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TECHTONICS TECH2135-000

TECHTONICS MP3 Bluetooth 4.1 Decoder Board User Manual

Model: TECH2135-000

INTRODUCTION

This manual provides detailed instructions for the proper installation, operation, and maintenance of your TECHTONICS MP3 Bluetooth 4.1 Decoder Board. Please read this manual thoroughly before using the product to ensure safe and efficient operation.



Image: Top view of the TECHTONICS MP3 Bluetooth 4.1 Decoder Board, showing its compact design and various components.

SAFETY INFORMATION

- Ensure the power supply voltage is within the specified range (3.7V to 5V DC). Exceeding this range can damage the board.
- Avoid short-circuiting the power terminals or output connections.
- Do not expose the board to moisture, extreme temperatures, or static electricity.
- Handle the board with care to prevent damage to components.
- This product is intended for use by individuals with basic electronics knowledge.

PRODUCT OVERVIEW AND COMPONENTS

The TECHTONICS MP3 Bluetooth 4.1 Decoder Board integrates MP3 decoding and Bluetooth 4.1 reception capabilities

into a compact module. It features multiple power input options and audio output methods for versatile application.

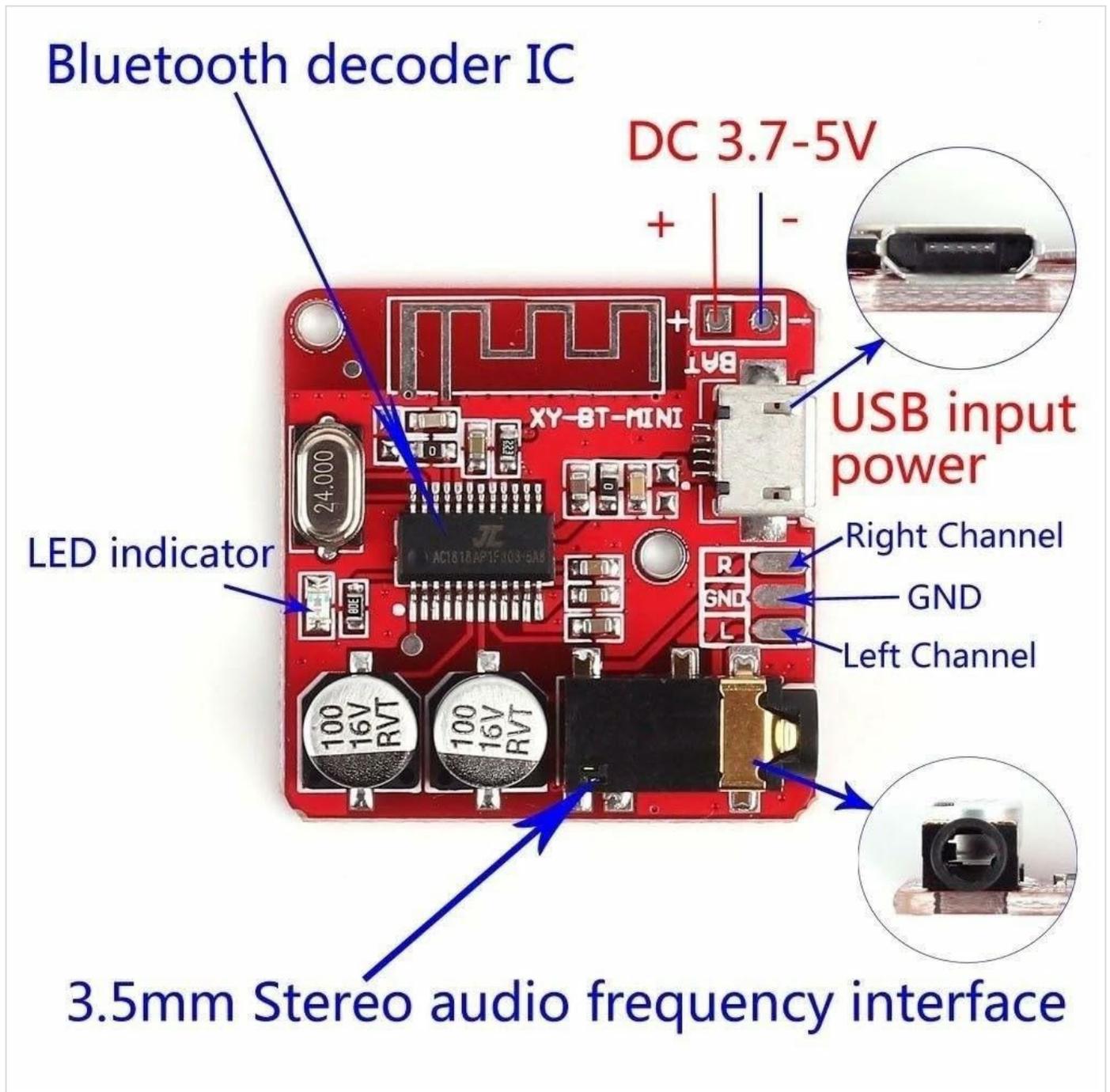


Image: Detailed view of the decoder board with key components labeled, including the Bluetooth decoder IC, USB input power port, LED indicator, 3.5mm stereo audio output, and power input terminals (DC 3.7-5V, BAT).

