Behringer UB802

Behringer UB802 Ultra-Low Noise 8-Input 2-Bus Audio Mixer User Manual

Model: UB802

1. INTRODUCTION

The Behringer UB802 is an ultra-low noise, 8-input, 2-bus audio mixer designed for various audio applications, from home studios to live sound reinforcement. It features high-quality microphone preamplifiers, a 3-band equalizer on all channels, and flexible routing options for professional sound mixing.

Key features include:

- Ultra-low noise design, highest possible headroom, and ultra-transparent audio.
- Two state-of-the-art, studio-grade IMP "Invisible" Mic Preamps with 130 dB dynamic range for 24-bit, 192 kHz sampling rate inputs.
- Effective, extremely musical 3-band EQ on all channels.
- Six balanced high-headroom line inputs.
- One post-fader FX send per channel for external FX devices.

2. IMPORTANT SAFETY INSTRUCTIONS

Please read these instructions carefully before operating your Behringer UB802 mixer. Retain these instructions for future reference.

- **Power Source:** Only use the power adapter supplied with the unit. Ensure the voltage matches your local power supply.
- **Ventilation:** Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- **Water and Moisture:** Do not use this apparatus near water or expose it to dripping or splashing.
- **Heat:** Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- **Cables:** Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- **Servicing:** Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects

have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

3. CONTROLS AND CONNECTORS

3.1 Top Panel Overview

This section details the controls and connectors located on the top panel of your UB802 mixer.

Figure 1: Top-down view of the Behringer UB802 mixer's control panel. This image displays the microphone and line inputs, gain controls, 3-band EQ sections, FX send, pan/balance controls, channel level knobs, main mix section, phantom power switch, and level meters.

1. **MIC IN (Channels 1-2):** XLR inputs for connecting microphones. These inputs provide +48V phantom power when activated.
2. **LINE IN (Channels 1-2, 3/4, 5/6):** 1/4" TRS inputs for connecting line-level sources such as keyboards, drum machines, or other audio devices. Channels 3/4 and 5/6 are stereo pairs.
3. **GAIN (Channels 1-2):** Adjusts the input sensitivity for the microphone and line inputs. Use this to set the optimal signal level before it reaches the mixer's internal processing.
4. **EQ (HIGH, MID, LOW):** Three-band equalizer controls for shaping the tone of each channel. HIGH affects frequencies around 12 kHz, MID around 2.5 kHz, and LOW around 80 Hz.
5. **FX Send:** This knob controls the amount of signal sent from the respective channel to the external effects processor connected to the FX Send output. It is a post-fader send.
6. **PAN (Channels 1-2):** Positions the mono signal within the stereo sound field (left to right).
7. **BAL (Channels 3/4, 5/6):** Adjusts the balance between the left and right signals of the stereo input channels.
8. **LEVEL:** Adjusts the output volume of each individual channel to the main mix.
9. **PHANTOM POWER (+48V):** A switch to activate +48V phantom power for condenser microphones connected to the XLR inputs.
10. **CLIP LED:** Illuminates when the input signal is too high, indicating potential clipping or distortion. Reduce the GAIN control if this LED lights up frequently.
11. **LEVEL METERS:** LED indicators displaying the overall output level of the main mix. Aim for levels around 0 dB during normal operation.
12. **MAIN MIX:** Controls the overall output volume of the stereo main mix.
13. **2-TRACK IN/OUT:** RCA connectors for connecting external recording devices or playback sources (e.g., CD players, tape decks).
14. **CONTROL ROOM/PHONES:** Output for connecting headphones or control room monitors. The level knob adjusts the volume for both.

3.2 Rear Panel Connections

This section details the connections located on the rear panel of your UB802 mixer.

Figure 2: Rear view of the Behringer UB802 mixer. This image highlights the AC POWER IN port, MAIN OUT (L/R) jacks, FX SEND, and AUX RETURN jacks.

1. **AC POWER IN:** Connect the supplied Behringer power adapter here. Use only the specified power supply.
2. **MAIN OUT (L/R):** 1/4" TRS outputs for connecting the main stereo mix to an amplifier, powered speakers, or a recording interface.
3. **FX SEND:** 1/4" TS output for sending the combined FX send signal to the input of an external effects processor.
4. **AUX RETURN:** 1/4" TS input for receiving the processed signal back from an external effects processor.

4. SETUP

Follow these steps to set up your Behringer UB802 mixer for operation.

