

AITIAO DY-HL30T

AITIAO DY-HL30T 30W Voice Playback Module User Manual

Model: DY-HL30T

1. INTRODUCTION

The AITIAO DY-HL30T is a versatile 30W mono voice playback module designed for various audio broadcast and DIY electronic applications. It supports MP3 and WAV decoding formats, features 9 trigger interfaces, and offers 8 I/O trigger modes. This module is equipped with a 30W Class D power amplifier, allowing it to directly drive 4-8ohm speakers. It also supports TF card storage for audio files and includes indicators for power and playback status.



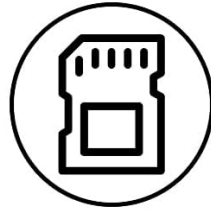
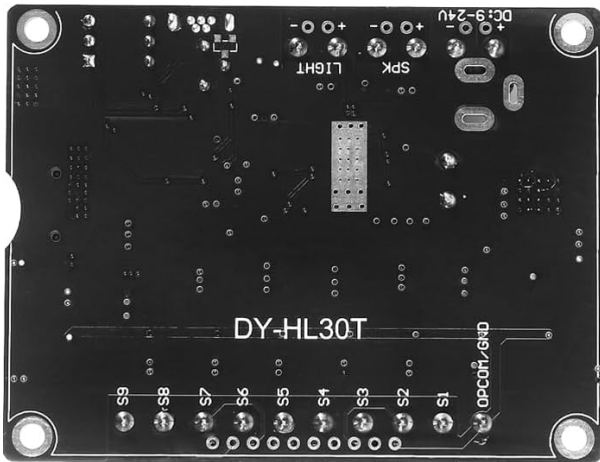
Figure 1: AITIAO DY-HL30T Voice Playback Module with included accessories (USB cable, screwdriver).

2. PRODUCT FEATURES

- **Wide Voltage Power Supply:** Operates on DC 9-24V.
- **Audio Decoding:** Supports MP3 and WAV formats with sampling rates up to 48KHz.
- **Trigger Interfaces:** 9-channel one-on-one trigger interface, capable of triggering up to 9 distinct audio files.
- **Trigger Modes:** 8 configurable trigger working modes via DIP switch.
- **Amplifier:** Integrated 30W Class D power amplifier, directly drives 4-8ohm, 10-30W speakers.
- **Storage:** Supports TF card (up to 32GB) for audio file storage (must be FAT32 format).
- **Connectivity:** Micro USB socket for connecting to a PC to download music files.

- **External Connections:** Can connect external warning lights (output voltage matches input).
- **Volume Control:** Adjustable via potentiometer and volume button.
- **Indicators:** Two indicator lights (green for power, red for playback).

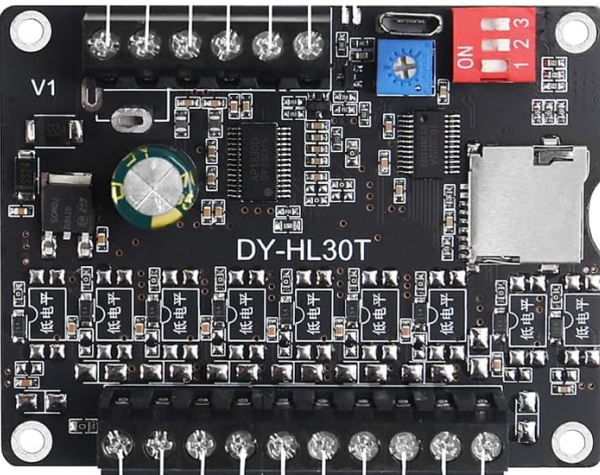
Multi-functional Voice Playback Module



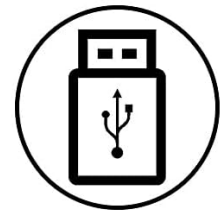
TF Card



Potentiometer
adjusts volume



Two indicator
lights



USB
interface

Figure 2: Overview of the module's multi-functional capabilities including TF card support, volume adjustment, indicator lights, and USB interface.

