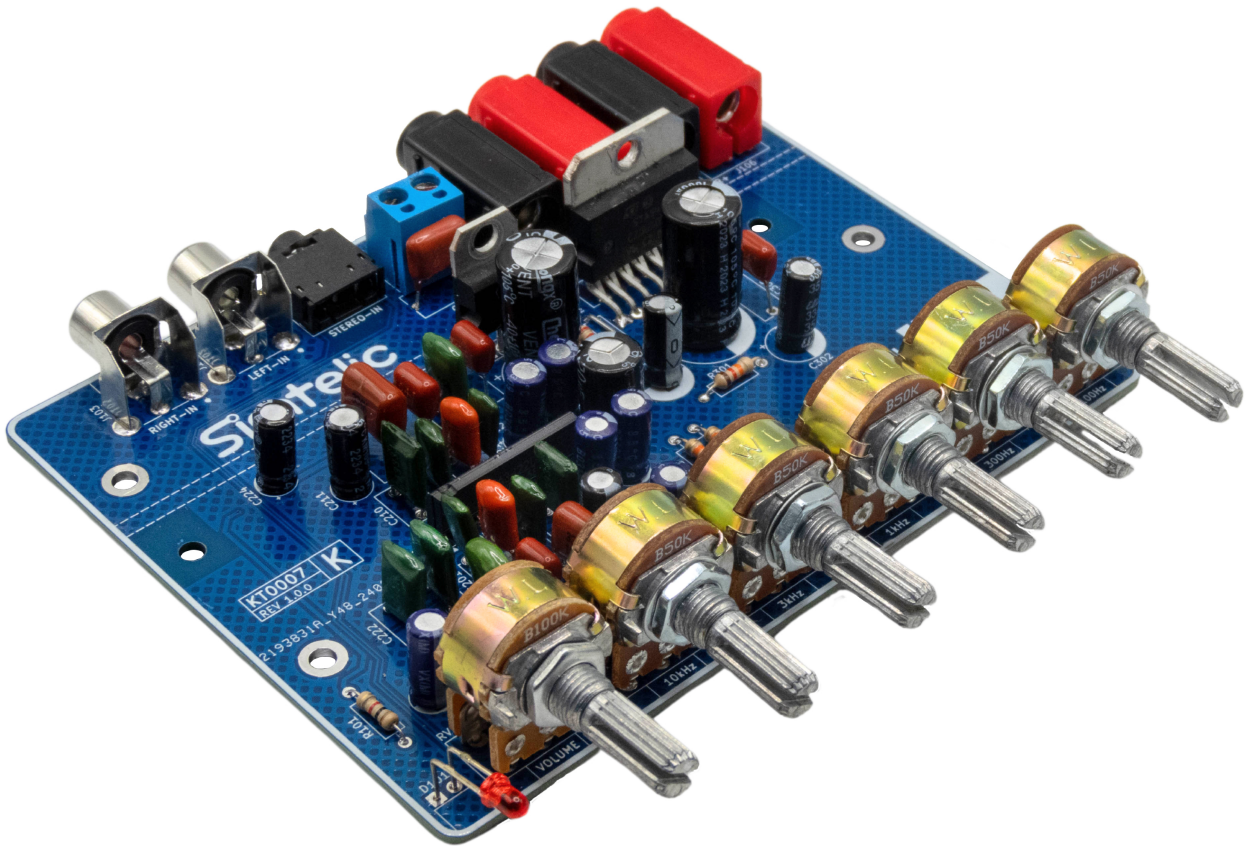


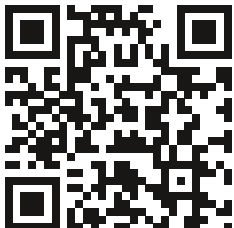
# Simtelic



## STA540 Stereo Power Amplifier

Thank you for purchasing this Simtelic DIY Electronic Kit.

