

# INSTALLATION AND OPERATION MANUAL



**EA-120A / EA-240A**

**Mixing amplifier with MP3 / FM / Bluetooth**



# Important Safety Information

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this device 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 devices (including amplifiers) that produce heat.
9. **WARNING:** To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
10. Connect the device to a mains outlet with a protective earth connection.

## WARNING!

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT USE THE PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

TO PREVENT ELECTRICAL SHOCK  
MATCH WIDE BLADE PLUG TO WIDE SLOT, FULLY INSERT.



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.

### CAUTION

RISK OF ELECTRIC SHOCK  
DO NOT OPEN

**WARNING:** TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



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.

# INTRODUCTION

## Description

Mixing amplifier with MP3, FM tuner and Bluetooth. It has a rated power output of 120W / 240W. Ideal solution for a school, super market, bank, or hotel where BGM and speech are used.

It integrates 3 audio sources into a mixer and amplifier with 5 inputs; 1 Mic (XLR), 2 combined Mic/Line inputs (6.3mm Jack and RCA) and 2 AUX (RCA) inputs. One line (RCA) mix output. Mic 1 VOX with priority.

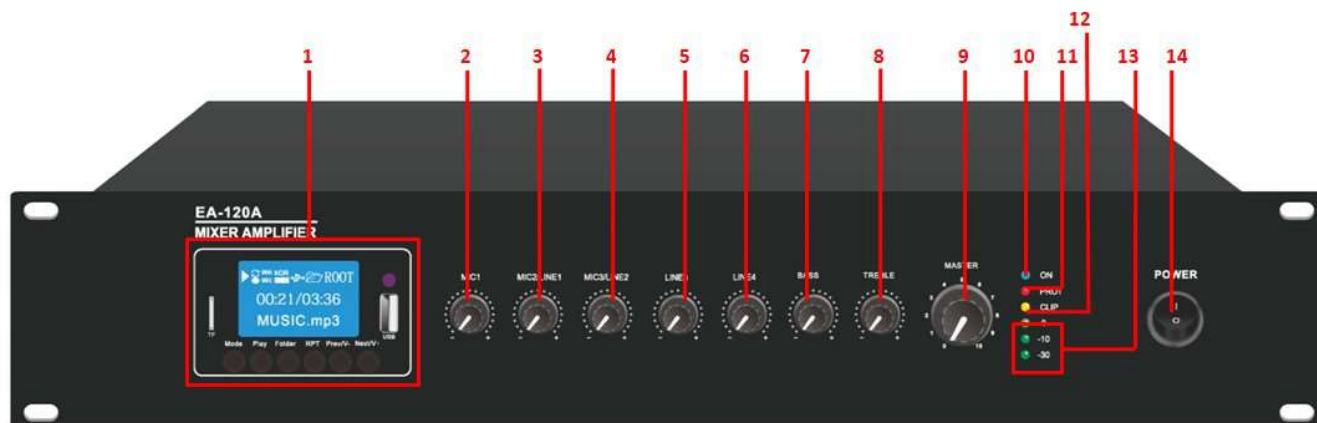
One USB and one SD slot on front provide easy access and operation.

The amplifier is designed with overload protection, short circuit and high temp to avoid any damage.

