HDBaseT™ 16x16
MATRIX
Supports 4K2K @ 60Hz &1080p 3D Signals

Vanco Part Number
EVMX4K16

HDBaseT™ 16 x 16
Matrix Selector Switch

EVOLUTION
BY **VANCO**
ADVANCING DIGITAL CONNECTIVITY

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 EVMX4K16 16X16 Matrix with HDBaseT Technology, IR and RS-232, and PoH is an HD/UHD switching and extension system that can accommodate up to 16 inputs, and 16 total outputs comprising of 14 HDBaseT outputs and 2 HDMI outputs. Have 16 sources displayed simultaneously on any display or have a single source duplicated on multiple displays, flexibility for the perfect solution. Features HDBaseT technology, which allows for audio, 4K 2160p/60Hz 4:2:0 chroma video, IR, RS-232, and power (PoH) to be transferred over a single Cat5e/6/7 cable up to 131ft (40m), and extends 1080p up to 230ft (70m). Also features Power over HDBaseT (PoH) Technology which transmits power over Cat5e/6, allowing for Receiver unit to be powered without the use of a power supply. The result is an easy and plug and play solution that allows each output with the ability to extend HDMI over long distances in conjunction with the Evolution by Vanco HDBaseT EVRXHD1 receiver (sold separately). For control, the EVMX4K16 features multiple methods including simple control using the front touch panel, or remotely via IR Receivers at display locations. Also includes RS-232 and IP connectivity for third party integration for control and switching, as well as two web user interfaces for easy setup and control using a smartphone or tablet. Audio systems can be integrated with both digital and analog audio breakouts available. For larger distribution systems with 4K in mind and with full flexibility for control, the EVMX4K16 is the perfect solution!

HDBaseT™ 16 x 16 Matrix Selector Switch
Part # EVMX4K16

- 4K HDBaseT 16X16 Matrix Selector Switch that accommodates 16 HDMI inputs, 14 HDBaseT outputs with 2 HDMI outputs, and 16-analog audio outputs, with IR and RS-232 for control

- Supports up to 4K/60Hz 4:2:0

- Extends 4K signals up to 131ft (40m) or 1080p signals up to 230ft (70m) using HDBaseT outputs

- Features POH (Power over HDBaseT) technology, providing power to the receivers over Cat5e/6 resulting in easy installation - Receivers sold separately - Part # EVRXHD1

- HDCP 2.2 compatible, supports manual HDCP management

- Automatic and manual EDID management and EQ

- LCD screen shows real-time I/O connection status, switching status, HDCP status, and output resolution

- Controllable via touch-screen front panel, RS-232, IR and TCP/IP

- Supports bi-directional IR & RS-232 control

- Built-in GUI for TCP/IP control

- Rack-mount design

- Features off memory for reliable operation - input and output mapping is automatically stored and recalled when the unit is powered on and off and in the event of a power outage

- Features a Micro USB port for Firmware upgrades

- Easy installation with rack-mounting design

- Dimensions: 17.2" W x 3.5" H x 15.3" D

PACKAGE CONTENTS

- 16x16 Matrix EVMX4K16
- (16) Wideband IR TX cables
- (17) Wideband IR RX cables
- IR Remote
- 2 Mounting ears with screws

- 4 Plastic cushions with screws
- 16 Pluggable Terminal Blocks
- RS-232 cable
- Power Cord
- Product Manual

SPECIFICATIONS

Input .... 16 HDMI

Input Connectors .... Female HDMI

Input Level .... T.M.D.S. 2.9V~3.3V

Input Impedance .... 100Ω (Differential)

Outputs .... 2 HDMI, 14 HDBaseT

Output Connectors .... Female HDMI, Female RJ45(with LED indicators)

Output Level .... T.M.D.S. 2.9V~3.3V

Output Impedance .... 100Ω (Differential)

HDBaseT Output .... 1080p@60Hz ≤70m, 2160p@30Hz ≤40m, 2160p@60Hz ≤ 40M*

* = 2160p@60Hz at 4:2:0 color sampling and 24 bit color

Gain .... 0 dB

Video Signal .... HDMI (or DVI-D)

Resolution Range .... Up to 4K 2160p, 1080p 3D

Bandwidth .... 10.2 Gbit/s

Maximum Pixel Clock.. 340MHz

Switching Speed .... 200nz (Max.)

EDID Management .... In-built EDID data and manual EDID management

HDCP .... Supports HDCP 2.2, auto detecting for HDCP status & selectable HDCP status

Output Signal .... Analog audio (via 3-pin pluggable terminal block)

PCM Format .... Distortion: 0.1% 32Ω/70mW@1KHz, 0.1% 16Ω/105mW @1KHz

Embedded HDMI audio .... PCM, Dolby, DTS, DTS-HD

Control Ports .... 16 IR OUT (green and red), 16 IR IN (black), 1 IR EYE (black), 1 IR ALL IN (black), 1 TCP/IP (female RJ45), 1 RS-232 (9 pin female), 16 RS-232s (3-pin terminal)

IR Control .... Built-in IR sensor, extended IR receiver

TCP/IP Control .... User Interface accessible via IP

Panel Control .... Front panel touch-screen buttons

RS-232 Control .... 9 pin female

Internal Power Supply .... 100V~240V AC

Power Consumption .... 103W (full load)

Temperature .... 0 ~ +40 degree C

Storage Temperature .... -10 ~ +55 degree C

Reference Humidity .... 10% ~ 90%

Dimension .... 437mm W x 380mm H x 88mm D

Weight 5.4Kg

# FRONT PANEL DESCRIPTIONS
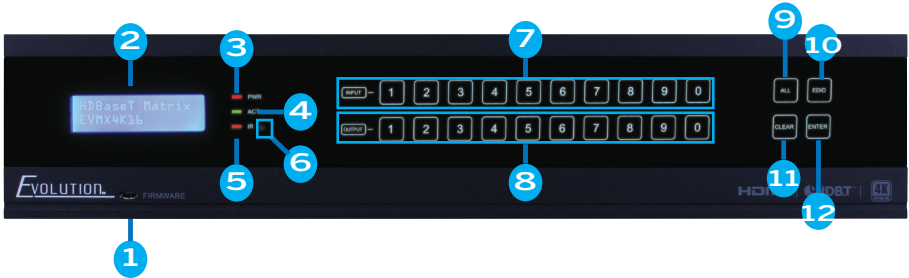
1. Firmware: Micro USB port for updating firmware when applicable

