HDMI® 1x8 SPLITTER

over single Cat5e/Cat6 Cable

Vanco Part Number
EVSP1018

HDMI 1x8 Splitter over
Cat5e/Cat6 Cable

EVOLUTION BY VANCO
ADVANCING DIGITAL CONNECTIVITY

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.

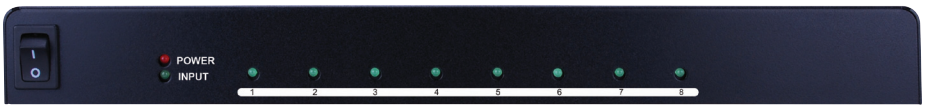
INTRODUCTION

The Evolution by Vanco EVSP1018 HDMI 1x8 Splitter over Cat5e/6 with Bi-directional IR distributes one HDMI input to up to eight outputs over a single Cat5e/6 cable and one output over HDMI for daisy-chaining or to connect a local display. Turn one HDMI source into multiple displays that delivers 1080p High Definition resolution up to 131ft/40m per single Cat5e/6 output without any loss of quality or resolution. Evolution by Vanco Receiver EVEX3001 unit required for each UTP output utilized (sold separately). Also features EDID management, which allows and encourages source and display "handshake" for seamless integration. In addition, EVSP1018 is also equipped with bi-directional IR pass-through which allows for source or display control with EVEX3001 connected. Fully cascadeable with any Evolution by Vanco product to create additional outputs or to create an expanded distribution system. The EVSP1018 offers the most convenient solution for splitting one source into multiple displays.

HDMI 1x8 Splitter over Single Cat5e/Cat6 Cable

Part # EVSP1018

- Allows 1 HDMI source to be displayed on up to 8 HDMI displays over a single Cat5e or Cat6 cable
- Transmission Range: Extends 1080p resolutions up to 131ft/40m to receiver units (sold separately EVRX3001)
- Features EDID management which supports default HDMI EDID and has the ability to learn the EDID of display equipment
- Additional HDMI output for local display or to connect an additional EVSP1018
- Allows cascading for an expanded distribution system
- Supports HDMI Deep Color and 3D
- Wideband IR signal from 20KHz to 60KHz
- HDCP Compliant
- DTS-HD Master Audio and Dolby TrueHD high bit rate audio support
- Dimensions: 11.95"(303.5mm)Wx1.26"(32mm)Hx4.63"(117.5mm)D



SPECIFICATIONS

TECHNICAL SPECS

HDMI Compliance	HDMI Deep Color & full 3D
HDCP Compliance	Yes
Video Bandwidth	Single-link 225MHz (6.75Gbps)
Video Support	480i / 480p / 720p / 1080i / 1080p60 12-bit
HDMI over UTP transmission (8-bit)	HD (1080p)-40m (131ft) (CAT.X) HD (720p/1080i)-50m (165ft) (CAT.X)
Audio Support	Surround Sound (up to 7.1 ch) or stereo digital audio
Input TMDS Signal	1.2 Volts (peak to peak)
Input DDC Signal	5 Volts (peak to peak, TTL)
ESD protection	(1) Human body model +/- 19kV (air-gap discharge) & (contact discharge) (2) Core chipset - +/- 8k V
PCB stack-up	4-layer board (impedance control — differential 100; single 50)
Input/Output	1x HDMI / 1x HDMI + 8x RJ-45
HDMI source control	Controllable via IR pass-through from IR receiver at RX to IR blaster at TX
IR remote control	Electro-optical characteristics: t = 25° / Carrier frequency: 20-60kHz
HDMI connector	Type A 19 pin female
RJ-45 connector	WE/SS 8P8C with 2 LED indicators
3.5mm connector	(TX and RX) IR Receiver/ IR blaster
Rotary control switch	8-dial modes for audio/video mode selection and EDID learning

