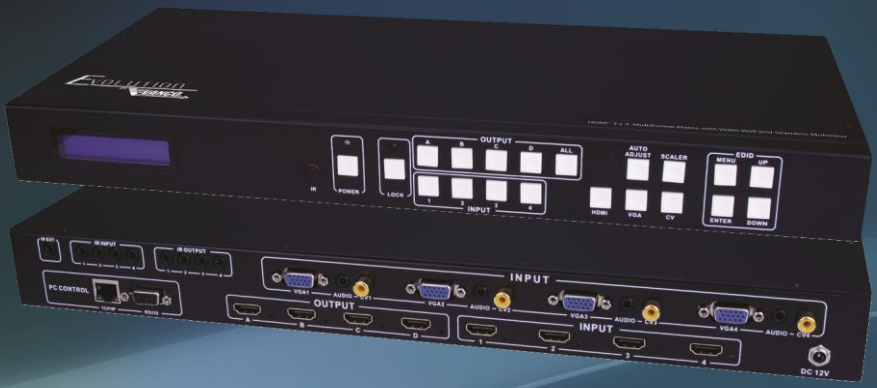
HDMI® 4 x 4 MATRIX

with Video Wall and Seamless Multiview



Vanco Part Number
EVMX44SL

HDMI® 4 x 4 Multi-format Matrix with Video Wall and Seamless Multiview

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.

FEATURES

INTRODUCTION

The EVMX44SL is a high-performance matrix with multiple modes to produce seamless matrix switching, as well as having multiview, and video wall modes. The switching of the matrix mode allows the speed of switching to be controlled allowing inputs to fade in/fade Multiview mode allows all of the sources to be seen on the displays equally in Quadview, or in PIP with a main source being larger than the other smaller sources. Video Wall mode allows the matrix to be configured to fit a 2x2 video wall with vertical and horizontal adjustments to account for different sized display bezels. The EVMX44SL also incorporates a scaler function to achieve a variety of formats to to a unified output signal with embedding audio. At the same time it with infrared matrix function. Flexible control mode possible through the front panel, IR, RS-232 and TCP/IP control.

HDMI® 4 x 4 Multi-format Matrix with Video Wall and Seamless Multiview

Part # EVMX44SL

- High-performance matrix with multiple modes to produce seamless matrix switching, as well as having multiview, and video wall modes
- The switching mode of the matrix allows the speed of switching to be controlled allowing inputs to fade in and fade out
- Multiview mode allows all of the sources to be seen on the displays equally in Quad-view, or in PIP with a main source being larger than the other smaller sources
- Video Wall mode allows the matrix to be configured to fit a 2x2 video wall with vertical and horizontal adjustments to account for different sized display bezels
- Built-in scaler function to achieve a variety of formats to a unified output signal with embedding audio.
- Supports RS-232, remote control, on-panel control and TCP/IP Control
- HDMI1.3, DVI1.0, and HDCP Compliant
- Input video supports HDMI, VGA and C-video
- Supports input resolutions: HDMI: 480i to 1080p, VGA:1920 x 1080P@60Hz, 1360 x 768P@60Hz, 1280 x 1024P@60Hz, 1024 x 768P@60Hz, 1280 x 720P@60Hz, 1280 x 768P@60Hz, 800 x 600@60Hz, 640 x 480P@60Hz, CV: Supports PAL, NTSC3.58, NTSC4.43, SECAM, PAL/M, PAL/N standard TV formats
- Supports smart EDID management
- Picture Adjustment Settings
- Automatically adjust the VGA and Composite video input

- Supports power-off memory
- Power Supply: 12V/2.5A DC
- Dimensions: 17.32” W x 1.75” H x 7.87” D

