User Manual

8x4 HDMI/HDBaseT

Classroom/Conference Room Matrix switcher Featuring Quick Switch

AC-CX-84

Table of Contents

Introduction

The ConferX 8x4 Matrix Switcher is the ideal solution for any conference room, classroom or huddle space. This 4K switcher can display any of the eight sources through both the HDBaseT and HDMI output ports. All four of the outputs are completely independent of each other allowing the user to show four sources at the same time. With additional audio inputs and outputs, working with a microphone or intercom system will not be a problem. When you need a stable solution for video distribution, look to the entire line of ConferX products.

With two HDBaseT inputs this switch works alongside two directly connected ConferX Wall Plate Transmitters. You can have Mini DisplayPort, HDMI, VGA or USB-C inputs located up to 100 meters away from the AC-CX-84. With the Quick Switch feature, these remote sources still switch at the same time as a local HDMI source, keeping your system running smoothly. This allows a teacher or presenter to use their laptop directly at the podium or presenters' station without having to connect anything to the matrix switcher. The AC-CX84-AUHD gives any end user a simplified experience for sharing their ideas inside a classroom, conference room or huddle space.

Features

- HDMI 2.0(a/b)
- 18Gbps Bandwidth Support
- 4K60 4:4:4 Support
- Full HDR Support (HDR 10 & 12 Bit)
- Dolby Vision, HDR10+ and HLG Support
- HDCP 2.3 (and all earlier versions supported)
- Output timing configurable from 720p50 – 4K60
- Advanced EDID Management
- IR, RS-232 and LAN Control Options
- Balanced Analog Out (2CH PCM)
- Audio Delay for Digital & Analog Out
- HDBaseT Compatibility mode for mixed systems
- Driver Support for Crestron, C4, RTI, ELAN and more
- Extracted Audio Now Has 3 Operating Modes. Bound to Input, Bound to Output, or Independent Matrix
- Built in Test Pattern on Each Output to Verify Infrastructure

What's in the box

- AC-CX-84 (Matrix Switch)
- 48V Locking Power Supply
- 1 x Ground Strap
- 1 x IR Remote Control (Battery not included)
- 1 x IR Extension Cable
- 16 x 5-Pin 2 Channel Audio Extraction Cables
- 1 x 3 Pin Terminal Connector (For RS232)
- Mounting Brackets
- 4 x Rubber Feet

Not Included

*3V CR2025 Battery Required for IR Remote Control

Specification

Video:	
Video Resolutions	Up to 4K 60Hz 4:2:0 & 4K 30Hz 4:4:4
VESA Resolutions	Up to 2560x2048 (QSXGA)
HDR Formats/Resolutions	4k24 4:2:2 12 bit, 4k24 4:2:0 10 bit
Color Space	YUV (Component), RGB (CSC: Rec. 601, Rec. 709, BT2020, DCI, P3 D6500)
Chroma Subsampling	4:4:4, 4:2:2, 4:2:0 Supported
Deep Color	Up to 16 BIT (1080), Up to 12 bit (4K)
Audio:	
Audio Formats Supported HDMI	PCM 2.0 Ch, LPCM 5.1 & 7.1, Dolby Digital, DTS 5.1, Dolby Digital Plus, Dolby TrueHD, DTS-HD Master Audio, DTS-X, Dolby Atmos
Audio Formats Supported Extracted (TOSLINK)	PCM 2.0 Ch, LPCM 6 CH, LPCM 7 CH, Dolby Digital, Dolby Digital Plus, DTS-Master Audio
Audio Formats Supported Extracted (2CH Port)	PCM 2 CH (No Downmix)
Audio Extraction Location	Bind to INPUT, Bind to OUTPUT or MATRIX (Independent)
Audio Delay (Per Output, Extracted)	Up To 630ms
MIC IN	Balanced Mono
Distance:	
HDBaseT In (10.2Gbps)	Up to 100 meters (330 feet) with CAT 6a
HDBaseT In (18Gbps using ICT)	Up to 70 meters (230 feet) with CAT 6a
HDBaseT Out (10.2 Gbps)	Up to 100 meters (330 feet) with CAT 6a
HDBaseT Out (18Gbps using ICT)	Up to 70 meters (230 feet) with CAT 6a
HDMI In/Out (18Gbps)	Up to 8 Meters (26 feet)
HDMI In/Out (18Gbps with AOC)	Up to 40 Meters (131 Feet)
Other:	
Bandwidth HDMI	18Gbps Uncompressed
Bandwidth HDBaseT	10.2Gbps & 18Gbps using ICT
HDCP	HDCP 2.3 and Earlier
PoH for Transmitters and Receivers	Yes, all HDBaseT Inputs and outputs
Control:	
Ports	LAN, RS232, IR, Micro USB
LAN Web OS	YES
Ports:	
HDMI	Type A
LAN	RJ45 w/ Web Interface/ Control
Audio (Extracted Digital)	Toslink
Audio (Extracted Analog)	5 Pin Terminal Block (Balanced)
IR RX	3.5mm Stereo (3-Conductor)
RS232	3 Pin Terminal Block
Environmental:	
Operating Temperature	23 to 125°F (-5 to 51°C)
Storage Temperature	-4 to 140°F (-20 to 60°C)
Humidity Range	5-90% RH (No Condensation)
Power:	
Power Consumption (Total)	65 Watts Max
Power Supply - Matrix	Input: AC 100-240V ~ 50/60Hz Output: DC 48V 2.7A
Dimensions:	
Dimensions (Unit Only - Height/Depth/Width)	mm: 50.8 x 260.35 x 441.33 inch: 2 x 10.25 x 17.375
Dimensions (Packaged Length/Width/Height)	mm: 88.9 x 444.5 x 495.3 inch: 3.5 x 17.5 x 19.5
Rack Units	1 Unit
Weight (Unit)	7.4 lbs (3.36 Kg)
Weight (Packaged)	9.6 lbs (4.35 Kg)
*Specifications subject to change without notice. Mass & dimensions are approximate	

Compatible HDBaseT Receivers

AC-EX70-444-RNE (Receiver /No Ethernet)

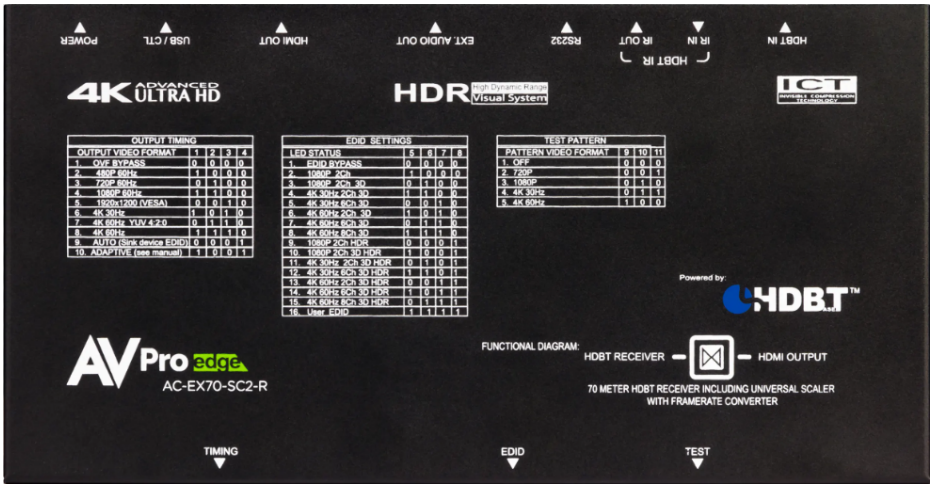
· 70M 4k 60 4:4:4 & HDR

· 100M 1080P

AC-EX70-SC2-R (Scaling Receiver)

· 70M 4k 60 4:4:4 & HDR

· 100M 1080P



AC-EX70-UHD-R2

· 40M 4k 30 4:4:4/4k 60 4:2:0

· 70M 1080P

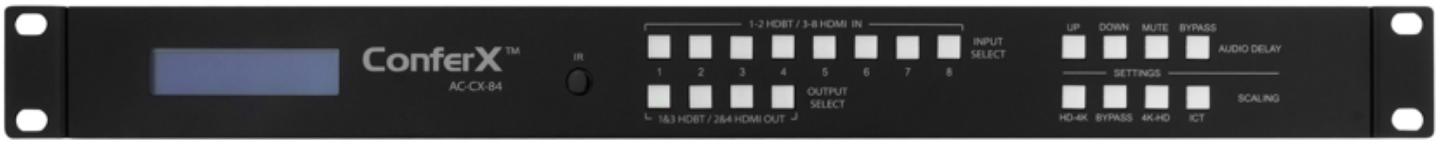
AC-CXWP-HDMO-T

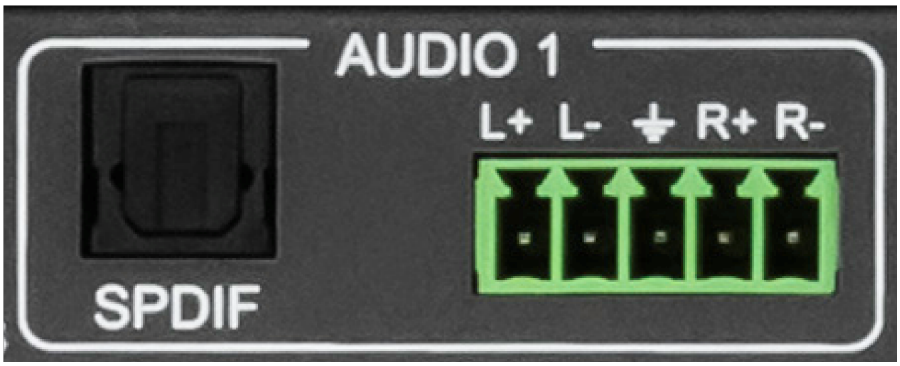
· 70M 4k 30 4:4:4/4k 60 4:2:0

· 100M 1080P

Non AVPro HDBaseT Receivers may work but ICT (our Invisible Compression Technology) will not. This means higher bandwidth signals (greater than 10.2Gbps) will not pass as this requires ICT.

Front and Rear Panel Overview





Front Panel Control: Buttons

Parameter	How To	Options
Switching Control	1. Press the OUTPUT button you want to switch. 2. Press the desired INPUT button.	
EDID Setup	1. Press and hold (3 seconds) the INPUT button of the source you want to set the EDID for. 2. Use the "UP" & "DOWN" bottons that have lit up to navigate to your desired EDID setting. 3. Quick press the same INPUT button to lock in the selection.	See EDID Management in the manual for a full list of available EDIDs.
Scaling Control	1. Press and hold (3 seconds) the OUTPUT button that you would like to scale. 2. The scaling buttons on the right hand side of the machine light up, allowing you to make your selection. Press one of the 4 options to change, the front screen will display the current selection. 3. To set, press the same OUTPUT button from step one. You can also wait 5 seconds and the matrix will exit from the scaling menu, saving any changes you have made.	- HD -->4K - 4k --> HD - AUTO (Detetcs Display) - BYPASS (No Scaling) DEFAULT
Audio Delay Control	1. Press and hold (3 seconds) the OUTPUT button that you would like to delay/mute 2. The TOP row of buttons on the right hand side of the machine light up, allowing you to make your selection.	- UP - DOWN - MUTE (Turns off audio) - BYPASS (No Delay)
Set Extracted Audio Bindings	1. Press and hold (3 seconds) the BYPASS button on the audio settings (top right set of buttons). 2. Press the "UP" & "DOWN" buttons to switch between the desired settings. 3. Press the BYPASS button again to set the selection. Note: If "Matrix" is selected, you will be able to route audio. Please see "Extracted Audio Switching" 4. Press the BYPASS button again to exit.	- Bind to OUTPUT - Bind to INPUT - Matrix Note: Send switching commands from the front panel by selecting "Matrix" when in audio mode.
Extracted Audio Switching	1. Press and hold (3 seconds) the BYPASS button on the audio settings (top right set of buttons). 2. The screen will say "Matrix" 3. Quick press the BYPASS button again to enter Extracted Audio Switching, to switch - Press the OUTPUT you would like to change - Press the INPUT you would like to route to the previously selected OUTPUT 4. When finished, press the BYPASS button again in order to exit.	Note: Audio switching commads are ONLY available from the front panel when the audio mode is set to "MATRIX". Note: The web interface may be easier for active, live, switching.
Initialize Test Pattern Output	1. Press and hold (3 seconds) the desired INPUT & OUTPUT buttons together 2. Repeat step 1 to turn off the test pattern	Example: Pressing and holding INPUT 1 & OUTPUT 1 at the time for 3 seconds will generate a test pattern out of OUTPUT 1
Toggle DHCP Mode	1. Press and hold (3 seconds) INPUT 1 & INPUT 4 together	Toggles DHCP OFF/ON
View Network Settings	1. Press and hold (3 seconds) INPUT 3 & INPUT 4 together	The Screen will flash the following: - Device IP - Host IP - Subnet Mask - MAC Address
View Firmware Versions	1. Press and hold (3 seconds) INPUT 2 & INPUT 4 together	Displays Current Firmware
Factory Reset	1. Press and hold (10 seconds) HD->4k/4k->HD/MUTE/ and BYPASS buttons at the same time.	Resets to Factory Defaults

Initial Setup: WebUI

The AC-MX-1616 can be controlled using the Micro USB port, 3pin RS232, or over TCP/IP using the LAN connection. For initial setup it is recommended to connect the matrix to a local area network (LAN) and use a computer on the same network in conjunction with the built in WebUI. After making all the physical connections, the first step will be to check for any Firmware Updates. The steps below are an example of this setup, other control options are covered in separate sections of this user manual.

1. With the AC-MX-1616 placed into its new home (AV Rack, cabinet, tabletop) take a Phillips head screwdriver and attach the included yellow ground strap to the back of the chassis using the pre-installed screw, then attach the other end to a suitable grounded object.

2. Connect the HDMI Input sources to the HDMI Inputs on the back of the matrix.

3. Connect the HDMI/HDBaseT devices to the HDMI Outputs.

4. Connect the network LAN cable to the RJ45 port labeled LAN (between the Micro USB and 3pin RS232 port).

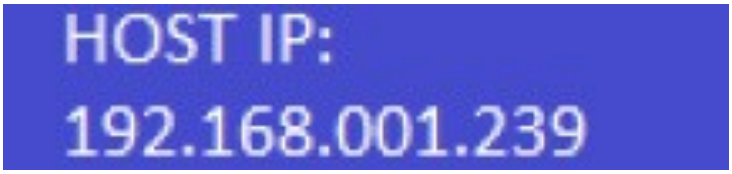
5. Power on the sources (Inputs).

6. Power on the Output devices/displays.

7. Connect the 48V power supply to power on the matrix and then to a suitable power source.

8. To see the current IP settings, press and hold (for 3 seconds) INPUT 3 and INPUT 4 buttons simultaneously. This screen will change every 3 seconds showing additional settings (host, net mask, router IP).

NOTE: This screen always starts with the current IP address of the matrix

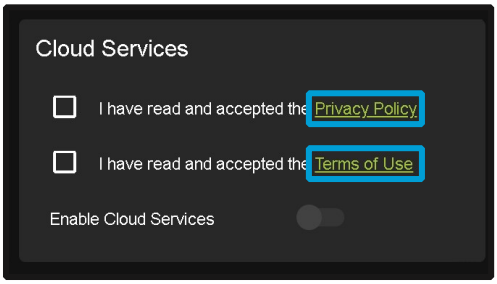


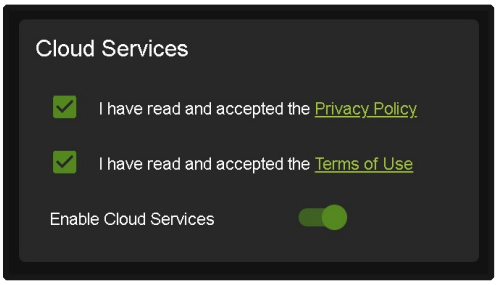
9. Enable DHCP by pressing INPUT 1 and INPUT 4 buttons simultaneously for 3 seconds. Wait for 5 seconds, then press and hold (for 3 seconds) the INPUT 3 and INPUT 4 buttons simultaneously. The display will show the assigned IP address.

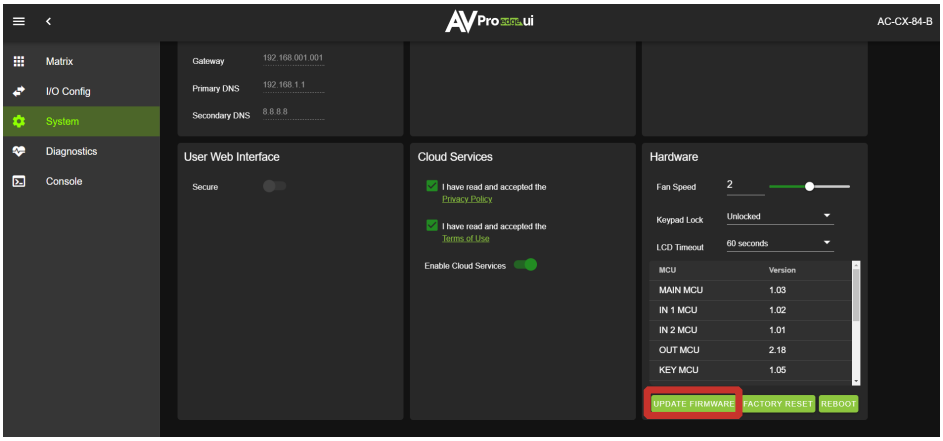
10. With the matrix connected to the local network, using a computer on the same network open a web browser and type the HIP (Host IP Address) into the address bar to navigate to the WebUI.

11. With the WebUI open, navigate to System. Click on the Privacy Policy and Terms of Use, this will open these documents in a new tab for review. Once read click on the boxes next to each to agree. When both are checked

the switch for Enable Cloud Services will be selectable (will be red or disabled by default). Click to enable (the switch will turn green).

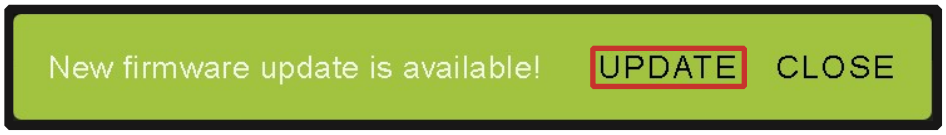




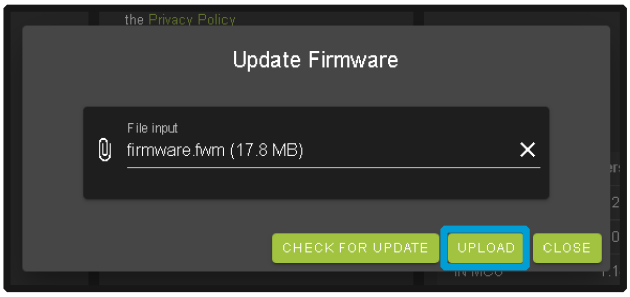


12. With the Cloud Services enabled under the Hardware section click the Update Firmware button to check for new Firmware OTA (over the air). This will compare the firmware versions currently loaded on the AC-CX-84 and compare them to the latest available. If it is up to date, you will see a prompt stating "No update available!"

13. If an update is available, the following prompt will show. Simply click UPDATE.

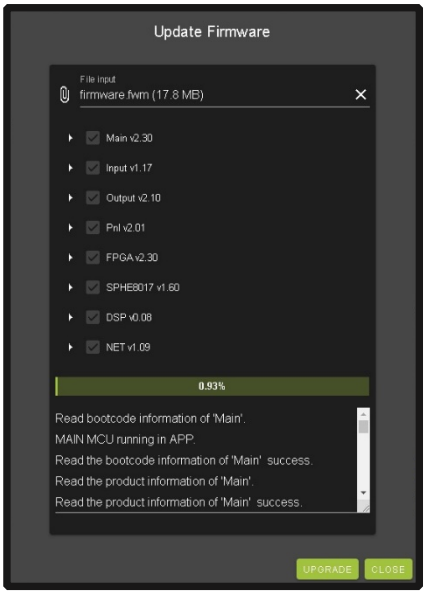


14. If a new update is available a file will automatically be selected, simply click the UPLOAD button to load the firmware files to the Matrix. Uploading does not install the Firmware, that is the next step.



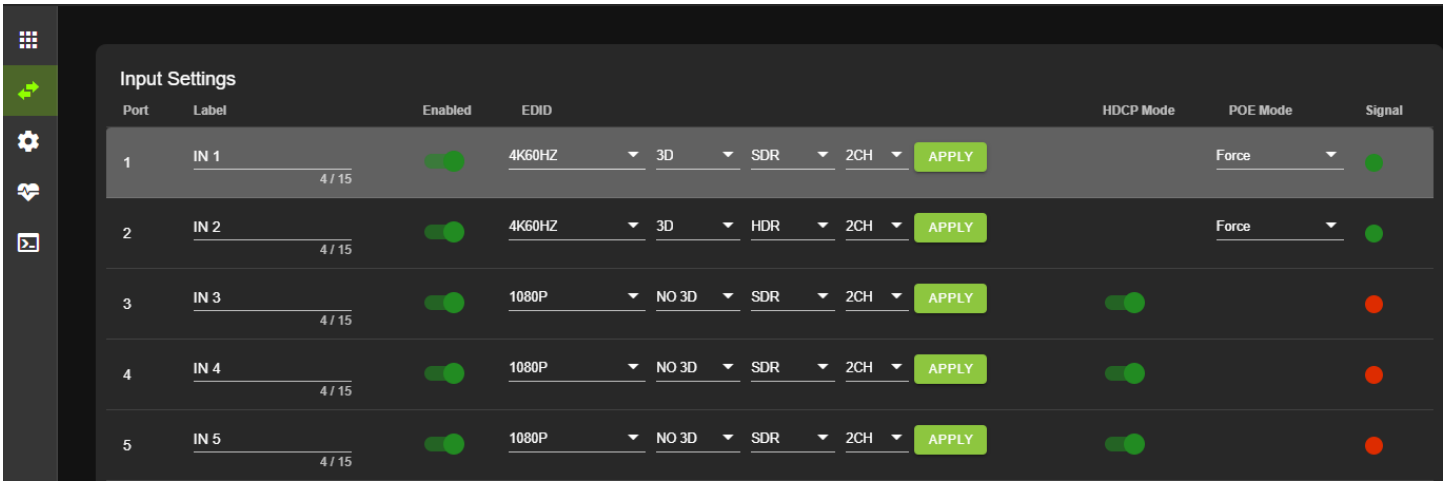
15. Once the firmware file has been uploaded, it will display all containing firmware files. Here you can select individual firmware files to load or simply leave all files/options selected. If the version currently installed is not

newer (does not need to be updated), then that update will be skipped automatically. Click the UPLOAD button to start.

