PURE RESONANCE **AUDIO**®

RZMA240BT ZONE MIXER AMPLIFIER

INSTALLATION AND OPERATION MANUAL

SAFETY PRECAUTIONS

- Be sure to read the instructions in this section carefully before use
- Be sure to follow the instructions in this manual, as safety symbols and message conventions are considered very important precautions
- We also recommend you keep this instruction manual handy for future reference

SAFETY SYMBOLS AND MESSAGE CONVENTIONS

Safety symbols and messages described below are used in this manual to prevent bodily injury and property damage that could result from mishandling. Before operating your product, read this manual first and understand the safety symbols and messages so you are thoroughly aware of the potential safety risks.

⚠ **WARNING!**   Indicates a potentially hazardous situation that, if mishandled, could result in death or serious personal injury.

⚠ **CAUTION!**   Indicates a potentially hazardous situation which, if mishandled, could result in moderate or minor personal injury and/or property damage.

⚠ WARNING!

WHEN INSTALLING THE UNIT

- Do not expose the unit to rain or an environment where it may be splashed by water or other liquids, as doing so may result in fire or electric shock.
- Use the unit only with the voltage specified on the unit. Using a voltage higher than specified may result in fire or electric shock.
- Do not cut, bend, damage, or modify the power cord. Also, avoid using the power cord near heating appliances. Never place heavy objects (including the unit itself) on the power cord, which could result in fire or electric shock.
- Be sure to replace the unit's terminal cover after connecting wires. Because high voltage is applied to the speaker terminals, never touch these terminals to avoid electric shock.
- Be sure to connect to the safety ground (earth) terminal to avoid electric shock. Never ground to a gas pipe as a catastrophic disaster may result.
- Do not install or place the device in an unstable place, such as a wobbly table or sloped surface. Otherwise, the device may fall and cause personal injury and/or property damage.

WHEN THE UNIT IS IN USE

- If any of the following irregularities are found during use, immediately switch off the power, disconnect the power supply plug from the AC outlet, and contact your nearest dealer. Make no further attempt to operate the unit in this condition, as this may cause fire or electric shock.
  - If you detect smoke or a strange smell coming from the unit
  - If water or any metallic object gets into the unit
  - If the unit falls or the unit case breaks
  - If the power supply cord is damaged (exposure of the core, disconnection, etc.)
  - If it is malfunctioning (no tone sounds)
- To prevent a fire or electric shock, never open or remove the unit case, as there are high-voltage components inside the unit. Refer all servicing to your nearest dealer.

- Do not place cups, bowls, or other containers of liquid or metallic objects on the unit. If they spill into the unit, this may cause fire or electric shock.
- Do not insert or drop metallic objects or flammable materials in the ventilation slots of the unit's cover, as this may result in fire or electric shock.

⚠ CAUTION!

WHEN INSTALLING THE UNIT

- Never plug in or remove the power supply plug with wet hands, as doing so may cause electric shock.
- When unplugging the power supply cord, be sure to grasp the power supply plug; never pull on the cord itself. Operating the unit with a damaged power supply cord may cause a fire or electric shock.
- When moving the unit, be sure to remove its power supply cord from the wall outlet. Moving the unit with the power cord connected to the outlet may cause damage to the power cord, resulting in fire or electric shock. When removing the power cord, be sure to hold its plug to pull.
- Do not block the ventilation slots in the unit's cover. Doing so may cause heat to build up inside the unit and result in fire.
- Avoid installing the unit in humid or dusty locations, in locations exposed to direct sunlight, near heaters, or in locations generating sooty smoke or steam, as doing otherwise may result in fire or electric shock.

WHEN THE UNIT IS IN USE

- Do not place heavy objects on the unit, as this may cause it to fall or break, which may result in personal injury and/or property damage. In addition, the object itself may fall off and cause injury and/or damage.
- Ensure the volume control is set to the minimum position before the power is switched on. Loud noise produced at high volume when the power is switched on can impair hearing.
- Do not operate the unit for an extended period with the sound distorting. This indicates a malfunction, which can cause heat to generate and result in a fire.
- If dust accumulates on the power supply plug or in the wall AC outlet, a fire or damage to the unit may result. Clean it periodically. In addition, insert the plug in the wall outlet securely.
- Switch off the power and unplug the power supply plug from the AC outlet for safety purposes when cleaning or leaving the unit unused for 10 days or more. Doing otherwise may cause a fire or electric shock.

An all-pole mains switch with a contact separation of at least 3 mm in each pole shall be incorporated into the electrical installation of the building.

PLEASE NOTE: Due to product upgrades, some of the features and specifications in this user manual may or may not match the actual functions of the unit.

