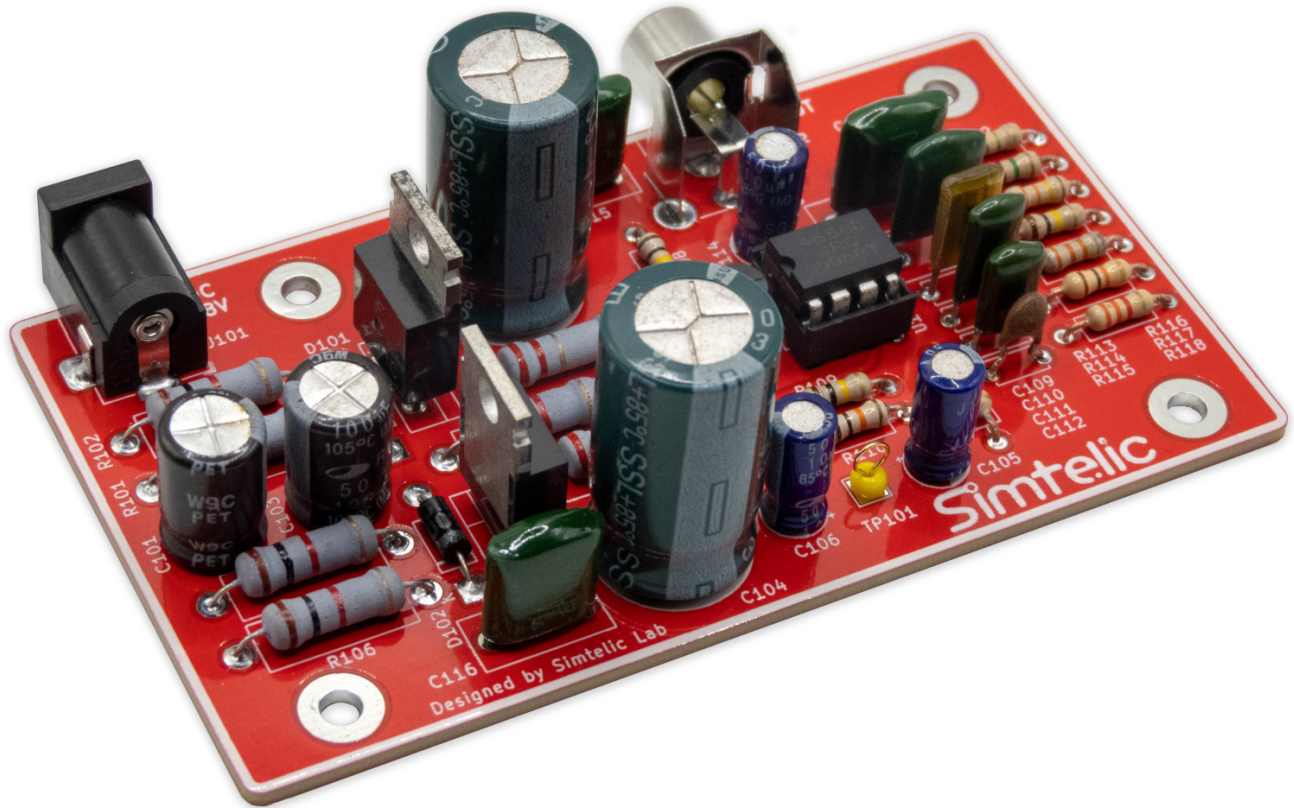


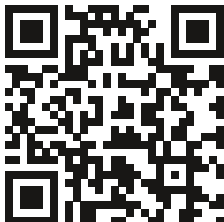
Simtelic



Pink Noise Generator

Thank you for purchasing this Simtelic module.

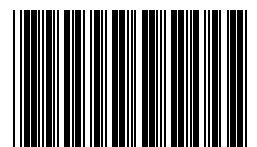
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LB0002

Introduction

This kit provides a simple yet effective DIY pink noise generator. It features a compact and user-friendly design that uses only three transistors and one operational amplifier. This makes it a cost-effective and educational way to explore the unique characteristics of pink noise. All components are through-hole, which ensures that assembly is straightforward and suitable for hobbyists of various skill levels.

