

User Manual

4K 4x1 Multi-viewer

AC-MV-41





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INTRODUCTION

From a single HDMI 2.0 output, the AVPro Edge AC-MV-41 Multi-view video processor simultaneously displays as many as four separate sources on any size monitor, television, or projector. This versatile Multi-viewer/Tiler may be used stand-alone, enabling four directly connected sources to be viewed as a composite image, video wall style, or independently full-size, with input switching controlled by most third-party overcontrol systems. Recallable presets may feature all inputs equally in a traditional quad view or customized to highlight one source in a larger window, with others tiled in an endless variety of patterned layouts.

FEATURES

- HDMI 2.0 (a/b)
- Preset layouts
- Customizable layouts
- 1 to 4 sources on screen at the same time
- AVPro Edge User Interface
- 18 Gbps Bandwidth Support
- 4K/60 4:4:4 Support
- Full HDR Support (HDR 10- & 12-Bit)

- Dolby Vision, HDR10+ and HLG Support
- HDCP 2.3 (and earlier versions supported)
- Advanced EDID Management
- RS-232 and LAN Control Options
- Digital TOSLINK Out (7-CH PCM, DD, DTS)
- Balanced Analog Out (2-CH PCM)

WHAT'S IN THE BOX

- AC-MV-41 Multiview
- 5 x 5-Pin to 2-ch Audio Extraction Cable
- Grounding wire
- 4 x Rubber Feet
- 3-Pin Terminal Block
- 12 VDC 5A Power Supply
- Rack Mount Ears



SPECIFICATIONS

Video:	
Video Resolutions	Up to 4K/60 fps
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, BT.2020, DCI P3 D6500)
Chroma Subsampling	4:4:4, 4:2:2, 4:2:0 Supported
Deep Color	Up to 16-bit
Audio:	
Audio Formats Supported by HDMI	PCM 2.0-Ch, LPCM 5.1 & 7.1, Dolby Digital, DTS 5.1, Dol- by Digital Plus, Dolby TrueHD, DTS-HD Master Audio, DTS:X, Dolby Atmos
Analog Input Voltage	0.8 Vrms; 2.3 Vp-p
Audio Formats Supported Extracted (2CH Port)	PCM 2 CH
Analog Output Peak Voltage	1.39 Vrms; 3.94 Vp-p
Distance:	
HDMI In/Out (4K/60 4:4:4)	Up To 50 Feet (Using Bullet Train HDMI)
HDMI In/Out (W/ AOC Cable) (4K/60 4:4:4)	Up To 130 Feet (Using Bullet Train AOC HDMI)
Other:	
Bandwidth	18 Gbps (TMDS)
HDCP	HDCP 2.3 and Earlier
Control:	
Control	Lan, RS-232
Drivers	Control4
AVPro WebUI	Yes
Ports:	
HDMI	Туре А
LAN	RJ45 w/ Web Interface/ Control
Audio (Analog Input)	RCA
Audio (Extracted Analog)	5-Pin Terminal Block (Balanced)
RS232	3-Pin Terminal Block
Environmental:	



SPECIFICATIONS CONTINUED

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)	23.04W (12V 1.92A)
Power Supply	Input: AC 100-240V~ 50/60HZ Output: DC 12V 5A
Dimensions:	
Dimensions (Unit Only Length/Width/Height)	mm: 225.55 X 439.67 X 44.45 in: 8.88 X 17.31 X 1.75
Dimensions (Packaged Length/Width/Height)	mm: 374.65 X 569.98 X 123.95 in: 14.75 X 22.44 X 4.88
Weight (Unit)	7 Lbs. (3.18 Kg)
Weight (Packaged)	9.6 Lbs. (4.35Kg)



FRONT AND REAR PANEL OVERVIEW





CONNECTING

The AC-MV-41 can be controlled using the USB-C port, 3-pin RS-232, 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 physical connections, the first step will be to check for Firmware Updates. The below steps are an example of this setup. Other control options are covered in separate sections of this user manual.