2. LCD Screen – displays status

3. Power Indicator – Green: Power On; Red: Standby

4. ACT Indicator – Green: Serial communication is active

5. IR Indicator: feedback for IR, blinks Red when IR signal is received

6. Built-in IR Receiver: receives IR signal

7. INPUT selection buttons: Bicolor back-lit buttons, ranging from 0-9

8. OUTPUTS/Built-in EDID selection buttons: Bicolor back-lit buttons, ranging from 0-9. Long-press EDID button for 3 seconds to enter EDID mode, buttons 1-6 correspond to the 6 embedded EDID data separately

9. ALL: Select all inputs/outputs

    - Splitting one source to all displays: Press INPUT# (source desired), ALL, ENTER

10. EDID management button: Enable input port to manually capture and learn the EDID data of output devices

    - EDID learning from specific display: Press EDID, INPUT # (source desired), OUTPUT # ENTER

11. CLEAR: Cancel

12. ENTER: Confirm operation. Press and hold for 3 seconds to enter inquiry mode

BACK PANEL DESCRIPTIONS
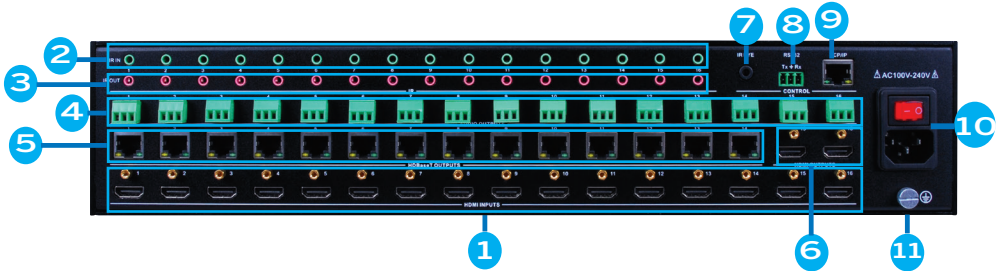
1. HDMI INPUTS: HDMI input ports, 16 in total, connects to source devices

2. IR IN: 16 in total, connect included IR Receivers (IR is routed)

   - Unit also has bi-directional IR, use IR IN in conjunction with IR OUT on EVRXHD1 receiver to control the display(s) from the matrix unit location

3. IR OUT: 16 in total, connect included IR Emitters (IR is routed)

4. AUDIO OUTPUTS: 16 in total, stereo audio output ports

5. HDBaseT OUTPUTS: 14 in total, output extension ports, works with only with EVRXHD1 HDBaseT Receivers to extend AV/IR/RS-232 signals via CAT5e/6 cable(s). Also extends power over Cat5e/6, EVRXHD1 receivers do not require power at the display end

6. HDMI OUTPUTS: 2 in total, HDMI output ports

7. IR EYE: Connect the included IR Receiver for IR switching control using the included IR remote

8. RS-232: Serial port, connect the included RS-232 cable for PC connectivity, or 3rd party integration. See website for 3rd party drivers available

9. TCP/IP: Connect to an ethernet source, can be used for IP control of matrix unit

10. Power port: Connect with 100~240V AC outlet via the included power cord

11. Ground

CONNECTION DIAGRAM
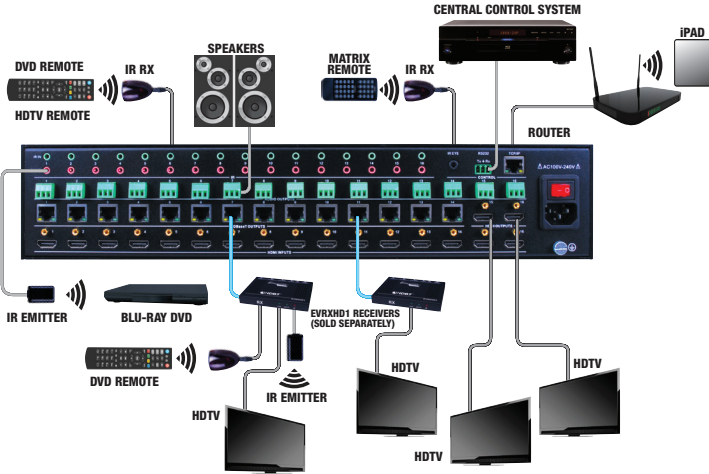
1. System should be installed in a clean environment and has proper temperature and humidity

2. All of the power switches, plugs, sockets and power cords should be insulated and safe

3. All devices should be connected before power on

CONNECT AND OPERATE

1. Connect HDMI sources (e.g. STB or Bluray) to the HDMI inputs of the 4K HDBaseT 16X16 Matrix Switcher with HDMI cables

2. Connect HDBaseT receivers (e.g. HDMI Twisted Pair Poh Receiver) to the HDBaseT Output ports with twisted pair

3. Connect HDMI displays (e.g. HDTV) to HDMI outputs of the 4K HDBaseT 16X16 Matrix Switcher or the receivers with HDMI cables

4. Connect speakers/zone amp/AV Receiver, etc. to AUDIO output ports

5. Connect the RS-232 port of control device to the RS-232 port of either the EVMX4K16 or far-end receivers. RS-232 signal can be transmitted bi-directionally between 4K HDBaseT 16X16 Matrix Switcher and far-end receivers

6. 4K HDBaseT 16X16 Matrix Switcher can collect IR signal sent by the included IR remote via its built-in IR sensor or through external IR receiver connected to the IR IN/ IR EYE/ IR ALL IN port. The IR signal can be transmitted bi-directionally between 4K HDBaseT 16X16 Matrix Switcher and far-end receivers

7. Connect an AC 100V~240V power outlet and the 4K HDBaseT 16X16 Matrix Switcher with the AC power cord

NOTE

1. Connect HDBT ports of 4K HDBaseT 16X16 Matrix Switcher and far-end receiver with straight-through cable

2. IR receivers connected to IR IN& IR ALL IN should be with carrier. If not, send command %0900. or %0900. to activate native carrier mode or force carrier mode in the IR matrix launched between 4K HDBaseT 16X16 Matrix Switcher and far-end receivers