## Features

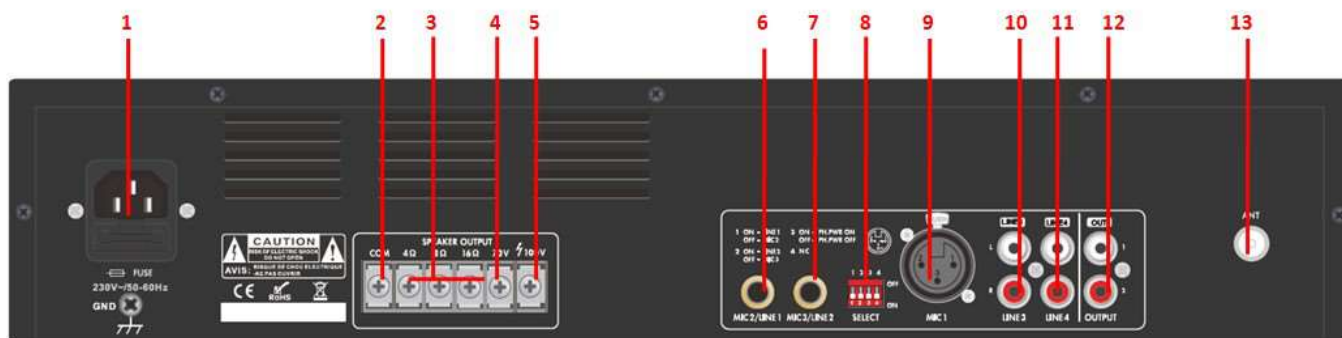
- Compact public address amplifier
- 19" mixing amplifier with MP3 player, FM radio & Bluetooth
- Rated power output 120W@100V
- Speaker outputs 100 or 70V & 4-8-16 Ohm
- MP3 player with USB/SD input on front panel, IR remote control for MP3 player, FM radio and Bluetooth
- LED indicators for power, clip, protect and signal
- Balanced mic XLR input 1 with dipswitch for phantom power on/off
- Mic/line 2-3 switchable inputs unbalanced 6.3mm jack
- Line 1-2 input with RCA input and RCA line output
- Volume control for Mic1-3, line 1-2, bass, treble and master
- Complete amplifier protection includes short-circuit, clip, overload and high temp
- AC230V power supply system

# FRONT PANEL



- |   |                                 |
|---|---------------------------------|
| 1. Mp3/FM/Blue tooth media player module. | 8. Treble                       |
| 2. Mic1 Attenuator.                       | 9. Master Volume Control        |
| 3. Mic/Line Input 2 Attenuator.           | 10. Power on indicator          |
| 4. Mic/Line Input 3 Attenuator.           | 11. Protection indicator in red |
| 5. Line Input 3 Attenuator.               | 12. Clip indicator in yellow    |
| 6. Line Input 4 Attenuator.               | 13. Output level meters         |
| 7. Bass                                   | 14. Power on/off switch         |

# REAR PANEL



- |                                  |                       |
|----------------------------------|-----------------------|
| 1. AC Power Socket & fuse        | 8. Dipswitch Selector |
| 2. Speaker output COM (-).       | 9. Mic1 input.        |
| 3. Speaker output 4-8-16Ohm (+). | 10. Line 3 Input.     |
| 4. Speaker output 70V (+).       | 11. Line 4 Input.     |
| 5. Speaker output 100V (+).      | 12. Line Output.      |
| 6. MIC2/LINE1 input.             | 13. FM antenna        |
| 7. MIC3/LINE2 input.             |                       |

1 ON - LINE 1	3 ON - PH.PWR ON
OFF - MIC 2	OFF - PH.PWR OFF
2 ON - LINE 2	4 NC
OFF - MIC 3	



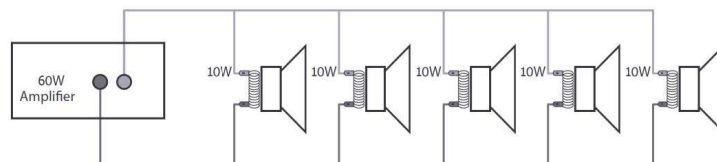
**Male XLR-3P:**  
 Pin1-Ground  
 Pin2-Positive signal  
 Pin3- Negative signal

# AMPLIFIER OPERATION GUIDANCE

## 100V Line System

For 100V line systems, connect the amplifier to the first speaker in the system using double-insulated speaker wire which has adequate current rating to handle the total output of the amplifier.

Connect the "100V" output terminal to the positive (+) connection of the speaker and "COM" output to the negative (-) connection of the speaker. Connect further speakers in parallel to the first speaker with all positive terminals and connected together and all negative terminals connected together as shown below.



A 100V line speaker system can comprise of many speakers connected together. The determining factor for how many speakers can be used on a single amplifier is the power rating. For most purposes, it is advised to connect as many speakers as needed with a combined wattage of no more than 90% of the amplifier's output power rating.