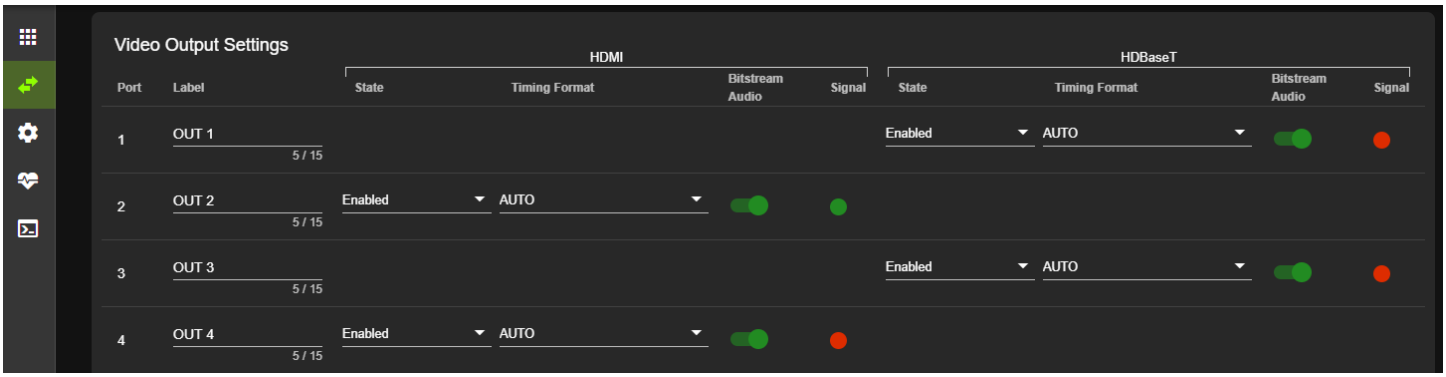


16. Once the progress bar hits 100%, click the CLOSE button, the firmware upgrade process is complete.

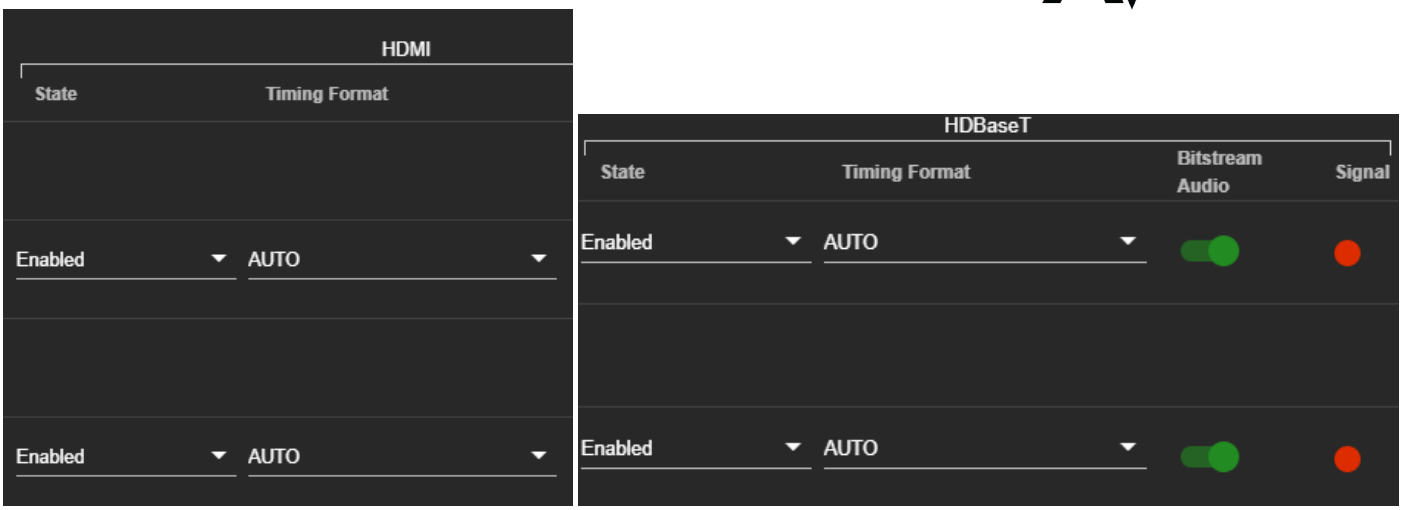
17. With the Firmware up to date it's time to start setting up the matrix. With the AVPro Edge WebUI open, navigate to the I/O Conifg section. Label the applicable Inputs (Apple TV, Cable Box, Roku, etc) under the Input Settings - Label.



18. Label the Outputs (Living Room, Bedroom, Den, etc) under the Video Output Settings - Label.



19. Outputs can be set from 720p50 - 4K60 if needed for better video stability.



20. With the system and all its components powered up it's time to verify signal path from source to the sync. For now, leave EDID settings to their default 1080P 2CH, the next section Advanced Setup will cover the more advance settings.

21. Use the Signal Indicator on the HDMI INPUTS. Green means HDMI source is detected, red means that the source is not detected. If red verify that the input is powered on and that the HDMI cable is properly connected to the source and to the back of the matrix.

22. Now verify that the connections to the HDMI outputs using the Signal indicator. Green means HDMI sync is detected, red means that the HDMI sync is not detected. If red verify that the sync devices are powered on and that the HDMI/HD cables are properly connected to the back of the matrix.

23. With everything connected and powered on, green indicators across the applicable inputs and outputs verify you are getting all of your sources on all of your displays.

24. Problems with a source or sync, see the Troubleshooting section for help.

Advanced Setup: WebUI Input Settings

After verifying a good signal path from source to sync now it is time to go through the rest of the settings to maximize the setup. Starting with the input side with the EDID and Audio Mode settings.

1. With the WebUI open, navigate to the I/O Conifg tab and focus on the Input Settings section at the top.

2. Set the EDID on each input by selecting the resolution drop-down first (default is set to 1080P). The options are 1080P, 4K30Hz, 4K60Hz Y420, and 4K60Hz. If you select USER1 EDID, then the dropdowns change to allow you to select from and output to copy from. You can select any of the 4 HDMI outputs, or any of the 4 HDBaseT outputs, then click the COPY button. This will save that outputs EDID to the USER1 slot.

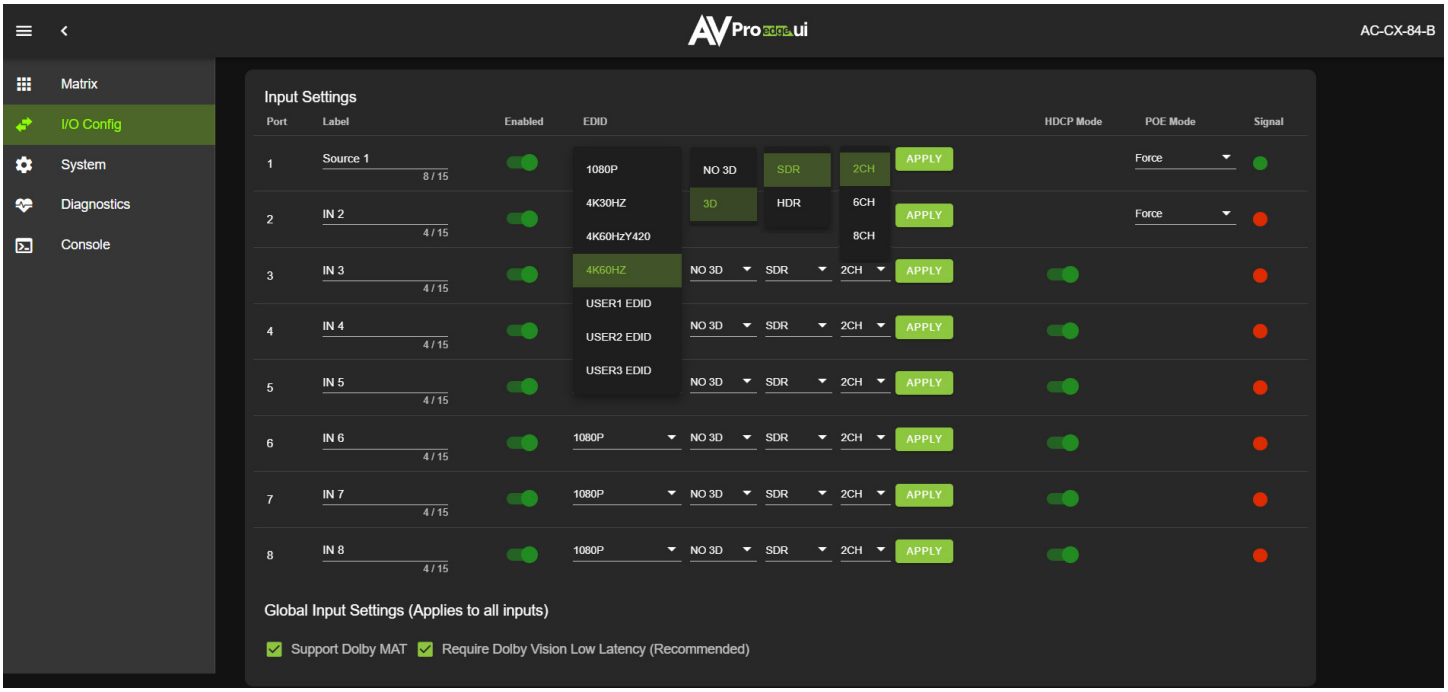
3. Next use the drop-down to select NO 3D, or 3D depending on the display's capability.

    NOTE: Currently the only resolution you can choose NO 3D for is 1080P.

4. Next drop-down select either SDR (standard dynamic range) or HDR (High Dynamic Range).

5. The fourth drop-down in the EDID section is for the audio, you can select 2CH, 6CH, or 8CH.

6. Click the APPLY button to set the EDID.



7. Verify you are still getting that source to all your displays and that the image looks correct.

    NOTE: Some older displays may take an HDR signal and display correctly (ignoring the HDR Metadata) others will not ignore the HDR part of the signal and may display incorrectly.

8. HDCP Mode – This setting can be toggled the enable/ disable the request of HDCP on Inputs.

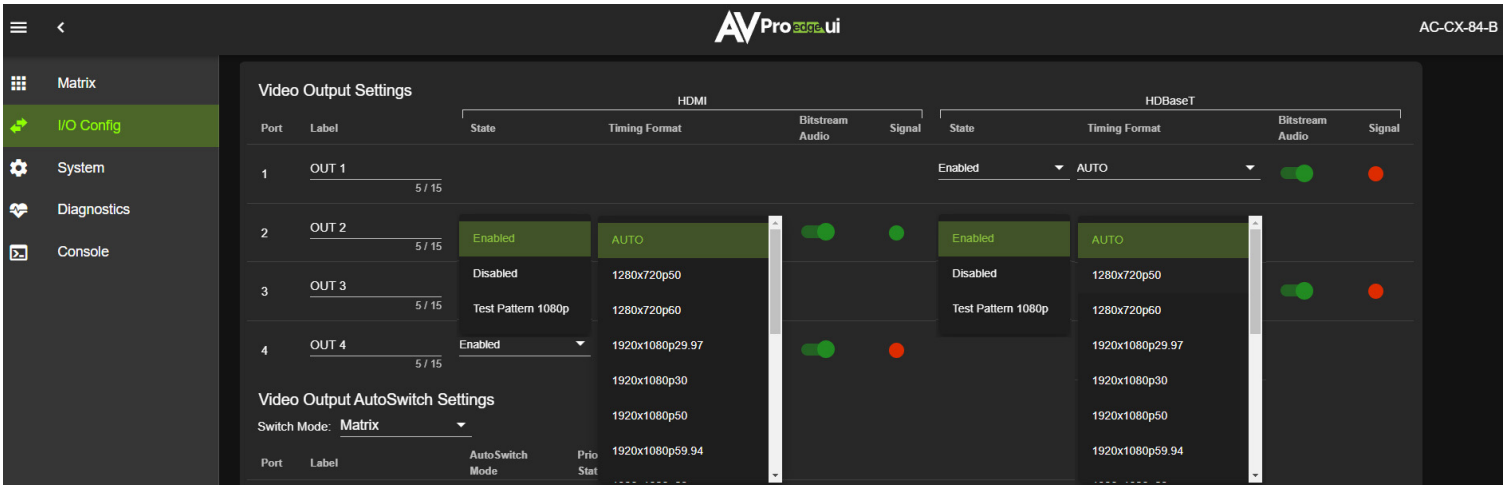
9. PoE Mode – Switch this setting to FORCE if your HDBaseT Transmitters are having issues connecting.

10. Audio Mode - see "Advanced Setup: WebUI Extracted Audio Output Settings" for more info.

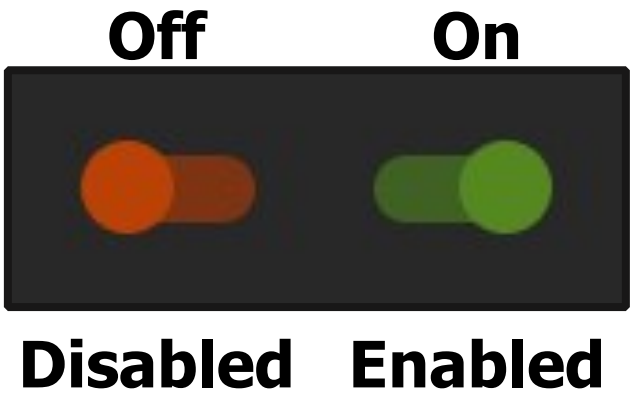
Advanced Setup: WebUI Output Settings

1. Now navigate to the Video Output Settings under I/O Config

2. In addition to the output Label (name/alias), there are 3 settings for each HDMI output and 3 settings for each HDBaseT output.



3. Under State, you can enable/disable that port (turn that port on or off) and enable a 1080P test pattern, the Output timing format can be changed from Auto to 720p50 – 4K60, and you can Enable or Disable the Bitstream Audio (slider icon Green=ON, Red=OFF).



Advanced Setup:

WebUI Extracted Audio Output Settings

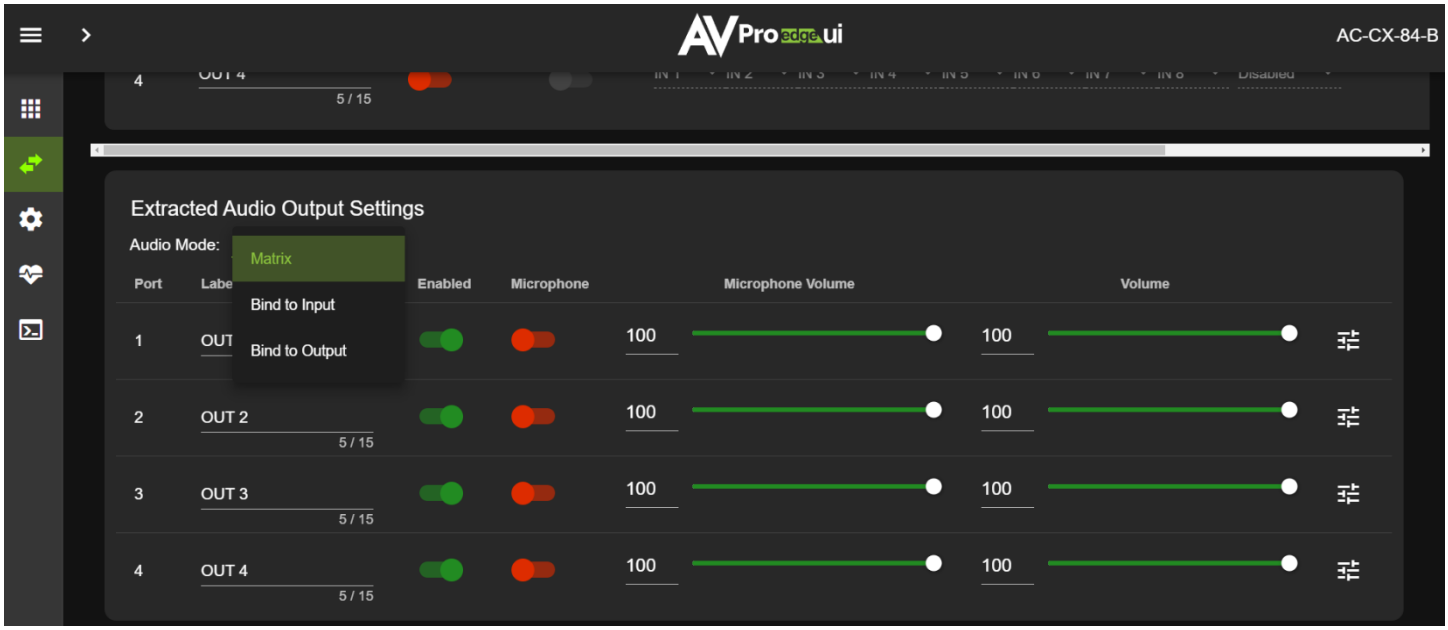
1. Now navigate to the Extracted Audio Output Settings under I/O Config.

2. The extracted audio ports have 3 distinct operating modes, use the drop-down at the top to select. The three options are.

Bind to Input (Default) - where the audio port number corresponds to the input signal. This is ideal for systems where audio is matrixed separately in a zoned amplifier.

Bind to Output - this configuration the audio will automatically follow the HDMI/HDBaseT output. This is ideal for systems that use local AVR's for some of the Zones.

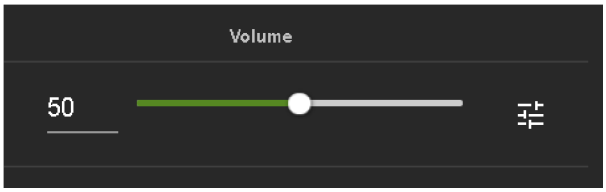
Matrix - This mode allows you to matrix the extracted audio ports independently from the HDMI/ HDBaseT outputs. In this mode there will be a Tab for the extracted audio under the Matrix page, allowing you to route the audio just like routing the video. If the matrix is set to Bind to Input or Bind to Output this tab will not be visible.



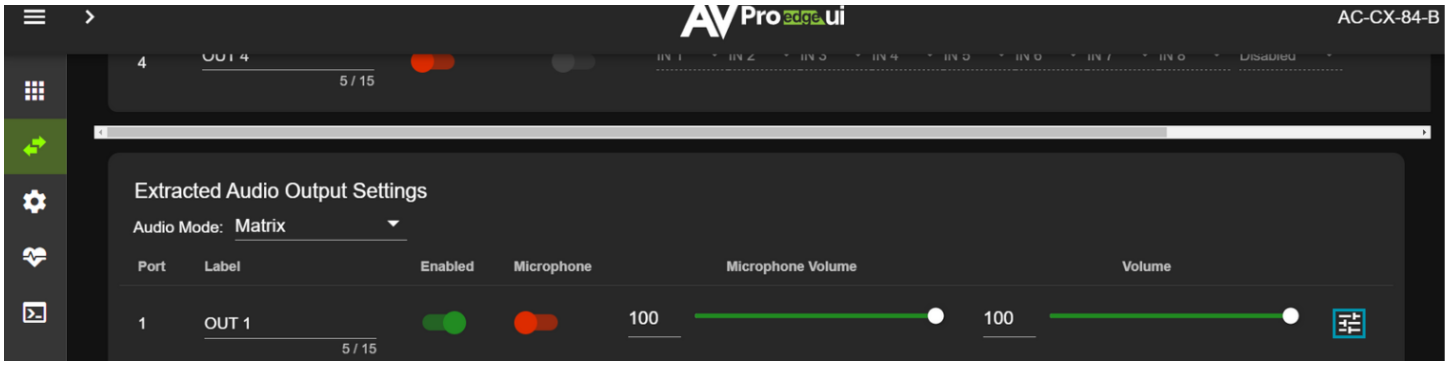
3. Other available settings for the extracted audio ports include Enable/Disable, Volume control (1-100), EQ presets (7 generic preset options to choose from), Left/Right balance, and audio delay. Each of these 5 settings can be changed per extracted audio port.

NOTE: The balanced 5pin and Toslink ports are mirrored and always downmixed to 2CH audio.

4. You can use the slider or text box to change the volume (settings are 0-100).



5. To change the EQ settings of that port, click on the emblem to the right of the volume slider. This will bring up the Audio Configuration Page. Here you can choose from 8 different EQ settings, change the Left / Right balance, and set the audio delay.



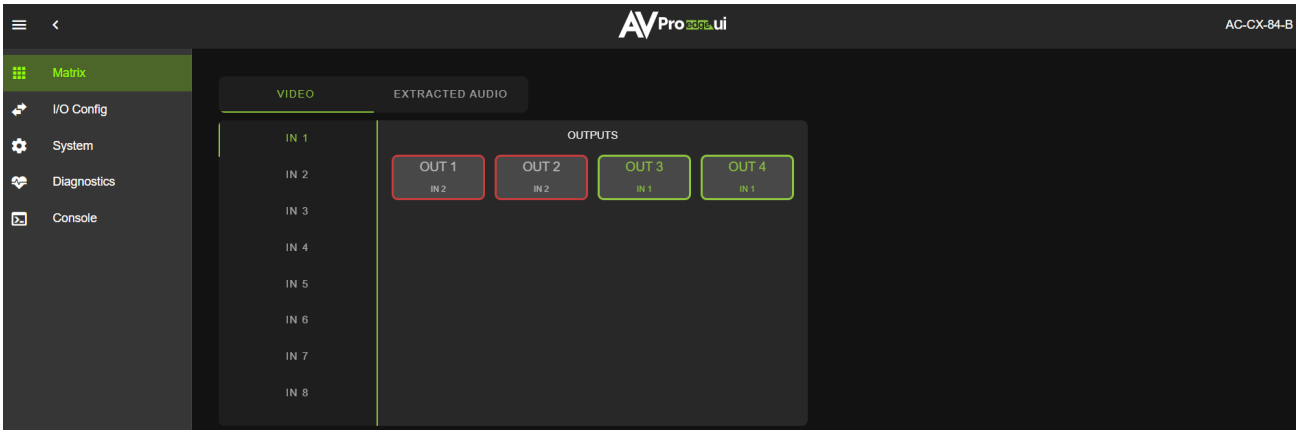
6. Delay (eight settings in 90 millisecond increments)

None (default), 90, 180, 270, 360, 450, 540, and 630.