CONNECTION WITH HDBASET POH RECEIVER

The EVMX4K16 boasts 14- HDBaseT output ports which support PoH or Power over HDBaseT. Connect the HDBT output ports of the matrix to the HDBaseT Receivers supporting PoH (EVRXHD1) via twisted pair. Plug a power supply to the power port of the matrix and power will be supplied to the accompanying receiver(s)
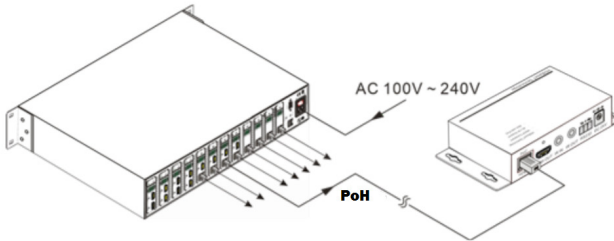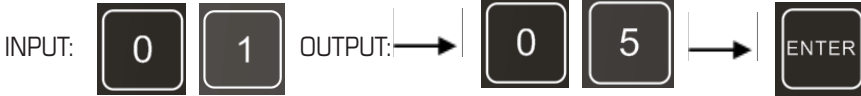

FRONT PANEL BUTTON CONTROL

- **To switch one input to an output:**

Operation: INPUT# + OUTPUT#+ ENTER;

Example: Input 1 to Output 5

INPUT: [0] [1] OUTPUT: → [0] [5] → [ENTER]

NOTE: In default status, 16 IR OUT ports correspond with 16 HDMI INPUTS. When you switch an HDMI input, the corresponding IR OUT will be switched synchronously

- **To switch one input to several outputs:**

Operation: INPUT# + OUTPUT# + OUTPUT# + … + ENTER;

Example: Input 2 to Outputs 2, 4:

INPUT: [0] [2] OUTPUT: → [0] [2] [0] [4] → [ENTER]

- **To switch one input to several outputs:**

Operation: INPUT# + ALL + ENTER;

Example: Input 2 to all outputs:

INPUT: [0] [2] OUTPUT: → [ALL] [ENTER]

EDID

The EVMX4K16 features EDID management to maintain compatibility between all devices. It can be controlled via EDID learning and EDID invoking.

EDID Learning:

- **One input port learns the EDID data of one output port:**

Operation: EDID + INPUT# + OUTPUT# + ENTER

Example: Input 1 learns EDID data from output 10:

| EDID | INPUT: → | 0 | 1 | OUTPUT: → | 1 | 0 | → | ENTER |

- **Several input ports learn the EDID data of one output port**

Operation: EDID + INPUT# + INPUT# + ... + OUTPUT# + ENTER

Example: Input 1, 2 learn EDID data from output 10:

| EDID | INPUT: → | 0 | 1 | 0 | 2 | → OUTPUT: | 1 | 0 | → | ENTER |

- **All input ports learn EDID data from one output port**

Operation: EDID + ALL + OUTPUT# + ENTER

Example: All input ports learn EDID data from output 6:

| EDID | → | ALL | → | OUTPUT: | 0 | 6 | → | ENTER |

EDID Presets

This Matrix Switcher features 6 different EDID presets.

The buttons OUTPUT 1~6 represent the EDID data 1~6, the chart below shows the detail information:

Output Button	EDID Data
1	1080P LPCM
2	720 LPCM
3	3840x2160 LPCM
4	1080P Dolby/Dts
5	3840x2160 Dolby/Dts
6	4096x2160 Dolby/Dts

- **To select an EDID Preset for one input**

Operation: Long-press EDID for 3 seconds to enter EDID configuration mode, and then press INPUT# + OUTPUT# + ENTER

Example: Invoke the first type of embedded EDID for INPUT 4

PRESS [EDID] (Hold for 3 seconds) ⟶ INPUT: [0] [4] ⟶ OUTPUT:

[0] [1] ⟶ [ENTER]
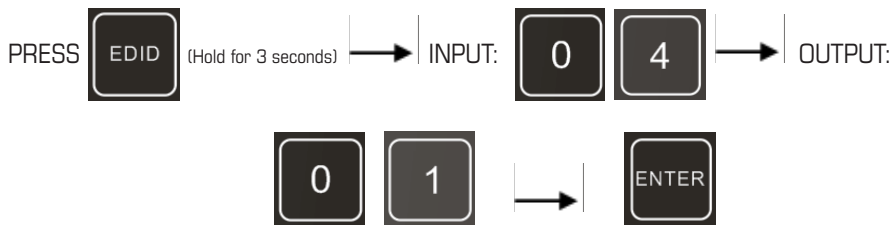
- **To select an EDID Preset for several inputs**

Operation: Long-press EDID for 3 seconds to enter EDID configuration mode, and then press INPUTS# + INPUTS# + ... + OUTPUT# + ENTER

Example: Invoke the first type of embedded EDID for INPUT 2, 4

PRESS [EDID] (Hold for 3 seconds) ⟶ INPUT: [0] [2] [0] [4] ⟶

OUTPUT: [0] [1] ⟶ [ENTER]
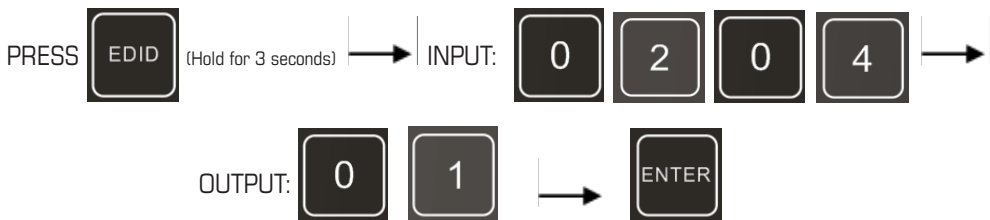
Output check

Press any output button to check its corresponding input.

Example: Check which one is the corresponding input for output 2. (Presume Output 2 corresponds to Input 1.)

Operation: Press Output 2 button, LCD screen display AV: 1->2 IR: 1->2, and indicators of input 1 and output 2 turn on and last for 3 seconds. Then output 2 corresponds to input 1.

Clear operation

When the output channel is switched, learn EDID data, or set EDID data, press the Clear button to cancel the operation before ENTER is pressed.

IR Control

By using IR & HDBaseT transmission technology, the matrix has some additional functions as follows:

1) Control displays from the matrix unit location

2) Control sources from each display location

3) Control switching of the matrix unit

REMOTE CONTROL

1. INPUTS:

    - Input channel selection buttons (1-16)

2. OUTPUTS:

    - Output channel selection buttons (1-16)

    - Embedded EDID selection buttons (1-6)

3. Menu Buttons: ALL, CLEAR, EDID and ENTER

    - ALL: Select all input/output channels.

    - EDID management button: Enable input port to manually capture and learn the EDID data of output devices.

    - CLEAR: Withdraw an operation.

