

# episode<sup>®</sup>

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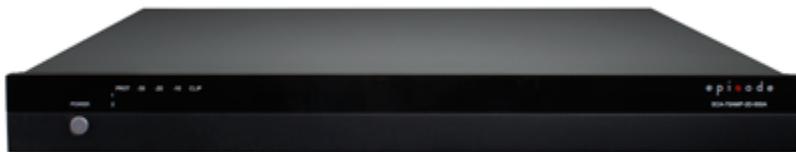
**Installation Manual**

**2- Channel 70 Volt Power Amplifiers**

**ECA-70AMP-2D-150A**

**ECA-70AMP-2D-300A**

**ECA-70AMP-2D-500A**



## 1. Important Safety Instructions

**Warning:** To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over. (See Figure on Right)
13. Unplug this apparatus during lightning storms or when unused for long periods of time. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
14. This product employs a Class I (or grounded) construction and shall be connected to a mains socket outlet with a protective earthed (or ground) connection.
15. DO NOT EXPOSE THIS EQUIPMENT TO DRIPPING OR SPLASHING AND ENSURE THAT NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, ARE PLACED ON THE EQUIPMENT.
16. TO COMPLETELY DISCONNECT THIS EQUIPMENT FROM THE AC MAINS, DISCONNECT THE POWER SUPPLY CORD PLUG FROM THE AC RECEPTACLE.
17. THE MAIN PLUG OF THE POWER SUPPLY CORD SHALL REMAIN READILY OPERABLE.
18. CAUTION: TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT REMOVE COVER. NO USER SERVICE-ABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of un-insulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equivalent triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

## 1. Consignes de Sécurité Importantes

**Avertissement:** Pour réduire le risque d'incendie ou un choc électrique, ne pas exposer cet appareil à la pluie ou à l'humidité.

1. Lisez ces instructions .
2. Conservez ces instructions .
3. Respectez tous les avertissements .
4. Suivez toutes les instructions .
5. Ne pas utiliser cet appareil près de l'eau .
6. Nettoyer avec un chiffon sec .
7. Ne pas bloquer les ouvertures de ventilation . Installer conformément aux instructions du fabricant .
8. Ne pas installer près de sources de chaleur telles que des radiateurs , registres de chaleur , poêles ou autres appareils (incluant les amplificateurs) qui produisent de la chaleur .
9. Ne pas contourner le dispositif de sécurité de la fiche polarisée ou de mise à la terre . Une fiche polarisée possède deux lames dont une plus large que l'autre . Une fiche de terre a deux lames et une troisième broche de mise à la terre . La lame large ou la troisième broche sont fournies pour votre sécurité . Si la fiche fournie ne rentre pas dans votre prise, consultez un électricien pour le remplacement de la prise obsolète .
10. Protégez le cordon d'alimentation ne soit piétiné ou pincé, en particulier au niveau des fiches , des prises de courant et le point de sortie de l'appareil.
11. N'utilisez que des fixations / accessoires spécifiés par le fabricant .
12. Utilisez uniquement avec le chariot , le trépied, le support ou la table spécifié par le fabricant, ou vendu avec l'appareil . Quand un chariot est utilisé, faites attention en déplaçant l'ensemble chariot / appareil pour éviter les blessures en cas de renversement . ( Voir dessin à droite )
13. Débranchez cet appareil pendant les orages ou lorsqu'il n'est pas utilisé pendant de longues périodes de time. Refer à un technicien qualifié personnel . Une réparation est nécessaire lorsque l'appareil a été endommagé de quelque façon que ce cordon d'alimentation ou la prise est endommagé , du liquide a été renversé ou des objets sont tombés dans l'appareil, l'appareil a été exposé à la pluie ou à l'humidité , ne fonctionne pas normalement , ou s'il est tombé .
14. Ce produit utilise une classe I ( ou la terre) construction et doit être raccordé à une prise de courant mise à la terre avec une protection ( ou masse ) .
15. NE PAS EXPOSER CET APPAREIL À éclaboussures et s'assurer qu'aucun OBJET REMPLI DE LIQUIDE , TEL QU'UN VASE , sont placés sur le MATÉRIEL .
16. Pour déconnecter totalement cet appareil du secteur , débranchez la CORDON D'ALIMENTATION fiche de la prise secteur.
17. LA PRISE PRINCIPALE DU CORDON D'ALIMENTATION doit rester facilement accessible .
18. ATTENTION : POUR RÉDUIRE LE RISQUE DE CHOC ÉLECTRIQUE , NE PAS RETIRER . NO réparable par l'utilisateur pièces à l'intérieur . CONFIER L'ENTRETIEN DE PERSONNEL QUALIFIÉ .