Pink noise is a random signal characterized by a power spectral density that decreases with increasing frequency. It has various applications, including:

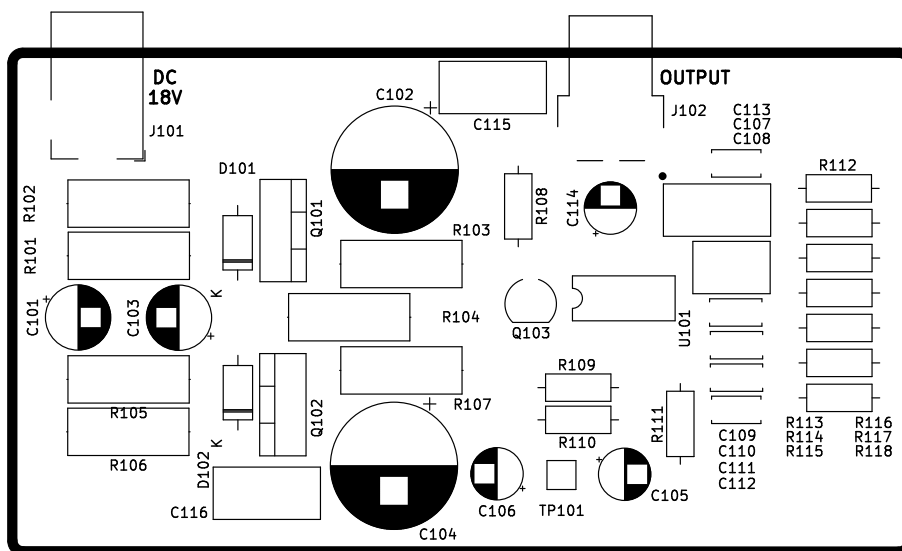
- **Speaker and System Evaluation:** Pink noise can be used to assess the frequency response of speakers, amplifiers, and entire audio systems.
- **Acoustic Measurements:** Acoustic measurements are employed in room acoustics analysis to identify resonances and evaluate sound diffusion.
- **Electronic Music:** Pink noise can be used as a sound effect or as a foundation for electronic music compositions.
- **Testing and Measurement:** In various fields, pink noise is used to test and calibrate electronic equipment.

This DIY kit includes all the components needed to build a compact and functional pink noise generator. It operates using a DC power supply ranging from 12V to 18V and features a single audio output that can be directly connected to a power-amplifier or pre-amplifier for further amplification and playback. This datasheet provides detailed instructions for assembly, troubleshooting, and using your completed pink noise generator.

LB0002

Identify connectors and adjustments

Top Side



J101 - DC 18V input

J102 - AF output

C101,C103	100 μ F/25V	(THT)
C102,C104	1000 μ F/25V	(THT)
C105,C106,C114	10 μ F/25V	(THT)
C107,C115,C116	0.1 μ F/50V	(THT)
C108	0.033 μ F/50V	(THT)
C109	0.01 μ F/50V	(THT)
C110	0.0033 μ F/50V	(THT)
C111	0.001 μ F/50V	(THT)
C112	330PF/50V	(THT)
C113	100PF/50V	(THT)
D101,D102	1N4007	(THT)
J101	5.5mm DC Jack Socket	
J102	RCA Jack Socket	
Q101	TIP31	(THT)
Q102	TIP32	(THT)
Q103	2SC945	(THT)
R101,R102,R104,R105,R106	1K Ω (5% 1W)	(THT)
R103,R107	2.2 Ω (5% 1W)	(THT)
R108,R109,R115	100K Ω	(THT)
R110,R111,R117	10K Ω	(THT)
R112	1.8M Ω	(THT)
R113	1M Ω	(THT)
R114	330K Ω	(THT)
R116	33K Ω	(THT)
R118	3.3K Ω	(THT)
TP101	Test pin (optional)	(THT)
U101	NJM4558	(THT)

