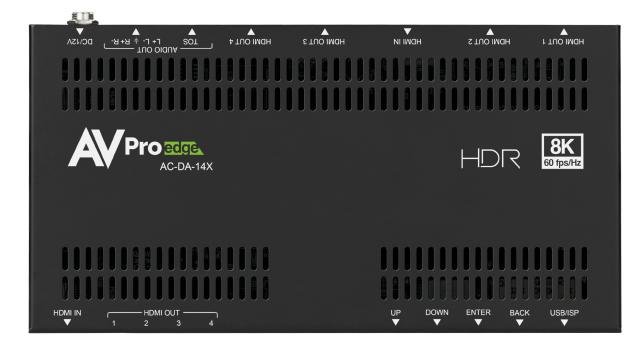
#### **User Manual**

#### **8K 1x4 Distribution Amplifier with De-Embeded 2Ch Audio, Built in Down-scalers, and EDID Management**

### AC-DA-14X





## 

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## Introduction

The AC-DA-14X is an 8K HDMI distribution amplifier, scaler, and signal stabilizer. Able to connected one HDMI source and repeat that signal throughout the 4 HDMI output ports. Output port two and four have 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 40Gbps 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



- AC-DA-14X
- 12V Power Supply
- x1 5 Pin Terminal block for extracted audio port
- Mounting Ears





## Specifications

| VIDEO:  |   |
|---|---|
| VIDEO RESOLUTIONS                               | UP TO 8K 60Hz 4:2:0/8K 30Hz 4:4:4/4K 120Hz                |
|   | 420, 422, 444 (10 AND 12 DEEP COLOR)                      |
| HDR FORMATS/RESOLUTIONS                         | HDR10, HDR10+, DOLBY VISION, HLG                          |
|   | YUV (COMPONENT), RGB                                      |
| COLOR SPACE                                     | (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:  |   |
|   | PCM 2.0 CH, LPCM 5.1 & 7.1, DOLBY DIGITAL, DTS 5.1, DOLBY |
| AUDIO FORMATS SUPPORTED HDMI                    | DIGITAL PLUS, DOLBY TRUEHD, DTS-HD MASTER AUDIO, DTS-X,   |
|   | DOLBY ATMOS   |
|   | LPCM UP TO 5.1 96KHZ 24 BIT, DOLBY DIGITAL 5.1, DTS HIRES |
| AUDIO FORMATS SUPPORTED EXTRACTED (TOSLINK)     | 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                                       | 40 GBPS (FRL 5)   |
| 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 2A   |
| DIMENSIONS:                                     |   |
| DIMENSIONS (UNIT ONLY LENGTH/WIDTH/HEIGHT)      | MM: 16.764 X 85.725 X 144.526                             |
|   | INCH: .66 X 3.375 X 5.69                                  |
| DIMENSIONS (PACKAGED LENGTH/WIDTH/HEIGHT) (KIT) | MM: 76.2 X 180.975 X 304.8                                |
|   | INCH: 3 X 7.125 X 12                                      |
| WEIGHT (UNIT)                                   | 0.57 LBS (0.26 KG)  |
| WEIGHT (PACKAGED)                               | 1.21 LBS (0.55 KG)  |
|   | UT NOTICE. MASS & DIMENSIONS ARE APPROXIMATE              |

#### **Front Overview**

-----

|                               |   | <b>V</b>                       |                                 |
|-------------------------------|---|--------------------------------|---------------------------------|
|                               | от 2 4 то іман 6 то іман<br>• • • • • • • • • • • • • • • • • • • |                                |                                 |
|                               |   |                                |                                 |
|                               |   |                                |                                 |
|                               | A-14X   | HC                             |                                 |
|                               |   |                                |                                 |
|                               |   |                                |                                 |
| HDMI IN HDMI OUT -<br>1 2 3   | 4   | UP DOWN ENTER                  | BACK USB/ISP<br>V V             |
| HDMI IN HDMI OUT<br>=<br>1 3  |   |                                | BACK USB/ISP                    |
| HDMI Status<br>Indicator LEDs | Front Screen<br>Display   | Settings Buttor<br>EDID/Scaler | us USB-C I<br>Firmwa<br>ISP Con |

