



**PURERESONANCEAUDIO<sup>®</sup>**

**MA60BT MIXER AMPLIFIER**

# **INSTALLATION AND OPERATION MANUAL**



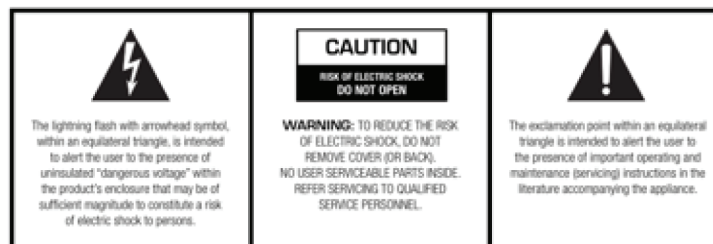
Caution: Please read this manual carefully before operating.  
Damage caused by misuse is not covered by the warranty.

# SAFETY WARNINGS

1. Read and keep these instructions.
2. Heed all warnings and follow all instructions.
3. Do not use this device near water.
4. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
5. Do not install near any heat sources such as radiators, heat registers, stoves, or other equipment that produces heat.
6. 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 is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
7. Protect the power cord from being walked on or pinched, particularly near the plugs, convenience receptacles, and the point where the cord exits from the device.
8. Only use attachments/accessories that are specified by the manufacturer.
9. Only use with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the device. When a cart is used, use caution when moving the cart-device combination to avoid injury from tip-over.
10. Unplug this device during lightning storms or when unused for long periods of time.
11. Refer all servicing to qualified service personnel. Servicing is required when the device has been damaged in any way, such as the power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the device, the device has been exposed to rain or moisture, does not operate normally, or has been dropped.
12. This device should not be exposed to dripping or splashing water, and no object filled with liquid, such as a vase, should be placed on, or near the device.
14. In order to disconnect the device from the AC power, the power cord should be completely removed from the outlet.
15. **WARNING:** To reduce the risk of fire or electric shock, do not expose this device to rain or moisture.
16. A device with a protective ground terminal should be connected to an electrical outlet with a protective grounding 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 AND REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS DEVICE TO RAIN OR MOISTURE, MATCH WIDE BLADE PLUG TO WIDE SLOT, AND FULLY INSERT.



# DESCRIPTION

This 7-channel mixer amplifier from Pure Resonance Audio with built-in 70V/100V transformer technology provides a simple to operate and reliable 6-input solution with a built-in Bluetooth media player for installation in commercial applications. With an easy-to-use interface, balanced and unbalanced inputs, and 70V, 100V, 8 ohm, or 4 ohm outputs, this versatile and compact mixer-amp is an easy choice for any application in need of background music and general announcements and is equipped with paging and MOH (Music On Hold). It's perfect for use in restaurants, retail stores, offices, schools, hospitality environments and more.

The onboard plug-in-play MP3 player accepts TF cards and USB thumb drives that can be plugged in on the front panel. The unit includes RCA inputs and RCA line level outputs, a telephone input with VOX priority and a MOH (Music on Hold) output, as well as an XLR input with phantom power. The IR remote for MP3, FM Radio, and Bluetooth provides freedom and flexibility allowing full control, even from across the room.

This compact public address amplifier also supports playback from Bluetooth-enabled devices such as PCs, iPads, tablets, or mobile phones, enabling you to walk in and link up with your Bluetooth wireless connection to instantly play music or any sound source file.

