

## XY-C50L

# User Manual for XY-C50L Mini Bluetooth 5.0 Wireless Audio Digital Power Amplifier

Model: XY-C50L

## INTRODUCTION

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The XY-C50L is a compact and versatile Mini Bluetooth 5.0 Wireless Audio Digital Power Amplifier Stereo Board. Designed for DIY audio projects, it provides 50W x 2 channel output, supporting Bluetooth 5.0 for wireless audio streaming, 3.5MM AUX input, and USB audio input. This manual provides detailed instructions for setting up, operating, and maintaining your XY-C50L amplifier board.

## SAFETY INFORMATION

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Please read and understand all safety instructions before using this product. Failure to follow these instructions may result in electric shock, fire, or serious injury.

- Ensure the power supply voltage is within the specified range (DC 8-24V).
- Do not expose the device to water, moisture, or extreme temperatures.
- Avoid short-circuiting the output terminals.
- Do not disassemble or modify the amplifier board. Refer all servicing to qualified personnel.
- Keep out of reach of children.
- Use appropriate speaker impedance (4-8 ohms) to prevent damage.

## PRODUCT OVERVIEW

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The XY-C50L amplifier board features multiple input options and controls for versatile audio applications.



Figure 1: Top view of the XY-C50L amplifier board. This image shows the main components including the volume knob, USB input, AUX input, and power/output terminals. The board is compact and designed for easy integration into various audio setups.



Figure 2: Dimensions of the XY-C50L amplifier board. This image provides key measurements (50mm, 56mm, 19mm, 18mm) to assist with enclosure design and integration.

## Key Components:

- **DC 8-24V Power Input:** Terminal for connecting the power supply.
- **Output (L/R):** Terminals for connecting left and right speakers.
- **USB Input:** For connecting a USB device as an audio source.
- **AUX IN (3.5MM):** Standard 3.5mm jack for wired audio input.
- **Volume/Play/Pause Knob:** Rotary encoder for volume control and push-button for play/pause functionality.
- **Bluetooth Antenna:** Integrated for wireless connectivity.

## SETUP

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Follow these steps for the initial setup of your XY-C50L amplifier board:

1. **Connect Speakers:** Connect your passive speakers to the "OUTPUT" terminals (L+ L- and R+ R-). Ensure correct polarity. The amplifier supports 4-8 ohm speakers.

2. **Connect Power Supply:** Connect a DC 8-24V power supply to the "DC 8-24V" input terminals. Observe correct polarity (+ and -).
3. **Select Audio Input:**
  - **Bluetooth:** The board will automatically enter Bluetooth pairing mode upon power-on.
  - **AUX:** Insert a 3.5mm audio cable into the "AUX IN" jack. The board will automatically switch to AUX input.
  - **USB:** Connect a USB device (e.g., computer) to the "USB" port. The board will switch to USB audio input.
4. **Power On:** Once all connections are secure, apply power. The board will indicate its status (e.g., LED indicator for Bluetooth pairing).

## OPERATING INSTRUCTIONS

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### Bluetooth Mode:

1. Power on the amplifier board. It will enter Bluetooth pairing mode.
2. On your mobile device (smartphone, tablet, etc.), enable Bluetooth and search for available devices.
3. Select "XY-C50L" from the list of devices to pair. A confirmation tone may sound upon successful connection.
4. Start playing audio on your paired device.

### AUX/USB Mode:

When an AUX cable or USB device is connected, the amplifier automatically prioritizes these inputs over Bluetooth. Disconnect the AUX cable or USB device to revert to Bluetooth mode.

### Volume Control:

- Rotate the volume knob clockwise to increase volume.
- Rotate the volume knob counter-clockwise to decrease volume.

### Play/Pause:

- Press the volume knob once to play or pause the audio (applicable in Bluetooth and USB modes).

## MAINTENANCE

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Proper maintenance ensures the longevity and optimal performance of your amplifier board.

- **Cleaning:** Use a soft, dry cloth to wipe the surface of the board. Do not use liquid cleaners or solvents.
- **Storage:** Store the board in a cool, dry place away from direct sunlight and excessive dust when not in use.
- **Ventilation:** Ensure adequate airflow around the board, especially during operation, to prevent overheating.

## TROUBLESHOOTING

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Problem	Possible Cause	Solution
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Problem	Possible Cause	Solution
No sound output.	No power. Incorrect speaker connection. Volume too low. Incorrect input mode. Bluetooth not paired.	Check power supply connection. Verify speaker polarity and connection. Increase volume. Ensure correct input (Bluetooth, AUX, USB) is selected/active. Re-pair Bluetooth device.
Bluetooth connection unstable.	Device too far from amplifier. Interference from other devices.	Move device closer to the amplifier. Move away from Wi-Fi routers or other Bluetooth devices.
Distorted audio.	Volume too high. Incorrect speaker impedance. Poor audio source quality.	Reduce volume. Ensure speakers are 4-8 ohms. Try a different audio source.

## SPECIFICATIONS

Model Number	XY-C50L
Brand	Generic
Output Power	50W x 2 (Stereo)
Number of Channels	2
Bluetooth Version	5.0
Input Voltage	DC 8-24V
Audio Inputs	Bluetooth, 3.5MM AUX, USB
Mounting Type	Surface Mount

## WARRANTY AND SUPPORT

This product is manufactured by Generic. For specific warranty information and technical support, please refer to the seller or manufacturer's official documentation provided at the time of purchase. General support for troubleshooting can be found in the "Troubleshooting" section of this manual.

For further assistance, please contact your point of purchase or visit the manufacturer's website (if available).