- 1. Grounding Attach the included yellow ground strap to the back of the AC-MV-41 chassis and secure the other end to a grounded object for safety.
- 2. HDMI Input Sources Connect your source devices to the AC-MV-41 HDMI input ports.
- 3. HDMI Output Device Connect your sink/display device to the AC-MV-41 HDMI output port.
- 4. Network LAN Connection Use a LAN cable to connect the AC-MV-41 to your local network via the LAN port.
- 5. Powering on Input Sources Power on input devices connected to the AC-MV-41.
- 6. Powering on Output Devices/Displays Power on output devices connected to the AC-MV-41.
- 7. Powering on the Multiviewer Secure the 12VDC 5A power supply to the AC-MV-41, then connect to an AC mains power outlet.

Note: All devices and power supply connections must be secure for correct operation.



CONTROLLING

The AC-MV-41 may be controlled using the USB-C port, 3-pin RS-232, or over TCP/IP using the LAN connection.

1. USB-C Port

• Connect a USB-C cable from the AC-MV-41 to a computer or tablet for direct control.

- This method allows for easy setup and control via a physical connection.
- 2. 3-pin RS-232
 - Use a standard RS-232 cable with null modem wiring to link the AC-MV-41 to a control device, such as a computer or control system.
- 3. LAN Connection (TCP/IP)

• Connect the AC-MV-41 to a network using an Ethernet cable. This method facilitates remote access and integrated control systems.

Note: Each method provides different levels of convenience and functionality, catering to various user preferences and system setups.



CHANGING PRESETS

Multiview presets can be changed using the web GUI, front panel buttons and API commands sent over serial or IP. (This requires that the Aspect Ratio mode be disabled).

Web GUI

Access Multiview presets through the I/O Config tab of the GUI.

Video Output Settings				
Multiview Layout Mode: PIP OF	F v ide	o Aspect Ratio Mode: OFF		
Port Label	State	Timing Format	Video SDR	Signal
1 OUT 1	Enabled	▼ 4K60Hz	Enabled	•
5/1	5			
Video Output Settings				
Multiview Layout Mode: PIP OFF	Video Aspect Ratio Mode: OF			
Pert Label 2x2 PIP	Timing Format	Video SDR	Signal	
1 <u>OUI 1</u> 1/3(bottom)	4K80H2	Enabled •		
3+1(left)				
Multiview Layout M				APPLY
Input1: w1: 0 h1: 0	x1: 0 y1: 0	Display1: w2: 1920	h2: 1080 x2: 0 y2:	0 z1: 4 •
Input2: w1: 0 h1: 0	x1: 0 y1: 0	Display2: w2: 1920	h2: 1080 x2: 1920 y2:	0 z2: <u>3 •</u>
Input3: w1: 0 h1: 0	x1: 0 y1: 0	Display3: w2: 1920	h2: 1080 x2: 0 y2:	1080 z3: 2 •
Input4: w1: 0 h1: 0	x1: 0 y1: 0	Display4: w2: 1920	h2: 1080 x2: 1920 y2:	1080 z4: <u>1 •</u>
Inperio() (0/872-9)	70	input2: (0.0.0.0)		
D. sley) (1922 (000.00)/metry 1	/8	Display2: (1920.108	30.1920.0)	
Sala 🛛	2.35:1			
X 1:3 1			1	»χ 🦾
			$\land \frown$	
			\	
S 18 N 28 N 28 N 60 N	xo *** cos ***	(\mathbf{y})	100 100 100 100 100 100 100 100 10	00 100 070 100 000 000 000
Input3 (0.0.0.0) Display3 (1920-1080-0-1080)	NO	Display4 (0.0-0-0) Display4 (19970-199	al 1920 10a0)	10000000000000000000000000000000000000
				~
3			14	
	2.25.1		2401	
Vetere	× /			
Titter Stelding			Jael Saiver	



Front Panel Buttons

- Utilize the physical buttons available on the front panel of the device.
- Press the designated buttons corresponding to Multiview presets.
- Preset #1 (2x2)



• Preset #2 (1/3 bottom)



• Preset #3 (3+1 left)



• Preset #4 (cascade)





API Commands - Serial or IP

Communicate with the device via Application Programming Interface (API) commands.

