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NEINOHNEIN SNARE v1.0

a DIY clone of the TR-909 Snare

ASSEMBLY GUIDE v1.0

HARDWARE v1.0

TR-909 is a trademark of Roland

Technical Notes

Well, here it is! One of the sounds that made classic house music!!! Now you can have one in your modular for a very decent build price compared to the original!

This is a very fun drum module because it has control over a lot of the sound parameters! There are not too many difficult parts to find, but there are a LOT of components in this design, so, please be very careful to double check resistor and capacitor values as you are placing them in the PCB for soldering!

The use of 2.5 or 5% tolerance film capacitors and 1% metal film resistors is recommended. This will ensure that your module performs the same way the original designers intended for it to sound, as it places component values closest to the chosen value in the schematic.

If you really care about purity with respect to the TR-909, you may want to run this module on 15V as well. I have not compared to see if there are any discernable differences as mine sound great at 12V and make me happy as is.

Part Substitutions

The ZTX1051A are a different pinout than the BC549, so be careful of that! They are commonly available but sometimes are out of stock, so, if you need, you can use standard NPN 2N3904 in their place with not too much ill-effect :)

Noise Generator

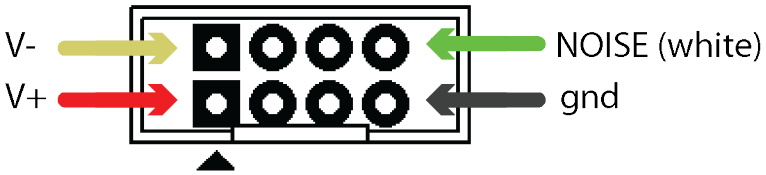
The TR-909 featured a common white noise generator in it which a lot of the drum modules in the TR-909 shared. Unfortunately, the chips for this noise generator are now obsolete so obtaining them can sometimes be annoying (though they are still quite plentiful). For this reason, I have designed the PCB so that you can choose to install or leave out the additional “noise card” that stacks on the 2x4 .1” pin header on the PCBs which feature noise in the circuit. In order to share a noise generator, you just make sure one of the modules DOES have a noise generator circuit installed, then chain the PCBs together behind the panel via the pads called “RAW” on each of the PCBs. Both these pads are the same connection -- they’re just duplicated for easy “daisy chaining”.

You might want to try external noise sources with some of the drum modules. The clap for example is an excellent candidate to have a pitch-controllable noise module plugged into. On the following page is the pinout of the noise connector on the NeinOhNein PCBs, so you can patch into this

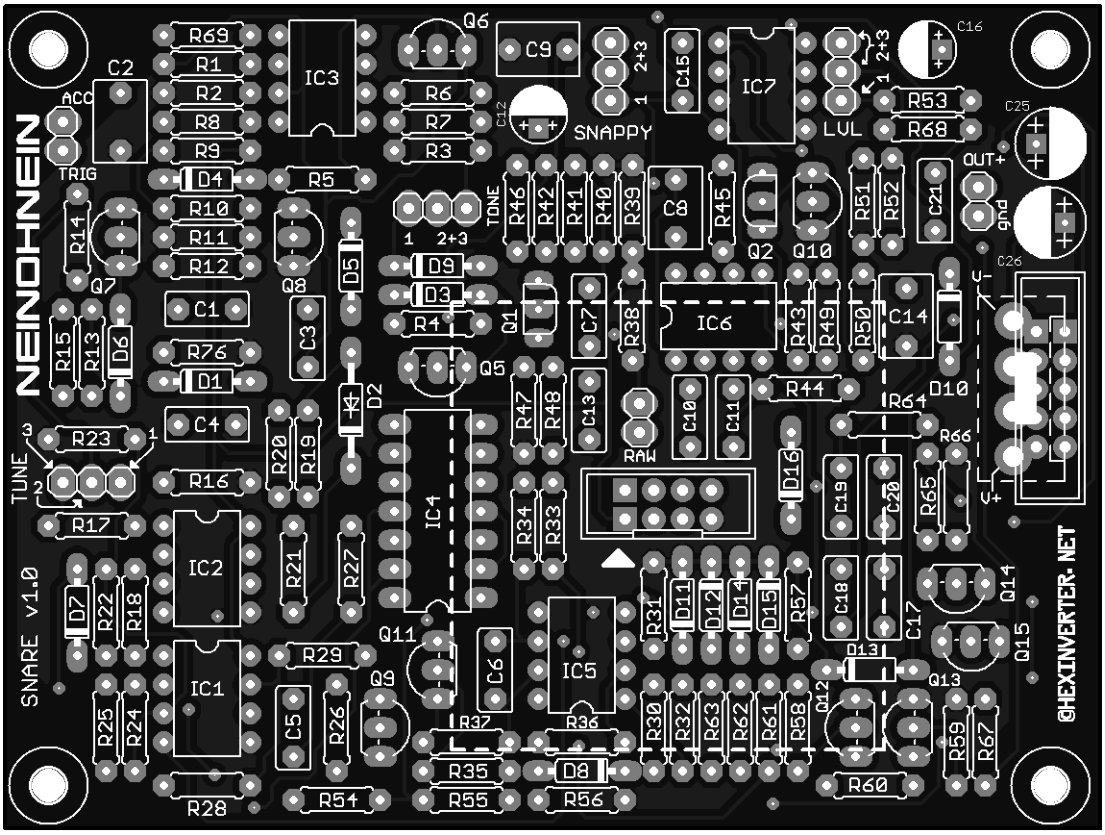
if you want to experiment with different noise sources. PLEASE NOTE: the noise input is NOT BUFFERED. Use at your own risk, or add a buffer yourself! :)

NEINOHNEIN

Noise Connector Pinout



Panels are/will be available at Re:Synthesis (click) for this project.



Control/Panel Descriptions

LEVEL -- This controls the volume of the snare sound.

TONE -- This controls the tone of the snare sound.

TUNE -- You can tune the pitch of the snare using this control.

SNAPPY -- This control adjusts the “snappy” sound. If you know what a real snare drum looks like, this is Roland’s emulation of that mesh that vibrates against the drum to create a sort of noise sound on top of the base drum tone.

Accent -- This is an analogue input that responds to approximately 5V-supply control voltage. Higher voltages mean the drum sounds punchier and louder. This input is internally tied to +V so that it will always sound the strongest possible if nothing is plugged into the jack.

Trigger/Gate -- Input either a trigger or gate around 5V or higher to trigger the drum module.

Output -- This is the sound output for the module.

(panel wiring on following page)

POTENTIOMETERS VIEWED FROM FRONT