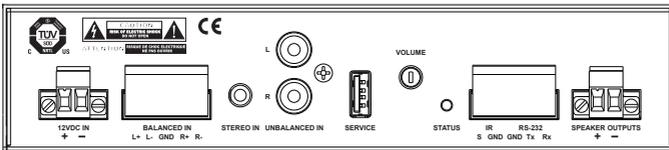




INSTALLATION MANUAL

ECA-70VMINI-60W



REAL. LIFE. SOUND.



	CAUTION Risk of Electrical Shock! DO NOT OPEN! ATTENTION ! RISQUE DE CHOC ! ÉLECTRIQUE PAS OUVRIR !	
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	The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated 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 equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

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 bladed 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.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. 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.
15. The equipment shall be used at maximum 35°C ambient temperature.
16. To reduce the risk of electrical shock, do not open the equipment. For safety reasons it is only allow to be opened by qualified service personnel.
17. **WARNING:** To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture. Additionally, the apparatus shall not be exposed to dripping or splashing and no objects filled with liquids shall be placed on the apparatus.
18. The MAINS plug is used as the disconnect device and shall remain readily operable.
19. The product shall be used on open bench.
20. No naked flame sources, such as lighted candles, should be placed on the apparatus.



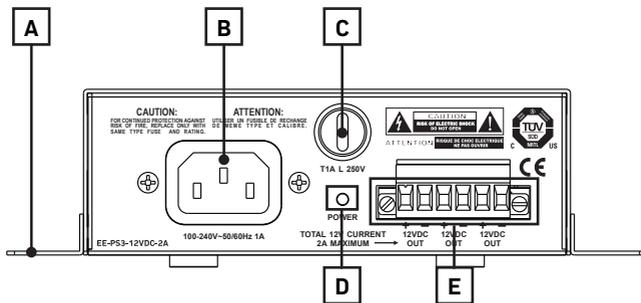
INTRODUCTION

Thank you for purchasing Episode® amplifiers. To complete installation, follow these guidelines. Visit our website for design recommendations.

CONTENTS

1x ECA-70V MINI-60W Amplifier	1x Power Supply (EE-PS3-12VDC-2A)
1x Detachable 6ft IEC Power Cable	1x 3ft 18 AWG 2-Conductor Wire
2x Mounting Ears for Amplifier	2x Mounting Ears for Power Supply
4x Rubber Adhesive-Back Feet	4x Module Mounting Pins
1x Installation Manual	

POWER SUPPLY



A. Mounting Ears

Mount the unit to a wall or rack using the mounting ears.

B. IEC Type C14 Power Connector Inlet

Attach included IEC cable to this port for power.

C. Fuse

Serviceable fuse using T1A L 250V.

D. Power LED

Indicates current power status.

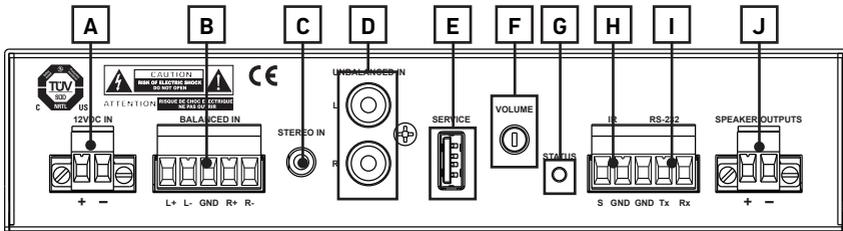
Green On

E. 12V DC Output

Connect (+) to (+) and (-) to (-) from the amplifier to the power supply.

⚠ ATTENTION: The 12VDC power supply has a maximum total output current of 2A. There is a maximum of 200mA available for the other two 12VDC outputs for accessories when used together with the amplifier. Only one amplifier can be connected to the power supply.

AMPLIFIER

**A. 12VDC Input (Black)**

Connect 12VDC power from included power supply (EE-PS3-12VDC-2A).

B. Balanced Input 1

Screw-down terminal accepts and secures balanced line level mono or stereo audio signals.

C. 3.5mm Stereo Input 2

Connect stereo 3.5mm plug into jack.

D. Unbalanced RCA Input 3

Unbalanced line level stereo RCA input connections for connection of sources.

E. USB Service Port

Reserved for firmware updates only. Plug in a USB flash drive with firmware file, the unit will automatically update. Refer to *Firmware Update* on page 9.

F. Volume Knob

Controls amplifier output volume. Turn clockwise to increase volume and counterclockwise to decrease volume.