3. PACKAGE CONTENTS

- AITIAO DY-HL30T 30W Voice Playback Module
- USB Data Cable
- Screwdriver

4. SPECIFICATIONS

Parameter	Value
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Model	DY-HL30T
Input Voltage	DC 9-24V
Output Power	30W (Mono)
Speaker Impedance	4-8 Ohm
Supported Audio Formats	MP3, WAV
TF Card Support	Up to 32GB (FAT32 format)
Trigger Interfaces	9 (Low-level trigger)
Trigger Modes	8 (DIP switch configurable)
Module Dimensions	76mm x 58mm (approx. 2.99 x 2.28 inches)
Weight	Approximately 0.32 ounces

Product Size

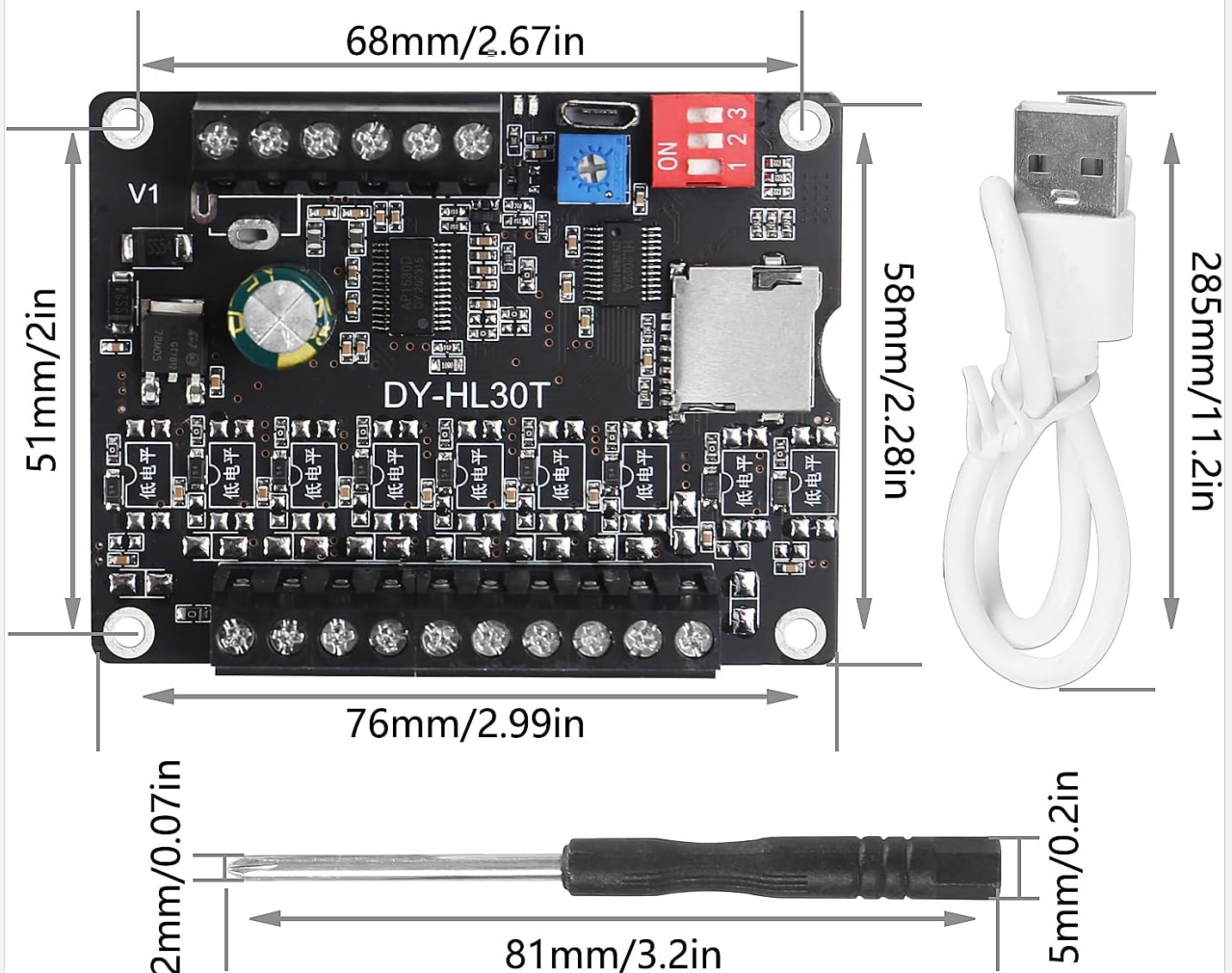


Figure 3: Detailed dimensions of the DY-HL30T module.

5. SETUP AND CONNECTIONS

5.1 Power Supply

Connect a DC 9-24V power source to the designated input terminals on the module. Ensure correct polarity (positive to +, negative to -).

5.2 Speaker Connection

Connect a 4-8ohm, 10-30W speaker to the speaker output terminals. The module has a built-in 30W Class D amplifier.

5.3 TF Card Insertion

Insert a TF card (up to 32GB, formatted to FAT32) into the TF card slot. Ensure audio files are properly named and placed as described in Section 6.2.

