AC-DA12-AUHD-GEN2

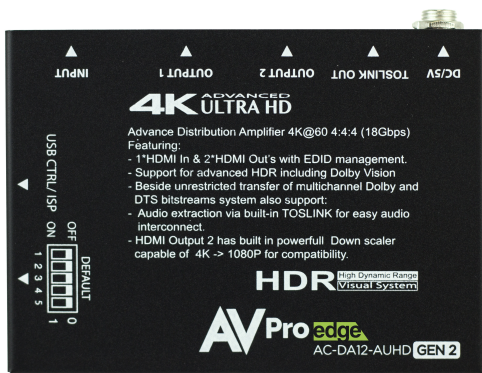# User Manual

AC-DA12-AUHD-GEN2

A full 4K60 4:4:4 (Up to 18GBPS)
Distribution Amplifier with advanced EDID
management

NEW TO GEN2

AC-DA12-AUHD

Introduction

The AC-DA12-AUHD is an 18GBPS, full bandwidth HDMI2.0a (HDR) with HDCP2.2 two-way HDMI splitter. Functionally, distributes the input HDMI signal to four identical HDMI outputs. These four outputs are synchronized.

AC-DA12-AUHD has the ability of pre-emphasis and equalization. Multiple cascaded AC-DA12-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-DA12-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.

AC-DA12-AUHD

Contents

AC-DA12-AUHD

Full 4K 60 (4:4:4) HDMI Splitter & Distribution Amplifier

■ **Product Overview** (Model Number: AC-DA12-AUHD)

■ **Features**

- Easy to Use: Install in seconds, no need for setting.
- Distribution: One HDMI input, two identical HDMI outputs.
- Supports up to 18GBPS with resolutions of 4K60(YUV444), 4K30, 1080p, 1080i, 720p and other standard Video formats, PAL and NTSC.
- Customer can configure EDID function to enable the best compatibility.
- Supports HDCP2.2
- 4k-->1080P Downscaler
- HDMI 2.0(a) w/ HDR.
- 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.

AC-DA12-AUHD

![AVProedge logo]

⚠ **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-DA12-AUHD

Package Contents

Main unit. P/N: AC-DA12-AUHD

5VDC Power Supply.

Operating Instructions. (Digital @ www.avproedge.com)

Mounting Ears

## ■ Connections and Operations

1) Connect the HDMI input source into AC-DA12-AUHD

2) Connect the HDMI output equipment (Displays) into AC-DA12-AUHD

3) Insert the DC side of 5v power supply into AC-DA12-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.

CONNECTION DIAGRAM

AC-DA12-AUHD
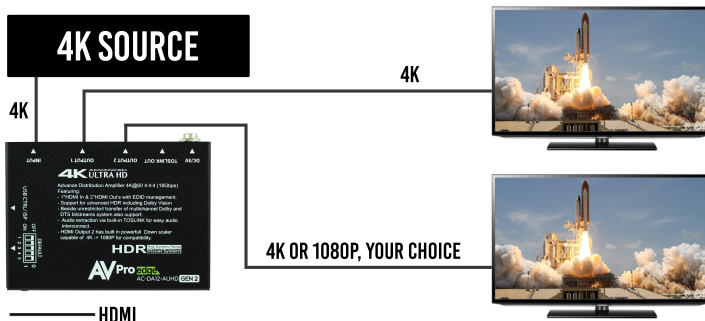
■ Specifications

Operating Temperature Range	-5 to +35°C (-41 to +95 °F)
Operating Humidity Range	5 to 90 % RH (no condensation)
Video Amplifier Bandwidth	Up to 18.0 GBPS
Input Video Signal	0.5-1.0 volts p-p
Input DDC Signal	5 volts p-p (TTL)
HDCP version	HDCP2.2 /HDCP1.4
Maximum Format Support	**4K60Hz 4:4:4 / 8K24Hz 4:2:0**
Other Video Formats Supported	VESA: 640x480, 800x600, 1024x768, 1280x1024, 1600x1200, 1920x1200 DTV/ HDTV: 480i/576i/480p/576p/720p/1080i/1080p / 4K
Output Video	HDMI 2.0, HDCP 2.2, HDR Compatible
Power Consumption	6 Watts (max.)
Power Supply	5V DC/2A
Dimensions	150mm (W) x 81mm (H) x 25mm (D)
Mass	0.5 KGS

