User Manual

Introduction

AC-DA28-AUHD is an 18GBPS, full bandwidth HDMI2.0a (HDR) with HDCP2.2 eight-way HDMI splitter. Functionally, distributes the two input HDMI signals to eight HDMI outputs (two switchable zones).

AC-DA28-AUHD has the ability of pre-emphasis and equalization. Multiple cascaded AC-DA28-AUHD achieves long distance transmission of HDMI signal of more than 15 meters even in 4K (HDR) resolution.

The outstanding and proprietary clock jitter cleaner enable this splitter to out preform the competition when in cascading mode no matter the signal is 4K or 1080P.

AC-DA28-AUHD offers solutions for usage as a component of digital HDMI distributions and entertainment systems also UHDTV/4K retail and general show sites. Use in conjunction with UHDTV, UHD Projector, STB, UHD-BD, UHD Media Player and in environment where noise, space and security are concerns. Fits perfectly in data center control rooms, information distribution premises, conference and presentation rooms, school educational facilities and corporate training environments.

Contents

■ **Product Overview** (Model Number: AC-DA28-AUHD)

■ **Features**

- Easy to Use: Install in seconds, no need for setting.

- Distribution: Two HDMI inputs, two switchable output zones.

- Supports up to 18GBPS with resolutions of 4K60(YUV444), 4K30, 1080p, 1080i, 720p and other standard Video formats, PAL and NTSC.

- Full HDR Support (HDR 10 & 12 Bit)

- Dolby Vision, HDR10 (10+) and HLG Support

- HDCP 2.2 (and all earlier versions supported)

- LAN Web GUI Control and full API

- Remote Status Monitoring

- Advanced EDID Management

- Digital Toslink Out

- Locking Power Connector

- HDMI 2.0(a/b) w/ HDR.

- Cascadable

- Mounting ears are included for easy fixation on wall, furniture or ceiling.

✎ Notice

AVProEdge reserves the right to make changes in the hardware, packaging and any accompanying documentation without prior written notice.

⚠ Warning

To reduce the risk of fire, electric shock or product damage:

1. Do not expose this apparatus to rain, moisture, dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.

6. Clean this apparatus only with dry cloth.

2. Do not install or place this unit in a bookcase, built-in cabinet or in another confined space. Ensure the unit is well ventilated.

7. Unplug this apparatus during lightning storms or when unused for long periods of time.

3. To prevent risk of electric shock or fire hazard due to overheating, do not obstruct the unit's ventilation openings with newspapers, tablecloths, curtains, and similar items.

8. Protect the power cord from being walked on or pinched particularly at plugs.

4. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

9. Only use attachments / accessories specified by the manufacturer.

5. Do not place sources of naked flames, such as lighted candles, on the unit.

10. Refer all servicing to qualified service personnel.

AC-DA28-AUHD

■ Package Contents

① Main unit. P/N: AC-DA28-AUHD

② 12V 2A Locking Power Supply (100-240V input).

③ Mounting Ears

■ Connections and Operations

1) Connect the HDMI input source into AC-DA28-AUHD

2) Connect the HDMI output equipment (Displays) into AC-DA28-AUHD

3) Insert the DC side of 12V power supply into AC-DA28-AUHD and then connect the AC side of the Power supply into the wall outlet.

4) Plugging in the unit automatically powers up the device.

📖 **NOTE:** Insert / Extract cables gently.

AC-DA28-AUHD

■ Panel Descriptions

<u>**Front Panel**</u>

Activity Display (Front):

a)   When Power is applied all lights flash BLUE and the machine begins to function.   If no devices are plugged in, you can verify power by looking at the zone A/B buttons on the right side of the unit, they should be lit up blue.

b)   When the INPUT device is plugged in, the INPUT light stays SOLID BLUE.

c)   When a sink (display) is plugged into an OUTPUT, the OUTPUT light will go SOLID.

AC-DA28-AUHD

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- Power input

- HDMI inputs (x2)

- HDMI outputs (x8)

- IR, RS-232 and LAN Control Options (Micro USB on side)

- Balanced Analog Out, for extractable 2Ch Audio

- Toslink Audio Port - Supports PCM, LPCM (up to 7CH), Dolby Digital, Dolby Digital Plus, DTS, DTS-HD, DTS Master Audio, which is ideal for multi-channel audio systems and older AVRs that do not support 18Gbps.

