

4K 4x1 MULTI-FORMAT WIRELESS COLLABORATION SWITCHER

with Wired and Wireless Connectivity



**Vanco Part Number
EVSW4K41**

**4K 4x1 Multi-Format
Wireless Collaboration
Switch with Wired and
Wireless Connectivity**

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 EVSW4K41 Evolution by Vanco 4K 4x1 wired and wireless collaboration switcher features a wireless Miracast/Airplay input, two HDMI inputs, and one USB-C input to a single HDMI output. Switch from multiple presenters to one display wired or wirelessly. With both Miracast and Airplay support, cast wirelessly from computers, tablets, and mobile devices to the display with ease. Supports HDMI 2.0b, 4K@60Hz, 4:4:4, HDR and HDCP 2.3. HDMI audio de-embedding built in to break out audio to an amplifier or audio distribution system. USB 3.0 device extension by providing two type-B USB ports for host connection, and two type-A USB ports for USB devices such as camera, microphone, keyboard etc., as well as soft codec capabilities to easily integrate with video conferencing software. Control with 3rd party systems via RS232 commands, in addition to manual and "auto" switching modes. For any presentation and collaboration needs that requires multiple presenters to switch to and from wired and wirelessly, with options for audio and USB, the EVSW4K41 is the perfect solution!

4K 4x1 Multi-Format Wireless Collaboration Switch with Wired and Wireless Connectivity

Part # EVSW4K41

- 4x1 collaboration switcher with wired and wireless connectivity
- Perfect solution for conference room and presentation applications
- Supports Miracast/Airplay for wireless connection
- Supports HDMI 2.0b, 4K@60Hz, 4:4:4, HDR and HDCP 2.2 with HDR
- HDR10 and Dolby Vision compatible
- Wireless BYOD (Bring Your Own Device) capability via AirPlay and Miracast
- Soft Codec capabilities for integration with 3rd party video conferencing software
- Provides up to 60w charging, USB data (USB 3.0/2.0) and 4K video transmission on USB-C port
- Audio de-embedding built in to break out audio to an amplifier or audio distribution system
- Two type-B USB ports for host connection; two type-A USB ports for USB devices such as webcams, mouse, keyboard, etc.
- Auto-switching mode
- Smart EDID management
- Front panel buttons trigger both CEC and RS232 commands for display control
- Dimensions: 9.37" x 1" x 5.3" (238mm x 24.5mm x 135mm)

PACKAGE CONTENTS

- EVSW4K41 Collaboration Switcher
- (1) 5-pin Phoenix Connector
- (1) External Antenna
- (1) RS-232 Cable (3-pin to DB9)
- (2) Mounting Ears and (4) Mounting Screws
- 24V DC 5A Power Adapter
- Product Manual