AC-DA12-AUHD

■ Panel Descriptions

Front Panel
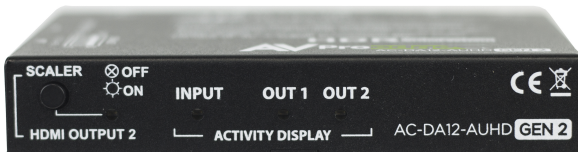
Activity Display (Front):

a)   When Power is applied all lights flash RED and the machine begins to function.   If no devices are plugged in, you can verify power by looking inside the Toslink out on the back of the unit.

b)   When the INPUT device is plugged in, the Input light stay solid RED.

c)   When a sink (display) is plugged into an OUTPUT, the corresponding light stays solid RED.

d)   Scaler On/Off. When lit the scaler is on and will convert a 4k signal to 1080p on Output #2.

AC-DA12-AUHD

Back Panel
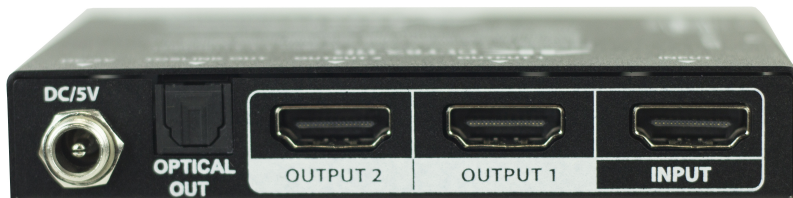
- · Power input.
- · HDMI input.
- · HDMI outputs (x2)
- · Optical Toslink Out

Device Top Cover

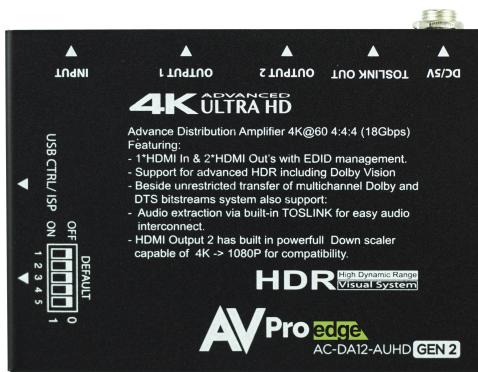Device cover is labeled for Scaler Settings.

And for easy HDMI port recognition especially useful when Mounting Ears are used for fixation.

📖 **NOTE: DIP Switch EDID setting index on next page.**

AC-DA12-AUHD

EDID Settings: The 5 DIP switches are located on the side of the device, and each switch has two settings, 0 & 1 (UP=0, DOWN=1). The default mode is "00000" which is all up, in this mode the device copies the EDID from the sink (display) plugged into OUTPUT 1.   Custom EDID setting below.

EDID DIP Settings:

00000: EDID COPY (See NOTE 1)

00001: 1080P_2CH(PCM)

00010: 1080P_6CH

00011: 1080P_8CH

00100: 1080P_3D_2CH(PCM)

00101: 1080P_3D_6CH

00110: 1080P_3D_8CH

00111: 4K30Hz_3D_2CH(PCM)

01000: 4K30Hz_3D_6CH

01001: 4K30Hz_3D_8CH

01010: 4K60Hz(Y420)_3D_2CH(PCM)

01011: 4K60Hz(Y420)_3D_6CH

01100: 4K60Hz(Y420)_3D_8CH

11001: 4K60Hz(Y420)_3D_2CH(PCM)_HDR

11010: 4K60Hz(Y420)_3D_6CH_HDR

11011: 4K60Hz(Y420)_3D_8CH_HDR

01101: 4K60Hz_3D_2CH(PCM)