DESCRIPTION

The Pure Resonance Audio RZMA240BT 4-zone commercial mixer amplifier is a versatile solution with 240W power output per zone and 4 ohms, 70-volt, and 100-volt terminals. Featuring a built-in MP3 player, FM tuner, Bluetooth streaming, XLR/TRS, and dual RCA inputs, the RZMA240BT offers a comprehensive range of audio sources. A remote mic input is also available to connect the optional PMZ16 remote microphone via Cat5 for zone paging. Additionally, a telephone signal input port allows seamless integration with existing phone systems, while a dedicated monitor channel facilitates zone monitoring. This multi-zone mixer amplifier includes an IR remote for volume and source control. The advanced matrix technology enables easy assignment of the four-zone selectable inputs to a single zone or across multiple zones with the simple push of a button. The RZMA240BT delivers exceptional flexibility and performance in various commercial environments, including hotels, shopping malls, sports centers, entertainment venues, houses of worship, schools, retail spaces, restaurants, and meeting/conference spaces.
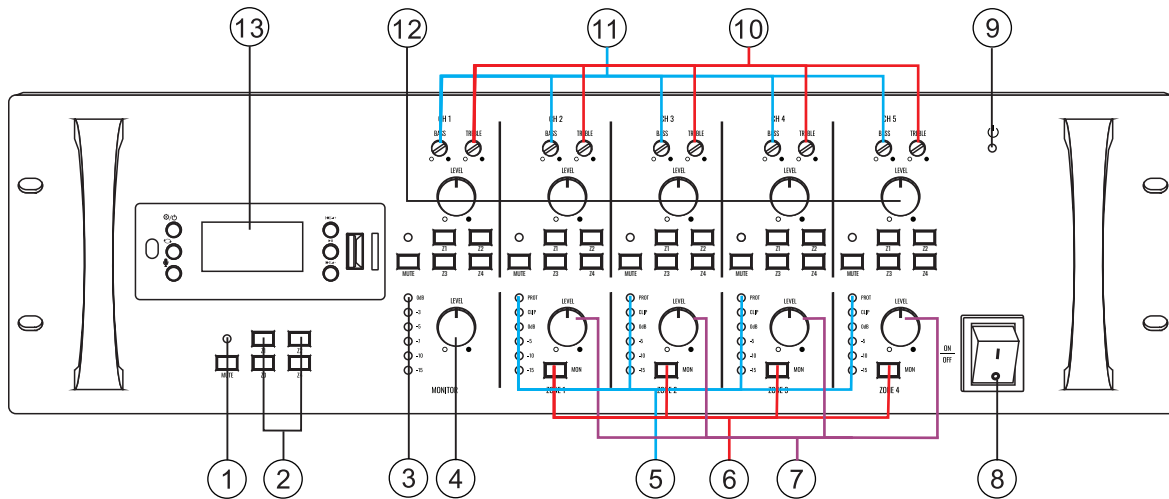
FEATURES

- Robust 3U 19-inch rack-mountable chassis
- 4 Zones x 240W with 70V, 100V, and 4Ω speaker outputs for each zone
- Matrix technology to assign source inputs across zones either independently or simultaneously
- 5-channel inputs and MP3 player designed with separate bass, treble, and volume control
- 3 XLR/TRS combo jacks with MIC or LINE level switch, phantom power, and gain control
- 2 Unbalanced RCA inputs with independent gain control
- MP3 player with TF and USB inputs, FM tuner, and Bluetooth
- Remote mic input (for use with PMZ16 remote microphone)
- Priority mute input overrides all other sources
- RS232 serial control port for third-party system communication
- Built-in monitor with 1-watt/8 ohm output and volume control for zone monitoring
- Overload, short circuit, clipping, and overheat protection
- Ground lift switch to eliminate unwanted hum and buzzing
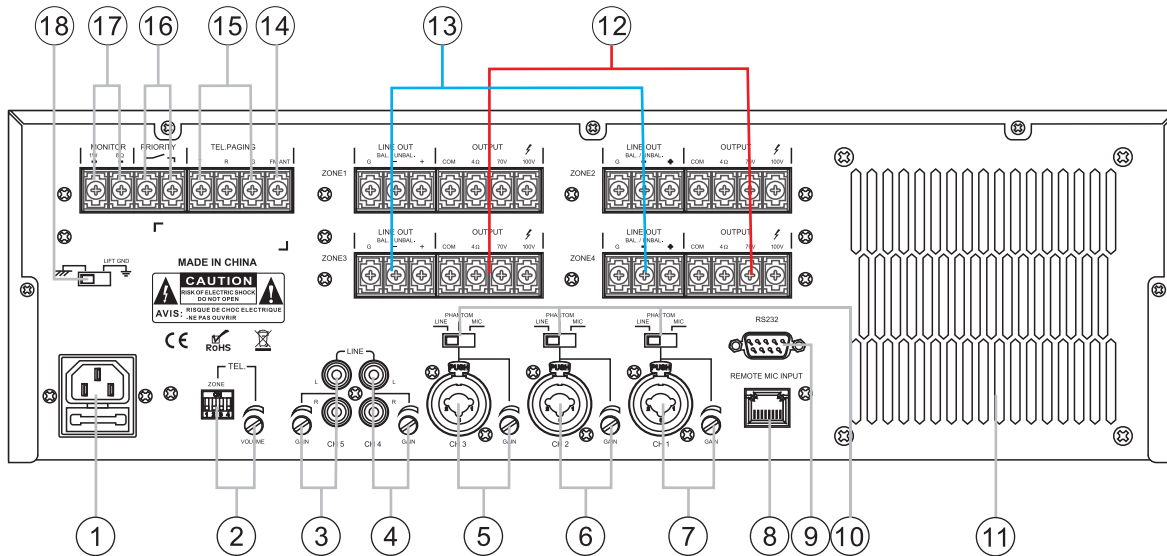
SPECIFICATIONS

