

# 4K HDBaseT™ 8x8 MATRIX

with ARC, IR, IP and RS-232



**4K 8x8 HDBaseT™**

**Audio and Video Matrix  
Switcher with ARC, IR,  
IP and RS-232**

**Part Number:**

**EVMX88PRO**

**EVOLUTION**  
BY   
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 Evolution by Vanco EVMX88PRO 4K 8x8 HDBaseT™ Audio and Video Matrix Switcher with ARC, IR, IP and RS-232 allows 8 HDMI sources to be distributed to up to 8 displays simultaneously, with mirrored HDMI outputs for a total of 16 outputs! The EVMX88PRO is capable of transmitting 4K@60Hz, 4:4:4 Chroma Subsampling, and HDR up to 131ft/40m over a single Cat6 cable, and 4K@60Hz, 4:4:4 Chroma Subsampling with HDR10 and Dolby Vision on the HDMI inputs and HDMI outputs. For control, the EVMX88PRO features multiple methods including simple control using the front panel control, IR control, RS-232, and an easy to use UI accessible via IP. Control switching sources to displays from a computer or a wireless device such as a tablet or mobile phone. Need an audio matrix as well? The EVMX88PRO also features the ability to send any HDMI audio input to up to 8 zones. Compatible with both the EVRXHD2 and EVRXDSC HDBaseT receivers to create a modular matrix unit, add downscaling, ARC, audio extraction, and RS-232 to any HDBaseT output. For switching multiple sources to multiple displays using HDBaseT technology, with many features for control, audio switching, ARC, 4K HDR resolution, and scaling, the EVMX88PRO is a great choice for any application.

## 4K 8X8 HDBaseT™ Audio and Video Matrix Switcher with ARC, IR, IP and RS-232

### Part # EVMX88PRO

- 4K 8x8 HDBaseT Matrix with mirrored HDMI outputs
- Extends 4K@60Hz 4:4:4, and HDR10 up to 131ft/40m over a single Cat6 cable
- Outputs 4K@60Hz 4:4:4, HDR10 and Dolby Vision on the HDMI inputs and HDMI outputs
- Extends 1080p resolution up to 230ft/70m over a single Cat6 cable
- HDCP 2.2 compliant
- Two receiver options that are sold separately (EVRXHD2 and EVRXDSC) based on features required
- Features POC (Power over Cable) technology - providing power for either receiver option
- Downscals 4K to 1080p on all HDMI outputs as well as HDBaseT outputs using EVRXDSC receiver
- ARC (Audio Return Channel) capable with EVRXDSC receiver
- Includes built-in audio matrix with digital and analog audio outputs for up to 8 zones
- Built-in EDID management and advanced HDCP handling
- Controllable via front panel, IR, RS-232 and third party control systems, as well as a built in GUI via IP connection
- Features IR, IP and RS-232 for control
- Includes EV-IRMST IR integration cable for seamless integration with 3rd Party IR Systems
- Dimensions: 17.2" W x 3.5" H x 17.3" D

## PACKAGE CONTENTS

- EVMX88PRO HDBaseT Matrix Switcher
- (2) Mounting Ears with 6 Screws
- (4) Plastic feet
- (10) IR Receivers
- (9) IR Emitters
- (1) IR Remote
- (16) 3-pin Terminal Blocks
- (1) RS-232 Cable (3-pin to DB9)
- (1) IR Control Cable (EV-IRMST)
- (1) Power Cord
- (1) Product Manual

## SPECIFICATIONS

Video Input.....	(8) HDMI
Video Input Connector .....	(8) Type-A Female HDMI
Video HDMI Input Resolution .....	Up to 4K@60Hz 4:4:4, HDR10, Dolby Vision
Video Output .....	(8) HDBaseT, (4) HDMI
Video Output Connector.....	(8) RJ45, (8) Type-A female HDMI
Video HDMI Output Resolution .....	Up to 4K@60Hz 4:4:4, HDR10, Dolby Vision, 1080p 3D supports 4K to 1080p downscaling
Video HDBaseT Output Resolution .....	Up to 4K@60Hz 4:4:4, HDR10
Video HDMI Audio Signal .....	LPCM 7.1 audio, Dolby Atmos®, Dolby®TrueHD, Dolby Digital® Plus, DTS:X™, and DTS-HD® Master Audio™ pass-through
Audio Output .....	(8) Stereo analog L+R audio, (8) Digital SPDIF audio
Audio Output Connector .....	(8) 3-pin terminal blocks, (8) Toslink connectors
Analog L+R Audio Format.....	Supports PCM
Digital SPDIF Audio Format.....	Supports PCM, Dolby Digital, DTS, DTS-HD
Local Audio Sampling Rate.....	Supports 44.1KHz, 48KHz, 96KHz
ARC Audio Sampling Rate.....	Supports 48KHz, 96KHz
Frequency Response .....	20Hz – 20KHz, ±3dB
Audio Output Impedance.....	70 Ohms
Max Input Level .....	
L+R: 2.0Vrms ± 0.5dB. 2V = 16dB headroom above -10dBV (316mV) nominal consumer line level signal; SPDIF:±0.05dBFS	
THD+N .....	< 0.05% (-80dB), 20Hz – 20KHz bandwidth, 1KHz sine at 0dBFS level (or max level)
SNR .....	L+R: > 80dB, 20Hz - 20KHz bandwidth; SPDIF: > 90dB, 20Hz-20 kHz bandwidth

# SPECIFICATIONS

Crosstalk Isolation .....	SPDIF: < -70 dB, 10KHz sine at 0dBFS level (or max level before clipping); L+R: < -80 dB, 10KHz sine at 0dBFS level (or max level before clipping)
L+R Level Deviation.....	L+R: < 0.3dB, 1KHz sine at 0dBFS level (or max level before clipping)
Frequency Response Deviation .....	< ± 0.5dB 20Hz - 20KHz
Output Load Capability .....	L+R: 1KΩ and higher (Supports 10x paralleled 10KΩ loads)
Stereo Channel Separation.....	>70dB@1KHz
Noise Level .....	L+R: -80dB; SPDIF: -90dB
Control Port .....	(8) IR IN, (1) IR ALL IN, (8) IR OUT, (1) IR ALL OUT, (1) IR EYE, (9) RS-232, (1) FW, (1) TCP/IP
Control Connector.....	(19) 3.5mm jacks, (9) 3-pin terminal blocks, (1) Type-A USB, (1) RJ45
Transmission Mode .....	HDBaseT
Transmission Distance.....	1080p ≤ 230 feet (70 meters), 4K@60Hz ≤ 131 feet (40 meters)
Bandwidth.....	18 Gbps
Operation Temperature.....	-5 to +55° (+23° to +131°F)
Storage Temperature .....	-25 to +70° (-13° to +158°F)
Relative Humidity.....	10% to 90%, Non-condensing
External Power Supply.....	100V~240V AC, 50/60Hz
Power Consumption .....	125W (Max)
Dimensions .....	17.2" W x 3.5" H x 17.3" D
Weight .....	18.5 lbs