Device Top Cover
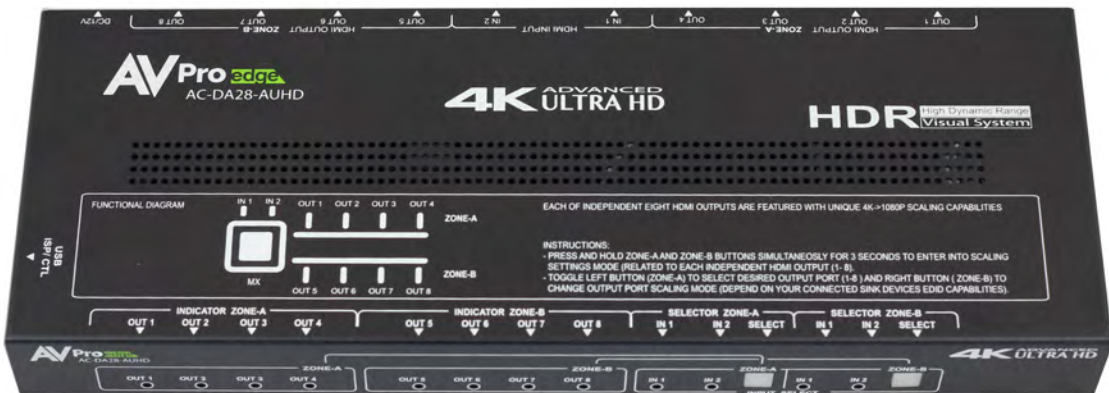
Device cover is labeled with functionality diagram, instructions for front panel switching and scaling options.
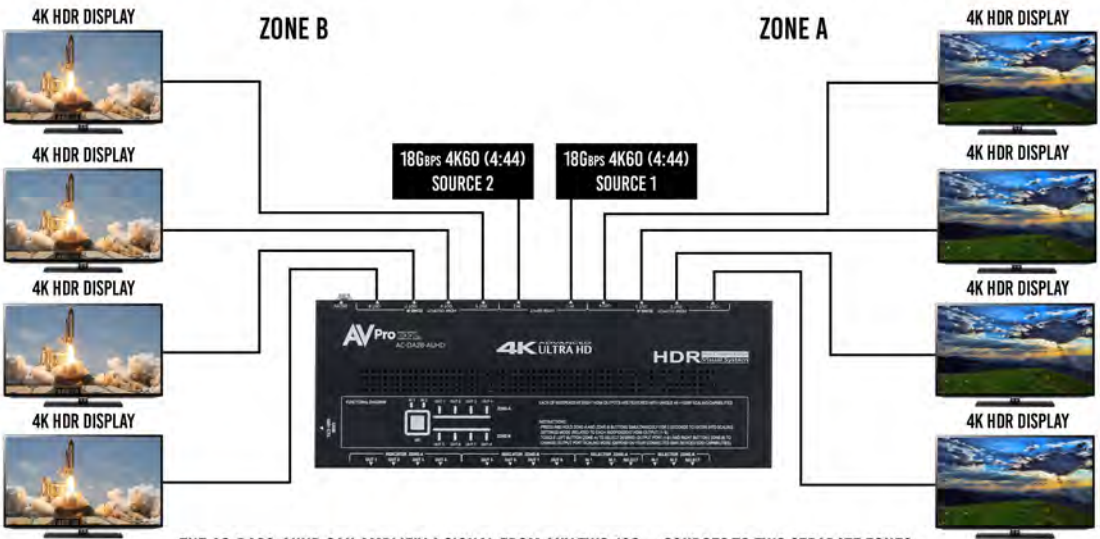
THE AC-DA28-AUHD CAN AMPLIFIY A SIGNAL FROM ANY TWO 18GBPS SOURCES TO TWO SEPARATE ZONES.