Rated Power Output	4 x 240 Watts at 70V
Speaker Outputs	70V/100V, 4Ω
Monitor Output	1W/8Ω
LINE 1-4 Output Level	1V/600 Ω (balanced output)
Input Sensitivity / Impedance	CH 1, CH 2, CH 3: MIC: ± 2.5mV/600 Ω PHANTOM: ± 2.5mV LINE: ~175mV/10k Ω balanced input CH 5-6: 350mV/10k Ω balanced input TEL: 350mV/10k Ω REMOTE MIC: ± 387mV/10k Ω
Frequency Response	80Hz - 16kHz
Distortion (THD)	< 1%
Signal-to-Noise (S/N) Ratio	> 65 dB
Equalization	High: ±10 dB at 100Hz / Low: ±10 dB at 100Hz
MP3	Supports MP3 format, max capacity of 32GB
TF File System	Only FAT16 or FAT32
Remote Control	IR remote control with replaceable CR2025 3V lithium battery
Power Consumption	1500W
Power Supply	~120V 60H
Dimensions (H x W x D)	5.20" (132 mm) x 19.06" (484 mm) x 17.32" (440 mm)
Weight	48.5 lbs (22 kg)

FRONT PANEL
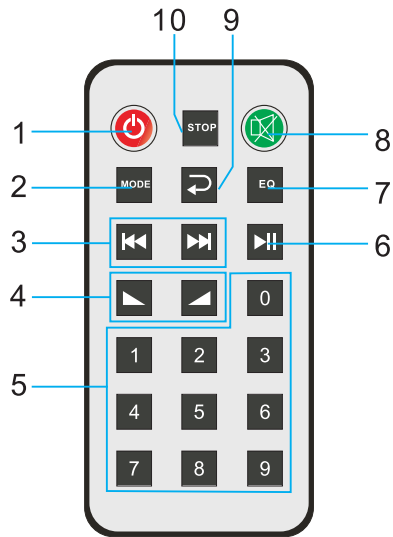

1. Mute button and indicator:
   Muted - indicators are on
   Unmuted - indicators are off

2. Amplifier matrix 4-channel selector button

3. Monitor level indicator

4. Monitor volume control

5. 1-4 Zone amplifier level indicator

6. 1-4 Zone monitor selector button

7. 1-4 Zone amplifier output volume control

8. ON/OFF Power switch:
   Switch up - power on
   Switch down - power off

9. Power indicator:
   When powered on - power indicators are on
   When powered off - power indicators are off

10. CH1-CH4 Treble control

11. CH1-CH4 Bass control

12. CH1 volume control

13. MP3 player, with USB and TF card slot

REAR PANEL

1. AC power input socket
2. Telephone DIP switch and volume control
3. CH5 Line signal input and signal gain control
4. CH4 Line signal input and signal gain control
5. CH3 Microphone signal input and signal gain control
6. CH2 Microphone signal input and signal gain control
7. CH1 Microphone signal input and signal gain control
8. Remote microphone input port
9. RS232 port
10. LINE, PHANTOM, MIC signal input selector switch

11. Vents REAR PANEL
12. ZONE 1-4 output terminals for connecting speakers; COM is the common terminal, 4Ω for 4-ohm speaker; 70V terminal for 70-volt speaker; 100V terminal for 100-volt speaker
13. ZONE 1-4 LINE signal output
14. Radio antenna port
15. Telephone signal input port
16. Contact PRIORITY control: Can change the priority of Telephone and MIC1 inputs
17. Monitor output port
18. Ground lift switch

REMOTE CONTROL

1. Power
2. Mode
3. Previous/Next
4. Volume increase/decrease
5. 0-9 Number buttons
6. Play/Pause
7. Sound effect control
8. Mute
9. Cycle play button
10. Stop

NORMAL USAGE DISTANCE OF REMOTE CONTROL

The effective range for remote control operation is approximately 8 meters without obstructions. The remote control angle: Horizontal ± 35 degrees and vertical ± 15 degrees are valid.

