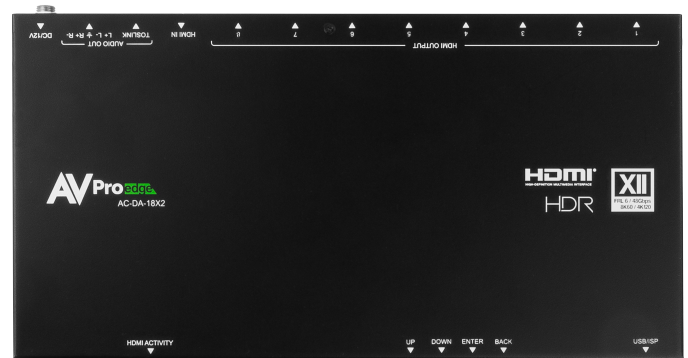


User Manual

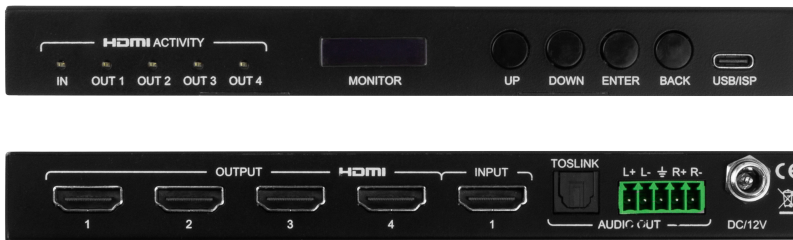
48Gps Distribution Amplifer X2 Line

AC-DA-12X2, AC-DA-14X2, AC-DA-18X2

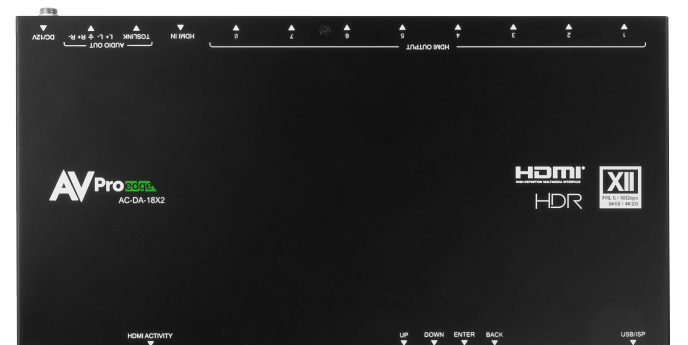
AC-DA-12X2



AC-DA-14X2



AC-DA-18X2



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Introduction

The X2 Series are 8K HDMI 2.1 distribution amplifiers, scalers and signal stabilizers. Able to connected one HDMI source and repeat that signal throughout the HDMI output ports. Each unit has dedicated ports with built in scalers allowing users to connect legacy TVs, projectors, or AVR's. This way you can send 8K signals to the connected 8K displays, and a 4K or 1080p signal to older models.

Full HDMI 2.1, FRL 48Gbps and HDR support ensures stable signaling even at the highest of bandwidths. Install the distribution amplifier with confidence in your next bar, restaurant, digital signage, commercial or residential install and see the difference.

Features

- **HDMI 2.1**
- **FRL (5)**
- **40Gbps Bandwidth Support**
- **4K120 4:4:4 Support**
- **Full HDR Support (HDR 10 & 12 Bit)**
- **Dolby Vision, HDR10+ and HLG Support**
- **HDCP 2.3 (and all earlier versions supported)**
- **8K or 4K > 1080P Downscaling**
- **8K > 4K Downscaling**
- **Advanced EDID Management**
- **LED screen on front**
- **Extracted 2 Channel Audio via Phoenix Connector**
- **Extracted Audio Now Supports DD+, DTS Master Audio on Toslink**

In The Box

- Distribution Amplifier Unit (AC-DA-12X2, AC-DA-14X2, AC-DA-18X2)
- 12V Power Supply
- x1 5 Pin Terminal block for extracted audio port
- Mounting Brackets

