Coliao DY-SV17F

Coliao DY-SV17F Audio Module Mini MP3 Player Instruction Manual

Model: DY-SV17F | Brand: Coliao

1. Introduction

The Coliao DY-SV17F Audio Module is a versatile mini MP3 player designed for various applications. It integrates multiple control methods including IO segment trigger, UART serial port control, and ONE_line single bus serial port control. Featuring an onboard 5W Class D power amplifier, it can directly drive 4Ω 3-5W speakers. The module supports MP3 and WAV decoding formats and includes 32Mbit (4MByte) flash storage for audio files, which can be updated via a USB data cable connected to a computer.

2. Key Features

- Integrated IO segment trigger, UART serial port control, and ONE_line single bus serial port control.
- Supports 7 distinct working modes for flexible operation.
- Onboard 5W Class D power amplifier capable of driving 4Ω, 3-5W speakers directly.
- Supports MP3 and WAV audio decoding formats.
- Wide sampling rate support: 8/11.025/12/16/22.05/24/32/44.1/48 KHz.
- 24-bit DAC output with 90dB dynamic range and 85dB signal-to-noise ratio.
- Built-in 32Mbit (4MByte) flash storage for audio files.
- USB data cable connectivity for easy audio file updates from a computer.
- UART serial port control for playback, pause, song selection, and volume adjustment (up to 65,535 songs, 9600 bps baud rate).
- IO trigger playback function: 8 IO ports can trigger 8 tracks or up to 255 tracks.
- One_line single bus serial port control for playback, pause, song selection, and volume adjustment.
- 3 configurable IOs for selecting up to 7 working modes.

