

AVProedge

User Manual

1 HDMI Input/4 HDMI Outputs - Dedicated Video Wall Processor

Supports up to 18Gbps 4K60 (4:4:4) Output Resolutions

Cascade Multiple Processors for Larger Video Wall Arrays

AC-FRESCO-CAP-4



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Introduction

The AC-FRESCO-CAP-4 is a Dedicated Video Wall Processor supporting Output Resolutions up to 18Gbps 4K60 (4:4:4) through its 1 HDMI Input and 4 HDMI outputs. The FRESCO is a "Plug-and-Play" 4-panel Video Wall which is expandable by cascading multiple FRESCO processors to build larger Video Wall arrays.

Simple yet powerful, the Web GUI makes setting up your video wall a breeze. Use the built in browser-based web GUI, to adjust the default picture mapping coordinates for each display in the videowall. This process ensures an ideal Video Wall that is easy to do.

Video walls give sports bars, retail stores, entertainment venues, and hotels an opportunity to "WOW" their customers with big, bold and bright messaging.

Features:

- HDMI 2.0(B)
- 18Gbps Bandwidth Support
- 720P to 4K60 4:4:4 Output Resolution
- HDCP 2.2 (and all earlier versions supported)
- EDID Management
- RS-232 and LAN Control Options
- Balanced Analog Out (2CH PCM)

Easy to use:

- Install in seconds
- Feature rich
- EDID management
- LAN Control
- RS-232 Control
- OTA updates

What's In the Box:

- AC-FRESCO-CAP-4 Video Wall Processor
- 12V Locking Power Supply
- 2 x Mounting Brackets
- 6 x Screws for Mounting Brackets
- 1 x 5-Pin Terminal Block
- 1 x 3-Pin Terminal Block

Quick Installation:

1. Connect the HDMI input source (Blu-ray, Set Top Box, etc...) to the AC-FRESCO-CAP-4.
2. Connect the four HDMI Outputs from the AC-FRESCO-CAP-4 to your four Video Wall displays.
3. Power on the source.
4. Connect the power supply to the AC-FRESCO-CAP-4.
5. Turn on output devices/displays.
6. Navigate to the Net menu on the front panel to check or change the AC-FRESCO-CAP-4's IP settings.
7. Use the Web GUI to set up the video wall configuration and image mapping.

Specifications

Video:	
Video Resolutions	Up to 4k 60HZ 4:4:4
HDR Formats/Resolutions	420, 422, 444 (10 AND 12 DEEP COLOR) HDR10, HDR10+, DOLBY VISION, HLG
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 (2CH Port)	PCM 2 CH
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	18 Gbps (TMDS)
HDCP	HDCP 2.3 and Earlier
Ports:	
HDMI	Type A
LAN	RJ45 w/ Web Interface/ Control
Audio (Extracted Analog)	5 PIN Terminal Block (Balanced)
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)	2 Watts Max
Power Supply	Input: AC 100-240V ~ 50/60Hz Output: DC 12V 2A
Dimensions:	
Dimensions (Unit Only Length/Width/Height)	mm: 136.525 X 296.0624 X 44.45 in: 5.375 X 11.656 X 1.75
Dimensions (Packaged Length/Width/Height) (Kit)	mm: 222.25 X 392.1252 X 65.1002 in: 8.75 X 15.438 X 2.563
Weight (Unit)	2.63 lbs (1.19 Kg)
Weight (Packaged)	3.99 lbs (1.81 Kg)
*Specifications subject to change without notice. Mass & dimensions are approximate	

Device Overview:

- Definition - A Video Wall is a special array consisting of multiple computer monitors, video projectors, or television sets tiled together contiguously or overlapped to form one large image/picture.
- Video Walls are widely used in commercial and various entertainment venues.

Front Panel:

- “Front Screen Display”- Displays the current Resolution/Timing of the HDMI Input. Use in conjunction with the Settings buttons (UP, DOWN, ENTER, and BACK) to navigate the available settings menus and change edid, Output format, Ex-audio, Net, Version.
- “Settings Buttons” – Use these 4 buttons to navigate the available front screen menus, Edid, Output format, Ex-audio, Net and Version. After selecting a menu, the settings buttons can be used to switch between and change the listed settings.
- "ISP / Control" - USB-C service and control port. Primarily used for sending direct serial commands and Firmware updates.



Rear Panel Overview:

- "Ethernet" (LAN RJ45 PORT) Default IP Address for LAN control is 192.168.001.239
- "HDMI Input" used for source input
- "Loop-Out" is used in cascading additional FRESCO Video Wall processors for building larger Video Wall arrays.
- "HDMI Output" - OUT1" through "OUT4"
- "Audio-Out" (Balanced Extracted Audio) supports only 2CH PCM.
- "RS232" – used to control the FRESCO Video Wall processor