#### HDMI Status Indicator LEDs will have two states.

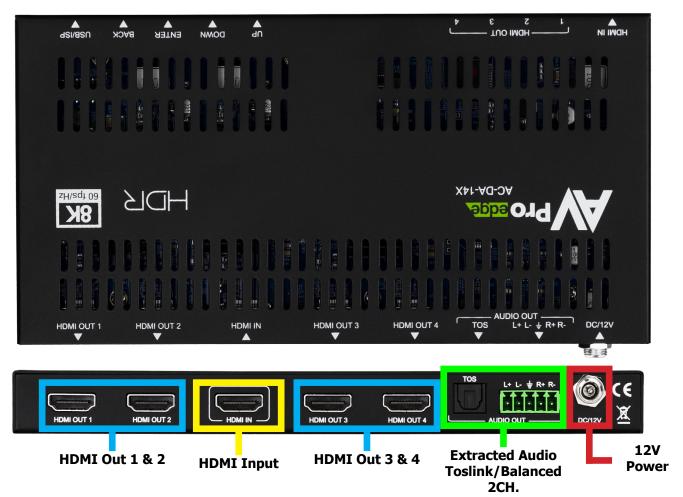
- LED is ON A source/sync is detected on that HDMI port.
- LED is OFF No source/sync is detected on that HDMI port.

**Front Screen Display** - Displays the current Resolution/Timing of the HDMI Input. Use in conjuction with the Settings buttons (UP, DOWN, ENTER, and BACK) to navigate the available Settings menues 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 page[s] 10-11 for the Command list.

#### **Back Overview**



#### **HDMI Outputs**

• You can down-scale HDMI OUT2 and HDMI OUT4 only. See page[s] 8 to change using the front panel buttons. See page[s] 10-11 for Command list.

#### **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 initialy 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 seperatly)

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.





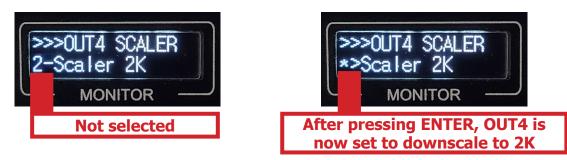
Pro edge

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 exampes below.



## 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 avalailble, 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.