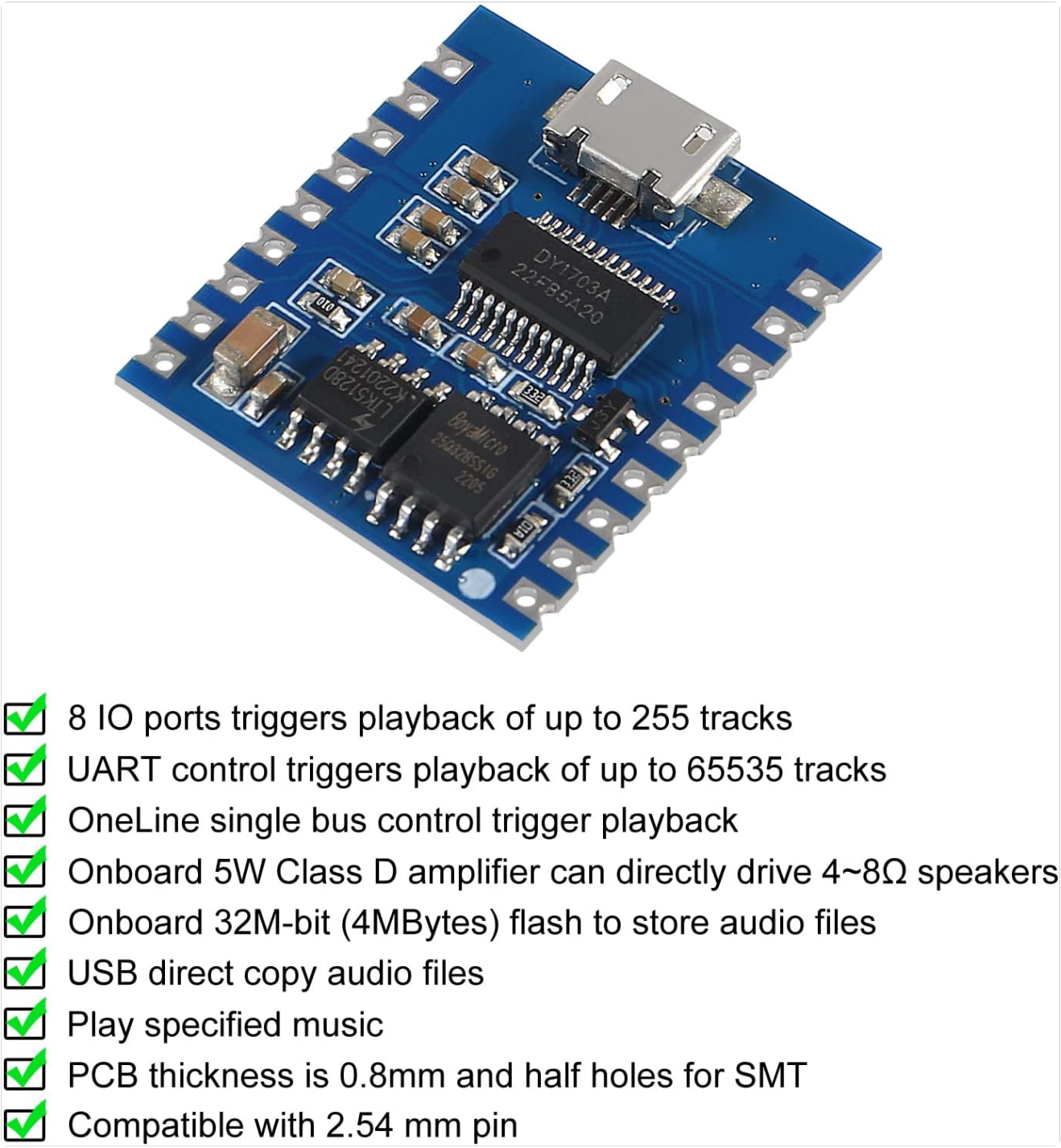

Image: A visual checklist highlighting the key features of the DY-SV17F Audio Module, including IO trigger, UART control, OneLine control, 5W Class D amplifier, 32Mbit flash, USB file copy, and MP3/WAV support.

3. Technical Specifications

Specification	Value
Model Name	DY-SV17F
Brand	Coliao
Memory Storage Capacity	4 MB (32Mbit)
Connectivity Technology	USB
Supported Standards	MP3, WAV

Specification	Value
Sampling Rate Support	8/11.025/12/16/22.05/24/32/44.1/48 KHz
DAC Output	24-bit
Dynamic Range	90dB
Signal-to-Noise Ratio	85dB
Power Amplifier	5W Class D (drives 4Ω, 3-5W speakers)
UART Baud Rate	9600 bps
IO Trigger Tracks	8 IO ports trigger 8 or 255 tracks
Package Dimensions	3.15 x 2.17 x 0.28 inches
Item Weight	0.634 ounces