• GUI Console

=		A Pro 255 ui	AC-MV-41
	Matrix		EXPORT LOG CLEAR CONSOLE
*	VO Config	set out1 mv layout1	>
٠	System		
ø	Diagnostics	set out1 mv layout1 OUT1 MV LAYOUT 1	
Σ.			

• Third-party UART Terminal

S Hercules SETUP utility by HW-group.com		-	
UDP Setup Setial TCP Client TCP Server UDP Test Mode Ab	out		
Received/Sent data			
Connecting to 192.168.2.91 Connected to 192.168.2.91 set out1 mv layout10UT1 MV LAYOUT 1		TCP (odule IP 192.168.2.91 Ping TEA authorization TEA key 1: 01020304 2: 05060708 Authorization cod	Port 23 X Disconnect 3 0304080C 4 000E0F10
		PortStore test NVT disable Receive	d jest data
		Redirect to UD	P
Send			
set out1 mv layout1\$0d	T HEX S	Send H	Wgroup w.HW-group.com
		Send	Version 3.2.8



MAKE PRESETS

The four default presets of the MV-41 may be changed using the Multiview Layout Mode Parameter in the web GUI or using the API.

Multiview Layout Mode Parameter

- GUI Multiview Layout Mode Parameter
 - Using the Multiview Layout Mode Parameter settings allows input cropping coordinates and display window coordinates to be changed, as well as the layer priorities of the current preset.

Multiview Layout Mode Parameter: APPLY																		
Inputt: w1:	0	M:	0	xt:	•	yt:	0	Display1: 1	#2:	1920	h2:	1080	x2	0	γz	0	z1: 4	
lepad? w1	0	м	0	=1	0	y1	0	Display?	•2	1920	ю	1080	v	1920	y?	0	12 3	-
lepat3 w1	0	м	0	at:	•	y1	0	Display3	-2	1920	112	1080	x2	0	y2:	1080	23.2	
Input4: w1:	0	M:	0	xt:	•	yt	0	Display4:	#2:	1920	h2:	1080	x2	1920	y2:	1060	z4: 1	•
Multiview La	yourt Mode	Param	eter				10			5.45 Q.	5.	15. I.S					APPI	× i
Muttview Lay	yourt Mode I	Param h1:	ctor: U	xt:	D	y1:	0	Ulsplay1: v	12	29/9	h2:	16//	x2	0	y2	344	APP() 21: 4	-
Multiview La Input1: w1: Input2: w1:	yout Mode I O O	Param h1: h1:	ctor U	xt: xt:	0	y1: y1:	0	Ukplay1: v Ukplay2: v	#2 #2	2979 3839	h2: h2:	15// 302	x2 x2	0	η2 η2	344 U	7661 21:4 22:3	-
Muthview Lay Input1: w1: Input2: w1: Input3: w1	yourt Modie I O O O	Param h1: h1: h1:	ctor U U	xt: xt: st	0	y1: y1: y1	0	Ukpiay1: v Ukpiay2: v Display3 v	12 12 12	29/9 3839 2976	h2 h2 h2	15// 352 132	12 12 12	0	12 12 12	344 0 2027	7991 21: 4 22: 3 23: 7	•

- Multiview Preset Configuration preview
 - Select Window: Choose the specific window whose coordinates you wish to modify.
 - Adjust Window Size
 - Stretch: Resize the window to increase its dimensions.
 - Shrink: Decrease the window size for a smaller display area.
 - Move Window: Position the window to a new location on the screen as desired.







