

## GODIYMODULES CJMCU-1334-002

# GODIYMODULES UDA1334A I2S DAC Audio Stereo Decoder Module User Manual

Model: CJMCU-1334-002

## 1. INTRODUCTION

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This manual provides essential information for the proper setup, operation, and maintenance of the GODIYMODULES UDA1334A I2S DAC Audio Stereo Decoder Module. This module is designed to convert I2S digital audio signals into analog stereo output, suitable for integration with microcontrollers like Arduino and single-board computers such as the Raspberry Pi.

## 2. PRODUCT OVERVIEW

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The UDA1334A I2S DAC module offers a straightforward solution for adding high-quality audio output to your projects. It features a UDA1334A chip, which handles I2S audio decoding and provides a stereo line-level output. The module operates within a 3.3V to 5V supply voltage range and supports various I2S data formats.

### Key Features:

- I2S stereo DAC breakout board.
- Operating voltage: 3.3V to 5V.
- Supports classic I2S, 16-bit, 20-bit, or 24-bit left-justified data inputs.
- Built-in PLL for master clock generation (MCLK-less I2S compatible).
- Stereo line-level analog output.
- Mute pin and de-emphasis filter functionality.

### Package Contents:

- 2 x UDA1334A I2S DAC Decoder Modules
- 2 x Pin Headers

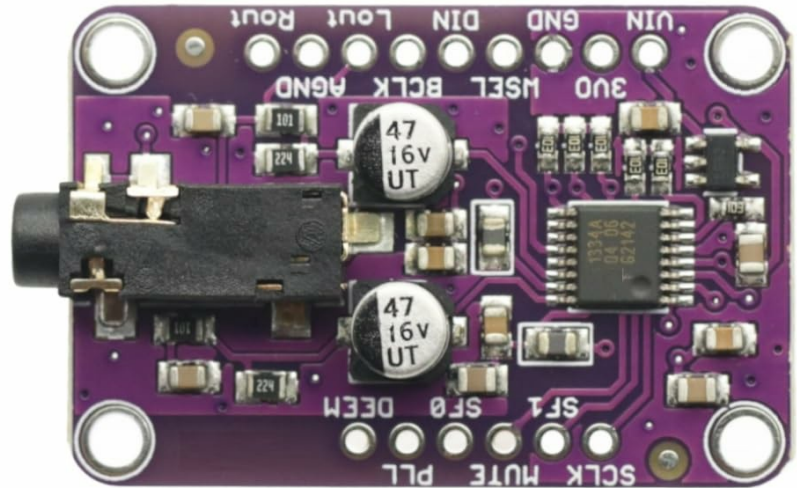
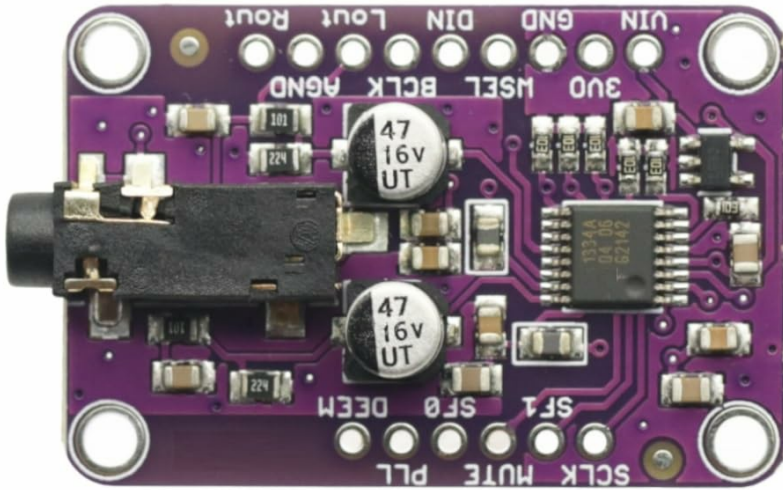


Image: Two UDA1334A I2S DAC Decoder Modules with pin headers, as included in the package.

### 3. SETUP INSTRUCTIONS

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Follow these steps to correctly connect and power your UDA1334A I2S DAC module.