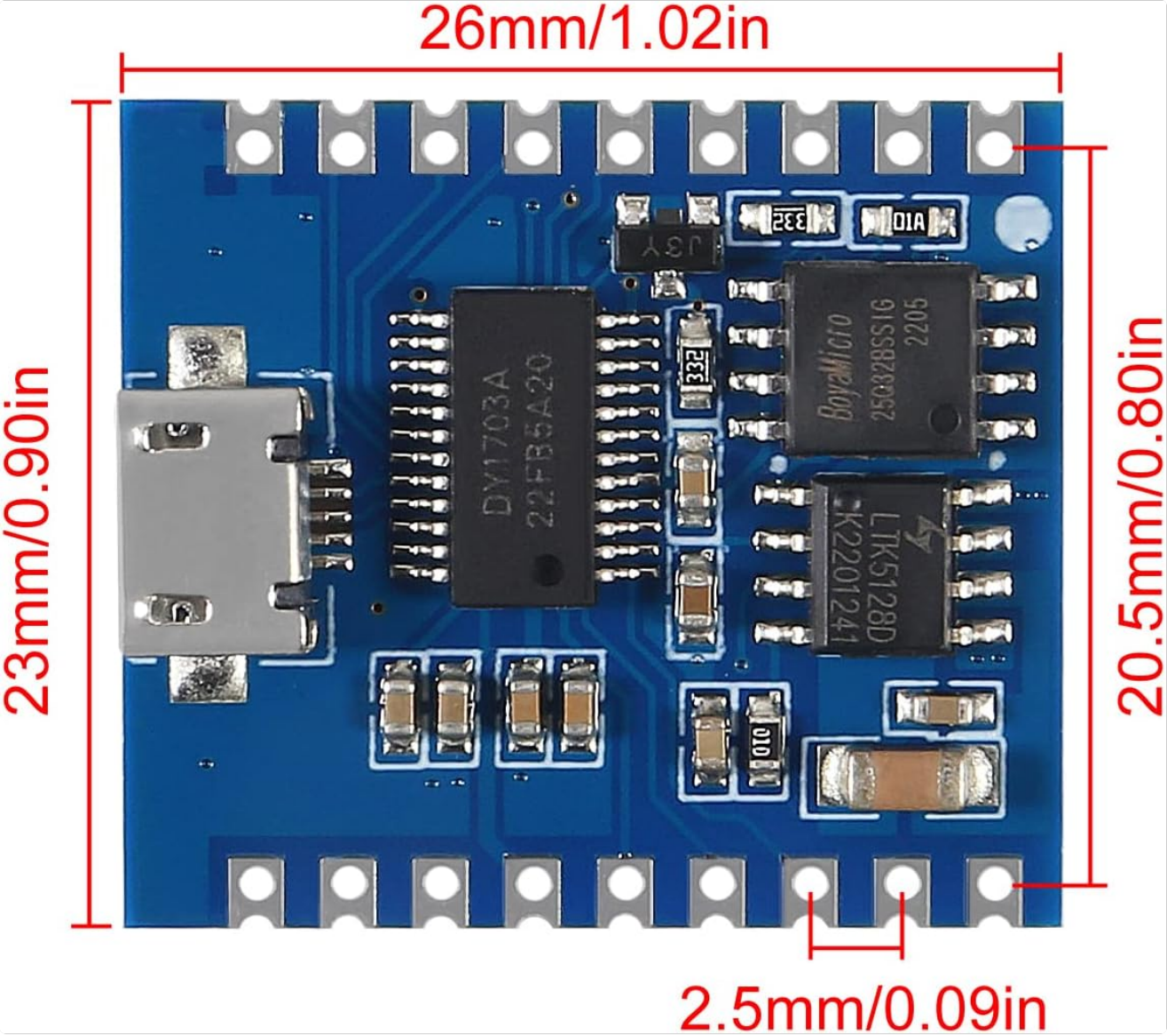

Image: The DY-SV17F Audio Module with its dimensions clearly labeled, showing a compact size suitable for integration into various projects.

4. Setup and Connections

This section details the physical connections required to operate the DY-SV17F Audio Module.