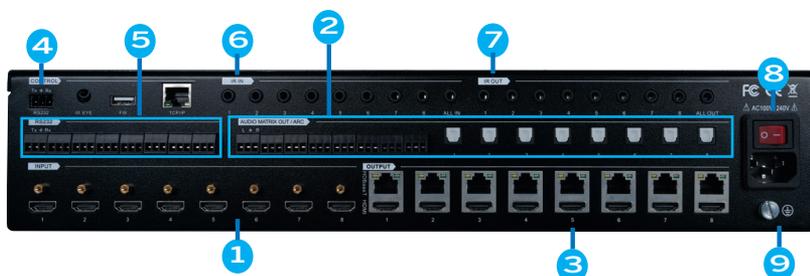
## PANEL DESCRIPTIONS

### Front Panel



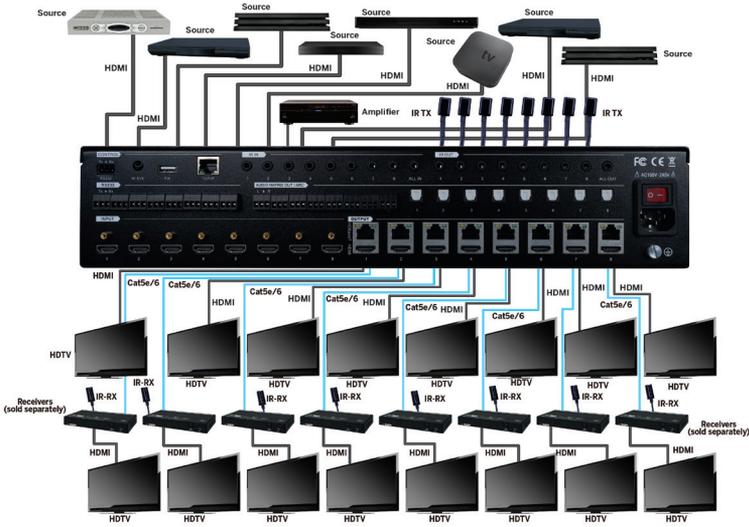
1. LCD Screen: Shows current status as well as menu options
2. POWER LED: Illuminates red when the device is in standby mode, illuminates green when device is powered on
3. IR Sensor and its LED: Illuminates RED when the IR sensor receives an IR signal from the IR remote to control the matrix switcher (the IR sensor is on the right side of the LED)
4. INPUT: Inputs 1-8 for input source selection
5. OUTPUT: Outputs 1-8 for output display selection
6. Menu Buttons:
  - LOCK: Lock or unlock the front panel buttons
  - PRESET: Preset setting or to recall preset
  - MENU: Menu or confirm/enter
  - BACK: Back to the previous operation
  - UP: Page up to scroll
  - DOWN: Page down to scroll

# Rear Panel



1. **INPUTS:** Connect HDMI sources to each corresponding HDMI input
2. **AUDIO MATRIX OUT/ARC:** Connect the included 3-pin terminal blocks for analog audio, and four digital optical outputs for digital audio
  - These audio outputs can either extract audio from the HDMI source(s) connected, or the display(s) over HDBaseT using ARC. Sources can then be routed to any audio outputs for audio matrix capability
3. **OUTPUTS:**
  - 1-8 - HDBT: Connect HDBaseT receiver(s) to each output, option of the EVRXHD2 or EVRXDSC PoC receivers
  - 1-8 - HDMI: Connect HDMI display(s) via HDMI cable; if needing to extend this signal over Cat6, an HDBaseT extender is strongly recommended
4. **CONTROL:**
  - RS-232: Connect the included RS-232 cable to a computer or 3rd party control system for integration
  - IR EYE: Connect the included IR Receiver (RX) to this port, this can be used to control the matrix unit with the included IR remote; also a helpful feature to hide the matrix unit and lead out the IR Receiver to a different location for remote control
  - FIRMWARE: Connect a Type-A USB cable to upgrade firmware, any available firmware updates will be located on the product page for this part # on [www.vanco1.com](http://www.vanco1.com), under the "downloads" tab
  - TCP/IP: Connect to a local network such as a router or ethernet switch to give the matrix unit connectivity, this will give the ability to control the matrix unit via IP with any device on the network such as a computer, tablet, or mobile phone
5. **RS-232:** 3-pin terminal blocks for RS-232 pass-through using EVRXDSC receivers
6. **IR IN:**
  - 1-8: Connect the included IR Receivers (RXs) to each port, the number on the IR input corresponds to the HDBaseT outputs. Connect this if you would like to control the display(s) over HDBaseT (receiver(s) have IR outputs)
  - ALL IN: Connect the included IR Receiver (RX) to this port, this will send an IR signal out to all HDBaseT receiver(s); useful feature to turn on/off all displays at one time
7. **IR OUT:**
  - 1-8: Connect the included IR Transmitters (TXs) to each port, the number on the IR output corresponds to the HDMI inputs. Connect this if you would like to control the sources from each display location over HDBaseT (receiver(s) have IR inputs)
  - ALL OUT: Connect the included IR Transmitter (TX) to this port, this will send an IR signal from any HDBaseT receiver regardless of the HDMI signal routing; useful feature to turn on/off an external amplifier or audio distribution system at any display location
8. **AC100V~240V:** Connect the included power cord for power
9. **GROUND:** Optional: connect to ground

# CONNECT AND OPERATE



1. Connect HDMI sources to the HDMI inputs of the EVMX88PRO (NOTE: HDMI certified cables are strongly recommended for 4K HDR resolution)
2. Connect Cat6 cables from the matrix unit outputs to each display location (NOTE: home run Cat6 cables are strongly recommended as any coupling points such as punch down RJ45 jacks, female/female RJ45 jacks, etc. can cause signal degradation. Patch panels will cause even more signal degradation.)
3. Connect the HDBaseT Receivers to outputs 1-8, option of either the EVRXHD2 or EVRXDSC; connect HDMI cables from the receivers to each HDMI display (NOTE: HDMI certified cables are strongly recommended for 4K HDR resolution)
4. Connect HDMI displays to HDMI outputs 1-8 (NOTE: HDMI certified cables are strongly recommended for 4K HDR resolution)
5. OPTIONAL: Connect an external amplifier or AV Receiver to the digital and/or analog output(s) (NOTE: audio source can be extracted from HDMI source inputs or EVRXDSC receiving using ARC function)
6. OPTIONAL: Connect a router or ethernet switch to the TCP/IP RJ45 jack on the EVMX88PRO, this will connect the matrix unit to the network, and can be controlled via IP
7. Connect the included power cord

# FRONT PANEL CONTROL

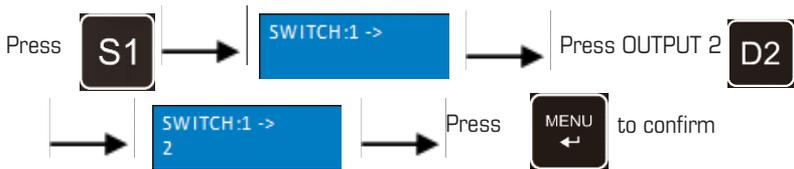
The EVMX88PRO can be controlled by using the buttons on the front panel. Whenever a command is accepted, the selected input/output buttons will blink three times to confirm.

## 5.1 Signal Switching (S= Source; D= Display)

- **Switch an input to an output**

Operation: INPUT# + OUTPUT# + MENU

Example: Switch Input 1 to Output 2:

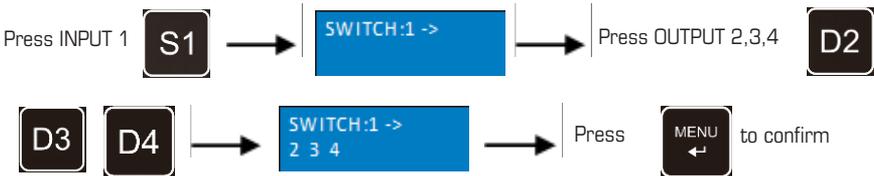


Note: In default status, 4 IR OUT ports correspond with 4 HDMI INPUTS. When you switch an HDMI input, the corresponding IR OUT will be switched synchronously

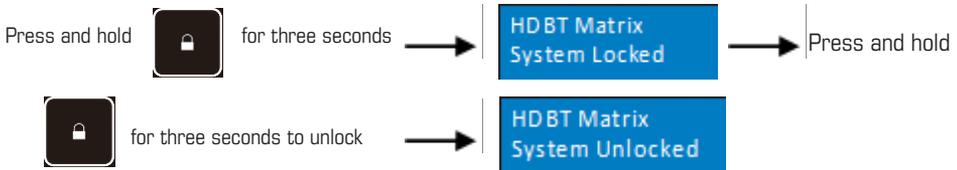
- **Switch an input to multiple outputs**

