



**2 x 8 Watt Class D Bluetooth
Audio Amplifier Board
TSA2110A
User's Guide**

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NOTES:

Product Version: V1r2

Document Version: v1.0

Chapter 1. Overview

1.1 Overview

This is a 2x8W audio amplifier board with Bluetooth 4.0 integrated. It has perfect class-D architecture(Based on TPA3110D2) and each channel has 8W power output. This board can be powered by any DC8V-16V power supply. It can be used to drive any 4Ω or 8Ω passive speakers. It's perfect for your Hi-Fi application.

FIGURE 1-1 FRONT VIEW



1.2 Features

- Working Voltage: DC8V~16V
- AMP Type: Digital Class D
- 8W output power per channel
- Bluetooth 4.0
- Over/under voltage protection
- Over current protection
- Over temperature protection
- Entrance: Screw terminals
- Weight: 0.025 kg
- Dimensions: 80 x 48 x 17 mm

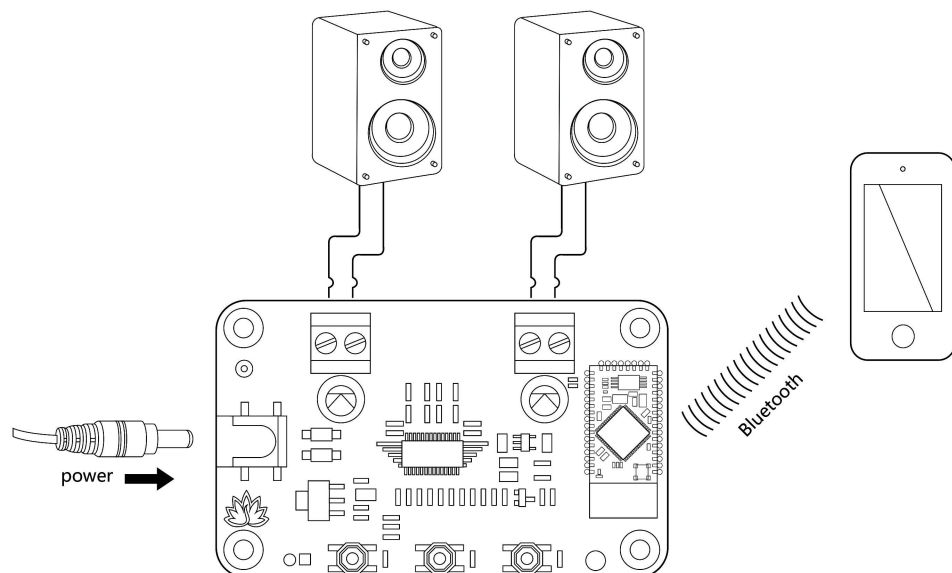
1.3 Applications

- Personal computer
- Desktop amplifier
- Microphone preamplifier
- Home DIY
- Vending machine, Lifts
- Interactive kiosks

1.4 Quick Start

Suggested connection is shown in figure 1-3.

FIGURE 1-3 CONNECTION DIAGRAM



Chapter 2. Hardware Detail

2.1 Power Connection

To power the amplifier, please use jack J3. Pay attention to the connector type, it must be positive inside and negative outside.

FIGURE 2-1 Power CONNECTION

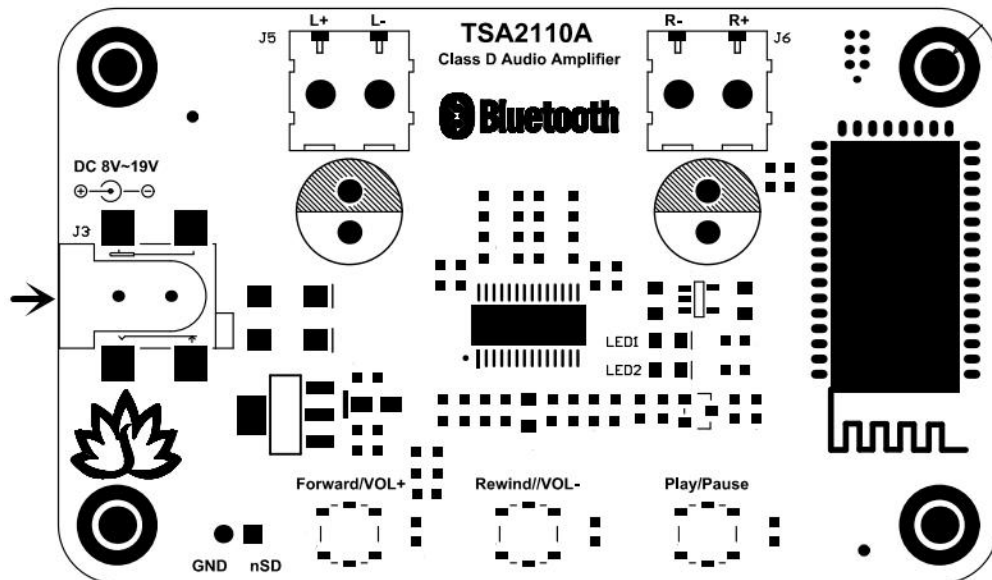


TABLE 2-1 POWER CONNECTION

Connector Mark		Description
Jack	J3	DC power supply socket

Note: The minimum supply voltage shall be referred to Chapter 3.