***NOTE: Optional 5 Pin to Stereo Audio Cables available for purchase AC-CABLE-5PIN-2CH**

Specifications

INDEX AC-DA-12X2

Video:	
Video Resolutions	Up to 8K 60Hz 4:4:4/8K 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 (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
Scaling (resolution, Output 2 & 4 only)	8k to 4k or 8k/4k to 1080p
Audio:	
Audio Formats Supported HDMI	PCM 2.0 Ch, LPCM 5.1 & 7.1, Dolby Digital, DTS 5.1, Dolby Digital Plus, Dolby TrueHD, DTS-HD Master Audio, DTS-X, Dolby Atmos
Audio Formats Supported Extracted (TOSLINK)	LPCM up to 5.1 96KHz 24 Bit, Dolby Digital 5.1, DTS HiRes Audio
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	48 Gbps (FRL 6)
HDCP	HDCP 2.3 and Earlier
Ports:	
HDMI	Type A
Audio (Extracted Digital)	Toslink
Audio (Extracted Analog)	5 PIN Terminal Block (Balanced)
Firmware	USB C
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)	3 watts max
Power Supply	Input: AC 100-240V ~ 50/60Hz Output: DC 12V 3A
Dimensions:	
Dimensions (Unit Only Length/Width/Height)	mm: 150.88 X 76.2 X 20.6375 inch: 5.94 X 3 X .81
Dimensions (Packaged Length/Width/Height) (Kit)	mm: 76.2 X 75.44 X 304.8 inch: 3 X 2.97 X 12
Weight (Unit)	0.68 lbs (0.31 Kg)
Weight (Packaged)	1.21 lbs (0.55 Kg)
*Specifications subject to change without notice. Mass & dimensions are approximate	

Specifications

INDEX AC-DA-14X2

Video:

Video Resolutions	Up to 8K 60Hz 4:4:4/8K 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 (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
Scaling (resolution, Output 2 & 4 only)	8k to 4k or 8k/4k to 1080p

Audio:

Audio Formats Supported HDMI	PCM 2.0 Ch, LPCM 5.1 & 7.1, Dolby Digital, DTS 5.1, Dolby Digital Plus, Dolby TrueHD, DTS-HD Master Audio, DTS-X, Dolby Atmos
Audio Formats Supported Extracted (TOSLINK)	LPCM up to 5.1 96KHz 24 Bit, Dolby Digital 5.1, DTS HiRes Audio
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	48 Gbps (FRL 6)
HDCP	HDCP 2.3 and Earlier

Ports:

HDMI	Type A
Audio (Extracted Digital)	Toslink
Audio (Extracted Analog)	5 PIN Terminal Block (Balanced)
Firmware	USB C

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)	3 watts max
Power Supply	Input: AC 100-240V ~ 50/60Hz Output: DC 12V 3A

Dimensions:

Dimensions (Unit Only Length/Width/Height)	mm: 172.974 X 81.03 X 20.6375 inch: 6.81 X 3.19 X .81
Dimensions (Packaged Length/Width/Height) (Kit)	mm: 193.8 X 138.18 X 87.38 inch: 7.63 X 5.44 X 3.44
Weight (Unit)	0.66 lbs (0.3 Kg)
Weight (Packaged)	1.59 lbs (0.72 Kg)

*Specifications subject to change without notice. Mass & dimensions are approximate

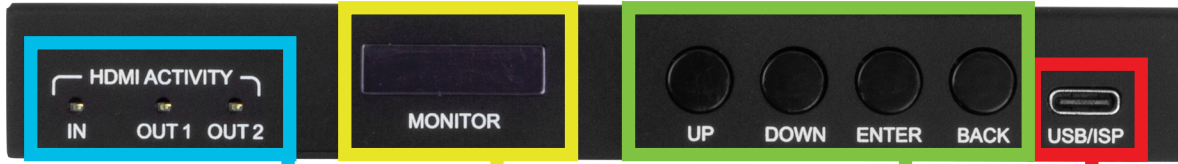
Specifications

INDEX AC-DA-18X2

Video:	
Video Resolutions	Up to 8K 60Hz 4:4:4/8K 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 (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
Scaling (resolution, Output 2 & 4 only)	8k to 4k or 8k/4k to 1080p
Audio:	
Audio Formats Supported HDMI	PCM 2.0 Ch, LPCM 5.1 & 7.1, Dolby Digital, DTS 5.1, Dolby Digital Plus, Dolby TrueHD, DTS-HD Master Audio, DTS-X, Dolby Atmos
Audio Formats Supported Extracted (TOSLINK)	LPCM up to 5.1 96KHz 24 Bit, Dolby Digital 5.1, DTS HiRes Audio
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	48 Gbps (FRL 6)
HDCP	HDCP 2.3 and Earlier
Ports:	
HDMI	Type A
Audio (Extracted Digital)	Toslink
Audio (Extracted Analog)	5 PIN Terminal Block (Balanced)
Firmware	USB C
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)	3 watts max
Power Supply	Input: AC 100-240V ~ 50/60Hz Output: DC 12V 3A
Dimensions:	
Dimensions (Unit Only Length/Width/Height)	mm: 260.35 X 136.65 X 26.92 inch: 10.25 X 5.38 X 1.06
Dimensions (Packaged Length/Width/Height) (Kit)	mm: 314.452 X 182.63 X 94.49 inch: 12.38 X 7.19 X 3.72
Weight (Unit)	1.86 lbs (0.84 Kg)
Weight (Packaged)	2.92 lbs (1.32 Kg)
*Specifications subject to change without notice. Mass & dimensions are approximate	

Front Overview

Front: AC-DA-12X2



Front: AC-DA-14X2



Front: AC-DA-18X2



HDMI Status Indicator LEDs

Front Screen Display

Settings Buttons EDID/Scaler

USB-C Port Firmware ISP Control

HDMI Status Indicator LEDs will have two states.

