

User Manual

AC-MX-42X



INTRODUCTION..... 4

FEATURES 4

WHATS IN THE BOX 4

SPECIFICATIONS 5

FRONT AND REAR PANEL OVERVIEW..... 6

FRONT PANEL BUTTON COMBINATIONS..... 7

INITIAL SETUP: WEBUI 8

ADVANCED SETUP: WEBUI INPUT SETTINGS 12

ADVANCED SETUP: WEBUI OUTPUT SETTINGS 13

ADVANCED SETUP: WEBUI OUTPUT SETTINGS SWITCH MODE 14

ADVANCED SETUP: WEBUI EXTRACTED AUDIO SETTINGS..... 14

WEBUI: VIDEO MATRIX 15

WEBUI: I/O CONFIG - INPUT SETTINGS 16

WEBUI: I/O CONFIG - OUTPUT SETTINGS..... 17

WEBUI: I/O CONFIG - OUTPUT SETTINGS CONT. 18

WEBUI: SYSTEM - IP SETTINGS 19

WEBUI: SYSTEM - TELNET SETTINGS 20

WEBUI: SYSTEM - ADMIN WEB INTERFACE 20

WEBUI: SYSTEM - USER WEB INTERFACE 21

WEBUI: SYSTEM - CLOUD SERVICES 22

WEBUI: SYSTEM - FIRMWARE UPDATE CONT..... 23

WEBUI: SYSTEM - HARDWARE 23

WEBUI: DIAGNOSTICS - HDMI IN 24

WEBUI: DIAGNOSTICS - HDMI IN CONT. 25

WEBUI: DIAGNOSTICS - HDMI OUT 26

WEBUI: CONSOLE 27

FRONT PANEL CONTROL - FUNCTIONAL MODE BUTTON..... 28

FRONT PANEL CONTROL - MATRIX MODE SWITCHING 28

FRONT PANEL CONTROL - DA MODE SWITCHING 28

FRONT PANEL CONTROL - SCALING IN MATRIX MODE	29
FRONT PANEL CONTROL - SCALING IN DA MODE	29
AUDIO OUTPUT	29
FRONT PANEL CONTROL - EDID MANAGEMENT:	30
IR CONTROL: IR REMOTE	32
RS-232 AND TCP/IP CONTROL:	33
COMMAND LIST:	34
COMMAND LIST CONTINUED:	35
TROUBLESHOOTING	35
BANDWIDTH CHART	36
BANDWIDTH CHART: CONTINUED	37
MAINTENANCE	38
DAMAGE REQUIRING SERVICE	38
SUPPORT	39
WARRANTY	39

Introduction

The AC-MX-42X is a four input by dual output HDMI matrix switcher. It supports HDMI 2.1, HDCP 2.3, and up to 8K video resolution with 40Gbps bandwidth capacity. This matrix switcher is perfect for working with the latest gaming consoles, streaming devices, and satellite receivers, connecting them to 8K TVs and projectors. In addition, this matrix equalizes and amplifies the output to ensure HDMI signals will transmit through long HDMI cables without loss of quality.

Our best developers have been hard at work bringing our integrators an easy-to-use web based user interface that allows them to set up, troubleshoot, and control this 8K 4x2. The AVPro Edge user interface (AEUI) allows for easy configuration and sets up the 8K 4x2. This 8K matrix switcher also comes with a screen on the unit that can tell you the IP address for connecting directly to your control system. From built-in scaling to complete EDID control and configuring, you can customize every aspect of this device to work perfectly for your system.

NOTE TO DESIGNERS, INSTALLERS, AND TECHNICIANS

When used with an AVR or a Pre-processor as an HDMI video bypass around outdated onboard AVR or Pre-processor HDMI video signal technology, especially when introducing a Next-Gen video display into a system while retaining an existing AVR or Pre-processor that remains compatible with current immersive audio codec reproduction, the following must be noted: When the main HDMI video display output of the bypassed AVR or Pre-processor is left untethered to an EDID-producing device, the AVR or Pre-processor has no means for EDID negotiation or authentication. As a result, source devices fail to detect an active EDID-managed HDMI path. An AVR or Pre-processor may not fully activate or switch to the desired input for audio capture if no active output is detected or fails to enable proper input signal processing. BEST PRACTICE is for the AVR or Pre-processor to terminate into a device that produces an active EDID, which serves to "trick" the AVR or Pre-processor into continuing to function as designed (with a video signal and multi-channel audio selected at one of its inputs, expected to transfer the video signal to a display device with EDID authentication). An AVPro Edge AC-SC-1X or AC-DA12-AUHD-GEN2 with EDID management is ideal for overcoming this anomaly as both have EDID management capabilities; however, any device capable of producing an EDID compatible with maintaining the AVR's or Pre-processor's stability may be utilized.

Features

- HDMI 2.1
- FRL (5)
- HDCP 2.3
- 40Gbps Bandwidth Support
- 8K60 4:2:0 Support 4K resolutions at 120 frames per second
- 8K resolutions at 60 frames per second
- Full HDR Support (HDR 10 & 12 Bit)
- Dolby Vision, HDR10+ and HLG Support
- HDCP 2.3 (and all earlier versions supported)
- 8K > 1080p Down Scaler (Out 2)
- Perfect AVR Bypass deliver 40Gbps to Display and uncompressed audio to AVR
- Advanced EDID Management
- IR, RS-232 and LAN Control Options
- Digital Toslink Out (7CH PCM, DD, DTS)
- Balanced Analog Out (2CH PCM)
- Down-scaling mode for mixed systems
- Driver Support for Crestron, C4, RTI, ELAN and more
- Extracted Audio Supports DD+, DTS Master Audio on Toslink
- Extracted Audio bound to output 1 or 2

Whats in the box

- AC-MX-42X (Matrix Switch)
- 5V/2A Locking Power Supply
- 1 x IR Remote Control (Battery not included)
- 1 x 3 Pin Terminal Connector (For RS232)
- Mounting Brackets



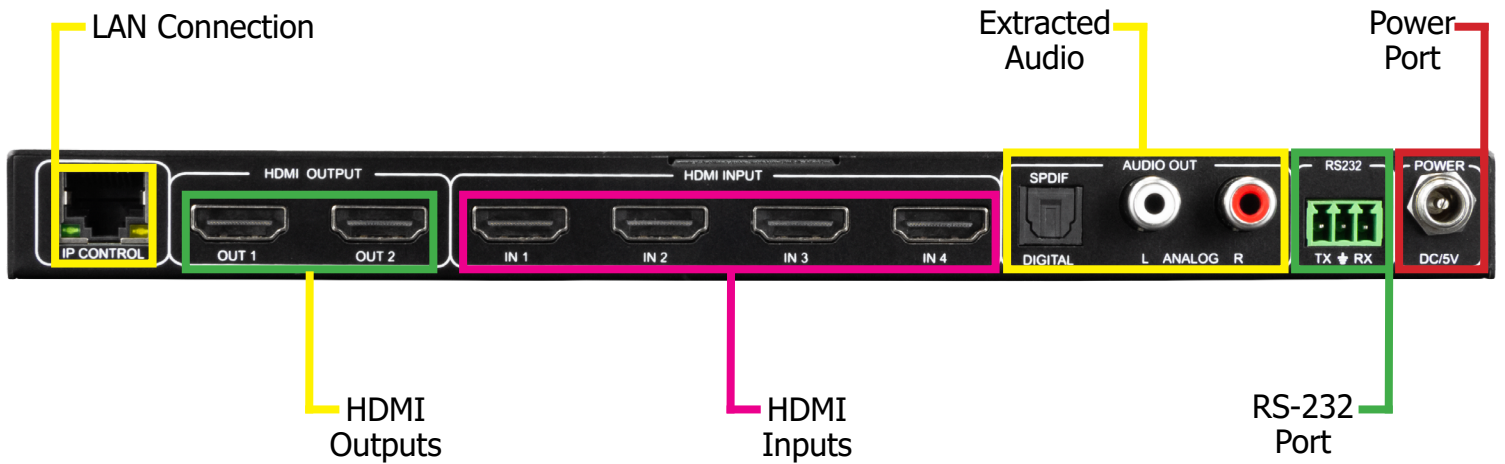
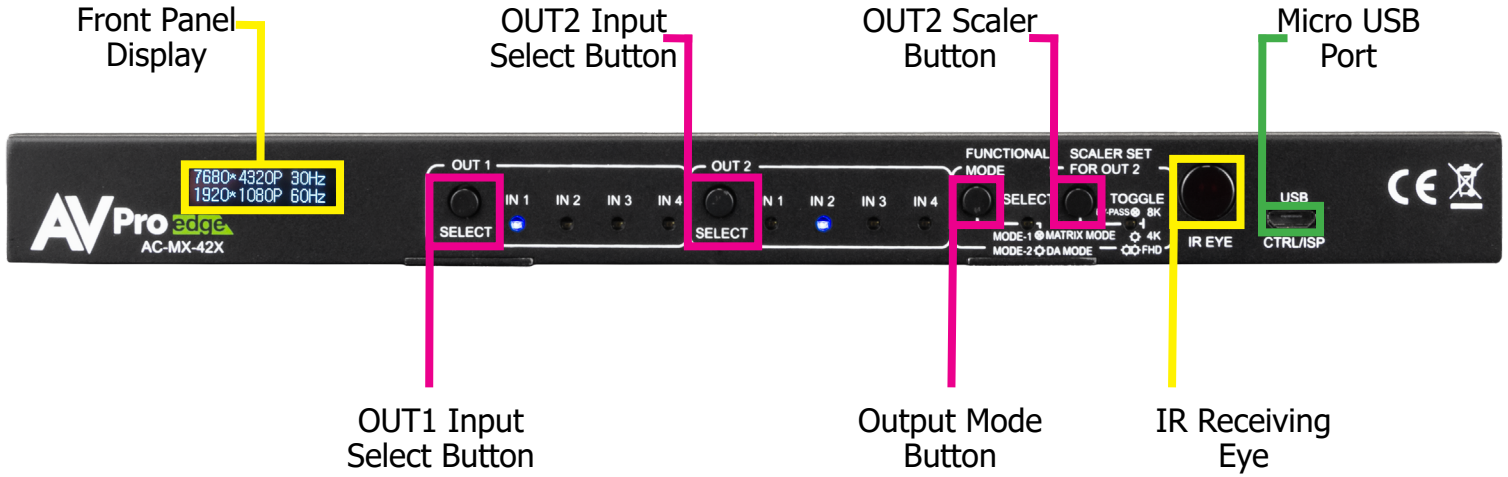
Not Included

*3V CR2025 Battery Required For IR Remote Control

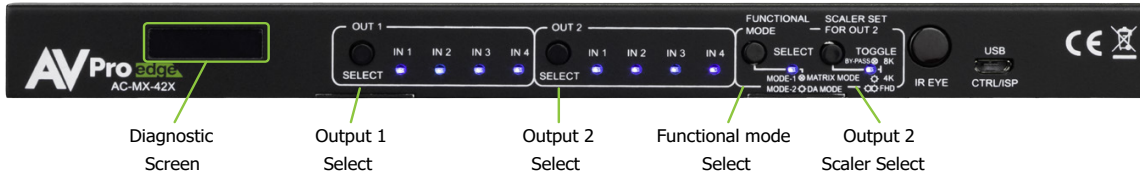
Specifications

VIDEO:	
VIDEO RESOLUTIONS	UP TO 8K 60Hz 4:2:0/8K 30Hz 4:4:4/4K 120Hz
HDR FORMATS/RESOLUTIONS	420, 422, 444 (10 AND 12 DEEP COLOR) HDR10, HDR10+, DOLBY VISION, HLG
COLOR SPACE	YUV (COMPONENT), RGB CCSC: REC. 601, REC. 709, BT2020, DOL. P3 D6500
CHROMA SUBSAMPLING	4:4:4, 4:2:2, & 4:2:0 SUPPORTED
DEEP COLOR	UP TO 16-BIT
SCALING (RESOLUTION, OUTPUT 2 ONLY)	8K TO 4K OR 8K/4K TO 1080P
ADDITIONAL HDMI 2.1 FEATURES	ALLM, VRR, DMS, OFT, HFR
AUDIO:	
AUDIO FORMATS SUPPORTED HDMI	LPCM UP TO 7.1 192 KHZ 24BIT, DOLBY DIGITAL, DOLBY DIGITAL PLUS, DOLBY MAT, DOLBY TRUEHD, DOLBY ATMOS (ALL FORMATS), DOLBY AC-4, DTS DIGITAL, DTS DISCRETE, DTS EXPRESS, DTS Hires AUDIO, DTS MASTER AUDIO, DTS:X
AUDIO FORMATS SUPPORTED EXTRACTED (TOSLINK)	LPCM UP TO 5.1 96KHZ 24 BIT, DOLBY DIGITAL 5.1, DTS Hires AUDIO
AUDIO FORMATS SUPPORTED EXTRACTED (COAX PORT)	PCM 2 CH
AUDIO EXTRACTION LOCATION	FOLLOWS OUTPUT (SELECTABLE)
DISTANCE:	
HDMI IN/OUT (4K60 4:4:4)	UP TO 50 FEET (USING BULLET TRAIN HDMI)
HDMI IN/OUT (W/ AOC CABLE) (4K60 4:4:4)	UP TO 130 FEET (USING BULLET TRAIN AOC)
OTHER:	
BANDWIDTH	400bps (FRL 5)
HDCP	1.4, 2.3 SUPPORT
CONTROL:	
PORTS	LAN, RS232, IR WINDOW
DRIVERS	CA, RTI, ELAN, CRESTRON, URC FOR MORE INFORMATION - SEE DRIVERS PAGE ON AVPROEDGE.COM/DRIVERS
AVPro Wall	YES
PORTS:	
HDMI	TYPE A
LAN	RJ45 W/ WEB INTERFACE/ CONTROL
AUDIO (EXTRACTED DIGITAL)	TOSLINK
AUDIO (EXTRACTED ANALOG)	L/R AUDIO
IR RX	WINDOW ONLY (REMOTE INCLUDED)
RS232	3 PIN TERMINAL BLOCK
ENVIRONMENTAL:	
OPERATING TEMPERATURE	33 TO 105°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)	7 WATTS MAX
POWER SUPPLY - MATRIX	INPUT: AC 100-240V ~ 50/60HZ OUTPUT: DC 5V 2A
DIMENSIONS:	
DIMENSIONS (UNIT ONLY - HEIGHT/DEPTH/WIDTH)	MM: 20.5 X 84 X 232.98 INCH: 0.8 X 3.3 X 9.17
DIMENSIONS (PACKAGED HEIGHT/DEPTH/WIDTH)	MM: 76.2 X 184.1 X 317.5 INCH: 3 X 7.25 X 12.5
WEIGHT (UNIT)	1.25 LBS (0.56 KG)
WEIGHT (PACKAGED)	1.8 LBS (0.82 KG)
*SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE. MASS & DIMENSIONS ARE APPROXIMATE	