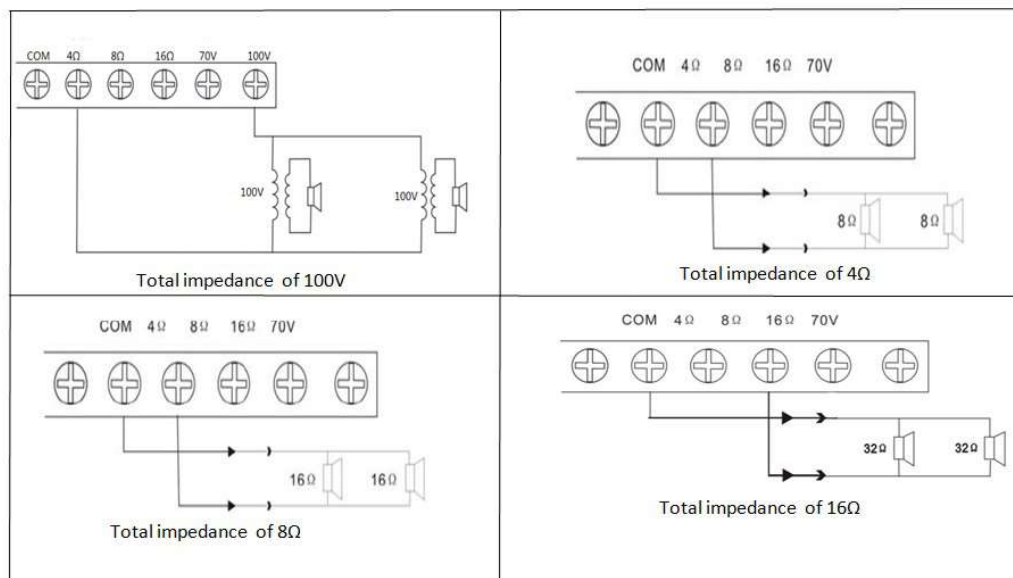
The terminals of a 100V speaker are connected to a transformer and in some cases, this transformer may be "tapped" for different power ratings. These tapings can be used to adjust the wattage (and output volume) of each speaker in the system to help achieve the ideal total power of the system for the amplifier.

The mixer amplifier is featured of 6 speaker zone outputs, either one of six zone or total six zone power loading shall be equivalent or no higher than the rated power of the amplifier.

## Speaker Terminals

These terminals are offering 3 low voltage outputs 4Ω, 8Ω, 16Ω depending on your speaker combination. A 70V/100V commercial output is also available. Please note that one wire only should be connected to COM screw and one wire to the selected impedance or voltage. **Multiple combinations cannot be done at the output level.** Four different types of connections are provided. The low impedance section: 4Ω, 8Ω, 16Ω is designed for a small amount of speakers to be connected to your amplifier. The 70V/100V section is especially designed for a multiple speaker distribution. When using the 70V/100V output, speakers have to be equipped with 70V/100V transformer. The maximum amount of speakers to be placed on your distribution line is in relation to the power allocated to each speaker. The total wattage set on the secondary side of the transformers on your speaker line must not exceed the maximum RMS output power: 120W / 240W. Failure to respect this may cause permanent damage to the amplifier.

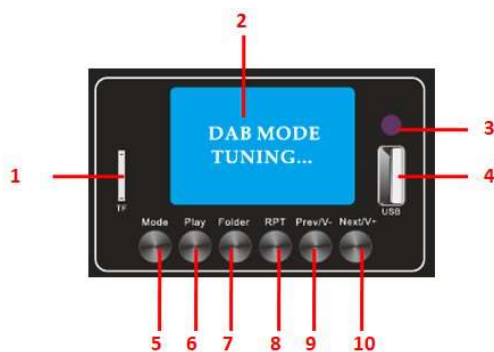
## Speaker Connections



## Operation Steps

- When all connections to the amplifier are made, turn all rotary controls down and switch on the power and a power “ON” LED will illuminate. Turn BASS and TREBLE controls to the 12 o'clock position (pointing straight up) and turn MASTER rotary control up part way for testing.
- Ensure a signal is being fed to one of the line inputs 1, 2, 3, 4 or 5 and gradually increase the volume control for that channel until the output is heard through the speakers. Turn up the MASTER to the maximum required volume level and reduce the channel volume control if necessary.
- Note: The initial test can be made using the built-in USB/SD/FM audio player. The output of the amplifier is represented on the level meter LEDs and care should be taken that the Red “0” LED is only lit momentarily during use. Anything longer than a short flash of this LED may be indicating distortion or clipping of the output signal and the MASTER should be turned down.
- If a microphone is connected to MIC1 input, make sure it is switched on and if it requires phantom power, make sure this feature is enabled. Gradually increase its volume control whilst speaking into the microphone until the required volume level is reached. The microphone should not be able to “hear” the speakers, which can cause feedback (squealing or howling noise).
- If the VOX feature is enabled, audio playback through channels 2-5 will be reduced in volume automatically when speaking into MIC 1, use its attenuator to increase or decrease the mute level.
- In addition to channel and MASTER volume controls, there are BASS and TREBLE EQ controls to adjust the tone of the overall output. At the 12 o'clock position, these controls are applying no effect to the signal (no boost or cut). Moving the BASS control clockwise boosts the low frequencies in the audio, whilst moving it anticlockwise will cut these low frequencies. Likewise, moving the TREBLE control clockwise boosts the high frequencies in the audio, whilst moving it anticlockwise will cut these high frequencies. Adjust these EQ controls to suit the type of audio signal or compensate for the room acoustics.