Le flash de foudre avec le symbole de pointe de flèche, dans une triangle équilatérale, est prévu pour alerter l'utilisateur à la présence de la tens ion dangereuse non isolée dans la clôture du produit qui peut être de la grandeur suffisante pour constituer un risque de décharge électrique aux personnes.

Le point d'exclamation dans une triangle équilatérale est prévu pour alerter l'utilisateur à la présence des instructions importantes de fonctionnement et d'entretien (entretien) dans la littérature accompagnant l'appareil.

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## 2. Overview

Episode® is one of the most highly-regarded brands of amplifiers available today. We appreciate your business and we stand committed to providing our customers with the highest degree of quality and service in the industry.

The ECA-70AMP-2D 2-channel, 70-volt digital power amplifier series is designed for applications requiring two separate channels for stereo audio, or two zones of audio requiring different sources or levels. With low heat output thanks to digital amplification, and massive power output in a small, 1U package, these amplifiers are guaranteed to perform.

## 3. Features

### 1U Rack Height

Save space in already-crowded rack with the first 1U-sized 70 volt amplifier on the market.

### Digital 70 Volt Amplification

State-of-the-art electronics provide clean sounding audio and efficient operation in a lightweight package. Less than half the power consumption and weight of equivalent 2 channel 70 volt amplifiers.

### Two Zone Audio

Isolated inputs and outputs for each zone can be used for 2 separate mono channels, stereo left and right channels, or 2 channels of the same source.

### Independent Volume Controls

Each input level may be adjusted individually.

### 12V Trigger and Audio Sense Control

Integrated power control allows the amplifier to be switched on and off at will by other equipment, or to automatically turn on when it senses signal on either input. Another first for 70 volt amplifiers.

### Balanced and Unbalanced Inputs

Attach any source quickly and easily. Standard unbalanced RCA inputs are accompanied by balanced inputs using set-screw connectors for universal compatibility.

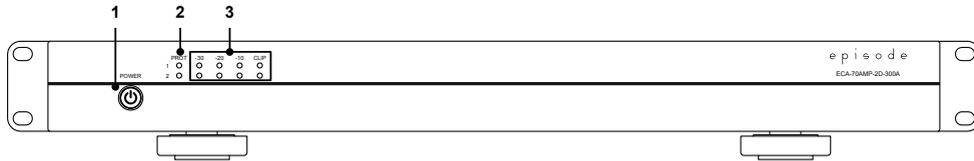
## 4. Tools

- #2 Philips Screwdriver
- Wire Strippers

## 5. Speaker Recommendation

The ECA-70AMP-2D amplifier is only meant to be used with 70 Volt loudspeakers. Use any combination of speakers as long as the sum of the wattage does not exceed the rated wattage of the speaker output.

## 6. Front Panel



### 1. Power Switch with LED Indicator

Momentary switch for manual control of standby power mode. Only functions when the power mode is set to "ON".

**BLUE** – On.

**RED** – Standby.

### 2. Protection LED

Indicates whether a channel is operating correctly or is in protection.

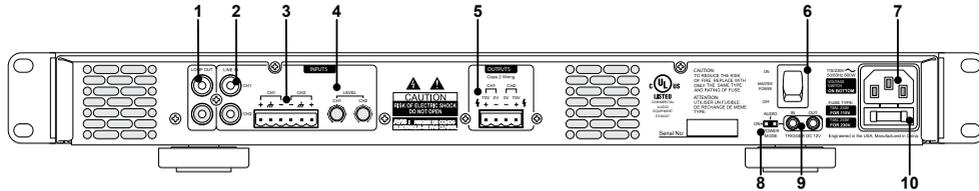
**BLUE** – Normal.

**RED** – Protection. (Indicates an issue with installation or setup)

### 3. Output Level Meter

Level meter flashes green to indicate current output level for each channel. LEDs will illuminate green accordingly as levels ranging from -30dB to -10dB are played. If a channel is clipping, the red CLIP LED will illuminate during periods of clipping (turn down input level immediately if clipping occurs).

## 7. Rear Panel



Note: ECA-70AMP-2D-300A shown. All models share this layout, but have different specs for Power and Fuse ratings.