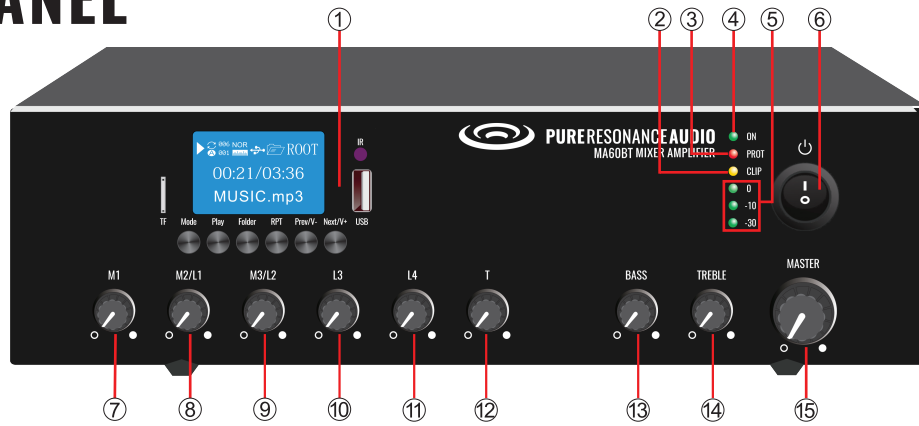
# FEATURES

- 7-channel powered mixer amplifier (6 inputs + Bluetooth media player)
- Volume controls for Mic 1-3, Line 1-2, MP3/FM Radio, Bass, Treble and Master
- MP3 Player, FM Radio & Bluetooth (with IR remote control)
- USB and TF inputs on front panel
- Power output rating 60-watts
- Built-in 70V/100V transformer
- Speaker outputs: 70V, 100V, 4, 8 and 16 ohms
- Mic 1 of balanced XLR input (with phantom power)
- Mic 2-3 microphone or line switchable
- Line 1-2 input of RCA inputs
- DIP switches for Mic/Line, phantom power and microphone priority
- Unbalanced 1/4" (6.3 mm) phone jack input
- One RCA line output (0.775 line level 0 dBV)
- Telephone input (600 Ohm/100mV) with VOX priority and MOH (Music on Hold) (600 Ohm 1 Volt)
- LED indicators for power clip, protect signal, Mic 1-3, Line 1-2 and telephone inputs
- Short-circuit, clip, overload and high temp protection
- 24 VDC Emergency backup supply
- 115V 60 Hz & 24V DC both operation system

# SPECIFICATIONS

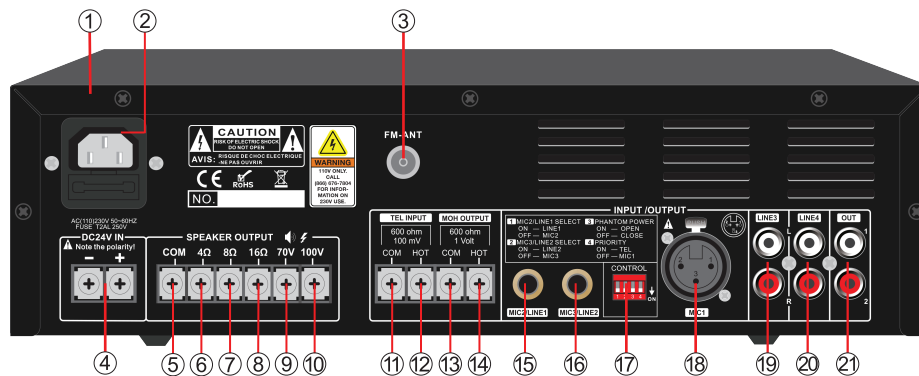
Rated Power Output	60W
Speaker Outputs	70V, 100V and 4 Ohms, 8 Ohms, or 16 Ohms
Connectors	Mic 1 input by balanced XLR with phantom power Input 2-3 Mic/Line switchable unbalanced 1/4" phone jack Line 1-2 inputs by RCA; Line output by RCA
Attenuation	Microphone 1-3, line 1-2 and MP3/FM Radio, bass/treble and master
Input	MIC 1-3: 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	100W
Power Supply	115V 60Hz & 24V
Remote	IR remote control with (replaceable) CR2025 3V lithium battery
Dimensions (H x W x D)	3.54" (90 mm) x 12.6" (320 mm) x 8.27" (210 mm)
Weight	9.04 lbs (4.1 kg)
Shipping Weight	13 lbs (5.9 kg)

# FRONT PANEL

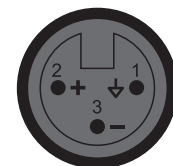


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|--|---|
| <ol style="list-style-type: none"> <li>1. MP3/FM/Bluetooth Media Player Module</li> <li>2. Clip Indicator</li> <li>3. Protection Indicator</li> <li>4. Power Indicator</li> <li>5. Output Level Meters</li> <li>6. AC Power Switch</li> <li>7. Mic 1 Attenuator</li> </ol> | <ol style="list-style-type: none"> <li>8. Mic 2/Line 1 Input Attenuator</li> <li>9. Mic 3/Line 2 Input Attenuator</li> <li>10. Line Input 3 Attenuator</li> <li>11. Line Input 4 Attenuator</li> <li>12. Tel Input Attenuator</li> <li>13. Bass</li> <li>14. Treble</li> <li>15. Master Volume Control</li> </ol> |
|--|---|

