Mackie 402VLZ4

Mackie 402VLZ4 4-Channel Ultra Compact Mixer User Manual

Model: 402VLZ4

1. Introduction

This manual provides essential information for the proper setup, operation, and maintenance of your Mackie 402VLZ4 4-Channel Ultra Compact Mixer. Please read this manual thoroughly before using the product to ensure optimal performance and longevity. The Mackie 402VLZ4 is designed for professional audio applications, offering high-quality sound and robust construction in a compact form factor.

2. Safety Information

Observe the following safety precautions to prevent damage to the mixer or injury to yourself:

- **Power Source:** Connect the mixer only to the specified power supply (18.5V~ x2, 50/60 Hz 8W). Ensure the voltage matches your region's requirements.
- **Water and Moisture:** Do not expose the mixer to rain, moisture, or excessive humidity. Keep liquids away from the unit.
- **Ventilation:** Ensure adequate ventilation around the mixer. Do not block ventilation openings.
- **Heat:** Avoid placing the mixer near heat sources such as radiators, heat registers, stoves, or other heat-producing apparatus.
- **Cables:** Protect power cords from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- **Servicing:** Do not attempt to service the mixer yourself. Refer all servicing to qualified service personnel.
- **Cleaning:** Unplug the mixer from the power outlet before cleaning. Use a dry cloth only.

3. Key Features

The Mackie 402VLZ4 mixer incorporates several design elements for superior audio performance and durability:

- **4-Channel Configuration:** Provides two mono microphone/line inputs and one stereo line input (channels 3-4).

- **Onyx Preamps:** Features two boutique-quality Onyx microphone preamplifiers for crystal-clear sonic clarity, offering an ultra-wide 60dB gain range and 128.5 dB dynamic range.
- **High-Headroom/Low-Noise Design:** Engineered for professional-quality results with minimal distortion (under 0.0007% from 20Hz - 50kHz).
- **Phantom Power:** +48V phantom power is available for condenser microphones.
- **Improved RF Rejection:** Optimized for broadcast applications, minimizing radio frequency interference.
- **EQ and Low-Cut Filters:** Each microphone input channel includes a 2-band EQ (High 12kHz, Low 80Hz) and an 18 dB/oct 100Hz low-cut filter.
- **Instrument Inputs:** Selectable instrument inputs on the first two channels eliminate the need for a separate DI box.
- **"Built-Like-A-Tank" Construction:** Features a nearly indestructible steel wrap-around chassis and grime-resistant sealed rotary controls for enhanced durability.
- **High-Contrast Controls:** Colorful, high-contrast knobs optimize usability in low-light scenarios.

4. Setup

Follow these steps to set up your Mackie 402VLZ4 mixer:

1. **Unpacking:** Carefully remove the mixer and its power supply from the packaging. Retain the packaging for future transport or storage.
2. **Placement:** Place the mixer on a stable, flat surface. Ensure there is sufficient space for ventilation and cable connections.
3. **Power Connection:** Connect the included power adapter to the mixer's power input on the rear panel. Then, plug the power adapter into a suitable AC outlet. The mixer requires 18.5V~ x2, 50/60 Hz 8W.
4. **Power On/Off:** Use the power switch located on the rear panel to turn the unit on or off.



Figure 4.1: Rear panel of the Mackie 402VLZ4 mixer, illustrating the power input and power switch for connecting the external power supply.

5. **Input Connections:**
    - **Microphones (Channels 1 & 2):** Connect microphones to the XLR inputs. For condenser microphones, ensure +48V Phantom Power is engaged (see Operating Instructions).
    - **Line Inputs (Channels 1 & 2):** Connect line-level devices (e.g., keyboards, preamps) to the 1/4" TRS/TS inputs.

- **Stereo Line Input (Channels 3-4):** Connect stereo line-level devices to the 1/4" TRS/TS inputs for channels 3 and 4.
- **Tape In:** Use the RCA inputs for connecting playback devices like CD players or audio interfaces.

6. **Output Connections:**
   - **Main Out:** Connect the 1/4" TRS/TS Main Out jacks to your powered speakers or amplifier inputs.
   - **Phones:** Connect headphones to the 1/4" stereo Phones jack for monitoring.
   - **Tape Out:** Use the RCA outputs to send the main mix to a recording device.

5. Operating Instructions

This section details the functions of the mixer's controls and how to operate them.



Figure 5.1: Overview of the Mackie 402VLZ4 mixer's top panel, displaying all input/output connections and control knobs.