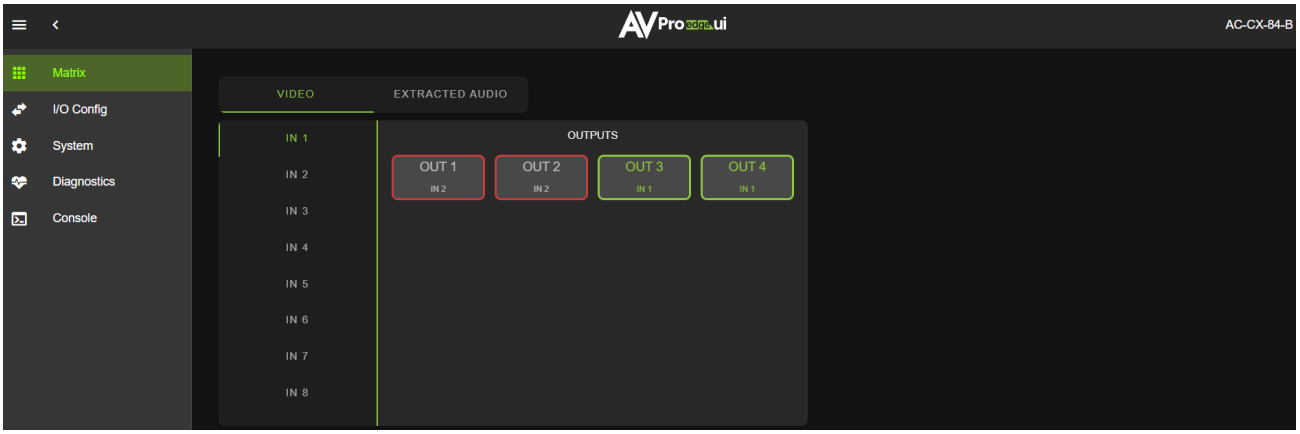
WebUI: Video Matrix

Use this page to route the video INPUTS and OUTPUTS.

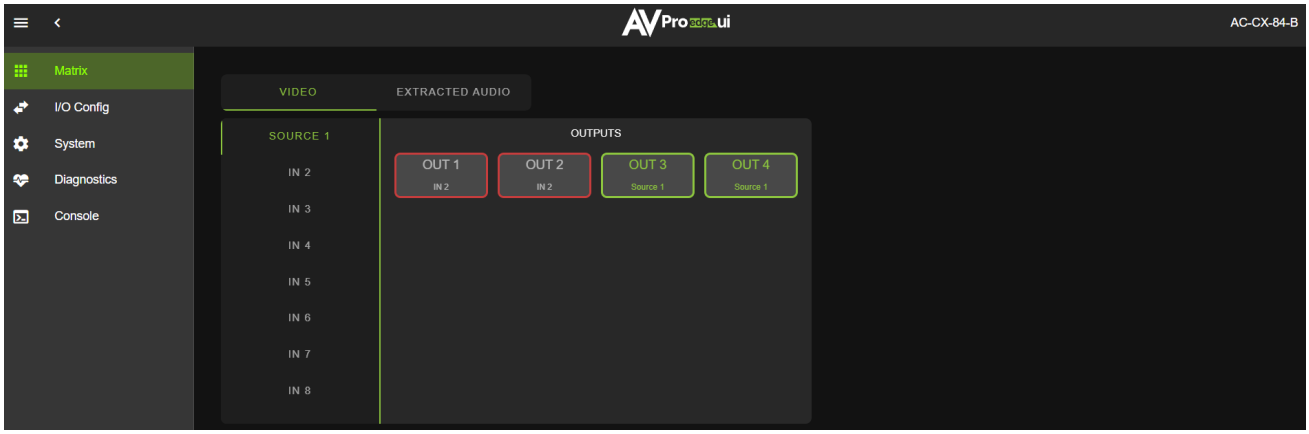
· Click on the INPUT number to select (example below shows IN 1)



· With the INPUT selected simply click on the OUTPUT you want to send that source to.



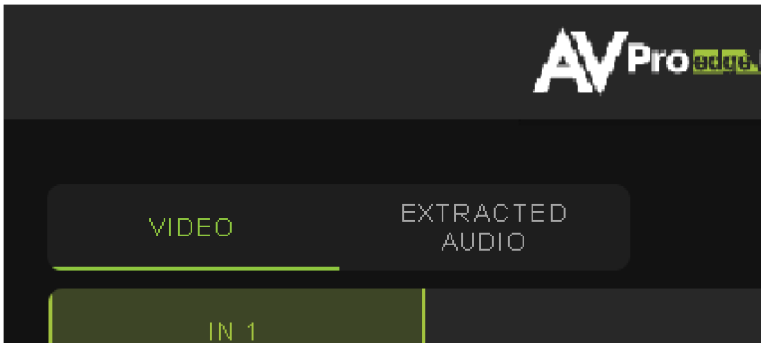
· Note: If you rename the INPUTS/OUTPUTS using the I/O Config page they will display here.

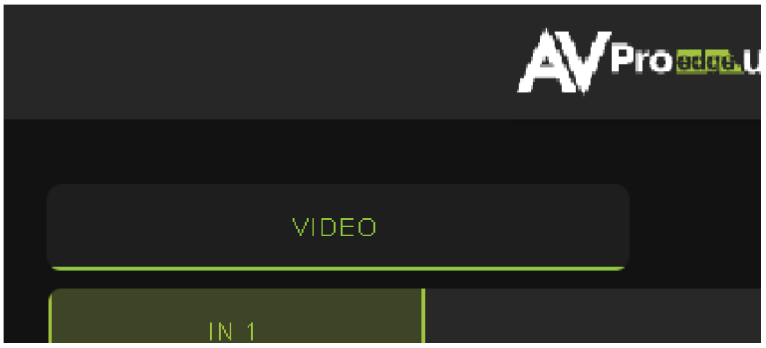


WebUI: Audio Matrix

Use this page to route the extracted audio.

NOTE: The extracted audio ports can only be manually changed (matrixed) when in Matrix Mode. If the extracted audio is set to Bind to Input (default) or Bind to Output then this tab will not be visible, example below. See Page 14 “Advanced Setup: WebUI Extracted Audio Output Settings” for more info.





· Click on the INPUT number to select (example below shows IN 1 - Apple TV)

· With the INPUT selected simply click on the OUTPUT you want to send that audio too.

· Note: If you rename the INPUTS/OUTPUTS using the I/O Config page they will display here.

WebUI: I/O Config - Input Settings

Input Settings Label - Use this to give a name/alias to your inputs (Apple TV, Cable Box, Roku, etc). Note: There is a 15-character limit to this field, the name will replace the default "IN #" throughout the rest of the WebUI (for instance the Video Matrix tab).

Off **On**

Input Settings Enable switch - Use this enable/disable switch to turn the corresponding Input port on or off. The default setting is enabled (green) by default.

Disabled **Enabled**

Input Settings EDID - Use these four dropdowns to select your preferred EDID. The available combinations are as follows.

0. 1080P_2CH	9. 4K60HzY420_3D_2CH	18. 1080P_3D_2CH_HDR	27.4K60HZ_3D_2CH_HDR
1. 1080P_6CH	10. 4K60HzY420_3D_6CH	19. 1080P_3D_6CH_HDR	28.4K60HZ_3D_6CH_HDR
2. 1080P_8CH	11. 4K60HzY420_3D_8CH	20. 1080P_3D_8CH_HDR	29.4K60HZ_3D_8CH_HDR
3. 1080P_3D_2CH	12. 4K60HZ_3D_2CH	21. 4K30HZ_3D_2CH_HDR	31. USER1_EDID
4. 1080P_3D_6CH	13. 4K60HZ_3D_6CH	22. 4K30HZ_3D_6CH_HDR	32. USER2_EDID
5. 1080P_3D_8CH	14. 4K60HZ_3D_8CH	23. 4K30HZ_3D_8CH_HDR	33. USER3_EDID
6. 4K30HZ_3D_2CH	15. 1080P_2CH_HDR	24. 4K60HzY420_3D_2CH_HDR	
7. 4K30HZ_3D_6CH	16. 1080P_6CH_HDR	25. 4K60HzY420_3D_6CH_HDR	
8. 4K30HZ_3D_8CH	17. 1080P_8CH_HDR	26. 4K60HzY420_3D_8CH_HDR	

8. HDCP Mode – This setting can be toggled the enable/ disable the request of HDCP on Inputs.

· Enabled – While this setting is enabled the HDMI input requests HDCP from the source

· Disabled - While this setting is disabled the HDMI input doesn't request HDCP from the source

9. PoE Mode – Switch this setting to FORCE if your HDBaseT Transmitters are having issues connecting.

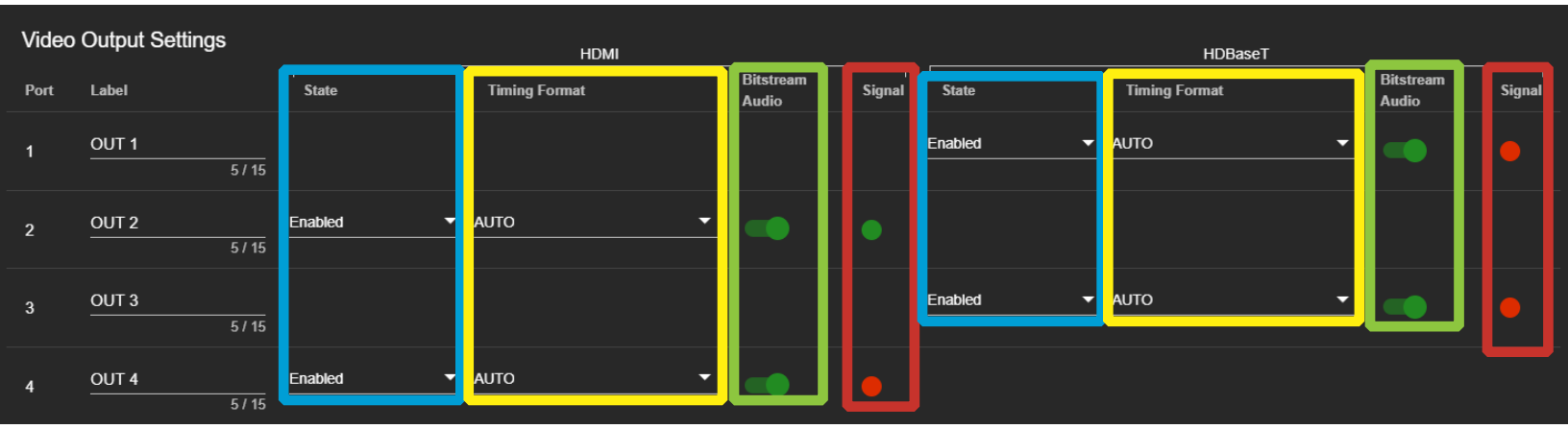
· Auto – The HDBT input auto negotiates the PoE.

· Force – The HDBT Input sends out constant PoE for increased stability with 3rd part HDBT units.

NOTE: If you select USER1 EDID, then drop-downs change to allow you to select from and output to copy from. You can select any of the 2 HDMI outputs, or any of the 2 HDBaseT outputs, then click the COPY button (this replaces the Apply button). This will save that outputs EDID to the USER1 slot.

Input Settings Signal - The Signal Indicator on the HDMI INPUTS shows the current state of the connection HDMI source. Green means the HDMI source is detected, red means that the source is not detected. If red verify that source is powered on and that the HDMI cable is properly connected to the source and to the back of the matrix.

WebUI: I/O Config - Output Settings



Output Settings Label - Use this to give a name/alias to your outputs (Living Room, Den, Kitchen, etc).

Note: There is a 15-character limit to this field, the name will replace the default "OUT #" throughout the rest of the WebUI (for instance the Video Matrix tab).

Output Settings State - This drop-down has 3 settings, just like the input settings you can Enable or disable this port. In addition, you can also choose Test Pattern to enable a 1080P color bar test pattern on that output. This is helpful in verifying the signal chain from Matrix to sync (display). To disable the test pattern, change the state back to Enabled (default).

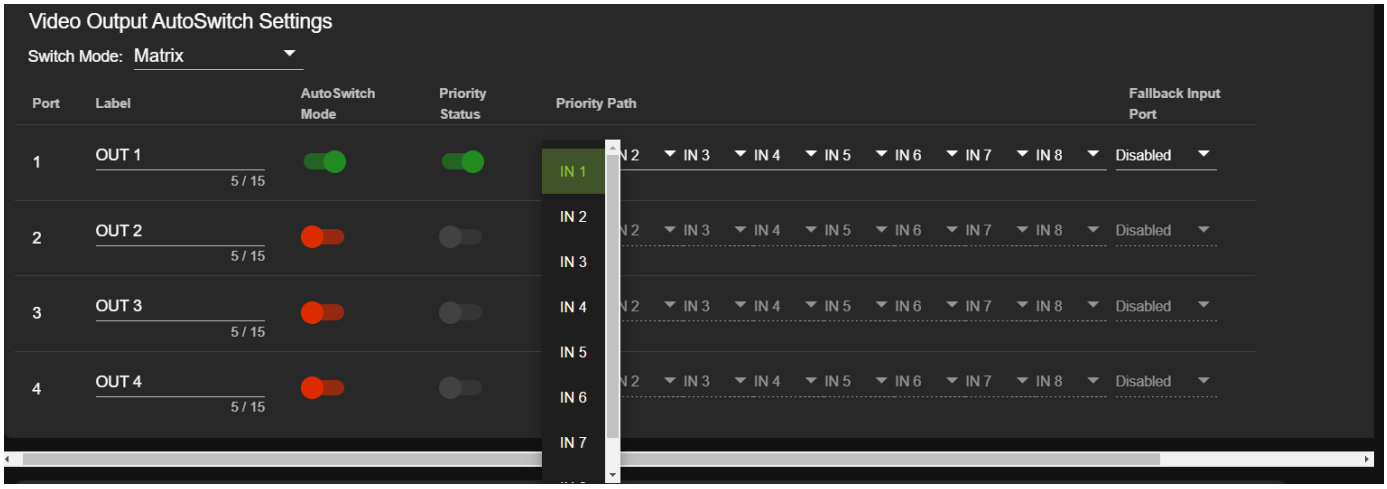
Output Settings Timing Format - The HDMI/ HDBaseT outputs can scale a signal from 720p50 to 4k60. This scaling only changes the pixel density, it does not alter color space.

Output Settings Bitstream Audio - This is an enable/disable switch. By default, this will be Enabled/ Green. To change the setting simply click to switch. Disabled/Red there will be no Audio passed on that HDMI output.

Disabled **Enabled**

NOTE: This setting has no effect on the HDBaseT or Extracted Audio output.

Video Output AutoSwitch Settings



Output Settings Switch Mode – Use this to change the switch mode from matrix to DA

· Matrix – The outputs switch sources independently

· DA – The outputs 1&2 and 3&4 switch sources simultaneously.

Output Settings Label - Use this to give an alias/name to your extracted audio outputs.

Note: There is a 15-character limit to this field, the name will replace the default "OUT #" throughout the rest of the WebUI (for instance the Video Matrix tab).

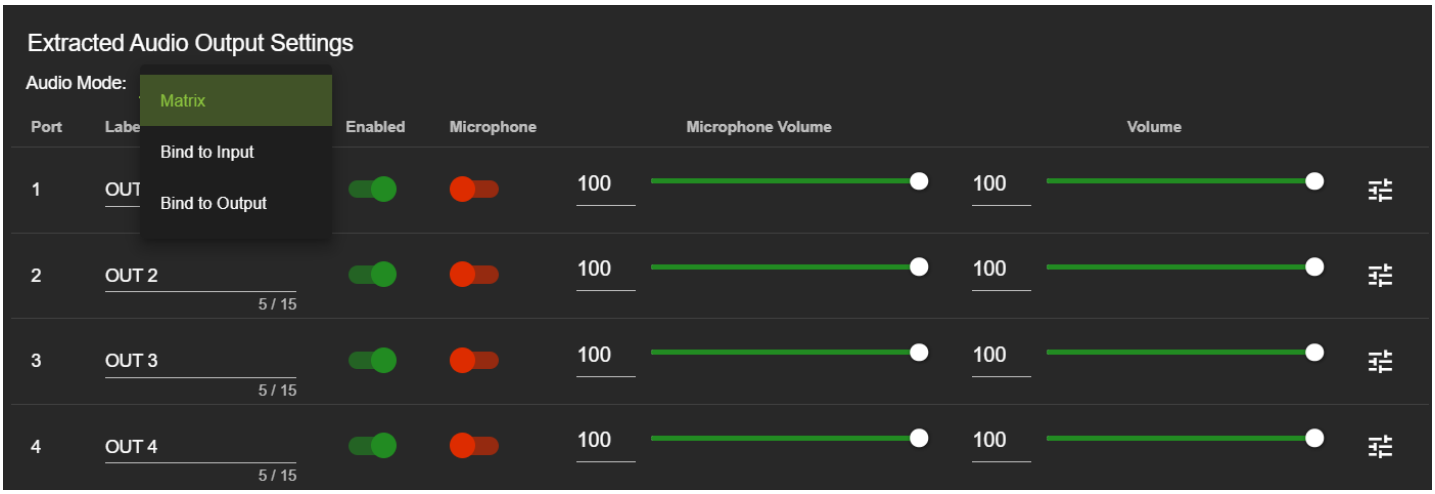
Output Settings AutoSwitch mode – Enabling allows the output to switch to a source input when signal is received.

Output Settings Priority Status – Enables the Priority path for auto switching

Output Settings Priority Path – Use this setting to change the priority order for auto switching

Output Settings Fallback Input Port – Use this setting to assign a default input for an output to change too when input signal is disconnected.

Extracted Audio Output Settings



Audio Mode – This dropdown switches between the three audio binding modes

- BIND TO OUTPUT (extracted audio switches with the video, this is the default mode)
- BIND TO INPUT (extracted audio is fixed to the corresponding input by the same number)
- MATRIX (extracted audio can be routed independently of video to function as a separate audio matrix)

Output Settings Label - Use this to give an alias/name to your extracted audio outputs.

Note: There is a 15-character limit to this field, the name will replace the default "OUT #" throughout the rest of the WebUI (for instance the Video Matrix tab).

Output Settings Enabled - This is an enable/disable switch. By default, this will be Enabled/Green. To change the setting simply click to switch. Disabled/Red there will be no Audio passed on that extracted audio port (both Toslink and balanced 5pin will be muted).

Output Settings Microphone – Enables the extracted audio port to send the microphone audio instead of the source audio.

Note: This unit does not have audio ducking capabilities

Output Settings Microphone Volume - Here you can use the slider bar to adjust the Microphone port volume (0~100). You can also use the text box and enter a value (0~100).

Output Settings Volume - Here you can use the slider bar to adjust the extracted port volume (0~100). You can also use the text box and enter a value (0~100).

Output Settings EQ Settings - To open the EQ Settings click on the symbol next to the Volume slider.

EQ Drop-down contains 8 settings. The default off, Classical, Headphone, Hall, Live, Pop, Rock, and Vocal.

Output Settings Balance - Use this slider to adjust the Left/Right balance.

Note: Default is 0 (zero), value can be -10~10

Output Settings Delay (ms) - Audio delay drop-down has eight available settings, these are measured in milliseconds.

None (default), 90ms, 180ms, 270ms, 360ms, 450ms, 540ms, and 630ms.

WebUI: System - IP Settings

This area contains relevant network information about the AC-CX-84.

Host Name - Devices name on the network. This field is automatically filled with Model Name by default.

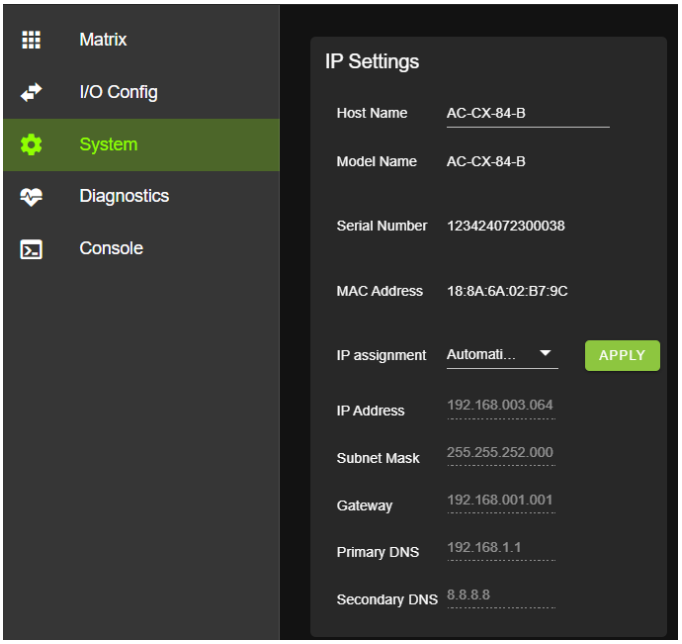
Model Name - Displays the AVPro Edge Model/Part number.

Serial Number - Displays the Serial Number of the matrix.

MAC Address - Displays the devices MAC Address.

IP assignment - This drop-down has two options.

1. Manual
2. Automatic (DHCP)

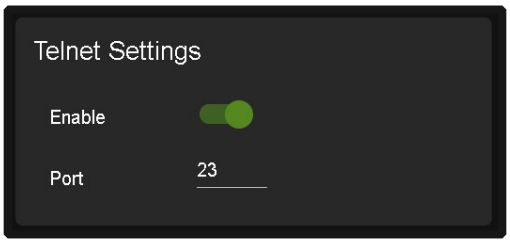


Default out of the box will be set to Automatic (DHCP), the IP Address, Subnet Mask, Gateway, Primary DNS, and Secondary DNS will be assigned by your network controller. If you select Manual, you can use the text fields to enter your own Network settings. Once all fields have been filled out, click the green Apply Button to set. A prompt will appear to confirm the change, click OK to confirm.

WebUI: System - Telnet Settings

This area contains relevant Telnet settings for the AC-CX-84. There are two fields that can be changed, Enable Disable switch and Port Number.

- Enable - This switch has two options, Green/Enabled (Default) and Red/Disabled.
- Port - This field is used to change the Telnet Port of the AC-CX-84. You can use the text filed to enter a number or use the Up/Down arrow buttons to increase/decrease the number.