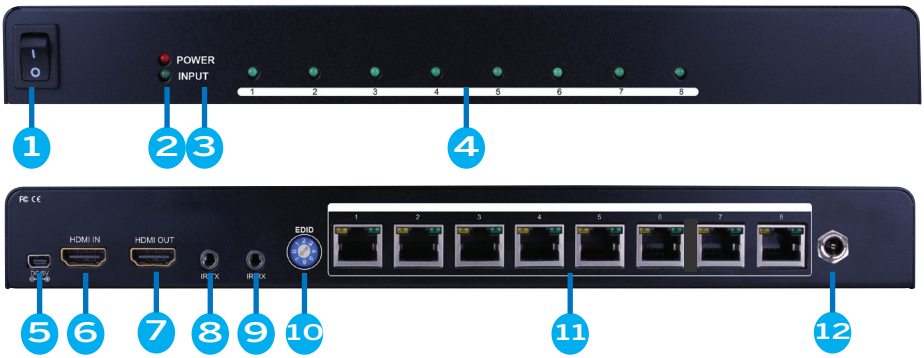
MECHANICAL SPECS

Housing	Metal enclosure
Fixedness	1RU rack-mount with ears
Power supply	5V 4A DC
Power consumption	13 Watts (max)
Operation temperature	32-104 degrees F
Storage temperature	-4 - 140 degrees F
Relative humidity	20-90% RH (no condensation)

PACKAGE CONTENTS

- (1) EVSP1018 HDMI 1x8 Splitter over UTP
- (1) IR Blaster (TX)
- (1) 1x DC 5V 4A in-line with C7 power cord
- (1) Rack-mounting ear set
- (1) User Manual

PANEL DESCRIPTIONS



1. Power on/off switch
2. POWER: When illuminated, power is on; power off if not illuminated. Power indicator
3. SIGNAL: When illuminated, HDMI source signal is detected; no HDMI signal when not illuminated.
4. LED Indicator Lights
5. Mini USB for Firmware Updates
6. HDMI INPUT: Connect to one HDMI source device
7. HDMI OUTPUT: Flexible HDMI output to be used for local display or to be used for cascading purposes
8. IR Blaster: Infrared 3.5mm socket for plugging in the extension cable of IR (TX) blaster
9. IR Receiver: Infrared 3.5mm socket for plugging in the extension cable of IR (RX) receiver
10. EDID switch: See EDID section
11. HDMI Signal OUTPUT 1~8: Link to each HDMI display via a Cat5e/6/7 cable with a HDMI over CAT5e receiver (EVRX3001)
12. +5V DC: Connection for 5V DC power supply unit

EDID

The EDID switch allows for EDID learning or to pre-set an EDID to encourage a "handshake" between the display and source.

0 = (Video) –2D / Full-HD 24bit 1080p@60 (Audio) – up to 7.1ch surround soundt

1 = (Video) –2D / Full-HD 24bit 1080p@60 (Audio) – up to 2.0ch surround sound

2 = (Video) –2D / Full-HD 36bit 1080p@60 (Audio) – up to 7.1ch surround sound

3 = (Video) –2D / Full-HD 36bit 1080p@60 (Audio) – up to 2.0ch surround sound

4 = (Video) –2D / HD 24bit (1080p@30)(1080i@60)(720p@60) (Audio) – up to 7.1ch surround sound

5 = (Video) –2D / HD 24bit (1080p@30)(1080i@60)(720p@60) (Audio) – up to 2.0ch surround sound

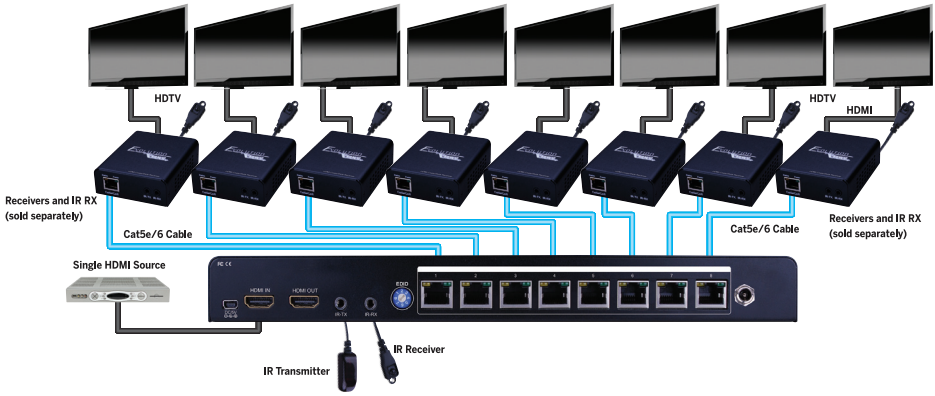
6 = (Video) –3D / Full-HD 36bit (1080p@60) (Audio) – up to 2.0ch surround sound