Key Components:

- **Bluetooth Decoder IC:** Main chip responsible for Bluetooth communication and audio decoding.
- **Micro USB Port:** For 5V DC power input.
- **Battery Terminals (BAT+, BAT-):** For 3.7V to 5V DC battery power input.
- **3.5mm Audio Jack:** Stereo audio output for headphones or speakers.
- **Audio Output Solder Pads (L, R, GND):** Alternative stereo audio output connections.
- **LED Indicator:** Provides status feedback (e.g., power, Bluetooth pairing).

SPECIFICATIONS

Feature	Value
Operating Voltage	3.7V ~ 5V DC
Bluetooth Version	4.1
Support Profiles	A2DP / AVCTP / AVDTP / AVRCP / HFP
Signal-to-Noise Ratio (SNR)	> 90dB
Dynamic Range (DNR)	> 91dB
Crosstalk	-86dB
Maximum Range	15m (unobstructed)
Digital Media Format	MP3 Audio
Compatible Devices	Smartphone, Speaker
Item Weight	100 g
Package Dimensions	2 x 1 x 1 cm

SETUP INSTRUCTIONS

1. Power Connection

The board can be powered using one of two methods:

- Micro USB Port:** Connect a standard Micro USB cable to the board's Micro USB port and a 5V DC power source (e.g., USB charger, power bank).
- Battery Terminals:** Connect a 3.7V to 5V DC battery to the BAT+ (positive) and BAT- (negative) solder pads. Ensure correct polarity to prevent damage.

Note: Do not connect both Micro USB and battery power simultaneously unless the battery charging circuit is designed for it. Typically, only one power source should be used at a time.

2. Audio Output Connection

Choose one of the following methods to connect your audio output device:

- 3.5mm Audio Jack:** Plug your headphones or speakers directly into the 3.5mm stereo audio jack on the board.
- Solder Pads:** Solder the Left (L), Right (R), and Ground (GND) wires of your speakers or amplifier to the corresponding solder pads on the board.

OPERATING INSTRUCTIONS

1. Powering On

Once power is supplied to the board (via Micro USB or battery), the LED indicator will illuminate, indicating the board is powered on and ready for operation.

2. Bluetooth Pairing

- Ensure the Bluetooth decoder board is powered on. The LED indicator will typically blink, signifying it is in pairing

mode.

2. On your smartphone or other Bluetooth-enabled device, navigate to the Bluetooth settings.
3. Scan for available devices. The board should appear as a device named similar to "BT-MINI" or a generic Bluetooth audio device.
4. Select the device to pair. Once successfully paired, the LED indicator on the board may change its blinking pattern or become solid.
5. You may hear an audible confirmation tone from your connected speakers/headphones.

3. Playing Audio

After successful pairing, any audio played on your connected Bluetooth device will be streamed to the decoder board and output through the connected speakers or headphones.

MAINTENANCE

- Keep the board clean and free from dust. Use a soft, dry brush or compressed air for cleaning.
- Store the board in a dry environment, away from direct sunlight and extreme temperatures.
- Avoid physical shock or excessive vibration.

TROUBLESHOOTING

Problem	Possible Cause	Solution
No power / LED off	Incorrect power connection, insufficient voltage, faulty power source.	Check power supply (3.7-5V DC). Ensure Micro USB cable or battery connections are secure and correct polarity is observed. Try a different power source.
Cannot find Bluetooth device	Board not in pairing mode, device too far, interference.	Ensure the board is powered on and the LED is blinking (pairing mode). Move your Bluetooth device closer to the board. Restart both the board and your Bluetooth device.
No audio output	Incorrect audio connection, low volume on source device, faulty speakers/headphones.	Verify audio connections (3.5mm jack or solder pads). Check volume on your paired device. Test speakers/headphones with another audio source. Ensure Bluetooth is successfully paired.
Poor audio quality / intermittent connection	Distance from source, obstacles, interference.	Reduce distance between the board and the Bluetooth source device. Remove obstacles. Avoid strong electromagnetic interference sources.

WARRANTY AND SUPPORT

For technical assistance, warranty information, or product support, please contact TECHTONICS customer service through the retailer where the product was purchased or visit the official TECHTONICS website. Please have your model number (TECH2135-000) and purchase details ready.

TECHTONICS Store Link: [Visit the TECHTONICS Store on Amazon](#)