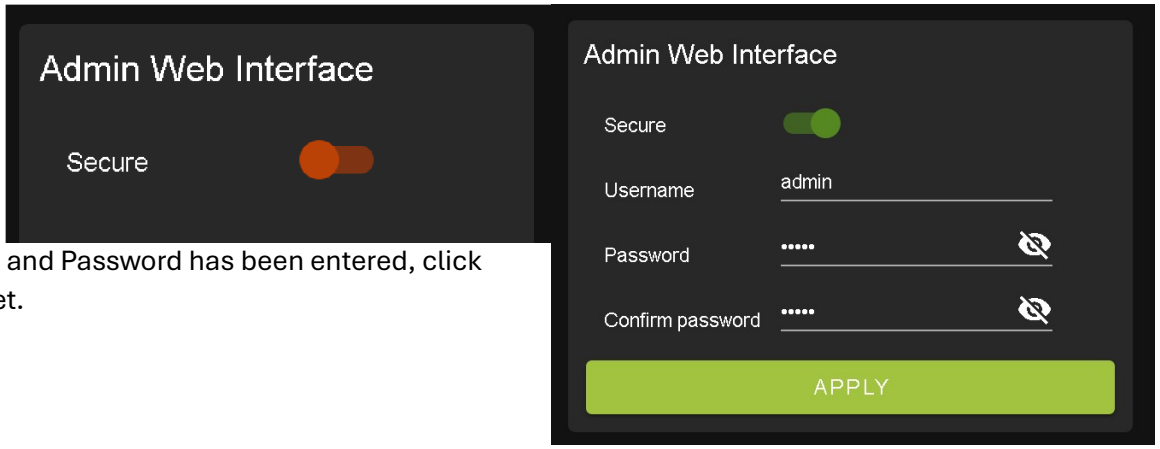


WebUI: System - Admin Web Interface

This switch has two options, Red/Disabled (Default) and Green/Enabled. When enabled (green) there will be three fields that appear, Username, Password, and Confirm Password.

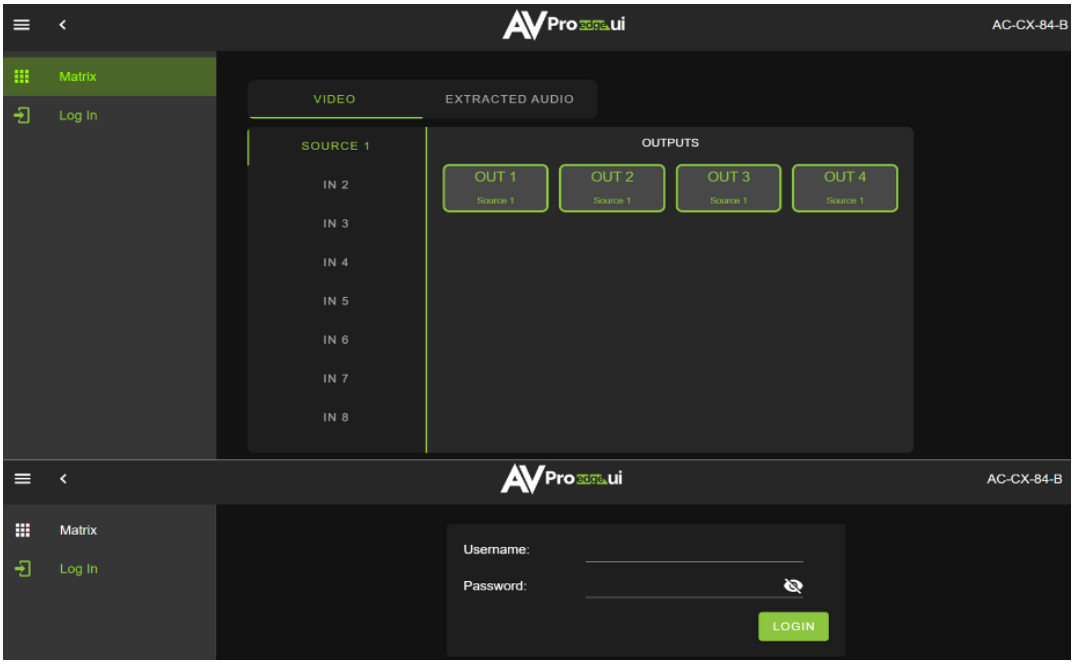
Default Username - admin

Default Password - admin



Once the desired Username and Password has been entered, click the green APPLY button to set.

With the Admin Web Interface enabled, the only menu that will be accessible using the WebUI will be the Matrix tab. The rest of the settings will require the admin log in to access.



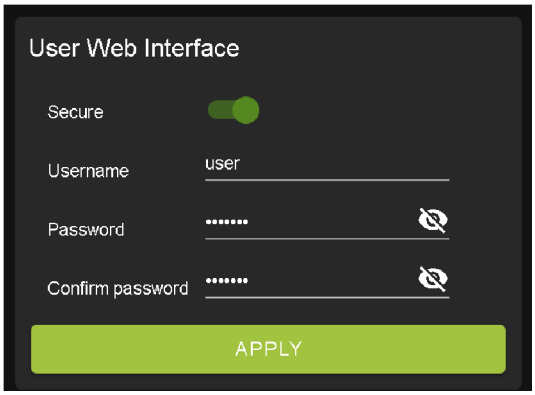
WebUI: System - User Web Interface

This switch has two options, Red/Disabled (Default) and Green/Enabled. When enabled (green) there will be three fields that appear, Username, Password, and Confirm Password.

NOTE: The Admin Web Interface must first be Enabled and setup before this field will be available to change.

Default Username - user

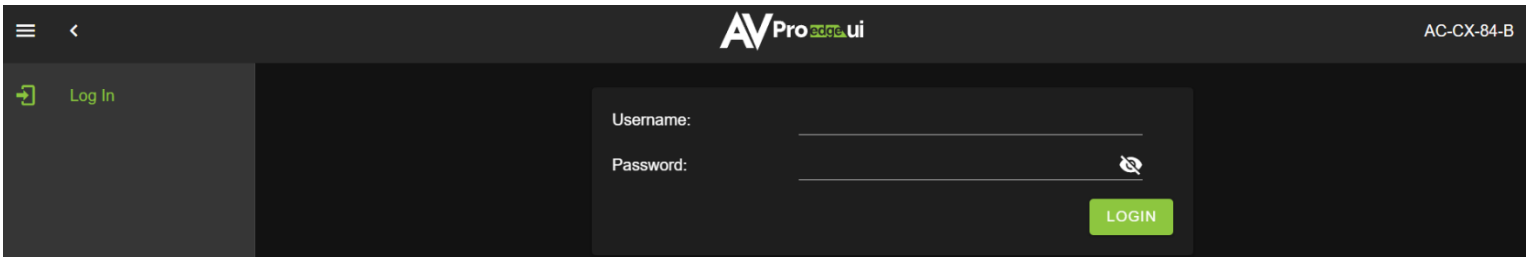
Default Password - user123



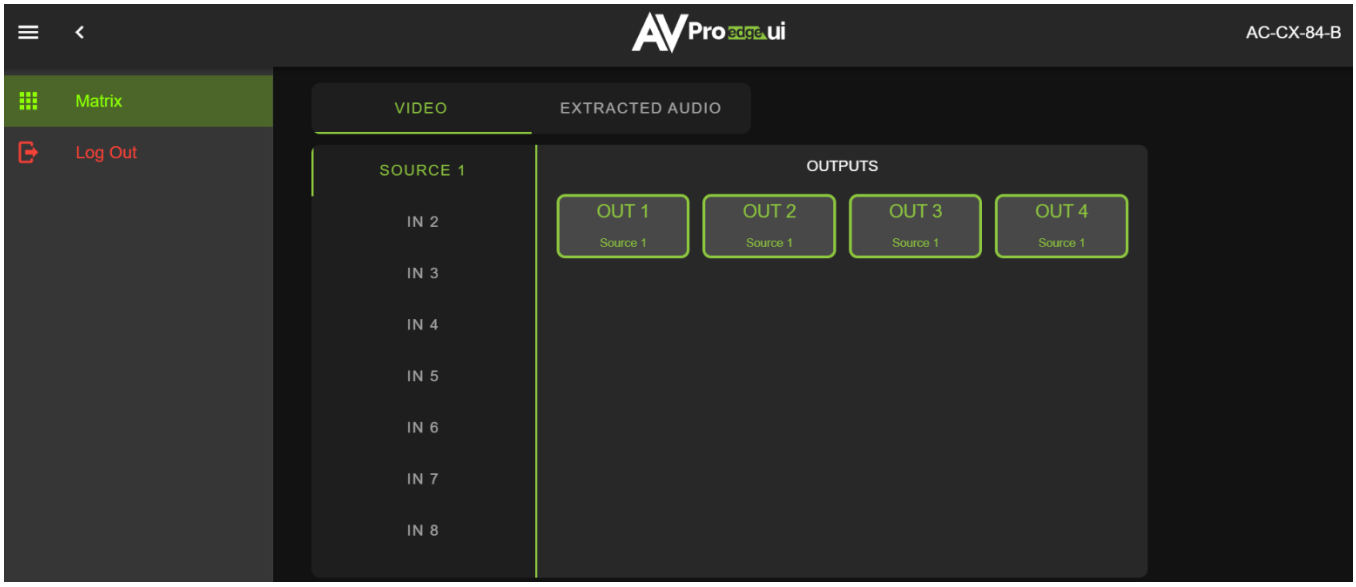
Once the desired Username and Password has been entered, click the green APPLY button to set.

Note: The webpage will reload to the Log In page.

With both Admin and User Web Interfaces enabled, no menus will be accessible using the WebUI without first logging in (see image below).



Logging in with the User credentials, the only menu that will be accessible will be the Matrix tab. The rest of the settings will require the admin user to log in (see page 24).

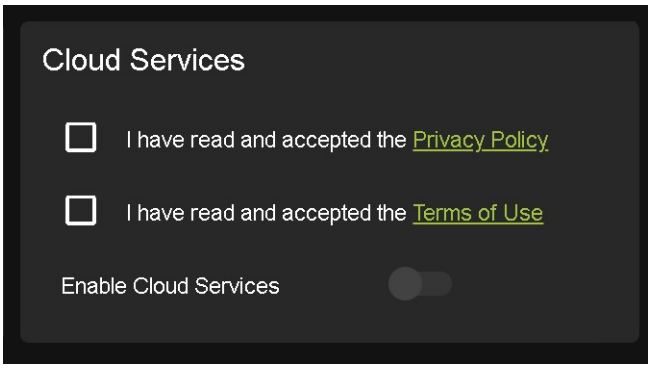


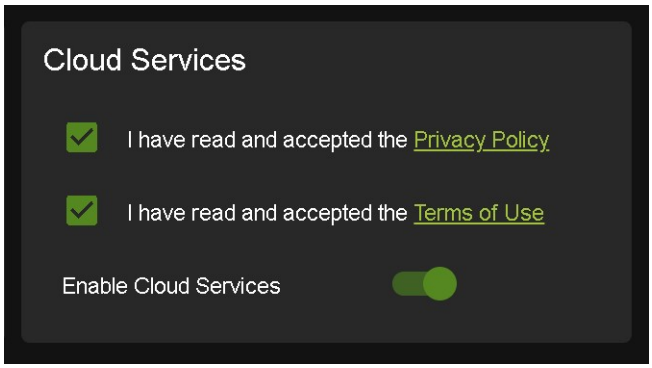
WebUI: System - Cloud Services

By enabling Cloud Services your device will have the ability to connect to firmware servers for over-the-air (OTA) updates and enable third-party remote management services. If Cloud Services are disabled, your device will opt-out of any previously enabled services and will not be able to access OTA updates.

Before you can enable the cloud services you must first agree to the “Privacy Policy” and “Terms of Use”.

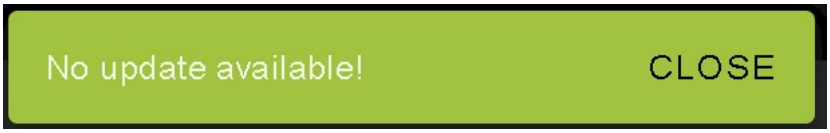
You can view these documents by clicking on Privacy Policy or Terms of Use links, this will open up a PDF copy of that document in a new tab.



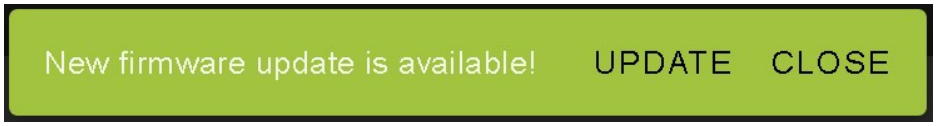


With the Cloud Services enabled you can use the System tab to check for new Firmware OTA (over the air).

This will check the firmware versions currently loaded on the AC-CX-84 and compare them to the latest available. If it is up to date, you will see a prompt stating “No update available!” click CLOSE to exit.



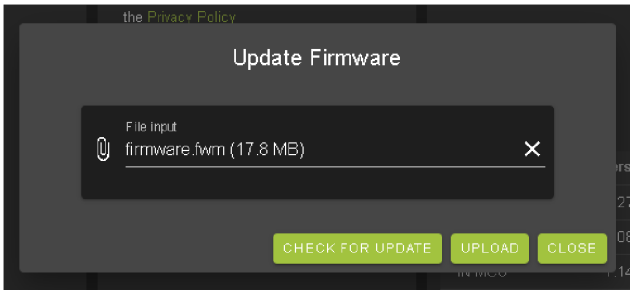
If an update is available, the following prompt will show. Simply click the UPDATE button to load.



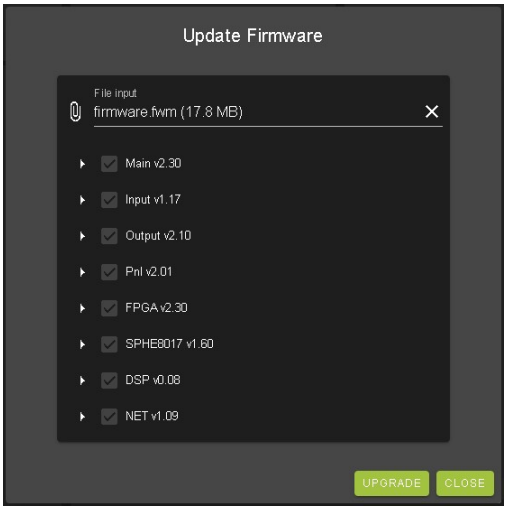
NOTE: When loading firmware (depending on the firmware files that are being updated) some settings will revert to Factory Defaults. Take note of the I/O Config tab. Settings like the INPUT/OUTPUT labels, EDID Settings, Video Scaling, Audio Settings, etc. as they will have to be re-applied after the firmware updates are completed.

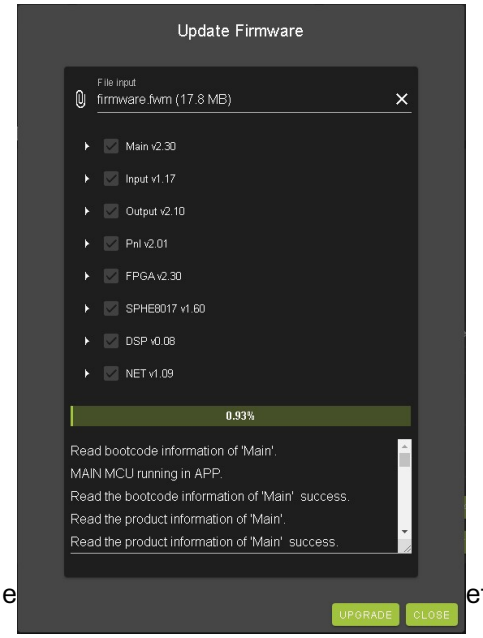
WebUI: System - Firmware Update

If an update is available a file will automatically be selected, simply click the UPLOAD button to load the firmware files to the Matrix.



Once the firmware file has been uploaded, it will display all containing firmware files. Here you can select individual firmware files to load or simply leave all files/options selected. If the version is currently installed not newer, then that update will be skipped automatically.





Once the progress bar hits 100% click the CLOSE button, the ete.

Now you will want to go back and re-apply settings like INPUT/OUTPUT Labels, applied EDIDs, Video Scaler Settings, Audio Settings, etc.

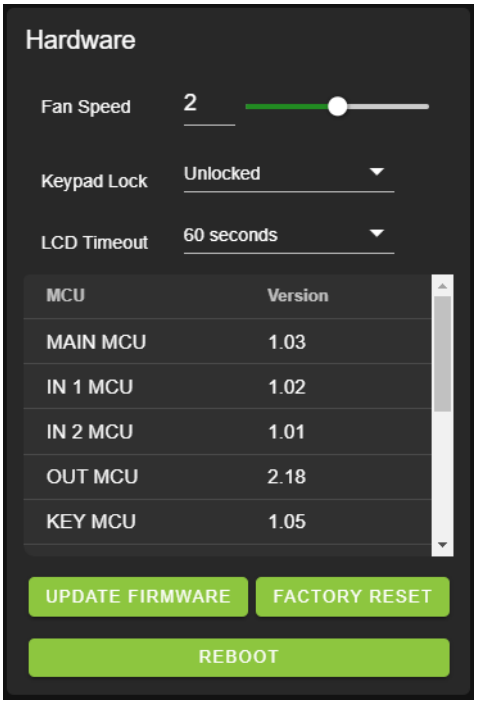
WebUI: System - Hardware

Fan Speed – This adjusts the AC-CX-84's internal fan speeds.

LCD Timeout - This adjusts the time the front panel display will stay lit up when a button is pressed.

There are four settings available

1. Always on (Default)
2. 15 Seconds
3. 30 Seconds
4. 45 Seconds



Keypad Lock - Enable or Disable (default) the front panel Keypad Lock.

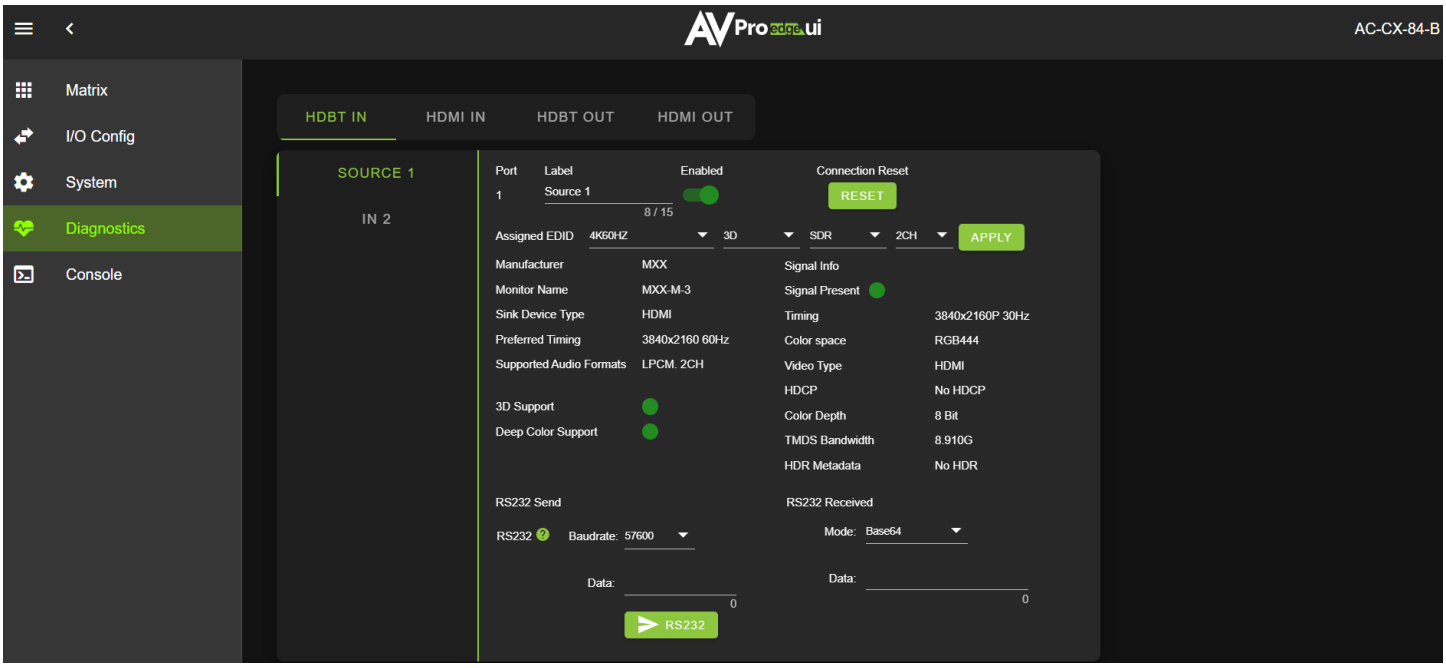
MCU/Version - Lists the current Firmware Versions

UPDATE FIRMWARE -Check/upload firmware.

FACTORY RESET - Restores matrix to Factory Defaults

REBOOT - Reboots the AC-CX-84

WebUI: Diagnostics - HDBT IN



Input Settings Label - Use this to give a name/alias to your inputs (Apple TV, Cable Box, Roku, etc). Note: There is a 15-character limit to this field, the name will replace the default "IN #" throughout the rest of the WebUI (for instance the Video Matrix tab).

Off **On**

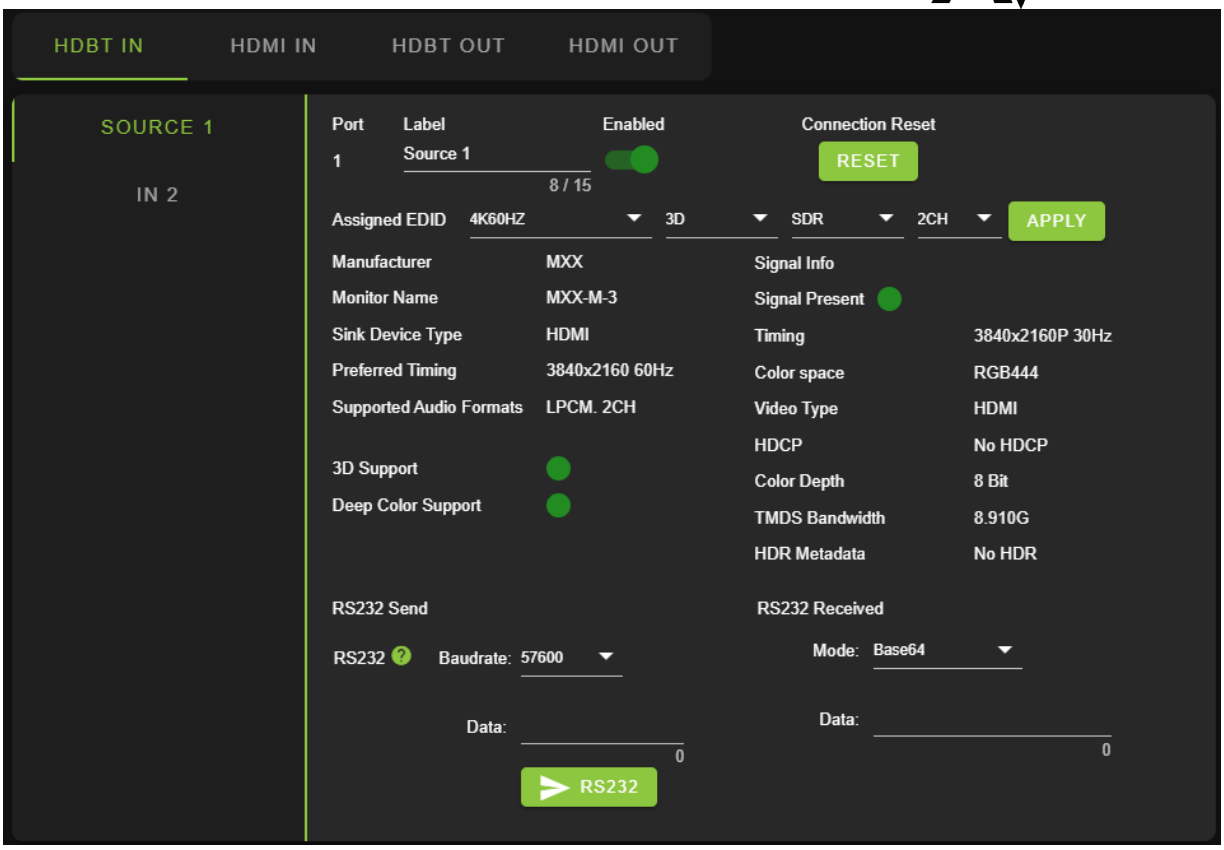
Input Settings Enable switch - Use this enable/disable switch to turn the corresponding Input port on or off. The default setting is enabled (green) by default.