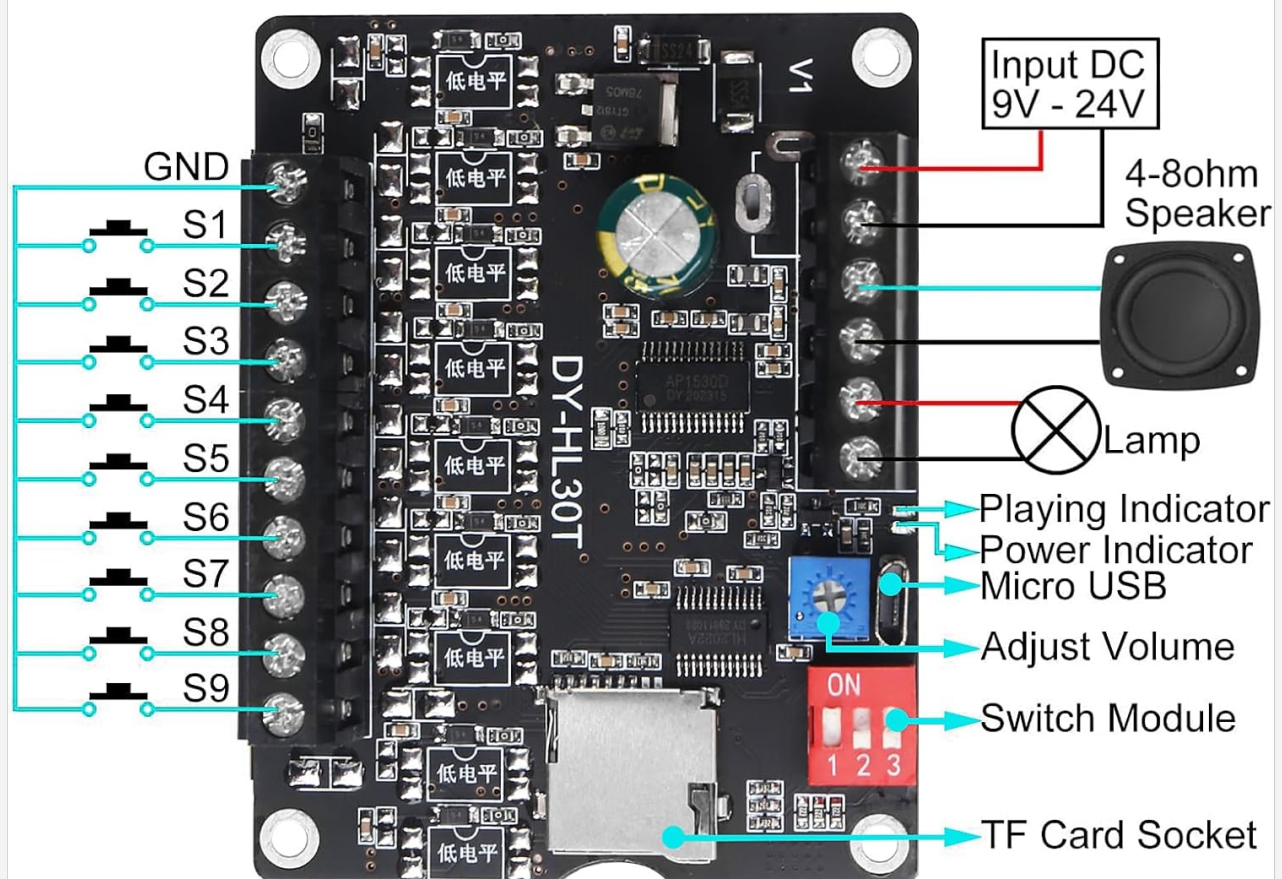
5.4 Trigger Interface Connections

The module features 9 trigger interfaces (S1-S9) and a common ground (GND). These are low-level trigger inputs. Connect external buttons or switches between the desired trigger interface (S1-S9) and GND to activate playback.

5.5 External Warning Light Connection

An external warning light or alarm can be connected to the 'Light/Alarm Output' terminals. The