- LED is ON - A source/sync is detected on that HDMI port.
- LED is OFF - No source/sync is detected on that HDMI port.

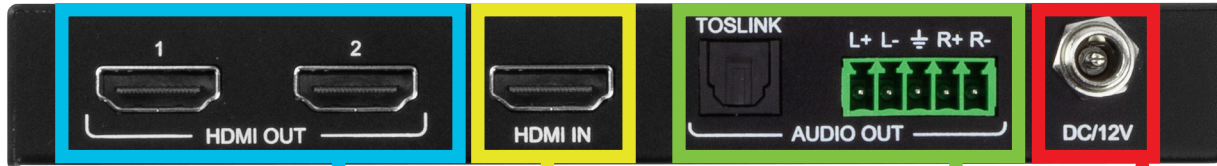
Front Screen Display - Displays the current Resolution/Timing of the HDMI Input. Use in conjunction with the Settings buttons (UP, DOWN, ENTER, and BACK) to navigate the available Settings menus and change EDID, Scaler settings, and enable/disable the extracted audio ports. The screen backlight time can be changed using the command list (default setting is 60 seconds). See page[s] 10-11 for command list.

Settings Buttons EDID/Scaler - Use these 4 buttons to navigate the available front screen menus. See page[s] 7-8 for more details.

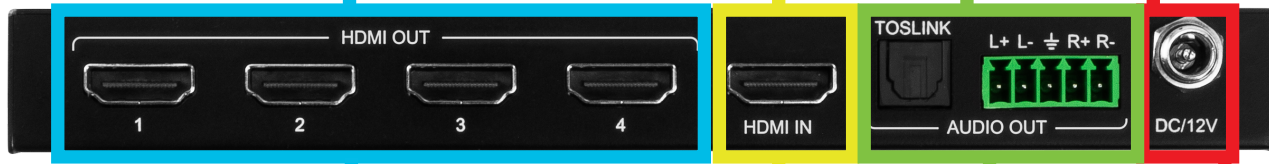
USB/ISP - This port is used for updating firmware. Can also be used for basic control.
See the Command list page[s]

Back Overview

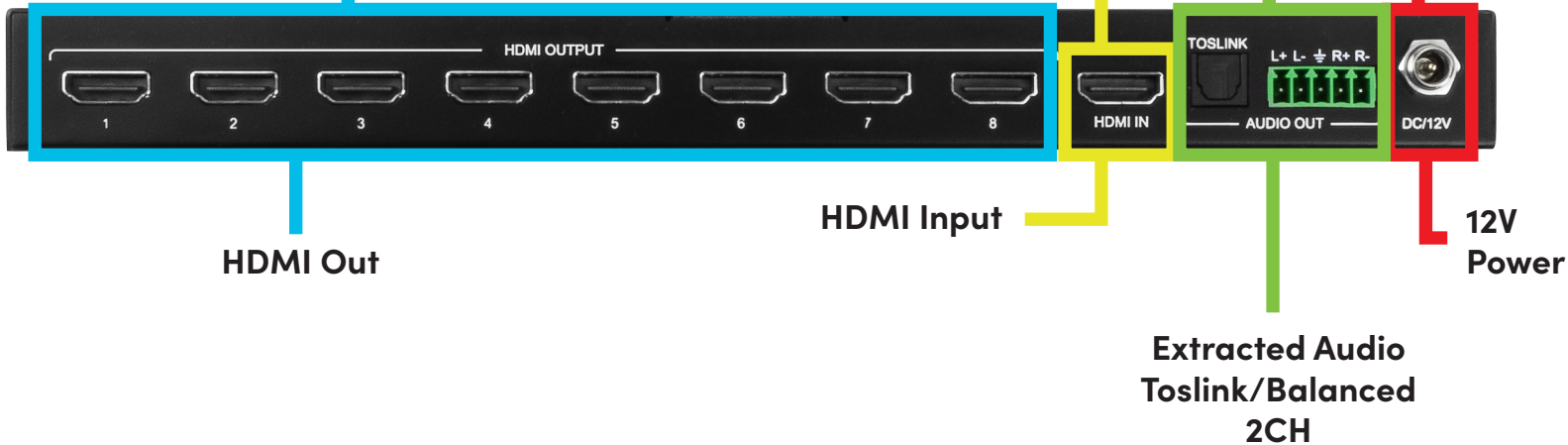
Front: AC-DA-12X2



Front: AC-DA-14X2



Front: AC-DA-18X2



HDMI Outputs

- You can down-scale HDMI OUT2 and HDMI OUT4 only. See the Front Panel Controls page[s] to change using the front panel buttons. See page[s] 10-11 for Command list.
- Downscale is only available on certent ports. Use the front panel buttons to change the scaling.

