 Ethernet interface, 12V DC in, stereo audio input(3.5mm), 1 EDID dial switch
Receivers	HDMI output, VGA output, IR output (3.5mm Mono), IR input (3.5mm Stereo), RJ45 Ethernet interface, 12V DC in, RCA L/R audio output
Power	<3.5W TX or <2.5W RX
DC input voltage	12V from any side of TX or RX, POE supports
Dimension	3.7" W x .8" H x 3.5" D
Net weight	0.2kg per unit
HDMI Video bandwidth	Maximum TMDS clock frequency 165MHz, 4.95Gbps
HDMI Resolution	480i, 480p, 576p, 720p, 1080i, 1080p
HDMI Audio formats	8-channel, support Dolby True HD and DTS Master
TMDS input signal	1.2 volts (point to point)
DDC input signal	5 volts (point to point)
VGA Resolution.....	640x480, 800x600, 1024x768, 1152x864, 1280x600, 1280x720, 1280x768, 1280x800, 1280x960, 1280x1024, 1360x768, 1366x768, 1400x1050, 1440x900, 1600x900, 1600x1200, 1680x1050, 1920x1080, 1900x1200
Audio	Stereo L/R analog audio input and output
Indicator	Power-Green, Link/Status-Yellow
HDMI interface standard	HDMI 1.3b standard (HDMI 1.4 3D function), HDCP 2.0, support CEC, EDID
Remote IR	20-60 KHz wide frequency carrier
ESD level	HBM ± 4 kV (Contact Discharge)
Temperature range	0 ~ 40°C (operation), -20~60°C(stock)
Compliance	FCC; CE; RoHS

PACKAGE CONTENTS

- EVEXVGAHD Extender Set (transmitter and receiver)
- 2 IR TX
- 2 IR RX
- DC 12V 1A power supply
- Product Manual

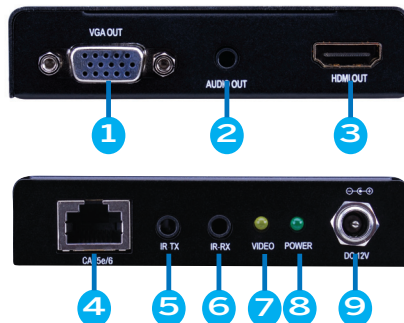
PANEL DESCRIPTIONS

TRANSMITTER



1. VGA input
2. Stereo audio input
3. EDID selection switch
4. HDMI input
5. RJ45 port
6. IR TX, IR blaster output
7. IR RX, IR receiver input
8. Video link indicator
9. Power on indicator
10. DC jack

RECEIVER

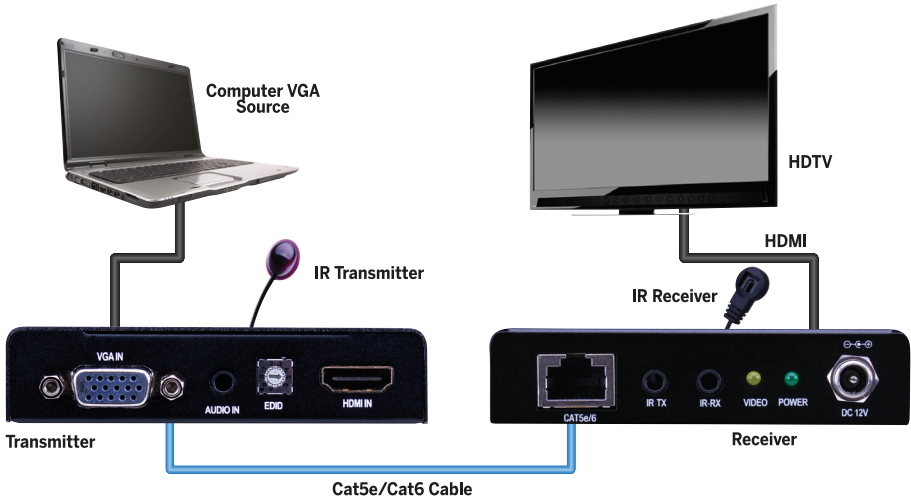


1. VGA output
2. Stereo audio out
3. HDMI output
4. CAT5e/6 cable RJ45 port
5. IR-TX, IR blaster output
6. IR-RX, IR receiver input
7. Video link indicator
8. Power on indicator
9. DC jack

BEFORE INSTALL:

1. Prepare place for installing system. The video sources should be close to the transmitter, and the displays should be close to receiver. It is better to keep the HDMI cables less than 6 meters.
2. Terminate the CAT5e/6 cables for connecting the transmitter and the receiver to the 568B standard. The length can NOT be more than distance of parameters.
3. CAT5e/6 cables should be far away from electromagnetic disturbance sources. Such as AC motors, electric soldering, fluorescents, microwave ovens, etc. These disturbance sources might affect extending distance or video quality.
4. Ensure the length of cable is suitable, no external tensions.
5. Ensure reliable DC adapter or other DC source.