#### 3.1 Pinout Diagram

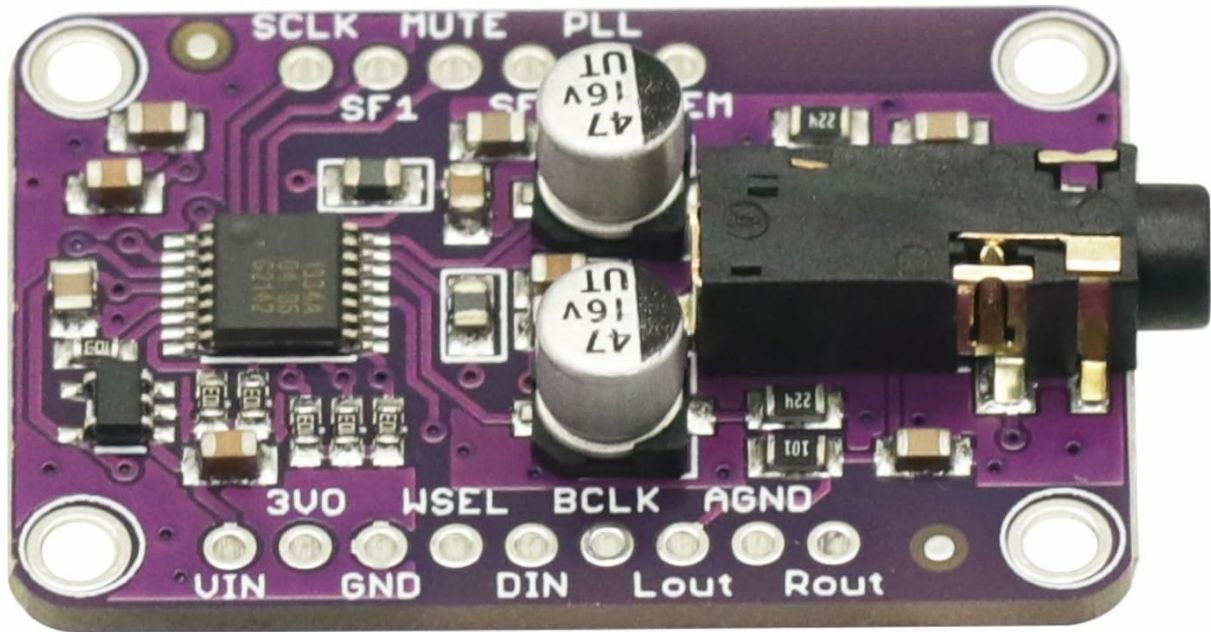


Image: Top view of the UDA1334A I2S DAC module, highlighting the various pin labels for connection.

### 3.2 Electrical Connections

Connect the module to your microcontroller or single-board computer using the following pin assignments:

- **VIN (VCC):** Connect to your power supply (3.3V to 5V DC).
- **GND:** Connect to the ground of your power supply and microcontroller.
- **DIN (Data In):** Connect to the I2S data output from your source device.
- **WSEL (Word Select / Left/Right Clock):** Connect to the I2S Word Select (WS) or Left/Right Clock (LRCK) output.
- **BCLK (Bit Clock):** Connect to the I2S Bit Clock (BCK) output.
- **Lout / Rout:** These are the analog stereo line-level outputs. Connect them to an amplifier or headphones.

The module is designed to generate its own master clock (MCLK) internally via a PLL, making it compatible with MCLK-less I2S interfaces, such as those found on the Raspberry Pi.

### 3.3 Optional Connections

- **MUTE:** This pin can be used to mute the audio output. Pulling this pin HIGH will mute the output.

- **DEEM (De-emphasis Filter):** This pin can enable or disable a de-emphasis filter. Refer to the UDA1334A datasheet for specific usage.
- **SF0, SF1:** These pins are used to set the data format. By default, the module is configured for classic I2S. Refer to the UDA1334A datasheet for alternative data format configurations (16-bit, 20-bit, 24-bit left justified).