AC-DA28-AUHD

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Quick Network Connect to Web Interface:

Use the following steps to quickly and immediately connect to the matrix switch:

1. Connect the LAN port into an active router port.
2. On most networks you can simply type the Default IP address into any web browser. The Default IP Address is 192.168.1.239.

Web Interface: Switching
Use this page to switch between inputs and outputs from the web interface.

AC-DA28-AUHD

EDID Settings: The AC-DA28-AUHD uses the web interface for EDID management. The default EDID out of the box is 0:1080P 2Ch. Custom EDID settings are below.

EDID Manage

IN1	1080P 2CH	Apply
IN2	1080P 2CH	Apply
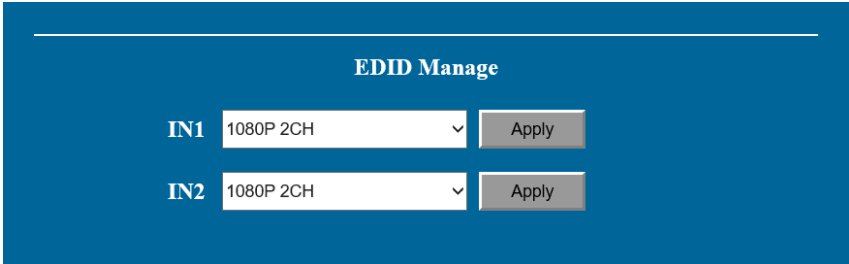
EDID Settings:

00: 1080P_2CH(PCM)

01: 1080P_6CH

02: 1080P_8CH

03: 1080P_3D_2CH(PCM)

04: 1080P_3D_6CH

05: 1080P_3D_8CH

06: 4K30Hz_3D_2CH(PCM)

07: 4K30Hz_3D_6CH

08: 4K30Hz_3D_8CH

09: 4K60Hz(Y420)_3D_2CH(PCM)

10: 4K60Hz(Y420)_3D_6CH

11: 4K60Hz(Y420)_3D_8CH

12: 4K60Hz_3D_2CH(PCM)

13: 4K60Hz_3D_6CH

14: 4K60Hz_3D_8CH

15: 1080P_2CH(PCM)_HDR

16: 1080P_6CH_HDR

17: 1080P_8CH_HDR

18: 1080P_3D_2CH(PCM)_HDR

19: 1080P_3D_6CH_HDR

20: 1080P_3D_8CH_HDR

21: 4K30Hz_3D_2CH(PCM)_HDR

22: 4K30Hz_3D_6CH_HDR

23: 4K30Hz_3D_8CH_HDR

24: 4K60Hz(Y420)_3D_2CH(PCM)_HDR

25: 4K60Hz(Y420)_3D_6CH_HDR

26: 4K60Hz(Y420)_3D_8CH_HDR

27: 4K60Hz_3D_2CH(PCM)_HDR

28: 4K60Hz_3D_6CH_HDR

29: 4K60Hz_3D_8CH_HDR

30: USER 1EDID (NOTE 1)

31: COPY FROM OUT1

32: COPY FROM OUT2

33: COPY FROM OUT3

34: COPY FROM OUT4

35: COPY FROM OUT5

36: COPY FROM OUT6

37: COPY FROM OUT7

38: COPY FROM OUT8

EDID Setting Cont. (Notes):

Note1: *You can copy the EDID from any output and apply it to any input. Select "Copy EDID from Output x" (x=1-8) then click Apply. This will copy the EDID from the display and apply it to the selected input. This new EDID will be stored as "USER EDID 1".

```
4K60HZ 3D 2CH HDR
4K60HZ 3D 6CH HDR
4K60HZ 3D 8CH HDR
User1 EDID
Copy From Out1
Copy From Out2
Copy From Out3
Copy From Out4
Copy From Out5
Copy From Out6
Copy From Out7
Copy From Out8
```