CONNECTION DIAGRAM



CONNECT AND OPERATE

1. Connect a source such as a Blu-ray player, game console, A/V receiver, STB, Computer, etc. to either the HDMI or VGA input on the transmitting unit. You can also connect audio from the VGA source using a 3.5mm Stereo plug into the AUDIO IN port. NOTE: When both HDMI and VGA are connected and live, the priority will go to the VGA
2. Connect a display such as an HDTV or HD Projector to the HDMI or VGA output on the receiving unit. NOTE: BOTH outputs are live and can transmit audio and video simultaneously like a splitter Refer to the EDID diagram for manual EDID management under these conditions.
3. Connect a properly terminated Cat 5e/6/7 up to 164ft/50m to the UTP output of the transmitter and receiver units.
4. OPTIONAL: Connect the provided IR TX and IR RX cables in the appropriate ports based on how the IR path is being transmitted and received.
5. For power, plug in either the transmitting or receiving unit with the included power supply. (NOTE: the opposite side does not need power)
6. Power on each connect device and test.

NOTE: This product can convert HDMI to VGA when HDCP is NOT needed by the source. For an example, a computer or camera with an HDMI output going to a legacy VGA projector

EDID

The EVEXVGAHD is capable of both pass-through EDID as well as manual EDID to ensure compatibility and communication among devices.

Before making ANY changes to the EDID dial, it is important to remove the power AND HDMI cables. Once changes are made they can be reconnected and tested accordingly.

Number	EDID Data
0	EDID Full HD 1080p@60i(1080p@30i)(1080p@24i)(1080i@60i)(720p@60i) – 24bit 2D video & 7.1ch audio
1	EDID Full-HD(1080p@60i) – 24bit 2D video & 2ch audio
2	EDID Full-HD(1080p@60i)- 24bit 3D video & 7.1ch audio
3	EDID Full-HD(1080p@60i)- 24bit 3D video & 2ch audio
4	EDID HD(1080p@30i)(1080i@60i)(720p@60i)- 24bit 2D video & 7.1ch audio
5	EDID HD(1080p@30i)(1080i@60i)(720i@60i)- 24bit 2D video & 2ch audio
6	VGA: 1920x1080@60 resolution
7	VGA: 1366x768@60 resolution
8	VGA: 1280x720@60 resolution
9	EDID Pass-Through

IR

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 Blaster (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 BLASTER (TX)

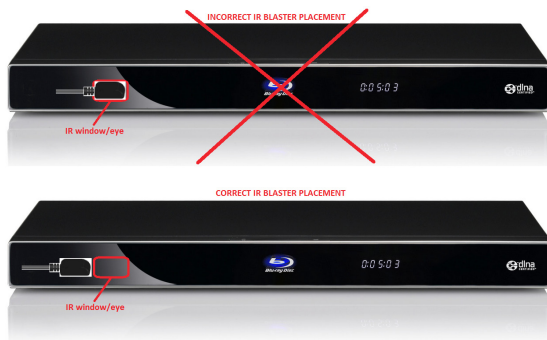
To control the source: Plug IR Blaster into IR TX port of transmitter unit; place blaster in front of the IR eye of the source.

To control the display: Plug IR Blaster into IR TX port of receiver unit; place blaster in front of the IR eye of the display.

Note: Placement of the IR Blaster 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 blaster 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 Blaster. Instead place the blaster on either side, or on the top or bottom of the IR eye or window, with the tip of the blaster facing the IR eye or window. See right for illustration of where IR signal shoots from on IR Blaster:





IR RECEIVER (RX)

- To control the source: Plug IR Receiver into IR RX port of receiver unit (EVEX2006-RX); place receiver at or near display.
- To control the display: Plug IR Receiver into IR RX port of transmitter unit (EVEX2006-TX); place receiver in position where it is able to receive remote signals.

To Control the Source:

1. Plug the IR Blaster into the IR TX Port on the Transmitter



2. Plug the IR Receiver into the IR RX Port on the Receiver



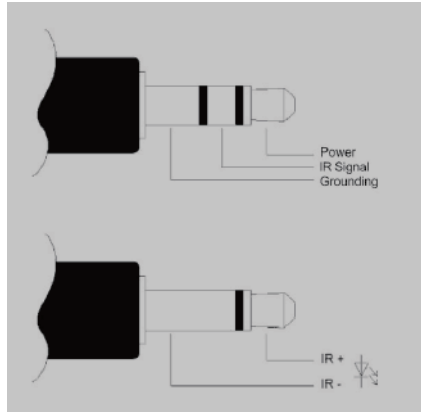
To Control the Display:

1. Plug the IR Receiver into the IR RX Port on the Transmitter



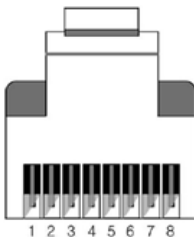
2. Plug the IR Blaster into the IR TX Port on the Receiver



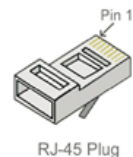
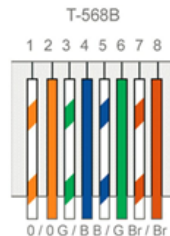


NOTICE

1. Vanco HDMI and Cat5e/6 cables are strongly recommended for use with this product to ensure best results.
2. Incorrect placement of IR Blaster 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.
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.
8. Products request normal CAT5e or CAT6 Ethernet cables, which must meet standard-TIA/EIA-568B, refer to below pin definition.



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



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. 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 EVEXVGAHD has been tested for conformance to safety regulations and requirements, and has been certified for EVEXVGAHD 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.

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, etc. please visit www.vanco1.com

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.



Vanco[®] International

506 Kingsland Drive
Batavia, Illinois 60510
call: 800.626.6445
fax: 630.879.9189
visit: www.vanco1.com