Front and Rear Panel Overview



Front Panel



- Diagnostic Screen – Shows Output Signal Information
- Out 1 – Changes the Input Source for HDMI Output 1
- Out 2 – Changes the Input Source for HDMI Output 2
- Functional Mode – Toggle’s switcher function between Matrix and Distribution Amplifier
- Scaler Set for OUT 2 – Set’s Scaler Mode for HDMI Output 2
 1. 8k -> 4k = Solid LED
 2. 8k/4k -> 1080p = Flashing LED

Button Combinations

- Auto-Switch – Press and Hold the desired Out Button for 5 seconds.
 1. On = Flashing Output LED
 2. Off = Solid Output LED
- DHCP Toggle – Press and Hold Functional Mode button for 5 seconds.
 1. On = Out 1 LEDs flash
 2. Off = Out 2 LEDs Flash
- IPv4 Address Read – Press and Hold OUT2 and Scaler Set button for 5 seconds.
 1. Will display on Diagnostics Screen
- Extracted Audio Output Toggle – Press and Hold OUT2 and Functional Mode Button for 5 seconds.
- Factory Reset – Press and Hold Scaler Set Button for 5 seconds.
 1. All LEDs will flash

OR



Initial Setup: WebUI

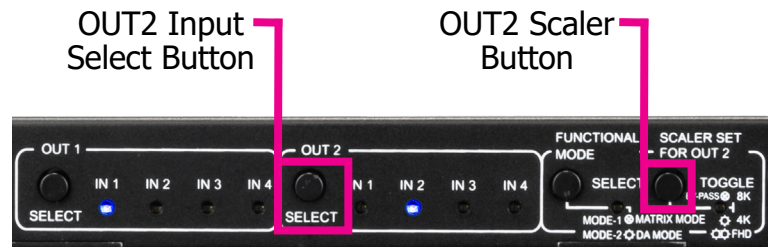
The AC-MX-42X can be controlled using the Micro USB port, 3pin RS232, or over TCP/IP using the LAN connection. For initial setup it is recommended to connect the matrix to a local area network (LAN) and use a computer on the same network in conjunction with the built in WebUI. After making all the physical connections, the first step will be to check for any Firmware Updates. The below steps are an example of this setup, other control options are covered in separate sections of this user manual.

1. Connect the HDMI Input sources to the HDMI Inputs on the back of the matrix.
2. Connect the HDMI/devices to the HDMI Outputs.
3. Connect the network LAN cable to the RJ45 port labeled IP CONTROL.
4. Power on the sources (Inputs).
5. Power on the Output devices/displays.
6. Connect the 5V power supply to power on the matrix and then to a suitable power source.
7. Default DHCP is Enabled (turned on). To view the current IP Address (with the front screen on) press and hold the OUT2 SELECT button and the SCALER SET FOR OUT2 button at the same time for approximately 5 seconds. With the matrix connected to the local network, using a computer on the same network open up a web browser and type the HIP (Host IP Address) into the address bar to navigate to the WebUI.



To view the current IP Address

With the front screen on, press and hold the OUT2 SELECT button and the SCALER SET FOR OUT2 button at the same time for approximately 5 seconds. The current IP Address will be displayed on the front screen.



Requires Firmware Main V0.93.01/NET V1.09 or higher

To Enable or Disable DHCP

- Press and hold the **FUNCTIONAL MODE SELECT** button for approximately 5 seconds.



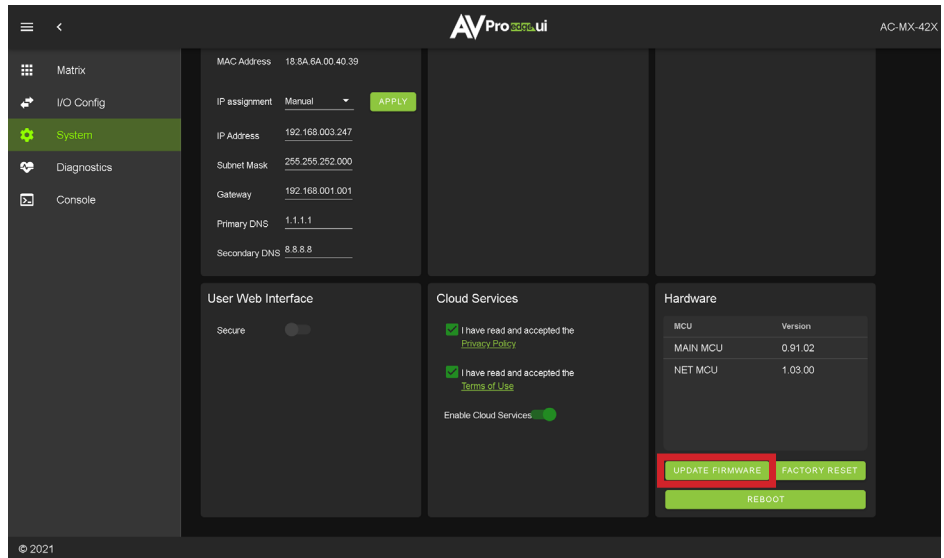
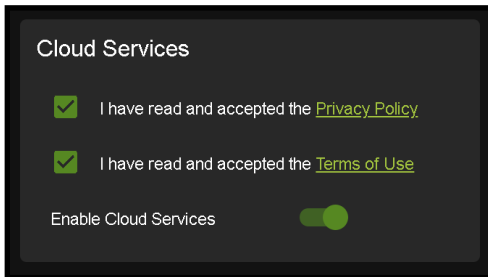
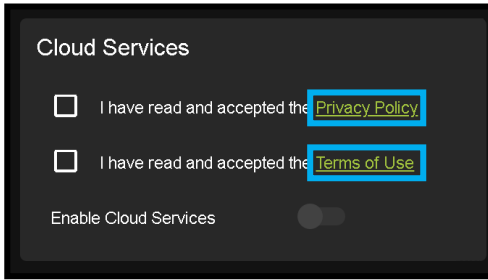
DHCP Enabled
OUT1 Input LEDs will flash once.



DHCP Disabled
OUT2 Input LEDs will flash once.



- 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).



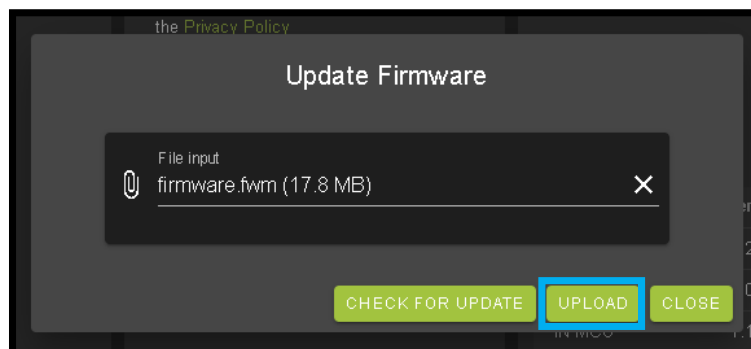
- With the Cloud Services enabled under the Hardware section click the **Update Firmware** button to check for new Firmware OTA (over the air). This will compare the firmware versions currently loaded on the AC-MX-42X and compare to the latest available. If it is up to date, you will see a prompt stating "No update available!"



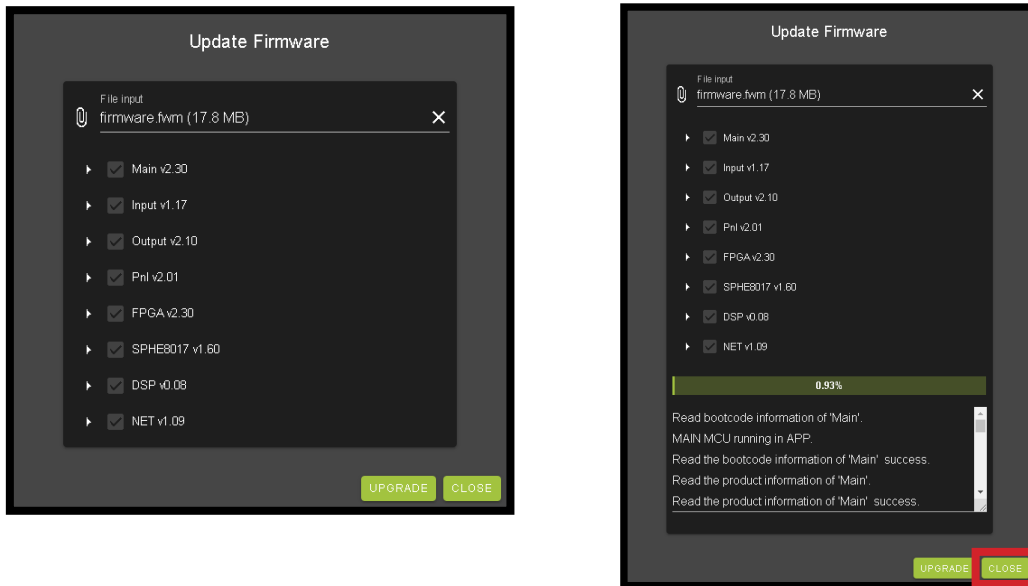
- If an update is available, the following prompt will show. Simply click **UPDATE**.



- 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.



12. 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.

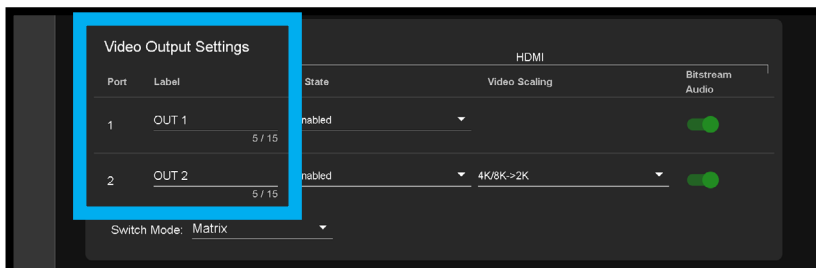


13. Once the progress bar hits 100% click the **CLOSE** button, the firmware upgrade process is complete.

14. 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 Config section. Label the applicable Inputs (Apple TV, Cable Box, Roku, etc) under the **Input Settings - Label**.

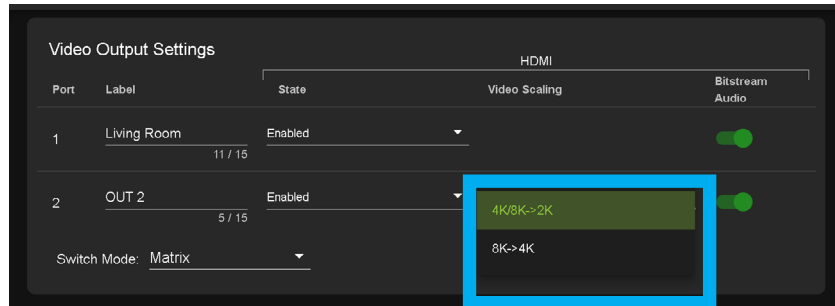


15. Label the Outputs (Living Room, Bedroom, Den, etc) under the **Video Output Settings - Label**.



16. Set the HDMI Video Scaling if needed. HDMI OUT 2 has two options for scaling, they are:

- 4K/8K->2K This will downscale both 4K and 8K resolutions down to 2K (1080P).
- 8k->4k This will downscale an 8K signal down to 4K



17. With the system and all it's 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.

18. Navigate to the Diagnostics Page and use the Signal Present indicator light under HDMI INPUTS to verify the connection. 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.



19. Now verify that the connections to the HDMI outputs. If detected the HDMI OUT tab will display some of the connected sync's EDID information like Manufacturer, Preferred Timing, and Deep Color Support. If these fields are blank verify that the sync devices are powered on and that the HDMI/HD cables are properly connected to the back of the matrix.

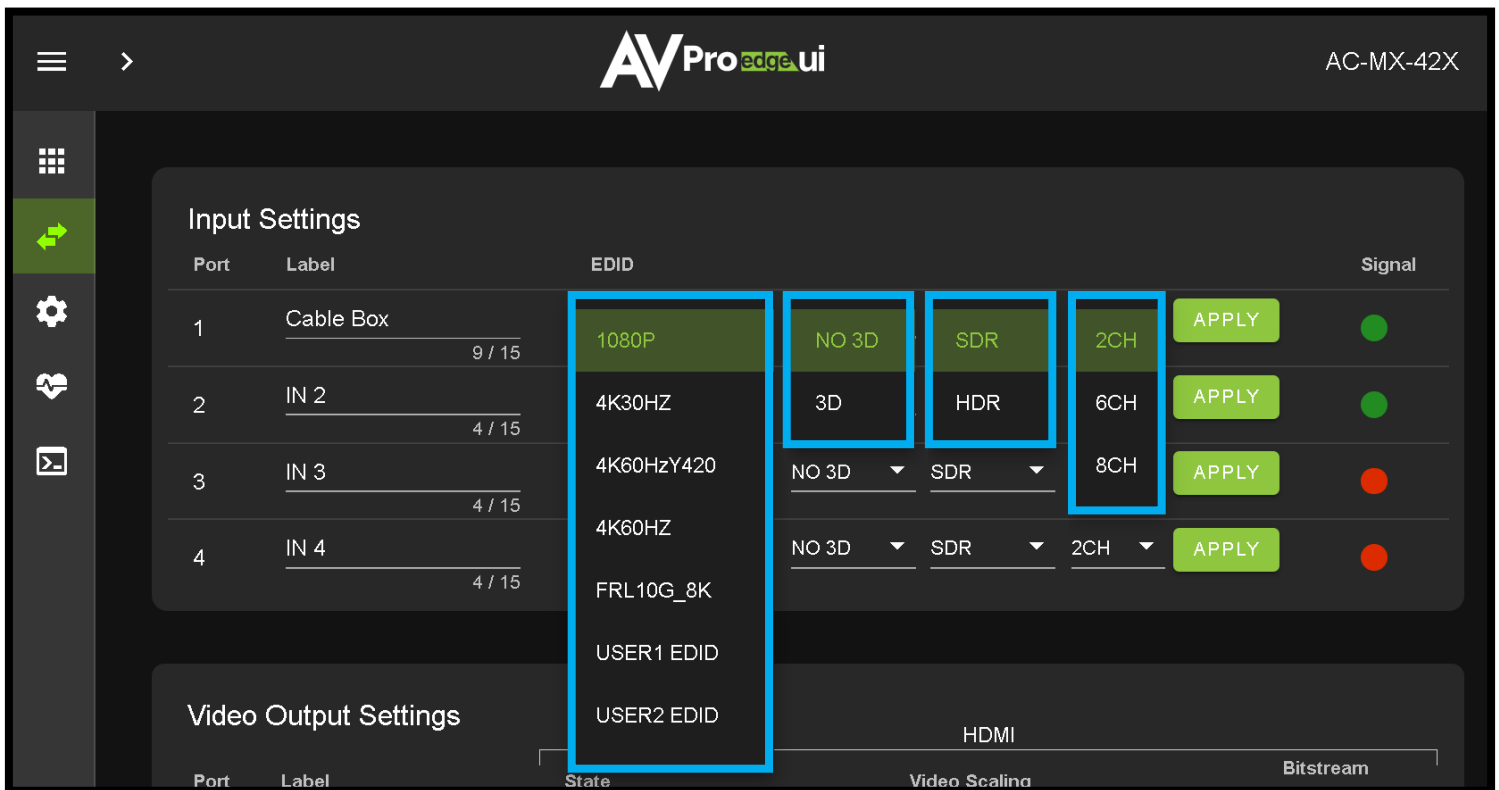
20. With everything connected and powered on, verified you are getting all of your sources on all of your displays.