G. Status LED

Blue (Solid)	On
Blue (Blinking)	IR/RS-232 Communication Active
Red (Solid)	Standby
Pink (Blinking)	Mute
Red (Blinking)	Fault (See Troubleshooting on page 10)

H. IR Input

Control the amplifier via IR from your control system via screw-down terminal connection. Signal and GND only, no 12V signal supplied.

I. RS-232

Connect to communicate with control system or Windows PC for serial control of amplifier.

J. Speaker Output (Green)

Connect output to screw-down terminals.

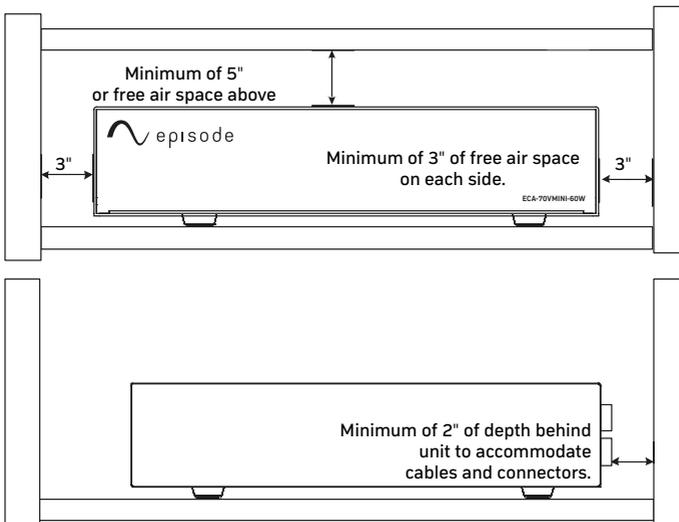


SETUP

Amplifier Positioning

Placement of the amplifier can have a large impact on performance and longevity. Please take the following guidelines into consideration.

- Ensure 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 the 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.
- When placing on a cabinet shelf, position the unit with all feet resting on a solid, level surface.
- 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).
- Allow a minimum of 2" of depth behind unit to accommodate cables and connectors.





Wall Mount Installation

- Remove the four feet from the bottom of the chassis, if needed.
- Attach the included rack-mount ears to the sides of the amplifier chassis.
- Securely mount the amplifier into a mounting box.
- It is always wise to leave ventilation between components even though the amplifier produces very little heat.

Vertical Mounting (Walls or Enclosures)

- The amplifier may be mounted on any surface using fasteners (not included) suited for the surface material.
- The included module mounting pins may be used to secure the amplifier inside structured wiring enclosures.
- The rubber feet (included) can be attached to dampen vibrations if needed.

Horizontal Placement

- The rubber feet (included) can be used for shelf placement of the amplifier. Using these will prevent vibration and movement of the amplifier. Attach one to each corner of the unit.

⚠ WARNING: Do not stack anything on top of the amplifier.

Plenum Placement

The ECA-70VMINI-60W amplifier meets UL 2043 requirements for heat and smoke release. It can be installed in the plenum space, such as in the ceiling, out of sight.

⚠ ATTENTION: Although the amplifier is plenum rated, the power supply and DC power cable provided with the unit is not plenum rated and cannot be placed in the plenum space.

If using the Amplifier in a plenum required space, the cables to and from the amplifier must also be plenum rated.

Wire Length for DC Power

Recommended wire lengths at full power output are listed below:

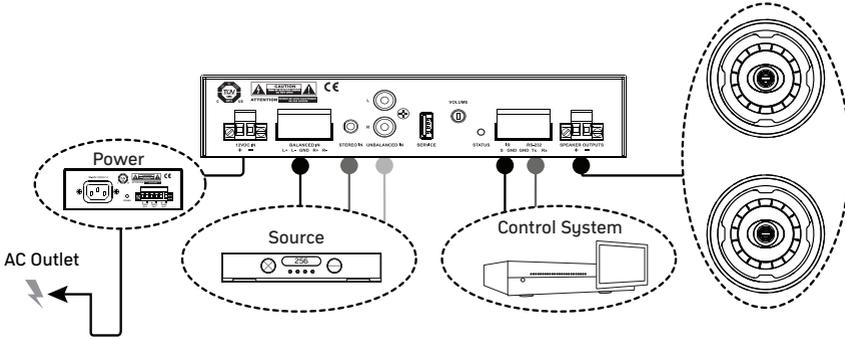
- 14 AWG: up to 80 ft
- 16 AWG: up to 50 ft
- 18 AWG: up to 36ft
- 22 AWG: up to 25ft

NOTE: Actual wire length varies by type of source and volume level. A blinking red LED indicates a fault. See *Troubleshooting* on page 10.



CONNECT

CAUTION: Connect the power cord last to ensure that the amplifier is off during installation.