NOTICE - USAGE OF REMOTE CONTROL

- When installing the battery, please mind the electrode
- Ensure that the remote control is accurately aimed toward the media player
- If the remote distance becomes limited and less responsive, replace the battery
- Remove the battery when the device is not in use for an extended period of time
- Handle the remote with care to prevent dropping and causing damage
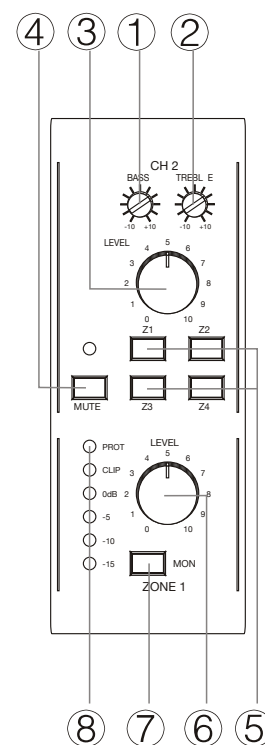
OPERATION

STARTING-UP PROCEDURES

1. Set "LEVEL" volume knobs to the "0" position (counterclockwise position) on the front panel. Set "TREBLE" and "BASS" knobs to the "12 o'clock" position (straight up)
2. Set Gain knobs of "CH1 to CH5" on the rear panel counterclockwise to minimum gain to start
3. Set "TEL" DIP switches to the down position on the back of the amplifier
4. Switch the power button to the "ON" position, and the indicator light will turn on. Blue means the amplifier is working normally. Red means the amplifier is under protection status. (Please check connections and input voltage)

CHANNEL OPERATION INSTRUCTIONS

Operational instructions are identical for CH 1 through CH 5. Take the CH 2 illustration as an example.

1. **Bass:** Adjusts the low frequencies of your audio mix
2. **Treble:** Adjusts the high frequencies of your audio mix
3. **Channel Volume Knob:** Changes the input level of the channel
4. **Channel Mute:** Press the button to mute the selected channel
5. **Zone Selection:** Press the zone where you wish to route the audio signal. The buttons will illuminate when selected.
6. **Zone Monitoring Volume:** Adjusts the level of the monitor output signal
7. **Zone Monitoring Button:** Press the button to select and monitor a specific zone. Then use the monitor volume knob to adjust the volume for the selected zone.
8. **Output Status:** The protection light indicates a problem somewhere in the system. The amplifier is attempting to protect itself and will not pass any audio signal to the speakers.

MONITOR OPERATION INSTRUCTIONS

1. Select output to monitor
2. Adjust the monitor to the desired level

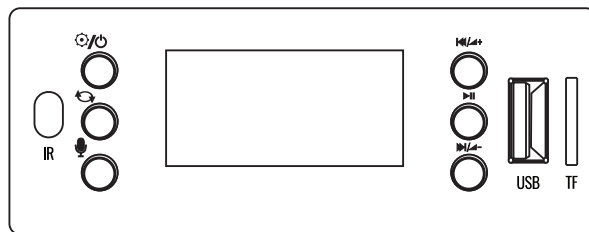## OPERATION INSTRUCTIONS OF REMOTE MIC

"REMOTE MIC INPUT" Remote Mic Interface: Connect to the optional Pure Resonance Audio PMZ16 paging microphone - select zone, chime, or all-call. For more information, see the PMZ16 remote paging mic manual to configure chimes, bells, and tones. (Short "PRIORITY" terminal with a wire to set Remote Mic input as the highest priority.)

OPERATION INSTRUCTIONS OF TELEPHONE INPUT

"TEL. PAGING" Input: Telephone functions are only controllable from dip switches and volume control on the back of the unit.

- The "VOLUME" dial sets the input signal of the telephone.
- "ZONE" Dip Switch: Assigns telephone input to a specific zone. Position the dip switch upwards to route the phone to the desired zone.

BUILT-IN MP3 PLAYER OPERATION METHOD

⚙/⏻ ◯	MODE button: Press to choose FM radio, USB, Bluetooth, or audio playback (Press and hold to turn on/off the media player)
⏮/⊿+ ◯	Previous song (Press and hold to increase the volume)
↻ ◯	MP3 loop playback button (with Repeat One / Repeat ALL / Random / Repeat Folder mode)
⏯ ◯	Play / Pause (Press and hold in FM mode to receive the station)
⏭/⊿- ◯	Next song (long press to decrease volume)

PLEASE NOTE:
1. When using the built-in MP3 player buttons, please pay attention to the strength used and avoid excessive force that may cause damage to the MP3 player buttons.
2. When a TF card or USB interface is inserted, please insert it correctly. Avoid inserting it the wrong way or forcing it too hard, which may cause damage to the TF card or USB ports.