Disabled **Enabled**

Connection Reset - Use this button to perform a reset of the HDMI Input connection.

Input Settings EDID - Use these four dropdowns to select your preferred EDID. The available combinations are as follows.

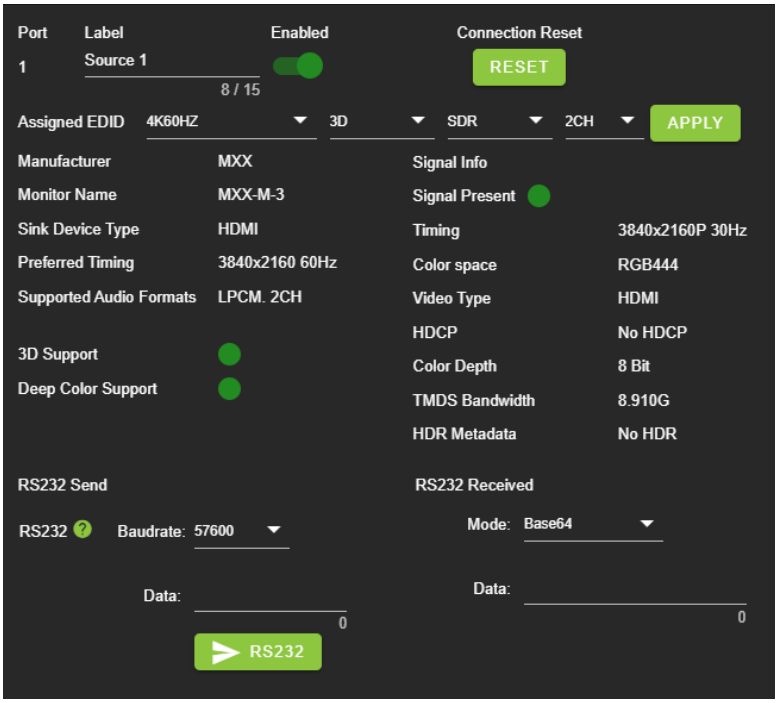
0. 1080P_2CH	9. 4K60HzY420_3D_2CH	18. 1080P_3D_2CH_HDR	27.4K60HZ_3D_2CH_HDR
1. 1080P_6CH	10. 4K60HzY420_3D_6CH	19. 1080P_3D_6CH_HDR	28.4K60HZ_3D_6CH_HDR
2. 1080P_8CH	11. 4K60HzY420_3D_8CH	20. 1080P_3D_8CH_HDR	29.4K60HZ_3D_8CH_HDR
3. 1080P_3D_2CH	12. 4K60HZ_3D_2CH	21. 4K30HZ_3D_2CH_HDR	31. USER1_EDID
4. 1080P_3D_6CH	13. 4K60HZ_3D_6CH	22. 4K30HZ_3D_6CH_HDR	32. USER2_EDID
5. 1080P_3D_8CH	14. 4K60HZ_3D_8CH	23. 4K30HZ_3D_8CH_HDR	33. USER3_EDID
6. 4K30HZ_3D_2CH	15. 1080P_2CH_HDR	24. 4K60HzY420_3D_2CH_HDR	
7. 4K30HZ_3D_6CH	16. 1080P_6CH_HDR	25. 4K60HzY420_3D_6CH_HDR	
8. 4K30HZ_3D_8CH	17. 1080P_8CH_HDR	26. 4K60HzY420_3D_8CH_HDR	



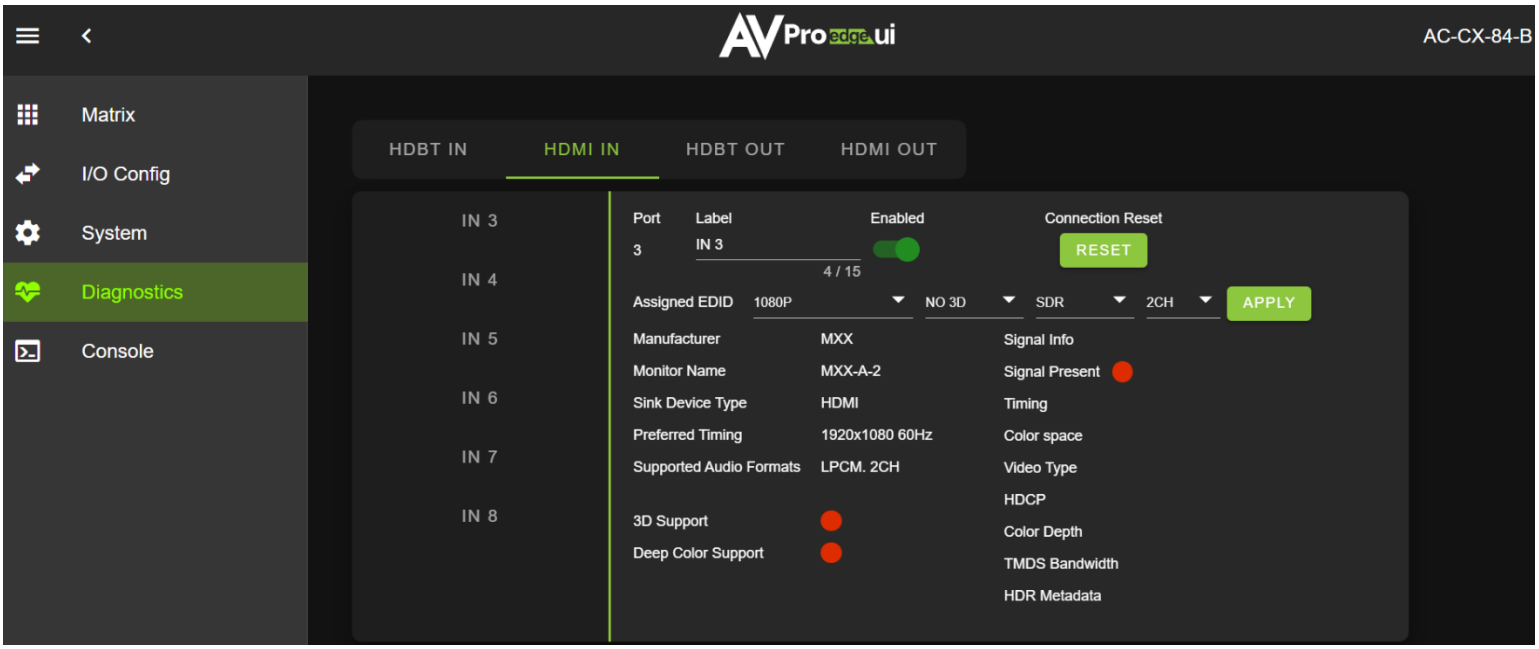
On the left, you will see the current applied EDID information. In the example above, you will see a canned 1080P - No 3D - SDR - 2CH EDID applied to IN 1. Any EDID change once applied will be displayed here.

Signal Info shows the connected source's current output information. This includes

- Timing
- Color Space
- Video Type
- HDCP Version
- TMDS Bandwidth
- HDR Metadata
- Audio Sampling Frequency
- Audio Sampling Size
- Audio Channels



WebUI: Diagnostics - HDMI IN



Input Settings Label - Use this to give a name/alias to your inputs (Apple TV, Cable Box, Roku, etc). Note: There is a 15-character limit to this field, the name will replace the default "IN #" throughout the rest of the WebUI (for instance the Video Matrix tab).

Off **On**

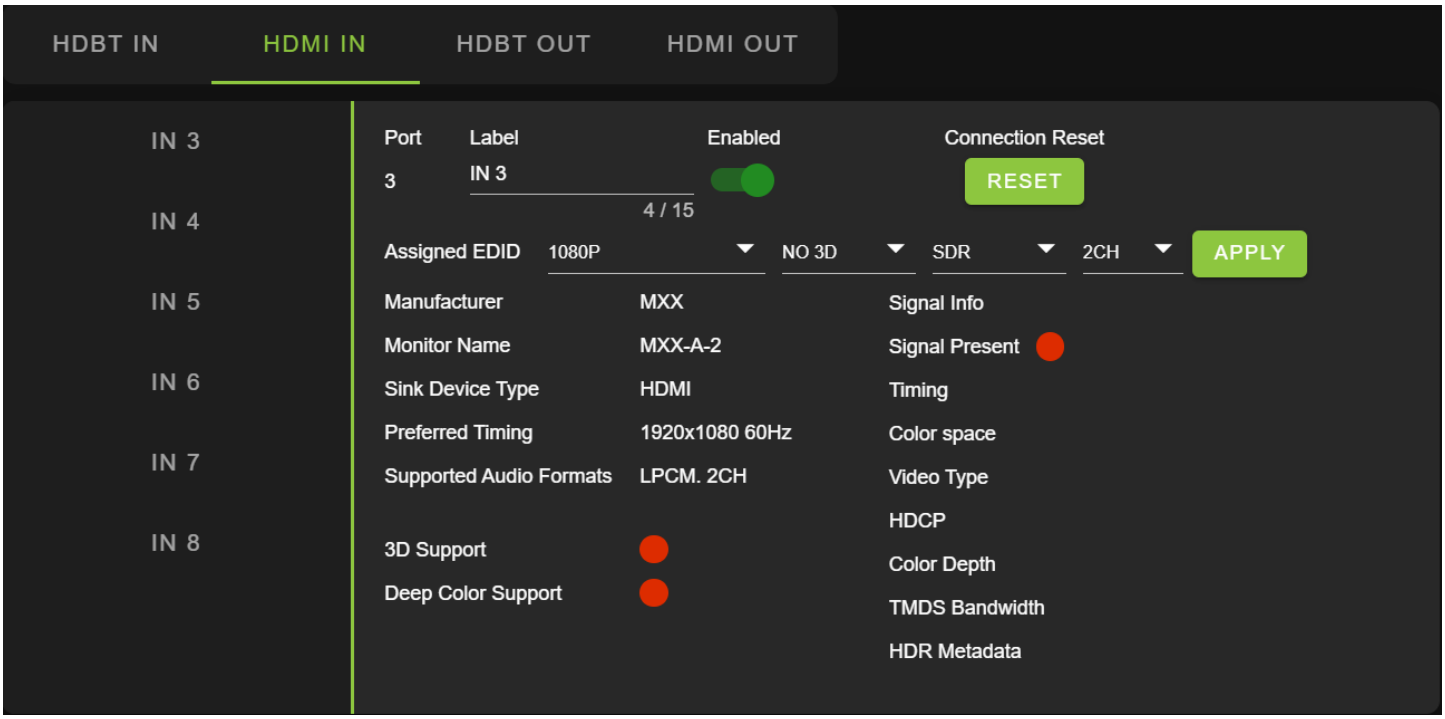
Input Settings Enable switch - Use this enable/disable switch to turn the corresponding Input port on or off. The default setting is enabled (green) by default.

Disabled **Enabled**

Connection Reset - Use this button to perform a reset of the HDMI Input connection.

Input Settings EDID - Use these four dropdowns to select your preferred EDID. The available combinations are as follows.

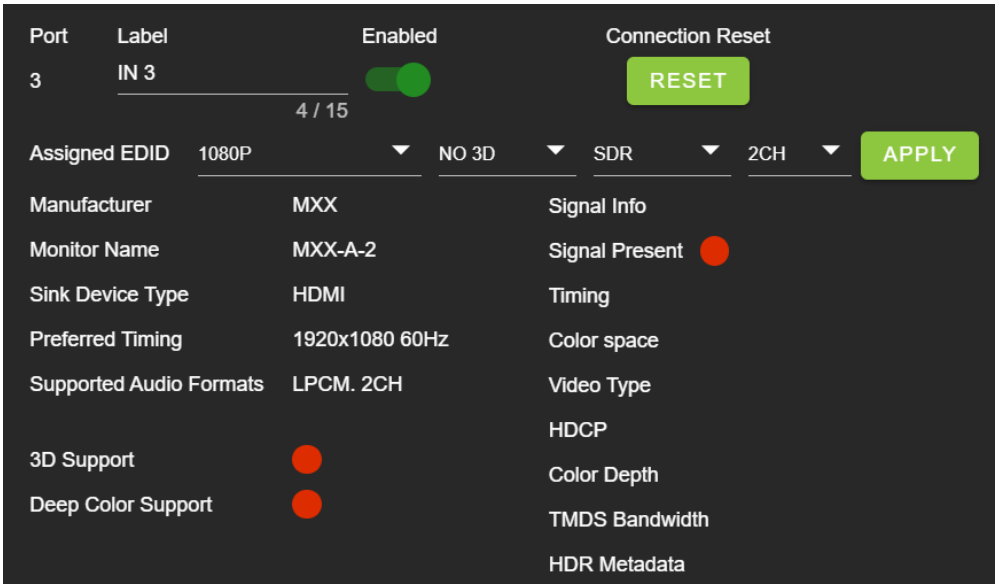
0. 1080P_2CH	9. 4K60HzY420_3D_2CH	18. 1080P_3D_2CH_HDR	27.4K60HZ_3D_2CH_HDR
1. 1080P_6CH	10. 4K60HzY420_3D_6CH	19. 1080P_3D_6CH_HDR	28.4K60HZ_3D_6CH_HDR
2. 1080P_8CH	11. 4K60HzY420_3D_8CH	20. 1080P_3D_8CH_HDR	29.4K60HZ_3D_8CH_HDR
3. 1080P_3D_2CH	12. 4K60HZ_3D_2CH	21. 4K30HZ_3D_2CH_HDR	31. USER1_EDID
4. 1080P_3D_6CH	13. 4K60HZ_3D_6CH	22. 4K30HZ_3D_6CH_HDR	32. USER2_EDID
5. 1080P_3D_8CH	14. 4K60HZ_3D_8CH	23. 4K30HZ_3D_8CH_HDR	33. USER3_EDID
6. 4K30HZ_3D_2CH	15. 1080P_2CH_HDR	24. 4K60HzY420_3D_2CH_HDR	
7. 4K30HZ_3D_6CH	16. 1080P_6CH_HDR	25. 4K60HzY420_3D_6CH_HDR	
8. 4K30HZ_3D_8CH	17. 1080P_8CH_HDR	26. 4K60HzY420_3D_8CH_HDR	



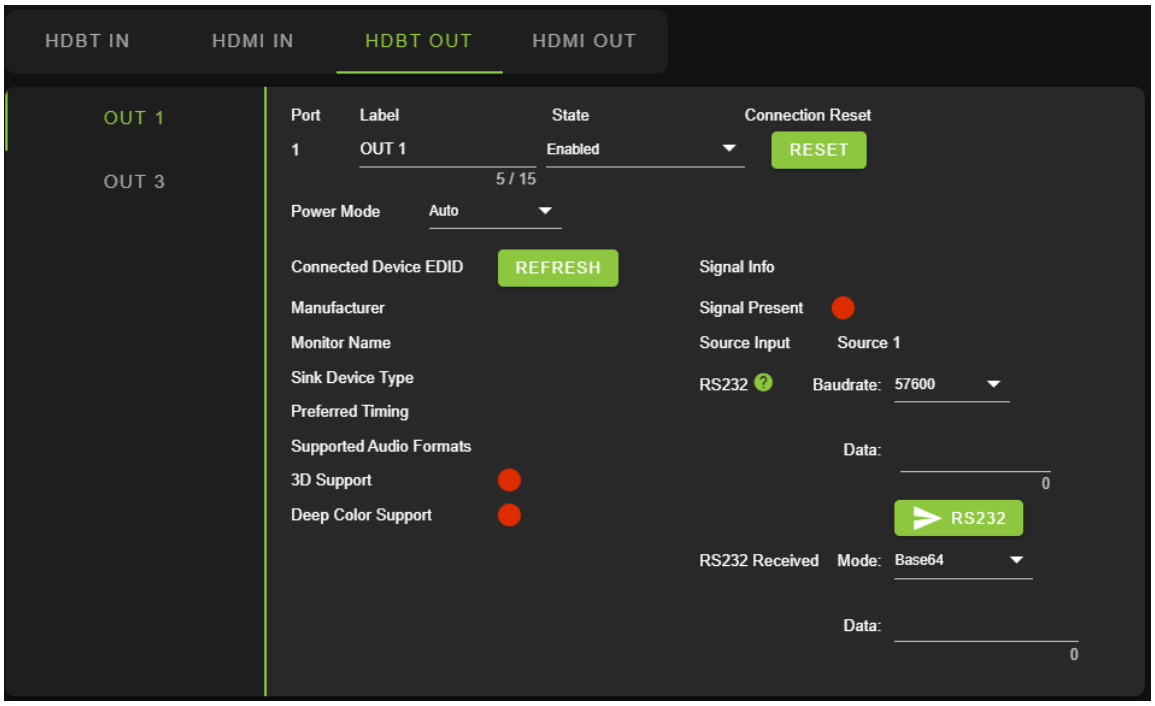
On the left, you will see the current applied EDID information. In the example above, you will see a canned 1080P - No 3D - SDR - 2CH EDID applied to IN 1. Any EDID change once applied will be displayed here.

Signal Info shows the connected source's current output information. This includes

- Timing
- Color Space
- Video Type
- HDCP Version
- TMDS Bandwidth
- HDR Metadata
- Audio Sampling Frequency
- Audio Sampling Size
- Audio Channels



WebUI: Diagnostics - HDBT OUT



HDBaseT Output Label, State, and Connection Reset.

Connected Device EDID shows the connected sync's preferred EDID information and current state.

This includes a REFRESH button and the following EDID information:

- Manufacturer
- Monitor Name
- Sink Device Type
- Preferred Timing
- Supported Audio Formats
- 3d Support
- Deep Color Support Signal Info
- Signal Present Indicator Light (green - PRESENT / red – NOT present)
- Source Input
- RS232Baudrate: Drop-down for changing RS232 Baudrate
- Data – Send RS232 over HDBaseT line to HDBaseT Receiver (Rx)

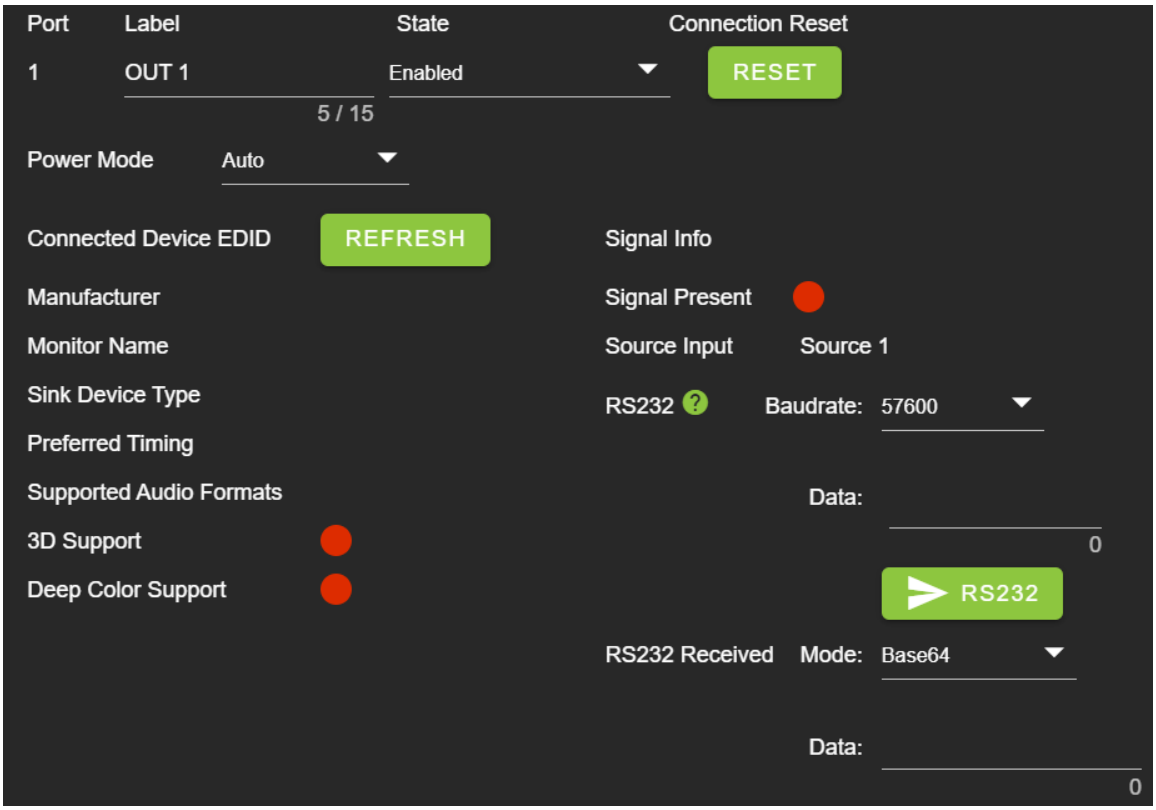
HDBaseT Info

· Link Status Indicator Light (green - PRESENT / red – NOT present)