SPECIFICATIONS

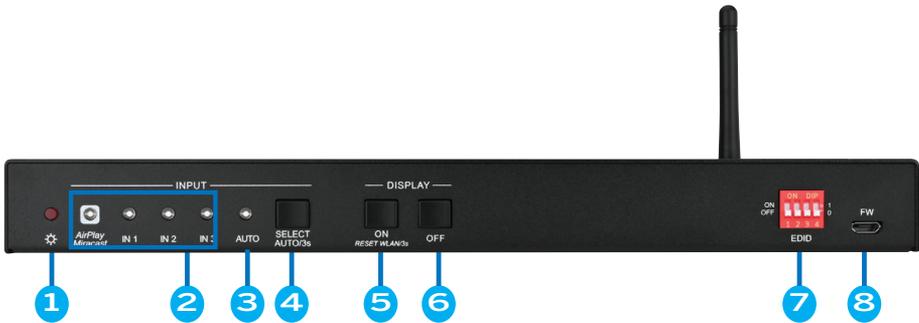
Video Input.....	(1) Wireless Connection via AirPlay/Miracast, (2) HDMI, (1) USB-C
Video Input Connector	(1) External antenna connector, (2) Type-A female HDMI, (1) Type-C USB 3.0
AirPlay/Miracast Input Resolution	Up to 4K@30Hz 4:4:4
HDMI Input Resolution.....	Up to 4Kx2K@60Hz 4:4:4 HDR10, Dolby Vision
USB-C Input Resolution	Up to 4K@30Hz 4:4:4
Video Output.....	(1) HDMI
Video Output Connector.....	(1) Type-A female HDMI
Video Output Resolution	Up to 4Kx2K@60Hz 4:4:4 HDR10, Dolby Vision
HDMI Standard.....	Up to HDMI 2.0b
HDCP Version.....	Up to HDCP 2.2
HDMI Embedded Audio Format.....	Supports Dolby Atmos, Dolby TrueHD, Dolby Digital Plus, Dolby Digital, DTS-X, DTS-HD Master Audio, DTS 5.1, 2 - 8Ch PCM 32-192kHz 16-24 bits; 2-8Ch PCM 32-192kHz 16-24 bits
Balanced Analog Audio Output.....	(1) AUDIO OUT
Balanced Analog Audio Output Connector	(1) 5-pin terminal block
Frequency Response	20Hz–20KHz, ± 3 dB
Max Output Level.....	2.0Vrms \pm 0.5dB
THD+N.....	< 0.05%, 20Hz – 20KHz bandwidth, 1KHz sine at 0dBFS level (or max level)
SNR	>80dB, 20Hz - 20KHz bandwidth
Crosstalk Isolation	<-80dB, 10KHz sine at 0dBFS level (or max level before clipping)
L-R Level Deviation.....	<0.05dB, 1KHz sine at 0dBFS level (or max level before clipping)
Output Load Capability	1K Ω and higher (Supports 10x paralleled 10K Ω loads)
Noise Level	-80dB
Control Port	(1) 4-pin DIP switch, (1) FW, (2) HOST (PC1&PC2), (2) DEVICES, (1) RS232
Control Connector.....	(1) Micro-USB, (2) Type-B USB 3.0, (2) Type-A USB 3.0, (1) 3-pin terminal block

SPECIFICATIONS

WLAN Standards.....	IEEE 802.11ac
Band	2.4 and 5GHz
Max. Wireless Coverage.....	≤5m, environment dependent, reduce disturbance to increase transmission distance up to 10m
Mx. Output Resolution.....	4K/30Hz
Version.....	iOS 7 or above, MacOS, Android 4.0 or above, Windows8.1 or above
Operation Temperature.....	-5 ~ +55 degrees Celsius
Storage Temperature	-25 ~ +70 degrees Celsius
Relative Humidity.....	10% ~ 90%
External Power Supply	Input: AC 100~240V, 50/60Hz; Output: 24V DC 5A
Power Consumption	85w (Max)
USB-C Power Charging.....	60w (Max)
Dimensions	9.37" x 1" x 5.3" (238mm x 24.5mm x 135mm)
Weight	1.8 lbs (825g)

PANEL DESCRIPTIONS

Front Panel



1. POWER LED: Illuminates red when unit is powered on
2. Four Input LEDs: Illuminates orange when there is video signal on its corresponding input channel; no illumination when signal is not present; illuminates green when source is selected
3. AUTO LED: Illuminates green when in auto-switching mode; no illumination when in manual-switching mode
4. SELECT AUTO/3s: Selects source in sequential order; press and for 3 seconds to enable auto-switching mode
 - a. Please refer to the Button Control Section for more details regarding switching rules
5. DISPLAY ON: Press the button to send Display On command to turn on the display. Note that the RS232 command needs to be setup. If an exception occurs at the AirPlay/Miracast input, press and hold the button for 3 seconds to reset
6. DISPLAY OFF: Press the button to send Display Off command to turn off the display. Note that the RS232 command needs to be setup
7. EDID: 4-pin DIP switch for EDID adjustment
8. FW: Micro USB port for firmware upgrade
 - a. Any available firmware updates will be available on www.vanco1.com, under the "downloads" tab of the webpage for this product