SPECIFICATIONS

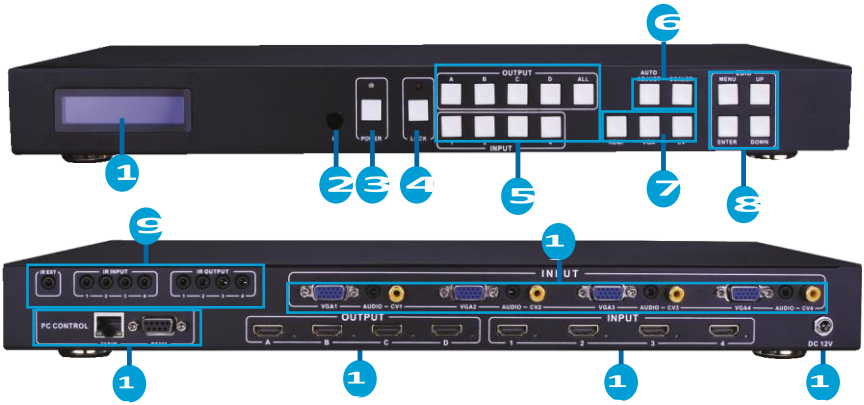
Input Ports ..... 4×HDMI, 4xVGA, 4xRCA,
..... 1×RS-232, 1xRJ-45(Control),
..... 5×IR RX 4xAudio
Output Ports ..... 4×HDMI, 4xIR TX
Input Resolutions ..... Up to 1920x1080P@60Hz
Output Resolutions ..... Up to 1920x1080P@60Hz
Control ..... IR , RS-232 , TCP/TP , Manual Buttons
ESD Protection ..... Human-body Model: ± 8kV (Air-gap discharge) ± 4kV (Contact discharge)
Power Supply ..... 12 V/2.5 A DC (US/EU standards, CE/FCC/UL certified)
Dimensions (H) ..... 17.32” W x 1.75” H x 7.87” D
Weight ..... 5.2 lbs
Chassis Material ..... Metal
Silkscreen Color ..... Black
Operating Temperature ..... 0 ºC~40 ºC/32 ºF~104 ºF
Storage Temperature ..... 20 ºC~60 ºC/ 4 ºF~140 ºF
Relative Humidity ..... 20~90 % RH (non-condensing)
Power Consumption ..... 13.5 W(Max)/1.2W(Standby)

PACKAGE CONTENTS

- 4x4 Matrix EVMX44SL
- (4) Wideband IR Tx cables
- (5) Wideband IR Rx cables

- Mixed Matrix IR Remote
- 12V/2.5A DC power supply
- 2 Mounting ears
- RS232 cable
- Product Manual

PANEL DESCRIPTIONS

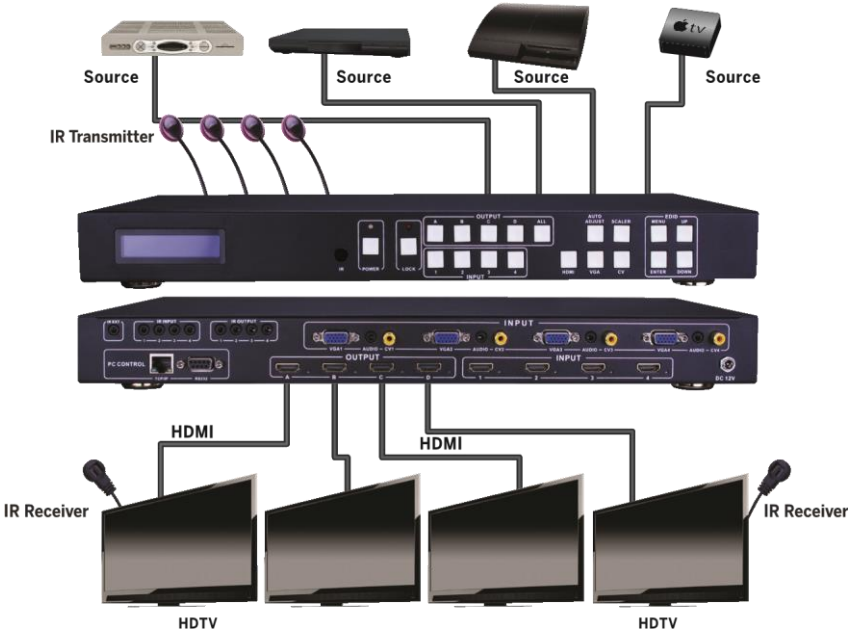


1. LCM: Displays the information of each input and output setting and EDID management.
2. IR: IR Receiver window (accepts the remote control signal of this device only).
3. POWER: Press this button to power the device on/off. The LED will illuminate green when the power is on, red when it is in 'Standby' mode.
4. LOCK: Press this button to lock all the buttons on the panel, press again to unlock.
5. OUTPUT/INPUT: Press the OUTPUT and INPUT button to select the output corresponding input.For example: Press OUPUT ALL>INPUT 1,The OUTPUT A,B,C,D will be set to INPUT 1.
6. Picture adjust:Press the button to adjust the output picture. For example:Press output 1>SCALER, The output 1 video will be scaler adjust. Note: 1. AUTO ADJUST button only work on VGA input.
7. Sources input select: Press the button to select source input. For example:Press input 1>VGA,The input 1 will be select the VGA video input.
8. EDID: Smart EDID management, the LCM will display the EDID operation. Press the MENU button to enter the EDID management window, press UP or DOWN button to select the needed EDID setting, press ENTER button to select the download input source. It can easy download any EDID mode to any input source.
9. IR Channel: IR EXT: if the panel sensor is obstructed or the unit is installed in a closed area out of infrared line of sight, a provided IR RX receiver can be inserted into the IR EXT port at the rear to extend the IR sensor range and enable local control of the matrix. IR IN: When used with the provided IR RX