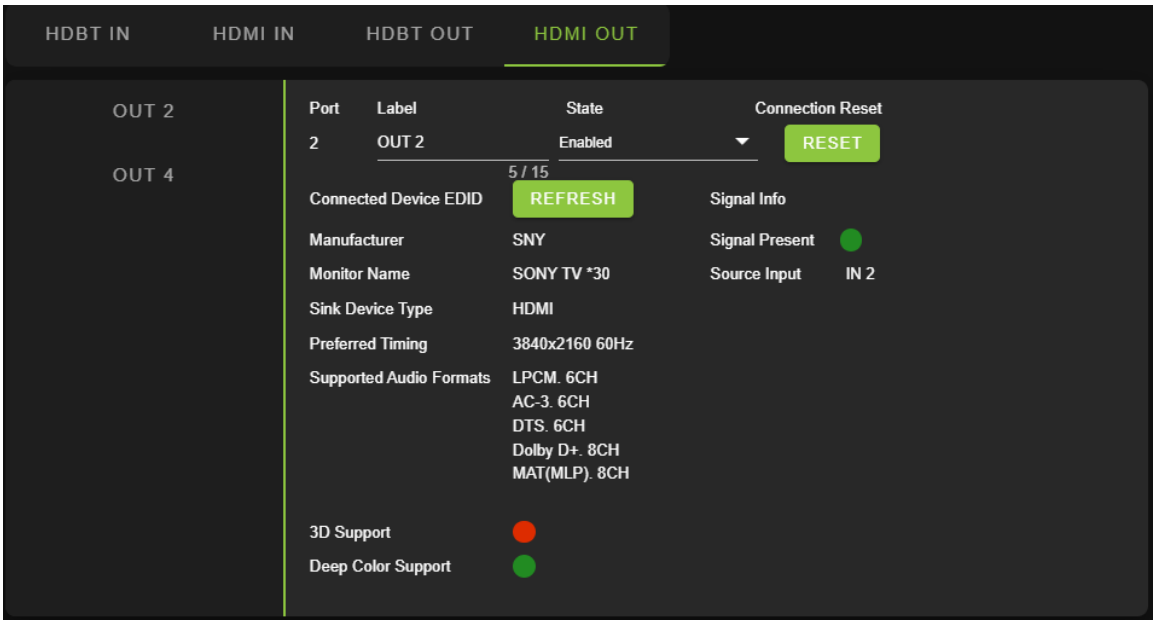
· Cable Length - In Meters (<20 indicates the cable is Less than 20 Meters)

· MSE Error Report – Shows error rate (in decibels) for each pair of wires

· Max Error Report – Shows Max error for each pair of wires



WebUI: Diagnostics - HDMI OUT

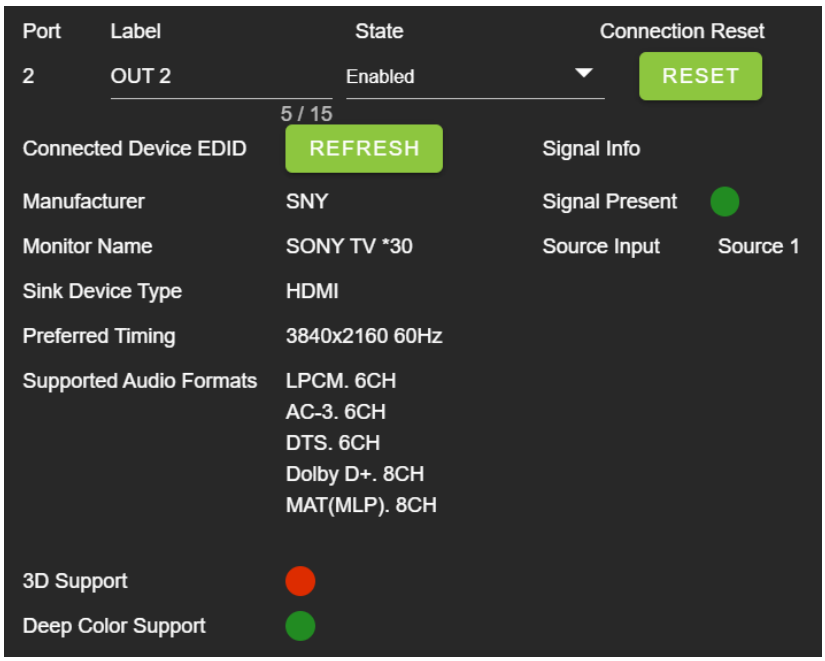


HDMI Output Label, State, and Connection Reset.

Connected Device EDID shows the connected sync's preferred EDID information and current state.

This includes

- Manufacturer
- Monitor Name
- Sink Device Type
- Preferred Timing
- Supported Audio Formats
- 3d Support
- Deep Color Support
- Signal Present
- Source Input



WebUI: Console

There is a built in Command Console

Using the command API (command list) you can send device specific commands or use as a live monitor while sending commands from a control system (helpful in troubleshooting).

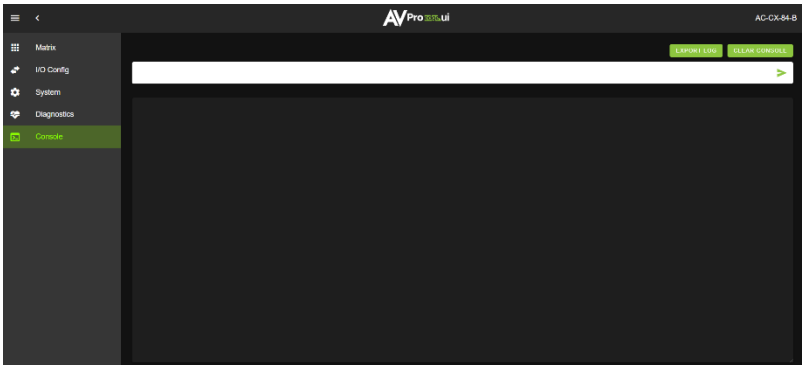
Example

1. Click in the white box and type

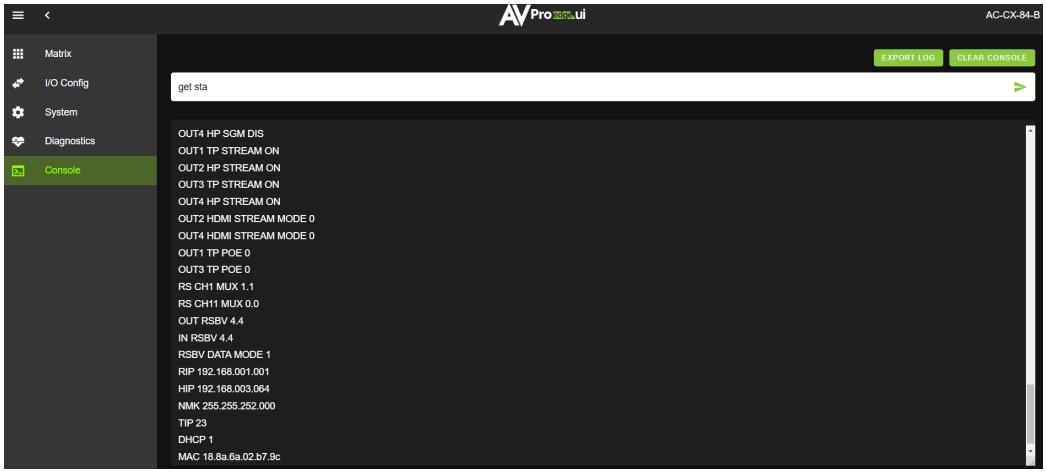
    a. GET STA

Click the green arrow or hit ENTER/RETURN on your keyboard

The command response will be shown in the field below.

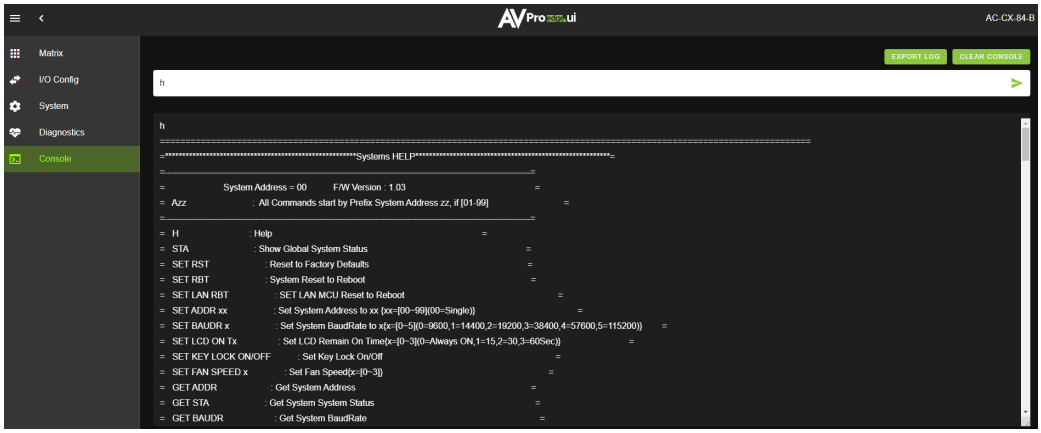


Example - "GET STA"



Get status

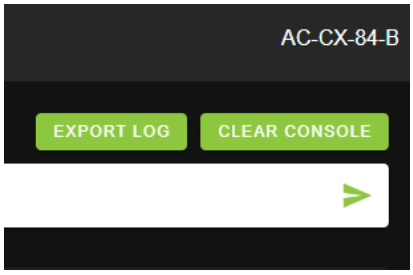
Example - "H"



Help command

Returns all Available Commands

EXPORT LOG - Button



This button will generate a text file containing the console in formation in your web browsers download folder.

CLEAR CONSOLE - Button

This button will clear the current console session.

Front Panel: Switching Control

The AC-CX-84 can be switched from the front panel by pressing the desired OUTPUT button first, then the desired INPUT button:

1.Press the desired OUTPUT button (1 & 3 are HDBT, 2 & 4 are HDMI).

2.That output button you pressed will be illuminated along with all the input buttons 3. Press the desired INPUT button to set the selection.

Front Panel: EDID Setup

This matrix has 30 factory defined EDID settings. It also has 3 user defined EDID memories. The user EDID memories are independent of each input and can be set differently. The user defined EDID can be uploaded using the free PC Control software or RS-232. In addition, you can choose to read the EDID from the desired output and the captured EDID will automatically store and overwrite the EDID in “USER EDID 1” and will be applied to the selected source.

By default, the matrix is set to a 1080P EDID, this is to maximize plug and play capability. When using 4K sources, you will want to define a 4K EDID on each input (or read from the display).

To Change the EDID setting:

1. Press and hold (for 3 seconds) the INPUT you want to change.

2. The “UP” and “DOWN” buttons will illuminate, and the LCD will show the active EDID.

3. Toggle through the EDID options by pressing UP or DOWN repeatedly.

4. To set, press the same “INPUT” button you had selected to apply the EDID (this will still be illuminated).

These are the pre-defined EDID settings that you can toggle through:

0. 1080P_2CH	9. 4K60HzY420_3D_2CH	18. 1080P_3D_2CH_HDR	27.4K60HZ_3D_2CH_HDR
1. 1080P_6CH	10. 4K60HzY420_3D_6CH	19. 1080P_3D_6CH_HDR	28.4K60HZ_3D_6CH_HDR
2. 1080P_8CH	11. 4K60HzY420_3D_8CH	20. 1080P_3D_8CH_HDR	29.4K60HZ_3D_8CH_HDR
3. 1080P_3D_2CH	12. 4K60HZ_3D_2CH	21. 4K30HZ_3D_2CH_HDR	31. USER1_EDID
4. 1080P_3D_6CH	13. 4K60HZ_3D_6CH	22. 4K30HZ_3D_6CH_HDR	32. USER2_EDID
5. 1080P_3D_8CH	14. 4K60HZ_3D_8CH	23. 4K30HZ_3D_8CH_HDR	33. USER3_EDID
6. 4K30HZ_3D_2CH	15. 1080P_2CH_HDR	24. 4K60HzY420_3D_2CH_HDR	
7. 4K30HZ_3D_6CH	16. 1080P_6CH_HDR	25. 4K60HzY420_3D_6CH_HDR	
8. 4K30HZ_3D_8CH	17. 1080P_8CH_HDR	26. 4K60HzY420_3D_8CH_HDR	

*You may also copy EDID from any output and apply to any input, simply select “Copy EDID from Output x” (x=1-4). This will copy the EDID from the display attached and store it into “User EDID 1” and apply it to the input you have selected.

Front Panel Control - Scaling

The AC-CX-84 has scalers built into every output. The HDbaseT Ports can be DOWNSCALED, and the HDMI Ports can be UPSCALED. The scalers are set on the OUTPUT side of the switch, and each can have separate settings.

- HD-4K (Scales 1080P to 2160P - On HDMI Port Only)
- BYPASS (There will be no scaling set)
- 4K-HD (Scales 2160P to 1080P - On HDBT Port Only)
- ICT Mode (Enables ICT Compression mode on HDBT Port) - DEFAULT

NOTE: When using a non-ICT receiver, the unit automatically applies HDBT-C mode when ICT mode is selected, which reduces 10-18Gbps content to 9Gbps for legacy infrastructures. This mode maintains 4K resolution but removes HDR.

To Change the scaler settings

1. Press and hold the desired OUTPUT number which you want to change the scaling setting on.
2. NOTE: The OUTPUT you selected and the SETTINGS buttons on the right will be lit up.
3. Press the desired scaling button (HD-4k, BYPASS, 4k-HD, or ICT).
4. The current setting will be indicated on the LCD screen.
5. Press the same OUTPUT button to set. You can also wait, after 5 seconds of inactivity the matrix will exit and keep any changes made.

Audio Control: Audio Delay

The AC-CX-84 has an Audio Delay feature built-in. Audio Delay is set on the extracted audio OUTPUT (Digital and Analog) of the switch, and each can have separate settings.

The Audio Delay has 4 controls:

- UP (Increase Delay)
- DOWN (Decrease Delay)
- MUTE (The audio will be muted)
- BYPASS (There will be no delay set)

*Delay settings are in increments of 90 milliseconds.

Settings are BYPASS (default), 90MS, 180MS, 270MS, 360MS, 450MS, 540MS, and 630MS

To Change:

1. Press and hold the desired OUTPUT number which you want to delay the audio.

2. NOTE: The OUTPUT you selected and the SETTINGS buttons on the right will be lit up.

3. Press UP, DOWN, MUTE of BYPASS to change the delay.

4. The current setting will be indicated on the LCD screen.

5. Press the same OUTPUT button to set. You can also wait, after 5 seconds of inactivity the matrix will exit and keep any changes made.

Audio Control: Audio Binding

The AC-CX-84 has 3 settings for the Extracted Audio.

- BIND TO OUTPUT (extracted audio switches with the video, this is the default mode)
- BIND TO INPUT (extracted audio is fixed to the corresponding input by the same number)
- MATRIX (extracted audio can be routed independently of video to function as a separate audio matix)

To Change:

1. Press and hold (3 sec) the BYPASS button by the Audio Delay settings (top far right button).

2. NOTE: The UP/DOWN/BYPASS buttons will now be lit up, current setting displayed on screen

3. Use the UP and DOWN buttons to change to the desired option

4. Press the BYPASS button again to set.

5. NOTE: Will automatically exit out of matrix mode after 10 seconds of inactivity. If you do not press the BYPASS button to set, after exiting the menu any selection/changes made will be lost.

6. Press the BYPASS button once more to exit.

Audio Control: Audio Switching

The Extracted Audio ports can be independently controlled while in MATRIX Mode.

To Control:

1. Press and hold (3 sec) the BYPASS button by the Audio Delay settings (top far right button).
2. NOTE: The UP/DOWN/BYPASS buttons will now be lit up, current setting displayed on screen.
3. Make sure the screen says “Matrix” then press the BYPASS button again to enter the AUDIO MATRIX.
4. NOTE: If correct, only the BYPASS button will be lit up.
5. Press the desired extracted audio OUTPUT you want to set.
6. Press the INPUT for the desired audio source you want to route to the previous OUTPUT selection.
7. Once set, press the BYPASS button again to exit the audio matrix mode.
8. NOTE: Will automatically exit out of matrix mode after 10 seconds of inactivity. Any selection/ changes made will stay as they are set once the INPUT/OUTPUT buttons are pressed.

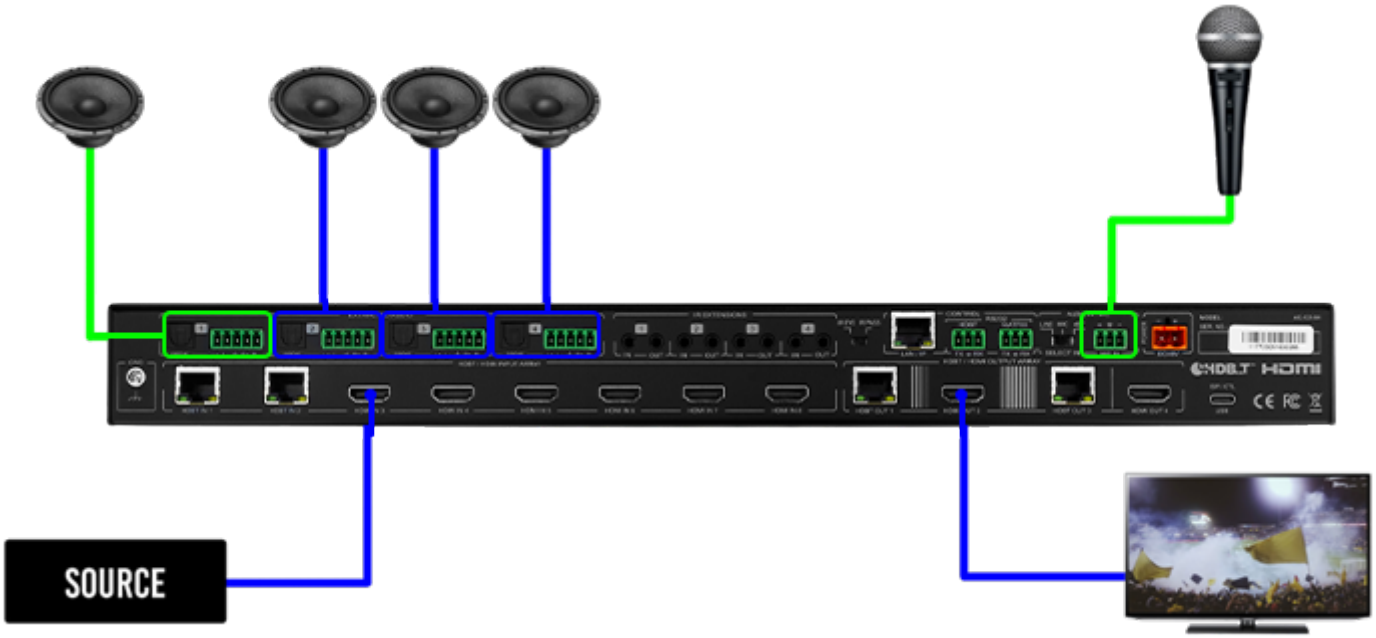
Audio Input: Line In/Microphone

The audio input port can be enabled and disabled by using the following command.

SET OUTx EXA MIC EN/DIS : Set Ex-Audio Microphone Output Enable/Disable{x=[0~4](0=ALL)}

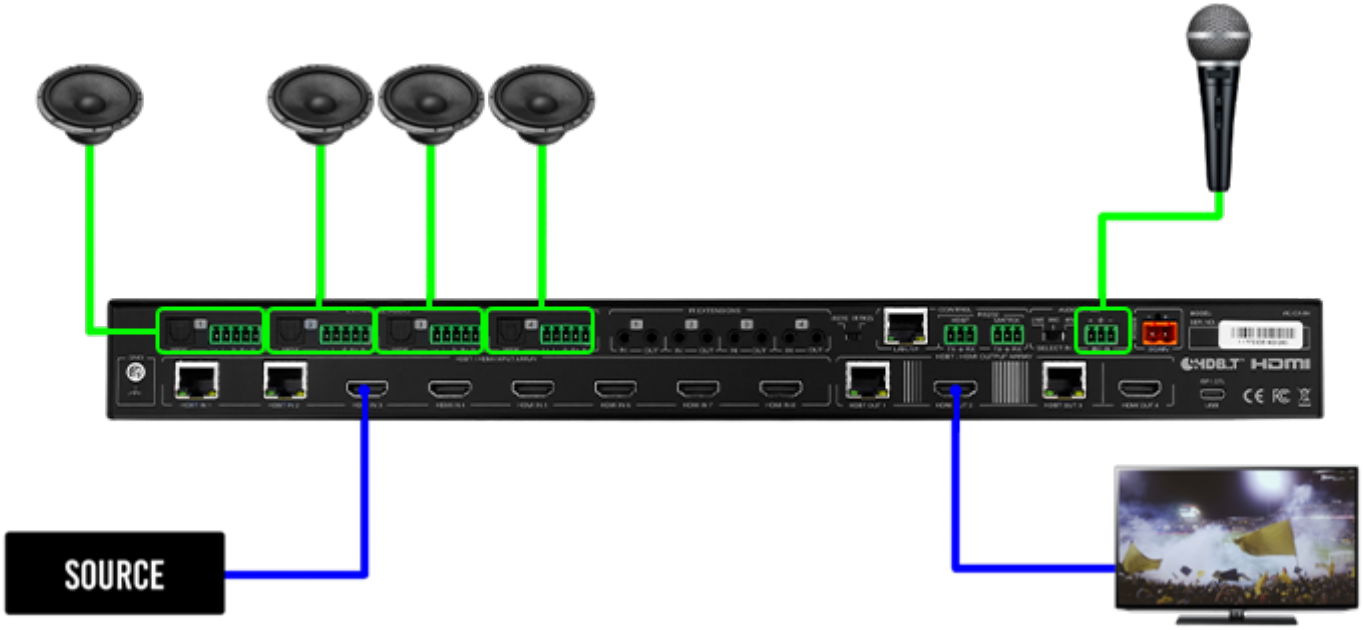
Example #1 - SET OUT1 EXA MIC EN

In the example below, the audio from the microphone will be output on extracted audio #1 (green). Extracted audio ports 2-4 have audio routed from the source (blue).



Example #2 - SET OUT0 EXA MIC EN (0=All)

Example below, the audio from the microphone will be output on all 4 extracted audio ports (green).



The Extracted Audio ports can be independently controlled while in MATRIX Mode.