   - ENTER: Press to confirm operation; Long-press (3 seconds or more) to enter inquiry mode
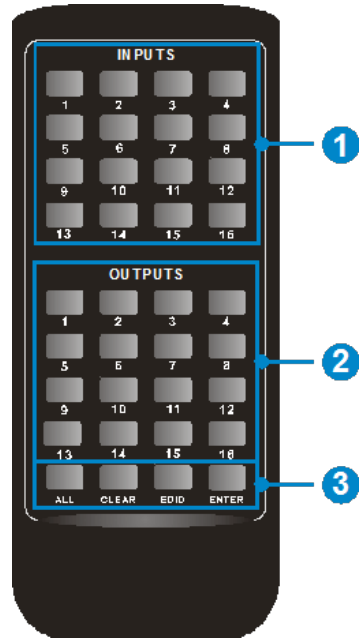
IR CONTROL

By using IR & HDBaseT transmission technology, the EVMX4K16 has the following functions using the provided IR Emitters (TX) and IR Receivers (RX):

*   Control/Switch the EVMX4K16

*   Control the source(s) locally

*   Control the source(s) from display location(s)

*   Control display(s) from the matrix unit location

IR TX   IR RX

The following is the voltage and pinout used for IR of the EVEXHDB1. Due to possible differences in 3rd party IR cables, utilizing the included IR accessories is recommended, any third party IR accessory may not work or can cause damage.
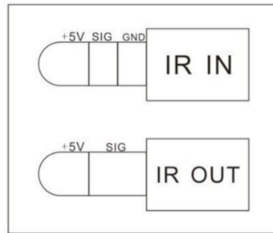
Control the EVMX4K16

Connect an IR receiver to the IR EYE port, the EVMX4K16 can be controlled through the included Matrix IR Remote or 3rd party control system.
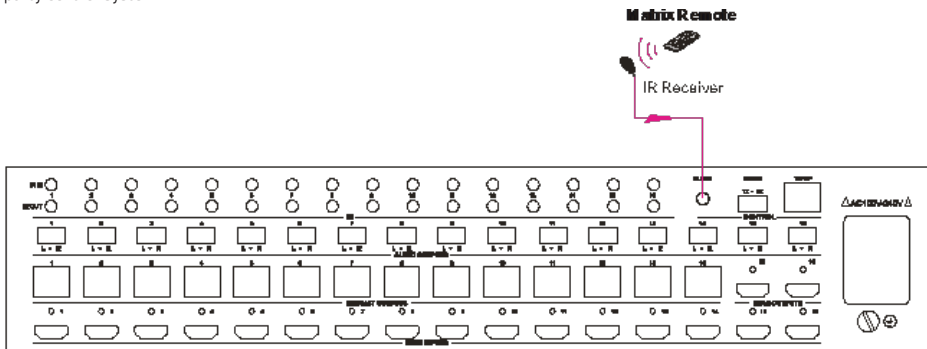
Control the Source Device Locally

Connect IR Receiver(s) to IR IN ports, and IR Emitter(s) to IR OUT ports on the EVMX4K16, and then the local source device (e.g. DVD) can be control via its IR Remote from local.

NOTE: The IR Receiver and IR Emitter needs to be connected to the source or display number that the IR is either being received or sent to, the IR is routed along with the audio and video.In default status, 16 IR OUT ports correspond with 16 HDMI INPUTS. When the HDMI input is switched, the corresponding IR OUT will be routed with the source signal.

Example: Switch HDMI input 3 to HDBaseT output 4.

Connect one IR Receiver to IR IN 4 port on EVMX4K16, and one IR Emitter to IR OUT 3 port, the connection diagram shown as below:
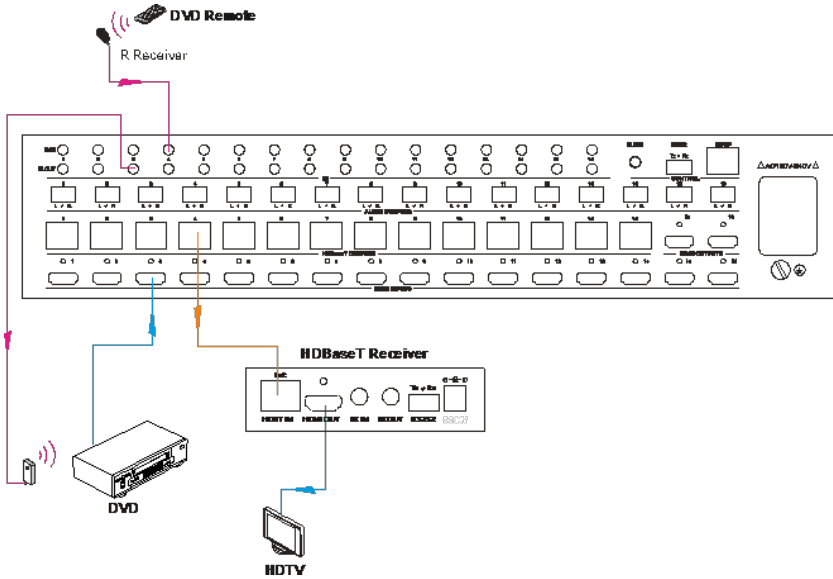
Control the Source(s) from display location(s)

Connect IR Receiver(s) to IR IN ports on the HDBaseT Receiver, and IR Emitter(s) to IR OUT ports on the EVMX4K16, and then the local source device (e.g. DVD) can be control via its IR Remote from remote.

Example: Switch HDMI input 3 to HDBaseT output 4.

Connect one IR Receiver to IR IN port on HDBaseT Receiver which is connected to HDBaseT output 4 port, and one IR Emitter to IR OUT 3 port on EVMX4K16, the connection diagram shown as below:
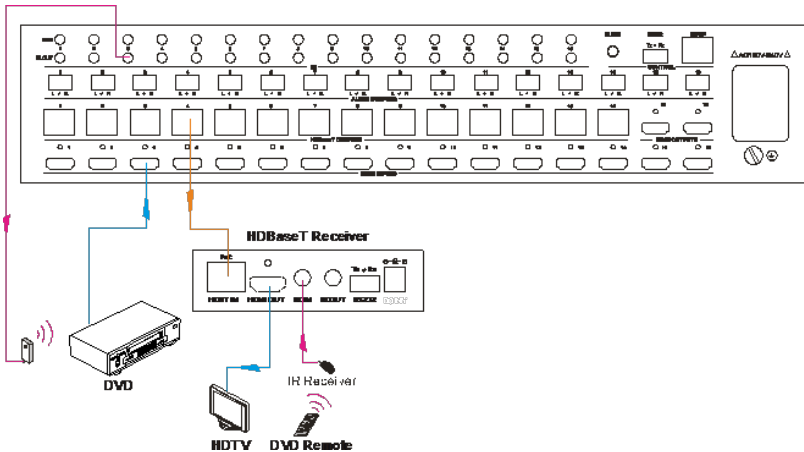
Control display(s) from the matrix unit location

Connect IR Receiver(s) to IR IN ports on EVMX4K16, and IR Emitter(s) to IR OUT ports on the HDBaseT Receivers, and then the far-end display device (e.g. HDTV) can be control via its IR Remote from local.