Operation: INPUT# + OUTPUT# + OUTPUT# + ... + MENU

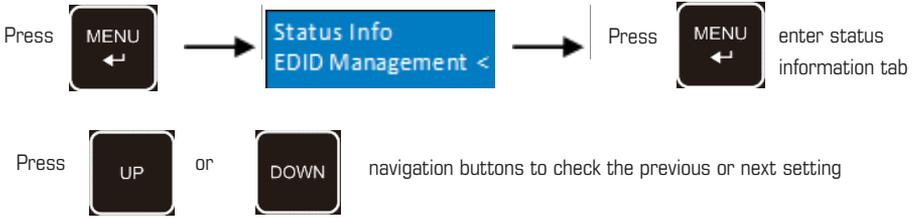
Example: Switch Input 1 to Output 2, 3, and 4

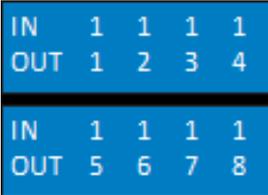
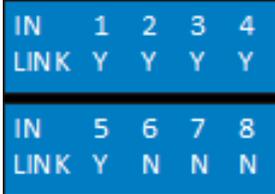
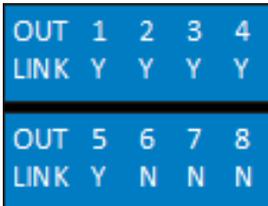


## 5.2 Panel Button Locking/Unlocking



### 5.3 Status Information Inquiry

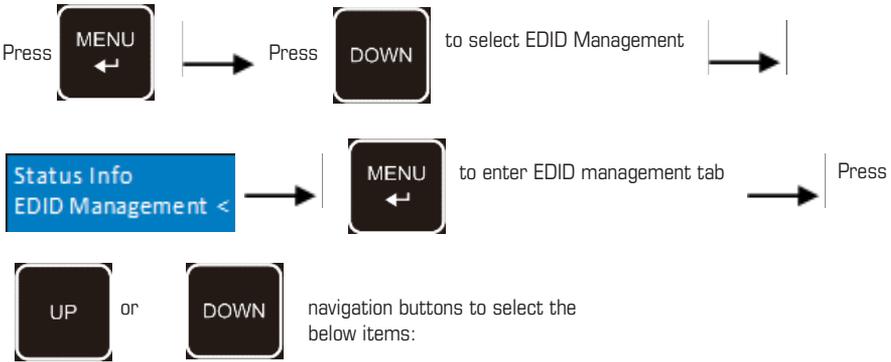


LCD Screen	Description
 <pre> IN  1  1  1  1 OUT 1  2  3  4 ----- IN  1  1  1  1 OUT 5  6  7  8           </pre>	Shows current input/output routing
 <pre> IN  1  2  3  4 LINK Y  Y  Y  Y ----- IN  5  6  7  8 LINK Y  N  N  N           </pre>	Shows status of HDMI inputs (Y= input source connected; N= no input source connected)
 <pre> OUT 1  2  3  4 LINK Y  Y  Y  Y ----- OUT 5  6  7  8 LINK Y  N  N  N           </pre> <p>1-8= HDBaseT output 1-8</p>	Shows status of HDBaseT outputs (Y= HDBaseT receiver connected; N= no HDBaseT receiver connected)
 <pre> OUT 9 10 11 12 LINK Y  Y  Y  Y ----- OUT 13 14 15 16 LINK Y  Y  Y  Y           </pre> <p>9-16= HDMI loop out 1-8</p>	Shows status of HDMI outputs (Y= HDMI display connected; N= no HDMI display connected)

## 5.4 EDID Management

The Extended Display Identification Data (EDID) is used by the source device to match its video resolution with the connected display. By default, the four source inputs have the following EDID: 4K@60Hz HDR 2CH.

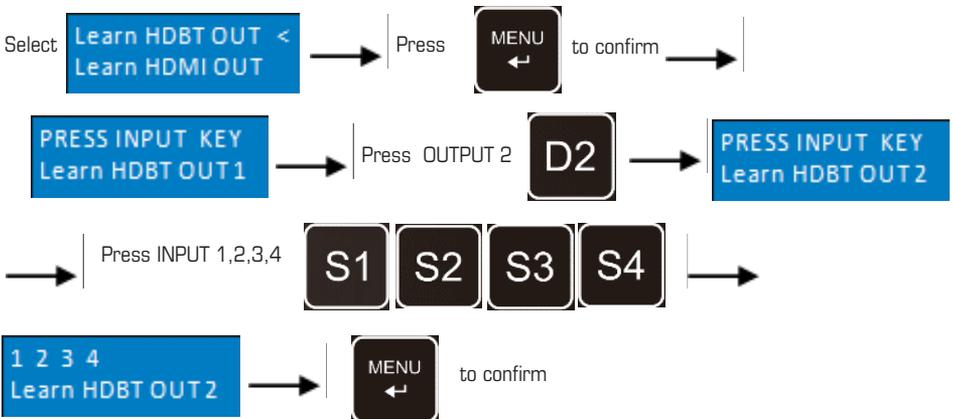
- **Enter EDID management tab:**



- Learn HDBT OUT
- Learn HDMI OUT
- Built-in EDID

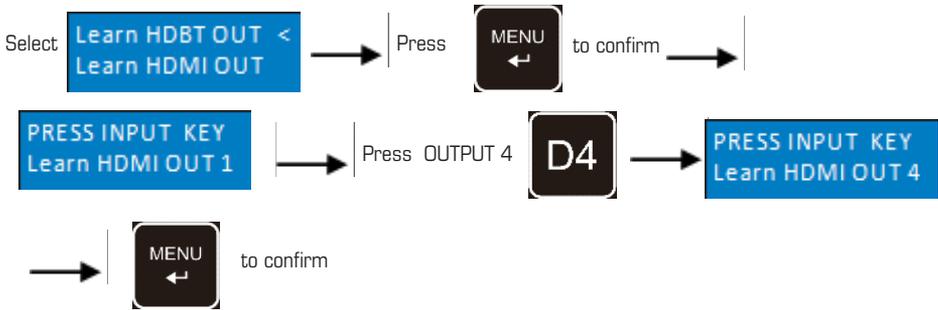
- **To copy the EDID data from one HDBT output to one or several inputs:**

Example: Input 1, 2, 3 and 4 learn the EDID data of HDBT output 2



- To copy the EDID data from one HDMI output to one or several inputs:

Example: Input 1 and 2 learn the EDID data of HDMI output 4

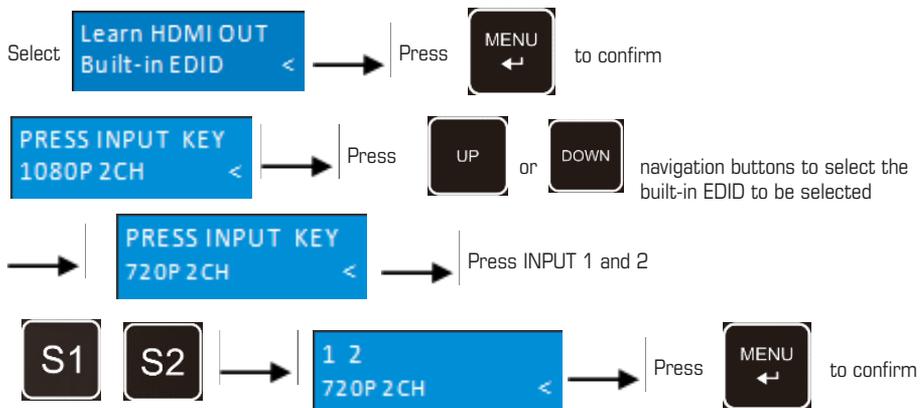


- EDID Table:**

There are eleven type of built-in EDID data that can be activated, as shown below:

No.	EDID	
	Video Format	Audio Format
1	1080p	2CH
2	720p	2CH
3	4K 16:9 (3840x2160)	2CH
4	1080p	MultiCH
5	4K 16:9 (3840x2160)	MultiCH
6	4K 19:10 (4096x2160)	MultiCH
7	4K@60Hz	2CH
8	4K@60Hz	MultiCH
9	4K@60Hz HDR	2CH
10	4K@30Hz HDR	MultiCH
11	User Custom	

