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Monoprice 118803

Monoprice Commercial Audio 60W 5ch 100/70V Mixer Amplifier User Manual

1. Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of the Monoprice Commercial Audio 60W 5-channel 100/70V Mixer Amplifier. This device is designed to simplify distributed audio systems for various commercial environments such as restaurants, hotels, and other large areas requiring background music or paging systems.
The mixer amplifier supports constant voltage speaker systems, allowing for efficient audio distribution over long distances with multiple speakers without complex impedance calculations.

2. Features

- 5-channel mixer/amplifier (3 microphone inputs, 2 line inputs).
- Amplifier rated for 60 watts output.
- Supports 70V, 100V, and low impedance 4~16 ohm speaker output options.
- Built-in rack mount ears and 2U height for standard 19" equipment rack installation.
- Unbalanced front panel input for MIC 1.
- Balanced XLR and unbalanced TRS/RCA rear panel inputs for MIC 2 and MIC 3.
- Phantom power option for MIC 2 and MIC 3.
- Two unbalanced RCA auxiliary/line inputs.
- One EMC priority input for emergency announcements.
- Master volume, bass, and treble controls.
- Front panel level controls for all inputs.
- 0-30dB variable muting for all channels except MIC 1 when MIC 1 is in use.
- Built-in short circuit, over-current, and high temperature protection circuits.
- Line level output of mixed signal for connection to other devices.

3. Product Overview

3.1 Front Panel

The front panel provides access to input level controls, tone adjustments, master volume, and the power switch.

Figure 1: Front Panel Controls. This image displays the front of the mixer amplifier, featuring individual volume knobs for MIC 1, MIC 2, MIC 3, AUX 1, and AUX 2. It also shows Bass, Treble, and Master volume controls, along with the power switch and LED indicators for output level and temperature protection.

3.2 Rear Panel

The rear panel houses all input and output connections, including speaker terminals, microphone inputs, auxiliary inputs, and the EMC input.

Figure 2: Rear Panel Connections. This image illustrates the rear of the mixer amplifier, detailing the AC power input, speaker output terminals (COM, 4-16Ω, 70V, 100V), EMC input, Mute switch, MIC 2 and MIC 3 inputs (XLR, TRS, RCA), phantom power switches, AUX 1 and AUX 2 RCA inputs, and a mixed line output.

4. Setup and Installation

4.1 Rack Mounting

The amplifier is designed for installation in a standard 19-inch equipment rack. Use the integrated rack mount ears and appropriate rack screws (not included) to secure the unit.

4.2 Power Connection

Connect the amplifier to a standard AC power outlet using the provided power cable. Ensure the power switch on the front panel is in the OFF position before connecting.

4.3 Speaker Connections

This amplifier supports both low impedance (4~16 ohm) and constant voltage (70V/100V) speaker systems. Select the appropriate output terminals on the rear panel based on your speaker system type.

- **Low Impedance Speakers:** Connect speakers to the COM and 4~16Ω terminals. Ensure the total impedance of connected speakers is within the specified range.
- **Constant Voltage Speakers (70V/100V):** Connect speakers in parallel to the COM and either the 70V or

100V terminal, depending on your system. Ensure the total wattage of all connected speakers does not exceed 80% of the amplifier's rated output (e.g., 48 watts for a 60-watt amplifier) to account for insertion loss.

4.4 Input Connections

- **Microphone Inputs:**
  - MIC 1: Connect an unbalanced microphone to the 1/4" TRS input on the front panel.
  - MIC 2 & MIC 3: Connect balanced microphones via XLR or unbalanced microphones via 1/4" TRS or RCA inputs on the rear panel. Activate phantom power for condenser microphones using the switches next to the inputs if required.
- **Auxiliary Inputs:** Connect line-level audio sources (e.g., CD players, media players) to the AUX 1 or AUX 2 RCA inputs on the rear panel.
- **EMC Input:** Connect an emergency paging system to the EMC input. When triggered, this input will mute all other audio sources except MIC 1, allowing emergency announcements to be broadcast.