receivers will receive and send IR from a remote location for control purposes. IR OUT: When used with the provided IR TX emitters will discreetly control the sources/inputs when selected in a specific zone.

10. VGA CV AND AUDIO INPUT: Connect to the VGA or CV input source device such as a DVD player, a Settop Box or PC with VGA cable or RCA cable. Each VGA or CV input is accompanied with a 3.5mm stereo audio input.
11. PC CONTROL: TCP/IP: This port is the link for TCP/IP controls, connect to an active Ethernet link with an RJ45 terminated cable. RS232: Connect to a PC or control system with D-Sub 9pin cable for the transmission of RS-232 commands.
12. OUTPUT:The HDMI OUTPUT connect to HDMI equipped TVs.
13. HDMI INPUT:Connect to the HDMI input source devices such as a DVD player or a Set-top Box with HDMI cable.
14. DC POWER INPUT: Plug the 12V/2.5A DC power supply into the DC12V power in.

CONNECTION DIAGRAM



CONNECT AND OPERATE

1. Connect your sources such as a Blu-Ray Player, game console, A/V Receiver, Cable or Satellite Receiver, etc. to either the HDMI, VGA or Composite inputs on the unit. Insert and extract cables carefully with the power switched off. Connecting and disconnecting while the unit is powered can result in damage to circuitry.
2. Connect the HDMI outputs that go to the displays
3. OPTIONAL: Connect the IR receiving extender to the IR EXT port on the matrix. You may also connect the provided IR RX and IR TX cables if you wish to use IR routing. See below for additional detailed information.
4. OPTIONAL: Connect an Ethernet cable from the TCP/IP port on the matrix to a local Area Network.
5. OPTIONAL: Connect an RS-232 cable from the RS232 port on the matrix.
6. Connect the DC 12V Locking power supply to the power receptacle on the matrix.
7. Connect the power supply to an available electrical outlet and power on the device.

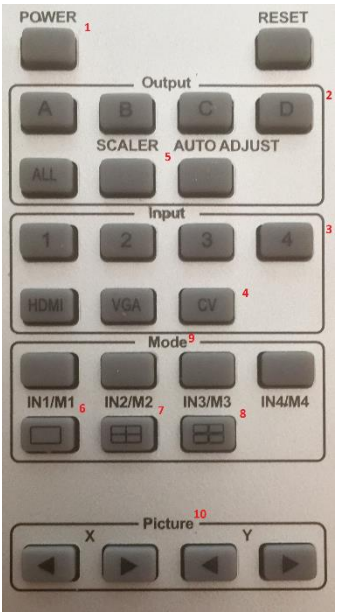
NOTICE

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.

EDID

EDID MODE	***EDID Description***
1	1080i, 2CH AUDIO
2	1080p, 2CH AUDIO
3	DVI 1920X1080

REMOTE CONTROL



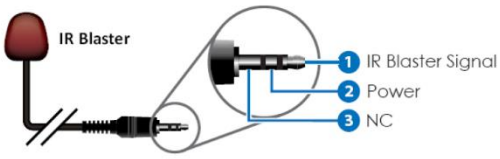
1. Press this button to power on the matrix or set it to standby mode.
2. Output selection. Letters correspond with the outputs on the matrix.
3. Input selection. Numbers correspond with the inputs on the matrix.
4. Sources input selection. Press the button to select source input. For example: Press input 1>VGA. The input 1 will select the VGA video input.
5. Picture adjust. Press the button to adjust the output picture. For example: Press output 1>SCALER. The output 1 video will be scaler adjust. Note: The AUTO ADJUST button only work on VGA input
6. Matrix Mode
7. Multi-view Mode
8. Video Wall Mode
9. Changes inputs while in Video Wall mode and Viewing Mode in Multi-View Mode
10. Video Wall Mode Horizontal and Vertical Bezel Adjustments

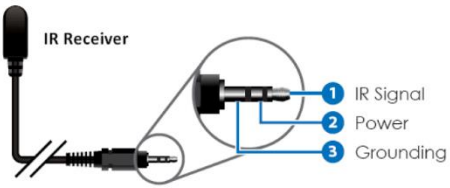
IR CONTROL SYSTEM

At Matrix end: Insert the 3.5mm jacks of the IR TX Emitters included with the unit into the IR TX Emitter ports at the rear of the matrix according to input. The IR signal is added to the HDMI of the input device so, for example, if the user is watching Blu-ray on input 1, the IR signal will be directed through the IR TX1 socket to control the device.