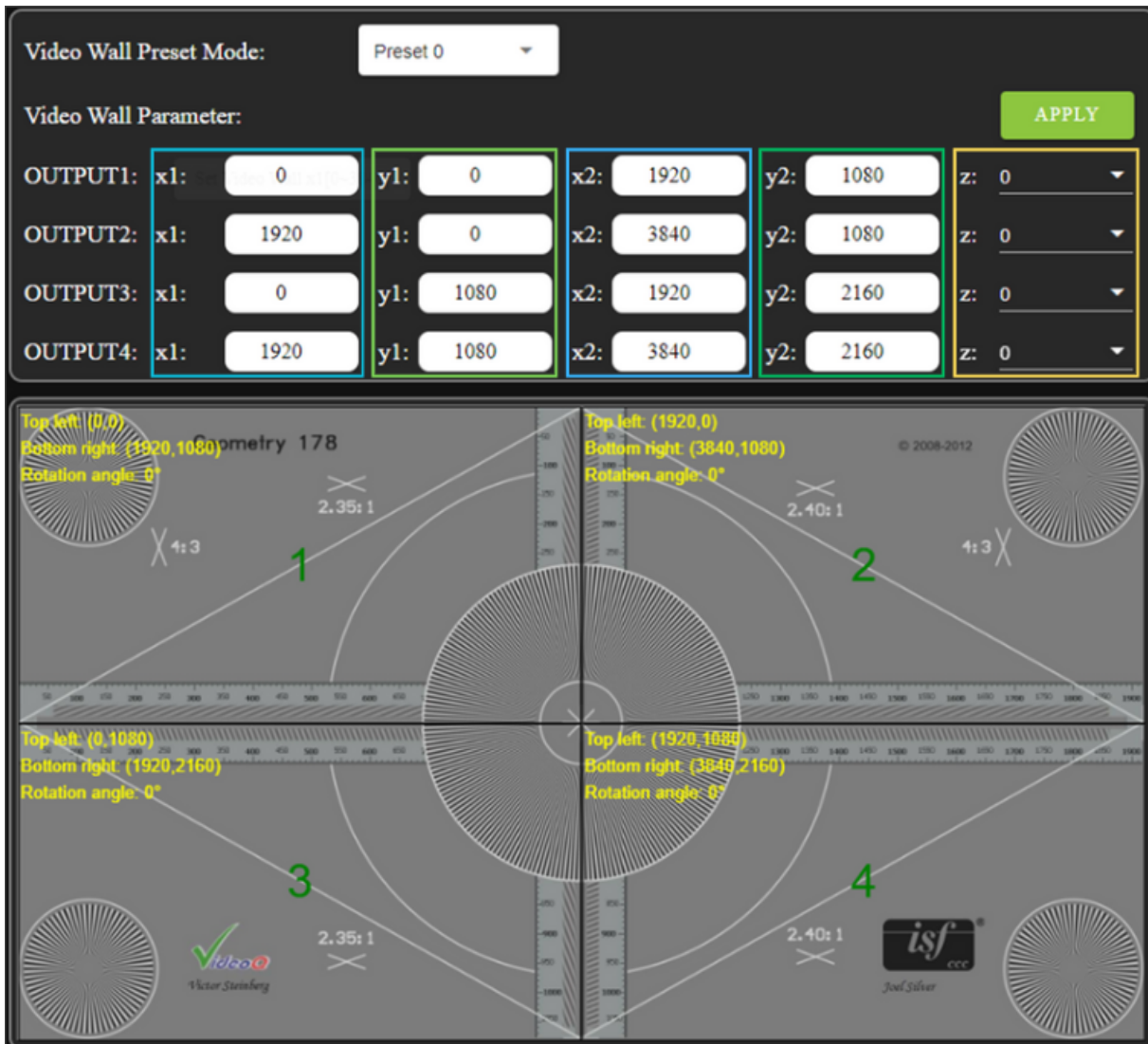


THE FRESCO VIDEO WALL WEB GUI

THE BIGGEST CHALLENGE TO SETTING UP A FRESCO VIDEO WALL IS HANGING THE PANELS!

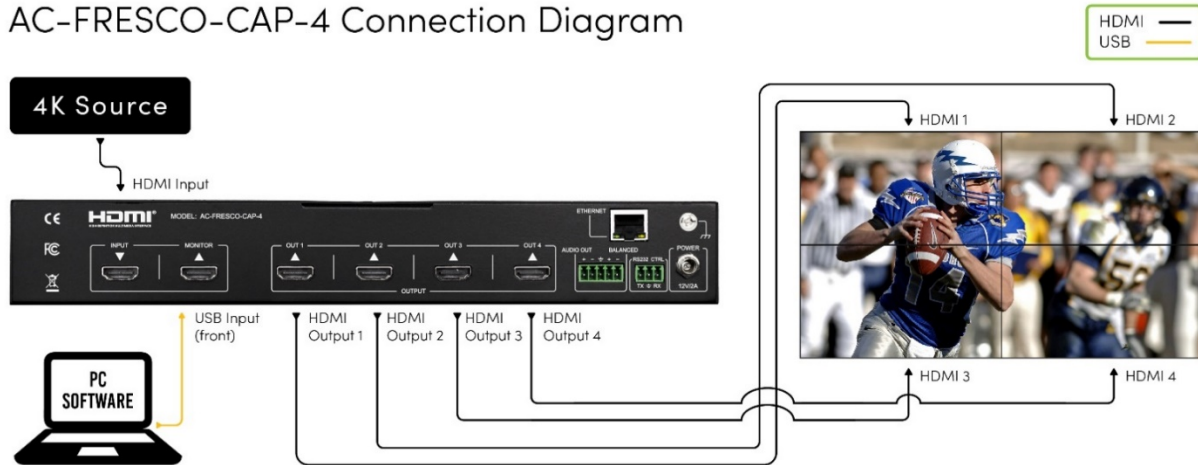
Five easy steps to video wall perfection

1. Do a great job hanging the panels
2. Launch the Web GUI using the FRESCO's IP
3. Confirm the Video Wall Parameters
 - a. **x1&x2**
 - i. Horizontal: 0-3840
 - b. **y1&y2**
 - i. Vertical: 0-2160
 - c. **Z**
 - i. Rotation
 1. Outs 1&2: 0,90, 180, 270
 2. Outs 3&4: 0,180 Only
4. Click the "APPLY" button
5. NO STEP 5 - YOU ARE DONE!



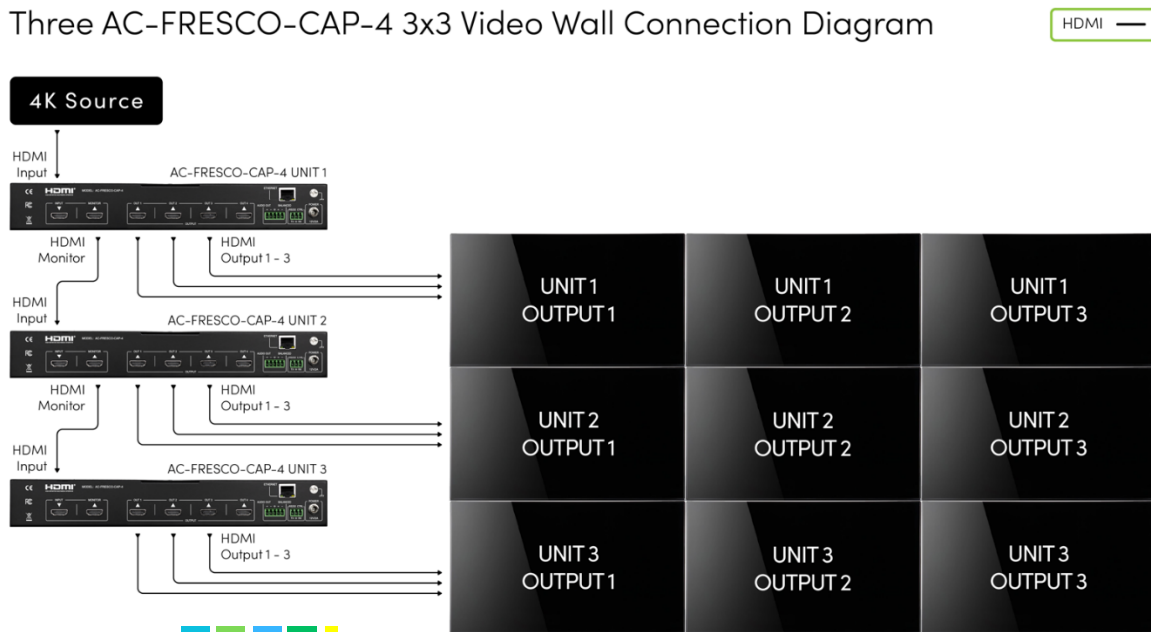
FRESCO CONNECTION DIAGRAM'S

AC-FRESCO-CAP-4 Connection Diagram



- SET OUTx VWXYZ x1.y1.x2.y2.z
 - A00 SET OUTx VWXYZ 0.0.1920.1080.z
 - A00 SET OUTx VWXYZ 1920.0.3840.1080.z
 - A00 SET OUTx VWXYZ 0.1080.1920.2160.z
 - A00 SET OUTx VWXYZ 1920.1080.3840.2160.z