Connect one IR Receiver to IR IN 4 port on EVMX4K16, Connect one IR Emitter to IR OUT port on HDBaseT Receivers which are connected to HDBaseT output 4 port, and the connection diagram shown as below:
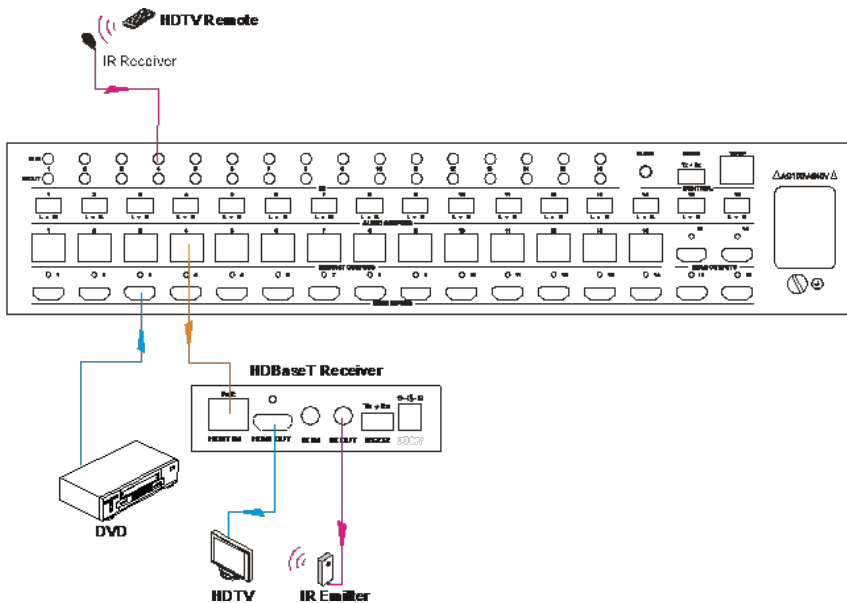
RS232 CONTROL

EVMX4K16 features RS232 port which is a 3-pin phoenix connector for RS232 control, and the definition of its pins is listed in the table below.
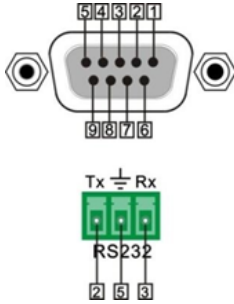
1	N/u	Unused
2	TX	Transmit
3	Rx	Receive
4	N/u	Unused
5	Gnd	Ground
6	N/u	Unused
7	N/u	Unused
8	N/u	Unused
9	N/u	Unused

The RS232 port of EVMX4K16 and HDBaseT Receiver support bi-directional communication, there are three RS232 control modes:

• Control the EVMX4K16 locally

• Control the EVMX4K16 remotely

• Control far-end devices locally

NOTE:

• Commands are Case-sensitive.

• Please disconnect all the twisted pairs before sending command EDIDUpgrade[X].

• In the commands, "["and "]" are symbols for easy reading and do not need to be typed in actual operation.

• End the commands with the ending symbols "." and ";".

Baud rate: 9600   Data bit: 8   Stop bit: 1   Parity bit: none

Visit www.vanco1.com for control documentation and additional product information and updates

TCP/IP CONTROL

Control Mode

EVMX4K16 features a TCP/IP port for IP control.

TCP/IP default settings:
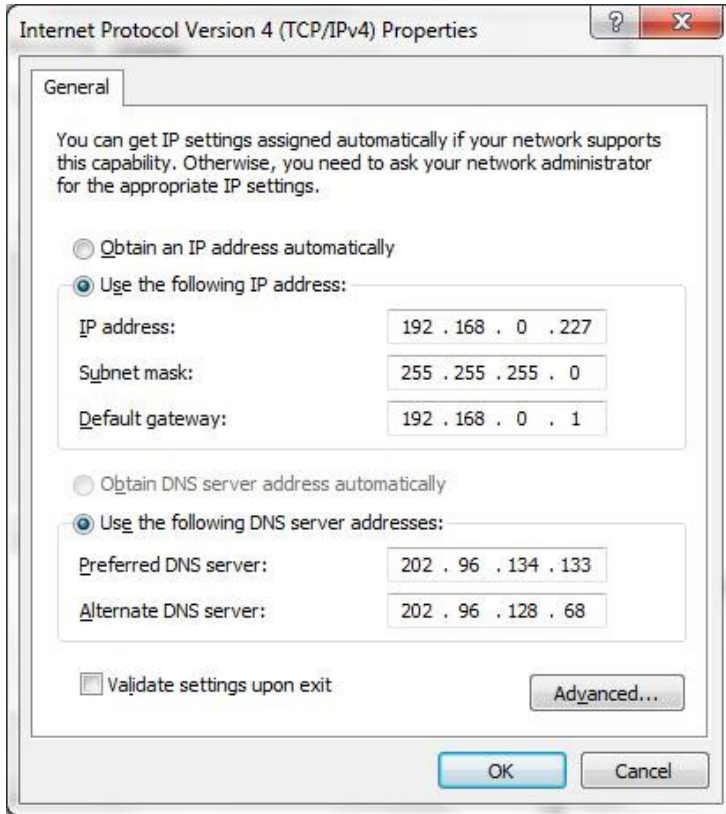
Default IP: 192.168.0.178

Gateway: 192.168.0.1

Port: 4001.

NOTE: IP & Gateway can be changed as you need, Serial Port cannot be changed.

Control via PC/Computer

Connect a PC/computer to the TCP/IP port of the EVMX4K16, set its network segment to the same IP information as the default information.