API Commands (Serial or IP)

• GUI



• Third-party UART Terminal

A mornes series much of the floot com			
UDP Setup Serial TCP Direct TCP Server LCF Text I	Acce About		
leceived/Sent data		102	
Connecting to 192.168.2.91		Hot is P	Fort
Connected to 192.168.2.91		F 12 168 2 91	[2]
W LAYOUTI INI VC C.C.C.C.192C.108C.C.		I se conce or	
EV LAYOUT1 IN3 VC 0.0.0.0.1920.1080.0.1	LCBC	Fing	X Disconnect
EV LAYOUT1 IN4 VC 0.0.0.0.1920.1080.192	10.1080		
W LAYOUT1 IN2 WC 0.0.0.0.3840.1080.0.0	1	TEA authorities	ion
ev PRIORITY 4.3.2.1		TEA kep	
EV PRIORITY 1.2.3.4		1: 0:02030	4 3 loadyoedc
		2 0908070	8 4; 0D0E0F10
		A shortest or a	
		AUTORDOROT C	0.00
		1	
		- PorSue Int	
		C M/L durin	
		Fece	wedgest data
		F Redirect to 1	90
Serd			
get nev layout1 int0 vp	IT HEX	Send	HW group
oet nwiasouff in2 to 0.0.0.0.3940 1080.0.0004	IT HEX	Send	usual diferences
			leecales SETUP atility
	IT HEX	Send	Version 3.2.8



ASPECT RATIO MODE

The AC-MV-41 has five different aspect ratios that can be applied to the output video stream. These can be enabled using the GUI drop-down or the API. (Requires Multiview to be disabled.)

GUI (I/O Config)

Video Aspect Ratio Mode

Video	Output Setti	ngs						
Multivie	ew Layout Mode:	PIP OFF	•	Video Aspe	ct Ratio Mode:	OFF	•	
Port	Label	St	ate		Timing Forma	ıt	Video SDR	Signal
1	OUT 1	5 / 15	bled	•	4K60Hz		Enabled	

• API Commands (Serial or IP) - GUI

≡	<	Proxistaui	AC-MV-41
	Matrix	EXPORTIOG CLEAR CC	ONSOLE
*	I/O Config		٧
٠	System		
÷	Diagnostics	set out1 aspr3 OUT1 ASPR3	
Σ.		get out1 aspr	
		set out1 aspr3	
		OUT1 ASPR3	
		set out1 aspr2 OUT1 ASPR2	

Third-party UART Terminal

Hercules SETUP utility by HW-group.com			—		\times
UDP Setup Serial TCP Client TCP Server UDP Test Mode A	\bout				
Received/Sent data		TCD			
Connecting to 192.168.2.91 Connected to 192.168.2.91 OUTI ASPR3 OUTI ASPR3 OUTI ASPR3 OUTI ASPR3 OUTI ASPR2		TEA authoriz 192.168.2.9 Ping TEA authoriz TEA key 1: [010203 2 [050607	1 ation 104 3: 108 4:	Port 23 X Discor	mect)C
		Authorization	code st		8
		□ NVT dise Rec	ble eived te	st data	
	Г	Redirect to	UDP		
Send	_				
set out1 aspr3\$0d	□ HEX	Send	HLL www.H	Ugroup, IW-group,	u p com
	□ HEX	Send	Hercule V	s SETUP (ersion 3	aility



CONTROL DRIVER

All third-party control drivers may be located in our Knowledge Base by unit model number. Simply navigate to the 3rd Party Control Drivers section, then select the appropriate category based on the control system used.

Copy this file: AVProEdge_MV41_Webview.c4z

into the Control4 driver location (by default this is Documents\Control4\Drivers). Open Composer and choose the Search tab from the Items pane.

Find the latest drivers at https://support.avproedge.com/portal/en/kb/avpro-edge/general

CONTROL SYSTEM

Connecting to the Control System

Once the driver has been added to System Design in Composer, use the following steps to assign the IP address:C

- 1. Navigate to the network tab in Connections.
- 2. Select the device named AVPro Edge MV41
- 3. Manually enter the AC-MV-41's IP address.

For more detailed instructions on operating the driver, refer to the documentation tab within the driver in Composer.