Example: Input 1 and 2 adjusted to the built-in EDID data:720p 2CH



## 5.5 Audio Setting

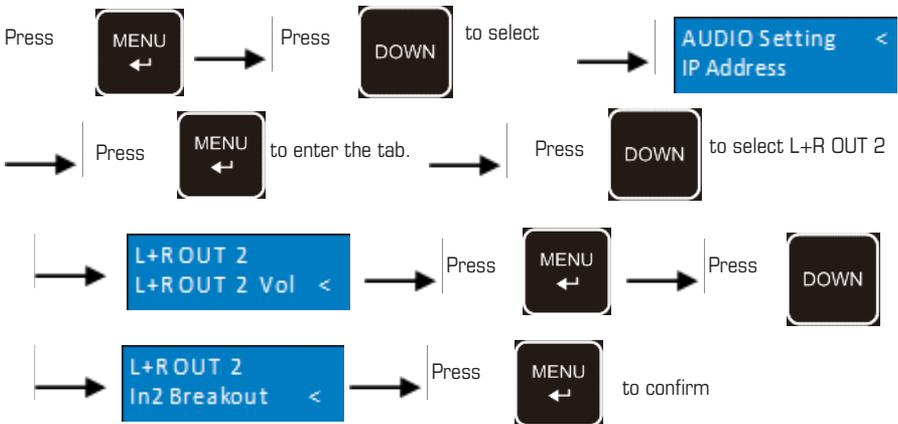
The matrix switcher provides four analog L+R audio output ports and four digital optical/SPDIF output ports for audio de-embedding. The audio source selection of these eight audio output ports, and the L+R audio volume can be controlled by the front panel buttons.

- Audio Source Selection**

There are eight audio sources can be selected for any analog L+R audio output port, and twelve audio sources can be selected for any SPDIF audio output port.

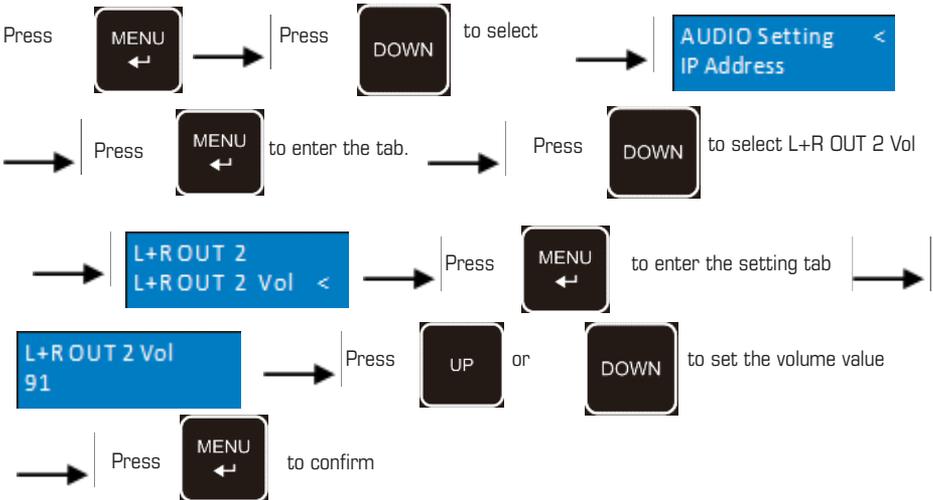
Audio Output Ports	EDID		
	Video Format	Audio Format	ARC
L+R OUT 1	In1 Breakout	Out1 Breakout	/
L+R OUT 2	In2 Breakout	Out2 Breakout	
L+R OUT 3	In3 Breakout	Out3 Breakout	
L+R OUT 4	In4 Breakout	Out4 Breakout	
L+R OUT 5	In5 Breakout	Out5 Breakout	
L+R OUT 6	In6 Breakout	Out6 Breakout	
L+R OUT 7	In7 Breakout	Out7 Breakout	
L+R OUT 8	In8 Breakout	Out8 Breakout	
SPDIF OUT 1	In1 Breakout	Out1 Breakout	Out1 ARC
SPDIF OUT 2	In2 Breakout	Out2 Breakout	Out2 ARC
SPDIF OUT 3	In3 Breakout	Out3 Breakout	Out3 ARC
SPDIF OUT 4	In4 Breakout	Out4 Breakout	Out4 ARC
SPDIF OUT 5	In5 Breakout	Out5 Breakout	Out5 ARC
SPDIF OUT 6	In6 Breakout	Out6 Breakout	Out6 ARC
SPDIF OUT 7	In7 Breakout	Out7 Breakout	Out7 ARC
SPDIF OUT 8	In8 Breakout	Out8 Breakout	Out8 ARC

Example: Select the HDMI input 2 audio source for the analog L+R output 2



- **L+R Output Audio Volume Control**

Example: Set the audio volume of L+R OUT 2 port



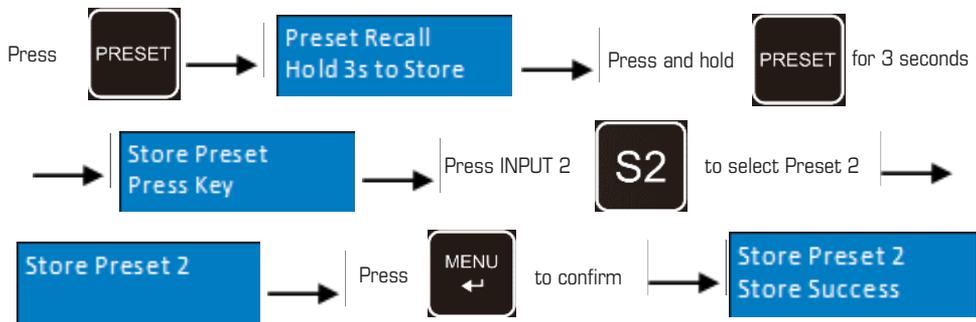
#### 5.4 Preset Setting

Press PRESET button can save the current switching routing or load the saved layout preset.

Note: The matrix switcher supports nine presets, but only preset 1~4 can be saved and recalled by button control. Please manage other preset by GUI control or RS-232 control.

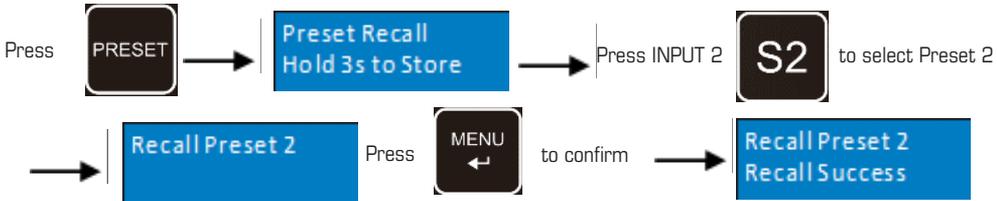
- **Save the current switching routing to a preset**