Controlled by PC(s) in LAN

Connect a router or ethernet switch to the EVMX4K16 via the LAN port (as shown in the following figure). Set the network segment of EVMX4K16 to the same as the router's, then any PC within the LAN network are able to control the EVMX4K16.
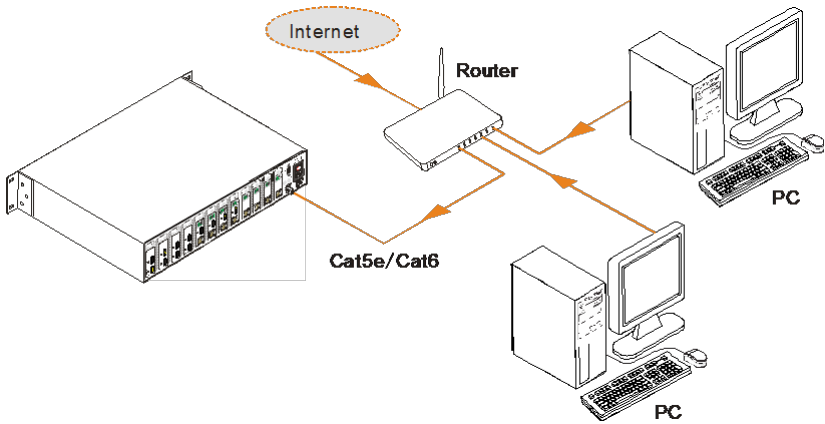
Follow these steps to connect the devices:

1. Connect the TCP/IP port of the EVMX4K16 to Ethernet port of PC with Cat5e/6.

2. Set the PC's network segment to the same as the EVMX4K16's. Note and record the PC's original network segment.

3. Set the EVMX4K16's network segment to the same as the router.

4. Set the PC's network segment to the original segment.

5. Connect the EVMX4K16 and PC(s) to the router. PC(s) within the LAN network are able to control the EVMX4K16 simultaneously.

GUI Control – Controlling the EVMX4K16 with an easy to use User Interface

EVMX4K16 provides a built-in GUI for convenient TCP/IP control. GUI allows users to control and switch the EVMX4K16 through graphical icons and visual indicators.

Type 192.168.0.178 in your browser as the address, the log-in interface will display
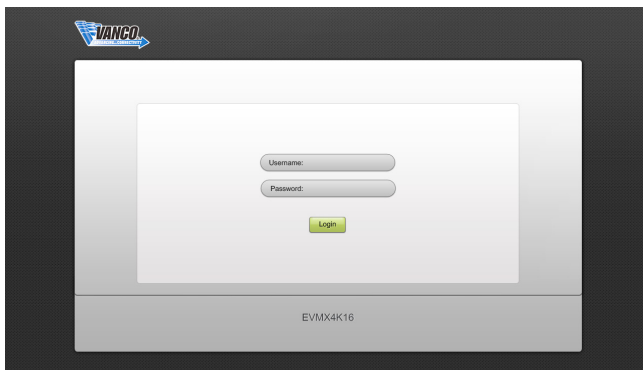
There are 2 User Interfaces available:

- Admin (default password: admin)
- End user (default password: user)

The "admin" interface will allow access to more settings and configurations, while the "end user" interface will only give access to switching.

Main Menu

Interface shown after logging in, provide intuitive I/O connection switching. See the screenshot below:
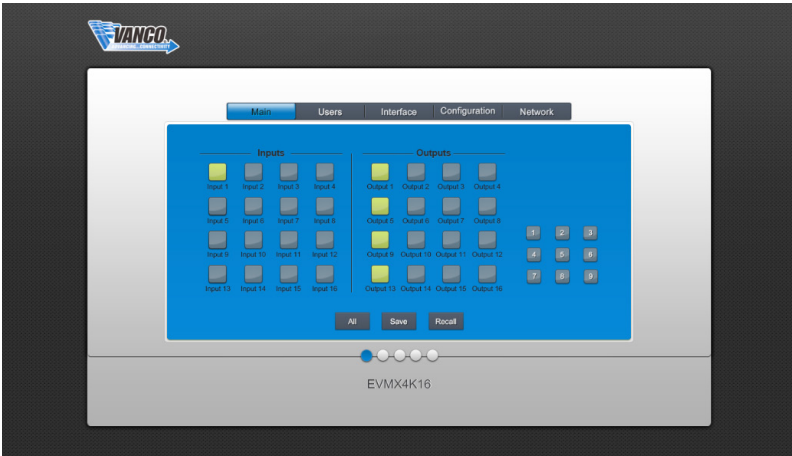
The button matrix displays every possible connection between every input and output, simply click on source and display combinations.

Buttons 1-9 at the right-bottom corner are presets which can be saved for easy programming.

Users Menu

Click "Users" to enter the below menu: In this section the credentials can be changed and saved, front panel can be locked, and shows which GUI and F/W version the matrix unit has.
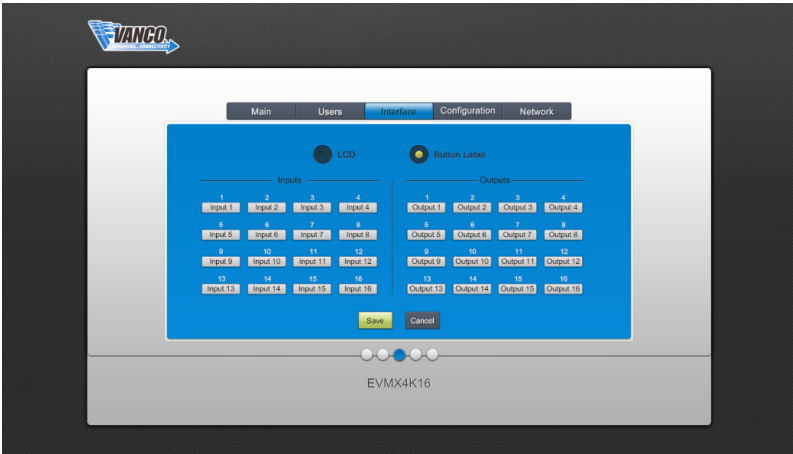
Main: Interface shown after logging in, provide intuitive I/O connection switching. See the screenshot below:
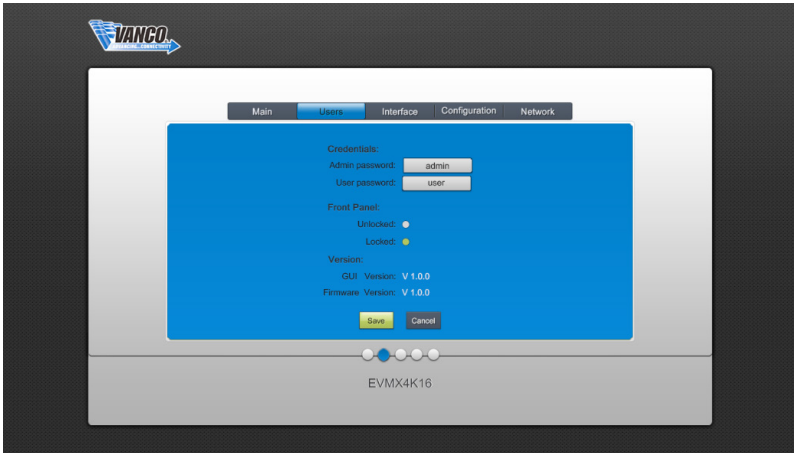
Interface Menu