output voltage for this connection is the same as the input working voltage.

Wire Connection



6. OPERATING INSTRUCTIONS

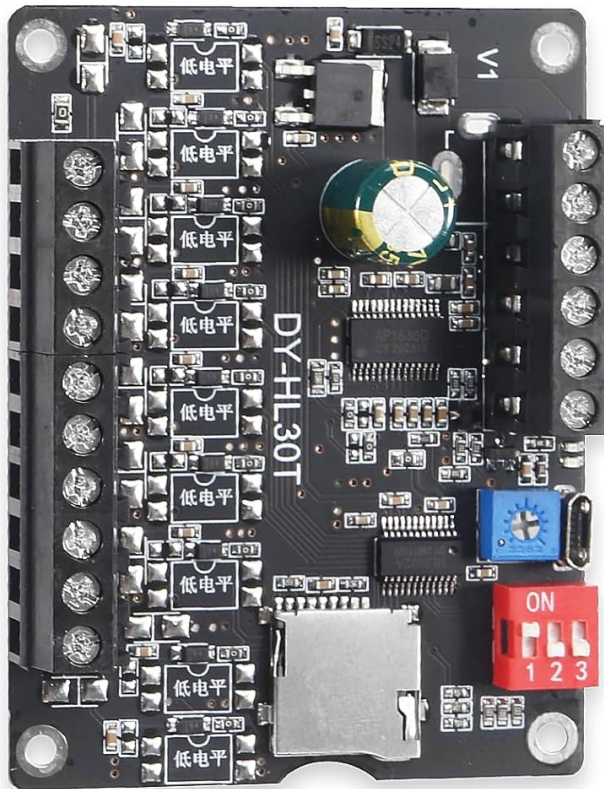
6.1 Setting Trigger Modes

The module features an 8-position DIP switch (labeled 1, 2, 3) to select different trigger working modes. After changing the DIP switch settings, the module must be powered off and then powered on again for the new mode to take effect.