1. **Power Connection:** Ensure the mixer is switched off. Connect the supplied power adapter to the AC POWER IN on the rear panel and then plug it into a suitable power outlet.
2. **Microphone/Instrument Connection:**
   - For microphones, connect XLR cables to the **MIC IN** jacks (Channels 1-2). If using condenser microphones, activate the **PHANTOM POWER (+48V)** switch.
   - For line-level instruments (e.g., keyboards, guitars with preamps), connect 1/4" TS or TRS cables to the **LINE IN** jacks. Use Channels 3/4 or 5/6 for stereo sources.
3. **Output Connection:** Connect the **MAIN OUT (L/R)** jacks to your amplifier, powered speakers, or audio interface using 1/4" TRS cables.
4. **Monitoring:** Connect your headphones to the **PHONES** jack or control room monitors to the **CONTROL ROOM OUT** jacks.
5. **External Effects (Optional):** If using an external effects processor, connect the **FX SEND** jack to the input of your effects unit. Then, connect the output of your effects unit to the **AUX RETURN** jack on the mixer.
6. **Recording/Playback Devices (Optional):** Connect the **2-TRACK OUT** to the input of your recording device and the output of your playback device to the **2-TRACK IN**.

5. OPERATING THE MIXER

This section provides guidance on operating your Behringer UB802 mixer.

1. **Power On Sequence:** Turn on your mixer first, then your amplifier or powered speakers. When powering off, reverse the sequence (amplifier off first, then mixer) to prevent loud thumps.
2. **Setting Gain Levels:** For each active channel, speak or play into the microphone/instrument at its loudest expected level. Slowly turn up the **GAIN** control until the **CLIP LED** briefly flashes. Then, back off the GAIN slightly so the CLIP LED no longer illuminates. This ensures optimal signal-to-noise ratio without distortion.
3. **Adjusting Channel Levels:** Set all channel **LEVEL** knobs to their minimum position. Slowly bring up the LEVEL knob for each channel to achieve a balanced mix.
4. **Using the EQ:** Use the **HIGH**, **MID**, and **LOW** controls to shape the tone of each input. Turning a knob clockwise boosts the frequency, while turning it counter-clockwise cuts it. Start with all EQ knobs at the center (0 dB) position.
5. **Panning/Balancing:** Use the **PAN** knob for mono channels (1-2) to position them in the stereo field. Use the **BAL** knob for stereo channels (3/4, 5/6) to adjust the left/right balance.
6. **Applying Effects (FX Send):** Turn up the **FX Send** knob on the desired channel to send its signal to the external effects processor. Adjust the effect unit's wet/dry mix and the **AUX RETURN** level on the mixer to blend the effect into the main mix.
7. **Main Mix Level:** Adjust the **MAIN MIX** knob to control the overall output volume. Monitor the **LEVEL METERS** to ensure the main mix is not clipping.
8. **Monitoring:** Use the **CONTROL ROOM/PHONES** knob to adjust the listening volume for your headphones or control room monitors.

6. MAINTENANCE

Proper maintenance ensures the longevity and optimal performance of your mixer.

- **Cleaning:** Disconnect the power before cleaning. Use a soft, dry, lint-free cloth to wipe the surface of the mixer. Avoid using abrasive cleaners, solvents, or waxes, as these can damage the finish and controls.
- **Storage:** When not in use for extended periods, store the mixer in a cool, dry place, away from direct sunlight and extreme temperatures. Consider using a dust cover.
- **Power Disconnection:** Always disconnect the power adapter from the wall outlet if the unit will not be used for a long time.

7. TROUBLESHOOTING

If you encounter issues with your Behringer UB802, refer to the following common problems and solutions.

- **No Power:**
  - Ensure the power adapter is securely connected to both the mixer and a working power outlet.
  - Verify that the power outlet is active.
  - Check if the correct power adapter is being used (only the one supplied by Behringer).

- **No Sound Output:**
  - Check all cable connections from input sources to the mixer, and from the mixer's outputs to your amplifier/speakers.
  - Ensure channel **LEVEL** knobs and the **MAIN MIX** knob are turned up.
  - Verify that the **GAIN** controls are set appropriately and the **CLIP LED** is not constantly lit.
  - If using condenser microphones, ensure **PHANTOM POWER (+48V)** is activated.
  - Check the volume levels on your amplifier or powered speakers.

- **Distorted Sound:**
  - Reduce the **GAIN** control for the offending channel if the **CLIP LED** is frequently flashing.
  - Lower the channel **LEVEL** or **MAIN MIX** level.
  - Check the input source for distortion before it reaches the mixer.

- **Hum or Noise:**
  - Ensure all audio cables are properly shielded and in good condition.
  - Try to isolate the mixer's power supply from other noisy electrical devices.
  - Check for ground loops by ensuring all equipment is connected to the same power circuit or using a ground loop isolator if necessary.

8. SPECIFICATIONS

Technical specifications for the Behringer UB802 mixer.

Feature	Specification
Brand	Behringer
Number of Channels	8
Item Weight	3.55 Pounds
Connectivity Technology	Auxiliary

Feature	Specification
Power Source	Corded Electric

9. WARRANTY AND SUPPORT

For detailed warranty information and technical support, please refer to the official Behringer website or contact their customer service directly. Keep your purchase receipt as proof of purchase for any warranty claims.

Behringer is committed to providing high-quality products and support to its users.