5.1 Input Channels (1 & 2)

- **MIC 1 / MIC 2 (XLR):** Balanced inputs for microphones.
- **LINE IN 1 / LINE IN 2 (1/4" TRS/TS):** Balanced/unbalanced inputs for line-level signals. These also serve as instrument inputs when the corresponding switch is engaged.
- **GAIN:** Adjusts the input sensitivity for the microphone or line input. Use this to set the input level correctly, aiming for the signal to peak around 0 dB on the main meters.
- **EQ (HI / LOW):** 2-band equalizer. HI adjusts frequencies around 12kHz, LOW adjusts frequencies around 80Hz. Use to shape the tone of the input signal.
- **100Hz LOW CUT:** Engages an 18 dB/octave high-pass filter at 100Hz to remove unwanted low-frequency rumble.
- **LEVEL:** Controls the volume of the individual channel in the main mix.

5.2 Stereo Input Channel (3-4)

- **LINE IN 3-4 (1/4" TRS/TS):** Stereo balanced/unbalanced inputs for line-level devices.
- **LEVEL:** Controls the volume of the stereo channel in the main mix.

5.3 Master Section

- **TAPE IN (RCA):** Stereo input for external playback devices. The 'TO MAIN' switch routes this signal to the main mix.
- **PHANTOM POWER (+48V):** Activates +48V phantom power for condenser microphones connected to MIC 1 and MIC 2. Ensure microphones are connected before engaging.
- **PHONES:** Level control for the headphone output.
- **MAIN MIX:** Master level control for the main stereo output.
- **METERS (LEFT/RIGHT):** LED meters display the output level of the main mix. Aim for signals to peak around 0 dB to avoid clipping.

5.4 Basic Operation Steps

1. **Initial Settings:** Before powering on, set all GAIN and LEVEL knobs to their minimum positions. Set EQ knobs to the center (flat) position.
2. **Power On:** Turn on the mixer using the rear power switch.
3. **Connect Inputs:** Connect your microphones and line-level devices. If using condenser microphones, engage the PHANTOM POWER switch.
4. **Set Input Gain:** For each active input channel, gradually increase the GAIN knob while speaking into the microphone or playing the instrument. Observe the main meters and adjust GAIN so that the signal peaks around 0 dB during the loudest passages.
5. **Adjust Channel Levels:** Slowly raise the LEVEL knob for each active channel to blend them into the mix.
6. **Adjust Main Mix:** Use the MAIN MIX knob to control the overall output volume.
7. **Monitor with Headphones:** Adjust the PHONES knob to set a comfortable listening level for your headphones.
8. **EQ Adjustment:** Fine-tune the tone of individual channels using the HI and LOW EQ controls as needed.

6. Maintenance

Proper maintenance ensures the longevity and reliable operation of your mixer.

- **Cleaning:** Disconnect the mixer from power before cleaning. Use a soft, dry, lint-free cloth to wipe the exterior. Avoid abrasive cleaners, solvents, or waxes.
- **Dust:** Regularly remove dust from the mixer, especially around knobs and switches, to prevent accumulation that

could affect performance.

- **Storage:** When not in use for extended periods, store the mixer in a cool, dry place, ideally in its original packaging or a protective case.
- **Avoid Extreme Conditions:** Do not expose the mixer to extreme temperatures, direct sunlight, or high humidity.

7. Troubleshooting

If you encounter issues with your Mackie 402VLZ4 mixer, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
No sound output	Power not connected; Main Mix or channel levels too low; incorrect input/output connections; faulty cables.	Check power connection and switch; increase MAIN MIX and channel LEVEL knobs; verify all cables are correctly connected; test with different cables.
Distorted sound	Input GAIN too high; MAIN MIX level too high; faulty cable or device.	Reduce input GAIN until meters do not clip; lower MAIN MIX level; test with different cables or input devices.
Hum or buzz	Ground loop; unshielded cables; RF interference; faulty power supply.	Ensure all equipment is on the same electrical circuit; use balanced cables where possible; check for nearby electronic devices causing interference; try a different power outlet.
Microphone not working (condenser)	Phantom Power not engaged; faulty microphone or cable.	Engage the +48V PHANTOM POWER switch; test with a different microphone or cable.

8. Specifications

Feature	Specification
Model	402VLZ4
Channels	4 (2 mono mic/line, 1 stereo line)
Microphone Preamps	2 x Onyx
Phantom Power	+48V
EQ	2-band (HI 12kHz, LOW 80Hz) per mic channel
Low Cut Filter	100Hz, 18 dB/octave per mic channel
Connectivity	XLR, 1/4 inch (6.35 mm) TRS/TS, RCA
Product Dimensions	12.5 x 8.82 x 4.13 inches (31.75 x 22.4 x 10.49 cm)
Item Weight	2.5 pounds (1.13 kg)
Power Requirement	18.5V~ x2, 50/60 Hz 8W (external power supply)

9. Warranty and Support

For detailed warranty information, please refer to the warranty card included with your product or visit the official Mackie website. For technical support, product registration, or service inquiries, please visit www.mackie.com/support or contact your local Mackie distributor.