USB OPERATION

Press the MODE button to select the USB mode and copy the MP3 file in the U disk (below 32G). It supports MP3 / WAV / WMA / AEC / FLAC formats.

TF CARD OPERATION

Insert a TF card (below 32G) to copy the MP3 file. It supports MP3 / WAV / WMA / AEC / FLAC formats.

FM (RADIO RECEPTION) FUNCTION

Press the MODE button to select the FM mode, and then press and hold the PLAY / PAUSE button to automatically search available radio stations. The radio stations received (depending on the signal received) depend on the signal strength. To search for additional stations, you can try repositioning the FM antenna.

PLEASE 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.

MP3 SONG LOOP PLAYBACK

In USB or TF card mode, play a song at will and press the mode button to switch between Repeat One / Repeat ALL / Random / Repeat Folder.

FUNCTIONAL MEMORY OPERATION

- Turn off the media player by the remote control or press and hold the MODE button.
- After it is turned back on, it can remember the function mode selected before.
- If you unplug the power cable and turn it on again, the default is Bluetooth mode.

VOLUME +/- OPERATION

Long press the Previous Song button to increase the volume quickly, and long press the Next Song button to decrease the volume quickly.

BLUETOOTH OPERATION

1. Press the Mode button on the remote to ensure the media player is in Bluetooth mode, indicated by the letters "BT."
2. Go to your device's settings, find and select the device "PRA-BT". No password should be required.
3. The device should pair within minutes.
4. If pairing is unsuccessful, ensure no other device is connected and disconnect any existing devices.
5. If no other devices are connected, power down your amplifier and close the settings app on your device.
6. Power up the amplifier and re-open the settings. Repeat the first steps to attempt to pair again. If you still have an issue pairing, please reboot the personal device and cycle the amplifier power.
7. Once pairing is successful, open a music app. Ensure device volume is turned up to at least 75% capacity on the device.
8. Adjust the volume of the audio player with volume buttons on the infrared remote
(OK to set at max volume - 32).
9. Adjust the master volume to the desired level, ensuring the amplifier does not show clipping or any red lights.

SERIAL PORT APPLICATION

Please contact support@pureresonanceaudio.com or (866) 676-7804 for more information on using the serial port.

CH1, CH2, CH3 SWITCH APPLICATION

The input switch has three modes: LINE, PHANTOM, and MIC

1. The LINE input is for line-level audio source inputs, such as CD, VCD, DVD, and other audio equipment.
2. The PHANTOM input offers a 48V power supply for a condenser microphone.
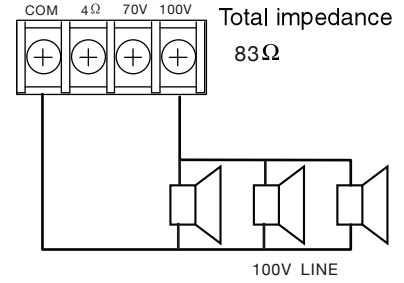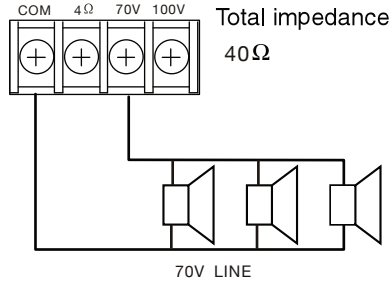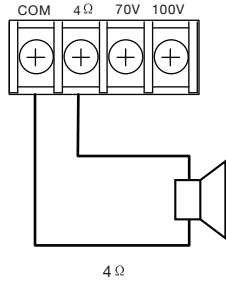3. The MIC input is used for ordinary microphones (dynamic).

MUTE OPERATION

MIC1 has the highest priority in default status.