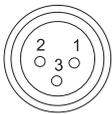


- Connect source input via balanced line level, 3.5mm stereo or unbalanced RCA.
- To control the amplifier, connect a control system to either the IR input or RS-232 input.
- Observing proper polarity, connect the speakers to the rear of the amplifier's phoenix connector.
- Lastly, connect power to an outlet with surge protection.

ATTENTION: Do not connect more than one amplifier to the power supply.

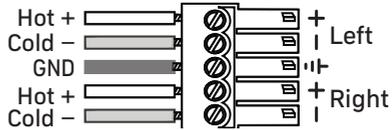
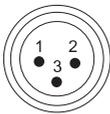
Balanced Line Level

FEMALE XLR



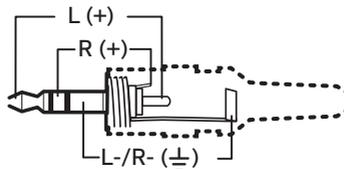
XLR BAL
1-GND
2-HOT+
3-COLD-

MALE XLR



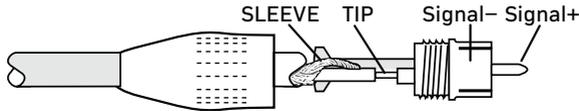
3.5mm stereo

Use a 3.5mm stereo audio cable or customize the length of the cable, following the pinout below.



Unbalanced RCA line level

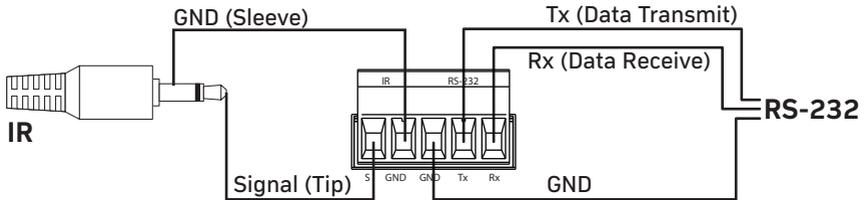
Use high-quality RCA cables that feature low impedance with adequate shielding and high-quality connectors. If custom wiring, follow the wiring diagram below for pinout.



Speaker Outputs

Use 14–18 gauge stranded two-conductor speaker wire for all high level connections. Only strip away 1/4" of insulation from each conductor to prevent them from touching. Connect the appropriate conductor to each screw-down terminal, observing correct polarity.

CONFIGURE



IR Port Configuration

Connect a Control System with IR as shown above.

RS-232 Port Configuration

The ECA-70VMINI-60W amplifier receives control data on the “Rx” pin and transmits control data on the “Tx” pin of the screw-down terminal serial port at the back of the amplifier. The connection cable between the amplifier and the control system will need to be configured so the Rx pin on the amplifier is connected to the TX pin on the control system, and the Tx pin on the amplifier is connected to the Rx pin on the control system. See the illustration above for details.

Configuration for the control system ports can vary. Refer to the documentation for the control system you are using to ensure proper connection and configuration.

Baud Rate	9600 bps
Data Bit	8 bits
Parity	None
Stop Bit	1 bit



Save Configurations

To save any changed configurations send the discrete Power OFF or Power Toggle command. The configurations will also be saved when the Auto OFF feature is enabled after 15 minutes of inactivity.

The following settings will be saved in non-volatile memory:

- Audio Input Selection
- Volume Level
- Bass and Treble Levels

Factory Reset Configurations

Complete the steps below to reset the amplifier to factory settings. When resetting configurations, the following settings will be applied.

- Input: Sum of all three inputs:
- Volume Level: 75%
- Bass and Treble: 0dB
- Auto ON/OFF Enabled

Firmware Update

The ECA-70VMINI-60W amplifier may be serviced for firmware updates via a USB memory stick pre-loaded with firmware which is also available on the product page's support tab. Please call Tech Support if you are in need of assistance.

Firmware Update Procedure:

1. Download the latest firmware from the product web page.
2. Put the sav70m.hex file on a root of USB stick.
3. Plug the USB stick into the amplifier at the service port.
4. Apply AC power to the amplifier.
5. LED will blink, pause for a moment, blink slowly, then stay solid if upgrade was successful.
6. Remove USB stick and remove AC power.
7. Wait for LED to go OFF and power up the unit again.