7 = (EDID Learning Mode) – learns EDID from the display

To set EDID:

1. Ensure all source and display components, including 1x8 Splitter and Receiving units (RX) are powered off and HDMI and Category cables are disconnected from both units
2. Set EDID to position desired
3. Connect HDMI cables from source equipment to 1x8 Splitter and from display equipment to Receiver unit (RX); Connect Category cables from 1x8 Splitter to Receiver unit (RX)
4. Power the 1x8 Splitter, followed by the Receiving unit (RX)
5. Power the Source equipment, followed by the display equipment

CONNECTION DIAGRAM



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.
2. Connect a display such as an HDTV or HD Projector to the HDMI output on the Receiving unit (EVEX3001).
3. Connect a single Category 5e/6 up to 131ft/40m to the UTP output of the EVSP1018 1x8 Splitter, and the other end to the input of the Receiving unit (EVEX3001).
4. For the HDMI output, connect an HDMI cable directly to display or to an additional EVSP1018 for cascading purposes.
5. For power, plug in the EVSP1018 1x8 Splitter and then the EVEX3001 Receiving units with included DC 5V 2A power supplies.
6. Power on each device in the same sequence (splitter and receiver will already be powered when either unit is plugged in.)

At this point the display connected should display the source signal connected to the extender set. If no signal is being displayed, connect a shorter Cat5e/6 cable (jumper or patch cable). If a display is having difficulty receiving a signal, see EDID section and perform EDID learning or access the display's menu and adjust the resolution (lowest to highest until signal is displayed). A 24 Hz vertical refresh rate may work better than 60 Hz or higher. Use the source remote at the receiver emitter to test IR functionality. If the IR remote function is not responding, check the emitters to ensure they are placed correctly and are plugged into the correct IR jacks on the Extender set receiving and transmitting units.

IR PASS-THROUGH

IR Blaster TX

IR Receiver RX

IR BLASTER (EV-IRTX)

To control the source: Plug IR Blaster into IR TX port of splitter unit (EVSP1018); 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 (EVRX3001); place blaster in front of the IR eye of the display.

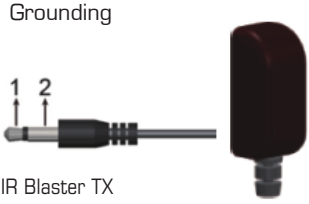
IR RECEIVER (EV-IRRX)

*Included with EVEX3001 Receiver

To control the source: Plug IR Receiver into IR RX port of receiver unit (EVRX3001); place receiver at or near display.

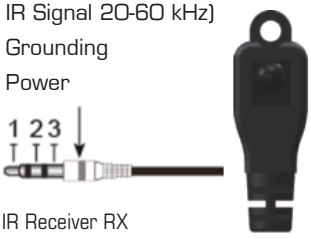
To control the display: Plug IR Receiver into IR RX port of splitter unit (EVSP1018); place receiver in position where it is able to receive remote signals.

1. IR Signal
2. Grounding



IR Blaster TX

1. IR Signal 20-60 kHz)
2. Grounding
3. Power



IR Receiver RX

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.

Performance Guide for HDMI over Category Cable Transmission

Performance rating		Type of category cable		
Wiring	**Shielding**	**CAT5**	**CAT5e**	**CAT6**
Solid	Unshielded (UTP)	★★★	★★★★	★★★★★
	Shielded (STP)	★★★	★★★	★★★★
Stranded	Unshielded (UTP)	★	★★	★★
	Shielded (STP)	★	★	★★
Termination		Please use **EIA/TIA-568-B** termination (**T568B**) at any time		

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 EVSP1018 has been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipments, the EVSP1018 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 info@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.