21. Problems with a source or sync, see the [Troubleshooting section for help on page 34.](#)

Advanced Setup: WebUI Input Settings

After verifying 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 Config 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, 4K60Hz, and FRL 10G_8K. If you select USER1 EDID, then the drop-downs change to allow you to select from and output to copy from. You can select any of the 4 HDMI 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 displays 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.

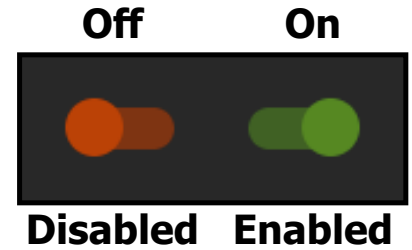
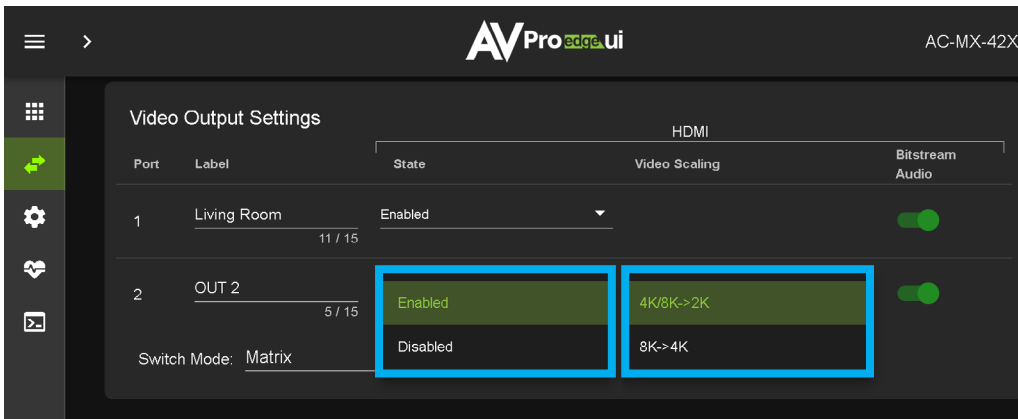


7. Verify you are still getting that source to all your displays and that the image looks correct.

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.

Advanced Setup: WebUI Output Settings

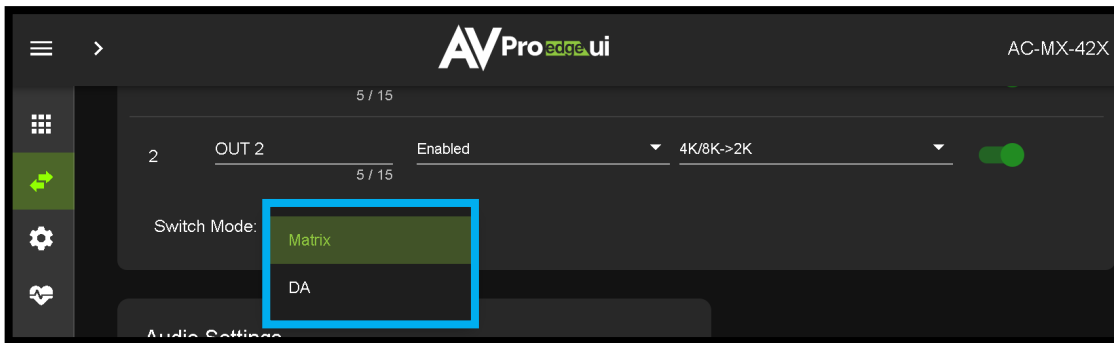
1. Now navigate to the Video Output Settings under I/O Config
2. In addition to the Output Label (name/alias), there are 3 settings for the HDMI outputs.
3. State - Here you can Enable or Disable either HDMI Output 1 or HDMI Output 2.
4. Video Scaling - HDMI OUT1 Video Scaling has two options
 - a. No Scaling - Default, scaling on HDMI OUT1 is turned off
 - b. 4K to 1080P - Any 4K signal will be downscaled to 2K (1080P)
5. Bitstream Audio - Here you can Enable or Disable the Bitstream Audio (the audio over HDMI).



Advanced Setup: WebUI Output Settings Switch Mode

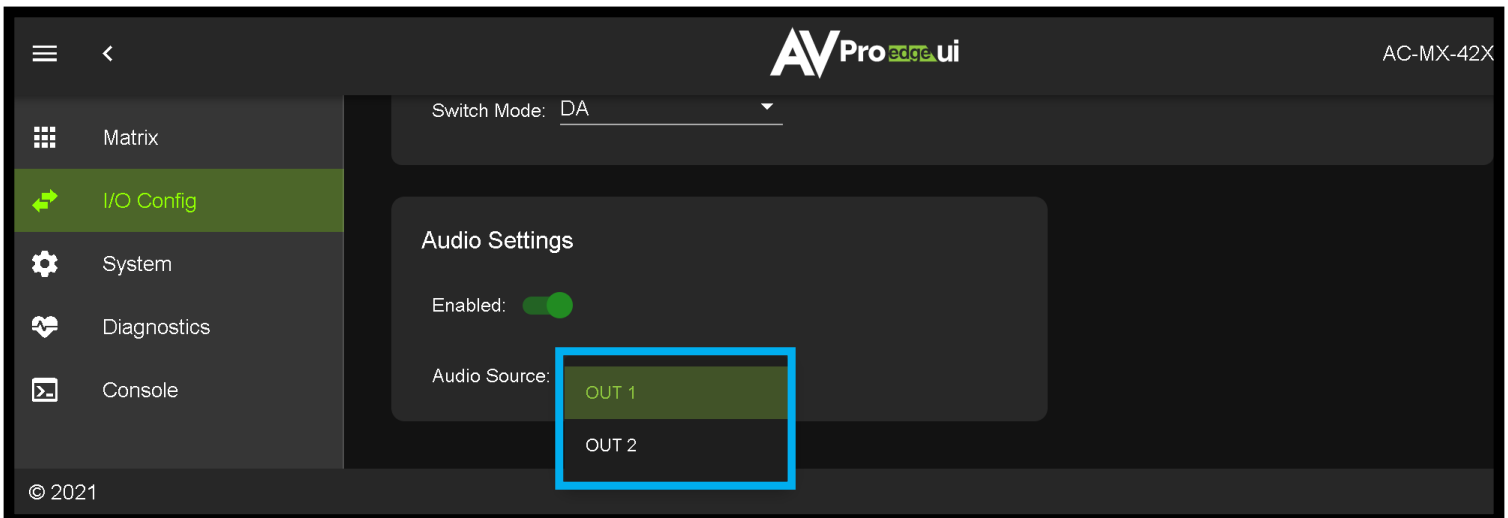
1. The AC-MX-42X has two distinct switching modes, these two modes are:

- a. Matrix** - This mode provides the ability to route any Input to any Output or to both outputs at any time.
- b. DA** - In this mode the AC-MX-42X acts like a Distribution Amplifier as any Input selection change is mirrored on both HDMI Outputs. This means if you change OUT1 from INPUT2 to INPUT3, OUT2 will also change to INPUT3. Any change includes using the front panel buttons, WebUI, or RS-232 & TCP/IP commands.



Advanced Setup: WebUI Extracted Audio Settings

1. The extracted audio ports include Enable/Disable switch and Audio Source selection. This is selectable when in Matrix Mode (Video Output Settings). If in DA Mode the audio will follow the currently selected HDMI INPUT as both HDMI OUT1 and HDMI OUT2 are mirrored.



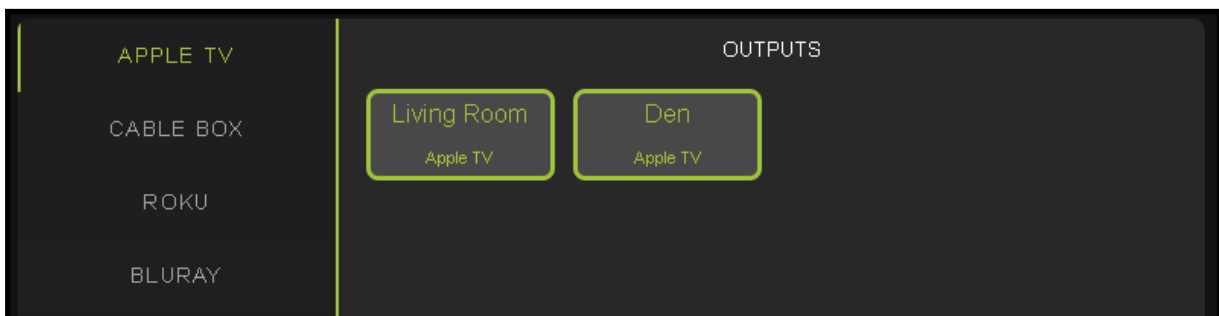
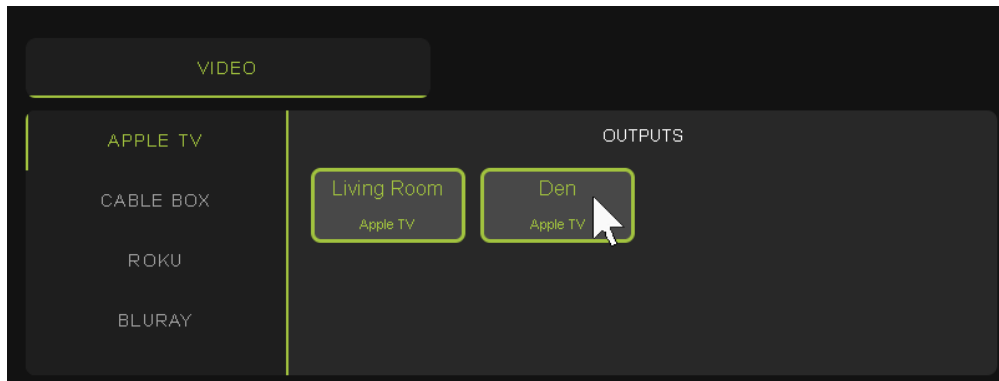
WebUI: Video Matrix

Use this page to route the video INPUTS and OUTPUTS.

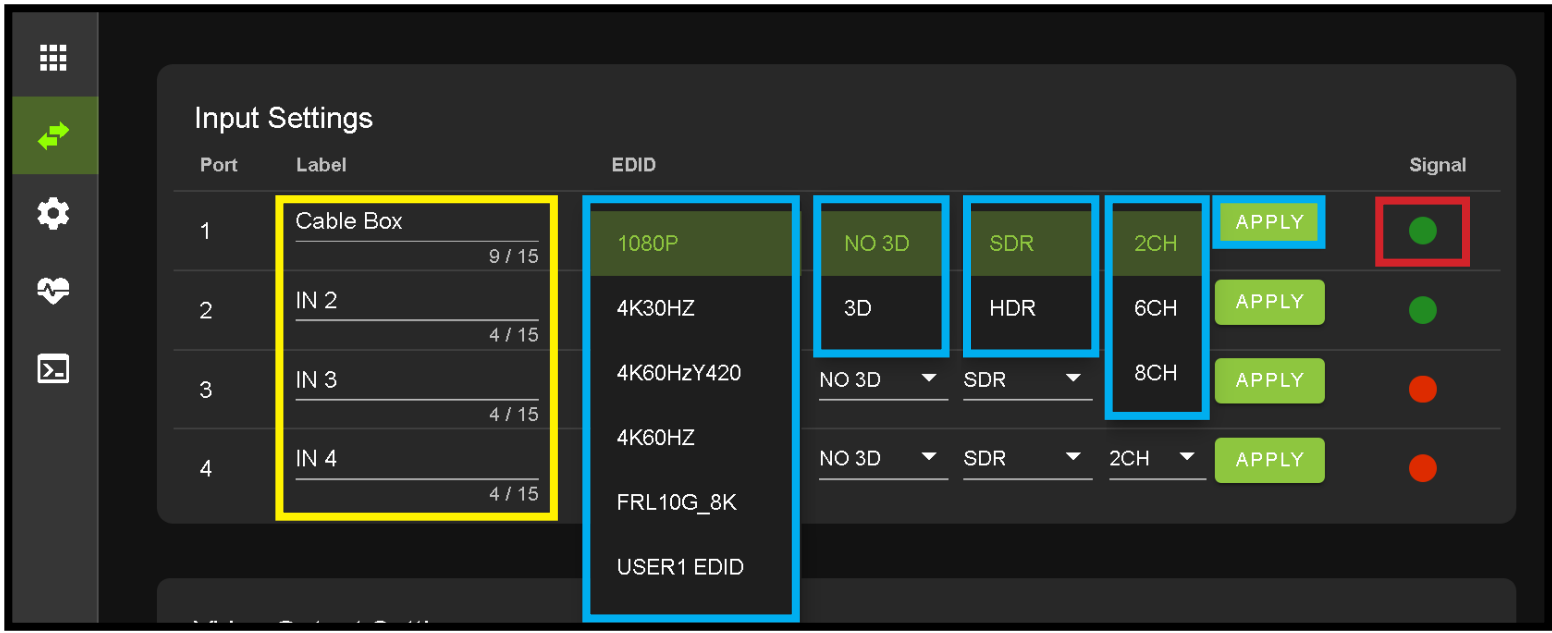
- Click on the INPUT number to select (example below shows IN 1)



- With the INPUT selected simply click on the OUTPUT you want to send that source to (it will highlight green after selected).
- Note: If you rename the INPUTS/OUTPUTS using the I/O Config page they will display here.



WebUI: I/O Config - Input Settings

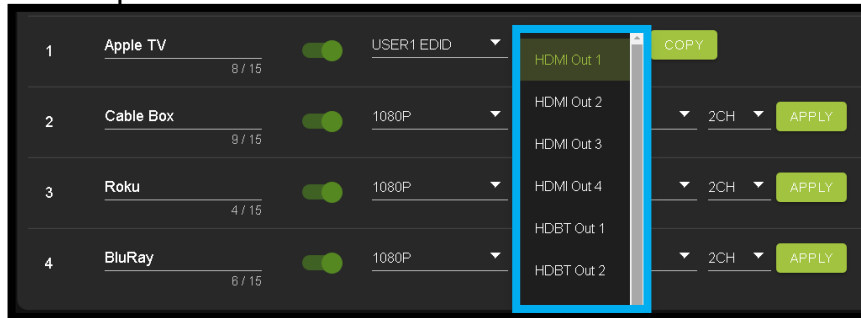


Input Settings Label - Use this to give an name/alias to your inputs (Apple TV, Cable Box, Roku, etc).
 Note: There is a 15 character limit to this field, the name will replace the default "IN #" throughout the rest of the WebUI (for instance the Video Matrix tab).