# REAR PANEL



- |   |   |
|---|---|
| <ol style="list-style-type: none"> <li>1. AC Power</li> <li>2. AC Fuse</li> <li>3. FM Antenna</li> <li>4. 24V DC Battery Input</li> <li>5. Speaker Output COM</li> <li>6. Speaker Output 4 Ohms (+)</li> <li>7. Speaker Output 8 Ohms (+)</li> <li>8. Speaker Output 16 Ohms (+)</li> <li>9. Speaker Output 70V (+)</li> <li>10. Speaker Output 100V (+)</li> <li>11. Tel Input COM (-)</li> <li>12. Tel Input HOT (+), 600 Ohms, 1 Volt</li> </ol> | <ol style="list-style-type: none"> <li>13. MOH Output COM (-)</li> <li>14. MOH Output HOT (+)</li> <li>15. Input 2 Mic/Line</li> <li>16. Input 3 Mic/Line</li> <li>17. Dipswitch for MIC/LINE Selector, Phantom Power and Microphone Priority</li> <li>18. Microphone 1 Input</li> <li>19. Line 3 Input</li> <li>20. Line 4 Input</li> <li>21. Line Output</li> </ol> |
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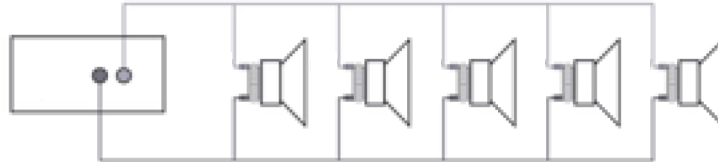
**Male XLR-3P:**  
 Pin1-Ground  
 Pin2-Positive  
 Pin3-Negative

# AMPLIFIER OPERATION GUIDE

## 70V LINE SYSTEM

For 70V systems, connect the amplifier to the first speaker in the system using speaker wire which has adequate current rating to handle the total wattage output of the amplifier.

Connect the speaker wire to the “70V” output terminal on the amplifier. Then, connect the positive (+) connection to the positive connection on the speaker and “COM” connection to the negative (-) connection on the speaker. Connect the subsequent speakers in parallel to the first speaker - positive to positive and negative to negative - as shown below.



## SPEAKER TERMINALS

The MA60BT offers 3 low impedance outputs: 4Ω, 8Ω, 16Ω. 70V/100V, commercial outputs are also available.

PLEASE NOTE: ONLY ONE WIRE SHOULD BE CONNECTED TO THE “COM” SCREW TERMINAL AND ONE WIRE TO THE SELECTED IMPEDANCE OR VOLTAGE SCREW TERMINAL. MULTIPLE COMBINATIONS CANNOT BE DONE AT THE SAME TIME.

The low impedance section, 4Ω, 8Ω, and 16Ω, is designed for use with low impedance speakers. The 70V/100V section is designed for multiple speaker distribution. When using the 70V/100V output, the speakers have to be equipped with a 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 (number of speakers x transformer wattage tap) must not exceed the maximum RMS output power of 60W. Failure to do so may cause permanent damage to the amplifier.

# OPERATION STEPS

## STARTUP GUIDE

- When all connections to the amplifier have been made, turn all volume knobs down. Then, turn the power switch to the on position and the power “ON” LED will illuminate. Turn the “BASS” and “TREBLE” controls to the 12 o’clock position (pointing straight up) and turn the “MASTER” volume knob up slowly.
- Make sure a signal is being sent to channels 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.
- 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 while speaking into the microphone until the required volume level is reached.
- If the “Microphone Priority” feature is enabled, audio playback volume through channels 2-5 will be automatically reduced when speaking into the microphone.
- In addition to the channel and the “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 low frequencies, moving it counter clockwise will cut low frequencies. Likewise, moving the TREBLE control clockwise boosts the high frequencies, moving it counter clockwise will cut high frequencies.