4.1 Module Overview

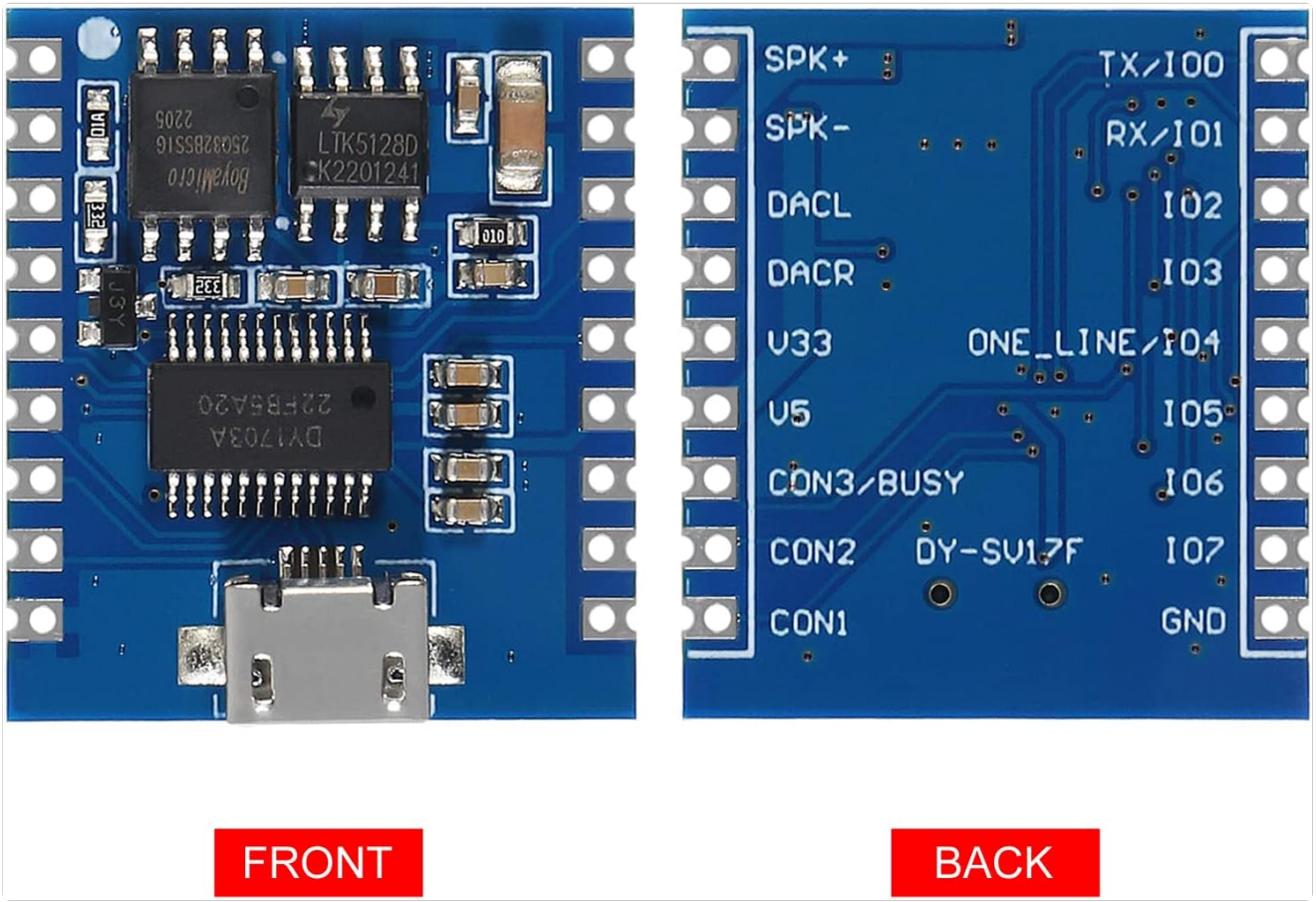

Image: Front and back views of the DY-SV17F Audio Module, illustrating the component layout and pin headers.