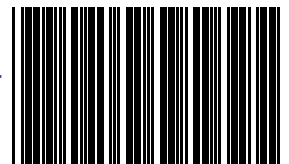
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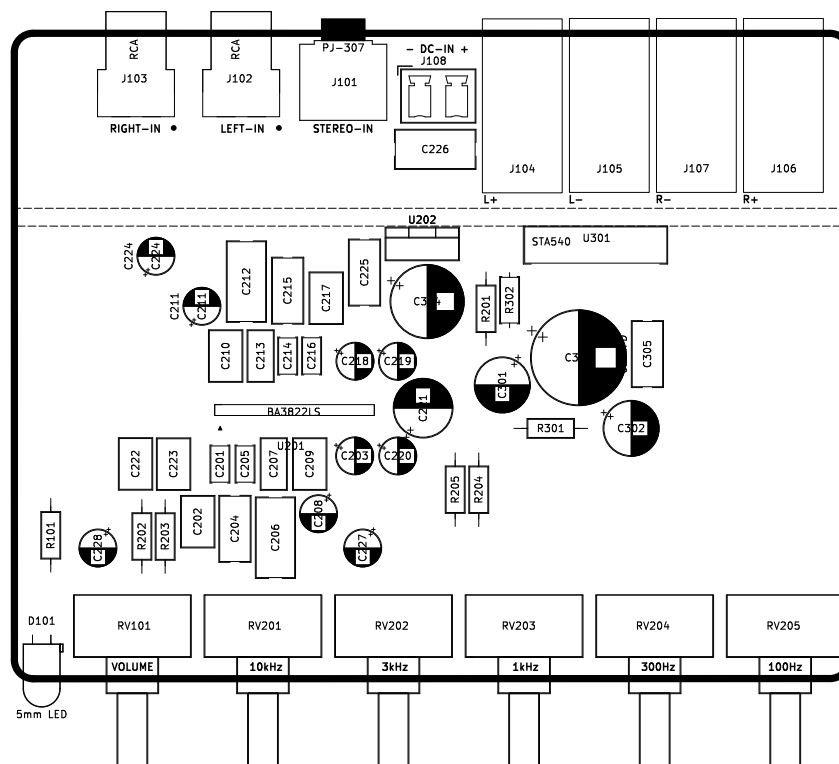
# Introduction

Elevate your audio experience with the Sonic Boom STA540 Amplifier Module. This powerful and versatile module, part of our medium-range amplifier series, delivers exceptional sound quality and customization options. With its compact size and easy-to-use design, this module offers a convenient and powerful way to amplify your audio signals.

- **High-Performance STA540 Chip:** The heart of the module, the STA540 chip, ensures superior audio performance and direct compatibility with popular TDA7375 and TDA7377 power amplifier ICs.
- **High 5-Band Analog Graphic Equalizer:** Take control of your sound with a precise 5-band graphic equalizer. Adjust frequencies ranging from 100Hz to 10kHz to tailor the audio output to your specific preferences.
- **Wide Voltage Range:** The module is designed to operate seamlessly with 12V to 18V DC power sources, making it suitable for various applications.
- **Standard interfaces:** Audio input can be given with 3.5mm audio jack or RCA jacks and speakers can be connected with banana jacks
- **Applications:**
  - Professional audio system
  - Home theater systems
  - Speaker systems
  - Computer and AV system

# Identify connectors and adjustments

## Top Side



**J101** - Stereo Audio In.

**J102** - Left Channel Audio In.

**J103** - Right Channel Audio In.

**J104** - Right Channel Audio In.

**J105** - Right Channel Audio In.

**J106** - Right Channel Audio In.

**J107** - Right Channel Audio In.

**J108** - DC In.

**RV101** - Volume controller.

**RV201** - 10kHz Adjustment.

**RV202** - 3kHz Adjustment.

**RV203** - 1kHz Adjustment.

**RV204** - 300kHz Adjustment.

**RV205** - 100kHz Adjustment.

C201,C216 .....	0.001 $\mu$ F/50V	(THT)
C202,C217 .....	0.03 $\mu$ F/50V	(THT)
C203,C218,C219,C220,C227,C228 .....	4.7 $\mu$ F/50V	(THT)
C204,C215,C225,C305 .....	0.1 $\mu$ F/50V	(THT)
C205,C214.....	0.0033 $\mu$ F/50V	(THT)
C206,C212.....	0.33 $\mu$ F/50V	(THT)
C207,C213.....	0.01 $\mu$ F	(THT)
C208,C211,C224.....	1 $\mu$ F/50V	(THT)
C209,C210.....	0.033 $\mu$ F/50V	(THT)
C221.....	220 $\mu$ F/50V	(THT)
C222,C223.....	0.022 $\mu$ F/50V	(THT)
C226.....	0.22 $\mu$ F/50V	(THT)
C301.....	47 $\mu$ F/50V	(THT)
C302.....	33 $\mu$ F/50V	(THT)
C303.....	1000 $\mu$ F/50V	(THT)
C304.....	470 $\mu$ F/50V	(THT)
D101.....	5mm LED	(THT)
J101.....	PJ-307	(THT)
J102,J103.....	RCA	(THT)
J104,J105,J106,J107.....	4mm Banana Socket	
J108.....	5.08mm 2-Pin	
R101,R202,R203.....	1k	(THT)
R201.....	220 $\Omega$	(THT)
R204,R205.....	22 $\Omega$	(THT)
R301.....	12 $\Omega$	(THT)
R302.....	0 $\Omega$	(THT)
RV101.....	100k $\Omega$ (LOG) Potentiometer	
RV201,RV202,RV203,RV204,RV205.....	50k $\Omega$ (LOG) Potentiometer	
U201.....	BA3822LS	
U202.....	L7809	(THT)
U301.....	STA540	

## How to use

1. Connect the full range speakers with J104, J105, J106 and 107
2. Connect Stereo audio source with either J101 stereo connector or using RCA connectors
3. Attached the DC power source to J108 screw terminals (please refer kit specifications)
4. Volume can be can adjustment using RV1 potentiometer and equalizer changes can be made with RV201, RV202, RV203, RV204 and RV201 potentiometers.

