



12x3 Multi-Function Switch/Scaler

Vanco Part Number:
280595

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 280595 12x3 Multi-Function Switch/Scaler offers the highest compatibility among composite, component, DVI, VGA, HDMI and S-Video to CVBS & HDMI in the market. This unique device supports analog and digital conversion and scaling. With the embedded advanced de-interlacer, interlaced video inputs such as component, composite and S-Video, can be further improved. The 280595 supports the insertion of stereo analog audio and S/PDIF inputs into HDMI output. This product was designed to ease the conversion among multiple video formats to common CVBS and HDMI formats.

12x3 Multi-Function Switch/Scaler

Part # 280595

- Allows the conversion of up to 12 multi-format inputs to 2 mirroring HDMI outputs and 1 Composite output
- Upscales standard definition/high definition sources to resolutions up to 720p or 1080p, with both HDMI outputs working simultaneously along choice of composite output - some VESA formats can be bypassed by using VGA and DVI-I ports
- Buffers, amplifies and equalizes the signal to ensure optimum transmission and reception over the length of the cable run without any loss in video/audio quality
- Inputs supported include: 1 x VGA source , 2 x S-Video source, 2 x Composite AV sources with LR audio, 2 x Component sources with LR audio, 4 x HDMI sources , 1 x DVI-I source , Stereo input for audio. S/PDIF input for digital audio
- HDMI Outputs feature bypass from either stereo input or S/PDIF input
- Features noise reduction and video enhancements when upscaling to 720p/1080p
- DVI-I supports both analog and digital formats with L/R and/or S/PDIF audio input
- Detached audio output by L/R and optical
- Delivers uncompressed digital video with zero signal loss
- Supports high definition resolutions up to 1080p
- Dual switching option: IR control with included remote and manual front panel control
- IR receiver included for IR extension
- Serial port for firmware update
- Power Supply: 5V 4A DC, UL Listed
- Dimensions: 17.25" (438.15mm) W x 1.75" (44.45mm) H x 4.75" (120.65mm) D

SPECIFICATIONS

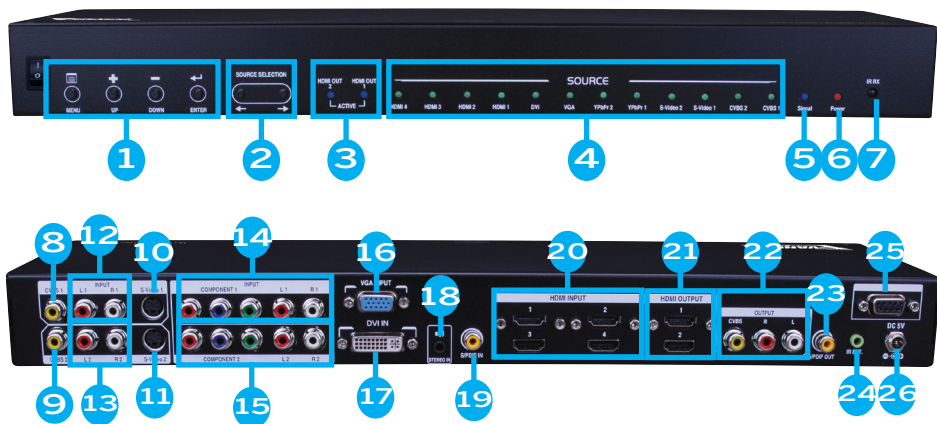
Input Video bandwidth	HDMI:225 MHz, DVI/VGA:165 MHz, Component: 74.25MHz
Output Video bandwidth.....	297MHz
Audio support.....	HDMI: bypass to HDMI output/ SPDIF output/ stereo output, SPDIF: bypass to HDMI output or SPDIF output, Stereo: bypass to HDMI output or stereo output
ESD protection	[1] Human body model — $\pm 19\text{kV}$ [air-gap discharge] & $\pm 12\text{kV}$ [contact discharge], [2] Core chipset — $\pm 2\text{kV}$
PCB stack-up	4-layer board (impedance control — differential 100W; single 50W)
Firmware update.....	Feasible via RS232 Port
CEC Channel	ByPass
Input TMDS signal.....	1.2 Volts [peak-to-peak]
Input DDC signal.....	5 Volts [peak-to-peak, TTL]
Input	2xYPbPr&L-R + 2xS-Video + 2xCVBS&L-R + 1x VGA + 1xDVI + 1xStereo + 1xSPDIF + 4xHDMI + 1xRS-232
Output.....	2x HDMI + 1xCVBS + 2xRCA + 1 SPDIF
YPbPr.....	3xRCA(Video) + 2xRCA(Audio) [female]
S-Video.....	9 pin S-Video [female]
CVBS	1xRCA(Video) + 2xRCA(Audio) [female]
VGA connector	HD-15 [15-pin D-sub female]
HDMI connector	HDMI [19-pin female]
RS-232 connector	9-Pin D-sub female
Power supply.....	5V 2A DC
Power consumption.....	10W
Operation temperature.....	0~40°C [32~104°F]
Storage temperature.....	-20~60°C [-4~140°F]
Relative humidity	20~90% 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:

