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› HIFIDIY LIVE XY-AP50H Bluetooth Power Amplifier Board User Manual

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Model: XY-AP50H

INTRODUCTION

This manual provides detailed instructions for the setup, operation, maintenance, and troubleshooting of the HIFIDIY LIVE XY-AP50H TPA3116D2 Bluetooth 5.0 Digital Power Amplifier Board. This module is designed for home music systems, offering stereo audio amplification with multiple input options.



Figure 1: Top view of the XY-AP50H Bluetooth Power Amplifier Board. This image shows the main components including the central volume knob, input/output ports, and power input.

KEY FEATURES

- **High-Fidelity Audio:** Utilizes the original TPA3116D2 chip for stereo dual-channel output with peak power up to 50W+50W.
- **Multiple Audio Inputs:** Supports Bluetooth 5.0, AUX input, U disk playback, and USB sound card input.
- **Intuitive Control:** Features a volume control knob with press on/off, pause/play, and 360-degree infinite adjustment.
- **Wide Voltage Compatibility:** Operates with a DC input voltage range of 5-24V.
- **Comprehensive Protection:** Includes over-voltage, under-voltage, over-heat, and short-circuit protection mechanisms.
- **APP Control:** Compatible with the Sinilink mobile application for enhanced control.

SETUP INSTRUCTIONS

1. Power Connection

Connect a DC power supply (12-24V) to the DC 5-24V input port on the amplifier board. Ensure the power supply meets the voltage and current requirements (minimum 2A recommended). The board is compatible with most DC adapters with a 5.5mm*2.1mm plug size.

2. Speaker Connection

Connect your speakers to the SPKL (Left Speaker) and SPKR (Right Speaker) terminals. Ensure correct polarity (+ to + and - to -). The amplifier supports speakers with an impedance of 4Ω or 8Ω and power ratings from 10W to 200W.



Figure 2: Connection diagram for the XY-AP50H amplifier board. This diagram illustrates the proper connections for DC power, speakers, AUX input, USB audio, and audio output.

3. Audio Input Options

- **Bluetooth Input:**

1. Turn on your mobile phone's Bluetooth.
2. Search for "XinYi" in the list of available devices.
3. Connect to "XinYi". The blue LED on the board will flash quickly and then remain steady when connected.

- **AUX Input:** Connect an audio source (e.g., smartphone, MP3 player) to the 3.5mm AUX IN port using an audio cable.

- **U Disk Playback:** Insert a USB flash drive containing audio files into the USB AUDIO port.

- **USB Sound Card:** Connect the board to a computer via the USB AUDIO port to use it as an external sound card.

OPERATING INSTRUCTIONS

Volume Control and Power

The central knob on the amplifier board serves multiple functions:

- **Power On/Off:** Long press the knob to turn the unit on or off.
- **Play/Pause:** Short press the knob to play or pause audio playback.
- **Volume Adjustment:** Rotate the knob 360 degrees to adjust the volume.

Sinilink APP Usage

For advanced control and features, download the "Sinilink" APP from your mobile app market or App Store.

1. Turn on Bluetooth and location positioning on your mobile phone.
2. Open the Sinilink APP.
3. Navigate to the operation interface, click the yellow dot, then click "Bluetooth device".
4. Search for Bluetooth devices and connect to "Sinilink-APP".
5. Ensure all necessary app permissions are granted for proper functionality.