HDMI Input

Extracted Audio

- TOSLINK - Supports up to 5.1Ch Audio
- Balanced 2Ch - Supports 2Ch PCM only

12V Power

Front Panel Control - EDID Management

To Change the EDID of the INPUT

1. Press the ENTER button to enter the Main Menu. If the screen is off you the first button press will wake up the screen, you will have to press the ENTER button again to enter the menu.

NOTE: EDID is the first menu and will default here every time you enter the Main Menu.

2. With "1-EDID" showing on the front screen, press the ENTER button.

NOTE: The current EDID will display initially when you enter the EDID menu.



3. Use the UP/DOWN buttons to cycle through the available EDIDs (See list below).
4. With the desired EDID showing on the front screen, press the ENTER button to set.

NOTE: USER1 slot can be used to copy and store a connected sync devices EDID. Select COPY OUT1, COPY OUT2, COPY OUT3, or COPY OUT4 (depending on the HDMI output you want to copy from) and press the ENTER button to save the EDID of that OUTPUTs connected Sync device to the USER1 EDID slot.

Input Setup Commands:		
SET IN1 EDID y	: Set Input 1 EDID{y=[0~14]}	
0:1080P_2CH(PCM)	1:1080P_6CH	2:1080P_8CH
3:4K60HzY420_3D_2CH	4:4K60HzY420_3D_6CH	5:4K60HzY420_3D_8CH
6:4K60HZ_3D_2CH_HDR	7:4K60HZ_3D_6CH_HDR	8:4K60HZ_3D_8CH_HDR
9:FRL10G_8K_2CH_HDR	10:FRL10G_8K_6CH_HDR	11:FRL10G_8K_8CH_HDR
12:USER1_EDID	13:USER2_EDID	14:USER3_EDID

EDID BLEND: You can copy the Audio part of and EDID from one HDMI Output and the Video of another. See page[s] 10-11 command list for more details.

Front Panel Control - Scaling

To Change the Scaler settings of OUT2 and OUT4 (these two can be set separately)

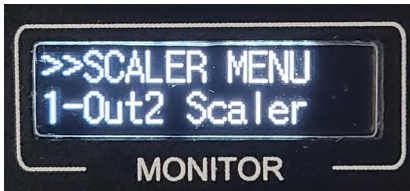
1. Press the ENTER button to enter the Main Menu. If the screen is off press the enter button again (the first press will wake the screen up).

NOTE: EDID is the first menu and will default here every time you enter the Main Menu.

2. Use the UP/DOWN buttons to select "2-Scaler", press the ENTER button.



3. Use the UP/DOWN buttons to select either "1-Out2 Scaler" to "2-Out4 Scaler", press the ENTER button.



4. Use the UP/DOWN buttons to change the scaler setting, there are three available settings.

- 1 - By Pass (default setting, signal is left untouched).
- 2 - Scaler 2K (scales the signal down to 1080P)
- 3 - Scaler 4K (scales the signal down to 3840P)

NOTE: Current setting is indicated by an *>, see the two examples below.



Not selected



After pressing ENTER, OUT4 is now set to downscale to 2K

Front Panel Controls -Extracted Audio

The extracted audio is always active by default, you may simply plug into any/all of the ports (Toslink or Balanced 2CH) and the audio will be output based on the active source. The Toslink ports supports up to 5.1Ch digital audio and the 5pin terminal connector supports 2Ch PCM. This means in order for the 5 pin ANALOG L/R port to output audio, the sources have to be set to 2Ch PCM. This unit does NOT down mix the audio (see the Axion series of matrices for down mixing). To get more than two channels you will want to use the TOSLINK port.

NOTE: Pre-made 5pin terminal connector to 2Ch L/R cables are available, product part number is AC-CABLE-5PIN-2CH.

1. Press the ENTER button to enter the Main Menu. If the screen is off press the enter button again (the first press will wake the screen up).

NOTE: EDID is the first menu and will default here every time you enter the Main Menu.

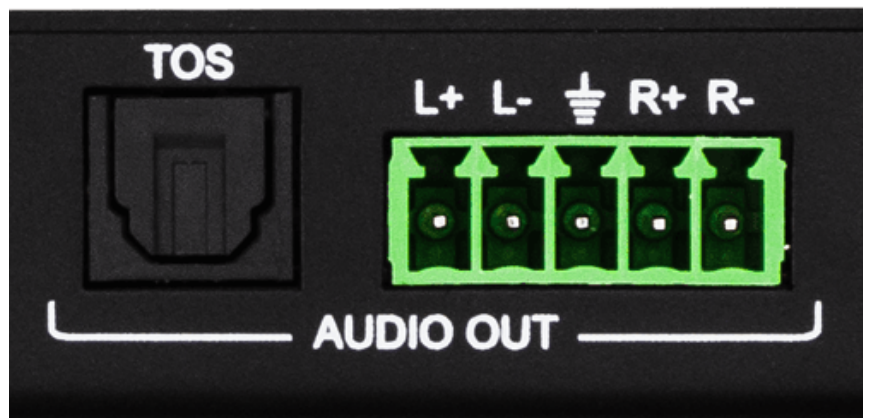
2. Use the UP/DOWN buttons to select "3-ExAudio", press the ENTER button.