All resistors are 5% 1/4W unless otherwise noted

How to use

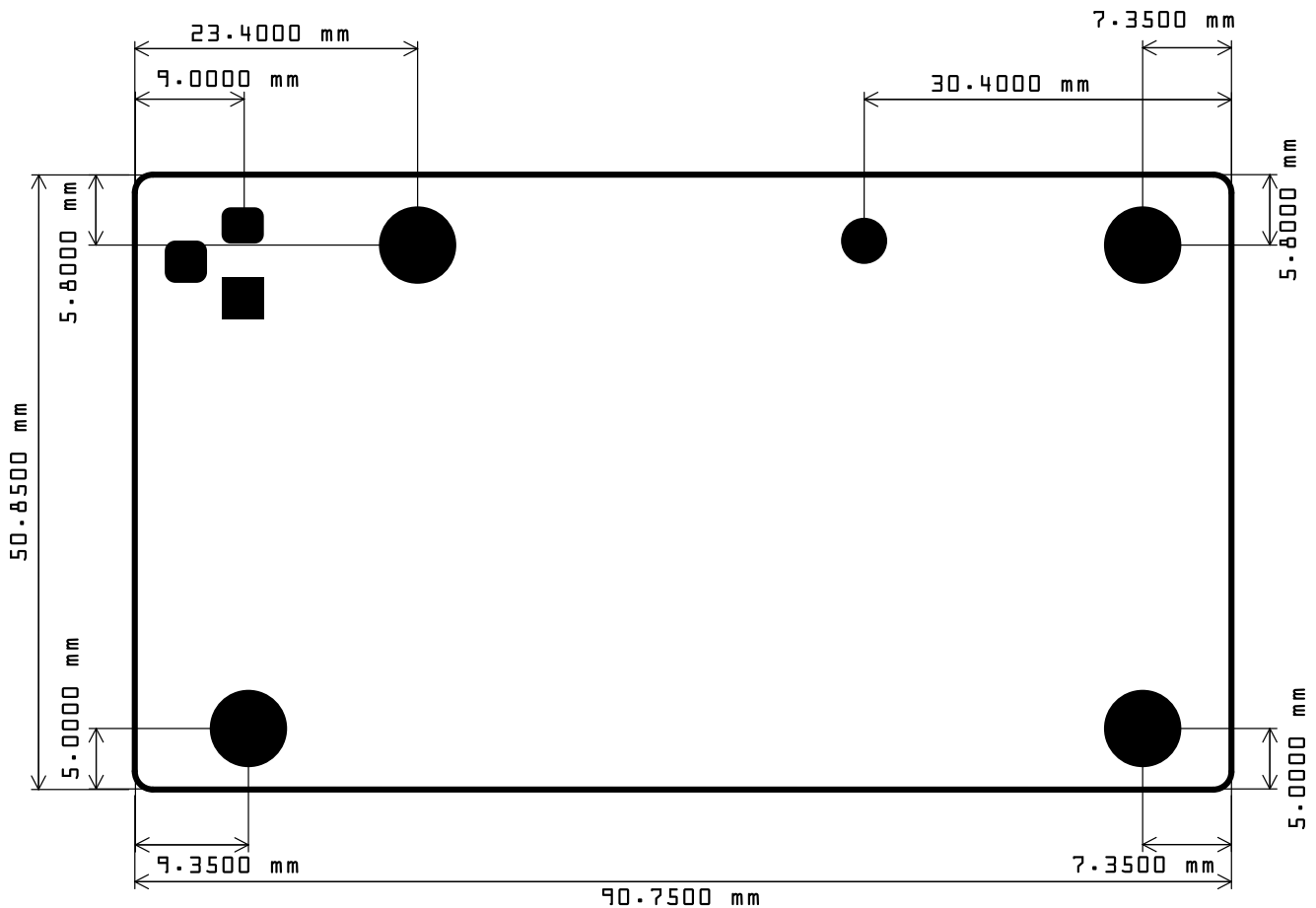
1. Connect a DC power supply rated between 12V and 18V (1.5A) to J101. If the supply voltage exceeds 15V and plan to use this kit for extended periods, we recommend attaching suitable heatsinks to the transistors Q101 (TIP31) and Q102 (TIP32).
2. Connect the power-amplifier or pre-amplifier input to J102. For optimal results, keep this connection short and always use shielded audio cables.
3. Turn on the system, and it may take 2 to 3 seconds to generate the output.



In some transistors, noise generation occurs when the supply voltage exceeds 8.4V. Our lab tests indicate that this threshold can be varied among different transistor vendors. For example, with Matsushita 2SC945, noise begins to arise at a supply voltage of 8.4V or higher. For stable operation, we recommend maintaining the supply voltage at 12V or above.

Kit specifications

1. Dimensions of the module (width × height) 90.75mm × 50.85mm
2. Average weight 45.3g (± 0.2g)
3. Average power consumption 0.5W
4. Working voltage 12.0V - 18.0V DC



LB0002

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

The continuous improvement of its products is the policy of Simtelic (Pvt) Ltd. who reserve the right
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