5. Operating Instructions

5.1 Power On/Off

Flip the power switch on the front panel to the ON position to power on the amplifier. Flip it to OFF to power down.

5.2 Adjusting Input Levels

Use the individual level control knobs on the front panel for MIC 1, MIC 2, MIC 3, AUX 1, and AUX 2 to set the volume for each input source.

5.3 Tone Control

Adjust the BASS and TREBLE knobs on the front panel to fine-tune the audio output's low and high frequencies.

5.4 Master Volume

The MASTER knob controls the overall output volume of the amplifier. Adjust this to set the desired listening level for all connected speakers.

5.5 Microphone Priority and Muting

When MIC 1 is in use, a variable muting feature (0-30dB) can be activated to automatically lower the volume of all other active channels, ensuring clear audibility for MIC 1 announcements. The EMC input also provides priority, muting all outputs except MIC 1 when triggered.

6. Understanding Constant Voltage Speaker Systems

A constant voltage speaker system differs from a traditional 8-ohm system by using step-up transformers at the audio source and step-down transformers at each speaker. This method raises the voltage and lowers the current on the transmission line, significantly reducing power loss over long cable runs and allowing for the use of smaller gauge wire.
This system simplifies speaker configuration: all speakers on a given channel are connected in parallel. Instead of complex impedance calculations, you only need to consider the total wattage of the speakers. For example, if using a 60-watt amplifier, the total load from speakers should not exceed 48 watts (80% of the amplifier's rating) to compensate for insertion loss.

7. Maintenance

To ensure optimal performance and longevity of your Monoprice Mixer Amplifier, follow these maintenance guidelines:

- **Cleaning:** Regularly clean the exterior with a soft, dry cloth. Avoid using liquid cleaners or solvents, which may damage the finish or internal components.
- **Ventilation:** Ensure adequate airflow around the unit. Do not block ventilation openings. Overheating can lead to reduced performance and potential damage.
- **Connections:** Periodically check all cable connections for security and integrity. Loose connections can cause signal loss or intermittent operation.
- **Environment:** Operate the amplifier in a dry, dust-free environment with stable temperature and humidity.

8. Troubleshooting

If you encounter issues with your Monoprice Mixer Amplifier, refer to the following common troubleshooting steps:

- **No Power:** Ensure the power cable is securely connected to both the amplifier and a working AC outlet. Check the power switch position.
- **No Sound Output:**
  - Verify that the amplifier is powered on and the Master volume is turned up.
  - Check individual input level controls to ensure they are not set to minimum.
  - Confirm speaker connections are correct and secure, matching the impedance/voltage requirements.
  - Ensure input sources are active and sending a signal.
  - Check if the EMC input is active, which would mute other channels.
- **Distorted Sound:**
  - Reduce input levels to prevent clipping.
  - Check speaker wiring for shorts or incorrect impedance matching.
  - Ensure the total wattage of 70V/100V speakers does not exceed the amplifier's capacity.
- **Microphone Not Working:**
  - Verify microphone is connected to the correct input and its level control is up.
  - For condenser microphones on MIC 2/3, ensure phantom power is enabled.
  - Test the microphone with another device if possible to rule out microphone malfunction.

If problems persist after following these steps, contact Monoprice customer support for further assistance.

9. Specifications

Product Dimensions	21 x 17.4 x 7.2 inches
Item Weight	19.91 pounds
Model Number	118803
Number of Channels	5
Output Power	60 Watts
Speaker Output Options	70V, 100V, 4~16 ohm

Connectivity Technology	XLR, TRS, RCA
Power Source	Corded Electric
Manufacturer	Monoprice

10. Warranty and Support

Monoprice products are designed for reliability and performance. For information regarding warranty coverage, technical support, or service, please refer to the official Monoprice website or contact their customer service department directly. Keep your purchase receipt as proof of purchase for warranty claims.
Monoprice Customer Support: www.monoprice.com

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