Example: Save the current switching routing to preset 2

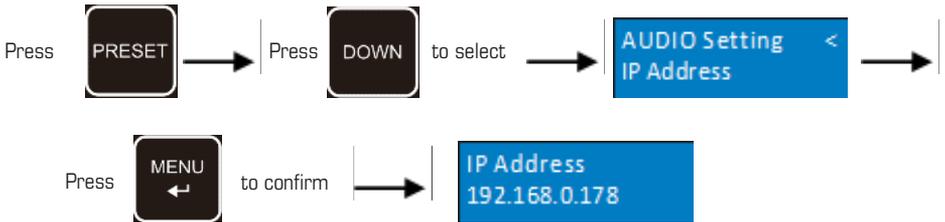


- **Recall a saved preset**

Example: Recall the saved preset 2



### 5.7 IP Address Inquiry

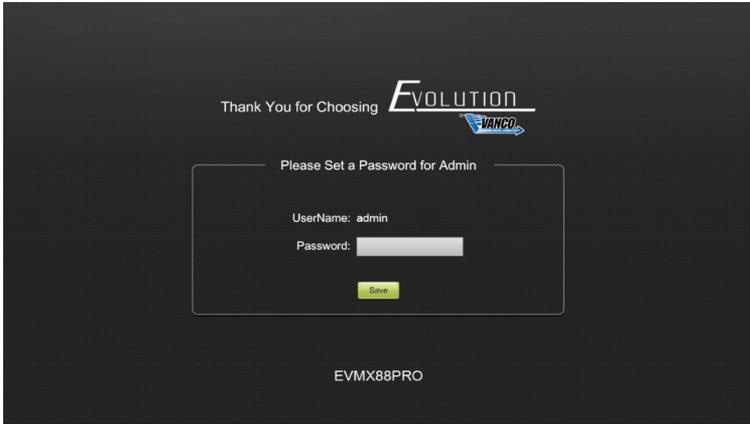


## USER INTERFACE CONTROL

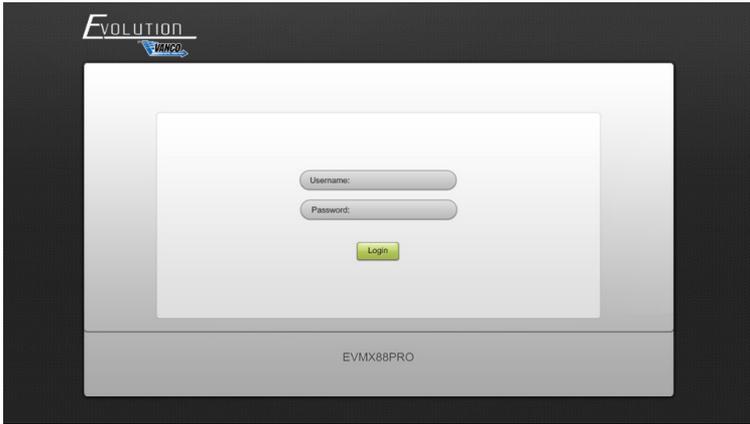
The matrix switcher can be controlled via TCP/IP. Connect the EVMX88PRO to a router or ethernet switch to connect to the local network. The default IP address and settings are:

IP Address	192.168.0.178
Subnet Mask	255.255.255.0

Type 192.168.0.178 into the address bar on any internet browser such as a connected PC, tablet, or mobile phone, the following webpage should appear:



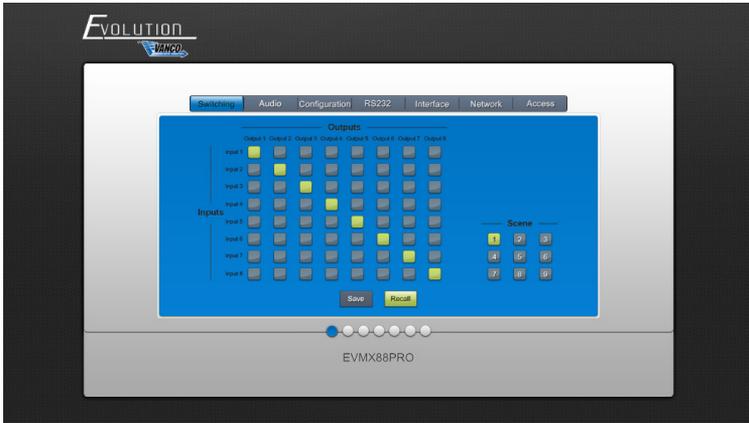
When using the GUI for the first time, an admin password must be set, and then click "Save" to enter the below login tab. Be sure to record the password(s).



The UI is available in two formats, one as a master for the integrator and/or admin, and another for end users that restricts access to only switching inputs/outputs:

<i>Username</i>	<i>Password</i>	<i>Access Rights</i>
admin	Set on welcome page or "Access" tab	All tabs
user	Set on "Access" tab to activate user account	Only on switching tab

## 6.1 Switching Tab



Use the 8x8 button grid on the page to set which inputs are directed to which outputs. For example, clicking the button on the Input 1 row and Output 1 column, directs input 1 to output 1.

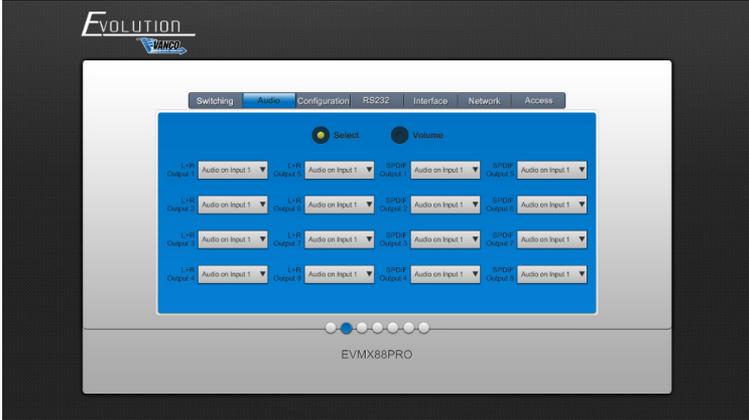
Use the 9 numbered buttons under scene area to save and load layout presets.

- To save a given layout, first click one of the numbered buttons, then click the Save button
- To load a previously saved layout, first click one of the numbered buttons, then click the Recall button



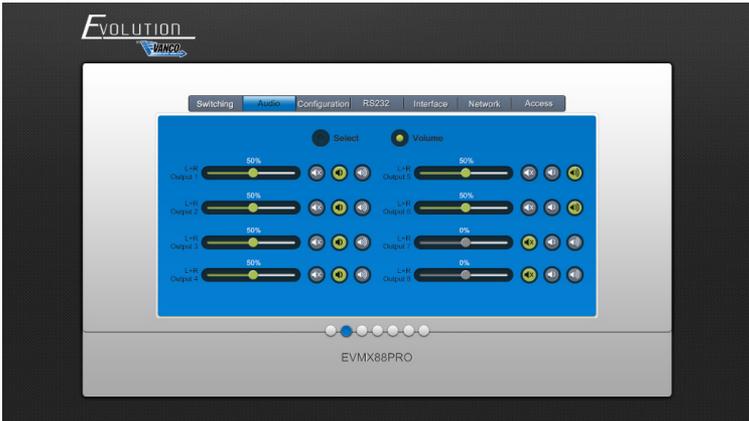
## 6.2 Audio Tab

- Audio Source Selection**



There are sixteen audio sources can be selected for eight analog L+R audio output ports, audio sources can be selected for eight digital SPDIF output ports.

- L+R Output Audio Volume Control**



Adjust L+R output audio volume by the volume bar and the three buttons on the right side

## 6.3 Configuration Tab

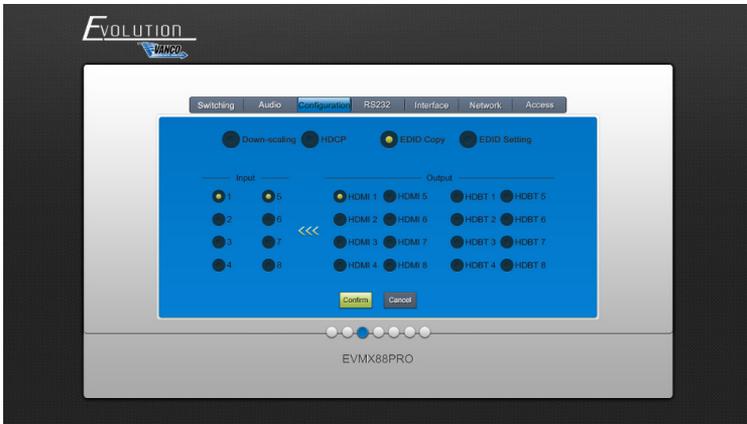
### 6.3.1 Downscaling



Enable/disable video resolution down-scaling function of HDMI output 1~8 ports.