3. Use the UP/DOWN buttons to select either "1-ExAudio Off" or "2-ExAudio On", press the ENTER button.



AC-CABLE-5PIN-2CH



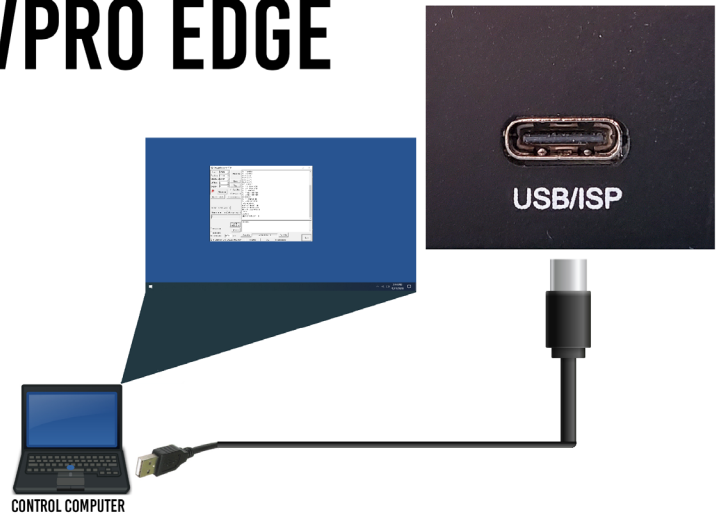
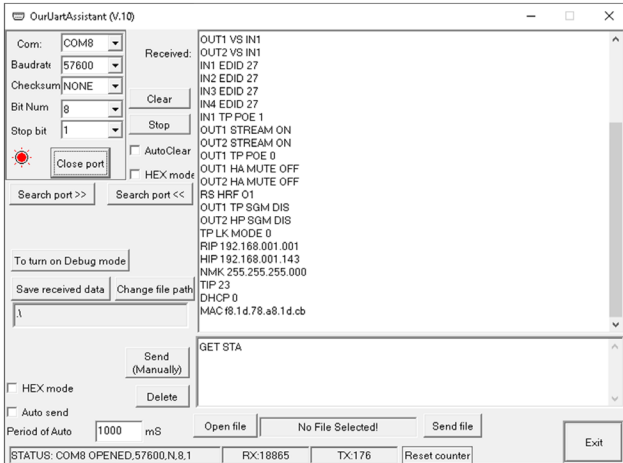
Additionally the extracted audio ports can be disabled/enabled via USB-C port and the command list

SET OUT1 EXA EN/DIS - See page(s) 10-11 for command list details.

USB Control Cont.

The AC-DA-14X has a USB-C port on the front. You can connect using a windows computer and MyUart assist (available to download for free on www.avproedge.com/drivers). See page[s] 10-11 for complete command list.

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 SX-G/SIX-A & Fox & Hound and several USB-Serial converters supplied by AVPro Edge