AC-DA28-AUHD

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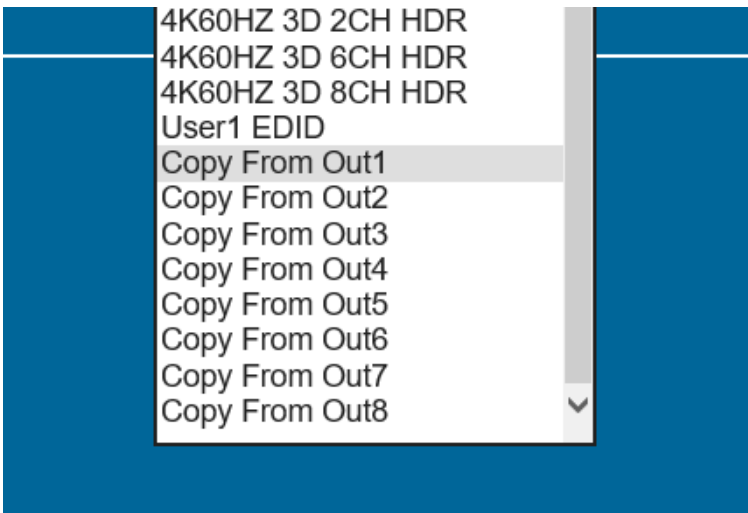
WebInterface:System Settings
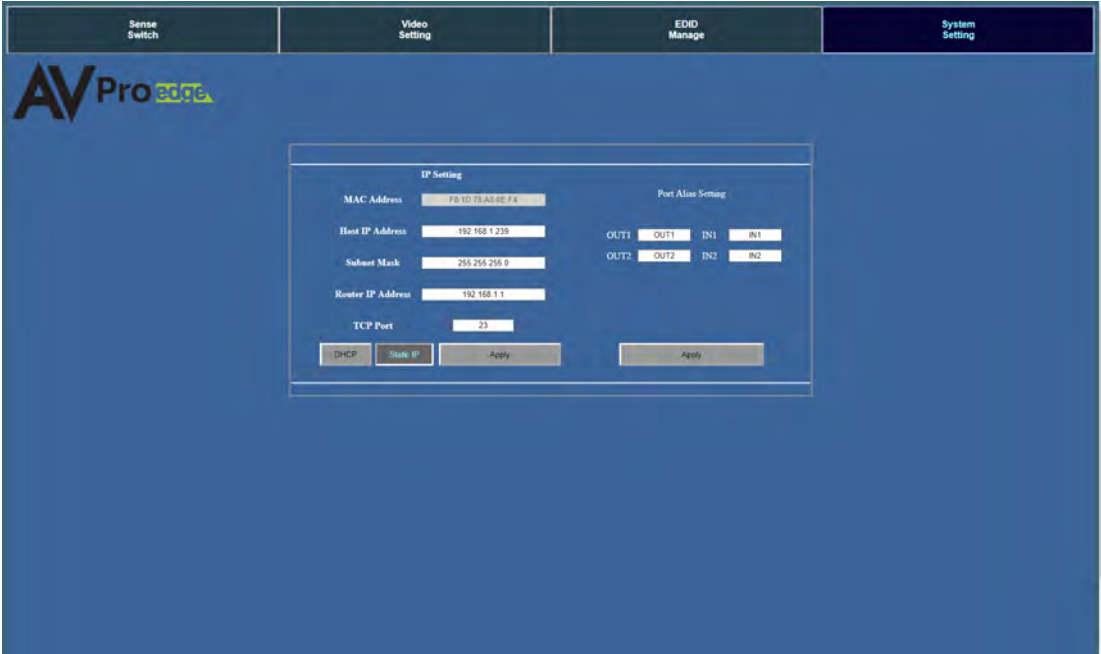
IP Settings:

Set network settings such as:

- Static IP
- Subnet Mask
- Router IP
- TCP Port
- Enable DHCP

Port Alias Settings:

Rename inputs and outputs for easy management. Each custom name is limited to eight (8) characters.

RS-232 and TCP/IP Commands:

The AC-DA28-AUHD can be controlled with either RS-232 or TCP/IP commands. Certain switching or format configurations can only be done using these commands. We recommend using either the MyUART (RS-232 - free) or Hercules (TCP/IP - free) apps as they are very easy to use for sending commands to the machine.

MyUart is availble for download on our website https://www.avproedge.com/drivers.html

For TCP/IP control commands use Telnet Port 23.

For RS-232, use a null modem serial cable adapter and set the serial communications to: 57600,n,8,1 (baud: 57600, no parity, 8 data bits and 1 stop bit) with no handshaking.

