HDMI® 4K2K Switches

Vanco Part Number:
280710 (5x1)
280711 (3x1)

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.
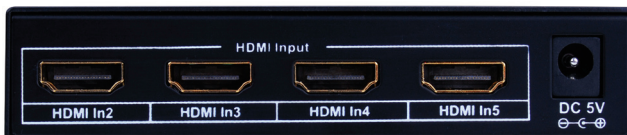
FEATURES

The Vanco 280710 and 280711 HDMI Switchers allows for multiple sources to be switched to a single display, with the ability of controlling each source connected from the connected display, remotely via IR. Have multiple sources switched automatically to a single display, by simply turning on or off a connected source, flexibility by creating additional HDMI inputs. The Vanco switchers are capable of up to 4K2K (2160p) Ultra High Definition resolution with simple plug and play installation, simply connect a display and the sources via HDMI. Fully compatible with Vanco HDMI Extenders so that additional range can be achieved for longer length runs. Also features "Smart Switching Technology" that will automatically switch to any HDMI signal that is connected or turned on. The result is a great solution for HDMI signal switching, or for creating additional HDMI inputs, the Vanco HDMI switchers are a great choice for any application.
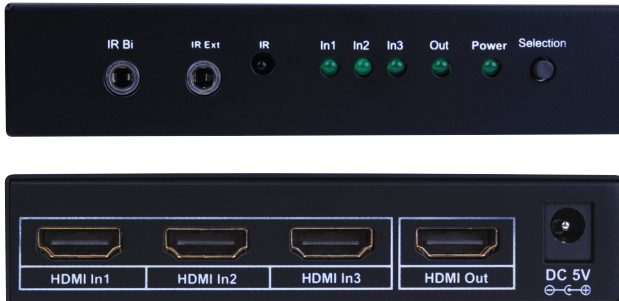
HDMI® 5x1 4K2K Switch
Part # 280710

- Allows 5 sources to be switched and distributed to a single display

- Features "Smart Switching Technology" that will automatically switch to any HDMI signal that is connected or turned on; automatically switches to the next HDMI source signal that is active if turning off current HDMI input

- Supports 4K2K (2160p @30) Ultra High Definition resolution

- Full high definition resolution support: 2160p, 1080p, 1080i, 720p and other standard video formats

- Fully cascadable so multiple units may be combined to create an expanded distribution system

- Supports HDMI 36bit Deep Color and 3D

- Supports standard audio, DSD audio and HD (HBR) audio, 7.1 and 5.1 surround audio, actually, Dolby digital, Dolby True HD, DTS, and DTS Master audio

- Features dual band Super IR system for controlling source from any display connected (HDMI IR adapters (Part # 280703) and IR transmitters and receivers are sold separately (Part #s 280720, 280721))

- HDCP Compliant

- Compact design for easy installation

- Power Supply: DC 5V

- Dimensions: 4.4" (112mm) W x .9" (23.5mm) H x 3" (77.5mm) D

HDMI® 3x1 4K2K Switch
Part # 280711

- Allows 3 sources to be switched and distributed to a single display

- Features "Smart Switching Technology" that will automatically switch to any HDMI signal that is connected or turned on; automatically switches to the next HDMI source signal that is active if turning off current HDMI input

- Supports 4K2K (2160p @30) Ultra High Definition resolution

- Full high definition resolution support: 2160p, 1080p, 1080i, 720p and other standard video formats

- Fully cascadable so multiple units may be combined to create an expanded distribution system

- Supports HDMI 36bit Deep Color and 3D

- Supports standard audio, DSD audio and HD (HBR) audio, 7.1 and 5.1 surround audio, actually, Dolby digital, Dolby True HD, DTS, and DTS Master audio

- Features dual band Super IR system for controlling source from any display connected (HDMI IR adapters (Part # 280703) and IR transmitters and receivers are sold separately (Part #s 280720, 280721))