01110: 4K60Hz_3D_6CH

01111: 4K60Hz_3D_8CH

10000: 1080P_2CH(PCM)_HDR

10001: 1080P_6CH_HDR

10010: 1080P_8CH_HDR

10011: 1080P_3D_2CH(PCM)_HDR

10100: 1080P_3D_6CH_HDR

10101: 1080P_3D_8CH_HDR

10110: 4K30Hz_3D_2CH(PCM)_HDR

10111: 4K30Hz_3D_6CH_HDR

11000: 4K30Hz_3D_8CH_HDR

11100: 4K60Hz_3D_2CH(PCM)_HDR

11101: 4K60Hz_3D_6CH_HDR

11110: 4K60Hz_3D_8CH_HDR

11111: Cascading Mode (See NOTE 2)

AC-DA12-AUHD

EDID Setting (Notes):

Note1: EDID Copy mode: EDID will be copied from sink on OUTPUT 1. The AC-DA12-AUHD is set this way by default for maximum "Plug & Play" Compatibility. If you change sink (Display) plugged into OUTPUT 1, please follow the steps below if you wish to use the new sink's EDID.

1. Start with power off
2. Set DIP to '00000' (all up).
3. Power on the unit
4. Power on the source device and connect the HDMI input port.

Note2: Cascading mode (Ideal for larger installations) Cascade mode does not react to the EDID from the sink device. It sends the signal that you put in, out. This is ideal for linking multiple units together. The method below is an ideal way to use this function effectively.

To use cascading mode:

1. Start with power off
2. Fix an EDID on the FIRST unit in the series from the list above (4K60, 4K30, 1080P, etc...)
3. Set the DIP on all subsequent units to "11111" (all down).
4. Connect the source device
5. Power up the system

AC-DA12-AUHD

To use Scaler:

1. Press the SCALER Button to toggle on/off
2. Red LED On, then the scaler is on.
3. Scaler On - Downscales 4k to 1080p on output #2
4. Scaler light Off - No Scaling

CTRL/ISP

1. Micro USB Port for firmware and control.
2. Command list on Page 13.
   For CTRL, use a Micro to USB cable and set the serial
   communications to: 57600,n,8,1 (baud: 57600, no parity, 8
   data bits and 1 stop bit) with no handshaking.