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

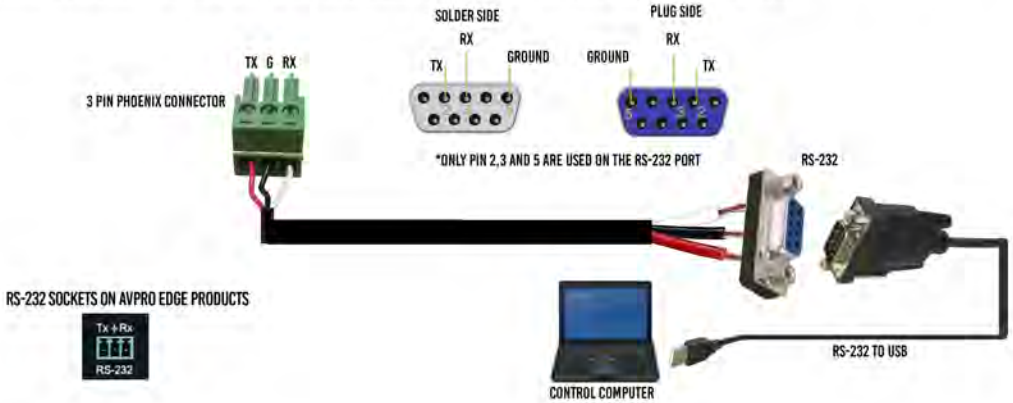The unified command list (ASCII) is listed on the next page.

```
==================================================================================
==                           Systems HELP                                       ==
==================================================================================
==        System Address = 00        F/W Version : 0.04                          ==
==                                                                               ==
== Azz : All Commands start by Prefix System Address zz, if [01~99]              ==
==================================================================================
== System Control Setup Commands:                                               ==
== H                     : Help                                                  ==
== STA                   : Show Global System Status                             ==
== SET RST               : Reset to Factory Defaults                             ==
== SET ADDR xx           : Set System Address to xx {xx=[00~99](00=Single)}      ==
== SET CAS EN/DIS        : Set Cascade Mode Enable/Disable                       ==
== GET ADDR              : Get System Address                                    ==
== GET CAS               : Get Cascade Mode Status                               ==
== GET STA               : Get System System Status                              ==
== GET INx SIG STA       : Get Input x Signal Status{x=[0~2](0=ALL)}             ==
==------------------------------------------------------------------------------==
== Output Setup Command:(Note:output number 0=All HDMI Output,[1-8]=HDMI Output Number) ==
==                       (Note:output Zone number 1=HDMI OUTPUT[1-4],2=HDMI OUTPUT[5-8]) ==
== SET OUTx VS INy       : Set Output Zone x To Input y {x=[0~2](0=ALL), y=[1~2]} ==
== SET OUTx VIDEOy       : Set Output VIDEO Mode                                 ==
==                         {x=[1-8], y=[1~2](1=BYPASS,2=4K->2K)}                 ==
== SET OUTx EXA EN/DIS   : Set Ex-Audio Output Enable/Disable{x=[0]}             ==
== SET EXA BTV OUTx      : Set Ex-Audio Output bind to Output Zonex{x=[1~2]}     ==
== SET OUTx STREAM ON/OFF: Set Output x Stream ON/OFF{x=[0~8](0=ALL)}            ==
== GET OUTx VS           : Get Output x Video Route{x=[0~8](0=ALL)}              ==
== GET OUTx VIDEO        : Get Output x VIDEO Mode{x=[0~8](0=ALL)}               ==
== GET OUTx EXA          : Get Ex-Audio Output Enable/Disable Status{x=[0]}      ==
== GET EXA BTV OUT       : Get Ex-Audio Output bind to Output                    ==
== GET OUTx EDID DATA    : Get Output x EDID DATA{x=[1-8]}                       ==
== GET OUTx STREAM       : Get Output x Stream ON/OFF Status{x=[0~8](0=ALL)}     ==
==------------------------------------------------------------------------------==
== Input Setup Command: (Note:input number 1=HDMI INPUT1,2=HDMI INPUT2)         ==
== SET INx EDID y        : Set Input x EDID{x=[0-2](0=All), y=[0~30]             ==
==                                                                               ==
==  0:1080P_2CH(PCM)              1:1080P_6CH              2:1080P_8CH            ==
==  3:1080P_3D_2CH(PCM)           4:1080P_3D_6CH           5:1080P_3D_8CH        ==