WEBUI: I/O CONFIG Input Settings

	Matrix											
+	I/O Conlig	Input	Settings		Freebook	-						(here)
٠	System	Port	Cable Box		Enabled	EDID	NO 3D	 SDR 	- 20	н∵⇒	APPLY	signai
æ	Diagnostics	-		97.15		1080						
D.	Console		IN 2	47.15		4K60H2	NO 3D	- SDR	▼ 20	н 🕶	APPLY	
			IN 3	4/15		4K60HZ	ND 3D	• SOR	• 20	н 🕶	APPLY	
			IN 4			USER1 EDID	NO 3D	 SDR 	- 20		APPLY	
		4		47.15		USER2 EDID						
	65					USERG EDID						

Input Settings Label – This is where inputs are given a name/alias (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 dropdowns to select a preferred EDID. Available combinations are as follows:

0.1080P_2CH	9. 4K60HzY420_3D_2CH	18. 1080P_3D_2CH_HDR	27.4K60HZ_3D_2CH_HDR
1. 1080P_6CH	10. 4K60HzY420_3D_6CH	19. 1080P_3D_6CH_HDR	28.4K60HZ_3D_6CH_HDR
2.1080P_8CH	11. 4K60HzY420_3D_8CH	20. 1080P_3D_8CH_HDR	29.4K60HZ_3D_8CH_HDR
3.1080P_3D_2CH	12. 4K60HZ_3D_2CH	21. 4K30HZ_3D_2CH_HDR	31. USER1_EDID
4.1080P_3D_6CH	13. 4K60HZ_3D_6CH	22. 4K30HZ_3D_6CH_HDR	32. USER2_EDID
5. 1080P_3D_8CH	14. 4K60HZ_3D_8CH	23. 4K30HZ_3D_8CH_HDR	33. USER3_EDID
6.4K30HZ_3D_2CH	15. 1080P_2CH_HDR	24. 4K60HzY420_3D_2CH_HDR	
7.4K30HZ_3D_6CH	16.1080P_6CH_HDR	25. 4K60HzY420_3D_6CH_HDR	
8.4K30HZ_3D_8CH	17. 1080P_8CH_HDR	26. 4K60HzY420_3D_8CH_HDR	



EDID MANAGEMENT

The matrix has 29 factory-defined EDID settings. There are also three user-defined EDID memories. These user EDID memories are independent to each input and may be set differently. User-defined EDIDs may be uploaded using the free PC Control software or RS-232. Additionally, an EDID may be read from a specific output, captured, and automatically stored. This process will overwrite the EDID in USER EDID 1 and will be applied to the selected source.

• Use the arrow keys to highlight EDID then press OK to enter the EDID management menu.



- Select one of the four inputs using the Left/Right arrow, then press OK.
- The EDID Status turns to red. Next, use the UP/DOWN arrows to change the EDID.
- Once the desired EDID is selected, press the OK button to select it.

EDID Settings	EDID Settings
Input Seclect	Input Seclect
1 2 3 4	1 2 3 4
EDID Status	EDID Status
0 USER1_EDID	7 1080P_8CH_HDR

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



COMMAND LIST

Command	Action	
Н	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 HPD RST	Reset Input X hot plug detect to re-establish HDMI handshake {x=[0-4](0=ALL]}	
SET OUTx HDMI 5V RST	Reset Output x HDMI 5V to re-establish HDMI handshake {x=0~1}	
SET OUTx HPD RST	Reset Output x HDMI 5V to re-establish HDMI handshake {x=0~1}	
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	
SET FAN SPEED x	Set Fan Speed x{x=[0~3]}	
GET ADDR	Get System Address	
GET STA	Get System System Status	
GET BAUDR	Get System BaudRate	
GET INx SIG STA	Get Input x Signal Status{x=0~4}	
GET INX VID FMT INF	Get Input x Video Format Info{x=0~4}	
GET OUTx SIG STA	Get Output x Signal Status{x=0~1}	
GET OUTx HPD	Get HDMI Output x HPD Status{x=0~1}	
GET LCD ON T	Get LCD Remain On Time	
GET KEY LOCK	Get Key Lock Status	
GET FAN SPEED	Get Fan Speed Value	
Audio/Video Settings Command	s: (Note:output number(x)=HDMI,x=[1])	
SET OUTx MV LAYOUTy	Set Output x to Multiview Layout y {x=[0~1](0=ALL), y=[0-4] (0=PIP OFF,1=2x2 PIP,2=1/3(bottom),3=3+1(left),4=cascade)}	
SET MV LAYOUTx INy VC zz	Set Multiview Layout x Input y View Coordinate Value zz {zz=w1. h1.x1.y1.w2.h2.x2.y2,w1.h1.x1.y1 = Input Captor Cut Param, w2.h2.x2.y2=Output Captor Display Param x=[1~4],y=[1-4],w1/ w2=[0-3840],h1/h2=[0-2160],x1/x2=[0-3840],y1/y2=[0-2160]}	
SET MV PRIORITY x1.x2.x3.x4	Set Multiview Priority Path x1.x2.x3.x4{x1.x2.x3.x4=[1-4] Note:NUM 1 indicates the highest priority}	

