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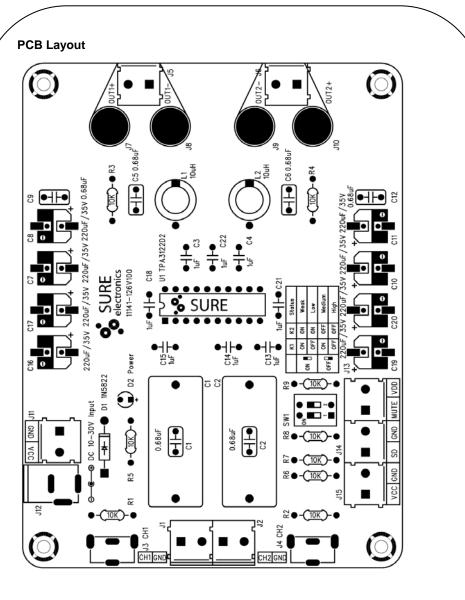
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Overview

This is a Class-D audio amplifier kit designed to make use of the TPA3122D2 power amplifier IC. Completing this kit, you will have a fully functional, dual-channel audio amplifier. This amplifier is capable of delivering up to 15W per channel (8Ω at 28V) and can be powered by a wide range of 10V to 30V. Gain can be selected via a 2-slide switch from weak(20dB), low(26dB), medium(32dB) or high(36dB). The efficiency of TPA3122D2 eliminates the need for an external heat sink when playing music. All components are through-hole and easy to be soldered on the PCB. This kit includes:

Item		Description	Quantity
Resistors	R1,R2,R3,R4,R5,R6, R7,R8,R9	10Kohm 1/4W	9
Capacitors	C1,C2,C5,C6,C9,C12	0.68uF(684K) mylar	6
	C3,C4,C13,C14,C15, C18,C21,C22	1uF(105) monolithic	8
	C7,C8,C10,C11,C16, C17,C19,C20	220uF 35V electrolytic	8
Inductors	L1,L2	10uH 3A	2
Amplifier Chip	U1	TPA3122D2 20-pin DIP package + 20-pin IC socket	1
Diode	D1	1N5822 3A 40V	1
LED	D2	3mm Green	1
Printed Circuit Board		121.90(L) × 91.40(W) × 1.60(H) ±0.20mm	1
DC Input Jack	J12	DJ005B 3pin	1
2-Slide Switch	SW1	2.54mm pitch	1
RCA Sockets	J3,J4	red (J3), white (J4)	2
Accessory	-	3.5 to RCA Cable	1

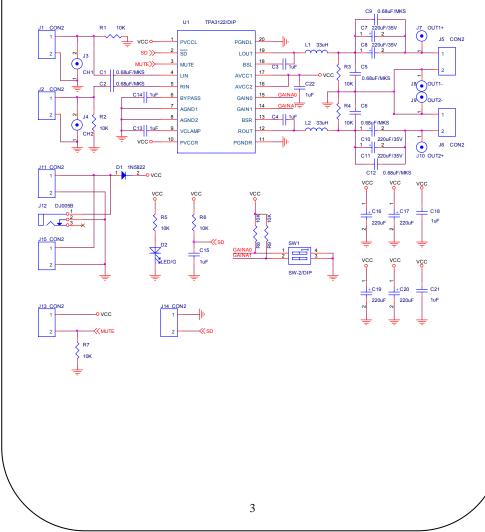Note: As to audio signal output, we don't provide components which should be prepared by users themselves.

PCB Layout

Some interfaces are reserved on the PCB providing another way of input and output, such as audio signal input (J1, J2), audio signal output (J5, J6) and power input (J11). What you need to do is to get some screw terminals and solder them. Except J5 and J6, you can also install banana jacks in J7, J8, J9 and J10 to output audio signal.

Circuit Diagram