Common trigger modes include:

- Low level triggers play
- Pulse-triggered playback
- Insert playback
- Play/stop toggle
- Switch between up and down music
- Automatic playback on power-on (MP3 mode)
- Loop play
- Single stop playing
- First trigger first play
- No interruption triggers play
- Buzzer-beater trigger play

9 Way Switch One to One Control



- Low level triggers play
- Pulse-triggered playback
- insert
- Play/stop
- Switch between up and down music
- Automatic playback on power-on (MP3 mode)
- Loop play
- Single stop playing
- First trigger first play
- No interruption triggers play
- Buzzer-beater trigger play

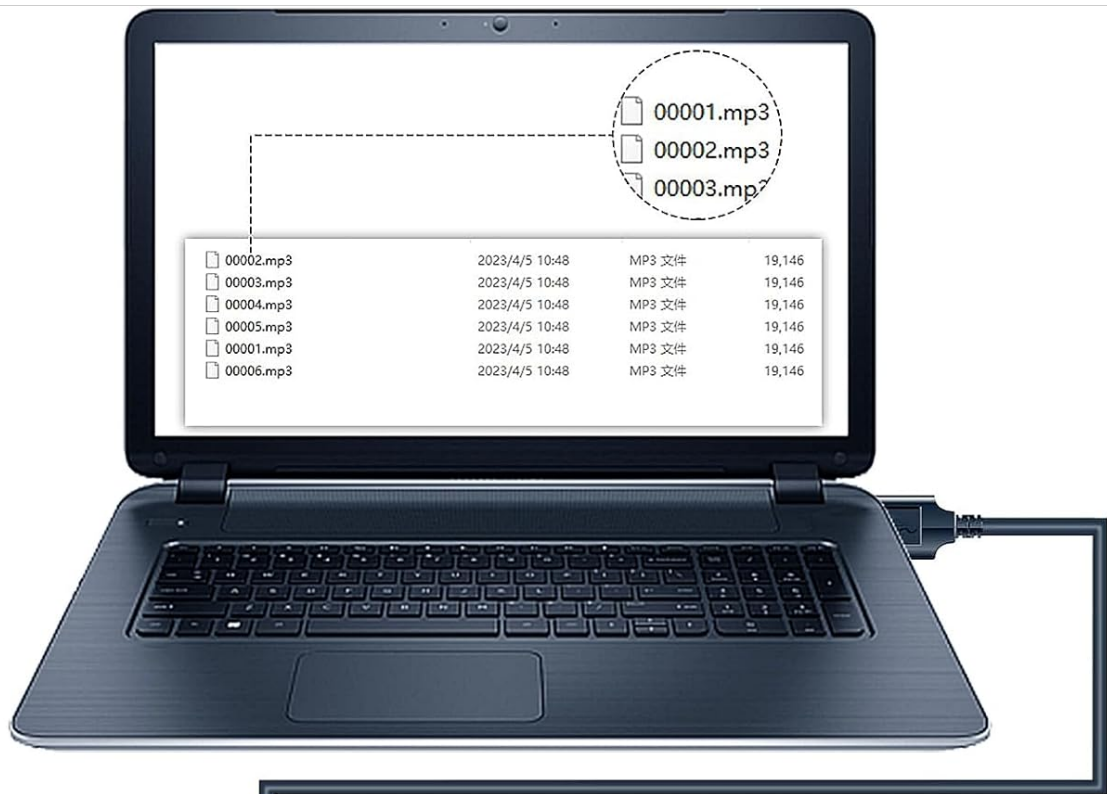
Figure 5: Illustration of trigger modes and the DIP switch for selection.

6.2 Audio File Management

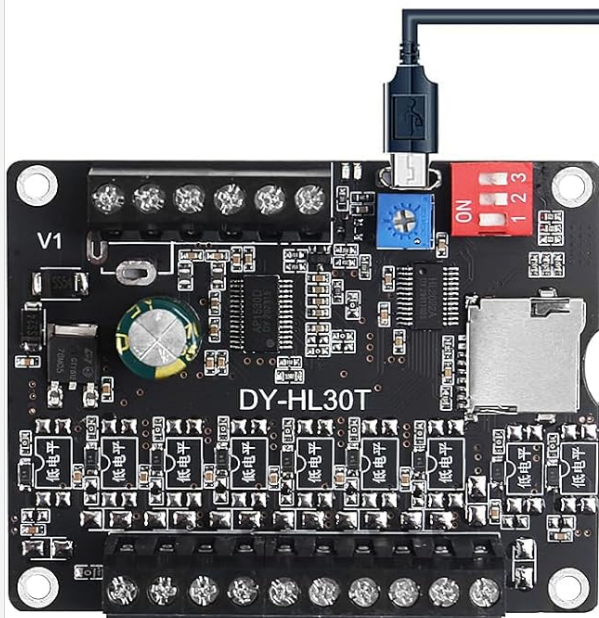
Audio files must be stored on a TF card formatted to FAT32. Connect the module to a PC via the Micro USB socket. The module will be recognized as a removable disk (U disk), allowing direct transfer of audio files.