Click "Interface" to enter the below menu: In this section the inputs and outputs can be renamed for easier switching.
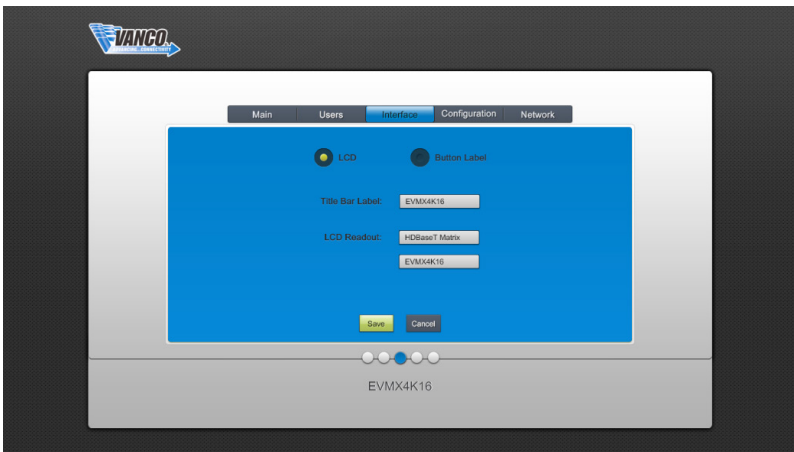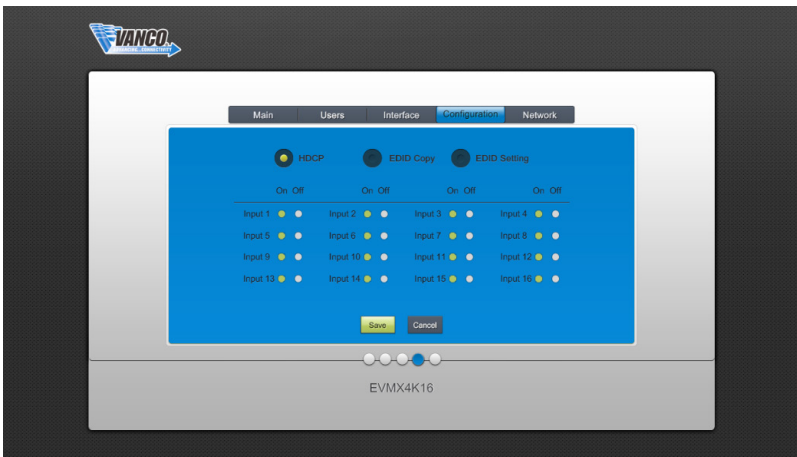
Configuartion Menu

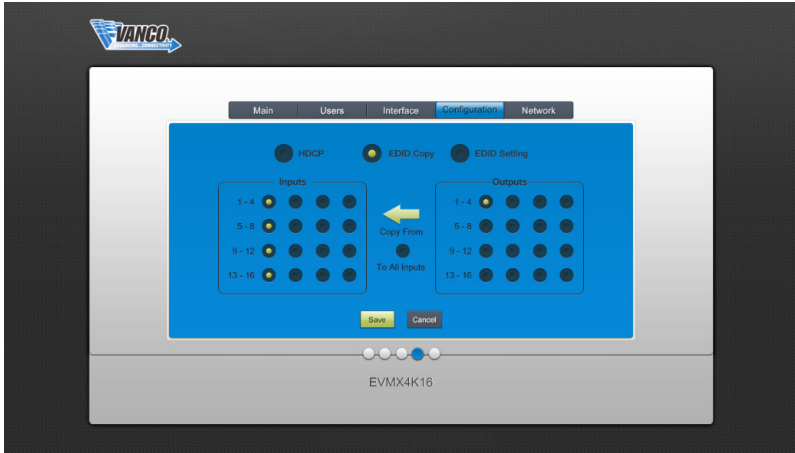Click "Configuration" to enter the below menus:

HDCP:

Turn on/off HDCP compatible for each input port. (Note: a source that requires HDCP will not work when HDCP is set to OFF)

EDID Copy:

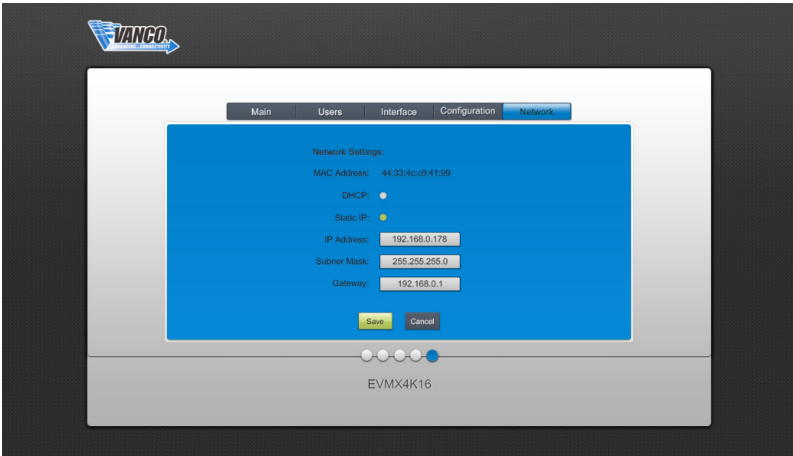One or several input source devices learn EDID from one output display device

EDID Setting:

One or several input source devices invoke the embedded EDID

Network Menu

Click "Network" to enter the below menu: Inquiry and configure network settings including MAC address, IP address, subnet mask, and Gateway

TROUBLE-SHOOTING

1. PROBLEM: Color loss or no video signal output. CAUSE: The connecting cables may not be connected correctly or it may be broken. SOLUTION: Check whether the cables are connected correctly and in working condition.

2. PROBLEM: No output image when switching. CAUSE: No signal at the input / output end. Solution: Check with oscilloscope or multi-meter if there is any signal at the input/ output end.

3. PROBLEM: No output image when switching. CAUSE: Input source is with HDCP while the HDCP compliance is switched off SOLUTION: Send command /%[Y]/[X]:1 or change HDCP compliance status in GUI.

4. PROBLEM: No output image when switching. CAUSE: The display doesn't support the input resolution. SOLUTION: Switch for another input source or enable the display to learn the EDID data of the input.