When enabling down-scaling, the 4K input can be automatically degraded to 1080p output for compatibility with 1080p display which is connected to the HDMI output port

### 6.3.2 HDCP Setting

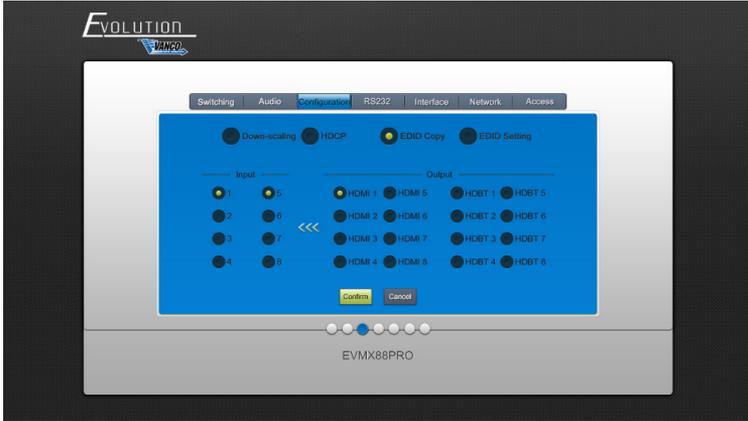


Set the HDCP mode of HDMI and HDBaseT outputs to Passive or Active

Mode	Description
Passive	Automatically follows the HDCP version of source device
Active (Default)	<ul style="list-style-type: none"><li>If the input video has HDCP content, the HDCP version of HDMI output is HDCP 1.4 for great display compatibility</li><li>If the input video has no HDCP content, the HDMI output has no HDCP</li></ul>

Click confirm to save any changes or click cancel to cancel any changes that have been made

### 6.3.3 EDID Copy



Copy the EDID data from a single output port to one or several input ports

Operation:

1. Select one output port
2. Select one or several input ports. Press ALL to select all input ports
3. Click Confirm to save any changes or click Cancel to cancel any changes that have been made

### 6.3.4 EDID Setting

Click EDID Setting to enter the below section to set a predefined EDID for input ports



Select a built-in EDID for one or several input ports.

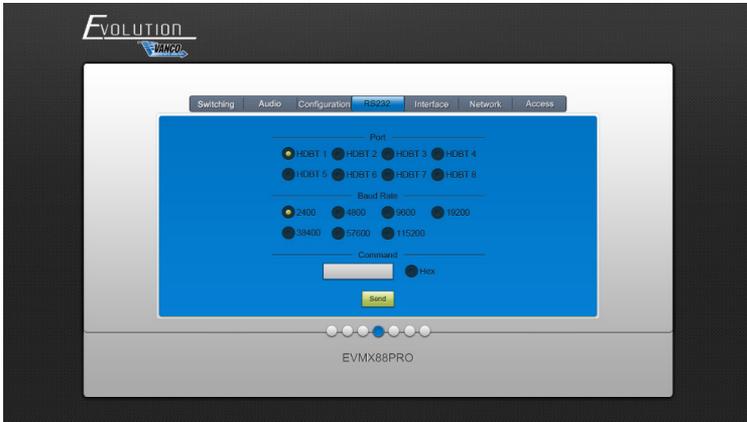
Operation:

1. Select a built-in EDID
2. Select one or several input ports. Press ALL to select all input ports
3. Click Confirm to save setting

Upload user-defined EDID by the below steps:

1. Prepare the EDID file (.bin) on the control PC.
2. Select the User-defined
3. Click the box  and then select the EDID file (.bin) according the tooltip
4. Click Apply to upload the user-defined EDID, and then click Confirm to save setting

## 6.4 RS-232 Tab



- Send RS-232 commands to control third-party devices which are connected to the far-end HDBaseT receivers

Select a built-in EDID for one or several input ports.

Operation:

1. Select the HDBaseT port which is connected to HDBaseT receiver which must have third-party device attached
2. Set the baud rate
3. Typing the commands in the box to control the selected remote third-party device which is connected to HDBaseT receiver. If click the Hex, the RS-232 commands can be typed with hexadecimal value
4. Click Send to transmit RS-232 command to the selected HDBaseT port

## 6.5 Interface Tab



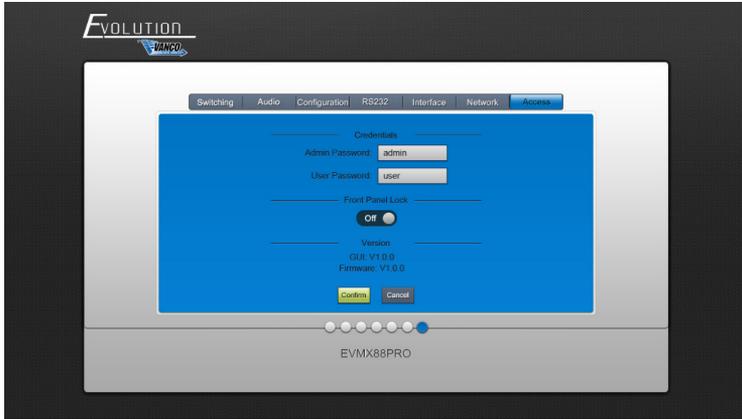
- Inputs and outputs can be renamed to make it easier when switching sources to displays. Simply type in the new name for each input/output, then click "Confirm"

## 6.6 Network Tab



- Adjust to Static IP or Dynamic Host Configuration Protocol (DHCP)
- Modify the static IP Address, Subnet Mask, and Gateway

## 6.7 Access Tab

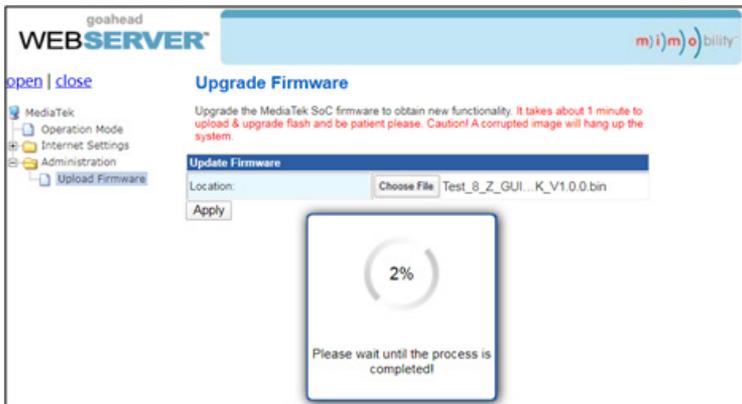


- Here you can change the admin password, lock/unlock the front panel, and shows GUI and Firmware versions the matrix is currently on

## 6.8 GUI Upgrade

Type in `http://192.168.0.178:100` on a web browser of a connected PC for GUI online upgrade.

Type the username and password (the same as the GUI log-in setting, modified password will be available only after rebooting) to login the configuration interface. Then click Administration in the source menu, and then click Upload Firmware, select the desired update file and press Apply, the upgrade process will begin.

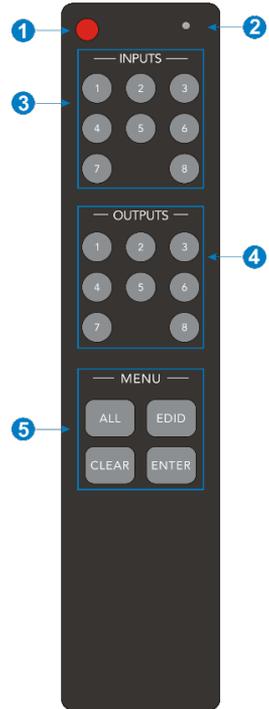


## 7 IR Control

### 7.1 IR Remote Control

Connect IR receiver to the IR EYE port on the back of the EVMX88PRO, the matrix can be controlled by the included IR remote

1. Enter/exit standby mode
2. Blinking red when a button is pressed
3. Video source selection buttons
4. Output channel selection buttons
5. Menu buttons:
  - ALL: Select all inputs or all outputs
  - EDID: Enable one or several input sources to manually capture and learn the EDID data of output device
  - CLEAR: Cancel the current operation, if ENTER has not been pressed
  - ENTER: Confirm the desired operation



Note: The IR receivers which are connected to HDBaseT receivers also can receive the IR signal of the IR remote, so the matrix switcher also can be controlled by the IR remote at the far-end HDBaseT receivers' position. The IR remote-control mode can be enabled or disabled by sending RS-232 command "IRRCM[X] ON." / "IRRCM[X]OFF." (X)=0~8). Please refer to the 8.3.1 System Control for more details.

