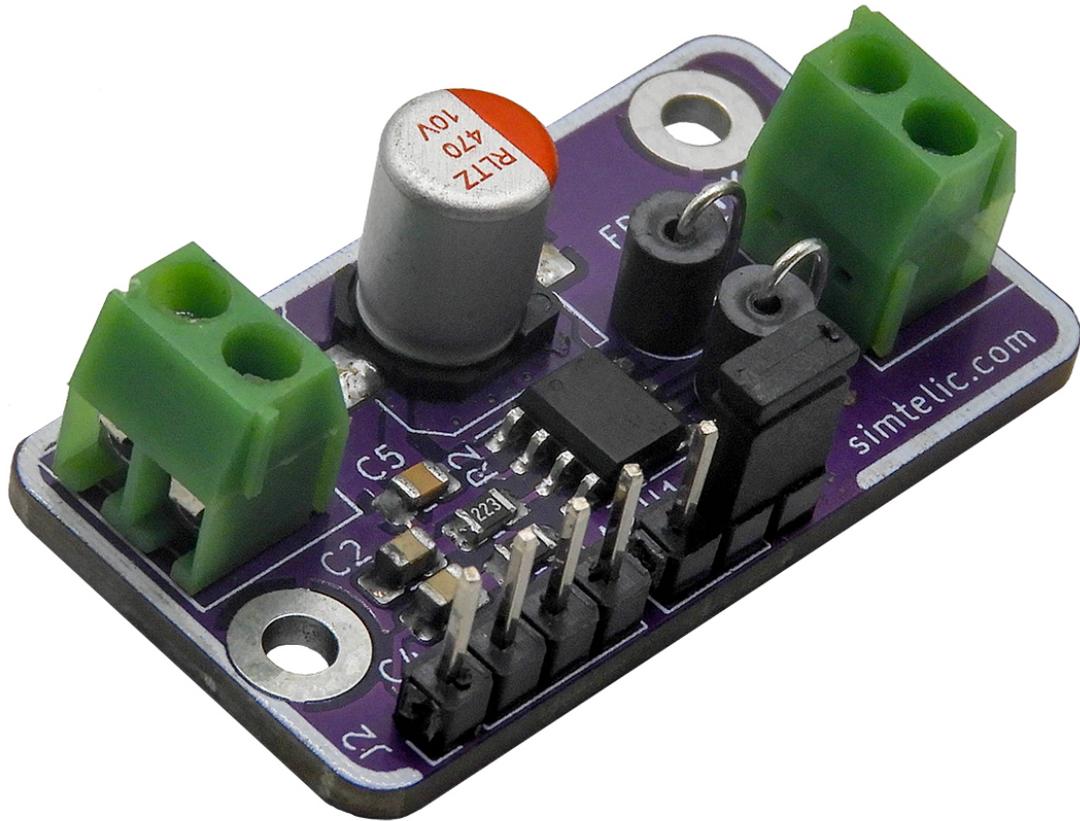


Simtelic



7.5W AF Power Amplifier

Thank you for purchasing this Simtelic module.

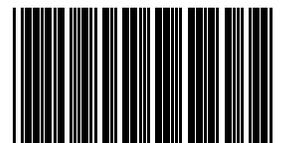
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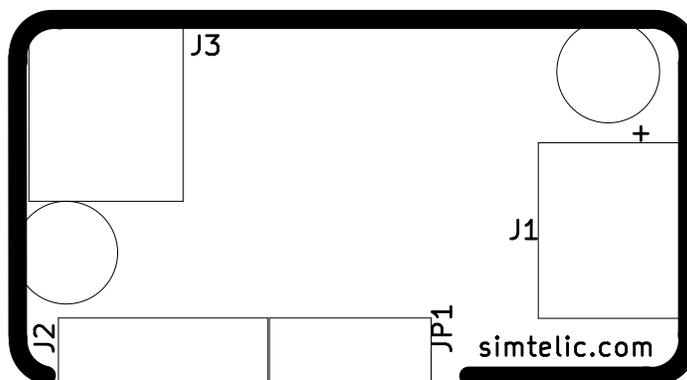
Introduction

This versatile mono audio power amplifier module delivers 7.5W of clean amplification to your sound projects. Designed for portability and ease of use, it operates on a low voltage range of 2.5V to 8V, making it perfect for battery-powered applications.

- **Class AB or Class D Operation:** Choose between two amplifier classes with a simple jumper setting. Class AB offers high fidelity sound, while Class D provides improved efficiency for battery life.
- **Dual Input Modes:** Supports both differential and single-ended input signals, providing flexibility for various audio sources.
- **Compact Design:** The small form factor allows for easy integration into space-constrained projects.
- **Low Voltage Operation:** Ideal for battery-powered applications, functioning within a range of 2.5V to 8V.