- Default Priority Settings (high to low): MIC1 > Telephone > Remote MIC

By shorting the "PRIORITY" terminal, Remote MIC has the highest priority

- When the "PRIORITY" jumper is added (high to low): Remote Mic > Telephone > MIC1

SPEAKER CONNECTIONS

COM 4Ω 70V 100V
4Ω

COM 4Ω 70V 100V   Total impedance 40Ω
70V LINE

COM 4Ω 70V 100V   Total impedance 83Ω
100V LINE

PLEASE NOTE:

- Both the 4Ω and 70V/100V terminals cannot be used at the same time.
- Impedances indicated in the figures represent the total speaker system (load) impedances.
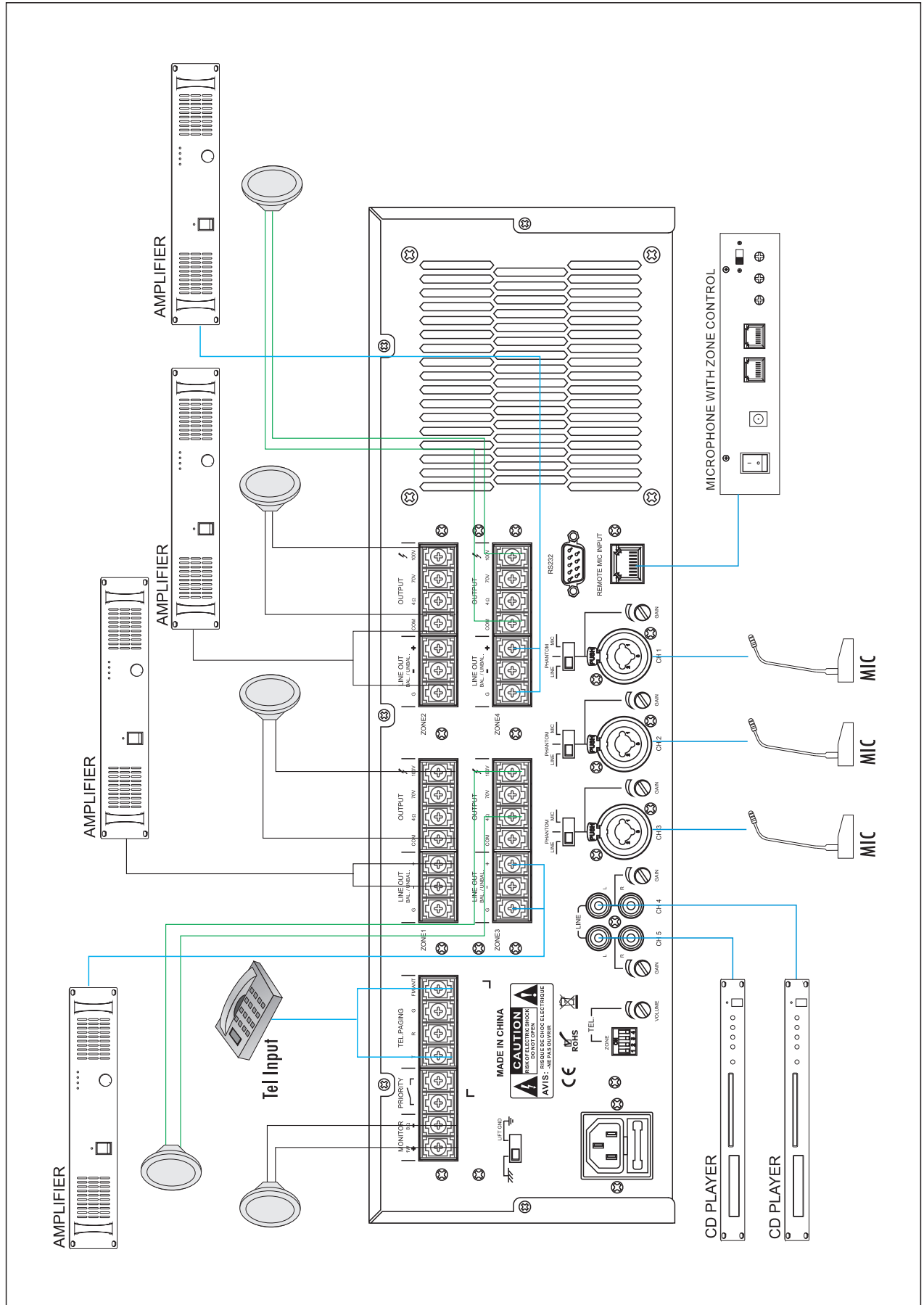
⚠ WARNING!