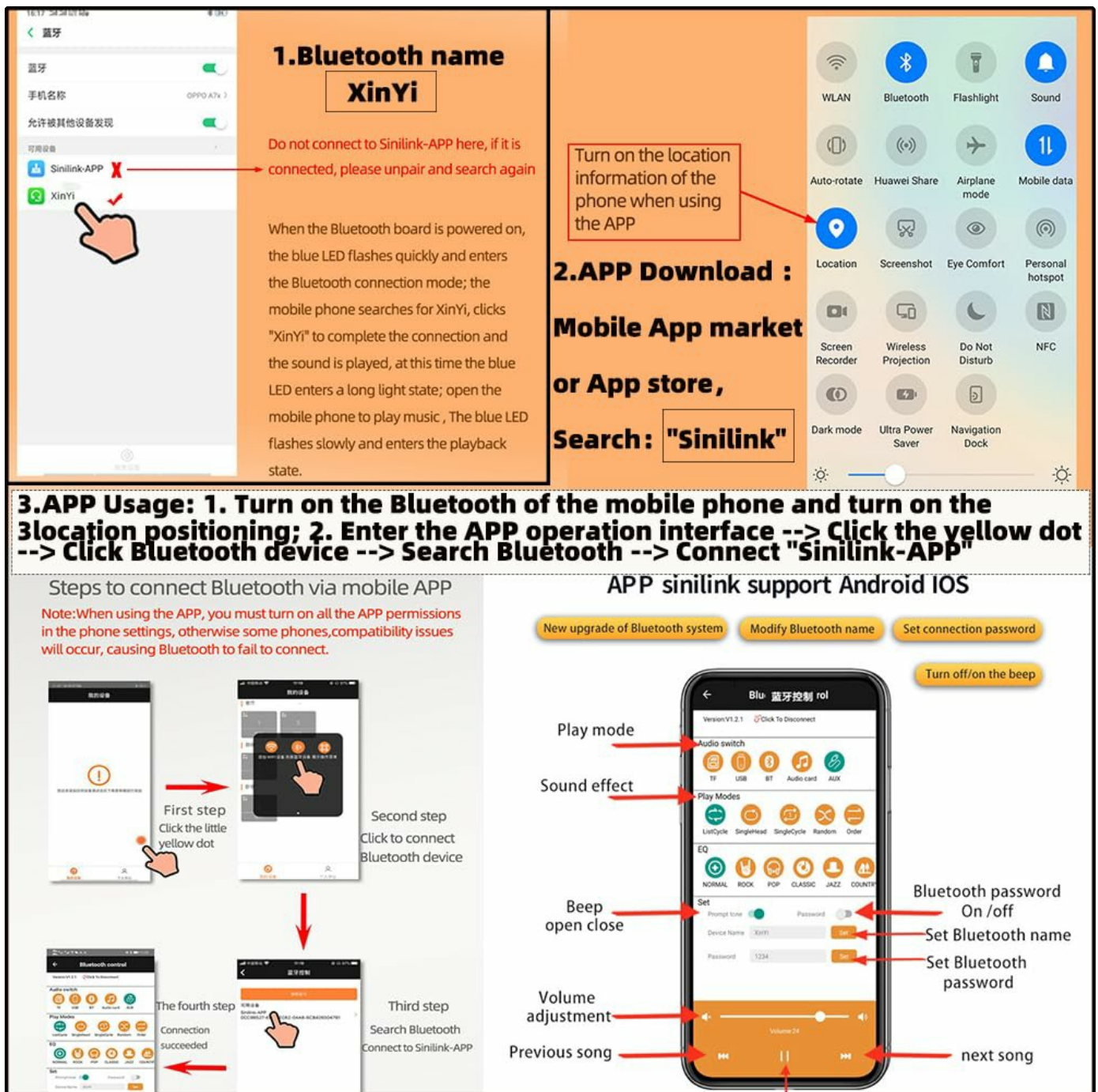


Figure 3: Guide for connecting and using the Sinilink APP. This image shows the steps for Bluetooth connection and various APP control options.

MAINTENANCE

- **Cleaning:** Use a soft, dry cloth to clean the amplifier board. Do not use liquid cleaners or solvents.
- **Environment:** Operate the board in a dry, well-ventilated area. Avoid exposure to extreme temperatures, humidity, or direct sunlight.
- **Heat Dissipation:** Ensure adequate airflow around the pure aluminum heat sink to maintain optimal performance and prevent overheating. The design incorporates a large heat dissipation area for this purpose.
- **Storage:** When not in use for extended periods, disconnect the power supply and store the board in a cool, dry place.