Important Naming Convention:

- Music file names must be 5-digit numbers, e.g., 00001.mp3, 00002.mp3, up to 00009.mp3.
- Each input port (S1-S9) controls a specific music file. For example, S3 will control 00003.mp3.
- For 'Inter-Cut Trigger' mode, background music should be in the root directory, and insert music must be placed in a folder named CHABO. For other play modes, the CHABO folder is not required.



00002.mp3	2023/4/5 10:48	MP3 文件	19,146
00003.mp3	2023/4/5 10:48	MP3 文件	19,146
00004.mp3	2023/4/5 10:48	MP3 文件	19,146
00005.mp3	2023/4/5 10:48	MP3 文件	19,146
00001.mp3	2023/4/5 10:48	MP3 文件	19,146
00006.mp3	2023/4/5 10:48	MP3 文件	19,146



After the TF card is inserted and connected to the computer with a data cable, it will be identified as a removable disk (U disk), and the audio file can be directly copied to the TF card. The file must be named as 5 digits, such as 00001.mp3

NOTE: The TF card must be in FAT32 format.

Figure 6: Connecting the module to a computer to manage audio files on the TF card.

6.3 Volume Adjustment

The module features a potentiometer and a volume button for adjusting the playback volume. Rotate the potentiometer or press the button to set the desired volume level.

6.4 Indicator Lights

- **Green Indicator:** Illuminates when the module is powered ON.
- **Red Indicator:** Illuminates when an audio file is actively playing.

7. APPLICATIONS

The AITIAO DY-HL30T module is suitable for a variety of applications, including but not limited to:

- Modification, repair, or replacement of existing speaker systems.
- Amplifier equipment for training or activity sites.
- Integration into car Bluetooth devices.
- DIY Bluetooth speaker projects.
- As an alarm device for homes, supermarkets, or warehouses, allowing customizable alarm sounds.



Variety of Uses

AITIAO 30W voice playback module not only plays music, but also acts as a safety device with external warning lights or buzzers.

Figure 7: Examples of diverse applications for the voice playback module.

8. TROUBLESHOOTING

- **No Power Indicator:** Check the DC 9-24V power supply connection and ensure correct polarity.
- **No Sound Output:** Verify speaker connections, ensure the speaker impedance is 4-8ohm, and check the volume level. Confirm audio files are correctly named and stored on the TF card.
- **Module Not Recognized by PC:** Ensure the Micro USB cable is securely connected and the TF card is properly inserted. Try a different USB port or cable.
- **Incorrect Playback:** Review the selected DIP switch trigger mode and ensure it matches your intended operation. Verify audio file naming conventions and folder structure (especially for 'Inter-Cut Trigger' mode).

- **TF Card Error:** Ensure the TF card is formatted to FAT32. If issues persist, try a different TF card.

9. CARE AND MAINTENANCE

- Keep the module in a dry environment, away from moisture and extreme temperatures.
- Avoid exposing the module to static electricity or strong electromagnetic fields.
- Do not attempt to disassemble or modify the module beyond the specified connections.
- Clean the module with a soft, dry cloth. Do not use liquid cleaners.

10. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the documentation provided with your purchase or contact the manufacturer directly through their official channels. Keep your purchase receipt for warranty claims.