Identify connectors and adjustments

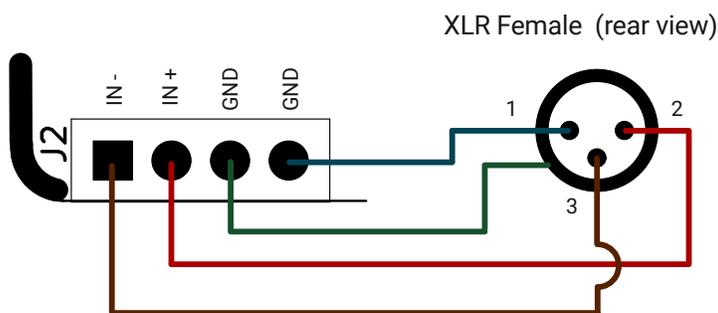
Top Side



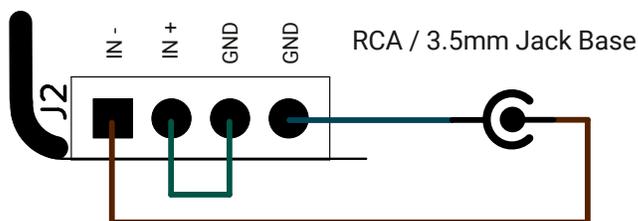
J1 - Screw terminal to connect 8Ω or 4Ω speaker

J2 - Audio input terminal

Wiring layout for differential (balance) input mode:



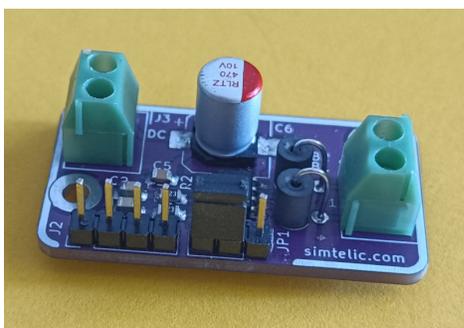
Wiring layout for single-ended input mode:



J3 - Power input. Connect a power supply or a battery with a minimum output of 2.5V and a maximum output of 8V, capable of delivering 1.5A current.

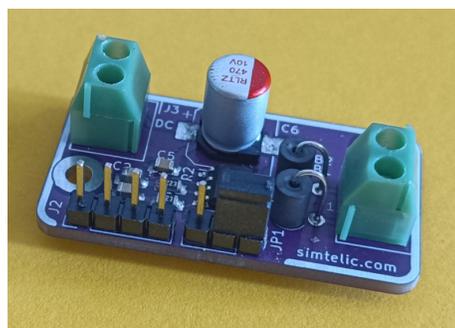
JP1 - Class AB / Class D selection jumper

Class AB mode



When operating in Class AB mode, the amplifier can achieve a maximum efficiency of 60%, and output a maximum power of 6W when connected to an 8Ω speaker.

Class D mode



When operating in Class D mode, the amplifier can output a maximum power of 8W while achieving a maximum efficiency of 90% when connected to an 8Ω speaker with the internal boost circuitry turned on.



For stable and oscillation-free audio output, it is advised to set the jumper to either class AB or class D mode. Leaving the jumper open (in a floating state) is not recommended. You can find all possible jumper configurations in this table:

Selection	Mode
1 - 2	Class D
2 - 3	Class AB

Initial setup and configurations

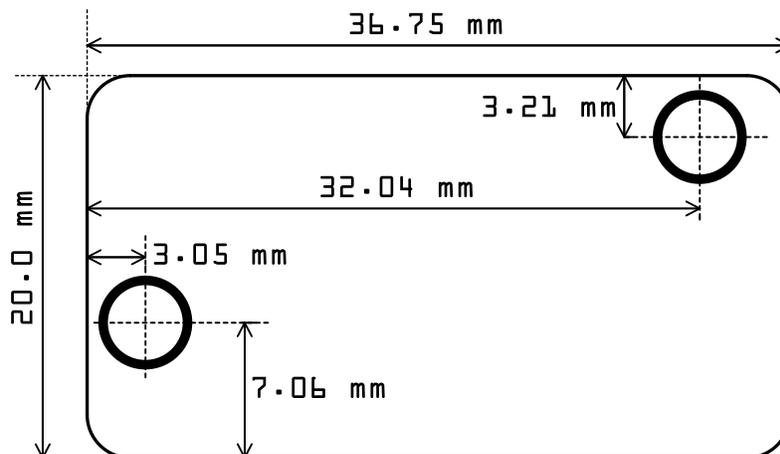
To set the operating mode of the amplifier module, you need to set the JP1 jumper to either class AB or class D. Next, connect a power supply or battery assembly to the J3 screw terminal, which can deliver 2.5V to 8V with a current of 1.5A.

Now, connect an 8Ω or 4Ω speaker into the J1 screw terminal. Make sure that the speaker can handle at least 1W of audio output power.

Depending on the input audio source, you will need to connect either a balanced line input or a single-ended audio source into J2. Wiring layouts for both balanced line and single-ended connections are available.

Module specification

1. Dimensions of the module (width × height)..... 36.75mm × 20.0mm
2. Weight (with mode selection jumper)..... 6.1g (± 0.2g)
3. Average power consumption (with 8Ω load in class D mode)..... < 1.25Wh
4. Working voltage..... 2.5V - 8.0V DC



Simtelic (Pvt) Ltd. cannot be held responsible in the event of damage or injury resulting from (incorrect) use of this module.

The continuous improvement of its products is the policy of Simtelic (Pvt) Ltd. who reserve the right to improve design without notice.

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