- HDCP Compliant

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- Dimensions: 4.4" (112mm) W x .9" (23.5mm) H x 3" (77.5mm) D

SPECIFICATIONS

HDCP Compliance .... Yes

Video Bandwidth .... Single-link 340 Mhz [10.2 Gbps]

Video Support .... 480i/480p/720p/1080i/1080p @60 36-bit /2160p @30 24-bit Deep Color

Audio Support .... Supports standard audio, DSD audio and HD (HBR) audio, 7.1 and 5.1 surround audio, actually, Dolby digital ,Dolby True HD, DTS, and DTS Master audio

ESD Protection .... ± 8kV (air-gap discharge) & ± 4kV (contact discharge)

Input .... 3/5x HDMI / 1x IR socket for IR transmitter

Output .... 1x HDMI

HDMI connector .... Type A 19 pin female

3.5mm connector .... [System IR] Receives IR commands from remote control

MECHANICAL SPECS

Housing .... Metal case

Power Supply .... DC 5V 2A; 100~240V

Operation temperature .... 32~104 °F

Storage temperature .... -4 ~140 °F

Relative Humidity .... 5-90% RH (no condensation)
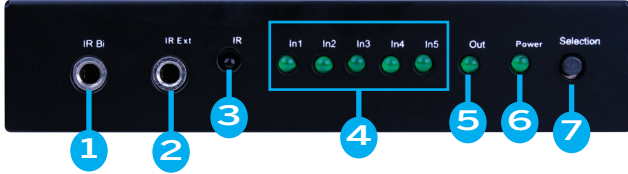

PACKAGE CONTENTS

Before attempting to use this unit, please check the packaging and make sure the following items are contained in the shipping carton:
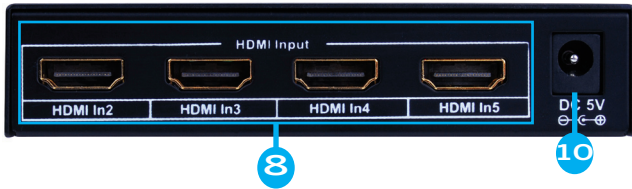
- (1) 280710/280711
- (1) IR Remote Control
- (1) DC 5V, 2A power supply
- (1) User Manual

280710 PANEL DESCRIPTIONS

Front:
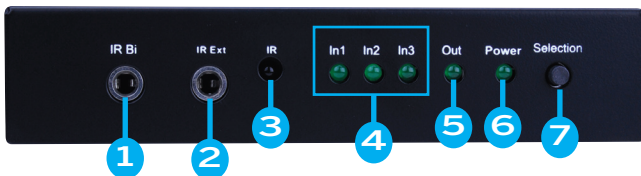

Back:

Side View:

1. IR port: Requires Super IR Blaster (TX) (part # 280720), controls the source(s) connected, see optional IR Pass-Through section.

2. IR EXT: Requires Super IR Receiver (RX) (part # 280721 or 280721EXT), this extends the IR receiving of the switcher if it is hidden and cannot receive line of sight IR signals. This will switch the switcher using the included remote.

3. IR Eye: Takes in IR signals from included remote to switch the switcher.

4. Input Status, Inputs 1-5: Illuminates when input is selected.

5. Output Status: Illuminates when the output is active and connected.

6. Power Status: Illuminates when power is connected

7. Selection Button: Press to switch to each input sequentially.

8. HDMI Inputs 2-5: connect an HDMI source such as cable box or bluray player

9. Input 1 located on side panel

10. 5V DC port – connect included power supply

NOTE: HDMI Output located on left side panel (NOT PICTURED) HDMI Output: connect an HDMI display such as an HDTV or projector
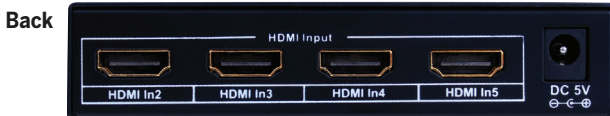
280711 PANEL DESCRIPTIONS

Front:

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2. IR EXT: Requires Super IR Receiver (RX) (part # 280721 or 280721EXT), this extends the IR receiving of the switcher if it is hidden and cannot receive line of sight IR signals. This will switch the switcher using the included remote.