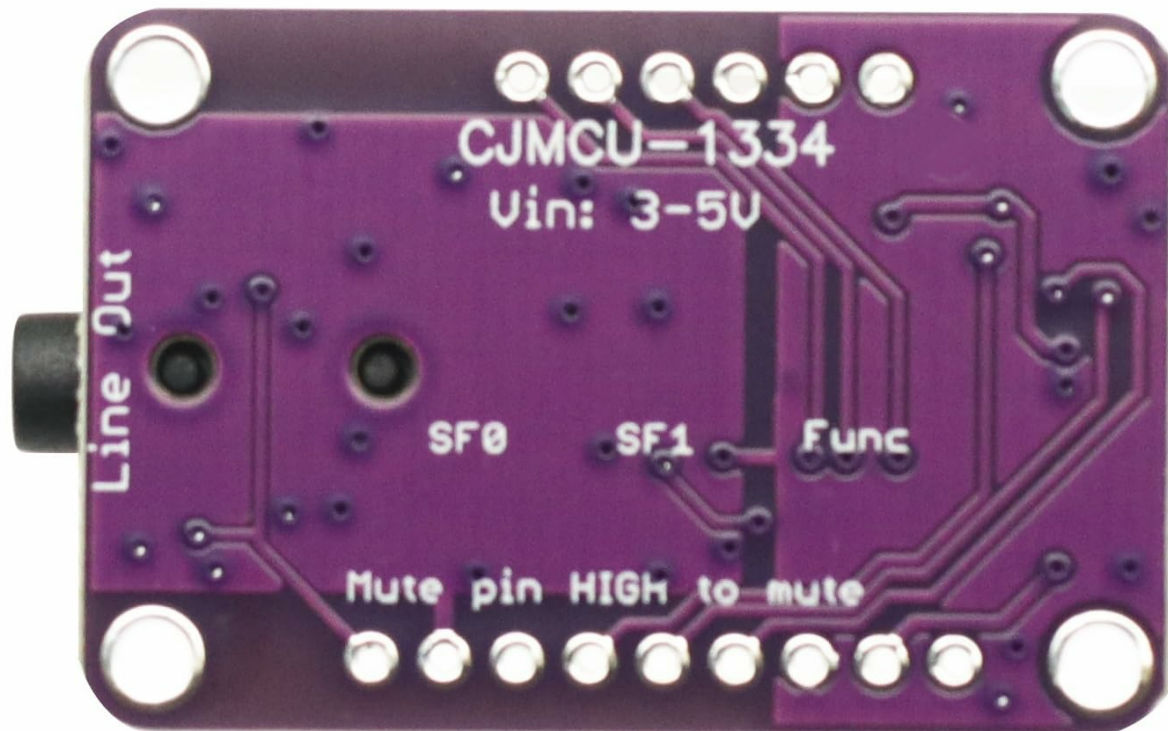


Image: Bottom view of the UDA1334A I2S DAC module, indicating the 'Mute pin HIGH to mute' label.

## 4. OPERATING INSTRUCTIONS

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Once connected, the UDA1334A module will process incoming I2S audio data and provide an analog stereo output. Ensure your source device is configured to output I2S audio.

### 4.1 Audio Data Formats

The module supports various I2S input formats. By default, it operates with classic I2S. For other formats such as 16-bit, 20-bit, or 24-bit left-justified data, you may need to adjust the SF0 and SF1 pins according to the UDA1334A datasheet. Most common applications will use the default settings.

### 4.2 Clock Generation

The module includes an internal Phase-Locked Loop (PLL) that generates the necessary master clock (MCLK) from the incoming I2S signal. This eliminates the need for an external MCLK signal from your source device, simplifying integration, especially with devices like the Raspberry Pi.

### 4.3 Mute Function

To temporarily silence the audio output, connect the MUTE pin to a HIGH logic level (e.g., 3.3V or 5V, depending on your system's logic level). Releasing or connecting the MUTE pin to LOW will enable audio output.

## 5. SPECIFICATIONS

Feature	Specification
Model Number	CJMCU-1334-002
Operating Voltage	3.3V - 5V (DC)
Interface Type	I2S
Number of Channels	2 (Stereo)
Supported Data Formats	Classic I2S, 16-bit, 20-bit, 24-bit Left Justified
Dimensions	Approx. 3.6 x 2.6 cm (1.42 x 1.02 in)
Material	Circuit Board, Electronic Components
Manufacturer	GODIYMODULES

## 6. MAINTENANCE

To ensure the longevity and optimal performance of your DAC module, observe the following maintenance guidelines:

- **Handling:** Always handle the module by its edges to avoid touching components, especially the integrated circuit.
- **Static Discharge:** Electronic components are sensitive to electrostatic discharge (ESD). Use appropriate ESD precautions when handling the module.
- **Environment:** Store and operate the module in a dry, dust-free environment. Avoid exposure to extreme temperatures or humidity.
- **Cleaning:** If necessary, gently clean the module with a soft, dry brush or compressed air. Do not use liquids or solvents.
- **Power Supply:** Ensure your power supply is stable and within the specified voltage range (3.3V-5V) to prevent damage.

## 7. TROUBLESHOOTING

If you encounter issues with your UDA1334A I2S DAC module, consider the following troubleshooting steps:

- **No Audio Output:**
  - Verify all power (VIN, GND) and I2S signal connections (DIN, WSEL, BCLK) are secure and correct.
  - Check if the MUTE pin is accidentally pulled HIGH.

- Ensure your source device is actively outputting an I2S audio signal.
- Confirm the analog output is connected to a working amplifier or headphones.
- **Poor Sound Quality (Choppy/Clipping):**
  - Check the stability of your power supply. Fluctuations can affect audio quality.
  - Ensure I2S signal integrity. Long or unshielded wires can introduce noise.
  - Verify that the I2S data format settings (SF0, SF1 pins) match the output of your source device.
  - Test with a different I2S source or a known good audio setup to isolate the problem.
- **Module Not Powering On:**
  - Double-check VIN and GND connections for correct polarity and voltage.
  - Ensure your power supply is providing sufficient current.

## 8. WARRANTY AND SUPPORT

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For warranty information or technical support, please refer to the retailer or manufacturer's official website. Keep your purchase receipt as proof of purchase.

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