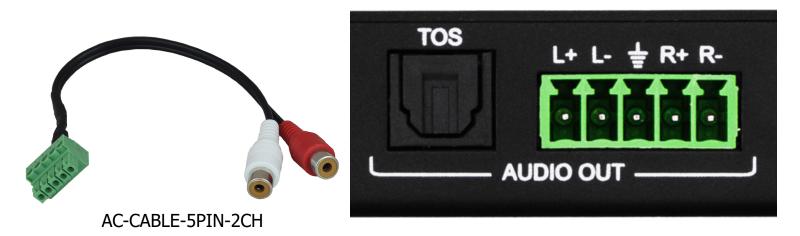




3. Use the UP/DOWN buttons to select either "1-ExAudio Off" or "2-ExAudio On", press the ENTER button.





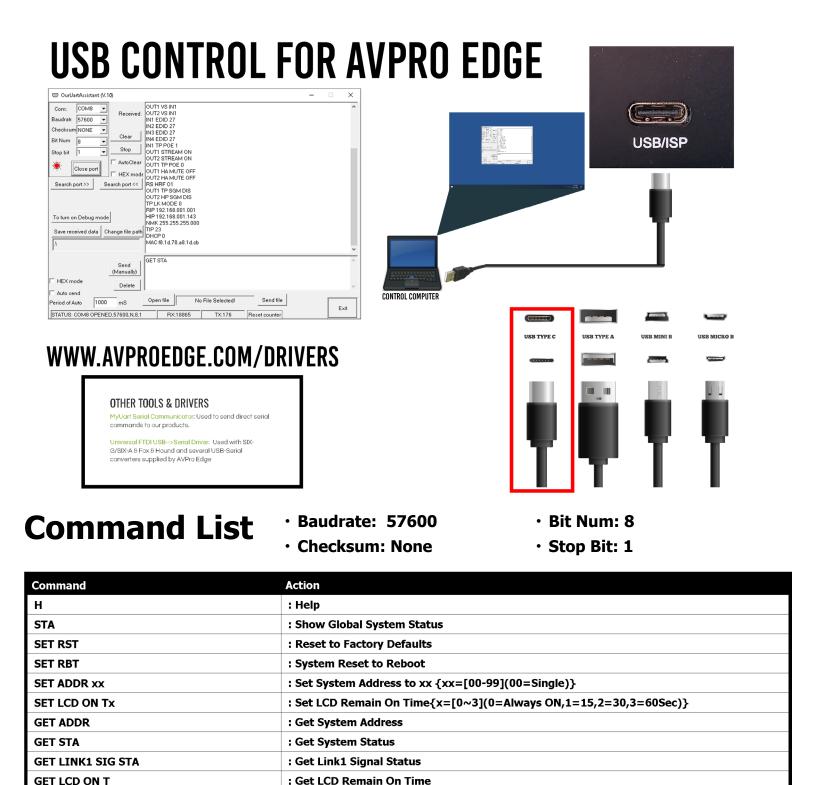


Additionaly the extracted audio ports can be disabled/enabled via USB-C port and the command list

**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 <u>www.avproedge.com/drivers</u>). See page[s] 10-11 for complete command list.



## **Command List Continued**

| Output Setup Commands:                                 |  |   |  |  |
|--|--|---|--|--|
| SET OUTx VIDEOy  | : Set Output VIDEO Mode {x=[2,4], y=[1~2,6                           | : Set Output VIDEO Mode {x=[2,4], y=[1~2,6](1=BYPASS,2=4K/8K->2K,6=8K->4K)} |  |  |
| SET OUT1 EXA EN/DIS                                    | : Set Ex-Audio Output Enable/Disable                                 | : Set Ex-Audio Output Enable/Disable  |  |  |
| SET OUTx STREAM ON/OFF                                 | : SET OUTx STREAM ON/OFF{x=[0~4](0=ALL)                              | )}  |  |  |
| SET OUTX HA MUTE ON/OFF                                | : Set HDMI Output x Audio Mute ON/OFF{x=[                            | 0~4](0=ALL)}  |  |  |
| SET OUT <sub>X</sub> SGM EN/DIS                        | : Set HDMI Output x Signal Generator Enable/                         | Disable{x=[0-4](0=ALL)}   |  |  |
| GET OUTx VIDEO   | : Get Output x Video Status{x=[2,4]}                                 |   |  |  |
| GET OUT1 EXA   | : Get Ex-Audio Output Enable/Disable Status                          |   |  |  |
| GET OUT <sub>X</sub> EDID DATA                         | : Get Output x EDID DATA{x=[1~4]}                                    |   |  |  |