\*Terminals marked with ▲ are hazardous live and external wiring connected to these terminals requires installation by an instructed person or the use of ready-made leads or cords.

### 1. Loop Outputs 1 & 2

Unbalanced mono RCA connections for sending audio to other equipment.

### 2. Unbalanced Inputs 1&2

Unbalanced mono RCA input connections for connection of sources.

### 3. Balanced Inputs 1 & 2

Set-screw connections for sources with balanced output.

### 4. Input Level Adjustment Dials

Attenuate input volume levels. Turn counter-clockwise to decrease and clockwise to increase the level.

### 5. Speaker Output Connections

Set-screw connections for speaker output channels 1 & 2. Accommodates 22-12AWG wire.

### 6. Master Power Switch

Rocker switch to control master power state. Must remain "On" during amplifier use.

### 7. IEC Power Cord

Detachable power for amplifier.

### 8. Power Mode Selector Switch

Set the amplifier for control via the front power button (ON), 12V trigger (TRIGGER DC 12V), or audio sense (AUTO).

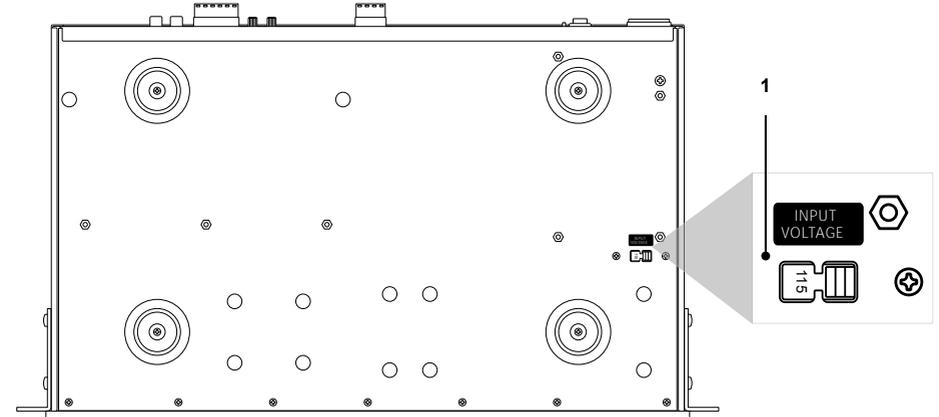
### 9. 12 Volt Trigger Loop In and Out

When 4.5-15 Volts DC are applied to Loop In, amplifier will turn on. When voltage is dropped, amplifier turns back off. Loop out allows other equipment to be controlled from the same 12 volt signal.

### 10. AC Fuse

Replaceable main power fuse.

## 8. Bottom Panel



### 1. Input Voltage Switch

Set the input voltage for 115V or 230VAC operation based on the voltage available.

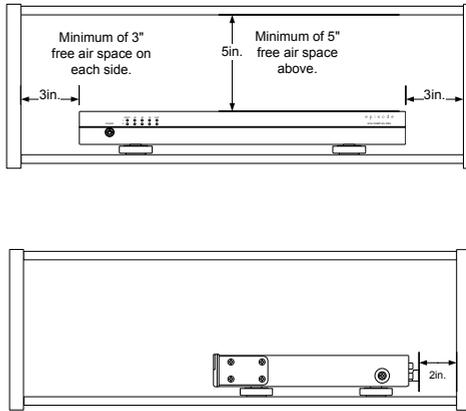
Note: *The ECA-70AMP-2D includes an IEC cable meant for use with a NEMA 5-15 receptacle supplying 115V AC power. For countries utilizing 230V AC power, the cable can be swapped to the correct cable for that region. When using the 230V AC input voltage setting, change the fuse in the amplifier from the included to a fuse rated for 230V AC. See the Specifications on page <Specifications> for the correct fuse type for each model. Using the wrong fuse could result in blown fuses or damage to the amplifier, which is not covered by the warranty.*

## 9. Positioning the Amplifier

Episode amplifiers are designed to help deliver a great audio experience that makes your music come alive for years to come. However, where you place the amplifier can have a large effect on the performance that you receive and the life of the unit.