As each IR TX port is allocated to an individual HDMI input port, if the user is unable to establish IR control of the device, care should be taken to check firstly, that the IR emitter and HDMI input ports match (Input 1-TX1, Input2-TX2 etc.) with plugs secured in correct ports, and secondly, that the IR TX emitter sensors are firmly attached directly to the front of inputs and covering infrared sensor windows of the source devices. Some later adjustment may be needed to the location of the sensor to achieve the best performance results - sometimes moving the sensor to different areas on the source can improve IR performance.

IR RECEIVER **IR BLASTER**





NOTE: Infrared receiving areas of devices can be located by shining a flashlight onto the front of the device – the sensor should be able to be seen through the plastic as a small, round object inside. Insert 3.5mm jacks of IR RX receivers into RX ports, making sure the receivers themselves are placed in clear view to receive an infrared signal from the remote handset used to control the display outputs.

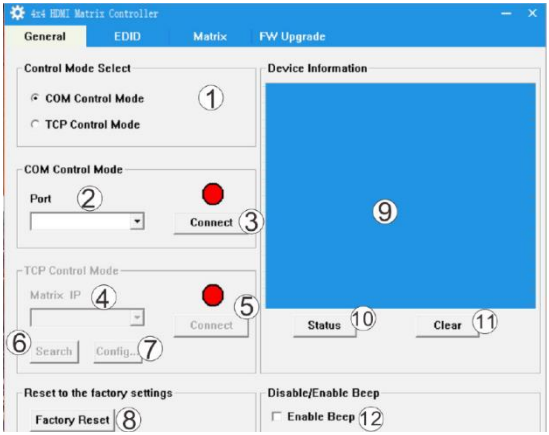
PC CONTROLLER USER GUIDE

Installation

The matrix controller is a green software. Simply copy MatrixController.exe to the C which is used to control the Matrix by RS232 COM port or TCP/IP to complete installation.

Preparation

- Connect PC and Matrix by RS232 cable or TCP/IP(local area network)
- Power-up Matrix
- Double click MatrixController.exe icon to run the application



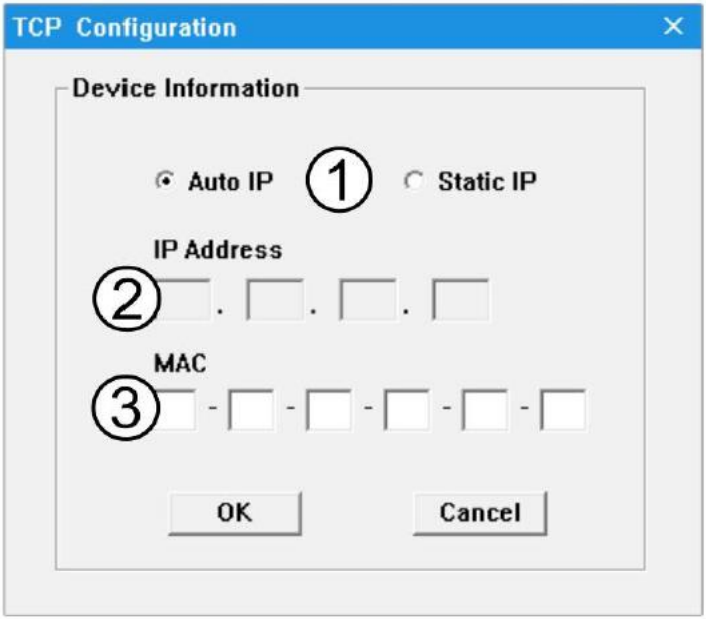
How to change settings and control switching:

"General" page

1. Select RS232 COM or TCP mode
2. Select RS232 COM port
3. Click to connect or disconnect PC and Matrix
4. Select Matrix IP