| GET OUTx HPD   | : Get HDMI Output x Hotplug Status{x=[ $0 \sim 4$ ]                  | (0=ALL)}  |  |  |
| GET OUTX STREAM  | : Get Output x Stream ON/OFF Status{x=[ $0 \sim 4$                   | 4](0=ALL)}  |  |  |
| GET OUTX HA MUTE                                       | : Get HDMI Output x Audio Mute Status{x=[0                           | : Get HDMI Output x Audio Mute Status{x=[0~4](0=ALL)}                       |  |  |
| GET OUTX SGM   | : Get HDMI Output x Signal Generator Enable/                         | : Get HDMI Output x Signal Generator Enable/Disable Status{x=[0-4](0=ALL)}  |  |  |
| 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   |  |  |
| SET IN1 EDID CY OUTy                                   | : Copy Output y EDID To Input1(USER1 BUF){                           | y=[1~4]}  |  |  |
| SET IN1 EDID Uy DATAz                                  | : Write EDID To User y Buffer of Input1{y=[1                         | : Write EDID To User y Buffer of Input1{y=[1~3],z=[EDID Data]}              |  |  |
| SET EDID OUT <sub>X</sub> A OUT <sub>Y</sub> V MIX IN1 | : Set EDID OUTx Audio OUTy Video Mix Input1 {x=[1~4],y=[1~4](x!=y)]} |   |  |  |
| GET IN1 EDID   | : Get Input1 EDID Index  | : Get Input1 EDID Index   |  |  |
| GET IN1 EDID y DATA                                    | : Get Input1 EDID y Data{y=[0~14]}                                   | : Get Input1 EDID y Data{y=[0~14]}  |  |  |
| GET LINK1 VID FMT INF                                  | : Get Input1 Video Signal infomation}                                |   |  |  |
| GET LINK1 AUD FMT INF                                  | : Get Input1 Audio Signal infomation}                                |   |  |  |