### 9.1. Shelf Mounting

- Be sure that the unit is in a well-ventilated area that provides adequate cooling.
- Do not block the cooling vents located on both sides of the unit.
- Do not place the unit on carpeting or any similar material.
- Do not install the unit near a source of heat, or in an extremely humid or wet location.
- If your installation lacks good air flow (such as solid cabinet doors or wall-mounted racks), it may be necessary to create ventilation to allow outside air into the space.
- Allow a minimum of 5" of free air space above the unit.
- Allow a minimum of 3" of free air space on either side of the unit. (Does not apply to rack mounting)

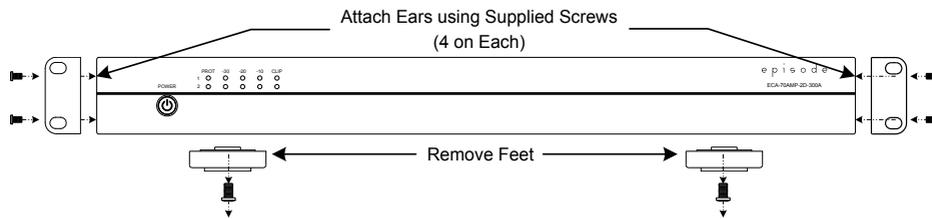


### 9.2. Rack Mounting

1. Remove the amplifier's four feet from the bottom of the chassis.

**Note: DO NOT place the screws back into the chassis. Without the feet, the length of the screw may touch internal components and affect the performance of the amplifier.**

2. Attach the included rack-mount ears to the front sides of the amplifier chassis.
3. Securely mount the amplifier into an equipment rack. The amplifier will occupy 1U of rack space.
4. Even though the amplifier produces very little heat, it is always wise to leave ventilation between components.



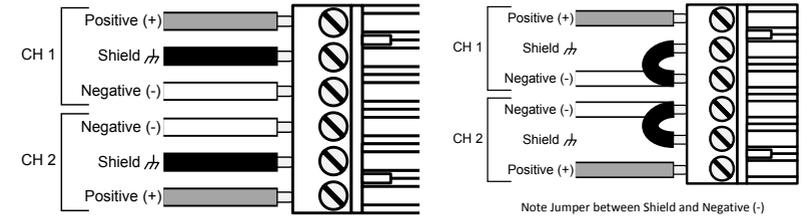
## 10. Connections

### 10.1. Terminating Wire in Set-Screw Connectors

1. Strip the outer jacket of the cable (if applicable) back about 2", and then strip the insulation of each wire back ¼" to expose the bare copper.
2. Loosen the set screws on the connector using a 1/8" flat blade screwdriver.
3. Twist the copper strands in conductor each clockwise, insert them into the correct holes, and tighten the screws. Do not allow any strands of copper to touch and cause short circuits between the terminals.

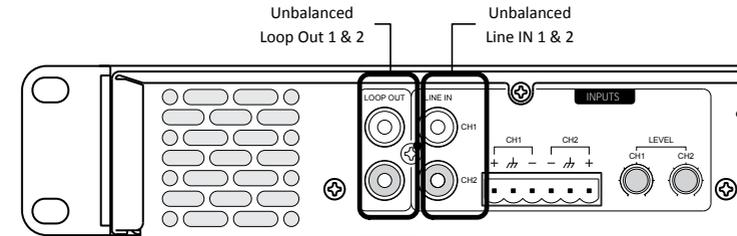
### 10.2. Balanced Input

Use the balanced input to connect balanced or unbalanced cables to the amplifier.



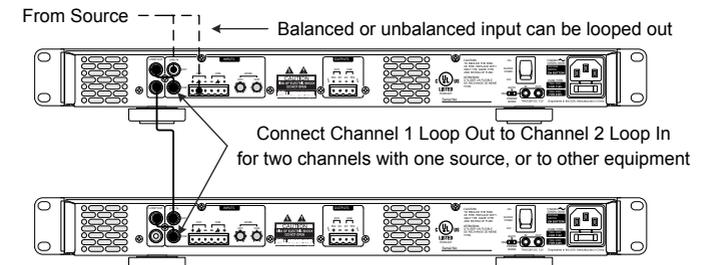
### 10.3. Unbalanced Connections

The unbalanced Line IN input utilizes standard RCA cables for connection of sources. Connect a source to each channel through its respective mono input. Use the Loop Out ports to connect to more amplifiers or other equipment.



### 10.4 Using Loop Out

The Loop Out connections on the ECA-70AMP-2D amplifier may be used to send audio signal to other equipment, or to the other channel of the amplifier. The Loop Out will carry audio signal out from the unbalanced input OR the balanced input of the channel.