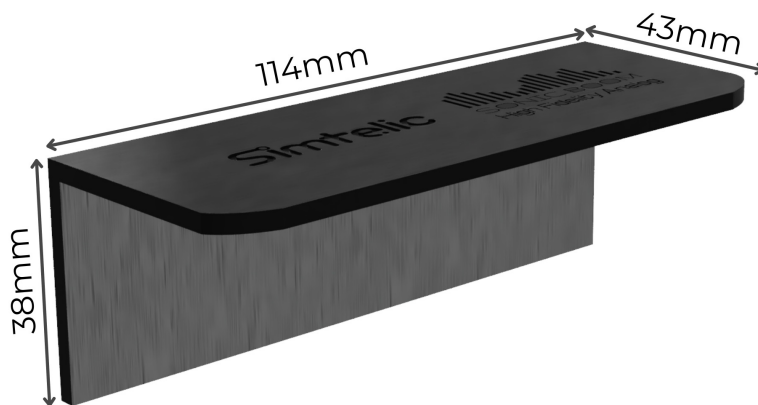


PCB assembly video : <https://youtu.be/AD2REp6pzNM>

Scan for the video

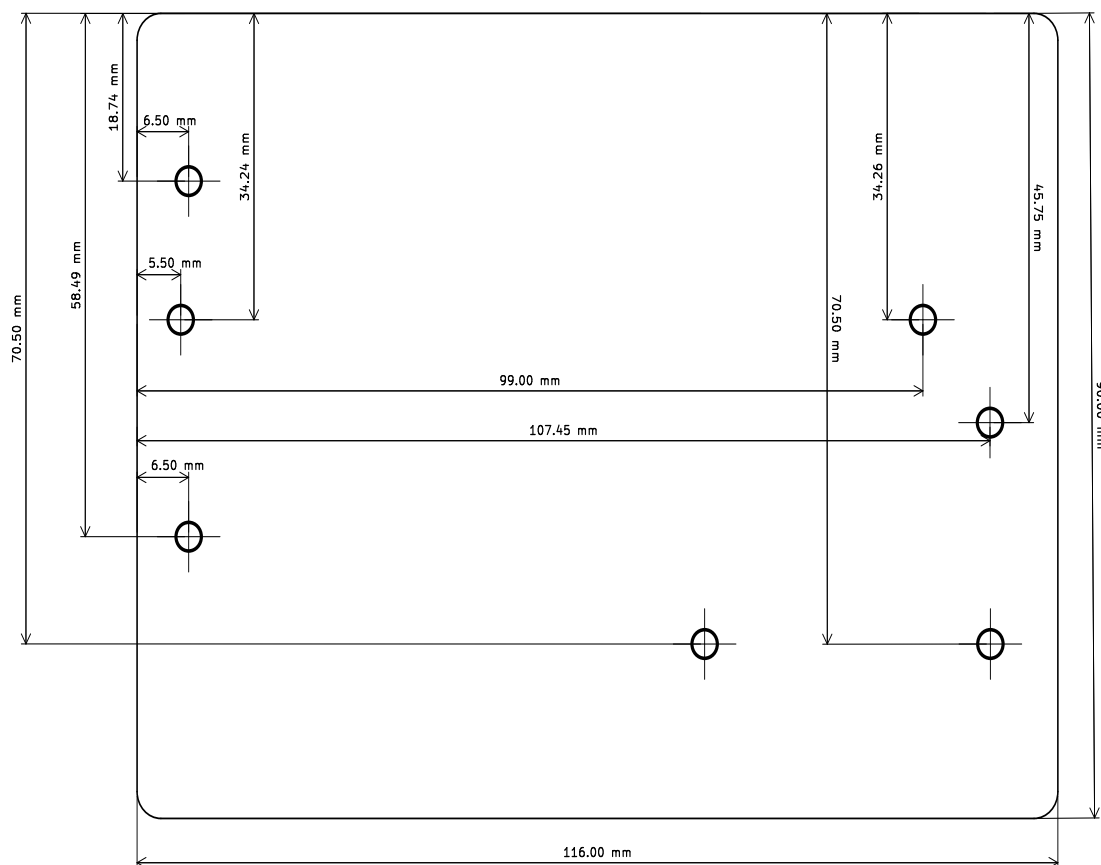


A suitable heat sink should be attached to both the STA540 and the voltage regulator. A recommended heat sink design is illustrated below. To maintain electrical isolation between the voltage regulator and the heat sink, the voltage regulator should be mounted using an insulating shoulder washer and a silicone insulation pad. The use of thermal paste is also recommended, as shown in the video.



## Kit specifications

Power supply.....	DC 15V - 20V / 1500mA
Gain.....	Approximately 20dB
Total harmonic distortion.....	0.3%
Frequency Response.....	20Hz - 20kHz
Audio output power.....	2 x 34W
Dimensions.....	116.00 x 90.00mm



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

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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