## 7.2 IR Pass-through Control

The matrix switcher supports bi-directional IR pass-through, allowing the devices to be controlled by both source and display ends. This section provides connection and switching examples to illustrate possible configurations.

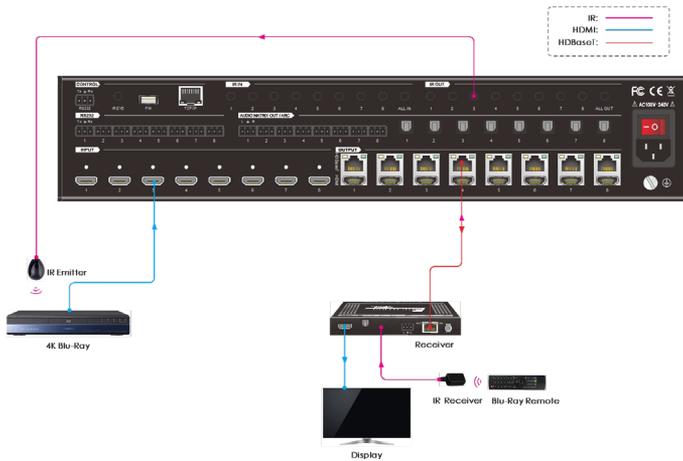
### 7.2.1 Control Local Input Device from Remote

The local input source device can be controlled from the remote receiver location.

- Control local input device through IR OUT port

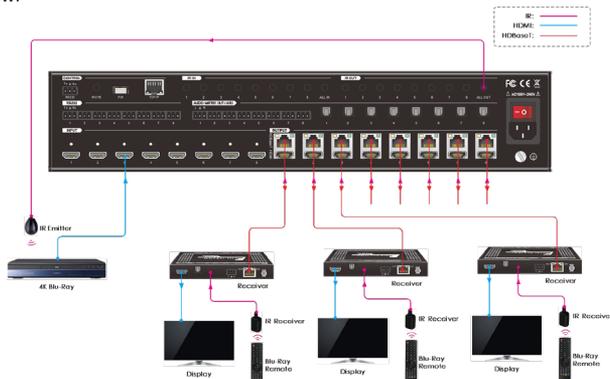
Example: Switch HDMI input 3 to HDBaseT output 4.

Connect an IR receiver to IR IN port on the receiver, then connect an IR emitter to the IR OUT 3 on the matrix switcher. The third input source can be controlled through its corresponding IR output port. The connection diagram shown as below:



- Control local input device through IR ALL OUT port

The emitter can be connected to the IR ALL OUT port on matrix switcher to control all local input devices. In this case, the IR receiver must be connected to the IR IN port on each connected HDBaseT receiver, as shown in the diagram below:



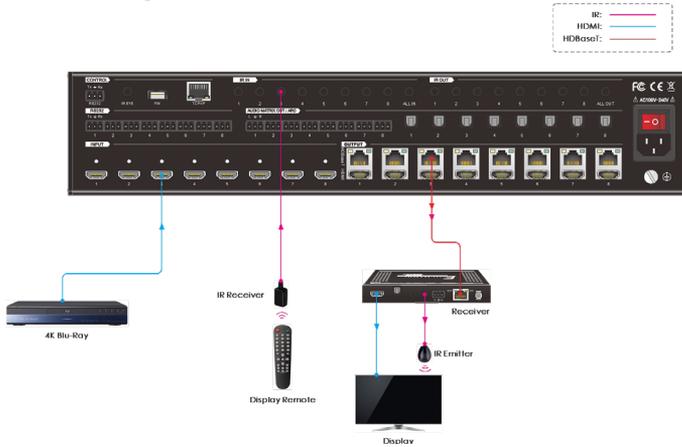
### 7.2.2 Control Remote Output Device from Local

The remote displays can be controlled from the local matrix switcher location.

- Control remote device through IR IN port

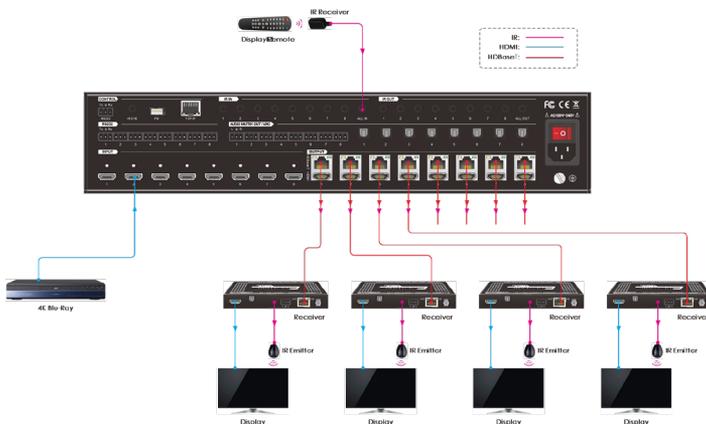
Example: Switch HDMI input 3 to HDBaseT output 3.

Connect an IR receiver to IR IN 3 port on the matrix switcher, then connect an IR emitter to the IR OUT on the receiver, as shown in the diagram below:



- Control remote device through IR ALL IN port

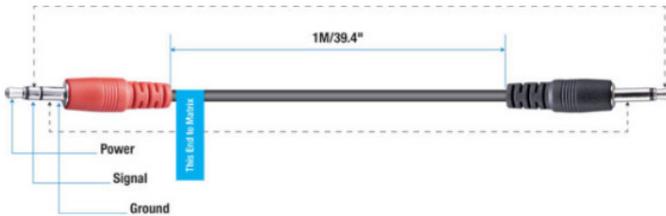
The receiver can be connected to the IR ALL IN port on matrix switcher to control all remote output devices. In this case, the IR emitter must be connected to the IR OUT port on each connected HDBaseT receiver, as shown in the diagram below:



### 7.2.3 Integration with 3rd Party Control

The EV-IRMST IR integration cable is included with the matrix unit. Seamlessly integrate IR from the EVMX88PRO with third party control systems and other IR products to provide a cleaner, faster installation. Eliminates the need to cut and splice wires or tape emitters and receivers together.

Simply plug the red connector into the EVMX88PRO and the black connector into the 3rd party control system or IR system.



## 8. RS-232 Control

### 8.1 RS-232 Control Connection

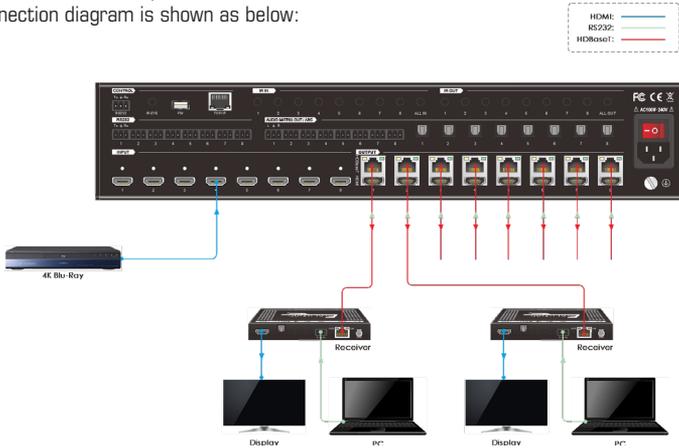
#### 8.1.1 Control the Matrix Switcher from Local

To control the matrix switcher from a local PC, the 3-pin to DB9 RS-232 Cable is used to connect between the matrix and PC. The connection diagram is shown as below:



### 8.1.2 Control the Matrix Switcher from Remote

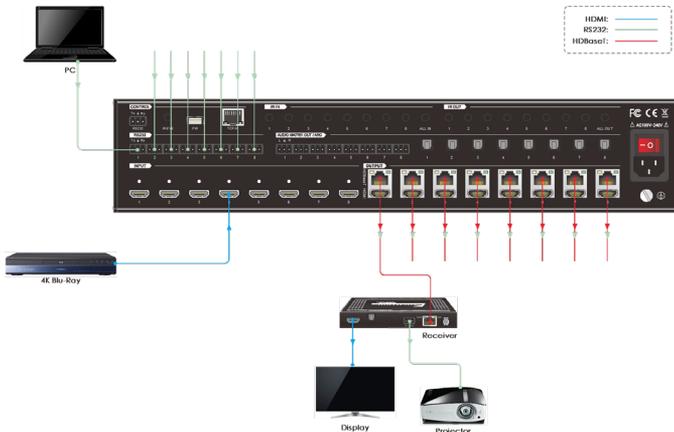
To control the matrix switcher from remote location, please connect one or more PCs to the RS-232 ports of HDBaseT receivers with the 3-pin to DB9 RS-232 Cables. The matrix switcher can be controlled by any one of PCs, the connection diagram is shown as below:



Note: The command "RS232RCMIXION." (X=0~8) needs to be sent to enable or disable this control mode. For example, send the command "RS232RCMOON." to enable the remote-control mode for all HDBaseT outputs, and send the command "RS232RCMOFF." to disable the remote-control mode for all HDBaseT outputs. Please refer to the 8.3.1 System Control for more details.