## 11. Amplifier Power Control

### 11.1. Master Power Switch

The master power toggle switch at the back of the unit controls the main power. If this is turned off, the amplifier will not respond to any control method. This switch should be left in the ON position after installation and setup is finished unless the amplifier will not be used for an extended period of time or is being serviced. For everyday use, decide on one of the options below.

Use the Power Mode switch (below the Master Power switch) to select the desired power control mode.

### 11.2. Front Panel Power Button

When the amplifier is powered On, the power button will illuminate solid blue. When it is in Stand-by, the power button will be red.

Note: The front panel Power button only controls the amplifier when the power mode selector switch is set to Power ON.

### 11.3. Power ON Mode

For manual control of the amplifier power state, set the Power Mode switch to POWER On. Press the front panel Power button to toggle between Stand-by and On.

### 11.4. 12 Volt Trigger

Some audio sources and custom remote control systems can use a 12V DC trigger output to control the power state of an amplifier. The ECA-70AMP-2D is equipped with 12V DC trigger inputs and outputs to allow for trigger control and daisy chaining for control of more than one amplifier.

To utilize the 12V DC trigger function, set the Power Mode switch to the right to TRIGGER (closest to the 12V trigger connections) and attach a mono mini cable between the 12V trigger output of the controlling device and the TRIGGER DC 12V IN port on the ECA-70AMP-2D. Connect to other devices by connecting them to the OUT port on the amplifier with a mono-mini cable.



Cable	3.5mm Mono-mini
Tip	4.5-15v DC (constant during use)
Sleeve	Ground/Common

### 11.5. AUTO (Audio Sense)

Setting the Power Mode switch to AUTO will allow the amplifier to monitor the level of signal coming in from the source connection and power on when the level is high enough to be process as an audio signal. No further setup is needed.

When a source attached to any input generates a signal, the amplifier will power on, and will remain on as long as the signal is maintained. After 20 minutes of inactivity on all inputs, the amplifier will power down and return to Stand-by mode until a signal is received again.

## 12. Volume Calibration

Follow these directions to calibrate the LEVEL setting in relation to the source input volume and inline volume control level (if applicable) for the best sounding and most reliable installation.

1. Connect all speaker and audio source wiring and configure the amplifier. Connect power to the amplifier but leave it turned Off at the Master Power Switch.
2. (If applicable) Set all volume controls to their maximum volume setting.
3. Set the LEVEL for each zone in use to baseline by turning the knob counterclockwise to its minimum limit, and then turning it back up about ¼ turn. Set the LEVEL for any unused zones to minimum (counterclockwise).
4. Power on the amplifier and the source to be used. Play audio typical of what will be played in the zone. Set the volume of the source to around half of its volume. If the audio becomes distorted, turn the volume back to a point where audio is clear.
5. Set the LEVEL adjustment for the zone to a level where the volume is slightly above normal listening level. If the audio becomes distorted, experiment with changes to the source volume and the LEVEL adjustment until audio is clear and slightly too loud.
6. Now the volume level of each zone is matched to the volume of the source input. Adjust the level of audio back to a comfortable level by adjusting the inline volume control (if equipped) or the source volume.

### 12.1. Calibration Setup Tips

The following common issues may occur with a poorly calibrated system. Use the tips listed to identify and correct these problems:

#### Distorted Audio at Normal Volume

If the LEVEL adjustment for a zone is set too high to compensate for low source volume, distortion can occur in the form of background noise or poor audio quality. This will be heard as a steady hissing or humming behind music, clipping of signal, or distortion of highs and lows.

To eliminate this issue, re-adjust the volume levels by starting back at baseline settings and re-adjusting the final volume so that a maximum comfortable volume level can be reached with no distortion while using the source volume or inline control.