RS232 Configuration:

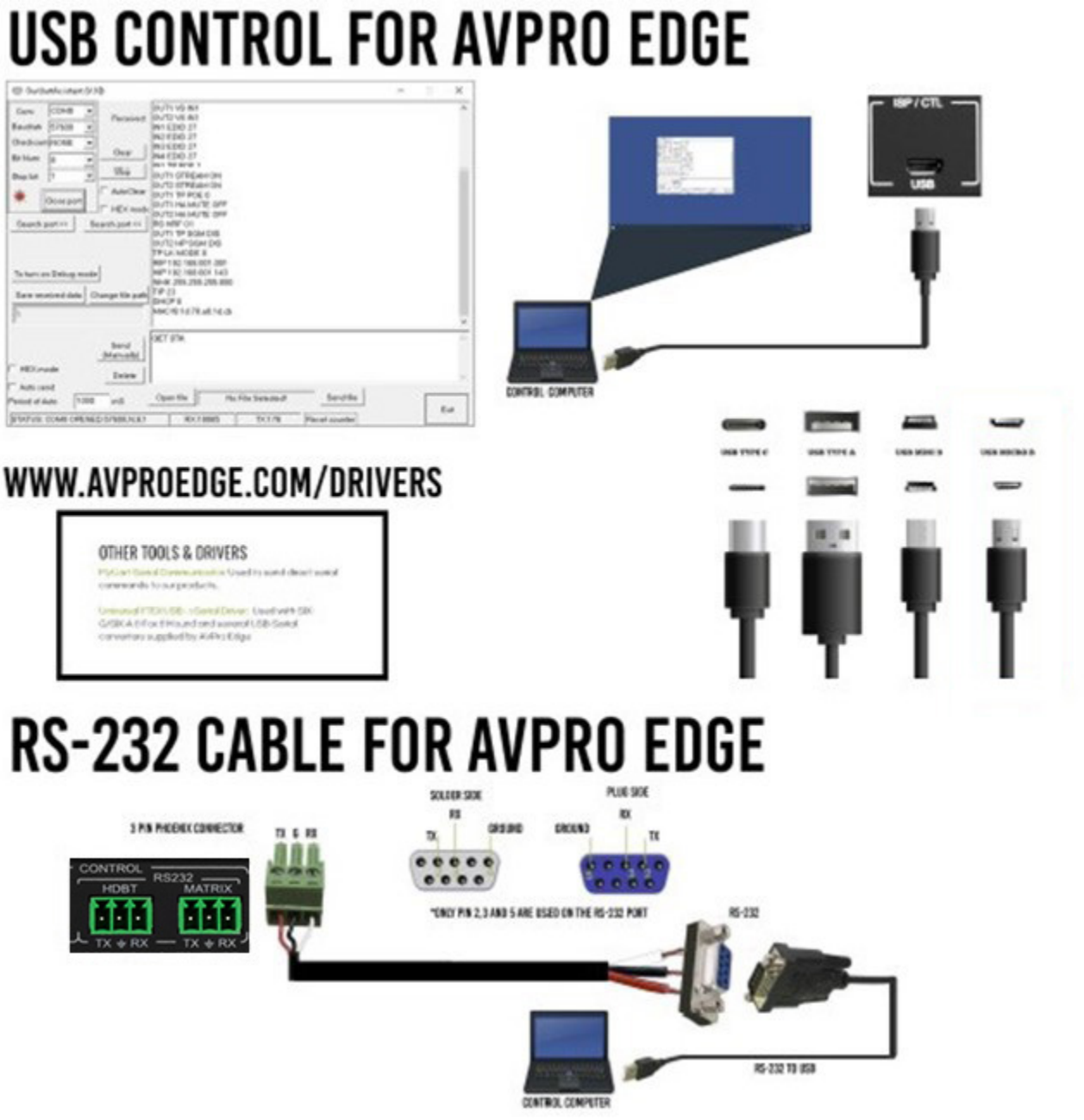
The AC-CX-84 has two distinct RS232 Ports.

1. HDBT - This is for transmitting RS232 signals from the Matrix to the remote HDBaseT Receiver

2. MATRIX - This is for sending signals to the AC-CX-84 Matrix to control the device. An example is shown on the next page. The complete command list is on page after that.

ISP / CONTROL

This ConferX switch can also be controlled using a computer and a USB-C cable, using the USB-C Port on the front of the device.



RS232 and TCP/IP Commands:

The Matrix can be controlled with either RS-232 or TCP/IP commands. Certain switching or format configurations can only be done using these commands. We recommend using either the MyUART (RS-232 - free) or Hercules (TCP/IP - free) apps as they are very easy to use for sending commands to the machine.

For TCP/IP control commands use Telnet Port 23.

For RS-232, use a null modem serial cable adapter and set the serial communications to:

57600,n,8,1 (baud: 57600, no parity, 8 data bits and 1 stop bit) with no handshaking.

Please add a return (Enter key) after each command when using direct commands. The unified command list (ASCII) is listed on pages 14 and 15. You may also send “H” for HELP, this will return the entire command list.

Command Example: DHCP Setting the IP Address

1. Connect your computer to one of the control ports (Micro USB/3pin Terminal)

2. Open up MyUart and verify the correct settings

3. Baudrate: 57600, no parity, 8 data bits and 1 stop bit) with no handshaking.

4. On MyUart click Search Port>> (you will see a red indicator once connected)

5. You can verify the COM port by using Windows Device Manger. Both USB and 3pin connections should show up as a COM#.

6. Send “GET DHCP” with a carriage return (no “ “ and hit Enter/Return on keyboard).

7. Default is OFF so the return message should be “DHCP 0” (0=Off, 1=On)

8. Send “SET DHCP 1”, the return message should read “DHCP 1”

9. This will also return the current IP Settings. If there is no connection it will reply with the Default Settings.

10. You can now connect to the WebUI by typing in the HIP address into a web browser. There you can alter the IP address of the Matrix to one of your choosing.

11. You can also set the address of the matrix by sending the following command

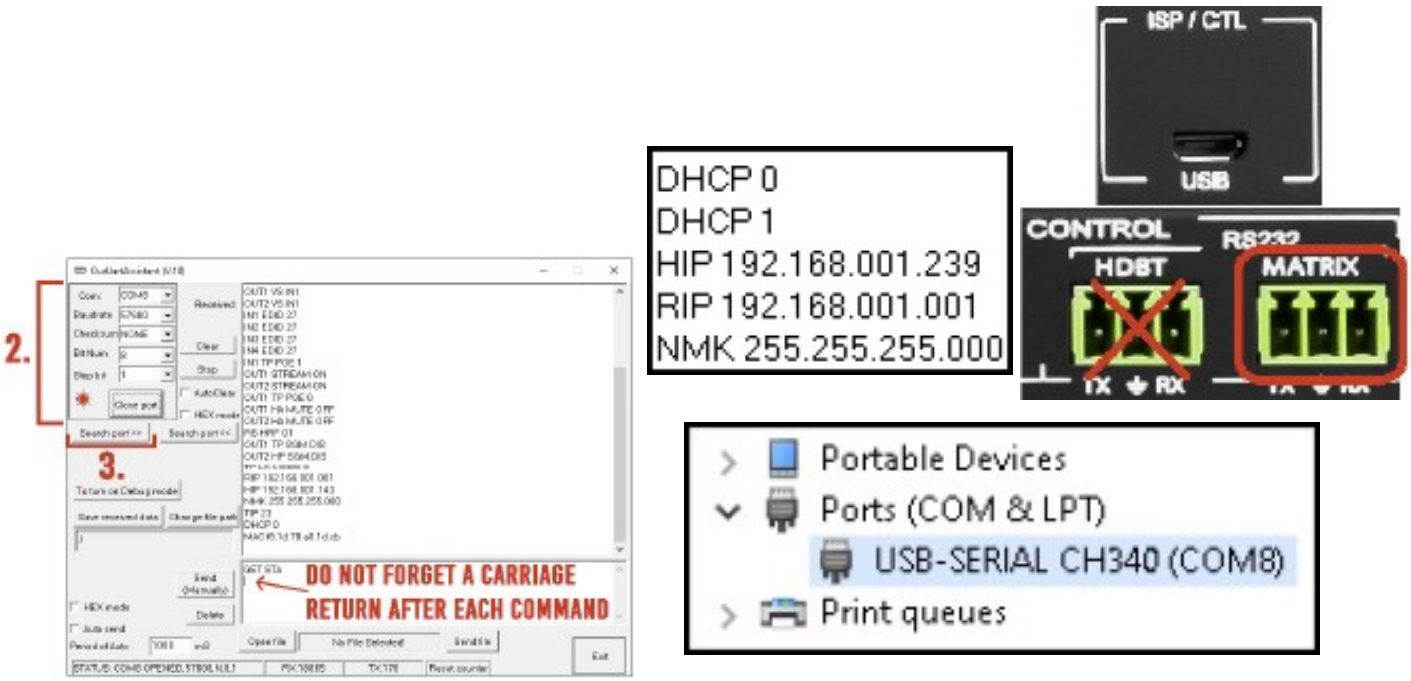
12. “SET HIP xxx.xxx.xxx.xxx” (SET HIP 192.168.1.143)

13. Once configured it is recommended to turn DHCP back off so the settings are set to Static and will not change (this can also be done from the WebUI).

14. “SET DHCP 0”

15. You can verify the settings by getting the status of the matrix

16. “GET STA”



Command List

Command	Action
H	Help
STA	Show Global System Status
SET RST	Reset to Factory Defaults
SET RBT	System Reset to Reboot
SET LAN RBT	SET LAN MCU Reset to Reboot
SET ADDR xx	Set System Address to xx {xx=[00~99](00=Single)}
SET BAUDR x	Set System BaudRate to x{x=[0~5](0=9600,1=14400,2=19200,3=38400,4=57600,5=115200)}
SET LCD ON Tx	Set LCD Remain On Time{x=[0~3](0=Always ON,1=15,2=30,3=60Sec)}
SET KEY LOCK ON/OFF	Set Key Lock On/Off
SET FAN SPEED x	Set Fan Speed{x=[0~3]}
GET ADDR	Get System Address
GET STA	Get System System Status
GET BAUDR	Get System BaudRate
GET INx SIG STA	Get Input x Signal Status{x=[0~8](0=ALL)}
GET OUTx SIG STA	Get Output x Signal Status{x=[0~4](0=ALL)}
GET OUTx HP HPD	Get HDMI Output x HPD Status{x=[0,2,4](0=ALL)}
GET OUTx TP HPD	Get HDBT Output x HPD Status{x=[0,1,3](0=ALL)}
GET INx VID FMT INF	Get Input x Video Format Info{x=[0~8](0=ALL)}
GET LCD ON T	Get LCD Remain On Time
GET KEY LOCK	Get Key Lock Status
GET FAN SPEED	Get Fan Speed Value
Output Setup Commands: (Note:output number(x)=HDMI[2,4],HDBT(1,3)	
SET OUTx VS INy	Set Output x To Input y{x=[0~4](0=ALL), y=[1~8]}
SET OUTx HP SGM EN/DIS	Set HDMI Output Signal Generator Enable/Disable{x=[0,2,4](0=ALL)}
SET OUTx TP SGM EN/DIS	Set HDBT Output Signal Generator Enable/Disable{x=[0,1,3](0=ALL)}
SET OUTx VFMTy	Set Output x Video Timing Format y {x=[0-4](0=All), y=[1-17] (1=AUTO, 2=1280x720p50, 3=1280x720p60, 4=1920x1080p29.97 5=1920x1080p30, 6=1920x1080p50, 7=1920x1080p59.94, 8=1920x1080p60 9=1920x1200p60, 10=2560x1080p50, 11=2560x1080p60, 12=3840x1080p60 13=3840x2160p29.97, 14=3840x2160p30, 15=3840x2160p50, 16=3840x2160p59.94

	17=3840x2160p60)}
SET OUTx APR MODEy	Set Output x Aspect Ratio Mode y {x=[0-4](0=All), y=[0-1](0=Match Aspect Ratio, 1=Stretch)}
SET OUTx HP HA MUTE ON/OFF	Set HDMI Output x Audio Mute ON/OFF{x=[0,2,4](0=ALL)
SET OUTx TP HA MUTE ON/OFF	Set HDBT Output x Audio Mute ON/OFF{x=[0,1,3](0=ALL)
SET SWITCH MODEx	Set Switch Mode To Single Switch or Double Switch {x=[0~1],0-Single Switch ,1-Double Switch}
SET OUTx EXA MIC LEVy	Set Ex-Audio Microphone Output x Volume level of Microphone{x=[0~1](0=ALL),y=[0~100}
SET OUTx EXA MIC EN/DIS	Set Ex-Audio Microphone Output Enable/Disable{x=[0~4](0=ALL)}
SET OUTx OUA MIC EN/DIS	Set Out-Array Microphone Output Enable/Disable{x=[0~4](0=ALL)}
SET OUTx EXA EN/DIS	Set Ex-Audio Output Enable/Disable{x=[0-4](0=ALL)}
SET OUTx EXADL PHy	Set Ex-Audio Delay{x=[0-4](0=ALL), y=[0~7](0=Bypass,1~7=90,180,270,360,450,540,630MS)}
SET EXAMX MODEx	Set Ex-Audio Matrix Mode{x=[0~2](0=Bind To Output,1=Bind To Input,2=Matrix}
SET OUTx AS INy	Set Ex-Audio Output x To Input y{x=[0-4](0=ALL), y=[1~8,9](9=LAN Audio Input)}}
SET OUTx EXAUD LEVy	Set Output x EQ-Audio Volume Levely{x=[0-4](0=all),y=[0~100]}
SET OUTx EXA LVLy	Set Output x Ex-Audio(Balanced) Left Volume Levely{x=[0-4](0=ALL),y=[0~10]}
SET OUTx EXA RVLy	Set Output x Ex-Audio(Balanced) Right Volume Levely{x=[0-4](0=ALL),y=[0~10]}
SET OUTx EXEQ MODEy	Set Output x EX-Audio Volume EQ Mode y {x=0-4, y=[0~7]} y=[0-OFF],[1-Classical],[2-Headphone],[3-Hall],[4-Live],[5-Pop],[6-Rock],[7-Vocal]
SET OUTx HP STREAM ON/OFF	Set HDMI OUT x STREAM ON/OFF {x=0,2,4}
SET OUTx TP STREAM ON/OFF	Set HDBT OUT x STREAM ON/OFF {x=0,1,3}
SET OUTx HDMI STREAM MODEy	Set Output x Stream Mode {x=0,2,4, y[0~1](0=Always On,1=Follow Input Signal)}
SET OUTx TP POE y	Set Output x POE Mode {x=0,1,3, y=0~1}
GET OUTx VS	Get Output x Video Route {x=0-4}
GET OUTx VFMT	Get Output x Video Timing Format {x=0-4}
GET OUTx APR MODE	Get Output x Aspect Ratio Mode {x=0-4}
GET OUTx HP HA MUTE	Get HDMI Output x Audio Mute Status {x=0,2,4}
GET OUTx TP HA MUTE	Get HDBT Output x Audio Mute Status {x=0,1,3}
GET OUTx HP SGM	Get HDMI Output Signal Generator Enable/Disable Status {x=0,2,4}
GET OUTx TP SGM	Get HDBT Output Signal Generator Enable/Disable Status {x=0,1,3}
GET OUTx EXA	Get Ex-Audio Output Enable/Disable Status {x=0-4}
GET OUTx EXADL PH	Get Ex-Audio Output Delay Status {x=0-4}
GET OUTx EXA MIC LEV	Get Ex-Audio Microphone Output x Volume level Status {x=0~1, y=[0~100]}
GET OUTx EXA MIC	Get Ex-Audio Microphone Output Enable/Disable Status {x=0~4}
GET OUTx OUA MIC	Get Out-Array Microphone Output Enable/Disable Status {x=0~4}

GET EXAMX MODE	Get Ex-Audio Matrix Mode	
GET OUTx AS IN	Get Output x Ex-Audio Route {x=0-4}	
GET OUTx EXAUD LEV	Get Output x EQ-Audio Volume Level {x=0-4}	
GET OUTx EXA LVL	Get Output x Ex-Audio (Balanced) Left Volume Level {x=0-4}	
GET OUTx EXA RVL	Get Output x Ex-Audio (Balanced) Right Volume Level {x=0-4}	
GET OUTx EXEQ MODE	Get Output x EX-Audio Volume EQ Mode Status {x=0-4}	
GET SWITCH MODE	Get Switch Mode Status	
GET OUTx HP STREAM	Get HDMI Output x Stream ON/OFF Status {x=0,2,4}	
GET OUTx TP STREAM	Get HDBT Output x Stream ON/OFF Status {x=0,1,3}	
GET OUTx HDMI STREAM MODE	Get Output x Stream Mode {x=0,2,4}	
GET OUTx TP POE	Get Output x POE Mode {x=0,1,3}	
GET OUTx HP EDID DATA	Get HDMI Output x EDID DATA {x=[2,4]}	
GET OUTx TP EDID DATA	Get HDBT Output x EDID DATA {x=[1,3]}	
Input Setup Commands:(Note:input number(x)=HDMI(x),x=[1-8])		
SET INx EDID y	Set Input x EDID{x=[0~8](0=ALL), y=[0~32]}	
0:1080P_2CH	1:1080P_6CH	2:1080P_8CH
3:1080P_3D_2CH	4:1080P_3D_6CH	5:1080P_3D_8CH
6:4K30HZ_3D_2CH	7:4K30HZ_3D_6CH	8:4K30HZ_3D_8CH
9:4K60HzY420_3D_2CH	10:4K60HzY420_3D_6CH	11:4K60HzY420_3D_8CH
12:4K60HZ_3D_2CH	13:4K60HZ_3D_6CH	14:4K60HZ_3D_8CH
15:1080P_2CH_HDR	16:1080P_6CH_HDR	17:1080P_8CH_HDR
18:1080P_3D_2CH_HDR	19:1080P_3D_6CH_HDR	20:1080P_3D_8CH_HDR
21:4K30HZ_3D_2CH_HDR	22:4K30HZ_3D_6CH_HDR	23:4K30HZ_3D_8CH_HDR
24:4K60HzY420_3D_2CH_HDR	25:4K60HzY420_3D_6CH_HDR	26:4K60HzY420_3D_8CH_HDR
27:4K60HZ_3D_2CH_HDR	28:4K60HZ_3D_6CH_HDR	29:4K60HZ_3D_8CH_HDR
30:USER1_EDID	31:USER2_EDID	32:USER3_EDID
SET INx EDID CY OUTy HP	Copy HDMI Output y EDID to Input x (USER1 BUF) {x=0~8, y=[2,4]}	
SET INx EDID CY OUTy TP	Copy HDBT Output y EDID to Input x (USER1 BUF) {x=0~8, y=[1,3]}	
SET INx Uy EDID CY OUTz HP	Copy HDMI Output z EDID to User y Buffer of Input x {x=0~8, y=[1-3], z=[2,4]}	
SET INx Uy EDID CY OUTz TP	Copy HDBT Output z EDID to User y Buffer of Input x {x=0~8, y=[1-3], z=[1,3]}	
SET INx EDID Uy DATAz	Write EDID to User y Buffer of Input x {x=0~8, y=[1-3], z=[EDID Data]}	

SET INx TMDS ON/OFF	Set Input x Port TMDS Status ON/OFF {x=0~8}
SET INx TP POE y	Set INx POE Mode {x=0~2, y=0~1}
SET INx PW ON/OFF	Set Input x Port Power Status ON/OFF {x=0,3~8}
GET INx EDID	Get Input x EDID Index {x=0~8}
GET INx EDID y DATA	Get Input x EDID y Data {x=[18], y=[032]}
GET INx TMDS	Get Input x Port TMDS Status {x=0~8}
GET INx TP POE	Get INx POE Mode {x=0~2}
GET INx PW	Get Input x Port Power Status {x=0,3~8}
Auto Mode Settings	
SET HDx AUTO EN/DIS	Set HDMI Output x to Auto Mode Enable or Disable {x=0~4}
SET OUTx PIN y	Set Output x Auto Switch Mode Priority Enable/Disable {x=0~4, y=[0-DIS,1-EN]}
SET OUTx PIN PTH yy	Set Output x Auto Switch Mode Priority Path {yy=y1.y2.y3.y4.y5.y6.y7.y8} {x=0~4, y1.y2.y3.y4.y5.y6.y7.y8=[1-8]}
SET OUTx AFB INy	Set Output x Auto-Switch Fallback Input Port y {x=0~4, y=[0-8](0=Invalid Port)}
GET HDx AUTO	Get HDMI Output x Auto Status {x=0~4}
GET OUTx PIN	Get Output x Auto Switch Mode Priority Status {x=0~4}
GET OUTx PIN PTH	Get Output x Auto Switch Mode Priority Path {x=0~4}
GET OUTx AFB IN	Get Output x Auto-Switch Fallback Input Port Status {x=0~4}
Network Setup Command: (xxx=[000-255], zzzz=[0001~9999]	
SET RIP xxx.xxx.xxx.xxx	Set Route IP Address to xxx.xxx.xxx.xxx
SET HIP xxx.xxx.xxx.xxx	Set Host IP Address to xxx.xxx.xxx.xxx
SET NMK xxx.xxx.xxx.xxx	Set Net Mask to xxx.xxx.xxx.xxx
SET TIP zzzz	Set TCP/IP Port to zzzz
SET DHCP y	Set DHCP {y=0~1}
GET RIP	Get Route IP Address
GET HIP	Get Host IP Address
GET NMK	Get Net Mask
GET TIP	Get TCP/IP Port
GET DHCP	Get DHCP Status
GET MAC	Get MAC Address
RS232 Route Setup Command:	