PANEL DESCRIPTIONS



1. External Antenna: Connect to the provided external antenna for Miracast/Airplay Wireless Input connectivity
2. HDMI Inputs 1-2: Connect HDMI source(s) such as computers and laptops
3. USB-C Input 3: Type-C USB with charging capability to connect devices with USB-C connections
Note: USB version 3.0 cables are recommended
4. HDMI OUT: Connect an HDMI display
5. AUDIO OUT: 5-pin terminal block for audio de-embedding from HDMI output
6. RS232: 3-pin terminal block to connect the RS232 control to a computer or a third-party device to be controlled by RS232 commands
7. HOST (PC1 & PC2): Two USB type-B ports to connect HDMI PC1 (Input 1) and PC2 (Input 2) source devices individually, connect to the corresponding HDMI inputs
8. DEVICE (1 & 2): Two USB type-A ports to connect USB devices to share amongst the two HDMI sources
 - When Airplay/Miracast or HDMI is selected as video input source, the USB devices are switched to control the PC1 host
 - When the HDMI PC2 is selected as video input source, the USB devices are switched to control the PC2 host
 - When the USB-C PC3 is selected as video input source, the USB devices are switched to control the USB-C PC3
9. DC 24V: Connect the included 24V DC power adapter to power the unit on

CONNECTION DIAGRAM



CONNECT AND OPERATE

1. Connect HDMI source(s) such as computers, laptops, tablets, etc.
2. Connect USB-C source such as a computer, laptop, tablet, etc.
3. See "Miracast/Airplay Connection" section for wireless source connection
4. Connect USB 2.0 Type B cables to the switcher, and then connect to the corresponding sources
5. Connect an HDMI display to the HDMI output on the switcher
6. Connect a keyboard, mouse, etc. to the USB ports (labeled "Devices")
7. Connect the provided power supply, and power on all other components including source(s), display, and USB peripherals
8. Switch between the sources and modes to test and ensure proper signal is displayed

MIRACAST/AIRPLAY CONNECTION

Wirelessly connect a computer, laptop, tablet, mobile device, etc. to the EVSW4K41 that supports Miracast or Aiplay, typical operating systems that support this feature for example are MacOS, iOS, Android, Windows 8.1 and later. Here are the following steps to connect wirelessly:

Switch to the Miracast/Airplay input by pressing the SELECT AUTO/3s button until the input is illuminated green, the Wi-Fi SSID and password will be displayed on the connected HDMI display

SSID:	ScreenSharing XXXXXX
Password:	12345678

SSID: ScreenSharing BFBC5C7E
Password: 12345678

TP-LINK 2.4G

To start your presentation

Miracast
Connect to ScreenSharing BFBC5E7E for wireless projection.
(Android / Windows 8.1 or later version)

AirPlay
Connect to WiFi ScreenSharing BFBC5E7E for Screen Mirroring.
(MacOS / iOS)

Version: V1.0.0
For more setting please visit <http://192.168.203.1>

iOS Connection Example:

1. Connect the source device to the Wi-Fi network

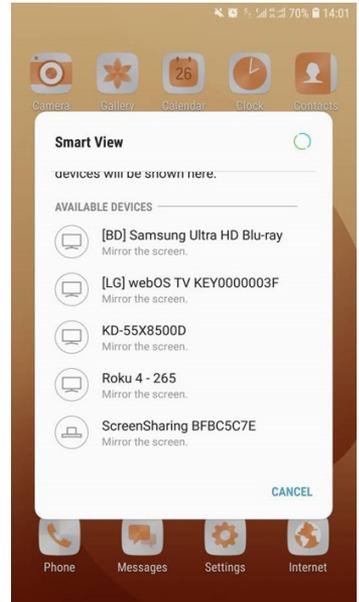
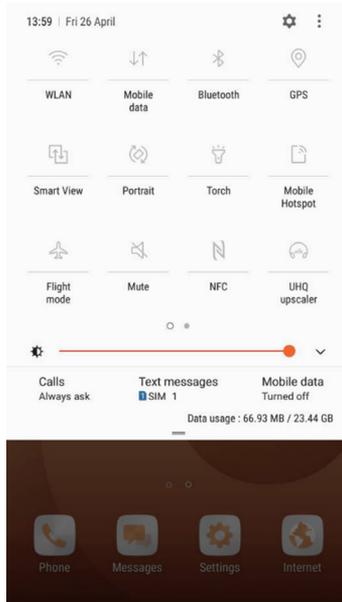


