

User Guide

Low Voltage Amplifier

Model No: LVAMP-1

1. Introduction

LVAMP-1 is a Class D amplifier which has a high power efficiency, generating less heat and therefore not requiring a heatsink.

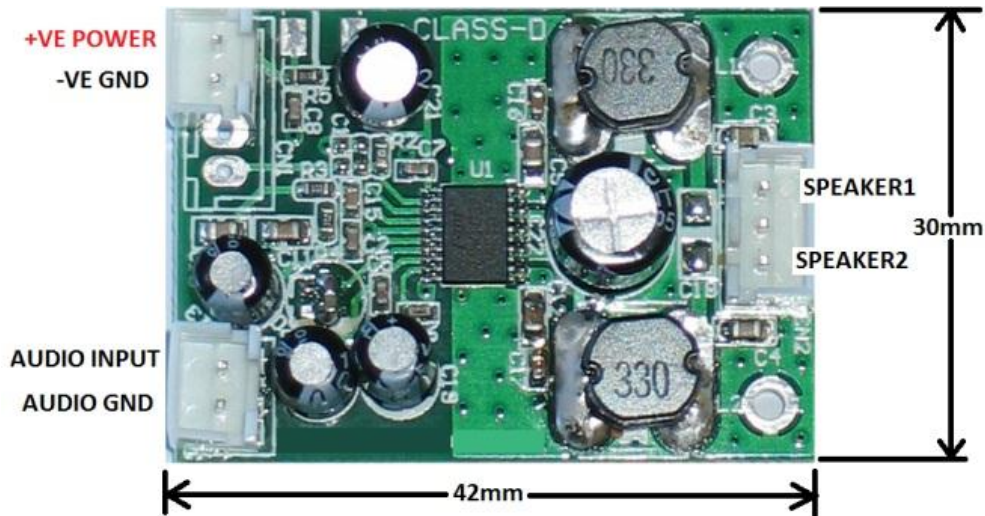
2. Features

- Output Power:
Maximum 15W at $R_L = 6\Omega$, $V_{CC} = 15V$,
10W at $R_L = 4\Omega$, $V_{CC}=12V$
- Power efficiency is up to 82%
- Working voltage down To 5V, and up to 15 V
- Thermal Protection function
- Output Pin Short-Circuit Protection
- Low Supply Current (5mA Typical at 12Volts)
- Low Current in Shutdown Mode (<1 μ A Typical)
- Class-D audio design
- No external heat-sink, less heat, saves heat sink cost
- Dimensions - only 42mm \times 30mm

3. Parameters

PARAMETER	Test Condition		MIN TYP MAX	UNIT	
Power Out (MAX)	$R_L=4\Omega$	15V	Not Allowed		Watts
		12V	10.5		
		9V	6.2		
Continuous output power (rms) at 1kHz	$R_L=6\Omega$	15V	MAX 15		Watts
		12V	9.6		
		9V	5.4		
	$R_L=8\Omega$	15V	13		Watts
		12V	8.2		
		9V	4.5		
S/N	Maximum output at THD+N < 0.5%, f=1kHz		85		dB
Working Voltage			5 12 15	V	

4. Connections and Dimensions



5. Included Cables and Wiring Instructions

There are three cables included with the low voltage amplifier - power, loudspeaker and audio input. The cables appear as follows :-

Power cable – red/black with white 2 pin plug on each end.



Use this cable to connect the VDD and GND pins to a battery between 5Volts and 15Volts maximum.

The included 2 pin receptacle on the free end can be used if it is useful in your system, or its plug can be cut off and the wires soldered directly into your system if you prefer. This also applies to the red/white loudspeaker cable.

Use a switch to switch the amplifier power on and off.

Loudspeaker cable – red/white with white 3 position plug on each end – centre pin is not used.



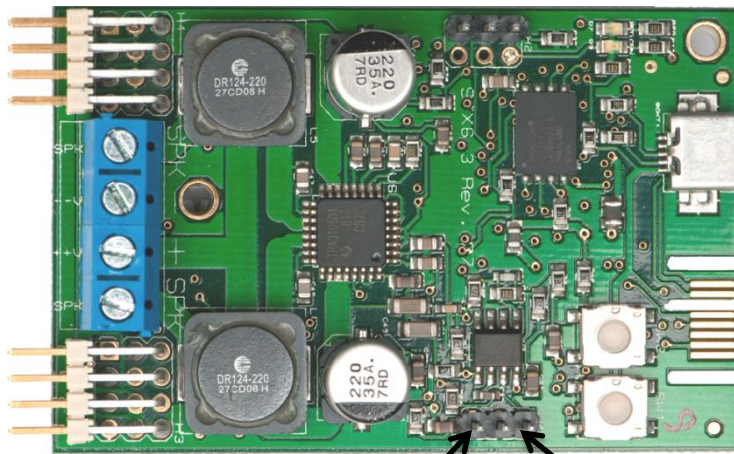
Use this cable to connect the SPEAKER+ and SPEAKER- pins to a loudspeaker between 4 and 8 ohms impedance. If powered at higher than 12Volts, 4 Ohm speakers should not be used. At lower voltages, a 4 Ohm speaker will get more power out of the amplifier.

Audio input cable – red/black with a white two pin plug on one end and a Futaba style servo plug on the other.



Use this cable to connect the AUDIO input and GND pins to a SFX6 sound module. This cable is designed for use with the SFX6 sound module and the signal levels have been optimized between the sound module and the amplifier. Route this cable away from any motor or ESC or any other source of electrical interference.

Plug the black Futaba style servo connector to the SFX6 sound module as follows :



Audio Output Pins **Black Wire** **Red Wire**