25W Class D Amplifier Instructions

Specifications:

- Input voltage range: 4.5-24V DC
- Efficiency: 90% max.
- Power output: 2x25W(8Ω) 2x50W(4Ω) @ THD:10%
- Standby current: 50mA.
- Sensitivity: 1Vp-p.
- Gain: 32dB/20dB
- Input impedance: 15KΩ.
- Maximum load: 1.6Ω.
- Input: Single-ended

Warnings:

Be careful when handling the amplifier board. If you do not have an ESD mat, a wrist band or other antistatic device, please avoid touching any of the electronic components on the board. The components could be easily damaged by a static shock. Please only hold the board by either the terminals or the edge of the board.

This amplifier is protected for undervoltage, overvoltage and shorted output errors. However, to avoid damaging the amplifier, do not do any of the following:

- Ensure that the polarity of the supply is correct.
- Ensure that the input voltage is below 22V.
- Ensure there is always a suitable load connected.

If any of these conditions occur, the amplifier may be permanently damaged. If this happens, I am happy to repair the amplifier free of charge (if possible) provided you pay for return postage.

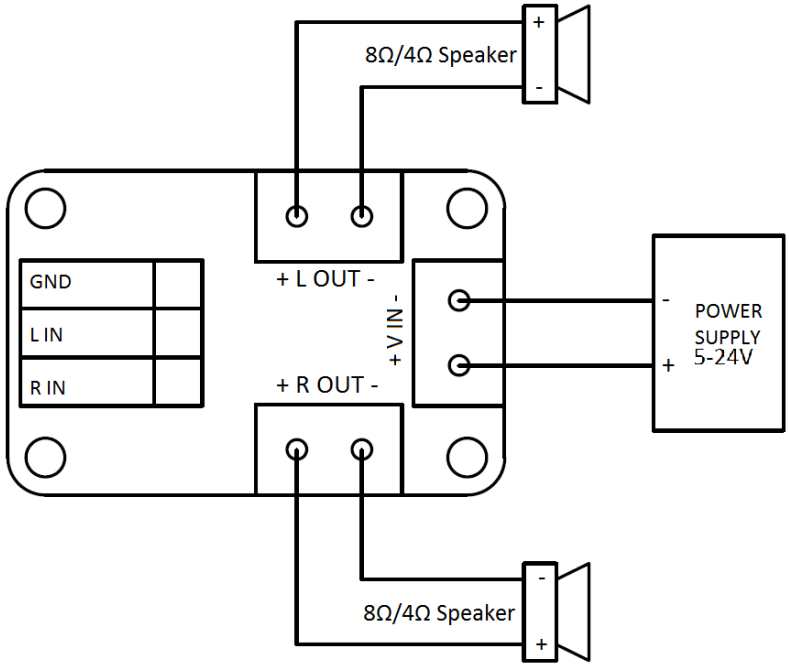
Power supply considerations:

This amplifier has been designed primarily for portable applications, so it is suited well to be battery powered. It will happily run from Lead Acid, NIMH etc… cells, although Lithium Polymer cells are ideal due to the smaller size and high output current capability. A 3300mAH 3s Li Po will generally give a run time of over an hour at high volume.

If using a power supply as opposed to a battery, then it must have an output of 5-24V at current of at least 2A to get the most power out of the amplifier. Lower input voltages will give lower power output. Laptop ‘power bricks’ are often ideal and I have tested them without issue. However, switching supplies such as these can have noisy outputs, so if buzzing is apparent in your amplifiers output then something such as an LC filter may be required on the power input to filter out any unwanted harmonics. I have been using a laptop power brick rated at 15V and 3A which works perfectly.

If the amplifier starts clipping at higher volume, check that the supply can handle the current drawn by the amplifier. Also check that the input voltage is sufficient.

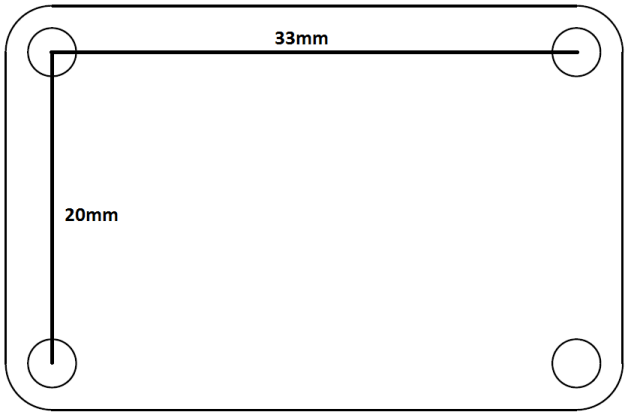
The diagram below illustrates how the amplifier should be connected:



The included audio input cable has a 3.5mm jack on one end and a 3-way female header on the other. The 3.5mm jack is to connect to your audio input device, and the header connects to the amplifier. Orientate the header of the input cable so that the black wire corresponds with the pin labelled 'GND' on the amplifier. Note that the 'GND' pin is common with ground on the amplifier.

Mounting:

Mount the amplifier on M3 Nylon standoffs. Do not use metal items as these may damage the board and cause shorts. The minimum standoff length is 6mm although 8mm is recommended. The holes on the board are 33mmx20mm (1.3"x0.78") apart in a rectangular format.



If you experience any problems or have any questions, feel free to email me at pipistrelpanthera@gmail.com or call me on 447523394961 (UK number) and I will be happy to help.