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

- | | | | |
|------------------|-----------------------|---------------------------|-----------------------|
| 1. 1080P_2CH | 10. 4K60HzY420_3D_2CH | 19. 1080P_3D_2CH_HDR | 28. 4K60HZ_3D_2CH_HDR |
| 2. 1080P_6CH | 11. 4K60HzY420_3D_6CH | 20. 1080P_3D_6CH_HDR | 29. 4K60HZ_3D_6CH_HDR |
| 3. 1080P_8CH | 12. 4K60HzY420_3D_8CH | 21. 1080P_3D_8CH_HDR | 30. 4K60HZ_3D_8CH_HDR |
| 4. 1080P_3D_2CH | 13. 4K60HZ_3D_2CH | 22. 4K30HZ_3D_2CH_HDR | 31. FRL10G_8K_2CH_HD |
| 5. 1080P_3D_6CH | 14. 4K60HZ_3D_6CH | 23. 4K30HZ_3D_6CH_HDR | 32. FRL10G_8K_6CH_HD |
| 6. 1080P_3D_8CH | 15. 4K60HZ_3D_8CH | 24. 4K30HZ_3D_8CH_HDR | 33. FRL10G_8K_8CH_HD |
| 7. 4K30HZ_3D_2CH | 16. 1080P_2CH_HDR | 25. 4K60HzY420_3D_2CH_HDR | |
| 8. 4K30HZ_3D_6CH | 17. 1080P_6CH_HDR | 26. 4K60HzY420_3D_6CH_HDR | |
| 9. 4K30HZ_3D_8CH | 18. 1080P_8CH_HDR | 27. 4K60HzY420_3D_8CH_HDR | |

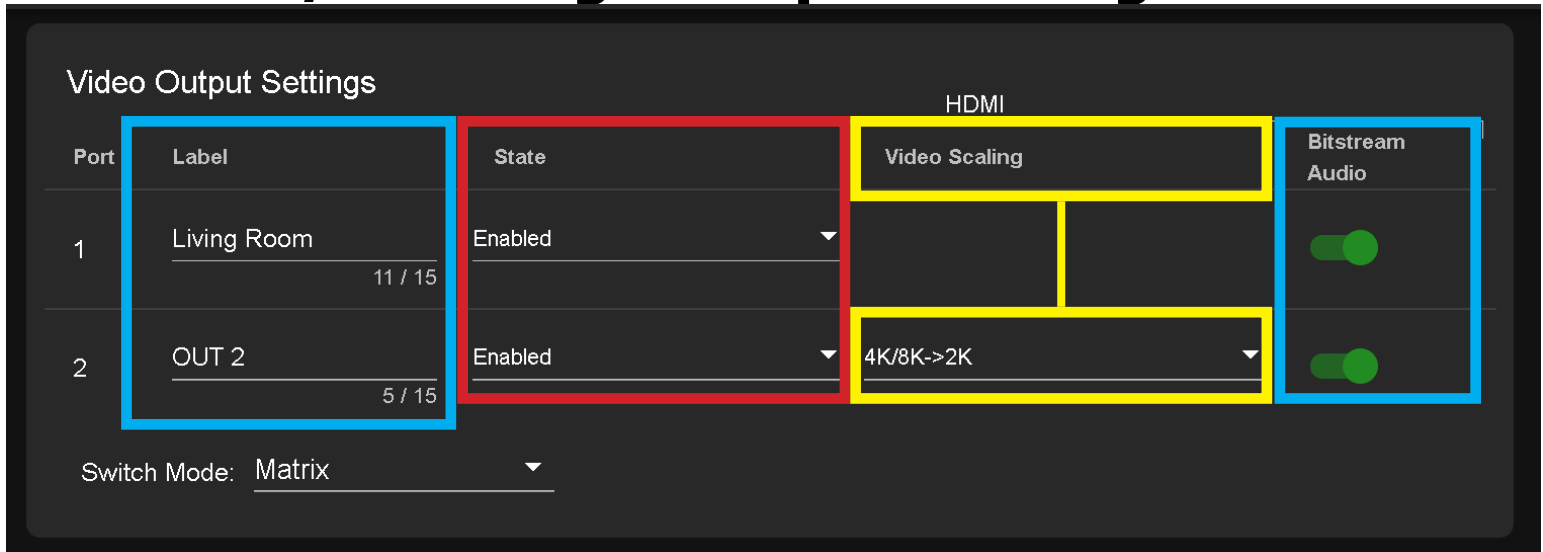
NOTE: If you select USER1 EDID, then drop-downs change to allow you to select from and output to copy from. You can select any of the 4 HDMI outputs then click the COPY button (this replaces the Apply button). This will save that outputs EDID to the USER1 slot.



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 an 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).

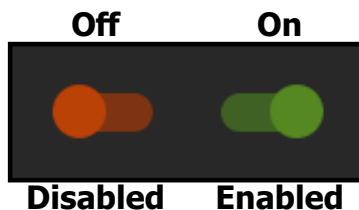
Output Settings State - This is an enable/disable dropdown. By default this will be Enabled. To change the setting click on the box and then select Disabled. Set to Disabled, that OUTPUT will not produce a signal.

Output Settings Video Scaling - HDMI OUT2 has two options for scaling

- 4K/8K -> 2K - This option will take and downscale any 4K resolution or 8K resolution and downscale it to 2K.
- 8K -> 4K - This option will take any 8K signal and downscale it to 4K.

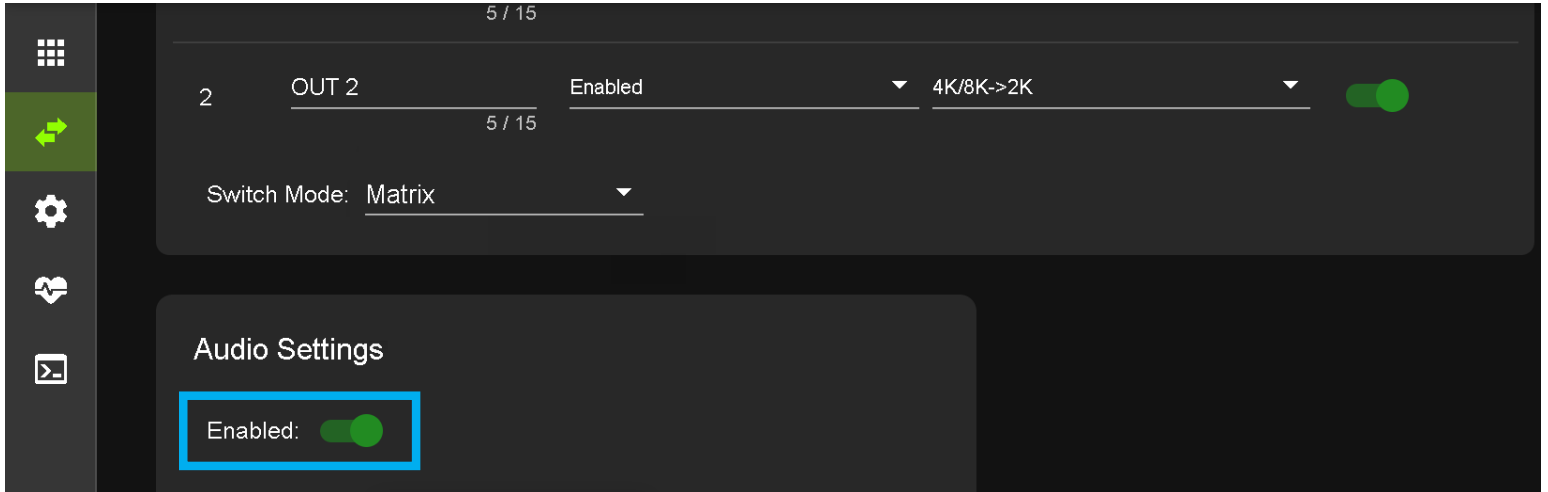
Output Settings Bitstream Audio - This is an enable/disable switch. By default this will be Enabled/Green. To change the setting simply click to switch. Disabled/Red there will be no Audio passed on that HDMI output.

NOTE: This setting has no affect on the Extracted Audio outputs.

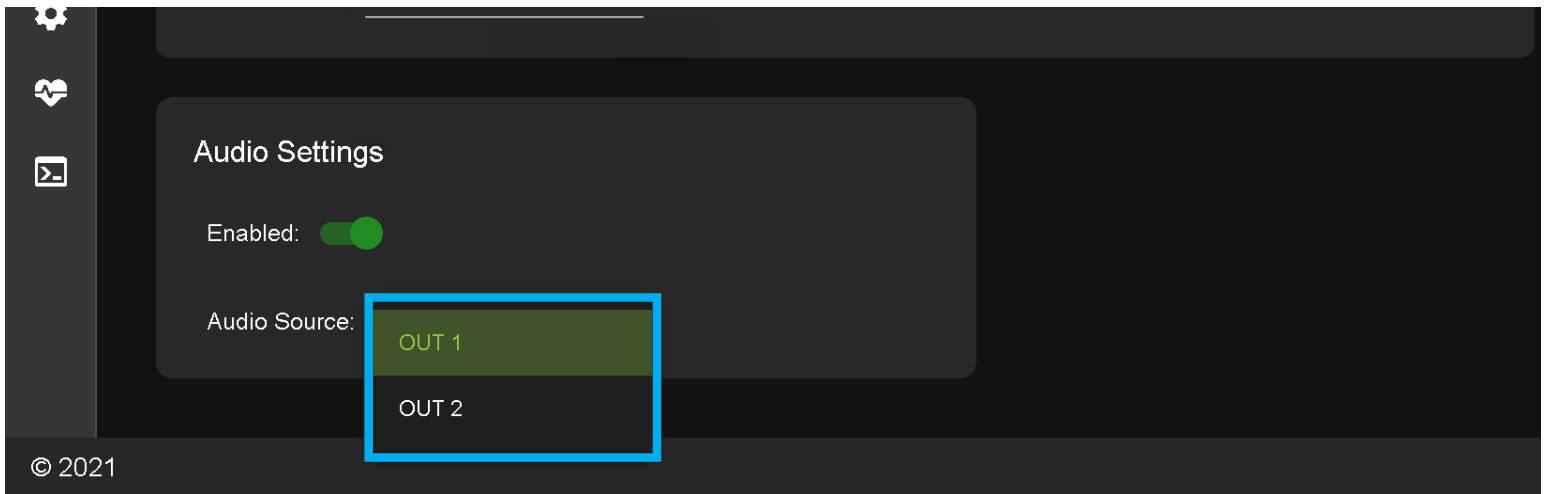


WebUI: I/O Config - Output Settings Cont.

Audio Settings Enable/Disable Switch - Use this switch to Enable/Disable the Extracted Audio Ports.



Audio Source - With Audio Settings switch Enabled, you can use this dropdown to select which output you want the extracted audio to follow.



WebUI: System - IP Settings

This area contains relevant network information of the AC-MX-42X.

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

Model Name - Displays the AVProEdge Model/Part number.

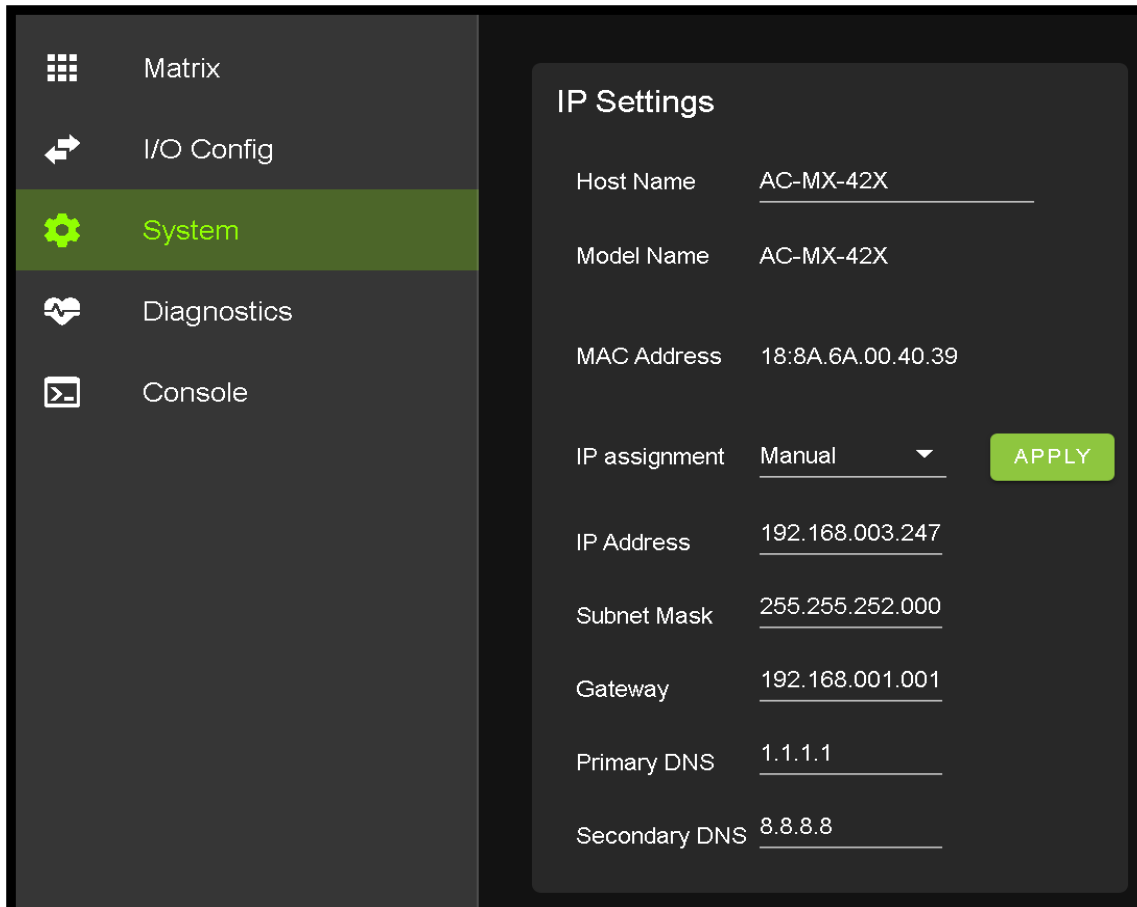
Serial Number - Displays the Serial Number of the matrix.

MAC Address - Displays the devices MAC Address.