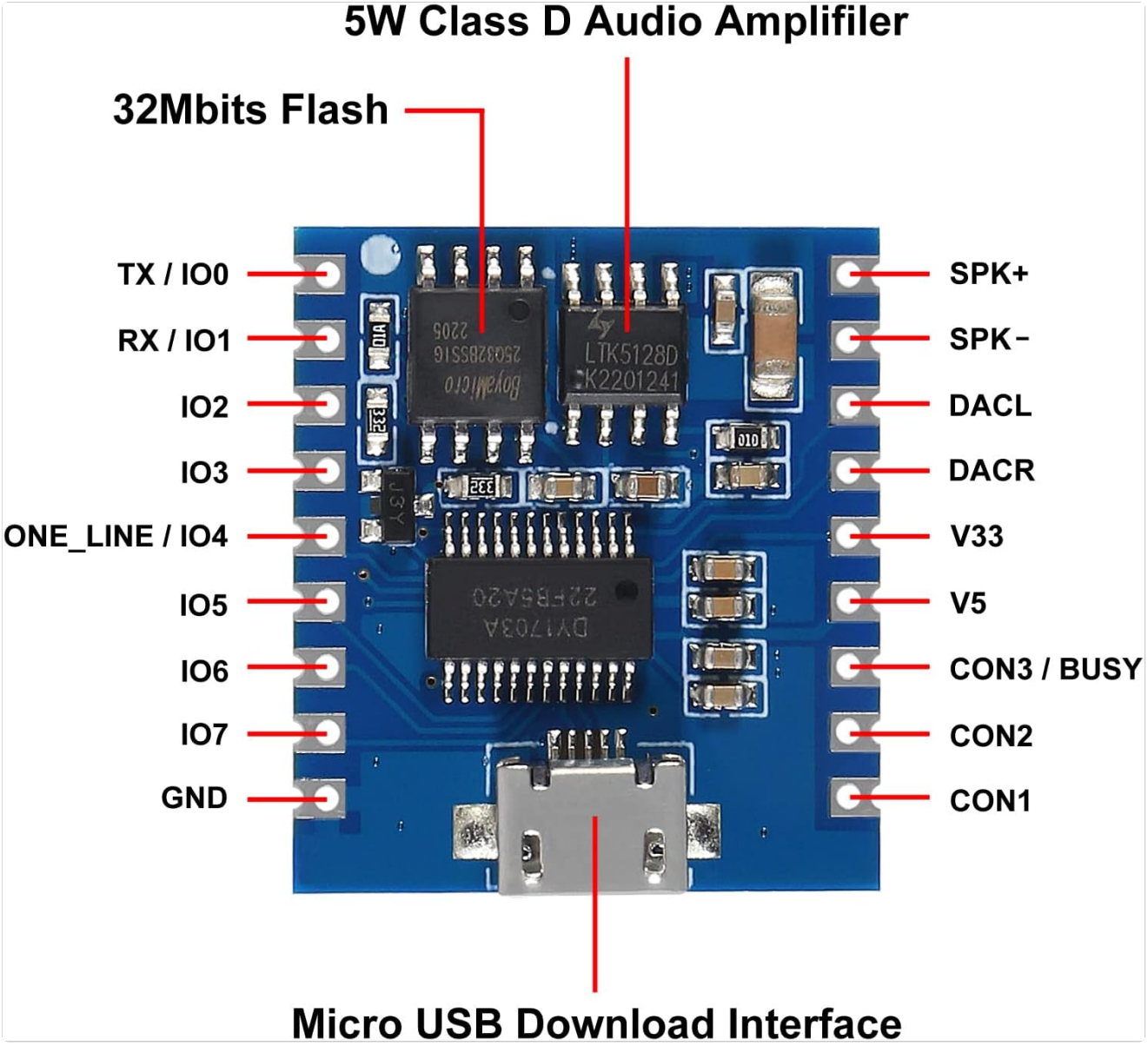

Image: A detailed view of the DY-SV17F Audio Module with key components labeled, including the 5W Class D Audio Amplifier, 32Mbit Flash, and Micro USB Download Interface.