2. Slide the screen from the upper right hand corner to display the Control Center menu, click the Screen Mirroring, and then click the SSID for the EVSW4K41 for screen mirroring.



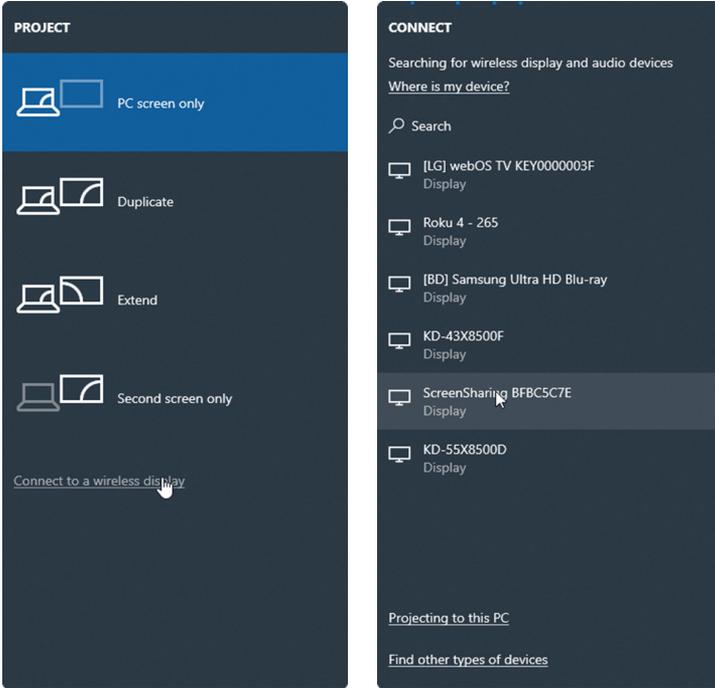
Android Connection Example:

Slide down the Android screen and click Smart View, then click the SSID for the EVSW4K41 for screen mirroring



Windows Connection Example:

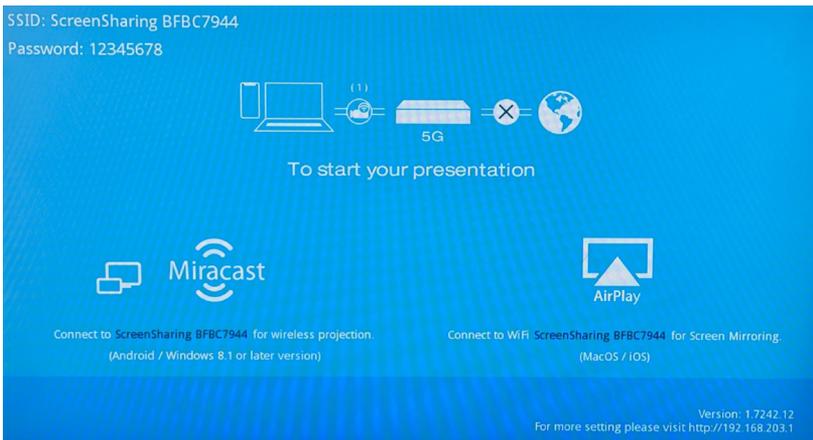
1. Press Winkey + P on keyboard, and then click Connect to a wireless display in the pop-up window
2. Click the SSID for the EVSW4K41 for screen mirroring