IP assignment - This drop-down has two options.

1. Manual
2. Automatic (DHCP)

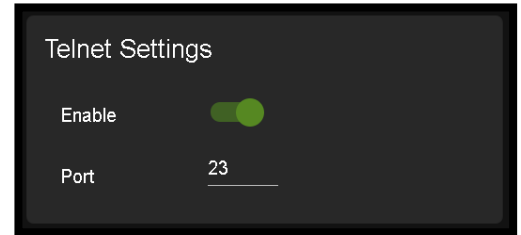
Default out of the box will be set to Automatic (DHCP), the IP Address, Subnet Mask, Gateway, Primary DNS, and Secondary DNS will be assigned by your network controller. If you select Manual, you can use the text fields to enter your own Network settings. Once all fields have been filled out, click the 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-MX-42X. There are two fields that can be changed, Enable/Disable switch and the 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-MX-42X. You can use the text field to enter a number or use the Up/Down arrow buttons to increase/decrease the number.

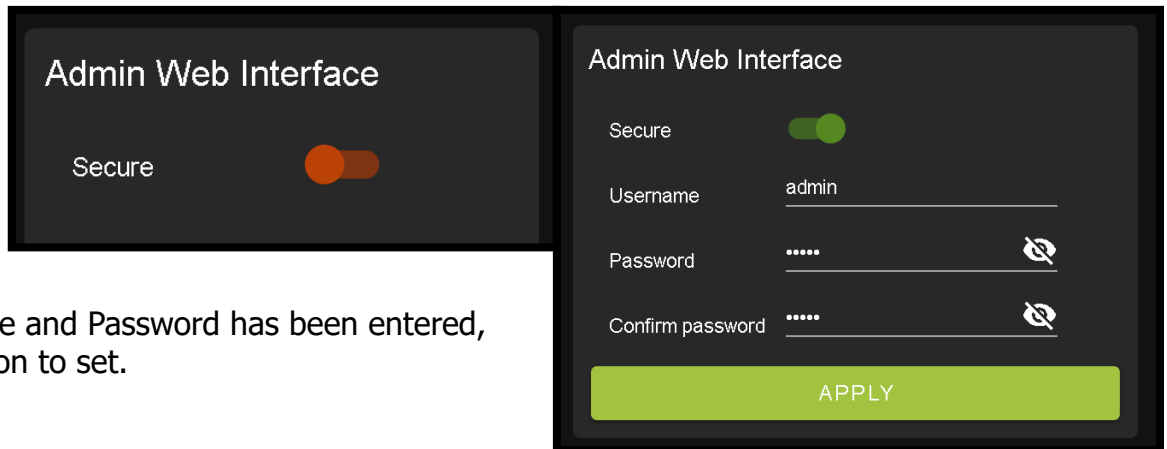


WebUI: System - Admin Web Interface

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.

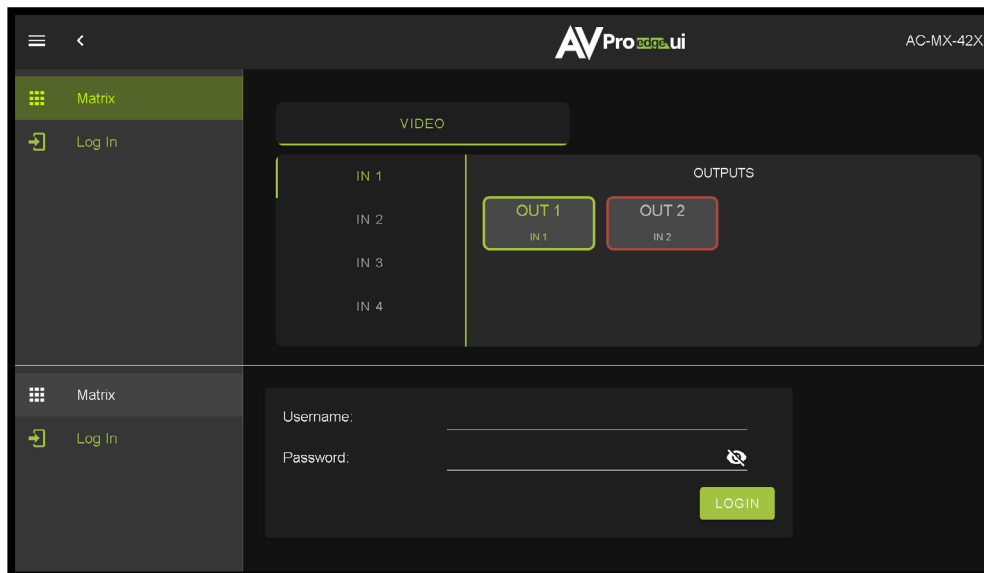
Default Username - admin

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.

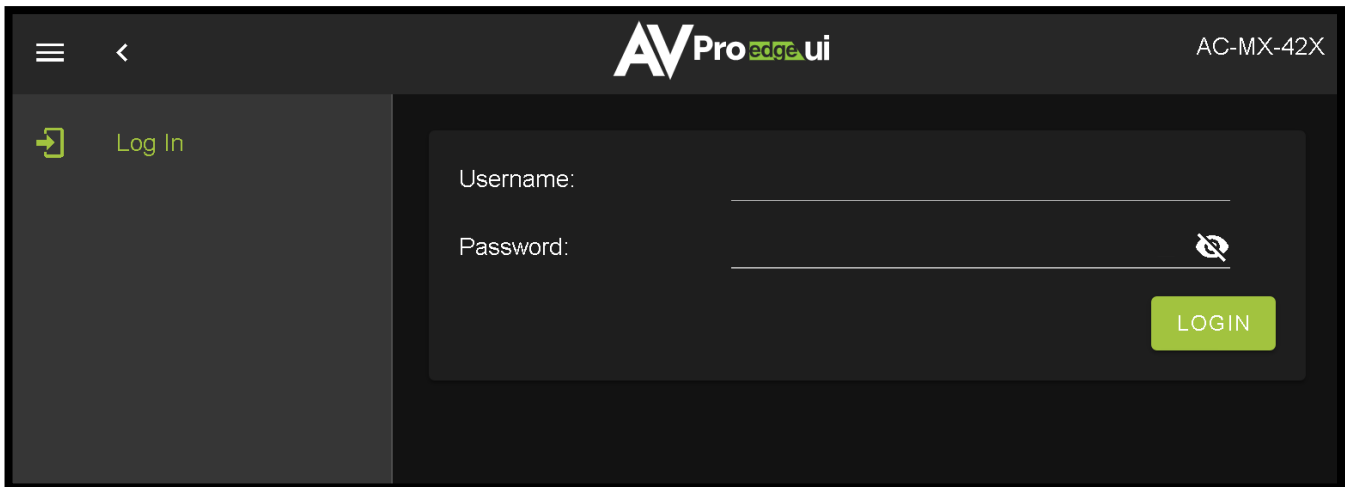
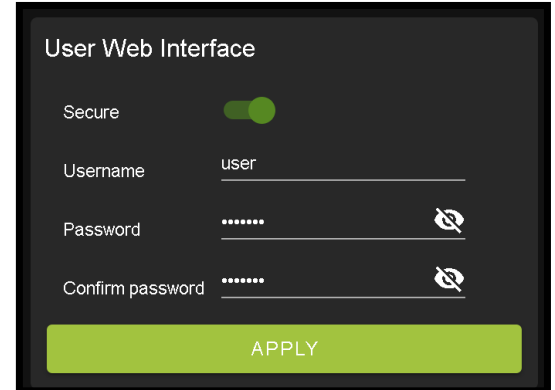
Default Username - user

Default Password - user123

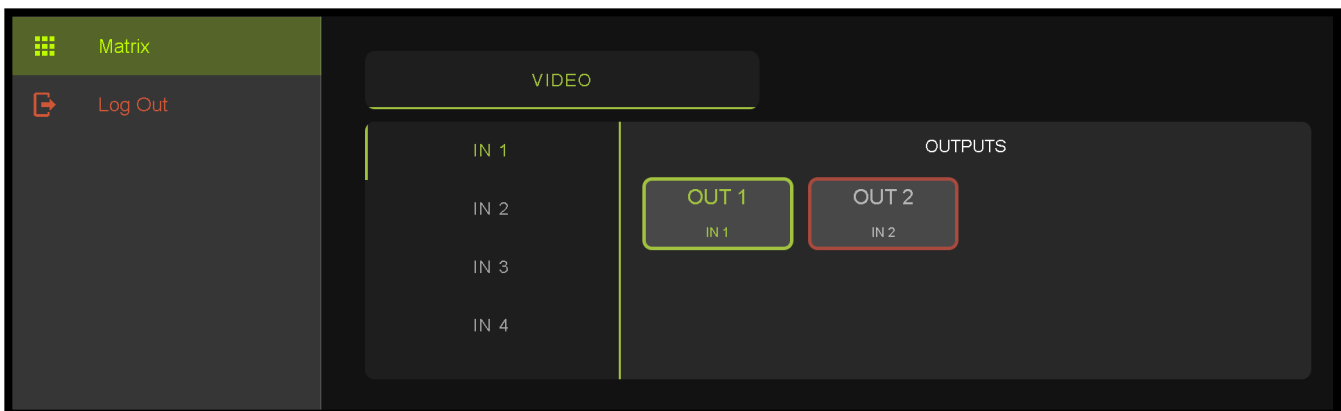
Once the desired Username and Password has been entered, click the green APPLY button to set.

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).

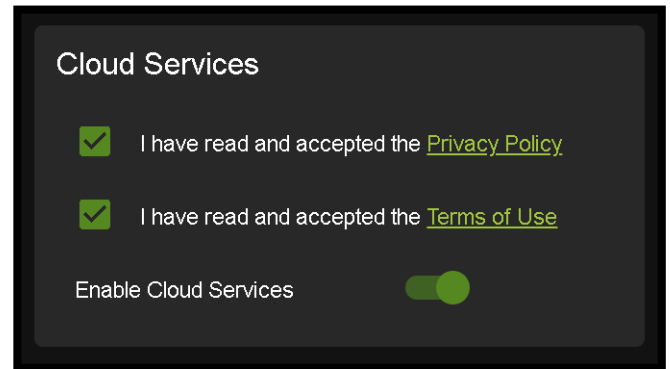
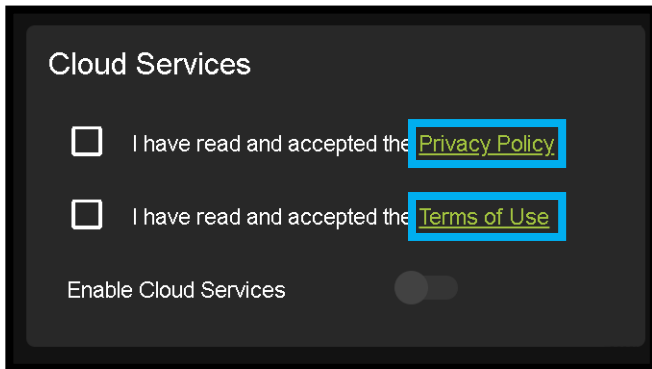


WebUI: System - Cloud Services

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-MX-42X and compare to the latest available. If it is up to date, you will see a prompt stating "No update available!" click [CLOSE](#) to exit.

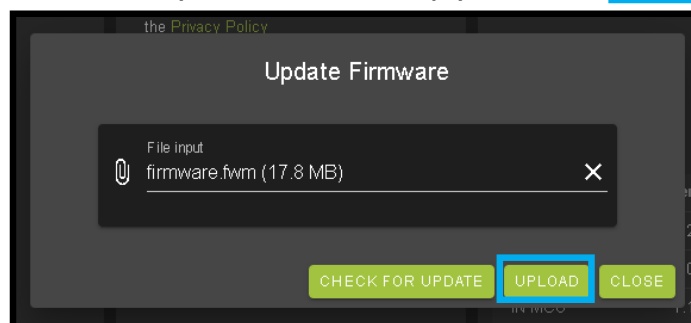


If an update is available, the following prompt will show. Simply click the [UPDATE](#) button to load.



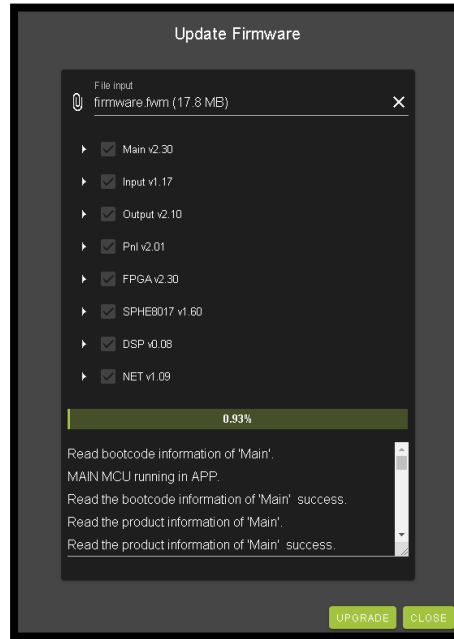
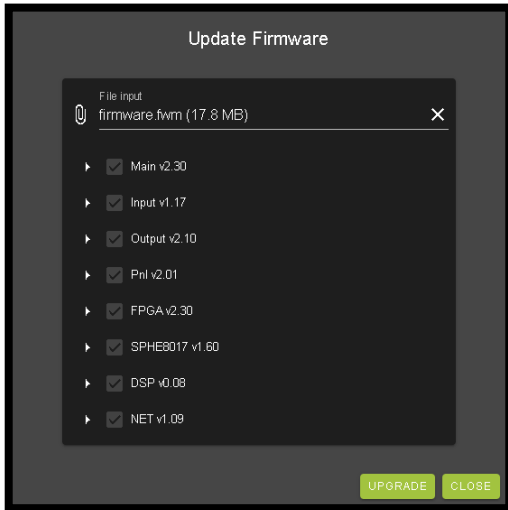
NOTE: When loading firmware (depending on the firmware files that are being updated) some settings will revert back to Factory Defaults. Take note of the I/O Config tab. Settings like the INPUT/OUTPUT labels, EDID Settings, Video Scaling, Audio Settings, etc. as they will have to be re-applied after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

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



WebUI: System - Firmware Update Cont.

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 not newer, then that update will be skipped automatically.