## System status response example (STA cmd)

| System Address = 00<br>System Setup Status | F/W Version : 0.95.1                   |                                     |
|--|--|-------------------------------------|
| System Setup Status                        |  |                                     |
| System Setup Status                        |  |                                     |
| RS232                                      | : Baud Rate=57600bps, Data=8bit, Parit | y=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 |

Pro edge



### **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 EDID OUTx A OUTy V MIX IN1 : Set EDID OUTx Audio OUTy Video Mix Input1 {x=[1~4],y=[1~4](x!=y)]}

- **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 HDM | : Set HDMI Output x Signal Generator Enable/Disable{x=[0-4](0=ALL)} |  |  | LL)} |     |
|---------------------|--|-----------|---|--|--|------|-----|
|                     |  |           |   |  |  |      |     |
|                     |  |           |   |  |  |      | 4 1 |

## Pro edge

## 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 bandwith limitation. See Bandwith Chart on page[s] 14-15 to verify the signal is not exceeding the bandwith of any of the connected devices.

# HDMI 2.1 Bandwidth Innovation Chart

|       |                              |       |           | HDR<br>(10 & 12 bit only) | BA NDW IDTH<br>Un compressed | BANDWIDTH<br>Compressed (DSC) |
|-------|------------------------------|-------|-----------|---------------------------|------------------------------|-------------------------------|
|       |                              | 4:4:4 | 8 Bit     |                           | 9 Gbps                       | N/A                           |
| FHD   | 1920 x 1080                  | 4:4:4 | 10–12 Bit | х                         | 18 Gbps                      | N/A                           |
|       | 100-120p                     | 4:2:2 | 8-12 Bit  | х                         | 9 Gbps                       | N/A                           |
| ••••• | 20.40 2100                   | 4:4:4 | 8 Bit     |                           | 9 Gbps                       | <br>N/A                       |
|       | 3840 x 2160<br>& 4096 x 2160 | 4:4:4 | 10–12 Bit | Х                         | 18 Gbps                      | N/A                           |
|       | 24-30p                       | 4:2:2 | 10–12 Bit | Х                         | 9 Gbps                       | N/A                           |
|       |                              | 4:4:4 | 8-12 Bit  | Х                         | 18 Gbps                      | 9 Gbps                        |
|       | 3840 x 2160                  | 4:2:2 | 8-12 Bit  | Х                         | 18 Gbps                      | 9 Gbps                        |
|       | & 4096 x 2160<br>48-60p      | 4:2:0 | 8 Bit     |                           | 9 Gbps                       | 9 Gbps                        |
|       | 40 000                       | 4:2:0 | 10–12 Bit | Х                         | 18 Gbps                      | 9 Gbps                        |
|       |                              | 4:4:4 | 8 Bit     |                           | 32 Gbps                      | 18 Gbps                       |
|       |                              | 4:4:4 | 10 Bit    | Х                         | 40 Gbps                      | 18 Gbps                       |
| UHD   | 3840 x 2160                  | 4:4:4 | 12 Bit    | Х                         | 48 Gbps                      | 18 Gbps                       |
| & 4K  | 100–120p                     | 4:2:2 | 8-12 Bit  | Х                         | 32 Gbps                      | 9 Gbps                        |
|       |                              | 4:2:0 | 8 Bit     |                           | 18 Gbps                      | 9 Gbps                        |
|       |                              | 4:2:0 | 10–12 Bit | Х                         | 24 Gbps                      | 9 Gbps                        |
|       |                              | 4:4:4 | 8 Bit     |                           | 32 Gbps                      | 18 Gbps                       |
|       |                              | 4:4:4 | 10 Bit    | Х                         | 40 Gbps                      | 18 Gbps                       |
|       | 4096 x 2160                  | 4:4:4 | 12 Bit    | Х                         | 48 Gbps                      | 18 Gbps                       |
|       | 100–120P                     | 4:2:2 | 8–12 Bit  | Х                         | 32 Gbps                      | 18 Gbps                       |
|       |                              | 4:2:0 | 8 Bit     |                           | 18 Gbps                      | 9 Gbps                        |
|       |                              | 4:2:0 | 10–12 Bit | Х                         | 24 Gbps                      | 9 Gbps                        |
|       | 5120 x 2160                  | 4:4:4 | 8–12 Bit  |                           | 18 Gbps                      | N/A                           |
|       | 24-30p                       | 4:2:2 | 8–12 Bit  |                           | 18 Gbps                      | N/A                           |
|       |                              | 4:4:4 | 8 Bit     |                           | 24 Gbps                      | 9 Gbps                        |
|       | 5120 x 2160                  | 4:4:4 | 10–12 Bit |                           | 32 Gbps                      | 9 Gbps                        |
|       | 48-60p                       | 4:2:2 | 8–12 Bit  |                           | 24 Gbps                      | 9 Gbps                        |
| 5K    |                              | 4:2:0 | 8-12 Bit  |                           | 18 Gbps                      | 9 Gbps                        |
|       |                              | 4:4:4 | 8 Bit     |                           | 40 Gbps                      | 18 Gbps                       |
|       | 5400                         | 4:4:4 | 10–12 Bit |                           | N/S                          | 18 Gbps                       |
|       | 5120 x 2160<br>100-120p      | 4:2:2 | 8–12 Bit  |                           | 40 Gbps                      | 18 Gbps                       |
|       |                              | 4:2:0 | 8 Bit     |                           | 24 Gbps                      | 18 Gbps                       |
|       |                              | 4:2:0 | 10–12 Bit |                           | 32 Gbps                      | 18 Gbps                       |