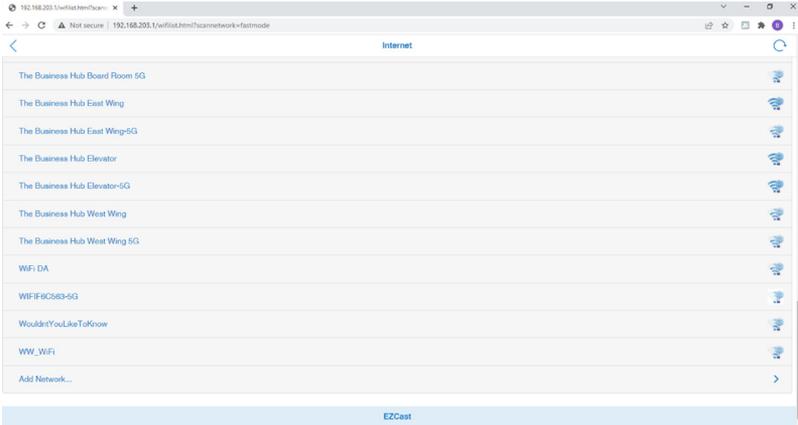
Connection and accessing additional settings through a network:

For some installations, additional settings may need to be changed to have the EVSW4K41 connect and operate properly. Please follow the directions below. If more than 1 unit resides in an area or within the same SSID, you will need to change the names and IP address of the units to avoid conflict.

1. Connect the HDMI output of the EVSW4K41 to a display and connect to power. There will be a screen with directions on how to connect to unit directly, as well as an IP address on the bottom left corner of the screen. Connect your device to the SSID shown on the top left of the screen with the password shown. Once the computer is connected to the EVSW4K41, type in the IP address shown on the screen (default is 192.168.203.1).

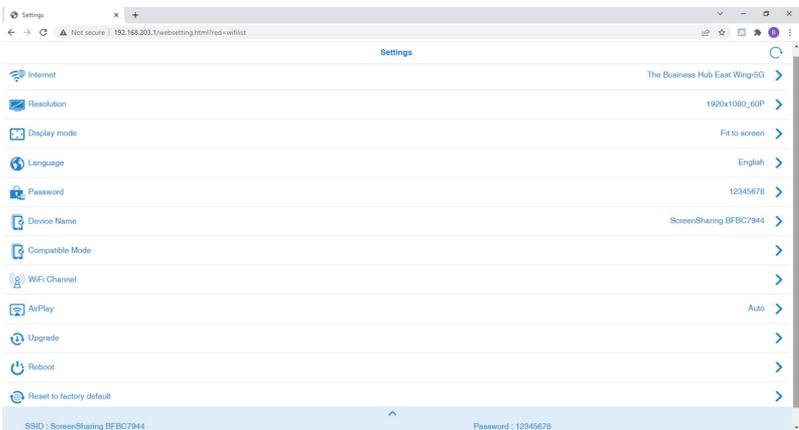


2. The Internet tab will be opened. Select the SSID of the network you wish to have the EVSW4K41 on and enter the password if necessary. You will receive a pop up that confirms you are connected. Click ok to continue.



NOTE: You may also need to change the Wireless Channel as well, but this can ONLY be done if the units are NOT connected to an external router.

3. If you click on the back arrow on the top left (<), you will be brought to the Settings tab. Here you can change different options including resolution, language, SSID, password, etc.



NOTE: All changes take effect AFTER selecting Reboot, by manually power cycling the unit.

FRONT PANEL CONTROL

Manual Switching

When the switcher is in the manual switching mode, press the SELECT AUTO/3s button repeatedly to cycle through the four video inputs sequentially, the corresponding source LED illuminates green for the selected input.

