

## Topping L50

# Topping L50 NFCA Headphone Amplifier

## Instruction Manual

### INTRODUCTION

This manual provides detailed instructions for the safe and efficient use of your Topping L50 NFCA Headphone Amplifier. Please read this manual thoroughly before operating the device and retain it for future reference.

The Topping L50 is a high-performance headphone amplifier featuring a redesigned NFCA (Nested Feedback Composite Amplifier) circuit. It offers ultra-low noise and distortion, multiple gain settings, and a convenient bypass output function.

### SAFETY INFORMATION

- **Power Supply:** Use only the specified power adapter. Incorrect voltage can damage the device and pose a fire hazard.
- **Ventilation:** Ensure adequate ventilation around the amplifier. Do not block ventilation openings.
- **Moisture:** Keep the device away from water, moisture, and high humidity environments.
- **Heat:** Avoid placing the device near heat sources such as radiators, heat registers, stoves, or other heat-producing apparatus.
- **Cleaning:** Clean only with a dry cloth. Do not use liquid cleaners or aerosol sprays.
- **Servicing:** Do not attempt to service this product yourself. Refer all servicing to qualified service personnel.
- **Hearing Protection:** Avoid listening at high volume levels for extended periods to prevent hearing damage.

### PRODUCT OVERVIEW

The Topping L50 is designed to deliver exceptional audio performance for headphones. Key features

include:

- **NFCA Circuit:** Utilizes a redesigned NFCA (Nested Feedback Composite Amplifier) circuit for ultra-low noise and distortion.
- **High Power Output:** Provides significant power output to drive a wide range of headphones, including high-impedance models.
- **Three Gain Settings:** Adjustable gain to perfectly match various headphone sensitivities, from sensitive IEMs to demanding over-ear headphones.
- **Bypass Output:** Features a pass-through function that allows the input signal to be directly outputted to RCA or TRS when the unit is powered off, useful for connecting to active speakers or monitor speakers with a DAC's pre-amp function.

## Key Performance Metrics



Image: Key performance metrics of the Topping L50, including Hi-Res Audio certification, 3-step gain settings, NFCA modules, THD+N, DNR, Noise, Output Impedance, and Maximum Output Power.

## Front and Rear Panel



Image: Front panel showing headphone outputs (6.35mm, 4-pin XLR), gain switch, and volume knob. Rear panel showing RCA and TRS inputs, RCA and TRS pass-through outputs, and power input.

## SETUP

1. **Placement:** Place the L50 on a stable, flat surface, ensuring adequate ventilation.
2. **Connect Audio Source:** Connect your audio source (e.g., DAC, pre-amplifier) to the L50's input jacks. The L50 supports both RCA and TRS inputs.
  - For RCA input, use high-quality RCA cables to connect the left and right channels from your source to the L50's RCA input ports.
  - For TRS input, use balanced TRS cables to connect the left and right channels from your source to the L50's TRS input ports.
3. **Connect Headphones:** Plug your headphones into the appropriate output jack on the front panel (6.35mm or 4-pin XLR).
4. **Connect Power:** Connect the provided power adapter to the 15VAC power input on the rear panel, then plug the adapter into a wall outlet.
5. **Optional: Connect Pass-through Output:** If you wish to use the pass-through function, connect the L50's RCA or TRS pass-through outputs to active speakers or another amplifier. This output is active when the L50 is powered off, allowing the input signal to bypass the amplifier.



Image: Diagram illustrating the input pass-through function for RCA and TRS connections. When the L50 is powered off, the input signal is directly routed to the output. When powered on, it switches to the headphone output.

## OPERATING INSTRUCTIONS

- Power On/Off:** The L50 typically powers on when connected to the power supply. Some models may have a power switch. Refer to the front panel for specific controls.
- Volume Control:** Rotate the volume knob on the front panel to adjust the listening level. Start with a low volume and gradually increase it to a comfortable level.
- Gain Setting:** The L50 features three gain options (Low, Medium, High) to optimize performance for different headphones.