Command List

AC-DA-12X2

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=0~2}
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 EDID OUTx A OUTy V MIX INz	Set EDID OUTx Audio OUTy Video Mix Input z {x=[12,z=[0~1]}
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=0~2}
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
Output Setup Commands	
SET OUTx SGMT y	Set Output Signal Generator Timing{x=05}(0=Signal Generator OFF,...)}
SET OUTx VIDEOy	Set Output VIDEO Mode {x=0~2, y=1,2,6}
SET OUTx EXA EN/DIS	Set Ex-Audio Output Enable/Disable{x=0~1}
SET OUTx EXAUD LEVx	Set Output x EQ-Audio Volume Levely{x=0-1,y=[0~100]}
SET OUTx EXA LVly	Set Output x Ex-Audio(Balanced) Left Volume Levely{x=0-1,y=[0~10]}
SET OUTx EXA RVly	Set Output x Ex-Audio(Balanced) Right Volume Levely{x=0-1,y=[0~10]}
SET OUTx EXEQ MODEy	Set Output x EX-Audio Volume EQ Modey{x=0-1,y=[0~7]}
SET OUTx STREAM ON/OFF	Set Output x Stream ON/OFF{x=0~2}
GET OUTx SGMT	Get Output Signal Generator Timing Status{x=0~2}
GET OUTx EXA	Get Ex-Audio Output Enable/Disable Status{x=0~2}
GET OUTx EXAUD LEV	Get Output x EQ-Audio Volume Level{x=0-1}
GET OUTx EXA LVL	Get Output x Ex-Audio(Balanced) Left Volume Level{x=0-1}
GET OUTx EXA RVL	Get Output x Ex-Audio(Balanced) Right Volume Level{x=0-1}
GET OUTx EXEQ MODE	Get Output x EX-Audio Volume EQ Mode Status{x=0-1}
GET OUTx STREAM	Get Output x Stream ON/OFF Status{x=0~2}
GET OUTx EDID DATA	Get Output x EDID DATA{x=[1~2]}
Input Setup Commands	
SET INx EDID y	Set Input x EDID{x=023}
0: OUT1 Passthrough	1: 1080P_2CH_SDR
3: 1080P_8CH_SDR	4: 4K60Hz_2CH
6: 4K60Hz_8CH	7: FRL3_4K120Hz_Y420_2CH
9: FRL3_4K120Hz_Y420_8CH	10: FRL3_8K30Hz_Y420_2CH
12: FRL3_8K30Hz_Y420_8CH	13: FRL5_4K120Hz_10b_2CH
15: FRL5_4K120Hz_10b_8CH	16: FRL5_8k60Hz_Y420_2CH
18: FRL5_8k60Hz_Y420_8CH	19: FRL6_4k120Hz_12b_2CH
21: FRL6_8k60Hz_Y420_2CH	22: USER1_EDID
	23: USER2_EDID
SET INx EDID CY OUTy	Copy Output y EDID To Input x(USER1 BUF){x=02}
SET INx Uy EDID CY OUTz	Copy Output z EDID To User y Buff Input x{x=02,z=[1~2]}
SET INx EDID Uy DATAz	Write EDID To User y Buffer of Input x{x=02,z=[EDID Data]}
SET INx TMDS ON/OFF	Set Input x Port TMDS Status ON/OFF{x=0~1}
SET INx RST	Set Input Port Reset{x=[0~1]}(0=ALL)
SET INx PW ON/OFF	Set Input x Port Power Status ON/OFF{x=[0~1]}(0=ALL)
GET INx EDID	Get Input x EDID Index{x=[0~1]}(0=ALL)
GET INx EDID y DATA	Get Input x EDID y Data{x=[0~1],y=[0~23]}
GET INx TMDS	Get Input x Port TMDS Status{x=[0~1]}(0=ALL)
GET INx PW	Get Input x Port Power Status{x=[0~1]}(0=ALL)

Command List

AC-DA-14X2

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	
SET EDID OUTx A OUTy V MIX INz	Set EDID OUTx Audio OUTy Video Mix Input z {x=[1~4],y=1~4,z=[0~1]}	
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	
Output Setup Commands:(Note:output number(x)=HDMI,x=[1~4])		
SET OUTx SGMT y	Set Output Signal Generator Timing{x=0~4,y=[0~5]}(0=Signal Generator OFF,1=1080p 60Hz,2=4K 60Hz,3=1080p 50Hz,4=4K 50Hz,5=1080p 24Hz)	
SET OUTx VIDEOy	Set Output VIDEO Mode {x=0~4, y=1,2,6}	
SET OUTx EXA EN/DIS	Set Ex-Audio Output Enable/Disable{x=0~1}	
SET OUTx EXAUD LEVx	Set Output x EQ-Audio Volume Levely{x=0~1,y=[0~100]}	
SET OUTx EXA LVly	Set Output x Ex-Audio(Balanced) Left Volume Levely{x=0~1,y=[0~10]}	
SET OUTx EXA RVly	Set Output x Ex-Audio(Balanced) Right Volume Levely{x=0~1,y=[0~10]}	
SET OUTx EXEQ MODEy	Set Output x EX-Audio Volume EQ Modey{x=0~1,y=[0~7]}	
GET OUTx SGMT	Get Output Signal Generator Timing Status{x=0~4}	
GET OUTx EXA	Get Ex-Audio Output Enable/Disable Status{x=0~1}	
GET OUTx EXAUD LEV	Get Output x EQ-Audio Volume Level{x=0~1}	
GET OUTx EXA LVL	Get Output x Ex-Audio(Balanced) Left Volume Level{x=0~1}	
GET OUTx EXA RVL	Get Output x Ex-Audio(Balanced) Right Volume Level{x=0~1}	
GET OUTx EXEQ MODE	Get Output x EX-Audio Volume EQ Mode Status{x=0~1}	
GET OUTx STREAM	Get Output x Stream ON/OFF Status{x=0~4}	
GET OUTx EDID DATA	Get Output x EDID DATA{x=[1~4]}	
Input Setup Commands:(Note:input number(x)=HDMI(x),x=[1])		
SET INx EDID y	Set Input x EDID{x=0~1, y=[0~23]}	
0: OUT1 Passthrough	1: 1080P_2CH_SDR	2: 1080P_6CH_SDR
3: 1080P_8CH_SDR	4: 4K60Hz_2CH	5: 4K60Hz_6CH
6: 4K60Hz_8CH	7: FRL3_4K120Hz_Y420_2CH	8: FRL3_4K120Hz_Y420_6CH
9: FRL3_4K120Hz_Y420_8CH	10: FRL3_8K30Hz_Y420_2CH	11: FRL3_8K30Hz_Y420_6CH
12: FRL3_8K30Hz_Y420_8CH	13: FRL5_4K120Hz_10b_2CH	14: FRL5_4K120Hz_10b_6CH
15: FRL5_4K120Hz_10b_8CH	16: FRL5_8k60Hz_Y420_2CH	17: FRL5_8k60Hz_Y420_6CH
18: FRL5_8k60Hz_Y420_8CH	19: FRL6_4k120Hz_12b_2CH	20: FRL6_8k30Hz_12b_2CH
21: FRL6_8k60Hz_Y420_2CH	22: USER1_EDID	23: USER2_EDID
GET INx TMDS	Get Input x Port TMDS Status{x=0~1}	
GET INx PW	Get Input x Port Power Status{x=0~1}	
GET INx 5V	Get Input 5V Pin Status (1 = source connected){x=0~1}	