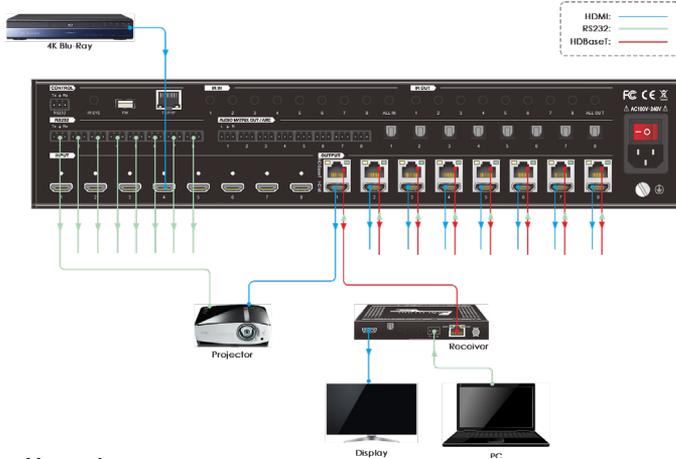
### 8.1.3 Control the Remote Third-party Device from Local

To control a third-party device from local, first determine which HDBaseT receiver is connected to (1 in the diagram below). Next, connect a PC to the corresponding RS-232 port of matrix switcher with 3-pin to DB9 RS-232 Cable, then connect a third-party device (e.g. projector) to the RS-232 port of the determined HDBaseT receiver. The remote third-party device can be controlled by the local PC, the connection diagram is shown as below:



### 8.1.4 Control the Local Third-party Device from Remote

To control a third-party device from remote, first determine which HDBaseT receiver is connected to (1 in the diagram below). Next, connect a PC to the RS-232 port of HDBaseT receiver with 3-pin to DB9 RS-232 Cable, then connect a third-party device (e.g. projector) to the RS-232 port of matrix switcher. The local third-party device can be controlled by the remote PC, the connection diagram is shown as below



## 9. Firmware Upgrade

Please follow the steps as below to upgrade firmware by the FW port on the rear panel:

1. Prepare the latest two upgrade files and rename them as "08010000.APP" and "08010000.APS" on PC
2. Power off the switcher, and connect the FW port of switcher to the PC with USB cable
3. Power on the switcher, and then the PC will automatically detect a U-disk named of "BOOTDISK"
4. Double-click the U-disk, a file named of "READY.TXT" would be shown
5. Directly copy one of two upgrade files (e.g. "08010000.APP") to the "BOOTDISK" U-disk
6. Reopen the U-disk to check the filename "READY.TXT" whether automatically becomes "SUCCESS.TXT", if yes, the firmware was updated successfully, otherwise, the firmware updating is fail, the name of upgrade file should be confirmed again, and then follow the above steps to update again
7. Repeat step 5~6 to copy the other upgrade file ("08010000.APS") to the "BOOTDISK" U-disk
8. Remove the USB cable after firmware upgrade
9. After firmware upgrade, the switcher should be restored to factory default by sending command

## 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](mailto: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.

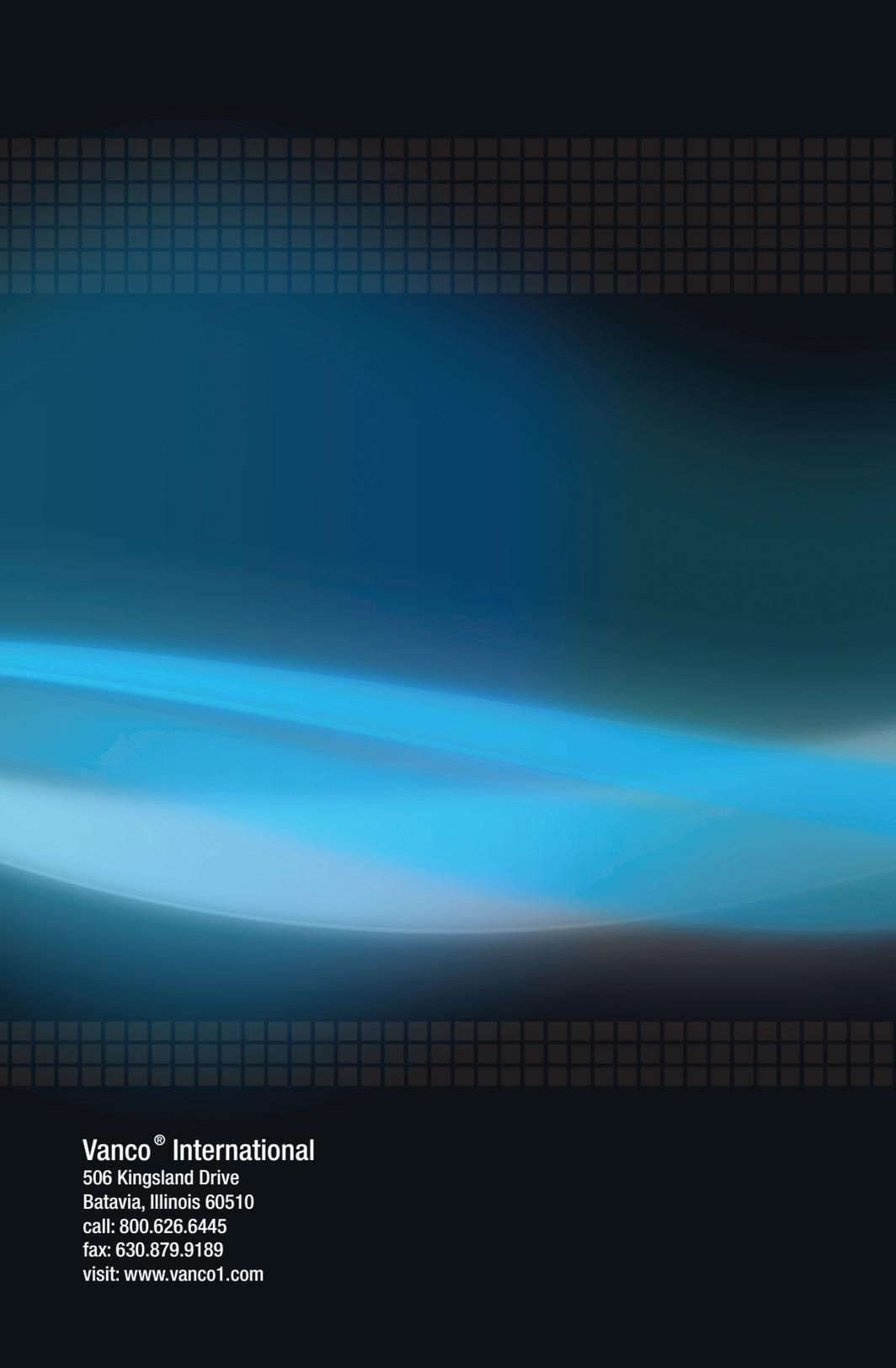
All active electronic products are 100% inspected and tested to insure highest product quality and trouble-free installation and operation. The testing process utilizes the types of high-definition sources and displays typically installed for entertainment and home theater applications.

For additional information, such as helpful installation videos, etc. please visit [www.vanco1.com](http://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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