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

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

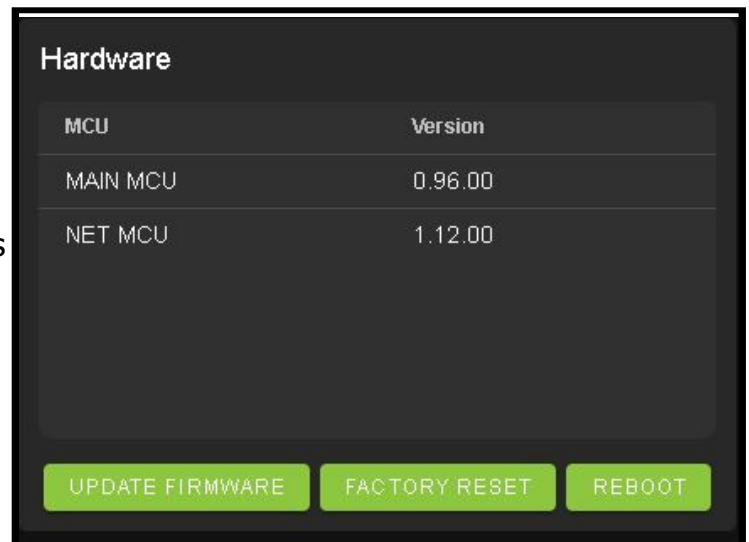
WebUI: System - Hardware

MCU/Version - Lists the current Firmware Versions

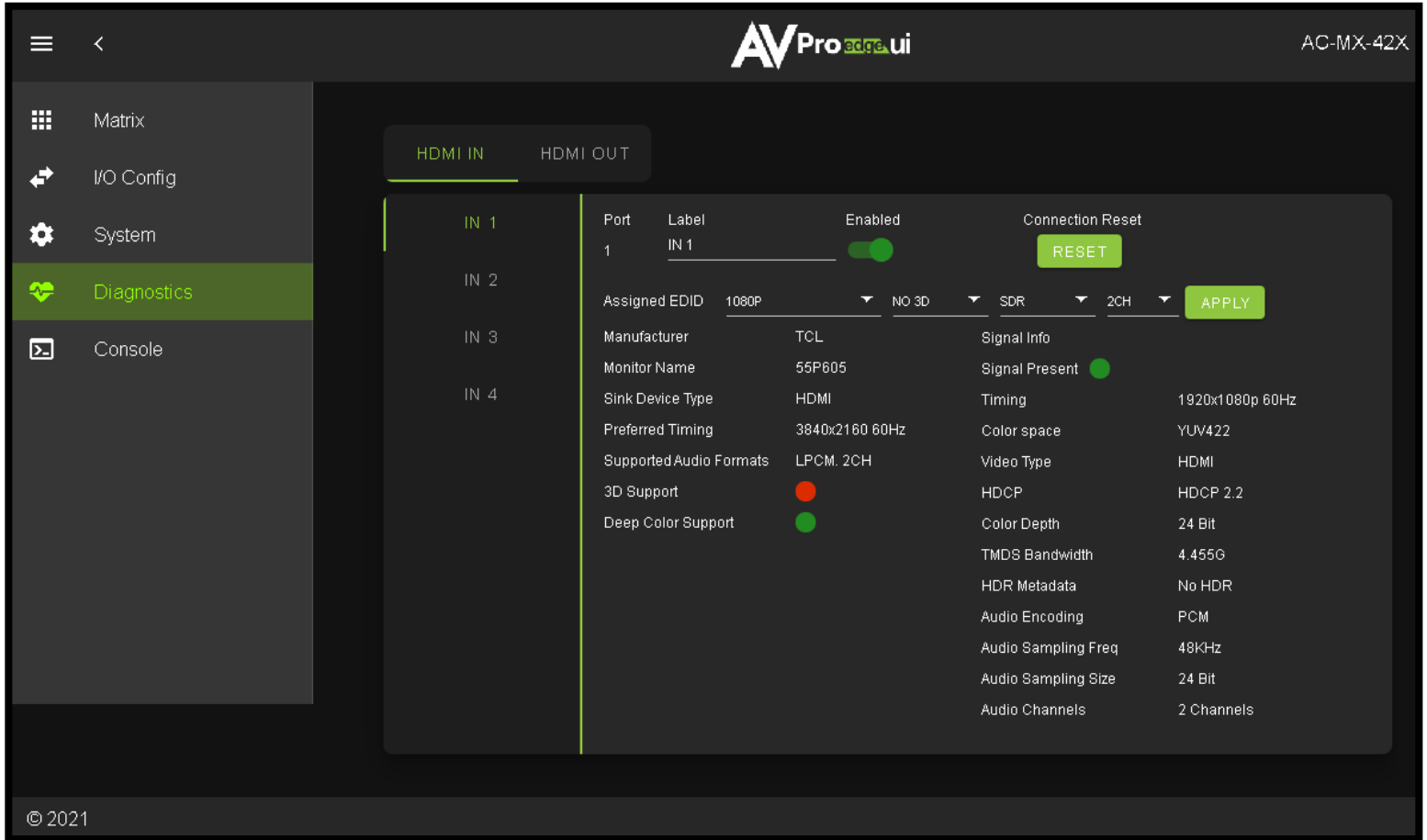
UPDATE FIRMWARE - Check/upload firmware.

FACTORY RESET - Restores matrix to Factory Defaults

REBOOT - Reboots the AC-MX-42X

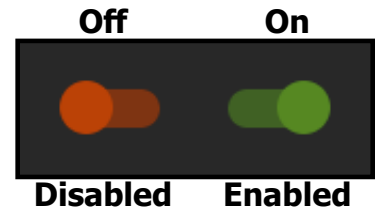


WebUI: Diagnostics - HDMI IN



Input Settings Label - Use this to give an 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).

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.

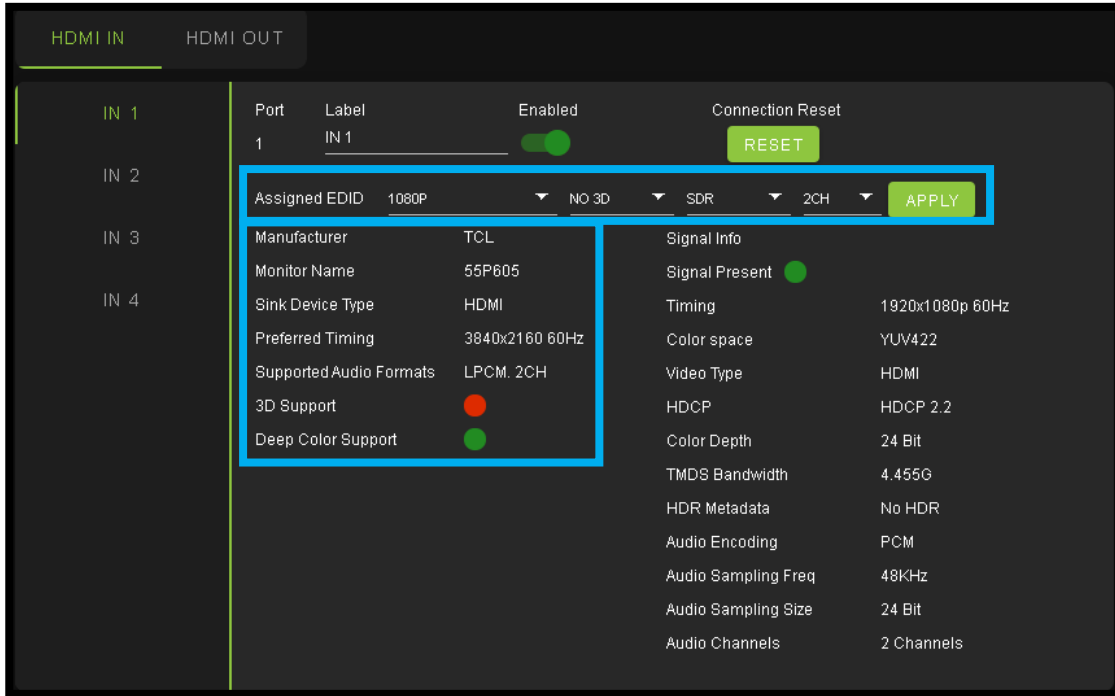


Connection Reset - Use this button to perform a reset of the HDMI Input connection.

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

- | | | | |
|------------------|-----------------------|---------------------------|-----------------------|
| 1. 1080P_2CH | 10. 4K60HzY420_3D_2CH | 19. 1080P_3D_2CH_HDR | 28. 4K60HZ_3D_2CH_HDR |
| 2. 1080P_6CH | 11. 4K60HzY420_3D_6CH | 20. 1080P_3D_6CH_HDR | 29. 4K60HZ_3D_6CH_HDR |
| 3. 1080P_8CH | 12. 4K60HzY420_3D_8CH | 21. 1080P_3D_8CH_HDR | 30. 4K60HZ_3D_8CH_HDR |
| 4. 1080P_3D_2CH | 13. 4K60HZ_3D_2CH | 22. 4K30HZ_3D_2CH_HDR | 31. FRL10G_8K_2CH_HD |
| 5. 1080P_3D_6CH | 14. 4K60HZ_3D_6CH | 23. 4K30HZ_3D_6CH_HDR | 32. FRL10G_8K_6CH_HD |
| 6. 1080P_3D_8CH | 15. 4K60HZ_3D_8CH | 24. 4K30HZ_3D_8CH_HDR | 33. FRL10G_8K_8CH_HD |
| 7. 4K30HZ_3D_2CH | 16. 1080P_2CH_HDR | 25. 4K60HzY420_3D_2CH_HDR | |
| 8. 4K30HZ_3D_6CH | 17. 1080P_6CH_HDR | 26. 4K60HzY420_3D_6CH_HDR | |
| 9. 4K30HZ_3D_8CH | 18. 1080P_8CH_HDR | 27. 4K60HzY420_3D_8CH_HDR | |

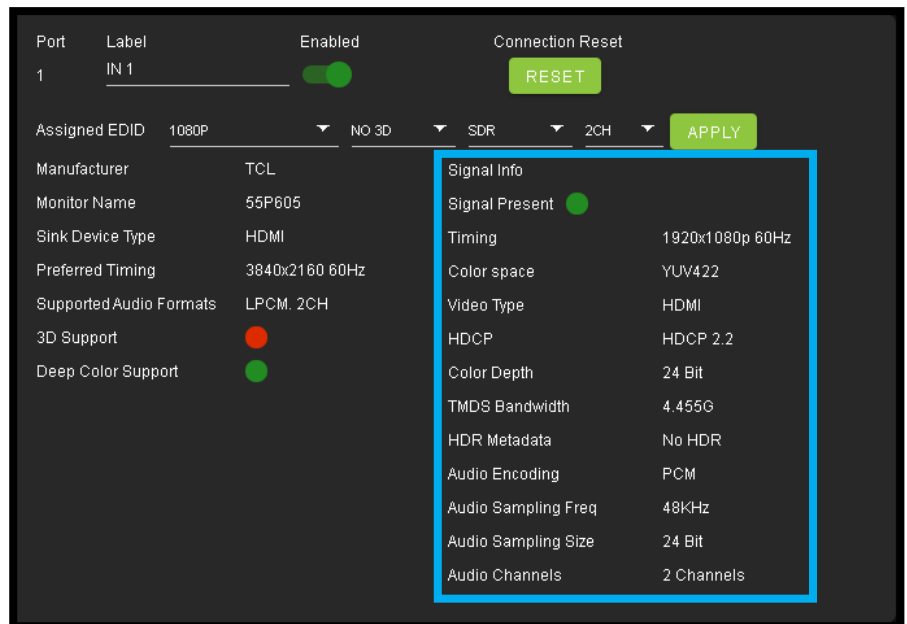
WebUI: Diagnostics - HDMI IN Cont.



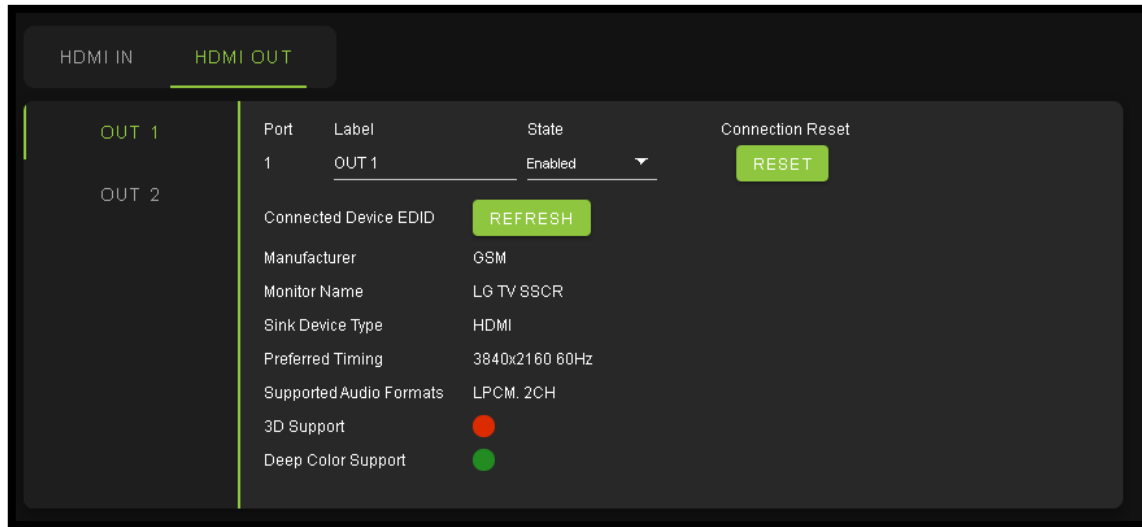
On the left, you will see the current applied EDID information. In the example above, you will see a canned 1080P - No 3D - SDR - 2CH EDID applied to IN 1. Any EDID change, once applied will display here.

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 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 (future update)

WebUI: Console

There is a built in Command Console

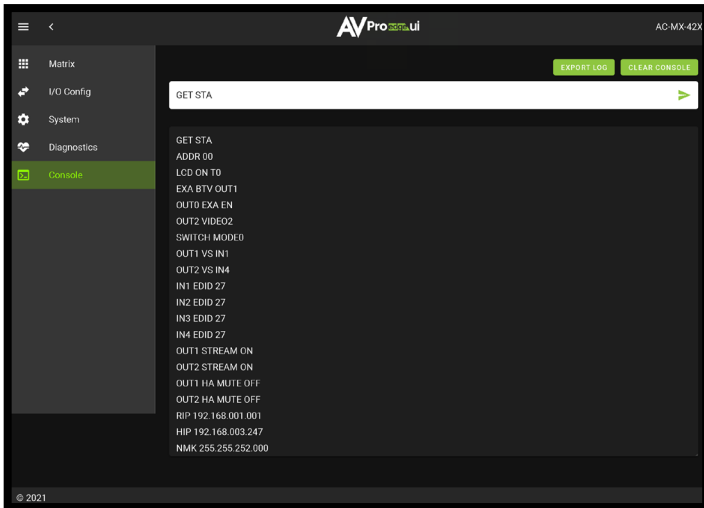
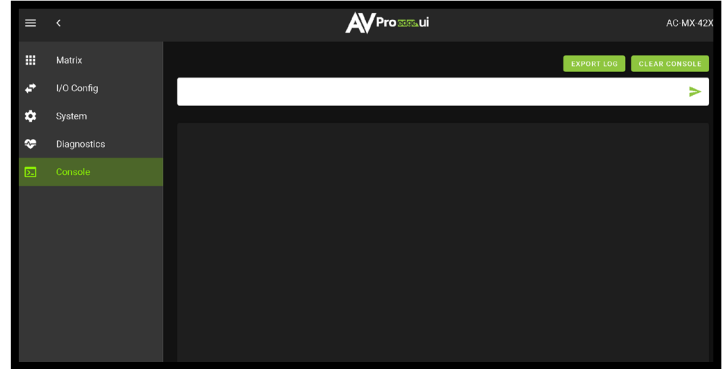
Using the command API (command list) you can send device specific commands or use as a live monitor while sending commands from a control system (helpful in troubleshooting).