Command List

AC-DA-18X2

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=0~8}	
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 EDID OUTx A OUTy V MIX INz	Set EDID OUTx Audio OUTy Video Mix Input z {x=[1~8],y=1~8,z=[0~1]}	
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=0~8}	
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	
Output Setup Commands:		
SET OUTx SGMT y	Set Output Signal Generator Timing{x=0~8,y=[0~5]}(0=Signal Generator OFF,....,5=8K 30Hz))	
SET OUTx VIDEOy	Set Output x Video Mode y{x=0~8, y=1,2,6}	
SET OUTx EXA EN/DIS	Set Ex-Audio Output Enable/Disable{x=0~1}	
SET OUTx EXAUD LEVx	Set Output x EQ-Audio Volume Levely{x=0~1,y=[0~100]}	
SET OUTx EXA LVLy	Set Output x Ex-Audio(Balanced) Left Volume Levely{x=0~1,y=[0~10]}	
SET OUTx EXA RVLy	Set Output x Ex-Audio(Balanced) Right Volume Levely{x=0~1,y=[0~10]}	
SET OUTx EXEQ MODEy	Set Output x EX-Audio Volume EQ Modey{x=0~1,y=[0~7]}	
SET OUTx STREAM ON/OFF	SET OUTx STREAM ON/OFF{x=0~8}	
GET OUTx VIDEO	Get HDMI Output x Video Mode{x=0~8}	
GET OUTx SGMT	Get Output Signal Generator Timing Status{x=0~8}	
GET OUTx EXA	Get Ex-Audio Output Enable/Disable Status{x=0~1}	
GET OUTx EXAUD LEV	Get Output x EQ-Audio Volume Level{x=0~1}	
GET OUTx EXA LVL	Get Output x Ex-Audio(Balanced) Left Volume Level{x=0~1}	
GET OUTx EXA RVL	Get Output x Ex-Audio(Balanced) Right Volume Level{x=0~1}	
GET OUTx EXEQ MODE	Get Output x EX-Audio Volume EQ Mode Status{x=0~1}	
GET OUTx STREAM	Get Output x Stream ON/OFF Status{x=0~8}	
GET OUTx EDID DATA	Get Output x EDID DATA{x=[1~8]}	
Input Setup Commands:		
SET INx EDID y	Set Input x EDID {x=0~1, y=[0~23]}	
0: OUT1 Passthrough	1: 1080P_2CH_SDR	2: 1080P_6CH_SDR
3: 1080P_8CH_SDR	4: 4K60Hz_2CH	5: 4K60Hz_6CH
6: 4K60Hz_8CH	7: FRL3_4K120Hz_Y420_2CH	8: FRL3_4K120Hz_Y420_6CH
9: FRL3_4K120Hz_Y420_8CH	10: FRL3_8K30Hz_Y420_2CH	11: FRL3_8K30Hz_Y420_6CH
12: FRL3_8K30Hz_Y420_8CH	13: FRL5_4K120Hz_10b_2CH	14: FRL5_4K120Hz_10b_6CH
15: FRL5_4K120Hz_10b_8CH	16: FRL5_8k60Hz_Y420_2CH	17: FRL5_8k60Hz_Y420_6CH
18: FRL5_8k60Hz_Y420_8CH	19: FRL6_4k120Hz_12b_2CH	20: FRL6_8k30Hz_12b_2CH
21: FRL6_8k60Hz_Y420_2CH	22: USER1_EDID	23: USER2_EDID
SET INx EDID CY OUTy	Copy Output y EDID To Input x(USER1 BUF){x=0~1, y=[1~8]}	
SET INx Uy EDID CY OUTz	Copy Output z EDID To User y Buff Input x{x=0~1, y=[1~2],z=[1~8]}	
SET INx EDID Uy DATAz	Write EDID To User y Buffer of Input x{x=0~1, y=[1~2],z=[EDID Data]}	
SET INx TMDS ON/OFF	Set Input x Port TMDS Status ON/OFF{x=0~1}	
SET INx PW ON/OFF	Set Input x Port Power 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=[0~1],y=[0~23]}	
GET INx TMDS	Get Input x Port TMDS Status{x=0~1}	
GET INx PW	Get Input x Port Power Status{x=0~1}	
GET INx 5V	Get Input 5V Pin Status (1 = source connected){x=0~1}	