TROUBLESHOOTING

Problem	Possible Cause	Solution
No power/No indicator light	Incorrect power supply voltage or polarity; loose connection.	Verify DC input voltage is within 5-24V and polarity is correct. Check all power connections.
No sound output	Incorrect speaker connection; wrong input mode selected; low volume; faulty audio cable/source.	Ensure speakers are correctly connected. Select the correct input mode (Bluetooth, AUX, USB). Increase volume. Test with a different audio cable or source.
Bluetooth connection issues	"XinYi" not found; connection failed; interference.	Ensure the board is powered on and Bluetooth is enabled on your device. Unpair and search again if "XinYi" was previously connected. Move closer to the board to reduce interference. Ensure location services are enabled for APP connection.
Distorted sound	Input volume too high; speaker impedance mismatch; faulty speaker.	Reduce the input volume from the audio source. Ensure speakers are 4Ω or 8Ω. Test with different speakers.
APP connection issues	Location services off; incorrect APP usage steps; APP permissions.	Enable location services on your phone. Follow the APP usage steps precisely (Figure 3). Grant all necessary permissions to the Sinilink APP.

SPECIFICATIONS

Parameter	Value
Product Name	HIFI version 50W+50W Bluetooth stereo digital power amplifier board
Model Number	XY-AP50H
Chip	Original TPA3116D2 (Class D Power Amplifier)
Supply Voltage	DC 5-27V / 2A (recommended)
Bluetooth Version	5.0
Number of Channels	Left + Right Channel (Stereo)
Input Methods	Bluetooth, AUX, U Disk, USB Sound Card
Output Method	LC filter output, high-definition sound quality
Volume Adjustment	Encoder volume adjustment, one-key switch
Transmission Distance	>15 meters (without obstruction)
Cooling Method	Pure aluminum heat sink + shell heat dissipation

Parameter	Value
Protection Mechanisms	Anti-static, power supply anti-reverse connection, short circuit, overheating, overvoltage, undervoltage, DC protection
Adapted Speakers	10W~200W, 4Ω/8Ω
Output Power (Max)	50W*2 (21V, 4Ω)
Dimensions (approx.)	60mm x 60mm x 16mm (excluding knob height)
Package Dimensions	7.48 x 3.98 x 2.2 inches
Weight	3.53 ounces

Product professional parameters

Product name:	HIFI version 50W+50W Bluetooth stereo digital power amplifier board
Product number:	XY-AP50H
Supply voltage:	Above 5~27V DC/2A
Bluetooth version:	5.0
Cool features:	Support Sinilink-APP control
Product solutions:	Original TPA3116D2 (anti-interference efficient class D power amplifier)
Number of channels:	Left + right channel (stereo)
Input method:	Bluetooth+AUX+U disk+USB sound card
Output method:	LC filter output, high-definition sound quality
Volume adjustment:	Encoder volume adjustment, smooth feel, one-key switch
Transmission distance:	More than 15 meters (without obstruction)
Cooling method:	Pure aluminum heat sink + shell heat dissipation, large heat dissipation area, to ensure high power and high performance operation
Protection mechanism:	Anti-static, power supply anti-reverse connection, short circuit, overheating, overvoltage, undervoltage, DC protection
Adapted speakers:	10W~200W, 4Ω/8Ω
Output Power:	10W*2@12V,8Ω 20W*2@12V,4Ω 20W*2@18V,8Ω 40W*2@18V,4Ω 30W*2@22V,8Ω 50W*2@21V,4Ω

Figure 4: Detailed professional parameters of the XY-AP50H amplifier board. This table provides comprehensive technical specifications.



Design details display:

The heat sink is close to the copper coating of the shell for heat dissipation, and the heat dissipation area is doubled to ensure that the product runs at full power and high performance



Figure 5: Dimensions of the XY-AP50H amplifier board. This image illustrates the physical measurements of the board.

WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the manufacturer's official website or contact HIFIDIY LIVE customer service directly. Details regarding return policy (30 days) are typically handled by the retailer where the product was purchased.

Manufacturer: [HIFIDIY LIVE](#)

For further assistance, you may visit the [HIFIDIY LIVE Store on Amazon](#).