Be sure to attach the supplied terminal cover after connection completion. Because high voltage is applied to the speaker terminals, never touch these terminals to avoid electric shock.
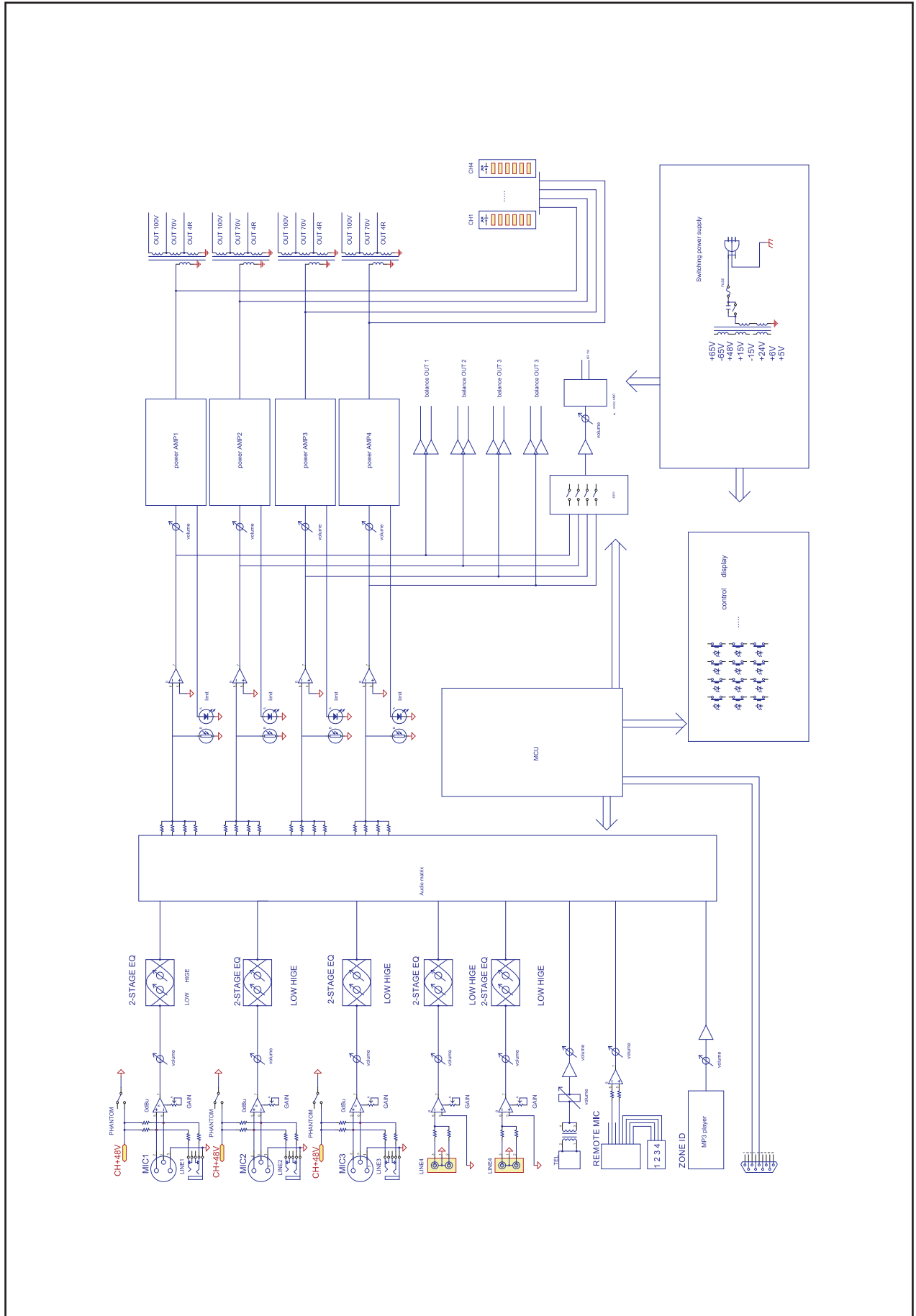
TROUBLESHOOTING