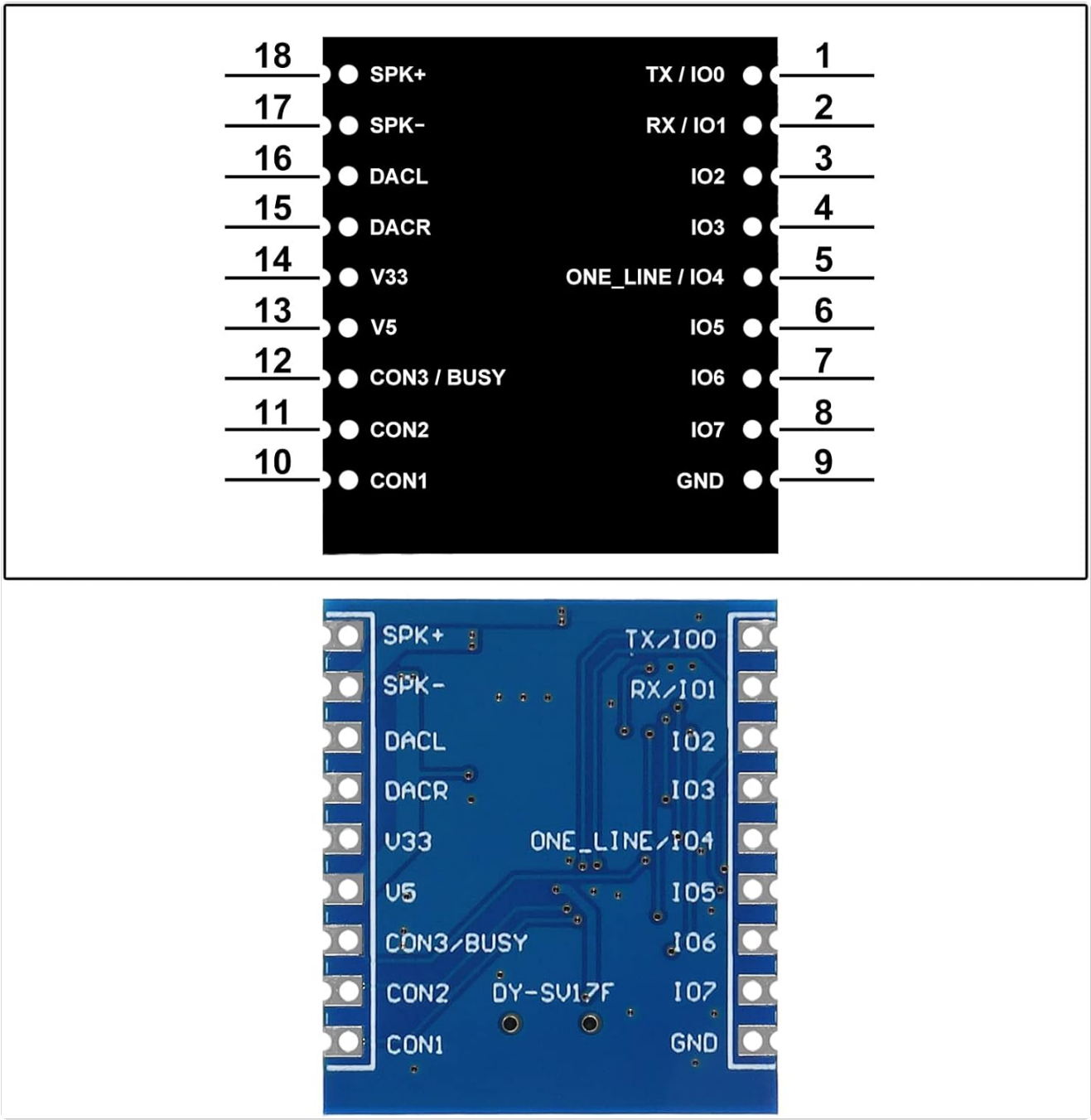

Image: A clear pinout diagram for the DY-SV17F Audio Module, showing the function of each pin (SPK+, SPK-, DACL, DACR, V33, V5, CON3/BUSY, CON2, CON1, TX/IO0, RX/IO1, IO2-IO7, ONE_LINE/IO4, GND).

4.2 Basic Wiring

To get started, connect the module as follows:

1. **Power Supply:** Connect a DC 4.5-5V power supply to the module. A 3.7V lithium battery is recommended.
2. **Speaker Connection:** Connect a 4Ω, 3-5W speaker to the SPK+ and SPK- terminals.
3. **Control Input:** Depending on your chosen operating mode, connect your control signals (e.g., buttons for IO trigger, UART for serial communication) to the appropriate IO pins (IO0-IO7, TX, RX, ONE_LINE/IO4).

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Video: This video demonstrates the basic wiring and operation of a recordable sound module, including power supply connection, button trigger, and volume adjustment. It shows how to connect a speaker and trigger playback.