SET OUTx ASPRy	Set Output x VIDEO Aspect Ratio Mode y(Does Not Apply to Vid- eo PIP Mode) {x=[0~1](0=ALL), y=[0-5](0=OFF,1=4/3,2=16/9,3 =21/9,4=1.85/1,5=2.35/1)}
GET OUTx MV LAYOUT	Get Output x to Multiview Layout Status{x=0~1}
GET MV LAYOUTx INy VC	Get Multiview Layout x Input y View Coordinate Value Status{x- =[1~4],y=0-4}
	Get Multiview Priority Path Status
GET OUTx ASPR	Get Output x VIDEO Aspect Ratio Mode Status{x=0~1}
Multiview Audio Settings Commo	ands:
SET AUD MODEx	: Set Multiview Audio Mode x{x=[0-1](0-Follow HDMI Out,1-Fol- low MVAUD IN)} Note:If Use VIDEO PIP Mode,MVAUD MODE Automatically Follow MVAUD IN
SET MVAUD INx	: Set Multiview Audio Select Input x {x=[1-8](1-4=HDMI1-4 AUDIO IN,5-8=L & R AUDIOIN)} NOTE:PIP MODE ON or AUD MODE 1 Takes Effect Automatically
GET AUD MODE	Get Multiview Audio Mode Status
GET MVAUD IN	Get Multiview Audio Select Input Status
Output Setup Commands: (Note	:output number(x)=HDMI,x=[1])
SET OUTx VS INy	Set Output x To Input y{x=0~1, y=[1~4]}
SET OUTx VFMTy	: Set Output x Video Timing Format{x=[0-1](0=ALL), y=[0-5]} {(0=1080P60Hz,1=4K30Hz,2=4K60Hz,3=1080p59.94Hz,4=4k29.97 Hz,5=4k59.94Hz}
SET OUTx FORCE SDR EN/DIS	: Set Output x Force Video SDR EN/DIS{x=[0-1](0=ALL)}
SET OUTx EXA EN/DIS	Set Ex-Audio Output Enable/Disable{x=[0~5](0=ALL,5=MULTIV- IEW Audio Out)}
SET OUTx EXADL PHy	: Set Ex-Audio Delay{x=[0~5](0=ALL,5=MULTIVIEW Audio Out), y=[0~7](0=Bypass,1~7=90,180,270,360,450,540,630MS)}
SET OUTx EXA VOLy	Set Output x EQ-Audio Volume Levely{x=[0-5](0=all,5=MULTIV- IEW Audio Out),y=[0~100]}
SET OUTx EXA VOL+y	: Set Output x EQ-Audio Volume Level Increase + y {x=[0-5] (0=all,5=MULTIVIEW Audio Out),y=[1~100,optional default=1]}
SET OUTx EXA VOL-y	: Set Output x EQ-Audio Volume Level Decrease-y {x=[0-5] (0=all,5=MULTIVIEW Audio Out),y=[1~100,optional default=1]}
SET OUTx EXA BALy	: Set Output x Balance y{x=[0-5](0=all,5=MULTIVIEW Audio Out), y=[0~20, Left = 0, Right = 20, Balanced = 10]}
SET OUTx EXA BAL+y	: Increase Output x Balance by y {x=[0-5](0=all,5=MULTIVIEW Audio Out),y=[1~20, optional default=1]}
SET OUTx EXA BAL-y	: Decrease Output x Balance by y {x=[0-5](0=all,5=MULTIVIEW Audio Out),y=[1~20, optional default=1]}