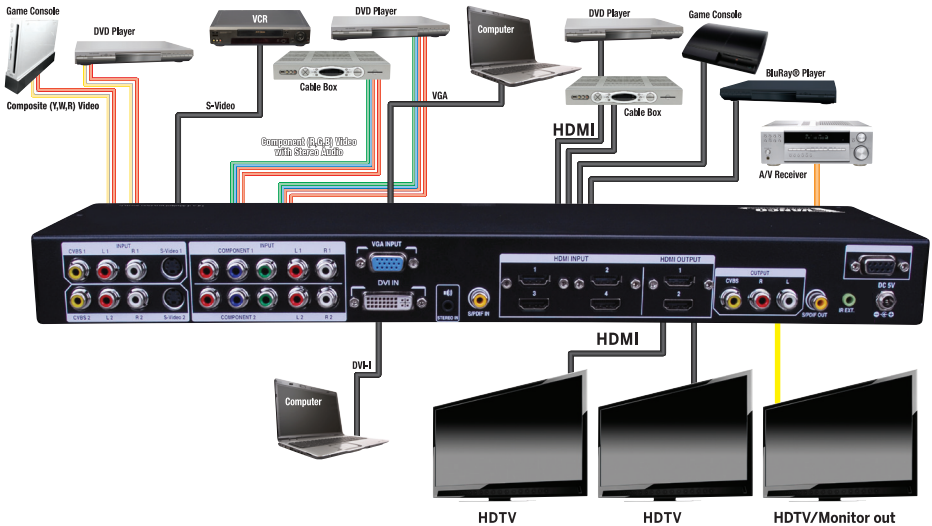
- (1) 280595
- (1) IR Receiver (RX)
- (1) IR remote, 28 Key
- (1) DC 5V, 2A power supply
- (1) Installation software CD
- (1) User Manual

PANEL DESCRIPTIONS



1. OSD Control Panel
2. Input Source Fast Switching
3. Output Status
4. Selected Source Indicator
5. Signal Indicator
6. Power Indicator
7. IR Sensor
8. CVBS1 Source
9. CVBS2 Source
10. S-Video1 Source
11. S-Video2 Source
12. Analog Audio1 Source (for CVBS1/S-Video2 Source)
13. Analog Audio2 Source (for CVBS1/S-Video2 Source)
14. YPbPr1 Source with Analog Audio
15. YPbPr2 Source with Analog Audio
16. VGA Source
17. DVI Source
18. Stereo Audio Source (for VGA/DVI Source)
19. S/PDIF Audio Source (for VGA/DVI Source)
20. HDMI1~4 Source
21. HDMI1&2 Output
22. CVBS Output with Analog Audio
23. S/PDIF Output
24. IR Extension
25. RS232 Control Port
26. +5V Power

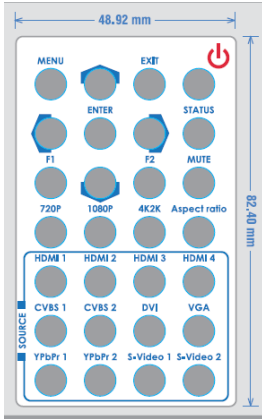
CONNECT AND OPERATE



1. Connect your source(s) to the appropriate type of input.
2. Connect your output(s) to the appropriate type of output.
3. Connect the audio output to a third party amp or audio system (optional).
4. For control, use the IR EXT with the appropriate provided IR EXT cable, or use a DB9 connection for RS232 control. You may also use the buttons found on the front of the unit for manual control, or utilize the IR sensor found on the front of the unit for direct or remote IR control.

NOTE: For the safety of all of the products involved in the system, please ensure that power is OFF or removed on all equipment while making connections

IR REMOTE CONTROL



BUTTON	FUNCTION
	Power On/OFF
EXIT	Exit Menu
MENU	Menu on
STATUS	Source and resolution information
ENTER	Enter key
MUTE	Turn off the output's audio
	Up Key
	Right Key
	Left Key
	Down key
Aspect ratio	Aspect ratio change
4K2K	Select 4K2K output resolution
1080p	Select 1080p60 output resolution
720p	Select 720p60 output resolution
HDMI 1	Select HDMI 1 source
HDMI 2	Select HDMI 2 source
HDMI 3	Select HDMI 3 source
HDMI 4	Select HDMI 4 source
CVBS 1	Select CVBS 1 source
CVBS 2	Select CVBS 2 source
DVI	Select DVI source
VGA	Select VGA source
YPbPr 1	Select YPbPr 1 source
YPbPr 2	Select YPbPr 2 source
S-Video	Select S-Video 1 source
S-Video	Select S-Video 2 source