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Video: A visual guide to connecting a voice playback module, demonstrating the wiring for power, speaker, and control inputs. This can be used as a general reference for the DY-SV17F module's physical connections.

5. Operating Modes and Audio Management

The DY-SV17F module supports 7 working modes, configurable via 3 IO pins. The specific mode selection details are typically provided in the module's datasheet or configuration files.

5.1 IO Trigger Playback

This mode allows triggering specific audio tracks by applying a signal to designated IO pins. The module supports triggering 8 tracks directly or up to 255 tracks using combinations of the 8 IO ports.

- **Key combination playback:** IO0-IO7 output corresponding levels, then restore to original high level. Similar to a single key press.
- **Level combination playback:** IO0-IO7 output corresponding levels and maintain them.
- **I/O combination (independent) mode 0:** Plays the current track until the end even after releasing the level.
- **I/O combination (independent) mode 1:** Stops playing the track immediately upon releasing the level.

5.2 UART Serial Port Control

For advanced control, the UART serial port allows sending commands to the module. This enables functions such as playback, pause, specific song selection (up to 65,535 songs), and volume adjustment. The baud rate is 9600 bps.

5.3 ONE_line Single Bus Serial Port Control

This mode offers another serial communication method for controlling playback, pause, song selection, and volume functions.

5.4 Audio File Management via USB

The module's 32Mbit (4MByte) flash storage can be accessed by connecting the module to a computer via a USB data cable. This allows you to update, add, or delete audio files (MP3, WAV formats).

- **File Naming Convention:** Audio files must be named sequentially, starting with "00001.mp3", "00002.mp3", etc., with four leading zeros.
- **Updating Files:** Connect the module to your computer via USB. The module will appear as a removable drive. You can then drag and drop audio files into the drive.

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Video: This tutorial demonstrates how to connect the module to a computer, add, delete, and modify MP3 files, and configure playback modes. It's essential for customizing the module's audio content.

5.5 Volume Adjustment

Volume can be adjusted through serial commands (UART/ONE_line) or, in some configurations, via a small potentiometer on the circuit board. Rotate clockwise to decrease volume and counter-clockwise to increase volume.

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Video: This video provides an operation tutorial for adjusting the volume of the recording on a similar module. It can serve as a visual guide for adjusting the volume on the DY-SV17F.

6. Troubleshooting

- **Module not playing audio:**
  - Ensure power supply is correctly connected (DC 4.5-5V).

- Verify speaker connections (SPK+ and SPK-).
- Check audio file names: They must be in the format "00001.mp3", "00002.mp3", etc., with four leading zeros.
- Confirm the correct operating mode is selected via the configuration IOs.
- If using IO trigger, ensure the trigger signal is correctly applied and maintained (or pulsed) according to the chosen mode.
- If using UART, verify serial communication settings (baud rate 9600 bps) and command syntax.

- **Low or no volume:**
  - Adjust the volume using serial commands or the onboard potentiometer if available.
  - Ensure the speaker is correctly rated (4Ω, 3-5W).
- **Cannot update audio files via USB:**
  - Ensure the USB data cable is properly connected and recognized by the computer.
  - Verify the module is in the correct mode for USB file transfer (if applicable, refer to specific mode documentation).
  - Check for sufficient free space on the module's flash storage.
- **Unexpected playback behavior (e.g., stops prematurely, plays wrong track):**
  - Review the selected operating mode and its specific behavior (e.g., "I/O combination (independent) mode 0" vs. "mode 1").
  - Ensure there are no conflicting trigger signals or commands.
  - Reformat the flash storage and re-upload audio files if corruption is suspected.

7. Package Contents

Each package includes:

- 2pcs DY-SV17F Audio Mini MP3 Player Modules
- Integrated 5W Class D Power Amplifier (on each module)

8. Warranty and Support

For technical support, troubleshooting assistance, or warranty inquiries, please contact the manufacturer or your retailer. Keep your purchase receipt for warranty claims.