AC-DA12-AUHD

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====================================================================
==                        Systems HELP                           ==
====================================================================
==          System Address = 00        F/W Version : 1.00        ==
==                                                               ==
== 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)} ==
== GET ADDR           : Get System Address                       ==
== GET CAS            : Get Cascade Mode Status                   ==
== GET STA            : Get System System Status                 ==
== GET IN SIG STA     : Get Input Signal Status                  ==
--------------------------------------------------------------------
== Output Setup Command : (Note:output number(x)=HDMI(x),x=1-2)   ==
== SET OUTx VIDEOy    : Set Output VIDEO Mode                     ==
==                      {x=[2], y=[1~2](1=BYPASS,2=4K->2K)}       ==
== SET OUT EXA EN/DIS : Set Ex-Audio Output Enable/Disable        ==
== SET OUTx STREAM ON/OFF: Set Output x Stream ON/OFF{x=[0~2](0=ALL)} ==
== GET OUTx VIDEO     : Get Output x Video Status{x=[2]}          ==
== GET OUT EXA        : Get Ex-Audio Output Enable/Disable Status ==
== GET OUTx EDID DATA : Get Output x EDID DATA{x=[1~2]}           ==
== GET OUTx STREAM    : Get Output x Stream ON/OFF Status{x=[0~2](0=ALL)} ==
--------------------------------------------------------------------
== Input Setup Command:                                          ==
== SET IN EDID y      : Set Input EDID{y=[1~32]}                  ==
==                                                               ==
==  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               31:USER2_EDID          32:USER3_EDID         ==
== SET IN EDID CY OUTy  : Copy Output y EDID To Input(USER1 BUF) ==
==                      {y=[1~2]}                                ==
== SET IN EDID Uy DATAz : Write EDID To User y Buffer of Input    ==
==                      {y=[1~3],z=[EDID Data]                   ==
== GET IN EDID         : Get Input EDID Index                    ==
== GET IN EDID y DATA  : Get Input EDID y Data                   ==
==                      {y=[1~32]}                               ==
====================================================================
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▪ 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
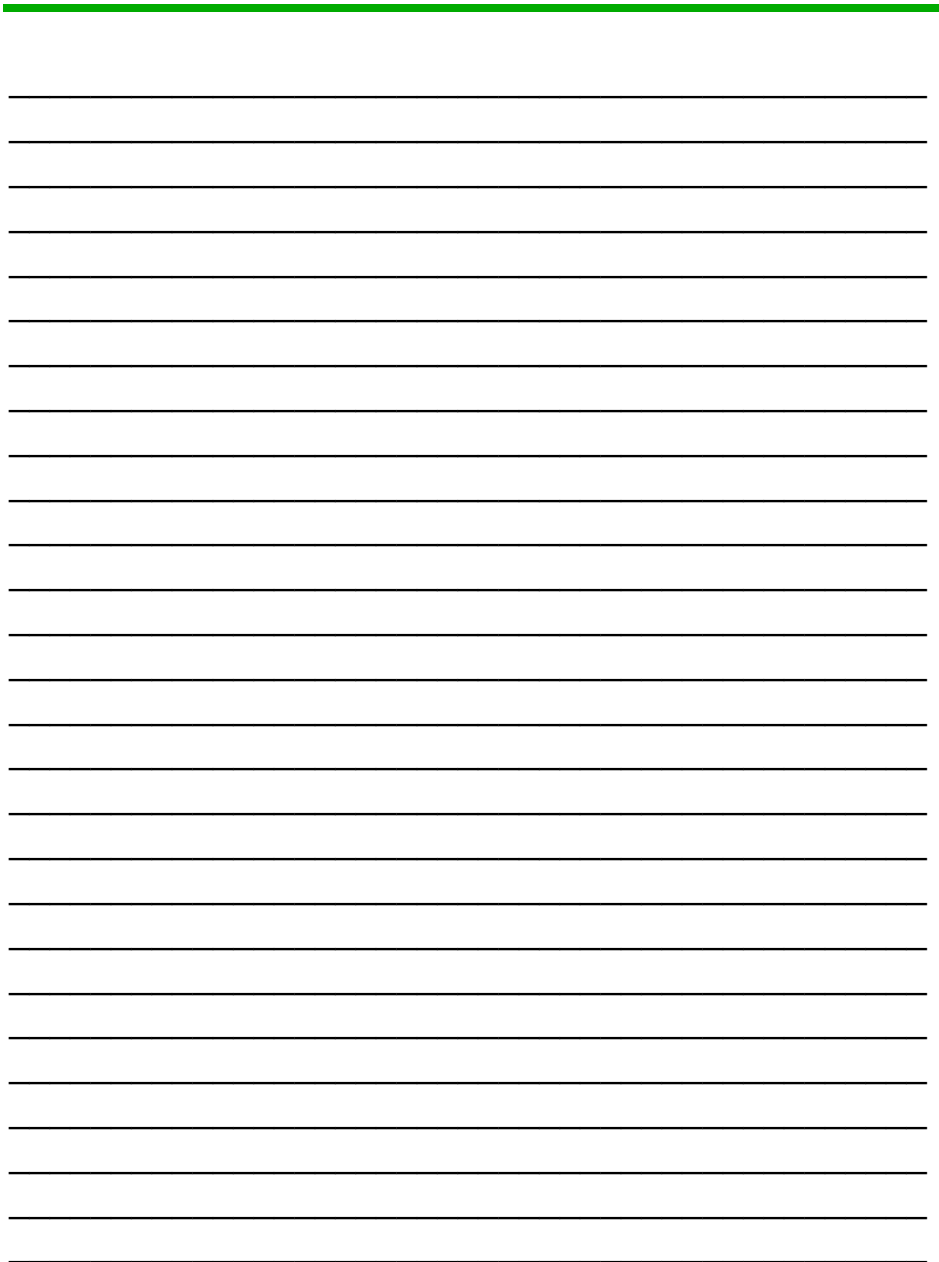- The unit has been dropped or the housing damaged