Three AC-FRESCO-CAP-4 3x3 Video Wall Connection Diagram



- SET OUTx VWXYZ x1.y1.x2.y2.z
 - Unit 1
 - A00 SET OUTx VWXYZ 0.0.1279.719.z
 - A00 SET OUTx VWXYZ 1280.0.2559.719.z
 - A00 SET OUTx VWXYZ 2560.0.3840.719.z
 - Unit 2
 - A00 SET OUTx VWXYZ 0.720.1279.1439.z
 - A00 SET OUTx VWXYZ 1280.720.2559.1439.z
 - A00 SET OUTx VWXYZ 2560.720.3840.1439.z
 - Unit 3
 - A00 SET OUTx VWXYZ 0.1440.1279.2160.z
 - A00 SET OUTx VWXYZ 1280.1440.2559.2160.z
 - A00 SET OUTx VWXYZ 2560.1440.3840.2160.z

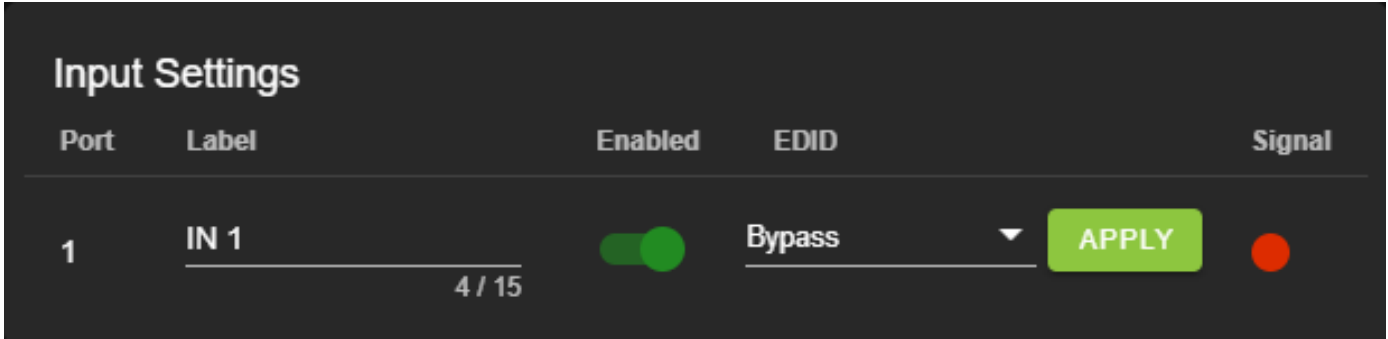
Initial Setup: WebUI

The AC-FRESCO-CAP-4 can be controlled using the Micro USB port, 3pin RS232, or over TCP/IP using the LAN connection. For the initial setup it is recommended to connect the videowall processor 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. Connect the HDMI Input sources to the HDMI Inputs on the back of the videowall processor.
2. Connect the HDMI/devices to the HDMI Outputs.
3. Connect the network LAN cable to the RJ45 port labeled LAN (between the Micro USB and 3pin RS232 port).
4. Power on the sources (Inputs).
5. Power on the Output devices/displays.
6. Connect the 12V power supply to power on the videowall processor and then to a suitable power source.
7. To check the current IP settings, use the front panel buttons to navigate to the 4th menu labeled Net. Under the Net menu you can view and change all shown network settings.

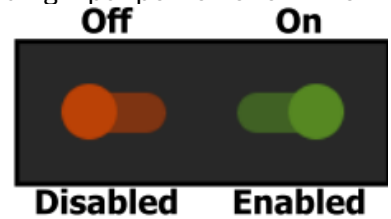
WebUI: I/O Config - Input Settings



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 Videowall processor 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.

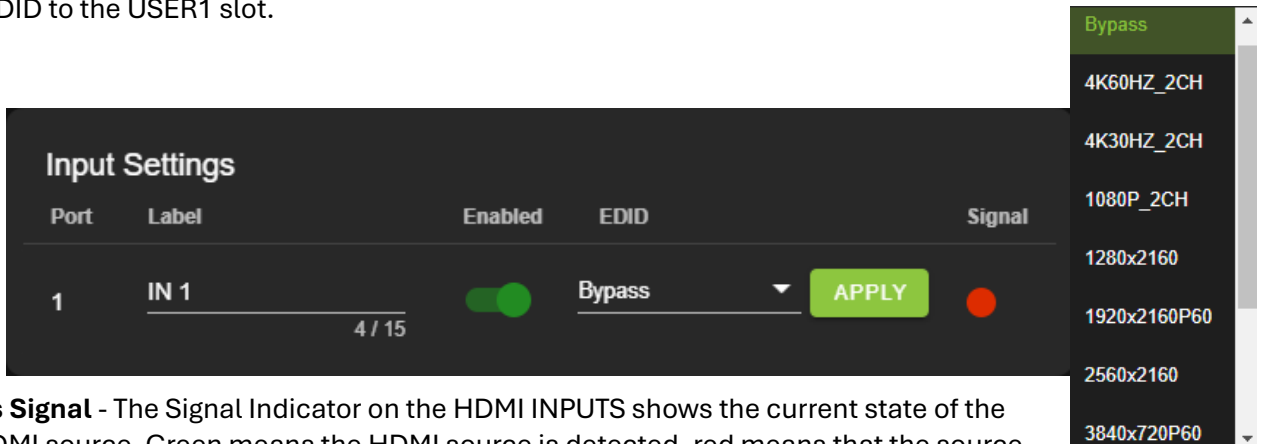


Input Settings EDID - Use these four dropdowns to select your preferred EDID.

The available combinations are as follows.

0: Bypass (Follow Output 1)	1: 4K60HZ_2CH	2: 4K30HZ_2CH
3: 1080P_2CH	4: 1280x2160	5: 1920x2160P60
6: 2560x2160	7: 3840x720P60	8: 3840x1080P60
9: 3840x1440	10: USER1	

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 videowall processor.



WebUI: I/O Config - Output Settings

Video Output Settings					Timing Format
Port	Label	State	Timing Format	Signal	
1	OUT 1 <small>5 / 15</small>	Enabled	1080p60Hz	●	4K60HzRGB 4K60HzY420 4K30HzY444
2	OUT 2 <small>5 / 15</small>	Disabled	1080p60Hz	●	1080p60Hz
3	OUT 3 <small>5 / 15</small>	Enabled	1080p60Hz	●	720p60Hz EDID Preferred Timing
4	OUT 4 <small>5 / 15</small>	Enabled	1080p60Hz	●	1080P60HzYUV12Bit

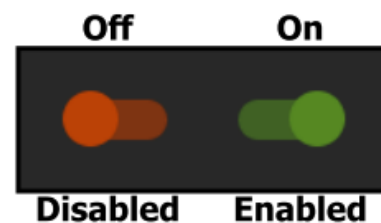
Output Settings Label - Use this to give an name/alias to your outputs (Living Room, Den, Kitchen, etc).

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 Videowall processor tab).

Output Settings State - This dropdown Enables or Disables the output port.

Output Timing format – This dropdown changes the timing for the corresponding output from 4K60 to 720p. The EDID Preferred Timing copies the preferred timing of the connected display.