OSD MENU

1. IMAGE	Contrast	0-255 of Contrast Level	
	Brightness	0-255 of Brightness Level	
	Saturation	0-255 of Saturation Level	
	Hue	0-255 of Hue Level	
	B/W Extension	Off, On	
	Color Tone	Off, Skin, Green	
	Edge Enhance	Typ, Mid, Max, Off	
	Sharpness	0-127 of Sharpness Level	
	2. ADJUSTMENT	Under/Over Scan	-50%-50% of Scan Level
		Aspect Ratio	16:9, 4:3
H-Mirror		Off, On	
V-Mirror		Off, On	
H-Shift		-100-100 of H-Shift Level	
V-Shift		-50-50 of V-Shift Level	
3. SYSTEM	Input Res. Info		
	Input Select		
	Audio Source*	SPDIF, Stereo	
	VGA Color Swap **	Off/On	
	Output Resolution		
	Output Mode		
	HDMI Port EDID		
	Firmware Version		
Factory Reset			

*Only available in VGA or DVI mode.

**Only available in VGA mode. Some VGA source might have Color Swap issue, please use this function to adjust.

CONNECT AND OPERATING THE SOFTWARE

SOFTWARE INTERFACE

1. Select Com port

Enter  to find com port



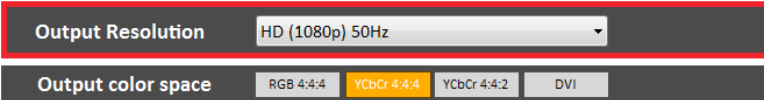
2. Select Source

Chose Input Format :



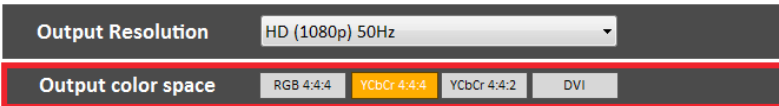
3. Setup Output Resolution

Output



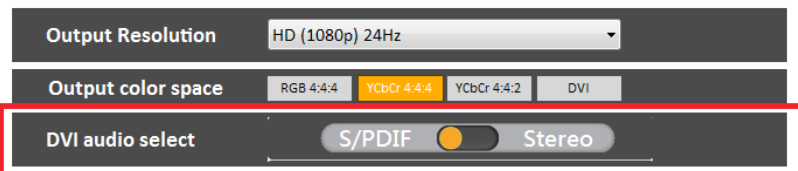
4. Setup Output color space

Output



5. If Source is DVI, it shows DVI audio selection. In selection you can choose S/PDIF or Stereo.

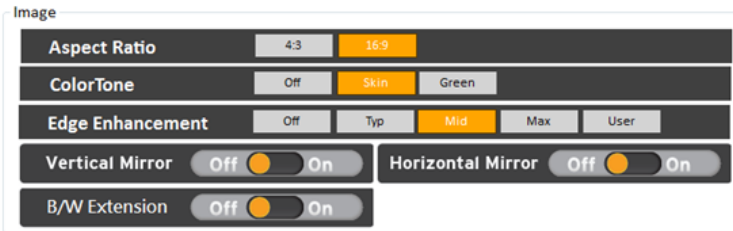
Output



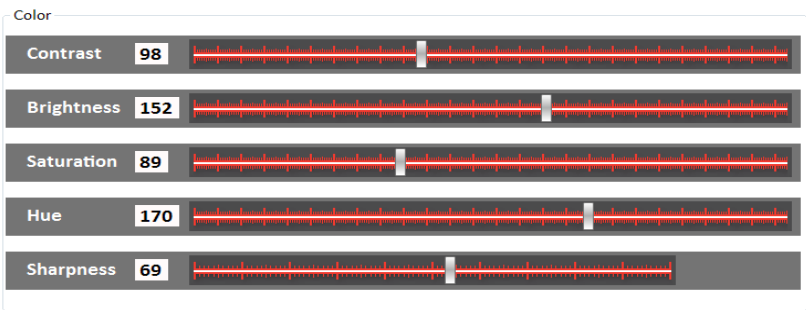
6. If Source is VGA, it might have color swap issue, please use the VGA color swap function to adjust.



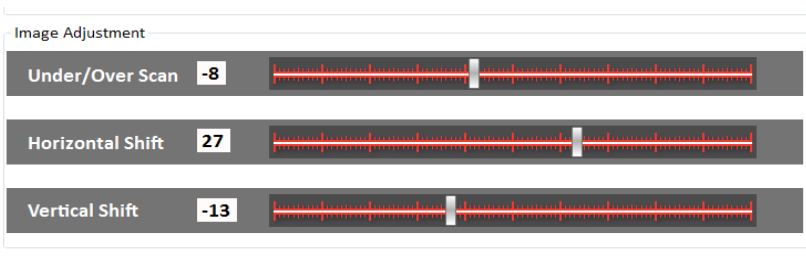
7. Setup Aspect Ratio - ColorTone



8. Setup Color Figure



9. Adjust Image.



TROUBLE-SHOOTING

1. 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".
2. 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.
3. 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 its output, then power up the Vanco unit and plug the HDMI cable into its 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.
4. 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.

SAFETY AND NOTICE

The 280595 has been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipments, the 280595 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

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