2.2 Output Connection

You can use terminals to output audio signal.

FIGURE 2-2 OUTPUT CONNECTION

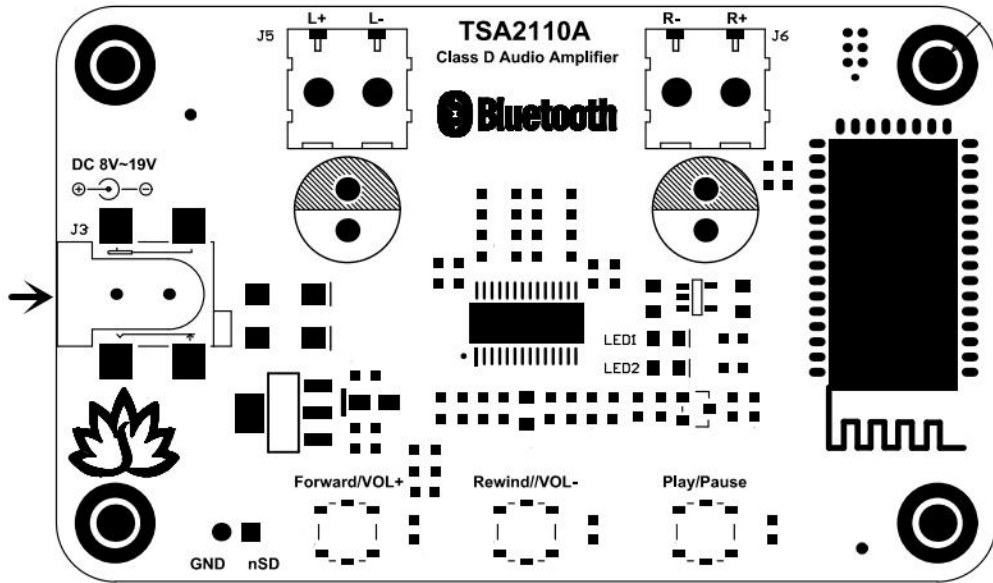


TABLE 2-2 OUTPUT CONNECTION

Connector Mark		Description
Terminal Blocks	J5	Output of Channel Left
	J6	Output of Channel Right

Note:

1. Never connect more than one group of speaker to the audio output.
2. Never connect L- and L+ together since they belong to different NETs.

2.3 LED Indicator

The amplifier has 2 LED indicators to indicate its working status.

FIGURE 2-3 LED INDICATOR

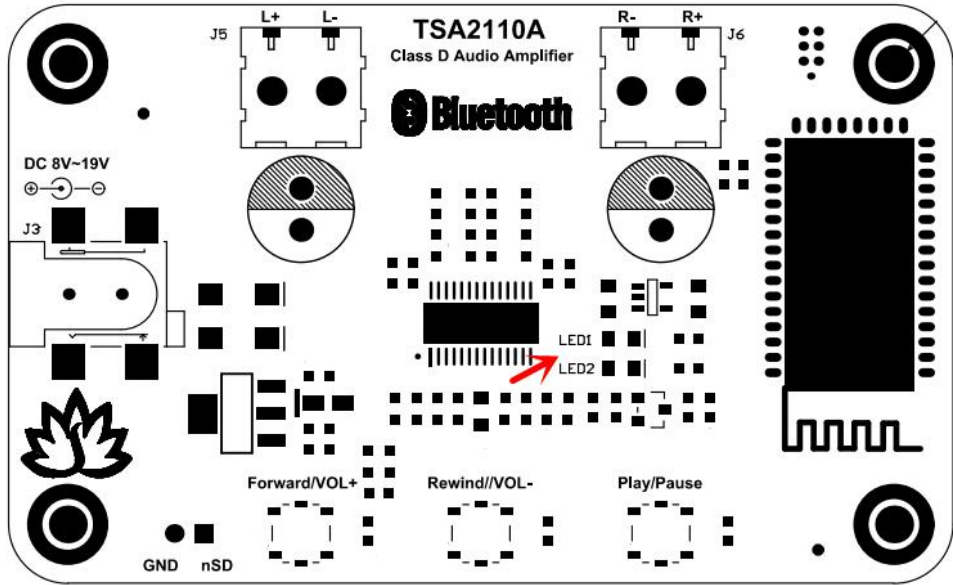
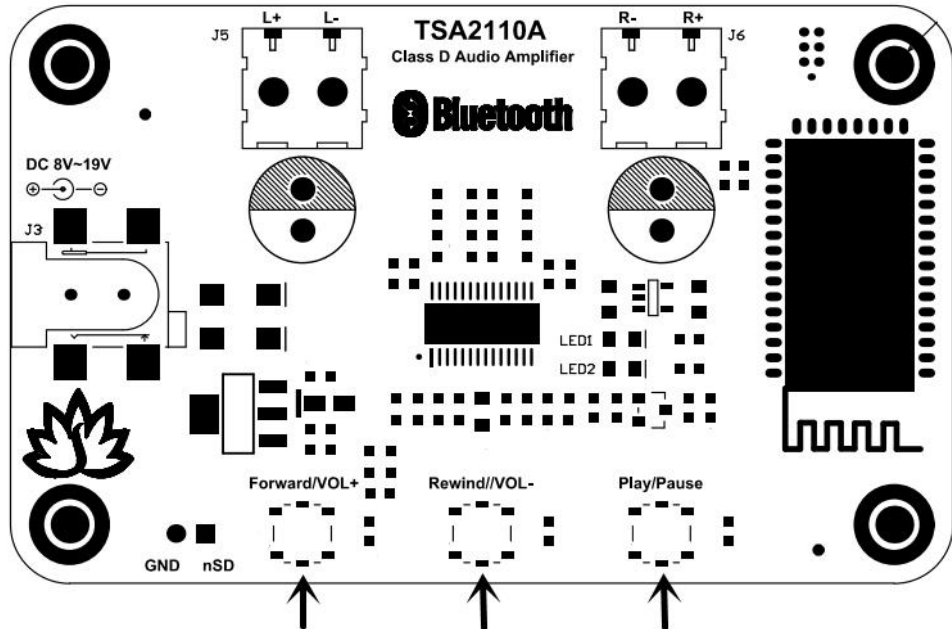