▪ 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:
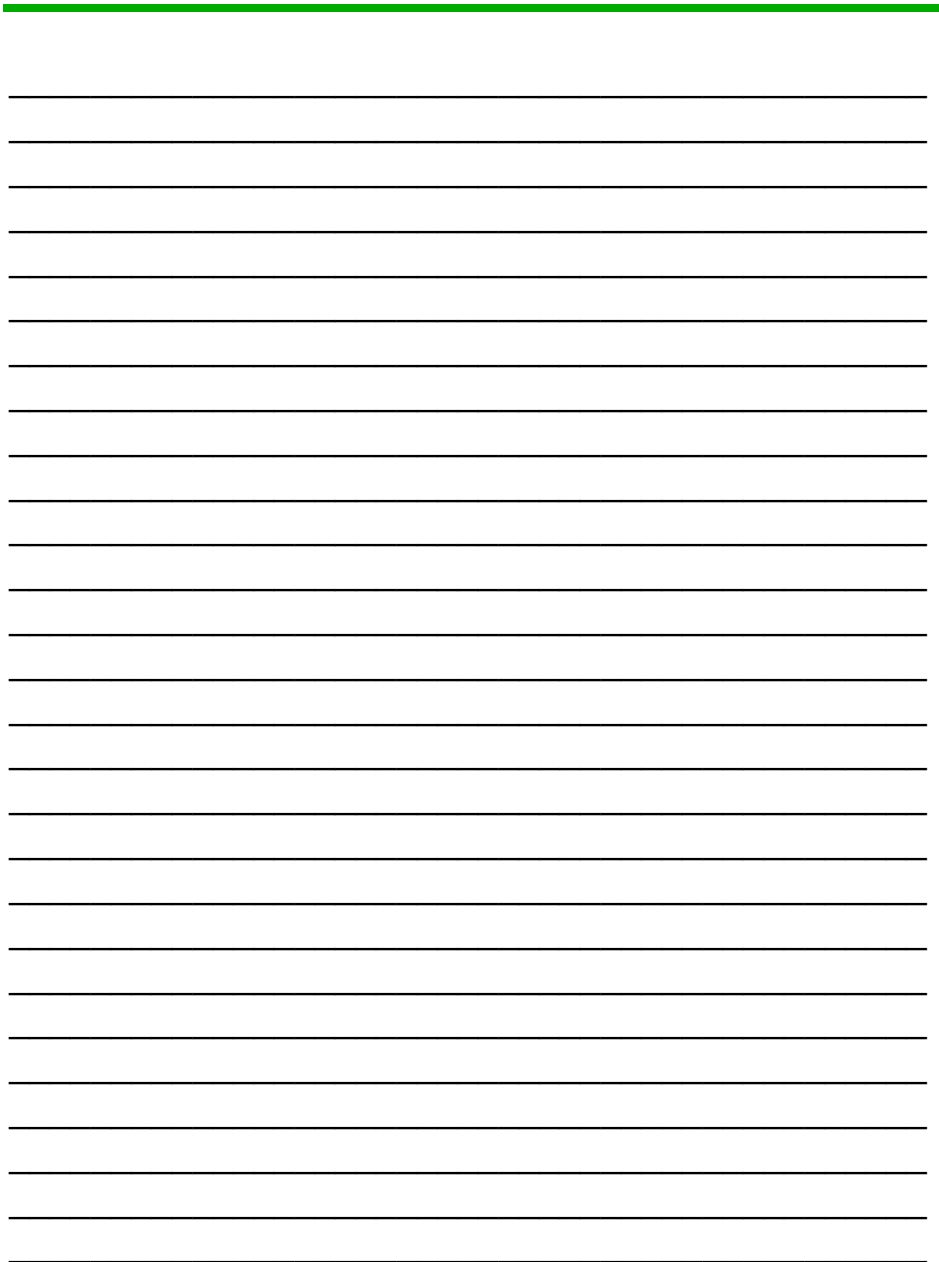
- Product name and model number
- Product serial number
- Details of the issue and any conditions under which the issue is occurring

▪ 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!