## Media Player



1. TF card input
2. LED display
3. IR sensor
4. USB input
5. Mode to select MP3/BL /FM
6. Play
7. Folder
8. RPT repeat
9. Previous & volume- decrease
10. Next & volume + increase

The mixer-amplifiers are built-in a built-in media player which includes Mp3/FM/Bluetooth. Pressing the Mode button to switch the media player among Mp3/FM/Bluetooth according to the LED display, where there is one IR remote control enable to operate the media player remotely around 10 to 30 meters.

## Bluetooth

The Bluetooth function allows connection of a smart phone or tablet to the media player section for playback of stored files or streamed digital audio. In order to enable this function, it will be necessary to pair the sending device to the receiver as follows.

1. Open the Bluetooth settings menu on the smart phone or tablet (or other sending device)
2. Scan for Bluetooth devices and look for it in the list of available devices (ensure that the amplifier is powered on and within 30-50 meters reception range)
3. Select the blue tooth and the sending device should confirm that it is connected as an audio device
4. Play audio from the sending device, ensuring that volume controls are not turned down/muted
5. Turn up the MEDIA volume control on the amplifier to the required level

If the Bluetooth signal is lost, it may be necessary to re-select the Bluetooth on the sending device.

The Previous, Next and Play/pause buttons will operate in Bluetooth as remote playback controls. Holding the Previous track or Next track buttons will adjust the output volume of the player.

## USB/SD Playback

Push a USB pen drive into the USB port and/or an SD card into the SD card input.

Press the CD/USB/SD button to ensure that the player is set to play from the required memory device. Press the PLAY/PAUSE button to play the current track and press again to pause as needed.

Searching and playback of tracks is the same as described above for the CD player

## FM Tuner

Press the FM select button to switch to the FM tuner function. Use the Previous or Next buttons to select a stored channel.

### Tuning and storing stations

Use the Forward/Reverse seek buttons to manually tune the frequency in steps of 0.05MHz

Alternatively, press and hold the Forward/Reverse seek buttons to auto search for available stations.

Upon finding a station, the auto search will stop, giving the option to store this station.

At this point, pressing the PLAY/PAUSE button will flash a "00" channel number in the display.

Use the Previous/Next buttons to select an appropriate channel memory.

Press PLAY/PAUSE again to confirm and store the station into the selected channel memory.

Auto search can be stopped at any time by pressing the Forward/Reverse seek buttons.

# SPECIFICATION

Model	EA-60A	EA-120A	EA-240A	EA-350A	EA-500A
Description	Mixer Amplifier with USB/SD/FM/Blue Tooth				
Rated Power Output	60W	120W	240W	350W	500W
Speaker Outputs	100V or 70V & 4 Ohm-8 Ohm-16 Ohm				
Connector	Mic1 input by balanced XLR with phantom power & VOX highest priority Mic/line switchable input 2-3 unbalanced 6.3mm jack Line1-2 inputs by RCA; Line output by RCA				
Input	MIC1-3: 5-8mV, 600Ω; Line, 150-470mV, 10KΩ, unbalanced RCA				
Line Out	0.775(0dBV)				
Frequency Response	60Hz-15kHz(±3dB)				
S/N Ratio	Line ≥ 85dB, Mic≥ 72dB				
THD	Less than 0.5%				
Protection	Short-circuit, clip, overload and high temp protection				
Power Consumption	80W	150W	310W	450W	650W
Power Supply	AC230V; 50-60Hz				
Dimension	484×405×88mm				
Weight	7.0kg	7.1kg	8.6kg	8.7kg	8.9kg



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