TABLE 2-3 LED INDICATOR

LED Status		Board Status
LED1	LED2	
OFF	OFF	Not powered
Flash	Flash	Powered, no device connected
OFF	Flash	Powered, device connected

2.4 Volume Control



There are 3 buttons on the board: Forward/VOL+, Rewind/VOL- and Play/Pause.

Forward/VOL+: Long press the button to increase the volume, short press the button to play the previous song.

Rewind/VOL-: Long press the button to decrease the volume, short press the button to play the next song.

Play/Pause: Click the button to play or pause the music.

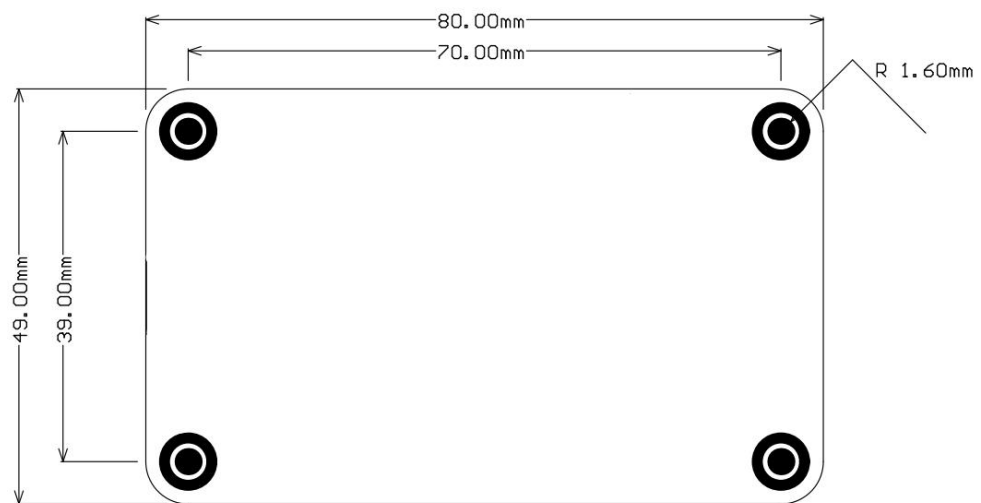
Chapter 3. Electrical Characteristics

Following table lists all typical data of the Amp board. TA = 20°C, fIN = 1 kHz sine wave, RL = 4Ω. (Unless otherwise stated)

Parameter	Condition	Min	Typ	Max
Supply Voltage (V)	-	8	12	16
Quiescent Current (mA)	SD = 2V, No load, Vcc = 12V	-	20	35
Input Sensitivity (V)	Gain = 26dB	-	0.283	-
Input Impedance (Kohm)	-	-	30	-
Gain (dB)	-		26	
Output Power (W rms)	THD+N = 10%, Vcc = 12V	-	8	-
Efficiency (%)	Vcc = 12V, RL = 8Ω, PO = 5W	-	86	-
Minimum Load (ohm)	-	3.2	4	-
Frequency Response (Hz)	±3dB	20	-	22k
Operating Temperature (°C)	-	-40	20	65

Chapter 4. Mechanical Drawing

FIGURE 4-1 MECHANICAL DRAWING



Chapter 5. Contact Us

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