Output Settings Signal - The Signal Indicator on the HDMI OUTPUTS shows the current state of the connection HDMI Output. Green means HDMI sync is detected, red means that the sync is not detected. If red verify that the output is powered on, and the HDMI cable is properly connected to the sync and to the back of the videowall processor.



WebUI: System - IP Settings

This area contains relevant network information of the AC-FRESCO-CAP-4.

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.

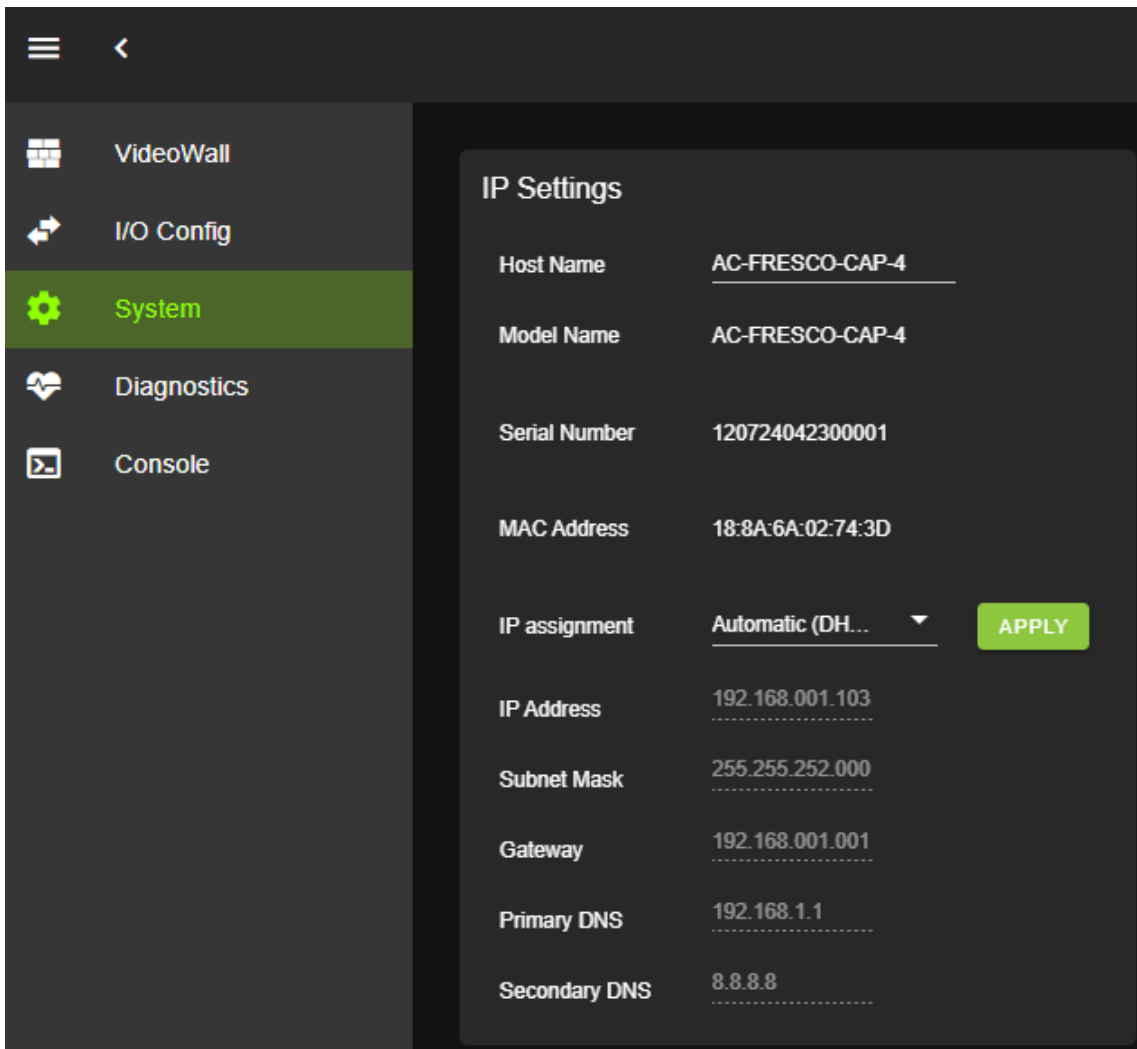
Serial Number - Displays the Serial Number of the Videowall processor.

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.

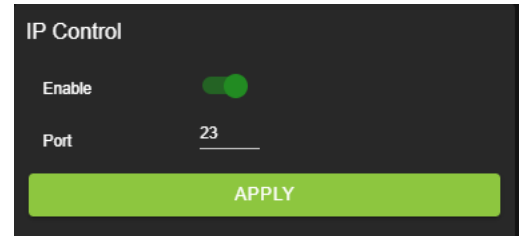


IP Settings	
Host Name	AC-FRESCO-CAP-4
Model Name	AC-FRESCO-CAP-4
Serial Number	120724042300001
MAC Address	18:8A:6A:02:74:3D
IP assignment	Automatic (DH... ▼ APPLY)
IP Address	192.168.001.103
Subnet Mask	255.255.252.000
Gateway	192.168.001.001
Primary DNS	192.168.1.1
Secondary DNS	8.8.8.8

WebUI: System - Telnet Settings

This area contains relevant Telnet settings for the AC-FRESCO-CAP-4. 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-FRESCO-CAP-4. You can use the text field to enter a number or use the Up/Down arrow buttons to increase/decrease the number.

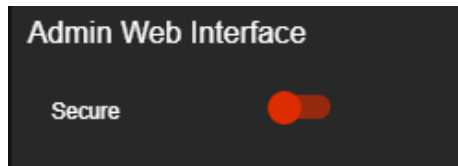


WebUI: System - Admin Web Interface

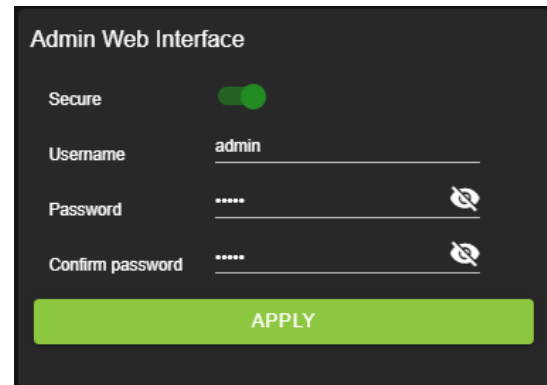
This switch has two options, Red/Disabled (Default) and Green/Enabled. When enabled (green) there will be three fields that appear, Username, Password, and Confirm Password.