Auto Switching

Press and hold the SELECT AUTO/3s button for three seconds to enable auto-switching, the AUTO LED will illuminate green. When in the AUTO mode, the switcher will switch according to the following rules:

- The switcher will switch to the first active input starting at AirPlay/Miracast to PC3
- New input: The switcher will automatically select the new input once detecting a new input signal
- Reboot: If power is restored to the switcher, it will automatically reconnect to the input selected before shutdown
- Source removed: When an active source is removed, the switcher will switch to the first active input starting at AirPlay/Miracast input to PC3
- In auto mode, the input source also can be switched by the manual switching steps
- Press and hold the SELECT AUTO/3s button for three seconds to exit AUTO mode, note that the input source will not be changed
- Note that the AirPlay/Miracast is not an active input when there is no screen sharing device connection

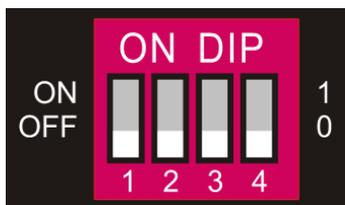
Display Control

With this feature, the display can be turned on/off via CEC. The display must have CEC functionality for this feature to work. Ensure the CEC feature is enabled on the display and that the proper HDMI input is utilized.

- Manual Control: Press the DISPLAY ON/OFF buttons on the front panel to simultaneously send RS232 and CEC commands to turn on/off the display device
- Auto Control: When detecting a video input signal (5V or TMDS), automatically sends CEC and RS232 commands to turn on the display device. When not detecting any video signal within the setting time (default 10mins), automatically sends RS232 and CEC commands to turn off the display device

EDID SETTING

The Extended Display Identification Data (EDID) is used by the source device to match its video resolution with the connected display. The DIP switch on the front panel can be used to set the EDID to a fixed value to ensure the compatibility in video resolution. The switch represents "0" when in the lower (OFF) position, and it represents "1" while putting the switch in the upper (ON) position.



Note: The EDID DIP switch only used for setting the EDID of HDMI source device, and the USB-C source device will automatically gains the EDID of display device.

Switch Status	Video Resolution	Audio Format
0000	EDID Pass-through	
0001	1280x720@60Hz	Stereo
0010	1920x1080@60Hz DVI	
0011	1920x1080@60Hz 8bit	Stereo
0100	1920x1080@60Hz 8bit	High Definition
0101	1920x1200@60Hz 8bit	Stereo
0110	3840x2160@30Hz 8bit	Stereo
0111	3840x2160@30Hz 8bit	High Definition
1000	3840x2160@30Hz 8bit HDR	Stereo
1001	3840x2160@60Hz Deep Color	Stereo
1010	3840x2160@60Hz Deep Color HDR	High Definition
Switch Status	EDID	NOTE
1011	User-defined EDID 1	The five user-defined EDID can be uploaded by sending RS232 command "#UPLOAD_USER_EDID [PARAM]", please refer to the chapter 6.2.4 Function Setting for more details.
1100	User-defined EDID 2	
1101	User-defined EDID 3	
1110	User-defined EDID 4	
1111	User-defined EDID 5	

- Stereo: LPCM 2CH.
- High Definition Audio: LPCM 8Ch, AC-3 6Ch, DTS 5.1, Dolby Digital5.1, DTS-HD7.1, Dolby TrueHD 7.1
- Deep Color: 8bit, 10bit, 12bit

TROUBLE-SHOOTING

Problems	Potential Causes	Solutions
Output image with white noise	Bad quality of the connection cable	Try another high-quality cable
	Fail or loose connection	Make sure the connection is good
No output image when switching	No signal at the input/output end	Check with oscilloscope or multimeter if there is any signal at the input/ output end
	Fail or loose connection	Make sure the connection is good
	The switcher is broken	Send to an authorized dealer for repairing
Power indicator doesn't work or no response to any operation	Fail connection of power cord	Make sure the power cord connection is good
Cannot control the device by control device (i.e. PC through RS-232 port)	Wrong RS-232 communication parameters	Type in correct RS-232 communication parameters
	Broken RS-232 port	Send to an authorized dealer for repairing

Note: If your problem still remaining after following the above troubleshooting steps, please contact your local dealer or distributor for further assistance.

SAFETY AND NOTICE

The EVSW4K41 has been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipments, the EVSW4K41 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.