Example

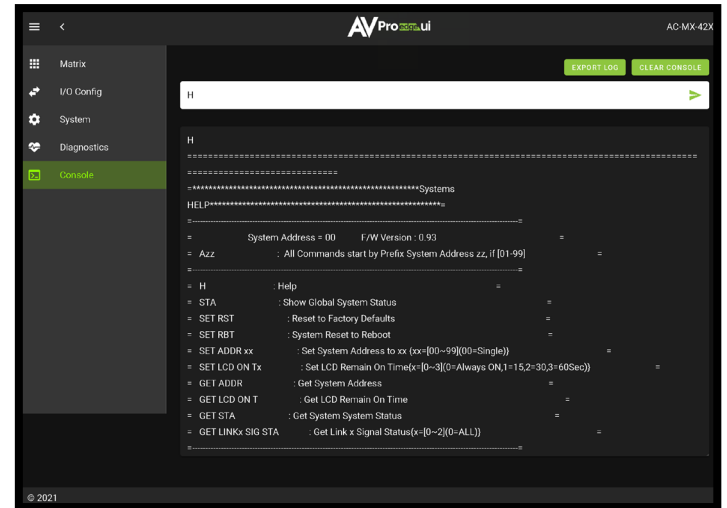
1. Click in the white box and type
 - a. GET STA

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

The the command response will show in the field below.



Example - "GET STA"
Get status



Example - "H"
Help command
Returns all Available Commands

*NEW to NET MCU Firmware Version 1.07

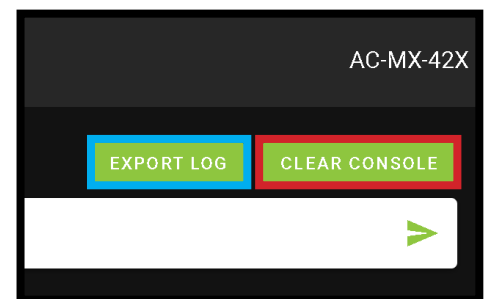
EXPORT LOG - Button

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



CLEAR CONSOLE - Button

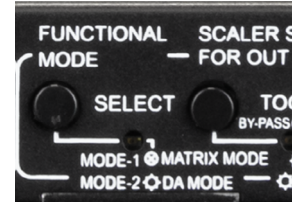
This button will clear the current console session.



Front Panel Control - Functional Mode Button

The AC-MX-42X has two switching modes Matrix and DA (Distribution Amplifier).

1. Matrix Mode - The two outputs can be switched independently by pressing either the OUT1 SELECT button or the OUT2 SELECT button.



Note: In MATRIX MODE the FUNCTIONAL MODE led will be off.

2. DA Mode - The two outputs will switch together. This means if you switch OUT1 to INPUT2 with the front panel OUT1 SELECT button, OUT2 will also switch to INPUT2. This is the same if you change inputs using any of the available control options (front panel, LAN, RS-232, IR, etc).



Note: In DA MODE the FUNCTIONAL MODE led will be on.

Front Panel Control - Matrix Mode Switching

The AC-MX-42X can switch the two OUTPUTS independently from the front panel by pressing the OUT1 SELECT or OUT2 SELECT buttons

1. Press the OUT1 SELECT button to cycle through the 4 available inputs.
2. Press the OUT2 SELECT button to cycle through the 4 available inputs.



Front Panel Control - DA Mode Switching

The AC-MX-42X can switch the two OUTPUTS at the same time from the front panel by pressing either the OUT1 SELECT or OUT2 SELECT button.

1. Press the OUT1 SELECT button to cycle through the 4 available inputs on both outputs.
2. Press the OUT2 SELECT button to cycle through the 4 available inputs on both outputs.



Front Panel Control - Scaling in Matrix Mode

The AC-MX-42X has a scaler built into output 2. When the AC-MX-42X is in MATRIX Mode there are two options available for down-scaling.

- 4K/8K > 2K (takes a 4K or 8K signal and down-scales to 2K), LED is flashing.
- 8K > 4K (takes an 8K signal and down-scales it to 4K), LED is solid.

Front Panel Control - Scaling in DA Mode

When the AC-MX-42X is in DA Mode there are three options available for down-scaling on OUT2.

- Off - No scaling applied, LED is off.
- 4K/8K > 2K (takes a 4K or 8K signal and down-scales to 2K), LED is flashing.
- 8K > 4K (takes an 8K signal and down-scales it to 4K), LED is solid.



Audio Output

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.

1. 2CH Analog Port - Supports 2CH PCM audio only, which is ideal for 2 Channel systems and zoned audio systems.
2. Toslink Audio Port - Supports PCM, LPCM (up to 7CH), Dolby Digital, Dolby Digital Plus, DTS, DTS-HD, which are ideal for multi-channel audio systems and older AVR 's that do not support higher bandwidth A/V signals.
3. Need to down-mix for combination, uncompressed and 2CH systems? Check out the AXION series of matrices for down-mixing options. <https://www.avproedge.com/>

NOTE - The 2CH Analog port and the Toslink port are mirrored. If the audio codec coming into the AC-MX-42X is above 2-Channel, the Analog port will be silent, however the audio will still come out of Toslink.

Front Panel Control - EDID Management:

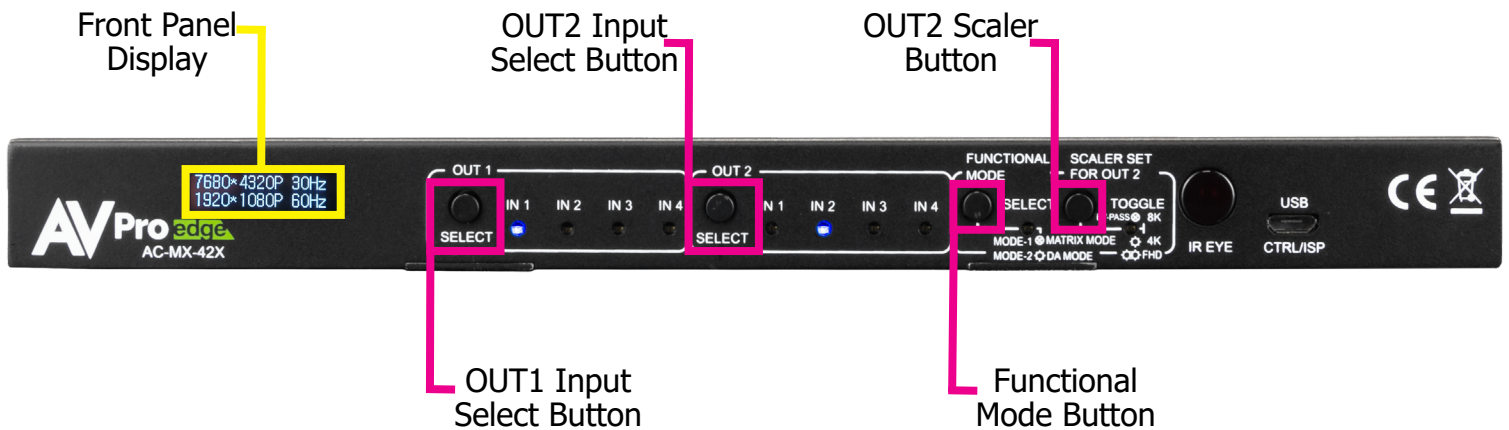
This matrix has 33 factory defined EDID settings. It also has 3 user defined EDID memories. The user EDID memories are independent to each input and can be set separately. The user defined EDID can be uploaded using the free PC Control software or RS-232. In addition, you can choose to read the EDID 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 2CH SDR 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 both "Out 1" and "Out 2" buttons for 5 seconds. All LED flash one time. You are now in EDID management state.
2. In the EDID management state, press the "Out 1" button to toggle to the input you want to set the EDID for. (1=IN1, 2=IN2, 3=IN3, 4=IN4)
3. Press the "Out 2" button to toggle through the EDID index.
4. Once you land on the EDID you want to use, press and hold the "Out 2" button for 3 seconds. All LEDs will flash one time indicating success

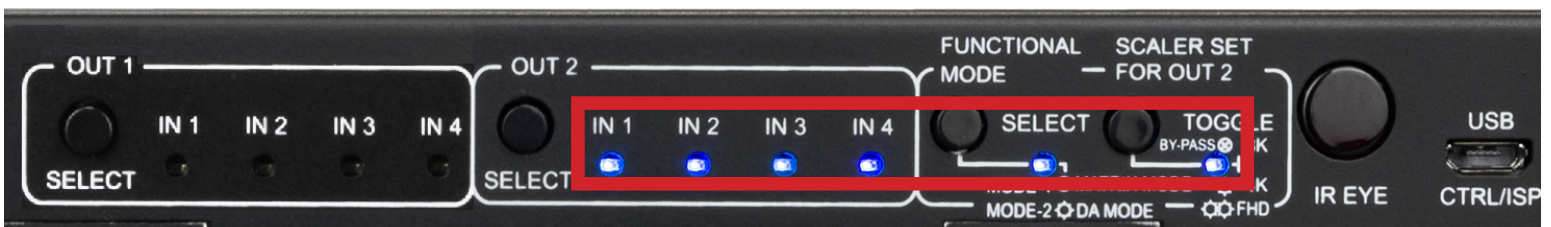
NOTE: When in the EDID management state, if you are inactive for 10 seconds it will return to the normal state automatically. All LEDs flash one time.



*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.

NOTE: See next page for diagram showing the EDID list and their corresponding LED lights.

In order to obtain Dolby Atmos, DTS:X, or other HBR Surround formats, the EDID must be copied from a capable device.



The LED Status :							
LED	0(OFF)			1(ON)			EDID
	(OUT2) IN1	(OUT2) IN2	(OUT2) IN3	(OUT2) IN4	Functional Mode LED	Scaler LED	
Input1 ~ Input4(HDMI1, HDMI2, HDMI3, HDMI4) EDID Settings (Output1[IN1][IN2][IN3][IN4] LED)							
0	0	0	0	0	0	0	0: 1080P_2CH(PCM)
1	1	0	0	0	0	0	1: 1080P_6CH
2	0	1	0	0	0	0	2: 1080P_8CH
3	1	1	0	0	0	0	3: 1080P_3D_2CH(PCM)
4	0	0	1	0	0	0	4: 1080P_3D_6CH
5	1	0	1	0	0	0	5: 1080P_3D_8CH
6	0	1	1	0	0	0	6: 4K30HZ_3D_2CH(PCM)
7	1	1	1	0	0	0	7: 4K30HZ_3D_6CH
8	0	0	0	1	0	0	8: 4K30HZ_3D_8CH
9	1	0	0	1	0	0	9: 4K60HZ(Y420)_3D_2CH(PCM)
10	0	1	0	1	0	0	10: 4K60HZ(Y420)_3D_6CH
11	1	1	0	1	0	0	11: 4K60HZ(Y420)_3D_8CH
12	0	0	1	1	0	0	12: 4K60HZ_3D_2CH
13	1	0	1	1	0	0	13: 4K60HZ_3D_6CH
14	0	1	1	1	0	0	14: 4K60HZ_3D_8CH
15	1	1	1	1	0	0	15: 1080P_2CH(PCM)_HDR
16	0	0	0	0	1	0	16: 1080P_6CH_HDR
17	1	0	0	0	1	0	17: 1080P_8CH_HDR
18	0	1	0	0	1	0	18: 1080P_3D_2CH(PCM)_HDR
19	1	1	0	0	1	0	19: 1080P_3D_6CH_HDR
20	0	0	1	0	1	0	20: 1080P_3D_8CH_HDR
21	1	0	1	0	1	0	21: 4K30HZ_3D_2CH(PCM)_HDR
22	0	1	1	0	1	0	22: 4K30HZ_3D_6CH_HDR
23	1	1	1	0	1	0	23: 4K30HZ_3D_8CH_HDR
24	0	0	0	1	1	0	24: 4K60HZ(Y420)_3D_2CH(PCM)_HDR
25	1	0	0	1	1	0	25: 4K60HZ(Y420)_3D_6CH_HDR
26	0	1	0	1	1	0	26: 4K60HZ(Y420)_3D_8CH_HDR
27	1	1	0	1	1	0	27: 4K60HZ_3D_2CH(PCM)_HDR
28	0	0	1	1	1	0	28: 4K60HZ_3D_6CH_HDR
29	1	0	1	1	1	0	29: 4K60HZ_3D_8CH_HDR
30	0	1	1	1	1	0	30: FRL10G_8K_2CH_HDR
31	1	1	1	1	1	0	31: FRL10G_8K_6CH_HDR
32	0	0	0	0	0	1	32: FRL10G_8K_8CH_HDR
33	1	0	0	0	0	1	33: USER1_EDID
34	0	1	0	0	0	1	34: USER2_EDID
35	0	1	0	0	0	1	35: USER3_EDID

IR Control: IR Remote

IR Remote Control:

When routing HDMI, the matrix can be controlled by using the IR remote supplied with the product (battery not included, requires CR2025).

The labels on the right are the **OUTPUT** numbers.

The left arrow button decrements to the next input port, and the right arrow increments to the next input port.

The numbers are for selecting a desired **INPUT**.



*Not Included



IR Receiving Eye

RS-232 and TCP/IP Control:

The AC-MX-42X 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.

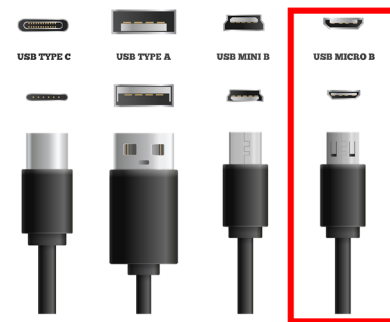
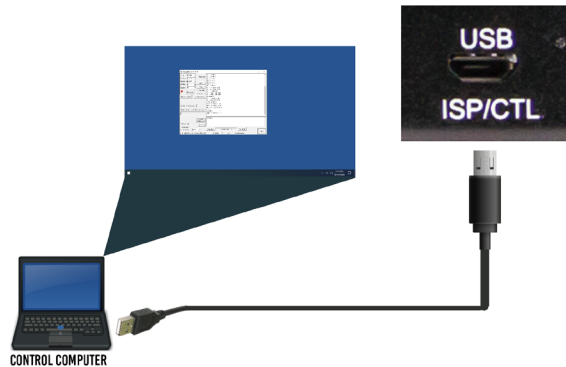
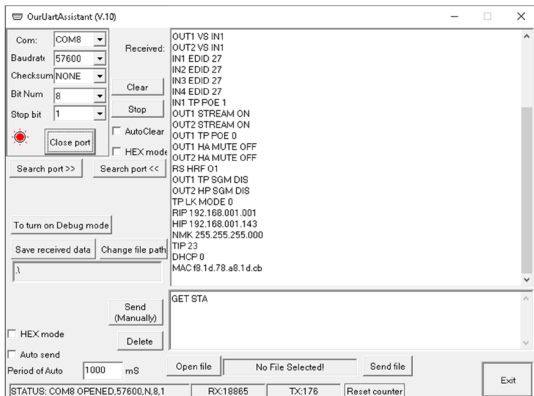
For TCP/IP control commands use Telnet Port 23.