==  6:4K30HZ_3D_2CH(PCM)          7:4K30HZ_3D_6CH          8:4K30HZ_3D_8CH       ==
==  9:4K60Hz(Y420)_3D_2CH(PCM)   10:4K60Hz(Y420)_3D_6CH   11:4K60Hz(Y420)_3D_8CH ==
== 12:4K60HZ_3D_2CH              13:4K60HZ_3D_6CH          14:4K60HZ_3D_8CH       ==
== 15:1080P_2CH(PCM)_HDR         16:1080P_6CH_HDR          17:1080P_8CH_HDR       ==
== 18:1080P_3D_2CH(PCM)_HDR      19:1080P_3D_6CH_HDR       20:1080P_3D_8CH_HDR    ==
== 21:4K30HZ_3D_2CH(PCM)_HDR     22:4K30HZ_3D_6CH_HDR      23:4K30HZ_3D_8CH_HDR   ==
== 24:4K60Hz(Y420)_3D_2CH(PCM)_HDR 25:4K60Hz(Y420)_3D_6CH_HDR 26:4K60Hz(Y420)_3D_8CH_HDR ==
== 27:4K60HZ_3D_2CH(PCM)_HDR     28:4K60HZ_3D_6CH_HDR      29:4K60HZ_3D_8CH_HDR   ==
== 30:USER1_EDID                                                                 ==
== SET INx EDID CY OUTy : Copy Output y EDID To Input x(USER1 BUF)               ==
==                         {x=[0-2](0=All), y=[1-8]}                             ==
== SET INx EDID Uy DATAz: Write EDID To  User y Buffer  of Input x               ==
==                         {x=[0-2](0=All), y=[1],z=[EDID Data]}                 ==
== GET INx EDID          : Get Input x EDID Index                                ==
==                         {x=[0-2](0=All)}                                      ==
== GET INx EDID y DATA   : Get Input x EDID y Data                               ==
==                         {x=[1-2],y=[0~30]}                                    ==
==------------------------------------------------------------------------------==
== IR  Code Setup:                                                              ==
== SET IR SYS xx.yy      : Set IR System Code                                    ==
==                         {xx=[00~FFH],yy=[00~FFH]}                             ==
== SET IR OUTx INy CODE zz : Set IR Data Code                                    ==
==                         {x=[1~8],y=[1~8],zz=[00~FFH]}                         ==
== GET IR SYS            : Get IR System Code                                     ==
== GET IR OUTx INy CODE  : Get IR Data Code                                      ==
==                         {x=[1~8](0=ALL),y=[1~8]}                              ==
==------------------------------------------------------------------------------==
== Network Setup Command: ( xxx=[000-255], zzzz=[0001~9999]                      ==
== SET RIP xxx.xxx.xxx.xxx : Set Route IP Address to xxx.xxx.xxx.xxx             ==
== SET HIP xxx.xxx.xxx.xxx : Set Host IP Address to xxx.xxx.xxx.xxx              ==
== SET NMK xxx.xxx.xxx.xxx : Set Net Mask to xxx.xxx.xxx.xxx                     ==
== SET TIP zzzz          : Set TCP/IP Port to zzzz                               ==
== SET DHCP y            : Set DHCP {y=[0~1](0=Dis,1=Enable)}                    ==
== GET RIP               : Get Route IP Address                                  ==
== GET HIP               : Get Host IP Address                                   ==
== GET NMK               : Get Net Mask                                          ==
== GET TIP               : Get TCP/IP Port                                       ==
== GET DHCP              : Get DHCP Status                                        ==
== GET MAC               : Get MAC  Address                                      ==
==================================================================================
```