TROUBLESHOOTING

<p>Amplifier will not turn on. (Amplifier Status LED is off)</p>	<ol style="list-style-type: none">1. Disconnect all sources and speakers and leave only power connected.2. Check the LED on the power supply.<ol style="list-style-type: none">2.1. If power LED is off, check AC power cord and the fuse (Refer to item C on page 4).2.2. If power LED is on, check the 12VDC cord.
<p>No Audio output (Amplifier Status LED is on)</p>	<ol style="list-style-type: none">1. Check the LED color, if blue continue to step 2, if red go to next section "Status LED is red".2. Bypass any external volume controls3. Check the source status and volume.4. Check the output volume of the amplifier. <p>Note: The amplifier is in muted mode if the LED is pink.</p> <ol style="list-style-type: none">5. Test with an alternative source.
<p>Amplifier STATUS LED is red.</p>	<ol style="list-style-type: none">1. If LED is solid red, the amplifier is in standby mode.2. If LED is flashing red, the amplifier is in protection mode. Check the steps below.3. Verify wiring and connections, ensuring there are no short circuits.4. Calculate load attached to amplifier and ensure wattage output is within specification.5. Check if the amplifier is overheating and improve ventilation condition. Refer to Amplifier Positioning on page 5.6. Check the wire lengths for the 12VDC cord. Refer to Wire Lengths for DC Power on page 6.
<p>Hum or buzzing sound is present.</p>	<ol style="list-style-type: none">1. Bypass external volume controls.2. Check RCA input cables by removing them one at time (powering down the amplifier before disconnecting).3. Check for loose connections.



SPECIFICATIONS

Rated Power	60 Watts @ 70V / 80 ohms minimum	
Distortion	THD+N less than 1%	
Input Sensitivity	Unbalanced Input (RCA and 3.5mm)	550mV
	Balanced input	775mV
Input Impedance	Unbalanced Inputs (RCA and 3.5mm)	20KΩ
	Balanced Input	40KΩ
Auto On (Audio sense) Sensitivity	4mV	
S/N Ratio Reference to Rated Power	Unbalanced Inputs (RCA and 3.5mm)	85dB
	Balanced Input	87dB
Frequency Response	50Hz – 20KHz	
Power Supply AC Main Input	100Vac – 240Vac, 1A, 50Hz – 60Hz	
Power Consumption	Typical 30W	
Fuse Rating	T1A L 250V	
Dimensions:	8.0" W x 6.3" D x 1.721" H (without mounting ears)	
	10.575"W x 6.55"D x 1.75"D (with mounting ears)	
Weight	5 lb.	
Certification	TUV under UL 60065; UL 2043, plenum rated (amplifier only)	

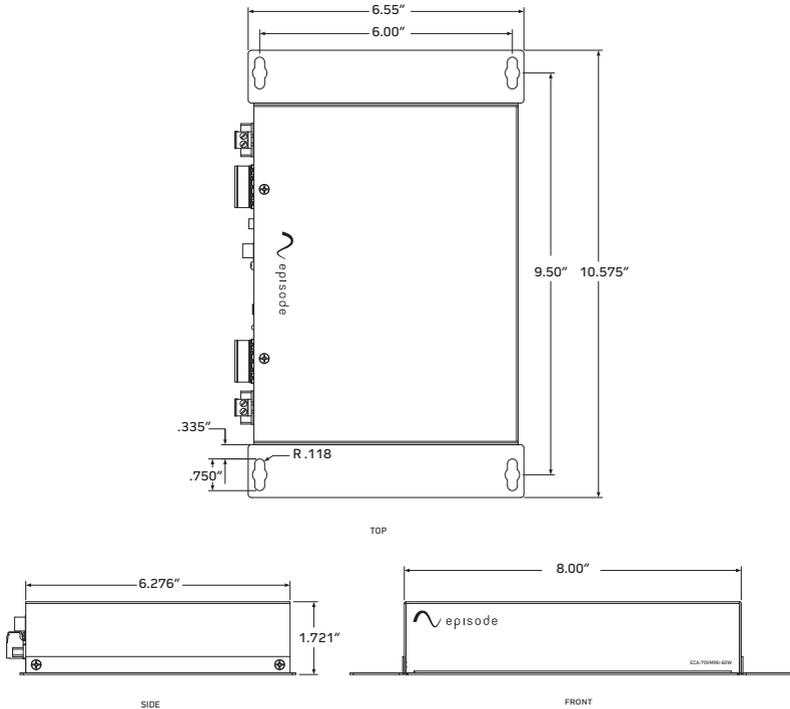
COMPLIANCE STATEMENT:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Caution: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

DIMENSIONS



WARRANTY

2-Year Limited Warranty

Episode® amplifiers 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 a designated service center with an assigned return authorization (RA) number. Contact technical support at support@episodeaudio.com for an RA number.

CONTACTING TECHNICAL SUPPORT

866.838.5052

support@episodeaudio.com



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