3. IR Eye: Takes in IR signals from included remote to switch the switcher.

4. Input Status, Inputs 1-3: Illuminates when input is selected.

5. Output Status: Illuminates when the output is active and connected.

6. Power Status: Illuminates when power is connected

7. Selection Button: Press to switch to each input sequentially.

8. HDMI Inputs 1-3: connect an HDMI source such as cable box or bluray player.

9. HDMI Output: connect an HDMI display such as an HDTV or projector.

10. 5V DC port – connect included power supply

Up to 5 Input Sources

Front

IR Transmitter

Back

HDMI Input

HDMI In2   HDMI In3   HDMI In4   HDMI In5   DC 5V

IR Receiver   **HDMI**

Forward and Backward Compatible IR Channel Control

HDTV

IR Adapter allows for IR Control over any existing HDMI Cable

280711 CONNECTION DIAGRAM
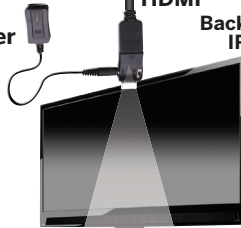
Up to 3 Input Sources

Front

IR Transmitter
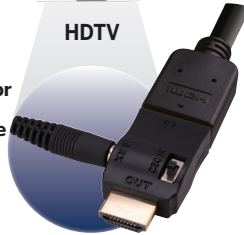
Back

HDMI

IR Receiver

Forward and Backward Compatible IR Channel Control

HDTV

IR Adapter allows for IR Control over any existing HDMI Cable

CONNECT AND OPERATE

1. Connect sources such as a Blu-Ray Player, game console, A/V Receiver, Cable or Satellite Receiver, etc. to the HDMI inputs on the switcher.

2. Connect the HDMI display to the output HDMI port, using a high-definition display such as an HDTV or HD projector that has HDMI inputs. Note that high-speed HDMI cables are recommended for the distances that are required for each connection.

3. For power, plug in the sources first, followed by the switcher (power supply included), followed by the output display connected.

4. Power on each device in the same sequence.

At this point the display connected should display the sources that are connected, ensure the display is displaying A/V signals and verify everything is in working order. If a display is having difficulty receiving a signal, 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. If the IR remote function is not responding, check the emitters to ensure they are placed correctly and are plugged into the IR jack correctly on the switcher.
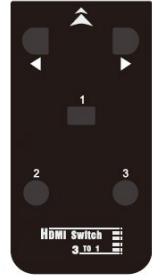
REMOTE CONTROL OPERATION

The included remote control allows for switching inputs on the unit remotely instead of using the front panel button. There are two ways of utilizing the remote:

1. Point remote at front panel of the HDMI switcher to switch inputs

2. Plug in a Super IR Receiver (see Optional IR Pass-Through for IR operation) into the IR EXT port on the front panel of the switcher; this will allow for the HDMI switcher to be hidden while the Super IR Receiver pigtail is exposed for line of sight. Point remote at the Super IR Receiver pigtail.

The following codes are the IR Hex Codes for each HDMI switcher, while many universal remote controls can learn directly from the included Vanco remote, these codes can be entered in manually so that switching can be done with a third party universal remote.
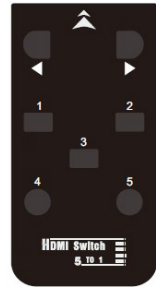
280711 3x1:

Customer Code: 00FF
IR HEX CODE:
Backward Key: 00FF5CA3
Forward Key: 00FF1EE2
Number 1 Key: 00FF17E8
Number 2 Key: 00FF5DA2
Number 3 Key: 00FF1CE3

280710 5x1:

Customer Code: 00FF
IR HEX CODE:
Backward Key: 00FF5CA3
Forward Key: 00FF1EE2
Number 1 Key: 00FF55AA
Number 2 Key: 00FF15EA
Number 3 Key: 00FF1AE5
Number 4 Key: 00FF5DA2
Number 5 Key: 00FF1CE3

IR

The Super IR system allows you to control the source that is connected to the splitter, from any display connected using the Super IR adapters at each display. 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. These pigtails are placed at each display and plugged into the Super IR adapter placed in between the HDMI cable and the display.