SET OUTx EXEQ MODEy	: Set Output x EX-Audio Volume EQ Modey{x=[0-5](0=all,5=- MULTIVIEW Audio Out),y=[0~7] y=[0-OFF],[1-Classical],[2- Headphone].[3-Hall].[4-Live].[5-Pop].[6-Rock].[7-Vocal]}
SET OUTx STREAM ON/OFF	SET OUTX STREAM ON/OFF{x=0~1}
GET OUTx VS	Get Output x Video Route{x=0~1}
GET OUTx VEMT	Get Output x Video Timing Format{x=0~1}
GET OUTx FORCE SDR	Get Output x Force Video SDR Status{x=0-1}
GET OUTx EXA	Get Ex-Audio Output Enable/Disable Status{x=[0~5](0=all,5=- MULTIVIEW Audio Out)}
GET OUTx EXADL PH	Get Ex-Audio Output Delay Status{x=[0~5](0=all,5=MULTIVIEW Audio Out)}
GET OUTx EXA VOL	Get Output x extracted audio Volume Level{x=[0-5](0=all,5=- MULTIVIEW Audio Out)}
GET OUTx EXA BAL	Get Output x Balance Value{x=[0-5](0=all,5=MULTIVIEW Audio Out)}
GET OUTx EXEQ MODE	Get Output x EX-Audio Volume EQ Mode Status{x=[0-5] (0=all,5=MULTIVIEW Audio Out)}
GET OUTx STREAM	Get Output x Stream ON/OFF Status{x=0~1}
GET OUTx EDID DATA	Get Output x EDID DATA{x=[1]}
Input Setup Commands:(Note:in	put number(x)=HDMI(x),x=[1-4])
SET INx EDID y	Set Input x EDID{x=0~4, y=[0~32]}
0:1080P_2CH	1:1080P_6CH
3:1080P_3D_2CH	4:1080P_3D_6CH
6:4K30HZ_3D_2CH	7:4K30HZ_3D_6CH
9:4K60HzY420_3D_2CH	10:4K60HzY420_3D_6CH
12:4K60HZ_3D_2CH	13:4K60HZ_3D_6CH
15:1080P_2CH_HDR	16:1080P_6CH_HDR
18:1080P_3D_2CH_HDR	19:1080P_3D_6CH_HDR
21:4K30HZ_3D_2CH_HDR	22:4K30HZ_3D_6CH_HDR
24:4K60HzY420_3D_2CH_HDR	25:4K60HzY420_3D_6CH_HDR
27:4K60HZ_3D_2CH_HDR	28:4K60HZ_3D_6CH_HDR
30:USER1_EDID	31:USER2_EDID
SET INX EDID CY OUTy	Copy Output y EDID To Input x(USER1 BUF){x=0~4, y=[1]}
SET INx Uy EDID CY OUTz	Copy Output z EDID To User y Buff Input x{x=0~4, y=[1~3],z=[1]}
SET INx EDID Uy DATAz	Write EDID To User y Buffer of Input x{x=0~4, y=[1-3],z=[EDID Data]}
SET INx TMDS ON/OFF	Set Inputx Port Power Status ON/OFF{x=0~4}
	Set Input x Port Power Status ON/OFE($x=0 \sim 4$)