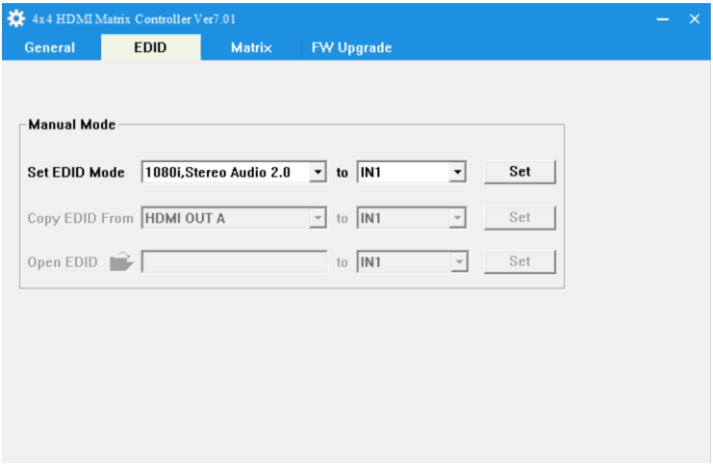
5. Connect to Matrix IP
6. Search Matrix IP
7. Configure Matrix IP and MAC
8. Click to reset to the factory settings
9. Device information display area
10. Click to refresh device status: include device information displayed in 9 area and Input/Output Settings on
    "Matrix" page
11. Click to clear device information
12. Enable or disable Beep Configure TCP

After action of 7 , edit form will pop-up as below:



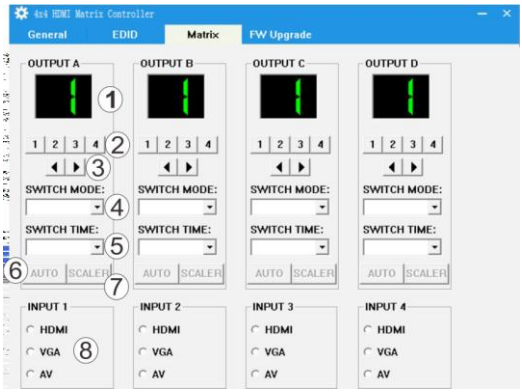
1. Select auto or static IP
2. Rewrite the Matrix IP
3. Rewrite the Matrix MAC

“EDID control” page



1. Select the needed EDID to input port and click set button the EDID will write to the selected HDMI input ports.

“Matrix” page

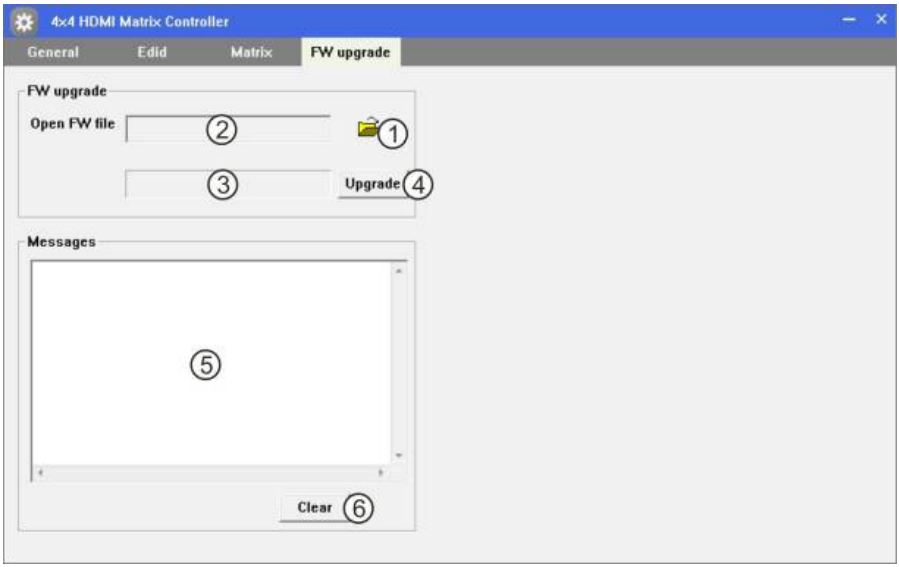


1. LED which display Input number for respective Output
2. Click to select Input port for respective Output port
3. Click to select previous or next Input port for respective Output port

4. Click to select the seamless switching output mode
5. Click to select the seamless switching time
6. Click to automatically adjust the output picture
7. Click to scaler the output picture
8. Click to select the input signal source

Note: The signal source for the VGA input 6 can use.