Default Username - admin

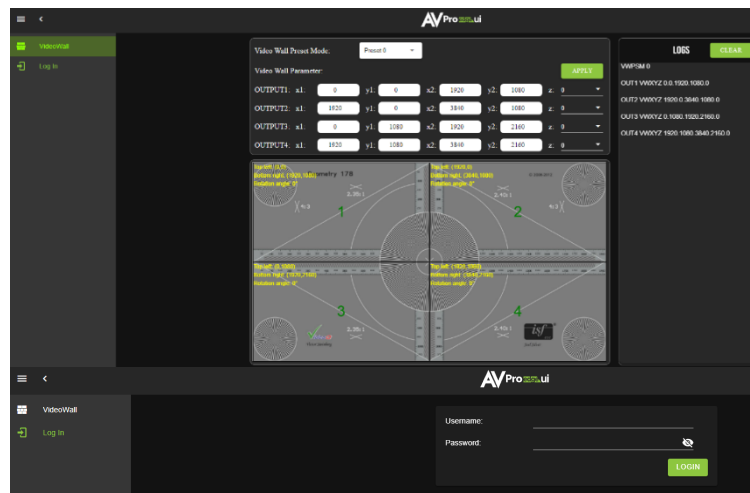
Default Password - admin



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 Videowall Tab. The rest of the settings will require the Admin log in to access.



WebUI: System - User Web Interface

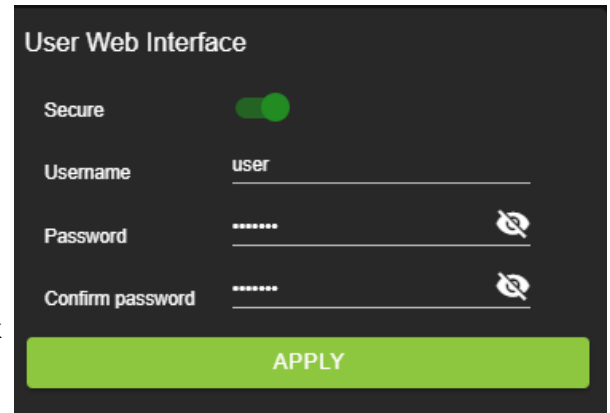
This switch has two options, Red/Disabled (Default) and Green/Enabled. When enabled (green) there will be three fields that appear, Username, Password, and Confirm Password.

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.

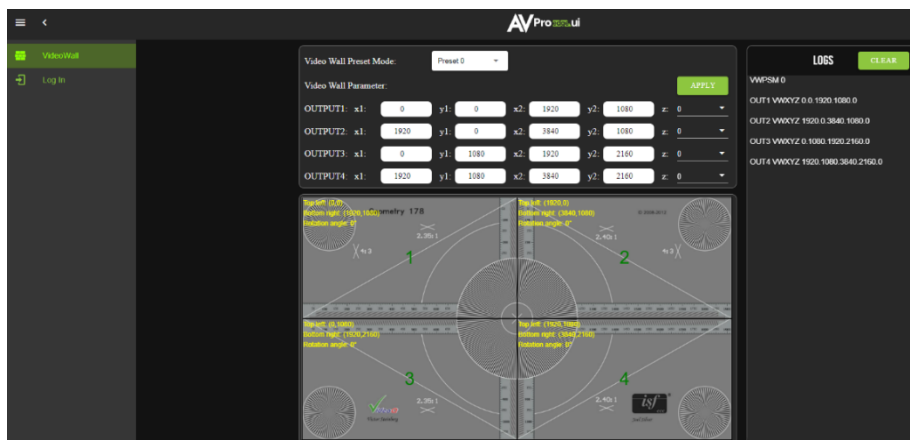


Note: The webpage will reload to the Log In page.

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 Videowall tab. The rest of the settings will require the Admin user to log in (see page 24).

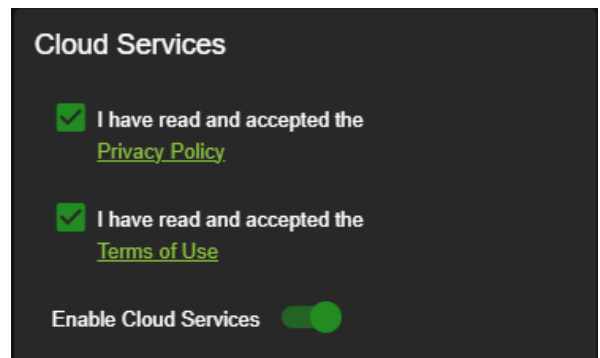
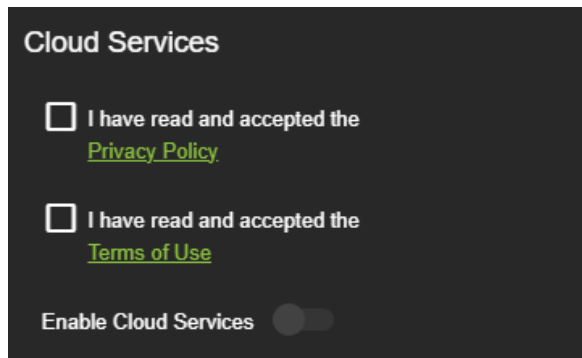


WebUI: System - Cloud Services

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”.

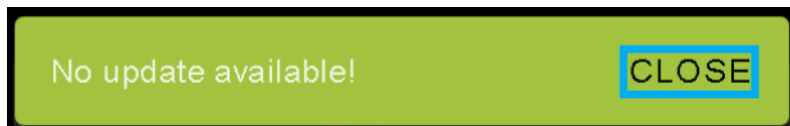
You can view these documents by clicking on Privacy Policy or Terms of Use links, this will open up a PDF copy of that document in a new tab.



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-FRESCO-CAP-4 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.

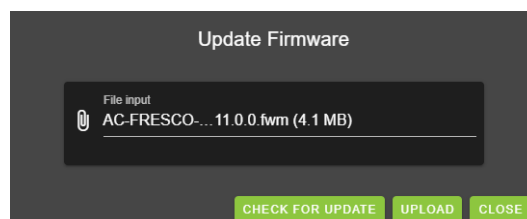


If an update is available, the following prompt will show. Simply click the UPDATE button to load.



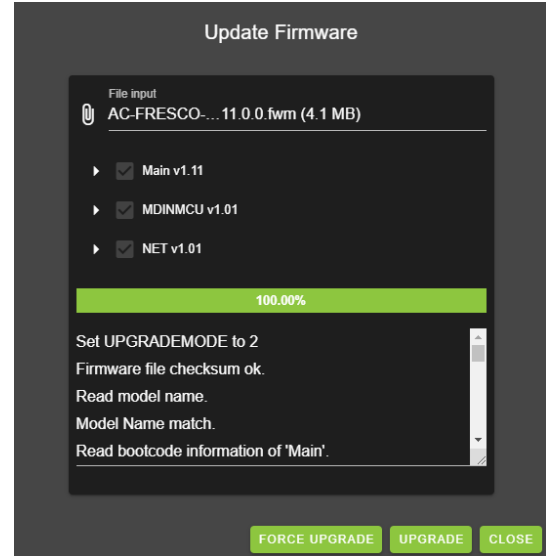
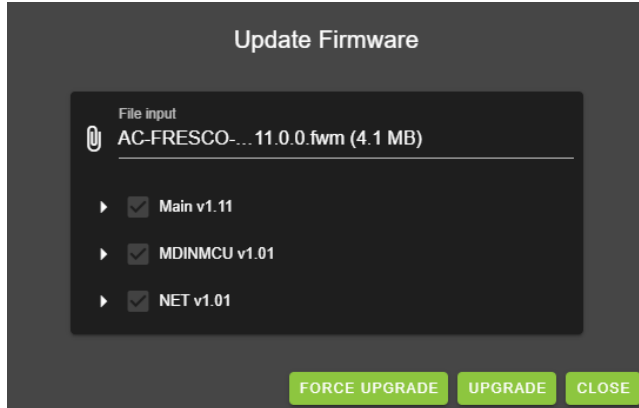
NOTE: When loading firmware (depending on the firmware files that are being updated) some settings will revert back to Factory Defaults. Take note of the I/O Config tab. Settings like the INPUT/OUTPUT labels, EDID Settings, Video Scaling, Audio Settings, etc. as they will have to be re-applied after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