| AV | Pro | edgè |
|----|-----|------|
|----|-----|------|

|     |                          |       |           | HDR<br>(10 & 12 BIT ONLY) | BÁ NDW IDTH<br>Un compressed | BANDWIDTH<br>Compressed (DSC) |
|-----|--------------------------|-------|-----------|---------------------------|------------------------------|-------------------------------|
|     |                          | 4:4:4 | 8 Bit     |                           | 32 Gbps                      | 18 Gbps                       |
|     |                          | 4:4:4 | 10 Bit    | Х                         | 40 Gbps                      | 18 Gbps                       |
|     | 7680 x 4320              | 4:4:4 | 12 Bit    | Х                         | 48 Gbps                      | 18 Gbps                       |
|     | 24-30p                   | 4:2:2 | 8–12 Bit  | Х                         | 32 Gbps                      | 9 Gbps                        |
|     |                          | 4:2:0 | 8 Bit     |                           | 18 Gbps                      | 9 Gbps                        |
|     |                          | 4:2:0 | 10–12 Bit | Х                         | 24 Gbps                      | 9 Gbps                        |
| 8K  |                          | 4:4:4 | 8–12 Bit  | Х                         | N/S                          | 24 Gbps                       |
| ON  |                          | 4:2:2 | 8–12 Bit  | Х                         | N/S                          | 18 Gbps                       |
|     | 7680 x 4320<br>48-60p    | 4:2:0 | 8 Bit     |                           | 32 Gbps                      | 18 Gbps                       |
|     |                          | 4:2:0 | 10 Bit    | Х                         | 40 Gbps                      | 18 Gbps                       |
|     |                          | 4:2:0 | 12 Bit    | Х                         | 48 Gbps                      | 18 Gbps                       |
|     | 7000 4000                | 4:4:4 | 8–12 Bit  | Х                         | N/S                          | 40 Gbps                       |
|     | 7680 x 4320<br>100-120p  | 4:2:2 | 8–12 Bit  | Х                         | N/S                          | 40 Gbps                       |
|     | ·                        | 4:2:0 | 8–12 Bit  | Х                         | N/S                          | 32 Gbps                       |
|     |                          | 4:4:4 | 8 Bit     |                           | 40 Gbps                      | 18 Gbps                       |
|     |                          | 4:4:4 | 10–12 Bit |                           | N/S                          | 18 Gbps                       |
|     | 10240 x 4320             | 4:2:2 | 8–12 Bit  |                           | 40 Gbps                      | 18 Gbps                       |
|     | 24-30p                   | 4:2:0 | 8 Bit     |                           | 24 Gbps                      | 9~24-25p,<br>18~30p           |
|     |                          | 4:2:0 | 10–12 Bit |                           | 32 Gbps                      | 9~24-25p,<br>18~30p           |
| 101 |                          | 4:4:4 | 8–12 Bit  |                           | N/S                          | 32 Gbps                       |
| 10K |                          | 4:2:2 | 8–12 Bit  |                           | N/S                          | 24 Gbps                       |
|     | 10240 x 4320<br>48-60p   | 4:2:0 | 8 Bit     |                           | 40 Gbps                      | 18~48,<br>24~50/60            |
|     |                          | 4:2:0 | 10–12 Bit |                           | N/S                          | 18~48,<br>24~50/60            |
|     |                          | 4:4:4 | N/S       |                           | N/S                          | N/S                           |
|     | 10240 x 4320<br>100-120p | 4:2:2 | 8–12 Bit  |                           | N/S                          | 48 Gbps                       |
|     | 100-1200                 | 4:2:0 | 8–12 Bit  |                           | N/S                          | 40 Gbps                       |
|     |                          |       |           |                           |                              |                               |

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

N/S = NOT SUPPORTED

#### Maintenance

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

- Use the power supplies provided. If an alternate supply is required, check voltage, polarity and that it has sufficient power to supply the device it is connected to.
- Do not operate these products outside the specified temperature and humidity range given in the above specifications.
- Ensure there is adequate ventilation to allow this product to operate efficiently.
- Repair of the equipment should only be carried out by qualified professionals as these products contain sensitive components that may be damaged by any mistreatment.
- Only use this product in a dry environment. Do not allow any liquids or harmful chemicals to come into contact with these products.
- Clean this unit with a soft, dry cloth. Never use alcohol, paint thinner or benzene to clean this unit.

## **Damage Requiring Service**

The unit should be serviced by qualified service personnel if:

- The DC power supply cord or AC 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 is simple. Our 10 YEAR NO BS warranty hinges on 3 elements.

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

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

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

#### COVERAGE DETAILS.

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

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

#### **RED TAPE.**

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

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

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

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

Products installed or sold by a third party to AVPro Edge will be serviced by the Authorized AVPro Edge 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, Reseller 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 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 disclaim or exclude implied warranties and exclusion of the warranties of merchantability and fitness for a particular burges.

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!









AVProEdge 2222 E 52nd St N ~ Sioux Falls, SD 57104

> 1-877-886-5112 ~ 605-274-6055 support@avproedge.com