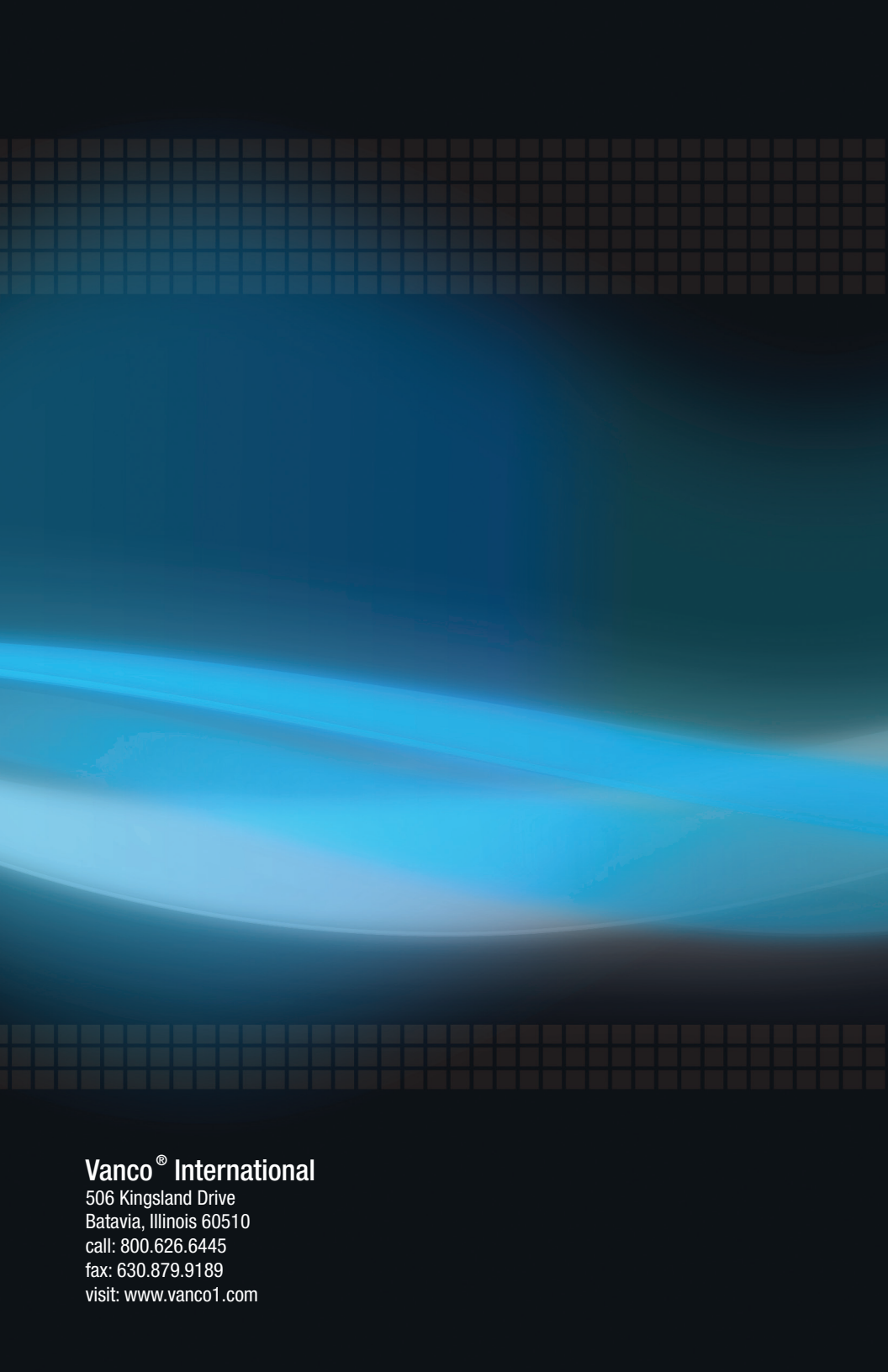
Please read this Instruction Manual prior to calling or installing this unit, since it will familiarize you with the capabilities of this product and its proper installation.

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.

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.



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