5. PROBLEM: Cannot control the device via front panel buttons. CAUSE: Front panel buttons are locked. SOLUTION: Send command /%Unlock; or select unlock in GUI interface to unlock

6. PROBLEM: Cannot control the device via IR remote. CAUSE: The battery has run off. SOLUTION: Change for new battery.

7. PROBLEM: Cannot control the device via IR remote CAUSE: The IR remote is broken. SOLUTION: Send it to authorized distributor for repairing.

8. PROBLEM: Cannot control the device via IR remote. CAUSE: Beyond the effective range of the IR signal or not pointing at the IR receiver. SOLUTION: Adjust the distance and angle and point right at the IR receiver.

9. PROBLEM: Cannot control the device via IR remote. CAUSE: The IR receiver connected to IR IN/ IR ALL IN port is not with carrier. SOLUTION: Change for an IR receiver with carrier.

10. PROBLEM: Power Indicator remains off when powered on. CAUSE: Failure in power connection. SOLUTION: Check whether the cables are connected correctly

11. PROBLEM: EDID management does not work normally. CAUSE: The HDMI cable is broken at the output end. SOLUTION: Change for another HDMI cable which is in good working condition.

12. PROBLEM: There is a blank screen on the display when switching CAUSE: The display does not support the resolution of the video source. SOLUTION: Try Switching again, or Manage the EDID data manually to make the resolution of the video source automatically compliant with the output resolution.

13. PROBLEM: Cannot control the device by control device (e.g. a PC) through RS-232 port. CAUSE: Wrong connection. SOLUTION: Check to ensure the connection between the control device and the unit

14. PROBLEM: Cannot control the device by control device (e.g. a PC) through RS-232 port. CAUSE: Wrong RS-232 communication parameters. SOLUTION: Type in correct RS-232 communication parameters: Baud rate:9600; Data bit: 8; Stop bit: 1; Parity bit: none

15. PROBLEM: Cannot control the device by control device (e.g. a PC) through RS-232 port. CAUSE: Broken RS-232 port. SOLUTION: Send it to authorized distributor for replacement

16. PROBLEM: Static becomes stronger when connecting the video connectors. CAUSE: Bad grounding SOLUTION: Check the grounding and make sure it is connected well.

17. PROBLEM: Cannot control the device by RS-232 / IR remote / front panel buttons. CAUSE: The device is not operating properly. SOLUTION: Send it to authorized distributor for replacement.

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

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

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.
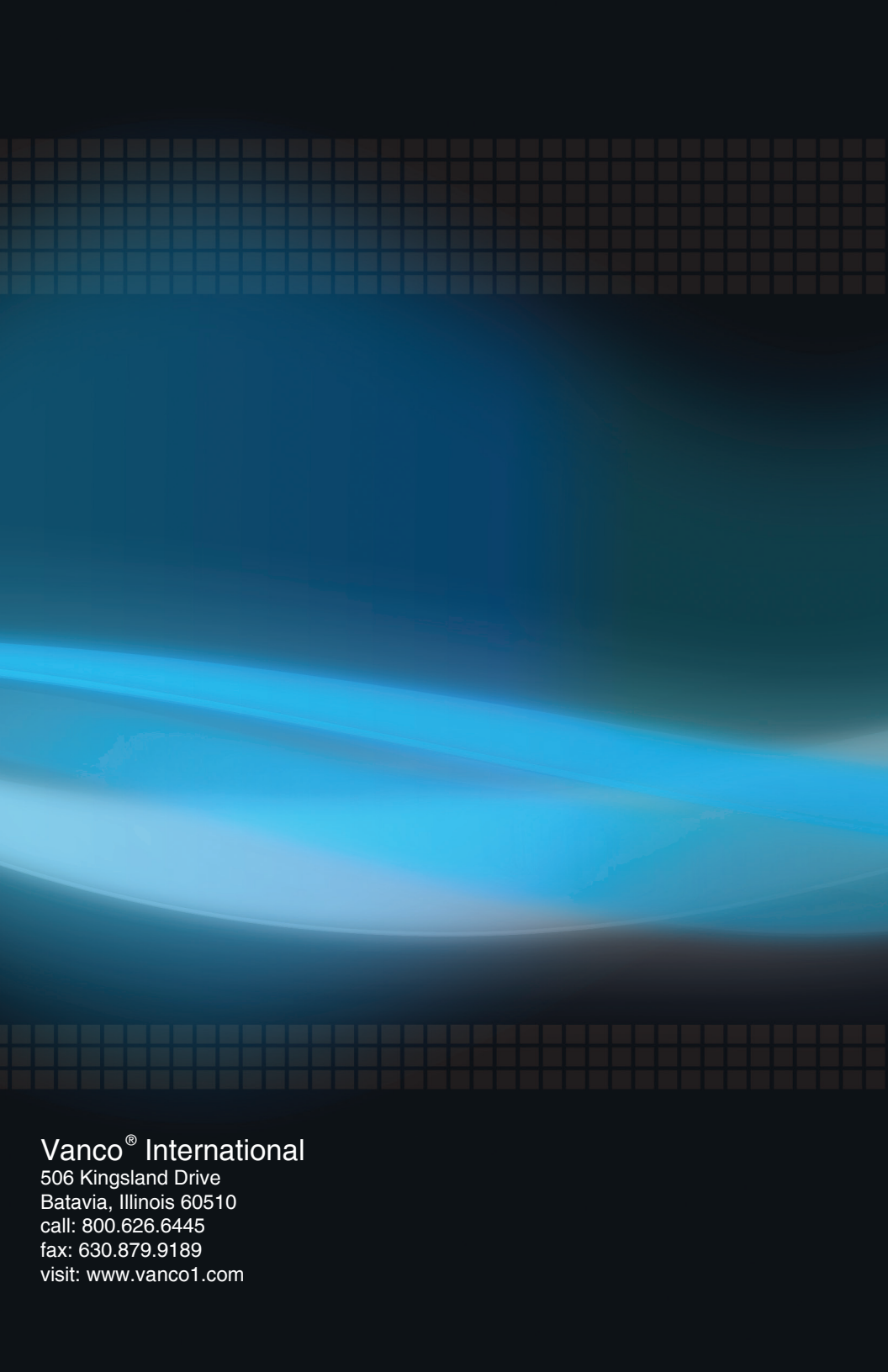
FCC STATEMENT

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. It has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation.

Operation of this equipment in a residential area is likely to cause interference, in which case the user at their own expense will be required to take whatever measures may be necessary to correct the interference

Any changes or modifications not expressly approved by the manufacture would void the user's authority to operate the equipment.