## BLUETOOTH

- Press the “Mode” button on the infrared remote to ensure media player is in Bluetooth mode, indicated by the letters “BT”.
- Go to your device’s settings and find then select device “PRA-BT”. No password should be required.
- Device should pair within a matter of minutes.
- If pairing is unsuccessful, power down your amplifier and close the settings app on your device.
- Power up amplifier & reopen settings. Repeat steps 1-3 and attempt to pair again. If you still have issues pairing, please reboot personal device & cycle amplifier power.
- Once pairing is successful, open music app. Ensure device volume is turned up to at least 75% capacity on device.
- Adjust volume of audio player with volume buttons on infrared remote (OK to set at max volume - 32).
- Adjust master volume to desired level, ensuring amplifier does not show clip or show any red lights.

## USB/TF PLAYBACK

- Push a USB thumb drive into the USB port and/or a TF/Micro SD card into the TF input.
- Press the “Mode” 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.

**Note:** Due to the possibilities of FM radio interference and the variables involved, it's not recommended to use FM radio as your primary input source.

### **Tuning and Storing Stations:**

- Use the "FORWARD/REVERSE" seek buttons to manually select the station.
- 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.

## **MUTE ON/OFF**

- Pressing the "MUTE ON/OFF" button will mute the output of the audio player.
- Pressing and holding the "MUTE ON/OFF" button will put the audio player in standby mode.
- Press this button again to restore functions from standby mode.

## **MUSIC ON HOLD**

The "MOH OUTPUT" will feed music on your telephone system or PABX. A dedicated input should be available on your telephone system. Please refer to a qualified technician if you cannot identify this input. Outgoing signal should be connected to "COM" and "HOT".



# SERVICE

Ensure the problem is not related to operator error, or system devices that are external to this unit. Information provided in the troubleshooting portion of this manual may help with this process. Once it is certain that the problem is related to the product contact your warranty provider as described in the warranty section of this manual.

## LIMITED WARRANTY

PRO ACOUSTICS, LLC. ("PRO ACOUSTICS") warrants this product to the original purchaser to be free from defects in materials and workmanship (subject to the terms set forth below), for the following periods from the date of purchase.

### **THIS WARRANTY COVERS THE LISTED PRODUCTS AGAINST DEFECTS IN MATERIALS OR WORKMANSHIP FOR THE FOLLOWING PERIOD**

<b>Warranty Terms</b>	
Speakers	2 Years
Amplifiers & Electronics	1 Year
Microphones	1 Year
Accessories	1 Year

PRO ACOUSTICS will repair or replace (at PRO ACOUSTICS's option) this product or any defective parts (excluding electronics and amplifiers) in this product.

Your authorized PRO ACOUSTICS dealer will inspect the product and, if your dealer is not equipped to perform the repair of your PRO ACOUSTICS product, they will replace your product or return it to PRO ACOUSTICS for repair, at their discretion. Proof of purchase in the form of a bill of sale or receipted invoice, which is evidence that this product is within the warranty period, must be presented to obtain warranty service.

This warranty is invalid if the factory applied serial number has been altered or removed from this product. This warranty is invalid if this product was not purchased from a PRO ACOUSTICS authorized dealer. Cosmetic damage or damage due to the accident, acts of God, misuse, abuse, negligence, commercial use, or modification of, or to any part of, the product are not covered in this warranty. This warranty does not cover damage due to improper operation, maintenance or installation, or attempted repair by anyone other than PRO ACOUSTICS or a PRO ACOUSTICS dealer which is authorized to do PRO ACOUSTICS warranty work. Any unauthorized repairs will void this warranty.

This warranty does not cover products sold as is.

REPAIRS OR REPLACEMENTS AS PROVIDED UNDER THIS WARRANTY ARE THE EXCLUSIVE REMEDY OF THE CONSUMER/PURCHASER. PRO ACOUSTICS U.S.A. SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR BREACH OF ANY EXPRESS OR IMPLIED WARRANTY ON THIS PRODUCT. EXCEPT TO THE EXTENT PROHIBITED BY LAW, THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER EXPRESS AND IMPLIED WARRANTIES WHATSOEVER, INCLUDING BUT NOT LIMITED TO, THE WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PRACTICAL PURPOSE.

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