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 is 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

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

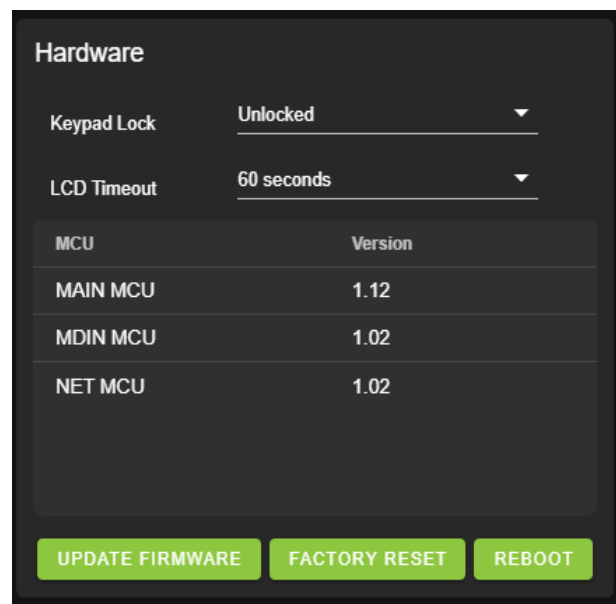
Keypad Lock - Enable or Disable (default) the front panel Keypad Lock.

MCU/Version - Lists the current Firmware Versions

UPDATE FIRMWARE - Check/upload firmware.

FACTORY RESET - Restores unit to Factory Defaults

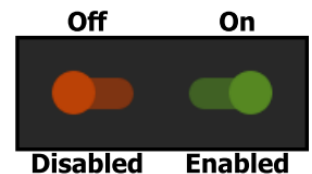
REBOOT - Reboots the AC-FRESCO-CAP-4



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 Videowall processor 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 this dropdown to select your preferred EDID.

The available combinations are as follows.

0: Bypass (Follow Output 1)	1: 4K60HZ_2CH	2: 4K30HZ_2CH
3: 1080P_2CH	4: 1280x2160	5: 1920x2160P60
6: 2560x2160	7: 3840x720P60	8: 3840x1080P60
9: 3840x1440	10: USER1	

WebUI: Diagnostics - HDMI IN Cont.

HDMI IN		HDMI OUT		
IN 1	Port	Label	Enabled	Connection Reset
	1	IN 1	<input checked="" type="checkbox"/>	RESET
	Assigned EDID		4K30HZ_2CH	APPLY
	Manufacturer	MXX	Signal Info	
	Monitor Name	MXX-G-2	Signal Present <input checked="" type="checkbox"/>	
	Sink Device Type	HDMI	Timing	1920x1080p 60Hz
	Preferred Timing	3840x2160 30Hz	Color space	YUV444
	Supported Audio Formats	LPCM. 2CH	Video Type	HDMI
	3D Support	<input checked="" type="checkbox"/>	HDCP	No HDCP
	Deep Color Support	<input checked="" type="checkbox"/>	Color Depth	10 Bit
			TMDS Bandwidth	5.569G
			HDR Metadata	HDR

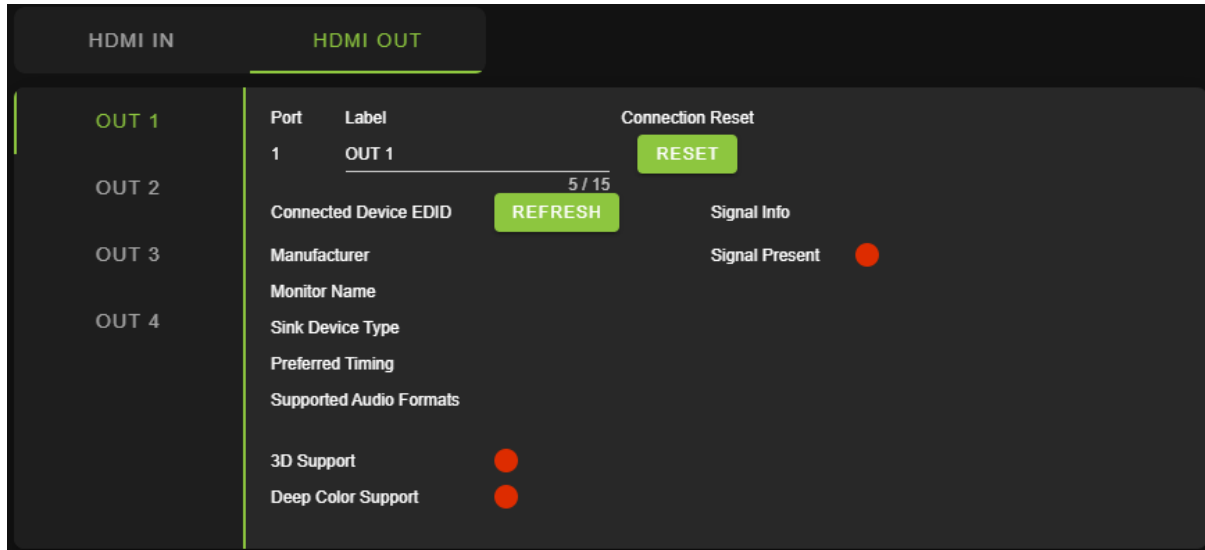
On the left, you will see the current applied EDID information. In the example above, you will see a canned 1080P - No 3D - SDR - 2CH EDID applied to IN 1. Any EDID change once applied will be displayed here.