#### Inline Volume Controls “Thump” or Play Source Audio in the Walls

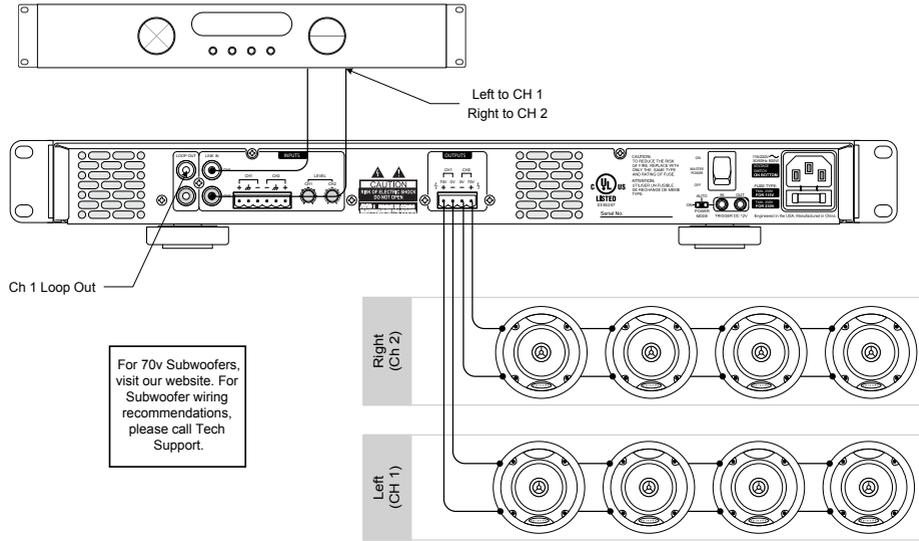
If inline volume controls are thumping in the wall, then the amplifier and the source volume levels are set too high and the volume controls are being used to attenuate too much power from the speakers. This causes the entire system to work harder, and can reduce reliability and sound quality.

Inline volume controls should be calibrated in relation to source/amplifier volume so that they are one or two adjustment levels away from their maximum setting when audio heard in the room is at the normal listening level. This will leave one to three settings above normal level for use if a little extra volume is needed.

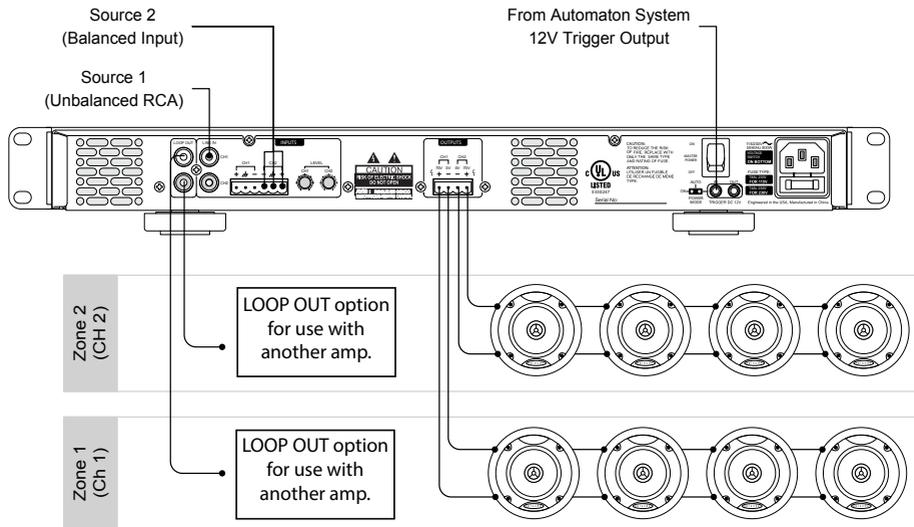
### 13. Application Diagram

See the examples of applications below. These diagrams illustrate typical uses of the ECA-70AMP-2D amplifier.

#### 13.1 Single Source with Stereo Output



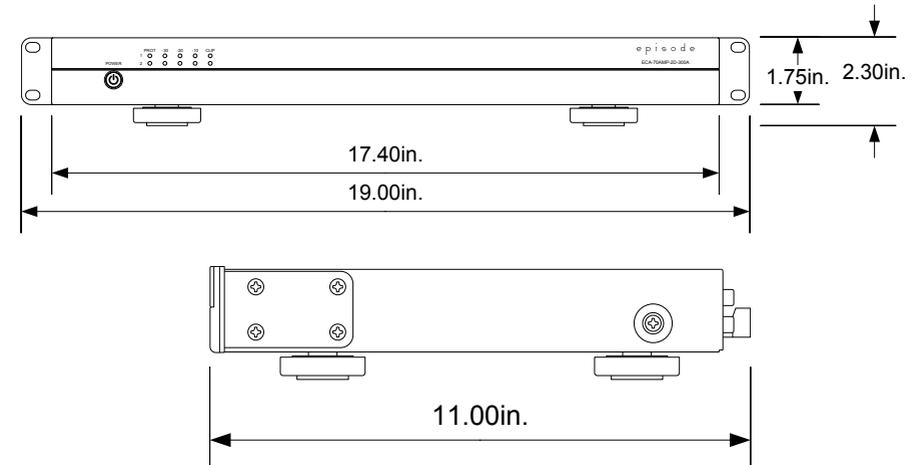
#### 13.2 Two Sources with Two Mono Output Zones