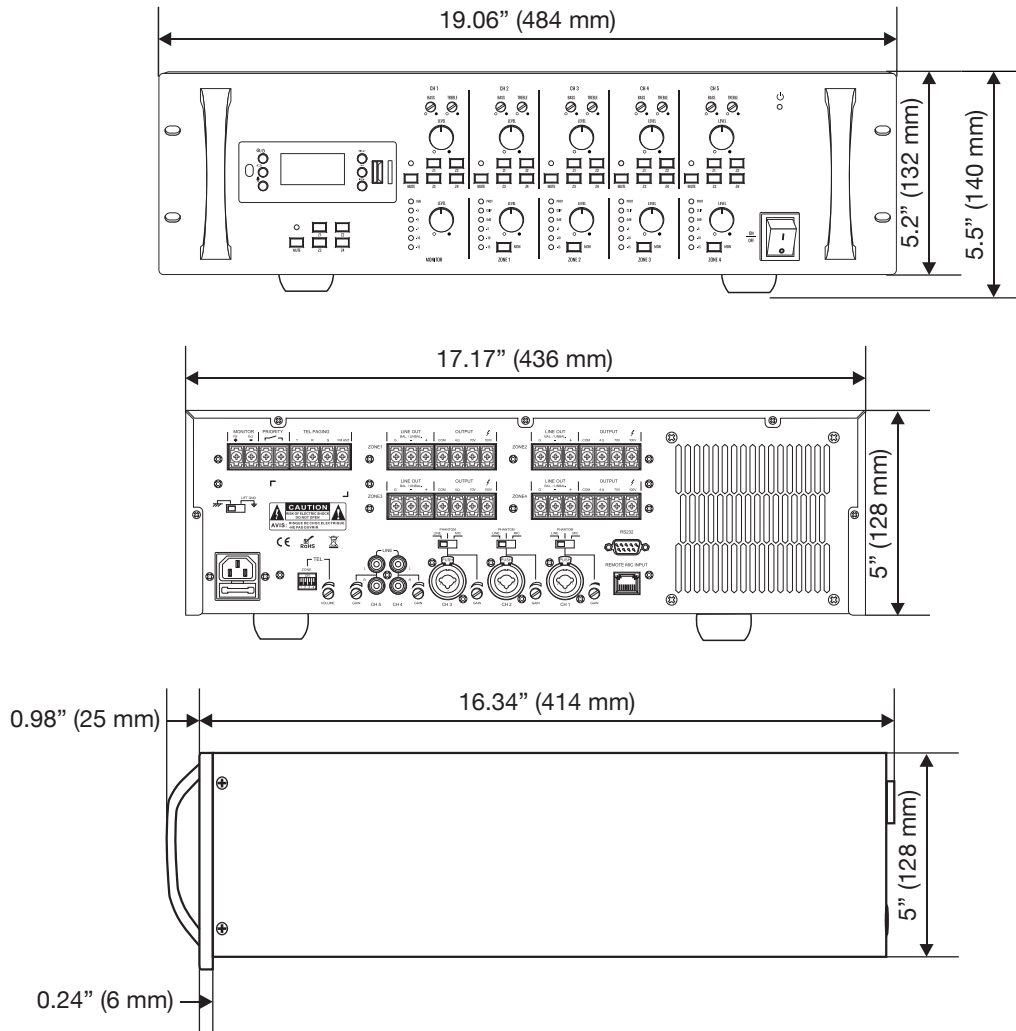| SYMPTOM	PROBLEM
The connections are good, but there is no sound output.	• There is no electricity or plug contact • The fuse is burned out • The volume is not turned up • There is no input signal
The alarm triggered on startup.	• The load is short-circuited or damaged • The power supply voltage is unstable, too high, or too low • The unit is overloaded
The unit was working normally, and suddenly, there is no sound output.	• The temperature is too high, and the unit went into temperature protection • There is a loose cable connection

REAR PANEL CONNECTIONS

BLOCK DIAGRAM

DIMENSIONAL DIAGRAMS

19.06" (484 mm)

5.2" (132 mm)

5.5" (140 mm)

17.17" (436 mm)
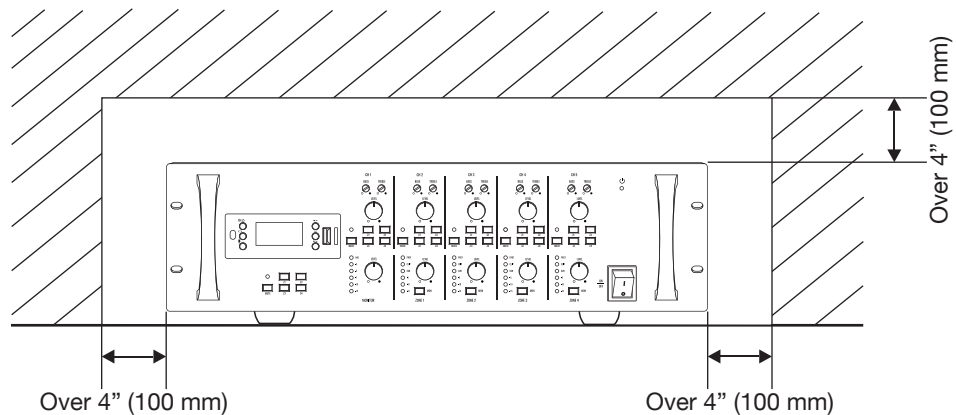
5" (128 mm)

0.98" (25 mm)

16.34" (414 mm)

5" (128 mm)

0.24" (6 mm)

⚠ CAUTION!

Keep all sides of the unit over 4 inches away from objects that may obstruct airflow to prevent the unit's internal temperature from rising

Over 4" (100 mm)

Over 4" (100 mm)

Over 4" (100 mm)

SERVICE

In the event of a malfunction, ensure the problem is not related to operator error or system devices 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

Warranty Terms

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, installation, or attempted repair by anyone other than PRO ACOUSTICS or a PRO ACOUSTICS dealer that is authorized to do PRO ACOUSTICS warranty work. Any unauthorized repairs will void this warranty.

This warranty does not cover products sold as is.

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