RS-232 CABLE FOR AVPRO EDGE

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

SOLDER SIDE

PLUG SIDE

3 PIN PHOENIX CONNECTOR
TX G RX

TX RX GROUND
GROUND RX TX

*ONLY PIN 2,3 AND 5 ARE USED ON THE RS-232 PORT

RS-232

RS-232 SOCKETS ON AVPRO EDGE PRODUCTS
Tx + Rx
RS-232

RS-232 TO USB

CONTROL COMPUTER

AC-DA28-AUHD

Specifications:

VIDEO:	
VIDEO RESOLUTIONS	UP TO 4K 60HZ 4:4:4
VESA RESOLUTIONS	UP TO DCI 4K (4096X2160)
HDR FORMATS/RESOLUTIONS	420, 422, 444 (10 AND 12 DEEP COLOR) HDR10, HDR10+, DOLBY VISION (60), HLG
COLOR SPACE	YUV (COMPONENT), RGB (CSC: REC. 601, REC. 709, BT2020, DCI, P3 D6500)
CHROMA SUBSAMPELING	4:4:4, 4:2:2, 4:2:0 SUPPORTED
DEEP COLOR	UP TO 16 BIT (1080), UP TO 12 BIT (4K)
AUDIO:	
AUDIO FORMATS SUPPORTED HDMI	PCM 2.0 CH, LPCM 5.1 & 7.1, DOLBY DIGTAL, DTS 5.1, DOLBY DIGITAL PLUS, DOLBY TRUEHD, DTS-HD MASTER AUDIO, DTS-X, DOLBY ATMOS
DISTANCE:	
HDMI IN/OUT (4K60 4:4:4)	UP TO 50 FEET (USING BULLET TRAIN HDMI)
HDMI IN/OUT (W/ AOC CABLE) (4K60 4:4:4)	UP TO 130 FEET (USING BULLET TRAIN AOC)
OTHER:	
BANDWIDTH	18 GBPS
HDCP	HDCP 2.2 AND EARLIER
PORTS:	
LAN	RJ45 W/ WEB INTERFACE/CONTROL
FIRMWARE	MINI USB
ENVIRONMENTAL:	
OPERATING TEMPRATURE	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)	4 WATTS MAX
POWER SUPPLY - MATRIX	INPUT: AC 100-240V ~ 50/60HZ OUTPUT: DC 12V 2A
DIMENSIONS:	
DIMENSIONS (UNIT ONLY HEIGHT/DEPTH/WIDTH)	MM: 26.9 X 93.7 X 234.95 INCH: 1.06 X 3.69 X 9.25
DIMENSIONS (PACKAGED HEIGHT/DEPTH/WIDTH)	MM: 76.2 X 179.324 X 304.8 INCH: 3 X 7.06 X 12
WEIGHT (UNIT)	1.36 LBS (.62 KG)
WEIGHT (PACKAGED)	2.21 LBS (1 KG)

*SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE. MASS & DIMENSIONS ARE APPROXIMATE

▪ 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

▪ Warranty

If your product does not work properly because of a defect in materials or workmanship, AVProEdge (referred to as "the warrantor") will, for the length of the period indicated as below, (Parts/Labor (10) Years), which starts with the date of original purchase ("Limited Warranty period"), at its option either (a) repair your product with new or refurbished parts, or (b) replace it with a new or a refurbished product. The decision to repair or replace will be made by the warrantor. During the "Labor" Limited Warranty period there will be no charge for labor. During the "Parts" warranty period, there will be no charge for parts. You must mail-in your product during the warranty period. This Limited Warranty is extended only to the original purchaser and only covers product purchased as new. A purchase receipt or other proof of original purchase date is required for Limited Warranty service.

This warranty extends to products purchased directly from AVPro or an authorized dealer. AVPro is not liable to honor this warranty if the product has been used in any application other than that for which it was intended, has been subjected to misuse, accidental damage, modification or improper installation procedures, unauthorized repairs or is outside of the warranty period. Please direct any questions or issues you may have to your local dealer before contacting AVPro.

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Thank you for choosing AVProEdge!

Please contact us with any questions. We are happy to be of service!

AVProEdge
2222 E 52nd Street N ~ Sioux Falls, SD 57104
1-877-886-5112 ~ 605-274-6055
support@avproedge.com