Image: Diagram showing the three gain options (H, M, L) on the Topping L50. This feature allows matching the amplifier's output to the sensitivity of various headphones, from low-sensitivity over-ears to high-sensitivity IEMs, ensuring minimal background noise.

- Use **Low (L)** gain for highly sensitive headphones or IEMs to prevent excessive volume and background noise.
- Use **Medium (M)** gain for most standard headphones.
- Use **High (H)** gain for demanding, low-sensitivity, or high-impedance headphones that require more power.

Adjust the gain switch on the front panel to select the appropriate setting. It is recommended to adjust gain while no audio is playing or at a very low volume.

- Input Selection:** If your L50 has multiple input options (e.g., RCA, TRS), ensure the correct input is selected via the input selector switch, if present.

## MAINTENANCE

- Cleaning:** Gently wipe the exterior of the amplifier with a soft, dry, lint-free cloth. Do not use abrasive cleaners, solvents, or chemical sprays.
- Dust:** Keep the device free from dust accumulation. Use a soft brush or compressed air to clean vents if necessary.
- Storage:** If storing the device for an extended period, disconnect it from power and store it in a cool, dry place.

## TROUBLESHOOTING

Problem	Possible Cause	Solution
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Problem	Possible Cause	Solution
No sound from headphones	<ul style="list-style-type: none"> <li>Power not connected or unit off.</li> <li>Headphones not properly plugged in.</li> <li>Incorrect input selected on source device.</li> <li>Volume too low.</li> <li>Input cables loose or faulty.</li> </ul>	<ul style="list-style-type: none"> <li>Ensure power adapter is connected and unit is on.</li> <li>Check headphone connection.</li> <li>Verify correct input is selected on your audio source.</li> <li>Increase volume gradually.</li> <li>Check and re-seat all audio cables. Try different cables if available.</li> </ul>
Distorted or poor sound quality	<ul style="list-style-type: none"> <li>Volume too high, causing clipping.</li> <li>Incorrect gain setting for headphones.</li> <li>Faulty audio cables.</li> <li>Source audio quality is poor.</li> </ul>	<ul style="list-style-type: none"> <li>Reduce volume.</li> <li>Adjust gain setting to match headphone sensitivity.</li> <li>Replace audio cables.</li> <li>Test with a different audio source or higher quality audio files.</li> </ul>
Background noise or hum	<ul style="list-style-type: none"> <li>Ground loop issue.</li> <li>Interference from other electronic devices.</li> <li>High gain setting with sensitive headphones.</li> </ul>	<ul style="list-style-type: none"> <li>Try connecting the L50 and source to the same power strip.</li> <li>Move the L50 away from other electronics.</li> <li>Reduce gain setting if using sensitive headphones.</li> </ul>

## SPECIFICATIONS

The following table details the technical specifications of the Topping L50 NFCA Headphone Amplifier.



Image: Detailed technical specifications for the Topping L50, including THD+N, SNR, Dynamic Range, Frequency Response, Output Level, Noise Level, Channel Crosstalk, Input Sensitivity, Gain, Output Impedance, and Output Power for both SE IN and BAL IN.

Feature	Specification
Model	L50
Manufacturer	TOPPING
Voltage	20 Volts
Number of Channels	2

Feature	Specification
Output Power (Max)	3500 mW @ 16Ω, 540 mW @ 300Ω
Material	Plastic or aluminum
Dimensions (Package)	11.1 x 7.99 x 2.99 inches
Item Weight	3.04 pounds
Color (This Variant)	Black
THD+N (A-wt)	<0.00006% @ 780mW (32Ω)
DNR (A-wt)	145dB
Noise (A-wt)	<0.3uVrms
Output Impedance	<0.1Ω

*Note: Specifications are subject to change without notice. For the most accurate and up-to-date information, please refer to the official Topping website.*

## WARRANTY AND SUPPORT

Topping products are typically covered by a limited warranty. Please refer to the warranty card included with your product or visit the official Topping website for detailed warranty terms and conditions.

For technical support, service, or inquiries, please contact your authorized Topping dealer or visit the official Topping support page. When contacting support, please have your product model (L50) and purchase information ready.

**Official Website:** [www.tpdz.net](http://www.tpdz.net)