System status response example (STA cmd)

System STATUS	
System Address = 00	F/W Version : 0.95.1
System Setup Status	
RS232	: Baud Rate=57600bps, Data=8bit, Parity=None, Stop=1bit
LCD Remain ON	: 60Sec
EX-Audio Mode	: ENABLE
Input Setup Status	
IN1	: EDID = FRL10G_8K_8CH_HDR
Output Setup Status	
Output1	: Video Mode=Bypass, Test Pattern=DIS, Out Stream=ON, Audio Mute=OFF
Output2	: Video Mode=4K/8K To 2K, Test Pattern=DIS, Out Stream=ON, Audio Mute=OFF
Output3	: Video Mode=Bypass, Test Pattern=DIS, Out Stream=ON, Audio Mute=OFF
Output4	: Video Mode=4K/8K To 2K, Test Pattern=DIS, Out Stream=ON, Audio Mute=OFF

EDID Blend

EDID Blend is a feature where you create an EDID by copying from two of the HDMI Outputs. It takes the Audio section of the EDID from one output and combines it with the Video section of another output. So you can take the Audio from an older AVR and combine it with a newer display. This EDID will save to EDID#12 - USER1 EDID until the copying process is repeated.

SET INx EDID y : Set Input x EDID{x=[0~1](0=ALL), y=[0~23]}

Example Copy audio from HDMNI OUT4 and the video from HDMI OUT1

SEND - SET EDID OUT4 A OUT1 V MIX IN1

RECEIVE - ASCII_Cmd_Param1=4,1,1

EDID OUT4 A OUT1 V MIX IN1

IN1 EDID12

LINK1 SIG STA 0

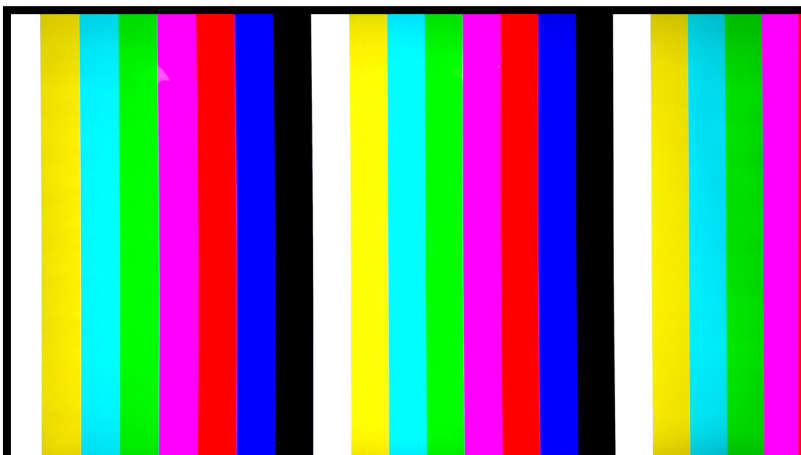
LINK1 SIG STA 1

Signal Generator

The AC-DA-14X has a built in 1920x1080 color bar test pattern that can be enabled per HDMI Output.

SET OUTx SGM EN/DIS

: Set HDMI Output x Signal Generator Enable/Disable{x=[0-4](0=ALL)}



Troubleshooting

- Verify Power - Check that the power supply is properly connected and on an active circuit. The front display screen should illuminate with a button press. The red HDMI activity light should be on for any active HDMI Input or HDMI Output(s).
- Verify Connections - Check that all cables are properly connected.
- Lights indicate everything is good but still not getting a picture, this may be a bandwidth limitation. See Bandwith Chart on page[s] 14-15 to verify the signal is not exceeding the bandwidth of any of the connected devices.

HDMI 2.1 Bandwidth Innovation 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
UHD & 4K	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
	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
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	
5K	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	
	5120 x 2160 100-120p	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
		4:2:0	8 Bit		24 Gbps	18 Gbps
		4:2:0	10-12 Bit		32 Gbps	18 Gbps

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

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 adaptor has been damaged
- Objects or liquids have gotten into the unit
- The unit has been exposed to rain
- The unit does not operate normally or exhibits a marked change in performance
- The unit has been dropped or the housing damaged

Support

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

- Product name and model number
- Product serial number
- Details of the issue and any conditions under which the issue is occurring
- Clean this unit with a soft, dry cloth. Never use alcohol, paint thinner or benzene to clean this unit.

Warranty

THE BASICS.

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

AVPro Edge has developed a warranty that anyone can get behind. We really wanted to take all the “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 remanufactured 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.

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Thank you for choosing AVProEdge!

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



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