### 14. Specifications

	ECA-70AMP-2D-150	ECA-70AMP-2D-300	ECA-70AMP-2D-500	
<b>Continuous Power Output (All Channels)</b>	150w per channel @ 70V	300w per channel @ 70V	500w per channel @ 70V	
<b>Inputs per Channel</b>	1 unbalanced (set-screw) and 1 balanced (RCA)			
<b>Input Sensitivity</b>	1V			
<b>Input Impedance</b>	10KΩ (unbalanced); 20KΩ (balanced)			
<b>AUTO ON Sensitivity</b>	2.5mV			
<b>12 Volt Trigger Input</b>	4.5-12V DC; 10K Ω			
<b>12 Volt Trigger Output</b>	12V DC; 10mA			
<b>T.H.D.</b>	0.03%			
<b>S/N ratio</b>	95db A-weighted			
<b>Frequency Response</b>	50 Hz to 20KHz			
<b>Distortion</b>	0.1% THD 20 Hz-20 kHz			
<b>Input Voltage</b>	115V AC/230V AC			
<b>Fuse</b>	115V AC	T4AL 250V	T8AL 250V	T10AL 250V
	230V AC	T2.5AL 250V	T4AL 250V	T5AL 250V
<b>Power Consumption</b>	400 watts	800 watts	1200 watts	
<b>Dimensions (Inches)</b>	17"W x 2.3"H x 11"D			
<b>Weight</b>	7.8 lbs	8.1 lbs	8.4 lbs	
<b>Certification</b>	Meets FCC Part 15, UL EN60065			

### 15. Dimensions



## 16. Troubleshooting

<b>Amplifier will not turn on.</b>	<ul style="list-style-type: none"> <li>Power cable to the amplifier is incorrectly connected or plugged into an outlet that does not have power. Check connections and verify power on the outlet.</li> <li>Main Power Fuse is blown. Replace fuse and ensure power outlet is providing the correct power and polarity for the amplifier.</li> </ul>
<b>POWER LED is red.</b>	<ul style="list-style-type: none"> <li>Amplifier is in Protection mode. Short circuit on input or output or too much current being drawn on speaker output. Verify all wiring and connections.</li> <li>Calculate load attached to amp and configure so that impedance or wattage output is within specification.</li> <li>Amplifier is overheating. Unplug amp and let cool. Install per instructions in manual, "Positioning the Amplifier".</li> </ul>
<b>Hum or buzzing sound is heard.</b>	<ul style="list-style-type: none"> <li>Check RCA input cables by removing them one at time (powering down the amplifier before disconnecting) and checking to see if a connection or cable is to blame.</li> </ul>
<b>No audio from speakers.</b>	<ul style="list-style-type: none"> <li>Verify speakers and wiring connections. Bypass volume controls and test output with one speaker on known good wire run.</li> <li>Verify correct source operation and input wiring. Turn volume in source up to an audible level.</li> <li>Is Power LED red? If so, see section above, "POWER LED is RED".</li> </ul>
<b>No sound from microphone input.</b>	<ul style="list-style-type: none"> <li>Set the phantom power switch to the correct mode for microphone. Verify with microphone manufacturer.</li> </ul>
<b>CLIP LED illuminates some or all of the time.</b>	<ul style="list-style-type: none"> <li>Turn down the input volume. The amplifier is trying to push too much power to the speakers.</li> </ul>

**Note: If any of the troubleshooting methods listed above do not resolve the issue, please contact our Technical Support department.**

## 17. Contacting Technical Support

<b>Phone</b>	(866) 838-5052
<b>Email</b>	support@snapav.com

## 18. Warranty



### *2-Year Limited Warranty*

Episode® Amplifier Products have a 2-Year Limited Warranty. This warranty includes parts and labor repairs on all components found to be defective in material or workmanship under normal conditions of use. This warranty shall not apply to products that have been abused, modified, or disassembled. Products to be repaired under this warranty must be returned to SnapAV or a designated service center with prior notification and an assigned return authorization number (RA).

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Rev: 140417-1430