2. The IR Blaster (IR TX) is what sends the IR signal to your source(s). This pigtail is placed at the source(s), and pointed at the source(s). Please note that if you are intending to control multiple sources, the sources should be stacked on top of each other, with the blaster placed in front of the stack, reaching each individual source. Placement is key! If you would like to control the switch remotely from the display, plug in a Super IR Receiver into the IR EXT port, and lead pigtail out to the display.

IR BLASTER (TX)

Plug IR Blaster into IR port on front panel of splitter unit; place blaster in front of the IR eye of the corresponding source.

There are (2) versions of the Super IR Blaster:

280720 - Super IR Transmitter

(blaster type, to be placed in front of source)

280720EXT - Super IR Transmitter with extension (small pigtail type, to be placed on front panel of source)

IR RECEIVER

Plug IR Receiver into IR Adapter (see below); place receiver at or near corresponding display.

There are 2 version of the Super IR Receiver:

280721EXT - Super IR Receiver with extension (dome type, to be placed at display)

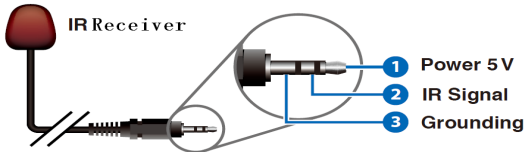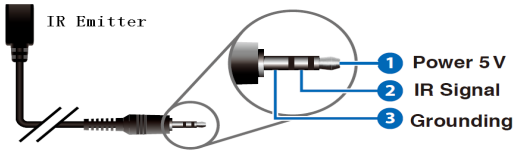*280721* - Super IR Receiver (block type,
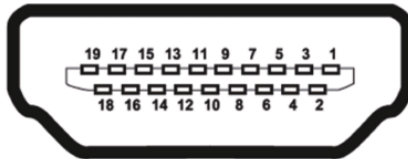
to be placed at display)

IR ADAPTER

The Super IR Adapter is needed for each display connected. Plug in the Super IR Adapter in between the HDMI cable and the display. The Adapter features a jack to plug in the Super IR Receiver. This allows the IR signal to travel through the HDMI cable, into the splitter, and then out of the IR Blaster.

280703 - Super IR Adapter

IR Emitter

1 **Power 5 V**
2 **IR Signal**
3 **Grounding**

IR Receiver

1 **Power 5 V**
2 **IR Signal**
3 **Grounding**

HDMI PIN DEFINITION »

Type A (Receptacle) HDMI

Pin 1	TMDS Data2+	Pin 8	TMDS Data0 Shield	Pin 15	SCL
Pin 2	TMDS Data2 Shield	Pin 9	TMDS Data0–	Pin 16	SDA
Pin 3	TMDS Data2–	Pin 10	TMDS Clock+	Pin 17	DDC/CEC Ground
Pin 4	TMDS Data1+	Pin 11	TMDS Clock Shield	Pin 18	+5V Power
Pin 5	TMDS Data1 Shield	Pin 12	TMDS Clock–	Pin 19	Hot Plug Detect
Pin 6	TMDS Data1–	Pin 13	CEC		
Pin 7	TMDS Data0+	Pin 14	Reserved(N.C. on device)		

NOTICE

1. Vanco High Speed HDMI 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 unit. Please check carefully before plugging in the IR accessories into the respective IR sockets.

3. 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 unit 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

This unit has been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipments, this product 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.

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

Vanco® International

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