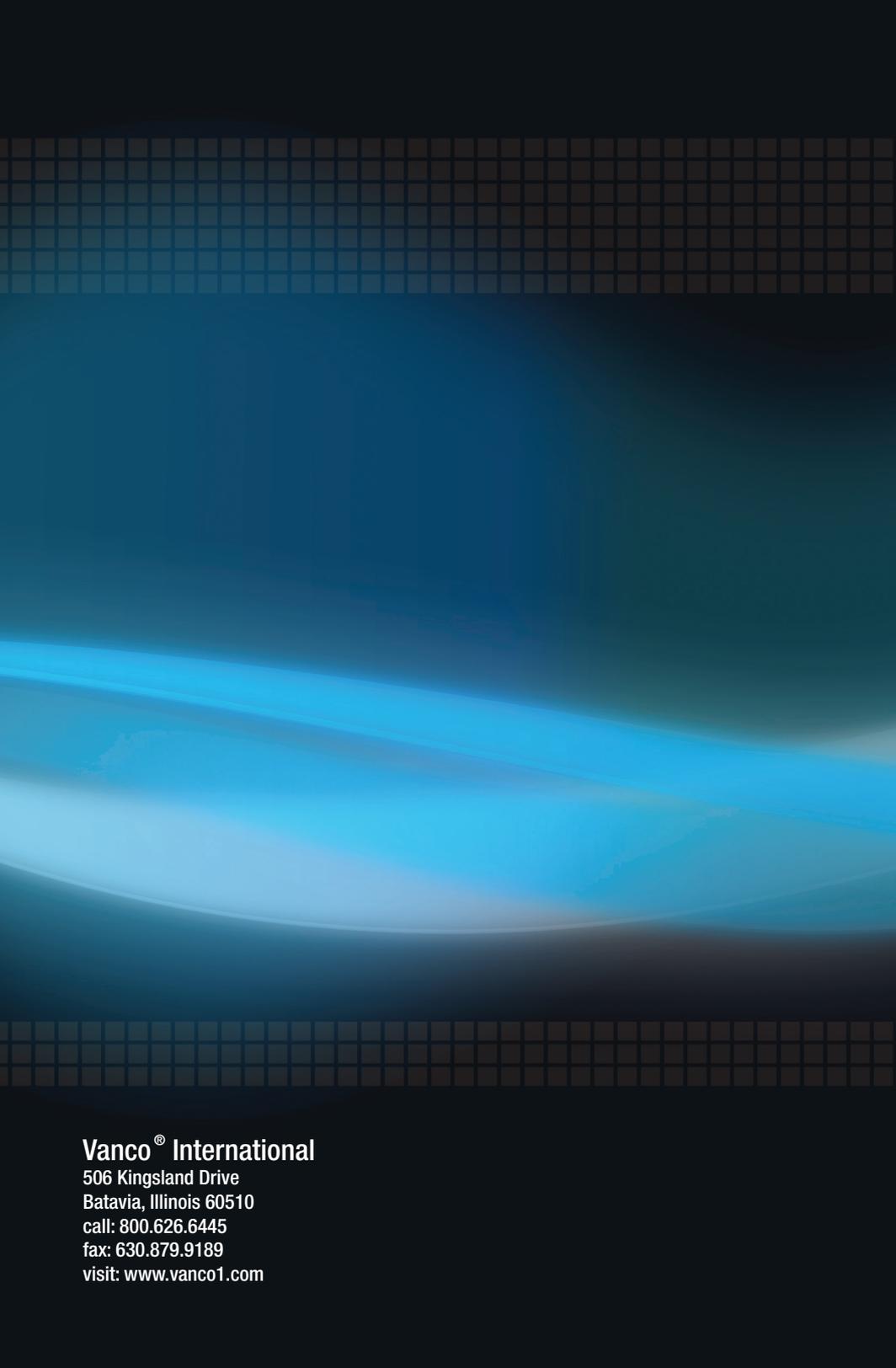
All active electronic products are 100% inspected and tested to insure highest product quality and trouble-free installation and operation. The testing process utilizes the types of high-definition sources and displays typically installed for entertainment and home theater applications.

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.

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