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GET INx EDID	Get Input x EDID Index{x=0~4}
GET INx EDID y DATA	Get Input x EDID y Data{x=[132]}
GET INx TMDS	Get Inputx Port Power Status{x=0~4}
GET INx PW	Get Input x Port Power Status{x=0~4}
GET INx HDMI 5V	Get Input x HDMI 5V power status {x=0~4}
Network Setup Command: (xxx=	:[000-255], zzzz=[0001~9999]
SET RIP xxx.xxx.xxx	Set Route IP Address to xxx.xxx.xxx
SET HIP xxx.xxx.xxx	Set Host IP Address to xxx.xxx.xxx
SET NMK xxx.xxx.xxx	Set Net Mask to xxx.xxx.xxx
SET TIP zzzz	Set TCP/IP Port to zzzz
SET DHCP y	Set DHCP {y=0~1}
GET RIP	Get Route IP Address
GET HIP	Get Host IP Address
GET NMK	Get Net Mask
GET TIP	Get TCP/IP Port
GET DHCP	Get DHCP Status
GET MAC	Get MAC Address



TROUBLESHOOTING

- Power-related Verify the power supply is correctly connected to an active circuit.
- Connection-related Verify all cables are properly connected.
- Use the System section of the WebUI to verify the matrix firmware is current.
- Use the Diagnostics section of the WebUI to verify HDMI Input/Output status and EDID settings.
- The Diagnostics page indicates everything is good; however, no image exists. This may be a bandwidth limitation. See the Bandwidth Chart on page 19 and verify the signal does not exceed the bandwidth of any of the devices in the chain.

MAINTENANCE

To ensure the reliable operation of this product and protect the safety of any person using or handling this device while powered, please follow the following instructions.

- Use the power supply provided. If a replacement is required, check voltage, polarity, and verify it has sufficient power to supply this device.
- Do not operate this product outside the specified temperature and humidity range in the above specifications.
- Ensure there is adequate ventilation to allow this product to operate efficiently.
- Repair of this device should only be carried out by qualified professionals as these products contain sensitive components that mishandling may damage.
- Use this device only in a dry environment. Do not allow liquids or harmful chemicals to come into contact with the device.
- 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 has been damaged

SUPPORT

If you experience any problems while using this product, 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



WARRANTY THE BASICS

AVPro Edge warranties its products when purchased from an Authorized AVPro Edge Reseller or directly purchased from AVPro Edge. Products are guaranteed free from manufacturing defects and in sound physical and electronic condition.

AVPro Edge has developed a warranty anyone can get behind. We wanted to remove all the "red tape" from a warranty and simplify it. Our 10-YEAR NO BS warranty hinges on three conditions.

- 1. If you are having trouble, call us. We will attempt to troubleshoot your issue over the phone.
- 2. If it's broken We will advance-replace it on our dime. (We will cover return shipping, too.) Repair is also an option, but that is your decision.
- 3. We know that you know what you are doing. We will not make you go through unnecessary steps to troubleshoot a device that appears to have failed.

COVERAGE DETAILS

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

Your warranty begins at receipt of the product (as confirmed by shipping firm tracking). If tracking information is unavailable, 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 made outside an authorized channel.

If we conclude that a product or serial number has been tampered with as identified by the warranty seal or physical examination, the warranty will be void. Additionally, for 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 what is conventionally termed an act of God is not covered. This may include natural disasters, power surges, storms, earthquakes, tornadoes, sinkholes, 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, and static discharge are examples.

The Authorized AVPro Edge Reseller will service products installed or sold by a third party to AVPro Edge.

This warranty does not include accessories (IR Cables, RS-232, Power Supplies, etc.). 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, Reseller, or Installer.

SHIPPING

For the 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.

The returnee will be responsible for international, Alaska, or Hawaii return shipping costs. Once the unit is scanned for return shipping, AVPro Edge will ship a 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.

This warranty does not cover obsolescence or incompatibility with newly invented technologies (after the manufacture of the product).

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. Product redevelopment is not an option because of performance, price, and functionality issues."

Discontinued or out-of-production items will be credited to a current product with equal or comparable capabilities and cost at fair market value. AVPro Edge determines fair market value.

Exclusive Remedy

This limited warranty and the remedies set forth above are exclusive to the maximum extent permitted by law. Instead 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 expressly disclaims any 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, all implied warranties covering this product, including 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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