"FW upgrade" page



1. Click to open FW file(file extension is ".fw")
2. Display the FW file path
3. Displaying the progress of the software upgrade
4. Click to upgrade the Matrix software
5. Display the message of the software upgrade
6. Clear the message of the software upgrade

Note: The matrix after software upgrade required again to power supply.

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 EVMX44SL has been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipment, the EVMX44SL 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 troublefree installation and operation. The testing process utilizes the types of high-definition sources and displays typically installed for entertainment and home theater applications.

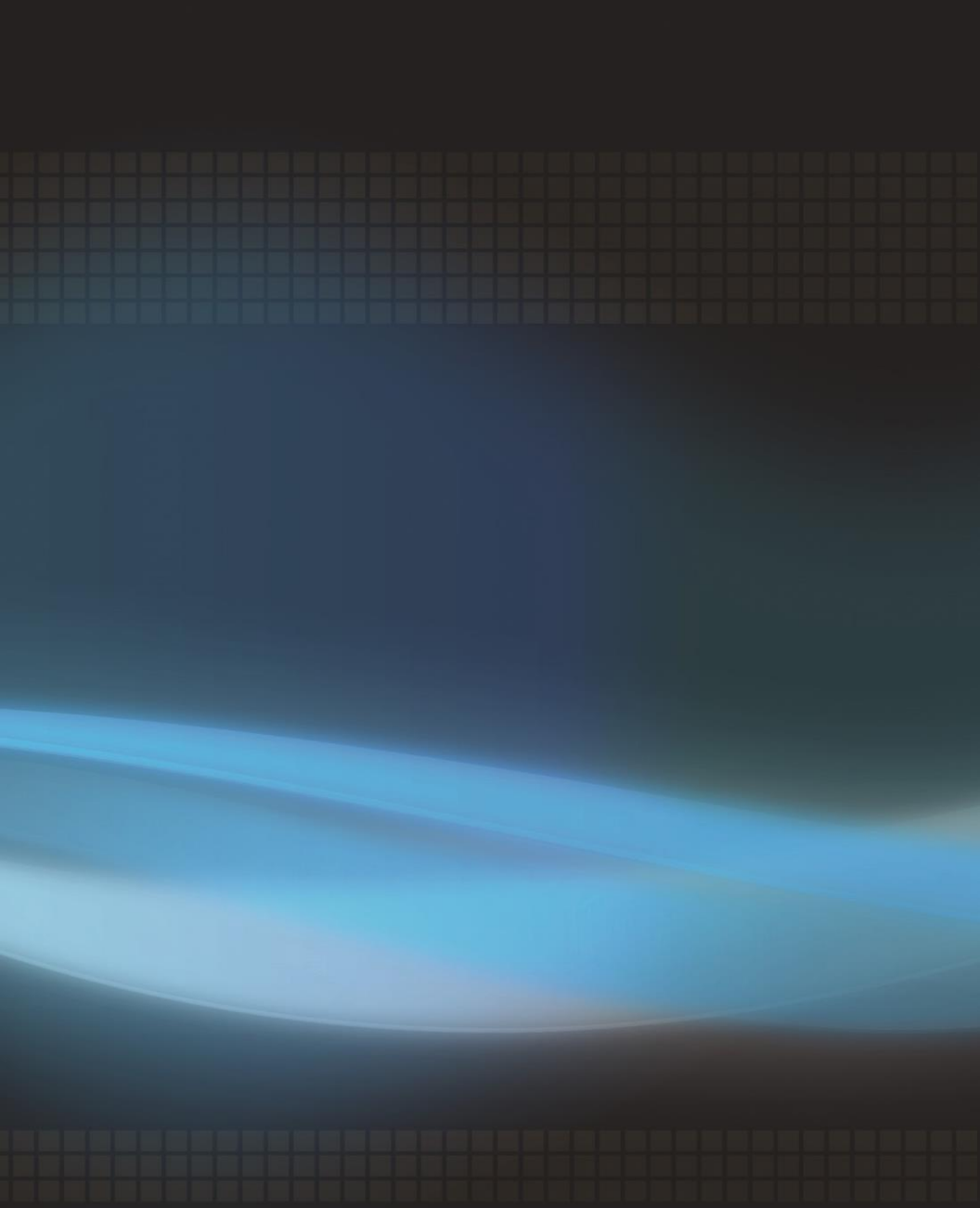
For additional information, such as helpful installation videos, etc. please visit www.vanco1.com

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