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 the following pages. Text version available [here](#), and under the resources tab of on the products [web page](#).

USB CONTROL FOR AVPRO EDGE



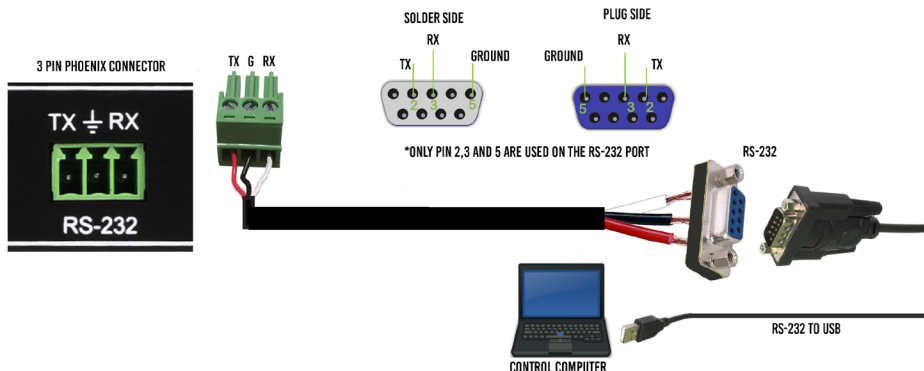
WWW.AVPROEDGE.COM/DRIVERS

OTHER TOOLS & DRIVERS

MyUART Serial Communicator: Used to send direct serial commands to our products.

Universal FTDI USB->Serial Driver: Used with SDX-G/SDX-A & Fox & Hound and several USB-Serial converters supplied by AVPro Edge

RS-232 CABLE FOR AVPRO EDGE



Command List:

• Baudrate: 57600 Checksum: None Bit Num: 8 Stop Bit: 1

Command	Action		
H	: Help		
STA	: Show Global System Status		
SET RST	: Reset to Factory Defaults		
SET RBT	: System Reset to Reboot		
SET ADDR xx	: Set System Address to xx {xx=[00~99](00=Single)}		
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		
GET ADDR	: Get System Address		
GET LCD ON T	: Get LCD Remain On Time		
GET KEY LOCK	: Get Key Lock Status		
GET STA	: Get System System Status		
GET LINKx SIG STA	: Get Link x Signal Status{x=[0~2](0=ALL)}		
Output Setup Commands: Output Num[0~2]			
SET OUTx VS Iny	: Set Output x To Input y{x=[0~2](0=ALL), y=[1~4]}		
SET OUTx VIDEOy	: Set Output VIDEO Mode {x=[2], y=[1~2, 6](1=BYPASS, 2=4K/8K->2K, 6=8K->4K)}		
SET EXA BTv OUTx	: Set Ex-Audio Output bind to Output{x=[1~2]}		
SET SWITCH MODEx	: Set Switch Mode To Matrix or DA{x=[0~1](0=Matrix, 1=DA)}		
SET OUTx EXA EN/DIS	: Set Ex-Audio Output Enable/Disable{x=[0](0=ALL)}		
SET OUTx STREAM ON/OFFSET	: SET OUTx STREAM ON/OFF		
SET OUTx HDMI STREAM MODEy	: Set HDMI Output Stream Mode{x=[0~2](0=ALL), y=[0~1](0=Always On, 1=Follow Input Signal)}		
SET OUTx HA MUTE ON/OFF	: Set HDMI Output x Audio Mute ON/OFF{x=[0~2](0=ALL)}		
SET OUTx HP SGM EN/DIS	: Set HDMI Output x Signal Generator Enable/Disable{x=[0~2](0=ALL)}		
GET OUTx VS	: Get Output x Video Route{x=[0~16](0=ALL)}		
GET OUTx VIDEO	: Get Output x Video Status{x=[2]}		
GET EXA BTv OUT	: Get Ex-Audio Output bind to Output		
GET SWITCH MODE	: Get Switch Mode		
GET OUTx EXA	: Get Ex-Audio Output Enable/Disable Status{x=[0](0=ALL)}		
GET OUTx EDID DATA	: Get Output x EDID DATA{x=[1~2]}		
GET OUTx HPD	: Get HDMI Output x Hotplug Status{x=[0~2](0=ALL)}		
GET OUTx STREAM	: Get Output x Stream ON/OFF Status{x=[0~2](0=ALL)}		
GET OUTx HDMI STREAM MODE	: Get Output x HDMI Stream Mode Status{x=[0~2](0=ALL)}		
GET OUTx HA MUTE	: Get HDMI Output x Audio Mute Status{x=[0~2](0=ALL)}		
GET OUTx HP SGM	: Get HDMI Output x Signal Generator Enable/Disable Status{x=[0~2](0=ALL)}		
Input Setup Commands: (Note: input number (x)=HDMI(x), x=1-4)			
SET INx EDID y	: Set Input x EDID{x=[0~4](0=ALL), y=[0~35]}		
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
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:FRL10G_8K_2CH_HDR	31:FRL10G_8K_6CH_HDR	32:FRL10G_8K_8CH_HDR	
33:USER1_EDID	34:USER2_EDID	35:USER3_EDID	
SET INx EDID Cy OUTy	: Copy Output y EDID To Input x (USER1 BUF){x=[0~4](0=ALL), y=[1~2]}		
SET INx EDID Uy DATAz	: Write EDID To User y Buffer of Input x{x=[0~4](0=ALL), y=[1~3], z=[EDID Data]}		
SET EDID OUTx A OUTy V MIX Inz	: Set EDID OUTx Audio OUTy Video Mix{x=[1~2], y=[1~2](x!=y), z=[0~4]}		
GET INx EDID	: Get Input x EDID Index{x=[0~4](0=ALL)}		
GET INx EDID y DATA	: Get Input x EDID y Data{x=[1~4], y=[0~35]}		
Auto Mode Settings			
SET HDx AUTO EN/DIS	: Set HDMI Output x Auto Switch Mode Enable/Disable{x=[0~2](0=ALL)}		
SET OUTx PIN y	: Set Output x Auto Switch Mode Priority Enable/Disable{x=[0~2](0=ALL), y=[0-DIS, 1-EN]}		
SET OUTx PIN PTH y1.y2.y3.y4	: Set Output x Auto Switch Mode Priority Path y1.y2.y3.y4{x=[0~2](0=ALL), y1.y2.y3.y4=[1~4]}		
SET OUTx AFB Iny	: Set Output x Auto-Switch Fallback Input Port y{x=[0~2](0=ALL), y=[0~4](0=Invalid Port)}		
GET HDx AUTO	: Get HDMI Output x Auto Switch Mode Status{x=[0~2](0=ALL)}		
GET OUTx PIN	: Get Output x Auto Switch Mode Priority Status{x=[0~2](0=ALL)}		
GET OUTx PIN PTH	: Get Output x Auto Switch Mode Priority Path{x=[0~2](0=ALL)}		
GET OUTx AFB IN	: Get Output x Auto-Switch Fallback Input Port Status{x=[0~2](0=ALL)}		

Command List Continued:

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]}(0=Dis,1=Enable)
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
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=[1~2],y=[1~4],zz=[00-FFH]}
SET IR EXAB OUTx CODE zz	: Set IR Ex-Audio Bind Output Data Code{x=[1~2],zz=[00-FFH]}
GET IR SYS	: Get IR Custom Code
GET IR OUTx INy CODE	: Get IR Data Code{x=[1~2],y=[1~4]}
GET IR EXAB OUTx CODE	: Get IR Ex-Audio Bind Output Data Code{x=[1~2]}

Troubleshooting

- Verify Power - Check that the power supply is properly connected and on an active circuit.
- Verify Connections - Check that all cables are properly connected.
- Check the front panel indicator lights.
[Page\(s\) 6.](#)
- Use the System section of the WebUI to verify the matrix firmware is up to date.
[Page\(s\) 22-23.](#)
- Use the Diagnostics section of the WebUI to verify the HDMI Input/Output status and EDID settings.
[Page\(s\) 24-26.](#)
- Diagnostics page indicates everything is good but still not getting a picture, this may be a bandwidth limitation. See Bandwidth Chart on pages 37 and 38 to verify the signal is not exceeding the bandwidth of any of the devices in the chain.
- Still experiencing issues, contact our technical support for further assistance.

1-877-886-5112

605-274-6055

support@avproedge.com

Bandwidth Chart

				HDR (10 & 12 BIT ONLY)	BANDWIDTH UNCOMPRESSED	BANDWIDTH COMPRESSED (DSC)	
FHD	1920 x 1080 100-120p	4:4:4	8 Bit		9 Gbps	N/A	
		4:4:4	10-12 Bit	X	18 Gbps	N/A	
		4:2:2	8-12 Bit	X	9 Gbps	N/A	
	3840 x 2160 & 4096 x 2160 24-30p	4:4:4	8 Bit		9 Gbps	N/A	
		4:4:4	10-12 Bit	X	18 Gbps	N/A	
		4:2:2	10-12 Bit	X	9 Gbps	N/A	
	3840 x 2160 & 4096 x 2160 48-60p	4:4:4	8-12 Bit	X	18 Gbps	9 Gbps	
		4:2:2	8-12 Bit	X	18 Gbps	9 Gbps	
		4:2:0	8 Bit		9 Gbps	9 Gbps	
		4:2:0	10-12 Bit	X	18 Gbps	9 Gbps	
		4:4:4	8 Bit		32 Gbps	18 Gbps	
		4:4:4	10 Bit	X	40 Gbps	18 Gbps	
UHD & 4K	3840 x 2160 100-120p	4:4:4	12 Bit	X	48 Gbps	18 Gbps	
		4:2:2	8-12 Bit	X	32 Gbps	9 Gbps	
		4:2:0	8 Bit		18 Gbps	9 Gbps	
		4:2:0	10-12 Bit	X	24 Gbps	9 Gbps	
		4:4:4	8 Bit		32 Gbps	18 Gbps	
		4:4:4	10 Bit	X	40 Gbps	18 Gbps	
		4096 x 2160 100-120P	4:4:4	12 Bit	X	48 Gbps	18 Gbps
			4:2:2	8-12 Bit	X	32 Gbps	18 Gbps
			4:2:0	8 Bit		18 Gbps	9 Gbps
			4:2:0	10-12 Bit	X	24 Gbps	9 Gbps
5K	5120 x 2160 24-30p	4:4:4	8-12 Bit		18 Gbps	N/A	
		4:2:2	8-12 Bit		18 Gbps	N/A	
	5120 x 2160 48-60p	4:4:4	8 Bit		24 Gbps	9 Gbps	
		4:4:4	10-12 Bit		32 Gbps	9 Gbps	
		4:2:2	8-12 Bit		24 Gbps	9 Gbps	
		4:2:0	8-12 Bit		18 Gbps	9 Gbps	
		4:4:4	8 Bit		40 Gbps	18 Gbps	
		4:4:4	10-12 Bit		N/S	18 Gbps	
	5120 x 2160 100-120p	4:2:2	8-12 Bit		40 Gbps	18 Gbps	
		4:2:0	8 Bit		24 Gbps	18 Gbps	
		4:2:0	10-12 Bit		32 Gbps	18 Gbps	

Bandwidth Chart: Continued

				HDR (10 & 12 BIT ONLY)	BANDWIDTH UNCOMPRESSED	BANDWIDTH COMPRESSED (DSC)	
8K	7680 x 4320 24-30p	4:4:4	8 Bit		32 Gbps	18 Gbps	
		4:4:4	10 Bit	X	40 Gbps	18 Gbps	
		4:4:4	12 Bit	X	48 Gbps	18 Gbps	
		4:2:2	8-12 Bit	X	32 Gbps	9 Gbps	
		4:2:0	8 Bit		18 Gbps	9 Gbps	
		4:2:0	10-12 Bit	X	24 Gbps	9 Gbps	
	7680 x 4320 48-60p	4:4:4	8-12 Bit	X	N/S	24 Gbps	
		4:2:2	8-12 Bit	X	N/S	18 Gbps	
		4:2:0	8 Bit		32 Gbps	18 Gbps	
		4:2:0	10 Bit	X	40 Gbps	18 Gbps	
		4:2:0	12 Bit	X	48 Gbps	18 Gbps	
		7680 x 4320 100-120p	4:4:4	8-12 Bit	X	N/S	40 Gbps
4:2:2	8-12 Bit		X	N/S	40 Gbps		
4:2:0	8-12 Bit		X	N/S	32 Gbps		
10K	10240 x 4320 24-30p		4:4:4	8 Bit		40 Gbps	18 Gbps
			4:4:4	10-12 Bit		N/S	18 Gbps
			4:2:2	8-12 Bit		40 Gbps	18 Gbps
	10240 x 4320 48-60p	4:2:0	8 Bit		24 Gbps	9~24-25p, 18~30p	
		4:2:0	10-12 Bit		32 Gbps	9~24-25p, 18~30p	
		4:4:4	8-12 Bit		N/S	32 Gbps	
10240 x 4320 100-120p	10240 x 4320 48-60p	4:2:2	8-12 Bit		N/S	24 Gbps	
		4:2:0	8 Bit		40 Gbps	18~48, 24~50/60	
		4:2:0	10-12 Bit		N/S	18~48, 24~50/60	
	10240 x 4320 100-120p	4:4:4	N/S		N/S	N/S	
		4:2:2	8-12 Bit		N/S	48 Gbps	
		4:2:0	8-12 Bit		N/S	40 Gbps	

As you can see each resolution, timing and color space has an uncompressed bandwidth and a compressed bandwidth. With the HDMI 2.1 specification, all HDMI sources will have the ability to send a compressed signal or an uncompressed signal, depending on what the EDID from the display is asking for. Employing DSC compression at the source will allow most resolutions to be under 24Gbps.

N/S = NOT SUPPORTED

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 adapter 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 “red tape” out of a warranty and just make it 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 Reseller.

Accessories (IR Cables, RS-232, Power Supplies, etc...) are not included in the warranty. We will make 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 AVProEdge!

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



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