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

HDMI IN		HDMI OUT		
IN 1	Port	Label	Enabled	Connection Reset
	1	IN 1	<input checked="" type="checkbox"/>	RESET
	Assigned EDID		4K30HZ_2CH	APPLY
	Manufacturer	MXX	Signal Info	
	Monitor Name	MXX-G-2	Signal Present <input checked="" type="checkbox"/>	
	Sink Device Type	HDMI	Timing	1920x1080p 60Hz
	Preferred Timing	3840x2160 30Hz	Color space	YUV444
	Supported Audio Formats	LPCM. 2CH	Video Type	HDMI
	3D Support	<input checked="" type="checkbox"/>	HDCP	No HDCP
	Deep Color Support	<input checked="" type="checkbox"/>	Color Depth	10 Bit
			TMDS Bandwidth	5.569G
			HDR Metadata	HDR

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

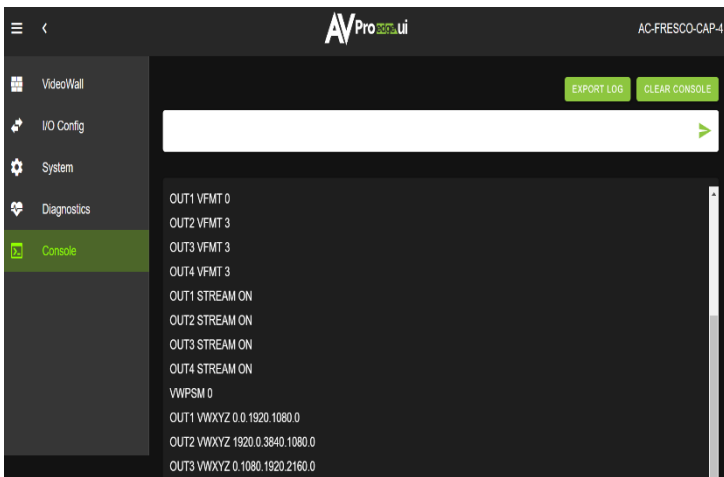
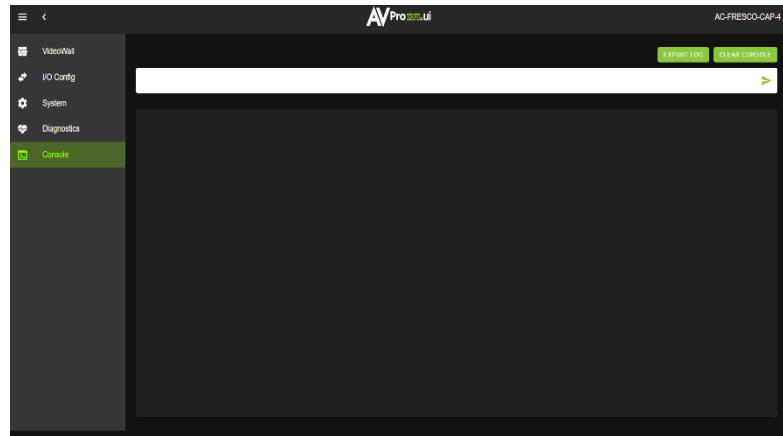
1. Click in the white box and type

a. GET STA

Click the green arrow or

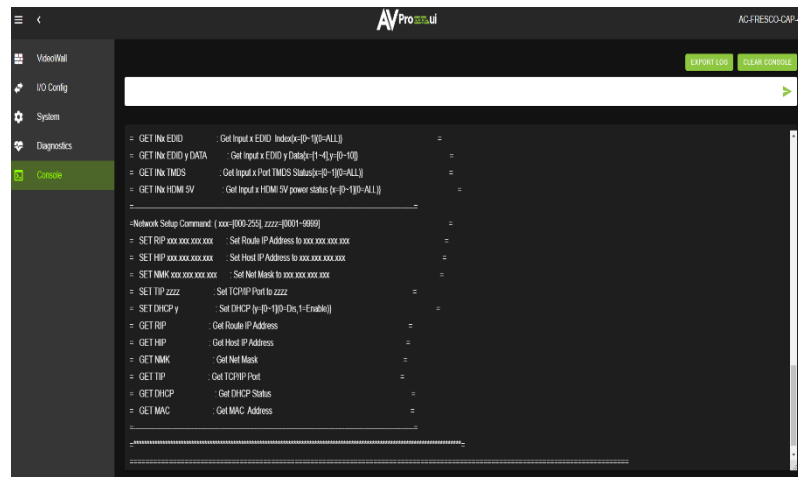
hit ENTER/RETURN on your keyboard

The command response will be shown in the field below.



Example - "GET STA"

Get status



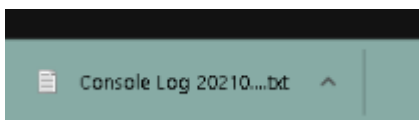
Example - "H"

Help command

Returns all Available Commands

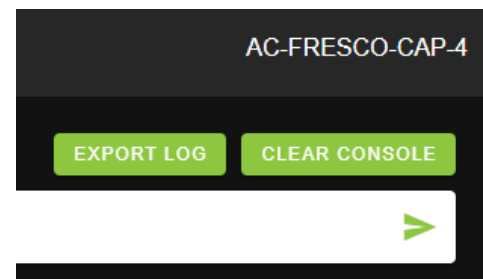
EXPORT LOG - Button

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



CLEAR CONSOLE - Button

This button will clear the current console session.



RS-232 and TCP/IP Control:

The AC-FRESCO-CAP-4 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.

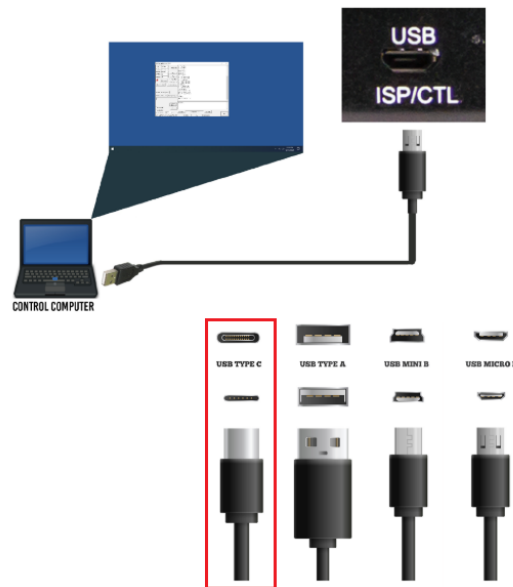
For TCP/IP control commands use Telnet Port 23.

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.

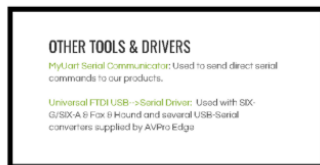
Please add a carriage return (Enter key) after each command when using direct commands.