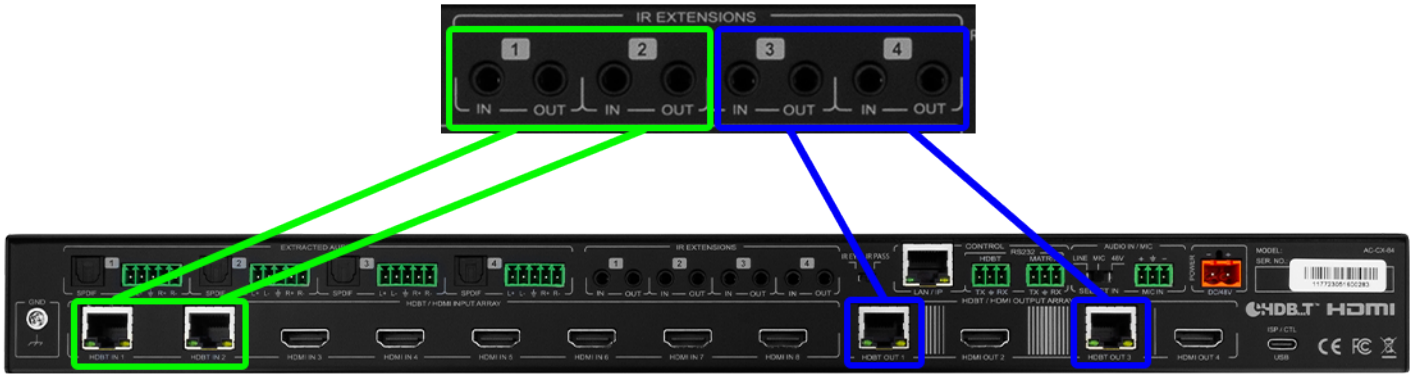
SET RS CHy MUX zz	Set the RS232 MUX {y=[1,11], x1~x2=[0-1] (0=Disable, 1=Enable)}; {y=[1] (Local RS232 Bypass to HDBT Out), y=[11] (Local RS232 Bypass to HDBT In)}
SET OUT RSBV zz	Set HDBT Out x1~x2 RS232 Bypass Baud Rate to Value [0-5] (0=9600, 1=14400, 2=19200, 3=38400, 4=57600, 5=115200)
SET IN RSBV zz	Set HDBT In x1~x2 RS232 Bypass Baud Rate to Value [0-5] (0=9600, 1=14400, 2=19200, 3=38400, 4=57600, 5=115200)
SET RS PTH OUTx LENy BRz	Set RS232 Pass Through to Output x {x=[0,1,3], y=[1800], z=[05,9] (0=9600, 1=14400, 2=19200, 3=38400, 4=57600, 5=115200, 9=Reserved)}
SET RS PTH INx LENy BRz	Set RS232 Pass Through to Input x {x=[0,1,2], y=[1800], z=[05,9] (0=9600, 1=14400, 2=19200, 3=38400, 4=57600, 5=115200, 9=Reserved)}
SET RSBV DATA MODE x	Set HDBaseT RS232 RX Response Data Type x {x=[1-2] (1=Base64, 2=ASCII/HEX)}
GET RS CHx MUX	Get the RS232 MUX Status {x=[1,11]}
GET OUT RSBV	Get HDBT Out x1~x2 RS232 Bypass Baud Rate Status
GET IN RSBV	Get HDBT In x1~x2 RS232 Bypass Baud Rate Status
GET RSBV DATA MODE	Get HDBaseT RS232 RX Response Data Type Status
IR Code Setup Command:	
SET IR SYS xx.yy	Set IR Custom Code {xx=[00-FFH], yy=[00-FFH]}
SET IR OUTx INy CODE zz	Set IR Data Code {x=[1~4], y=[1~8], zz=[00-FFH]}
SET IR SWMD x	Set IR Switch Mode x {x=[0-1], 0=Left or Right Switch, 1=Output Select the Input}
GET IR SYS	Get IR Custom Code
GET IR OUTx INy CODE	Get IR Data Code {x=[1~4], y=[1~8]}
GET IR SWMD	Get IR Switch Mode Status

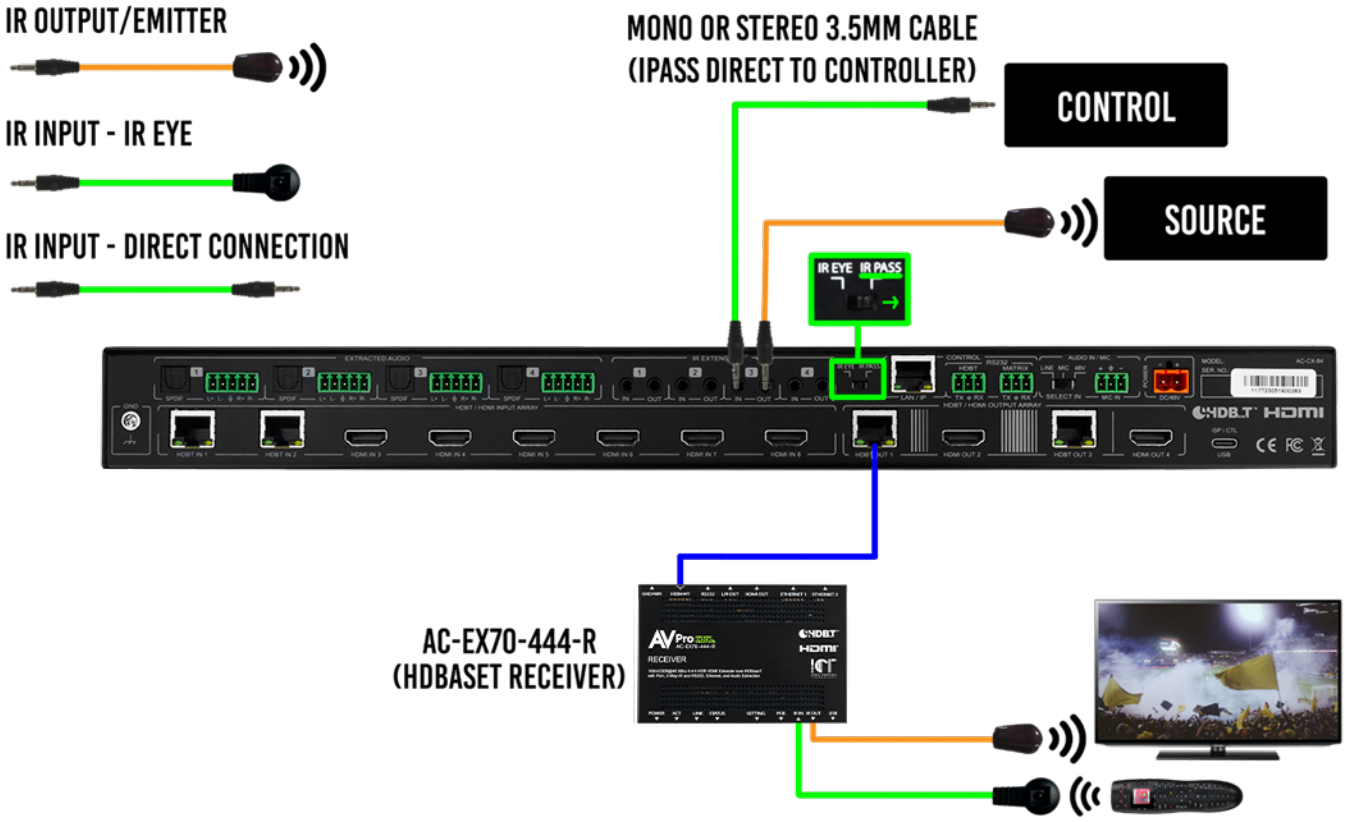
IR Configuration

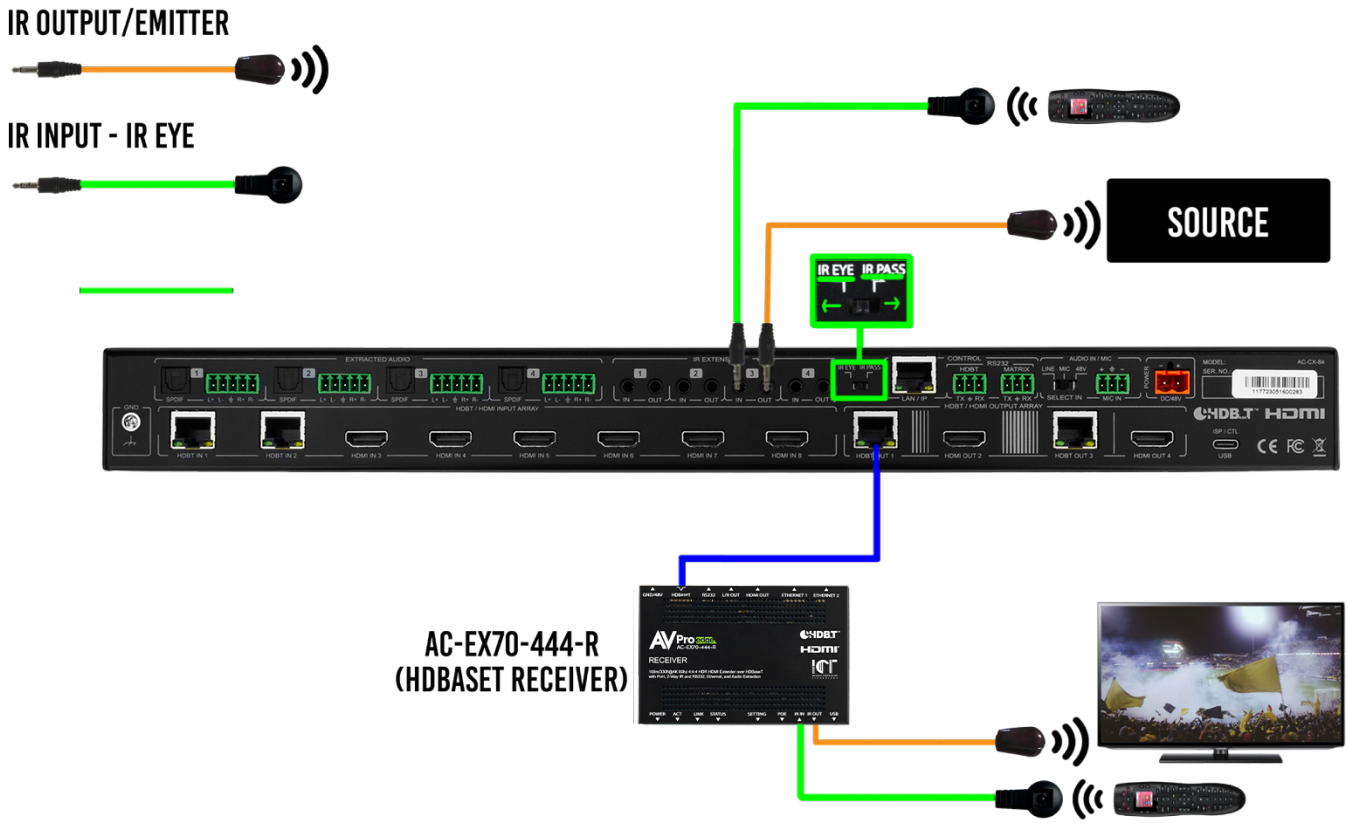
IR Mode Slide Switch: (On Back) This is used to select a preferred IR Mode - There are two modes:

- IR-EYE - The IR Input will be configured to operate with an IR Receiver Eye.
- IR PASS - The IR Input will be configured to safely operate with a direct connection from a control system using a mono or stereo 3.5mm cable. It's protected @ 3v-20v. Default mode is IR-EYE.

**NOTE: There are 4 HDBaseT ports, IR Extensions 1 and 2 correspond to HDBaseT INPUT 1 and INPUT2. IR Extensions 3 and 4 correspond to HDBaseT OUTPUTS 1 and 3.

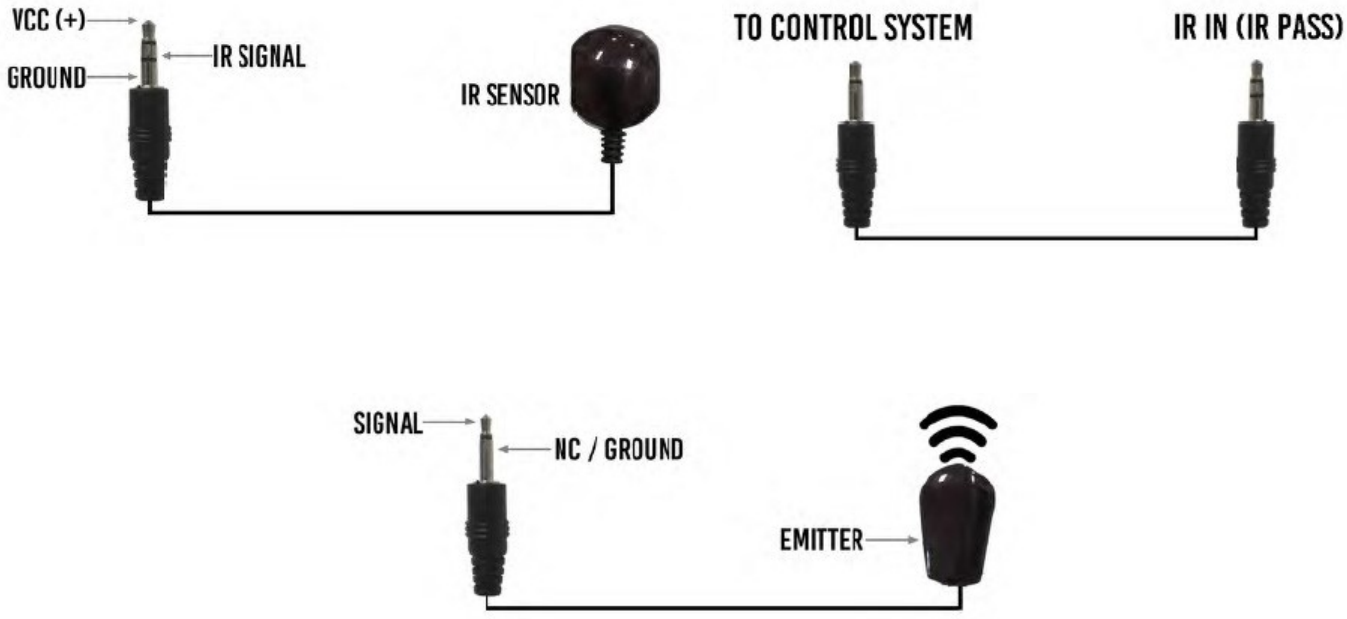






The IR OUT port sends IR signals out of an IR Emitter (Pictured below) that originate at the HDBaseT Receiver OR HDBaseT Transmitter

IR Sensor



Audio Output Logic and Cable Prep:

You can extract audio from toslink or balance 2CH Audio. Audio outputs are an un-decoded output. This means that what goes in, is what goes out.

2CH Balanced Audio Port - Supports 2CH PCM audio only, which is ideal for 2 Channel systems and zoned audio systems.

Toslink Audio Port - Supports PCM, LPCM (up to 7CH), Dolby Digital, Dolby Digital Plus, DTS, DTS-HD, DTS Master Audio, which is ideal for multi-channel audio systems and older AVR's that do not support 18Gbps.

Need to down-mix for combination, uncompressed and 2CH systems? Check out the AC-ADM-AUHD and AC-ADM-COTO.

You can use balanced analog outputs in a balanced system, but you can also prep a cable as shown below to convert to a traditional 2CH unbalanced (L/R) system.

You can also purchase pre-made cables (AC-CABLE-5PIN-2CH)

NOTE: Make sure the ground is always connected

Audio Wiring Diagram:

Microphone IN and Cable Prep:

There are 3 settings for the Microphone/Line Input they are

1. LINE IN - Balance Mono Analog Audio Input (use + and Ground ⏚)
    a. VPP should be less than 2 Volts
2. MIC - Select this for non-powered or Dynamic microphones.
3. 48V - This is for Microphones that require Phantom Power.

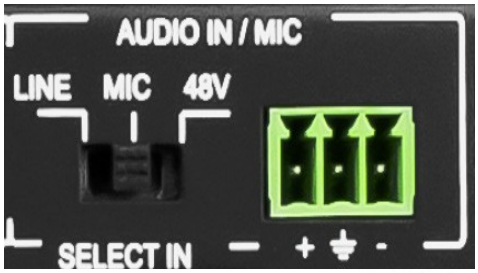
Troubleshooting

1. Verify Power - Ensure the Power cord is properly seated and connected to good outlet.

The front panel display and buttons will light up when pressed, and during power up.

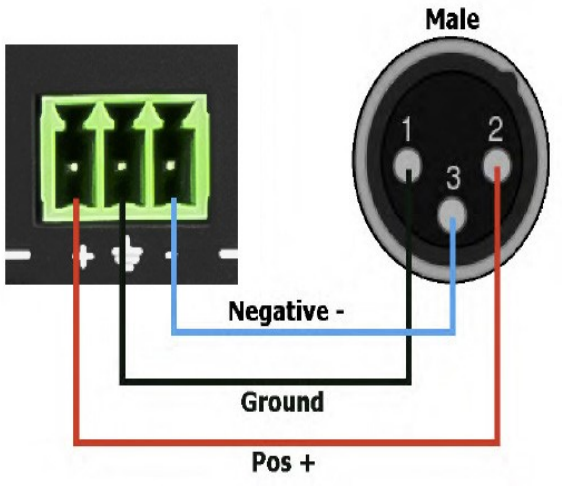
2. Verify Connections - Check that all cables are fully seated.

3. HDBaseT Transmitters not powering from the Matrix. Try changing the POE setting from AUTO to Forced, by using the POE drop downs under the input settings on the I/O Config tab.



4.Receivers not powering from the Matrix, try changing the POE setting from AUTO to Forced

"SET OUT0 TP POE 1" - This will change the two HDBaseT Outputs to Forced (0=All).



5. Not passing video, this may be an EDID issue. Out of the box the default is 1080P 2CH.

Try a canned EDID or copy the connected displays EDID

6. IR Issues - Verify correct connections

7. Visibly flashing Emitters may not function properly, try the IR Cables that come in the box if you are experiencing issues

8. Audio Issues

9. Verify Source is set to output 8ch if using TOSLINK

10. Note: This unit does NOT Down-Mix, for 2Ch port to function source must be set to 2Ch.

11. Still having issues, contact us

Support Direct - +1-605-977-3477

All inquiries - 1-605-274-6055

Submit a support request ticket - https://support.avproedge.com/hc/en-us/requests/new

Maintenance

To ensure reliable operation of this product as well as protecting the safety of any person using or handling this device while powered, please observe the following instructions.

· Use the power supplies provided. If an alternate supply is required, check voltage, polarity and that it has sufficient power to supply the device it is connected to.

· Do not operate these products outside the specified temperature and humidity range given in the above specifications.

· Ensure there is adequate ventilation to allow this product to operate efficiently.

· Repair of the equipment should only be carried out by qualified professionals as these products contain sensitive components that may be damaged by any mistreatment.

· Only use this product in a dry environment. Do not allow any liquids or harmful chemicals to come into contact with these products.

· Clean this unit with a soft, dry cloth. Never use alcohol, paint thinner or benzene to clean this unit.

Damage Requiring Service

The unit should be serviced by qualified service personnel if:

· The DC power supply cord or AC adaptor has been damaged

· Objects or liquids have gotten into the unit

· The unit has been exposed to rain

· The unit does not operate normally or exhibits a marked change in performance

· The unit has been dropped or the housing damaged

Support

Should you experience any problems while using this product, first, refer to the Troubleshooting section of this manual before contacting Technical Support. When calling, the following information should be provided:

· Product name and model number

· Product serial number

· Details of the issue and any conditions under which the issue is occurring

· Clean this unit with a soft, dry cloth. Never use alcohol, paint thinner or benzene to clean this unit.

Warranty

THE BASICS.

AVPro Edge warranties its products that are purchased from all Authorized AVPro Edge Resellers or direct purchases. Products are guaranteed to be free from manufacturing defects and of sound physical and electronic condition.

AVPro Edge has developed a warranty that anyone can get behind. We really wanted to take all the “redtape” out of a warranty and just make is simple. Our 10 YEAR NO BS warranty hinges on 3 elements.

1. If you are having trouble, call us. We will attempt to troubleshoot your issue over the phone.

2. If it’s broke - We’ll replace it in advance on our dime. (We’ll cover return shipping too.) Repair is an option too, but it’s YOUR call.

3. We know you know what you are doing. We will not make you go through unnecessary steps to troubleshoot an extender...

COVERAGE DETAILS.

AVPro Edge will replace or repair (at customer choice) the defective product. If the product is out of stock or on back order it can either be replaced with a comparable product of equal value/feature set (if available) or repair.

Your warranty begins at receipt of product (as confirmed by shipping firm tracking). If tracking information is unavailable for any reason, the warranty will commence 30 ARO (After Receipt of Order). The coverage continues for 10 YEARS.

RED TAPE.

AVPro Edge is not responsible for untraceable purchases or those that were made outside of an authorized

channel.

If we conclude that a product or serial number has been tampered with as identified by warranty seal or physical examination the warranty will be void. Additionally, excessive physical damage (beyond normal wear & tear) the warranty may be voided or pro-rated based on the extent of the damage as examined by an AVPro Edge representative.

Damage caused by “acts of God” are not covered. They can include natural disasters, power surges, storms, earthquakes, tornadoes, sink holes, typhoons, tidal waves, hurricanes, or any other uncontrollable event related to nature.

Damage caused by incorrect installation will not be covered. Incorrect power supply, inadequate cooling, improper cabling, inadequate protection, static discharge are examples of this.

Products installed or sold by a third party to AVPro Edge will be serviced by the Authorized AVPro Edge Re-seller.

Accessories (IR Cables, RS-232, Power Supplies, etc...) are not included in the warranty. We will make an acceptable effort to source and supply replacements for defective accessories at a discounted rate as needed.

OBTAINING AN RMA.

Dealers, Re-sellers, and Installers can request an RMA AVPro Edge Tech Support Rep or their Sales Engineer. Or you may email support@avproedge.com or fill out the general contact form at www.avproedge.com

End users may not request and RMA directly from AVPro Edge and will be referred back to the Dealer, Re-seller or Installer.

SHIPPING.

For USA (not including Alaska and Hawaii). Shipping is covered on advanced replacements for FedEx Ground (some expressed exceptions may apply). Defective product return shipping is covered by AVPro Edge using an emailed return label. Item must be returned within 30 days of receipt of replacement product, after 30 days, the customer will be billed. Other return shipping methods will not be covered.

For International (and Alaska and Hawaii) return shipping costs will be the responsibility of the returnee. Once the unit is scanned for return shipping AVPro Edge will ship new unit for replacement.

LEGAL STUFF.

Limitation on Liability

The maximum liability of AVPro Global Holdings LLC under this limited warranty shall not exceed the actual purchase price paid for the product. AVPro Global Holdings LLC is not responsible for direct, special, incidental or consequential damages resulting from any breach of warranty or condition, or under any other legal theory to the maximum extent permitted by law.

Taxes, Duties, VAT, and freight forwarding service charges are not covered or paid for by this warranty.

Obsolescence or incompatibility with newly invented technologies (after manufacture of product) is not covered by this warranty.

Obsolescence is defined as:

“Peripherals are rendered obsolete when current technology does not support product repair or re-manufacture. Obsolete products cannot be re-manufactured because advanced technologies supersede original product manufacturer capabilities. Because of performance, price and functionality issues, product redevelopment is not an option.”

Discontinued or out of production items will be credited at fair market value towards a current product of equal or comparable capabilities and cost. Fair market value is determined by AVPro Edge.

Exclusive Remedy

To the maximum extent permitted by law, this limited warranty, and the remedies set forth above are exclusive and in lieu of all other warranties, remedies and conditions, whether oral or written, express or implied. To the maximum extent permitted by law, AVPro Global Holdings LLC specifically disclaims any and all implied warranties, including, without limitation, warranties of merchantability and fitness for a particular purpose. If AVPro Global Holdings LLC cannot lawfully disclaim or exclude implied warranties under applicable law, then all implied warranties covering this product, including warranties of merchantability and fitness for a particular purpose, shall apply to this product as provided under applicable law.

This warranty supersedes all other warranties, remedies and conditions, whether oral or written, express or implied.

Thank you for choosing AVPro Edge!

Please contact us with any questions, we are happily at your service!

2222 E 52nd Street North, Sioux Falls, SD 57104

support: 877.886.5112

support@avproedge.com