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



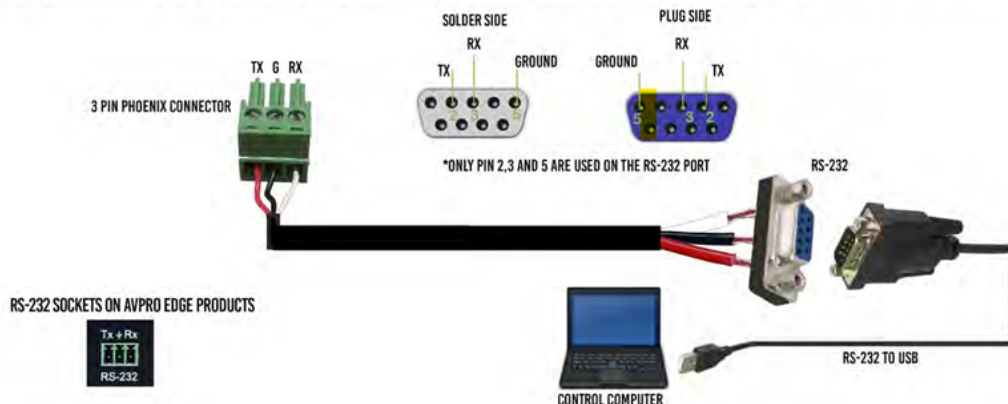
WWW.AVPROEDGE.COM/DRIVERS



RS-232 Wiring Diagram:

RS-232 CABLE FOR AVPRO EDGE

IN ORDER TO CONNECT YOUR COMPUTER TO THE SWITCH BY RS-232 YOU NEED TO MAKE YOUR OWN CABLE WITH ONE END A PHOENIX CONNECTOR AND THE OTHER END A RS-232 PORT. YOUR COMPUTER DOESN'T HAVE A RS-232 INPUT, GET A USB CONVERTER (AS SHOWN BELOW), AND PLUG THE USB END TO ANY COMPUTER



Command List:

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}	
SET INx RST	Set Input Port Reset {x=0~1}	
SET OUTx RST	Set Output Port Reset {x=0~4}	
SET BAUDR x	Set System BaudRate to x {x=0~5}	
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 STA	Get System System Status	
GET BAUDR	Get System BaudRate	
GET INx SIG STA	Get Input x Signal Status {x=0~1}	
GET OUTx HPD	Get HDMI Output x HPD Status {x=0~4}	
GET INx VID FMT INF	Get Input x Video Format Info {x=0~1}	
GET LCD ON T	Get LCD Remain On Time	
GET KEY LOCK	Get Key Lock Status	
GET HW REV	GET HW REV	
Video Wall Settings Commands:		
SET VWPSMx	Set Video Wall Preset Mode {x=[0~3]}	
SET OUTx VWXYZ x1.y1.x2.y2.z	Set Output Video Wall Parameter, start from (x1,y1) to (x2,y2), Rotation angle (z) {x=0~4, x1=[03840], y1=[02160], x2=[x13840], y2=[y12160], z=[0,90,180,270]} (Note: If z=90,270, output 3 or output 4 will have no video output!)	
GET VWPSM	Get current Video Wall Preset Mode	
GET OUTx VWXYZ	Get Output Video Wall Parameter {x=0-4}	
Output Setup Commands: (Note:output number(x)=HDMI,x=[0-4](0=All))		
SET OUTx VFMTy	Set Output x Video Timing Format {x=0~4, y=[0~6]} (0:4K60HzRGB, 1:4K60HzY420, 2:4K30HzY444, 3:1080p60Hz, 4:720p60Hz, 5: Preferred Timing, 6:1080P60HzYUV12Bit)}	
SET OUTx STREAM ON/OFF	SET OUTx STREAM ON/OFF {x=0~4}	
SET OUTx EXA EN/DIS	Set Ex-Audio Output Enable/Disable {x=0~1}	
GET OUTx VFMT	Get Output x Video Timing Format {x=0~4}	
GET OUTx STREAM	Get Output x Stream ON/OFF Status {x=0~4}	
GET OUTx EXA	Get Ex-Audio Output Enable/Disable Status {x=0~1}	
GET OUTx EDID DATA	Get Output x EDID DATA {x=0~4}	
Input Setup Commands: (Note:input number(x)=HDMI(x),x=[1])		
SET INx EDID y	Set Input x EDID{x=[0~1]}(0=ALL), y=[0~10]}	
0: Bypass (Follow Output 1)	1: 4K60HZ_2CH	2: 4K30HZ_2CH
3: 1080P_2CH	4: 1280x2160	5: 1920x2160P60
6: 2560x2160	7: 3840x720P60	8: 3840x1080P60
9: 3840x1440	10: USER1	
SET INx EDID CY OUTy	Copy Output y EDID To Input x (USER1 BUF) {x=0~1, y=0-4}	

SET INx EDID Uy DATAz	Write EDID To User y Buffer of Input x {x=0~1, y=[1], z=[EDID Data]}
SET INx TMDS ON/OFF	Set Input x Port TMDS Status ON/OFF {x=0~1}
GET INx EDID	Get Input x EDID Index {x=0~1}
GET INx EDID y DATA	Get Input x EDID y Data {x=[14], y=[010]}
GET INx TMDS	Get Input x Port TMDS Status {x=0~1}
GET INx HDMI 5V	Get Input x HDMI 5V power status {x=0~1}
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 {zzzz=[0001~9999]}
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

Troubleshooting

- Verify Power - The LED on the front of the FRESCO should be lit up RED when power is applied. Check power supply connections to device and power
- Verify Connections - Check all cables are properly connected
- Issues with 4K but 1080P or less is working
- Verify all connected devices are capable of the signal you are sending
- Verify that the HDMI cables you are using are certified for 4K signals

Bandwidth Chart

TYPE	RESOLUTION	FRAME RATE (FPS)	COLOUR COMPRESSION	DEEP COLOUR BIT DEPTH	HDR	WIDE COLOR GAMUT (BT2020)	HDMI VERSION	DATA RATE	AUHD SERIES
HD	1920x1080	24	4:2:2	8 BIT	NO	NO	1.4	0.75 GBPS	YES
HD	1920x1080	60	4:2:2	8 BIT	NO	NO	1.4	4.45 GBPS	YES
HD	1920x1080	60	4:4:4	16 BIT	NO	NO	1.4	5.91 GBPS	YES
UHD	3840x2160	24	4:2:0	8 BIT	NO	NO	1.4	8.91 GBPS	YES
UHD	3840x2160	24	4:4:4	8 BIT	NO	NO	1.4	8.91 GBPS	YES
4K	4096x2160	24	4:4:4	8 BIT	NO	NO	1.4	8.91 GBPS	YES
UHD OR 4K	3840x2160	60	4:2:0	8 BIT	NO	NO	1.4/2.0	8.91 GBPS	YES
UHD OR 4K	3840x2160	24	4:2:0	10 BIT	YES	YES	2.0(A/B)	8.91 GBPS	YES
UHD OR 4K	3840x2160	24	4:2:2	12 BIT	YES	YES	2.0(A/B)	11.14 GBPS	YES
UHD OR 4K	3840x2160	24	4:4:4	10 BIT	YES	YES	2.0(A/B)	11.14 GBPS	YES
UHD OR 4K	3840x2160	24	4:4:4	12 BIT	YES	YES	2.0(A/B)	13.37 GBPS	YES
UHD OR 4K	3840x2160	60	4:2:0	10 BIT	YES	YES	2.0(A/B)	11.14 GBPS	YES
UHD OR 4K	3840x2160	60	4:2:0	12 BIT	YES	YES	2.0(A/B)	13.37 GBPS	YES
UHD OR 4K	3840x2160	60	4:2:2	12 BIT	YES	YES	2.0(A/B)	17.82 GBPS	YES
UHD OR 4K	3840x2160	60	4:4:4	8 BIT	YES	YES	2.0(A/B)	17.82 GBPS	YES

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 warrants 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 broken - 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 an 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 remanufacture. 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!