HEXINVERTER. NET

presents

Ryk John Miller Thekreator's

LIQUID HIHAT

a DIY voltage controlled hihat/noise source for analogue modular synthesis

ASSEMBLY GUIDE v1.0

HARDWARE v1.4

**This guide is ONLY for v1.4 and above!**

Technical Notes

The Liquid HiHat is a very unique sounding hihat module for synthesizers. It uses a method for generating noise that is far different than most other noise generation circuits. This interesting circuit topology results in a sound that can only be described as out of this world!

The really unique feature is that the noise oscillators are voltage controllable, which results in a lot of cool modulation possbilities.

You have to think of the Liquid HiHat as more of a "Noise VCO" than a hihat module, as due to the complexity of the base design, there are currently no envelope generators or VCAs on board to generate decay envelopes. If you plan on using the module for hihats, it is expected that you patch these modules into the signal chain.

This means that the module lends itself to generating other textures that aren't specifically hihats. Patching into an ADSR means you can create very cool, warping noise pads and stuff like that. Experiment!

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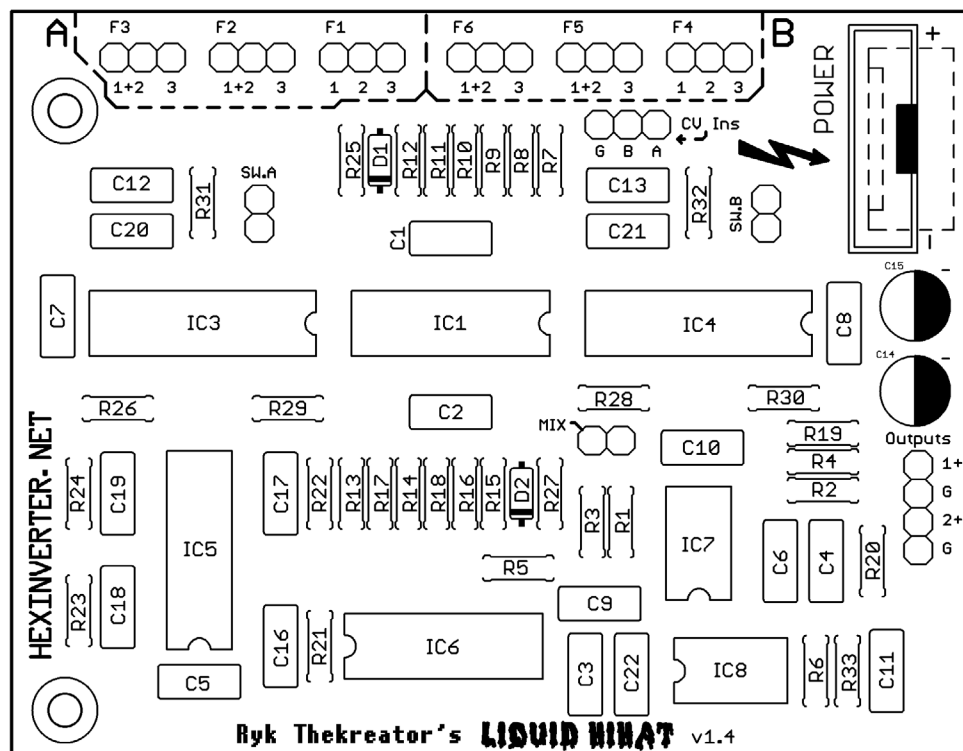
Control Descriptions

MIX -- This is a SPDT switch which toggles between the output modes. In the UP position, Output A and Output B function independently. In the DOWN position, Output A is turned into a mix of Voice A+B, and Output B stays outputting only Voice B.

SW.A/SW.B -- These are two SPDT toggles which toggle between usable frequency ranges for each voice. UP = "HIGH", DOWN = "LOW"
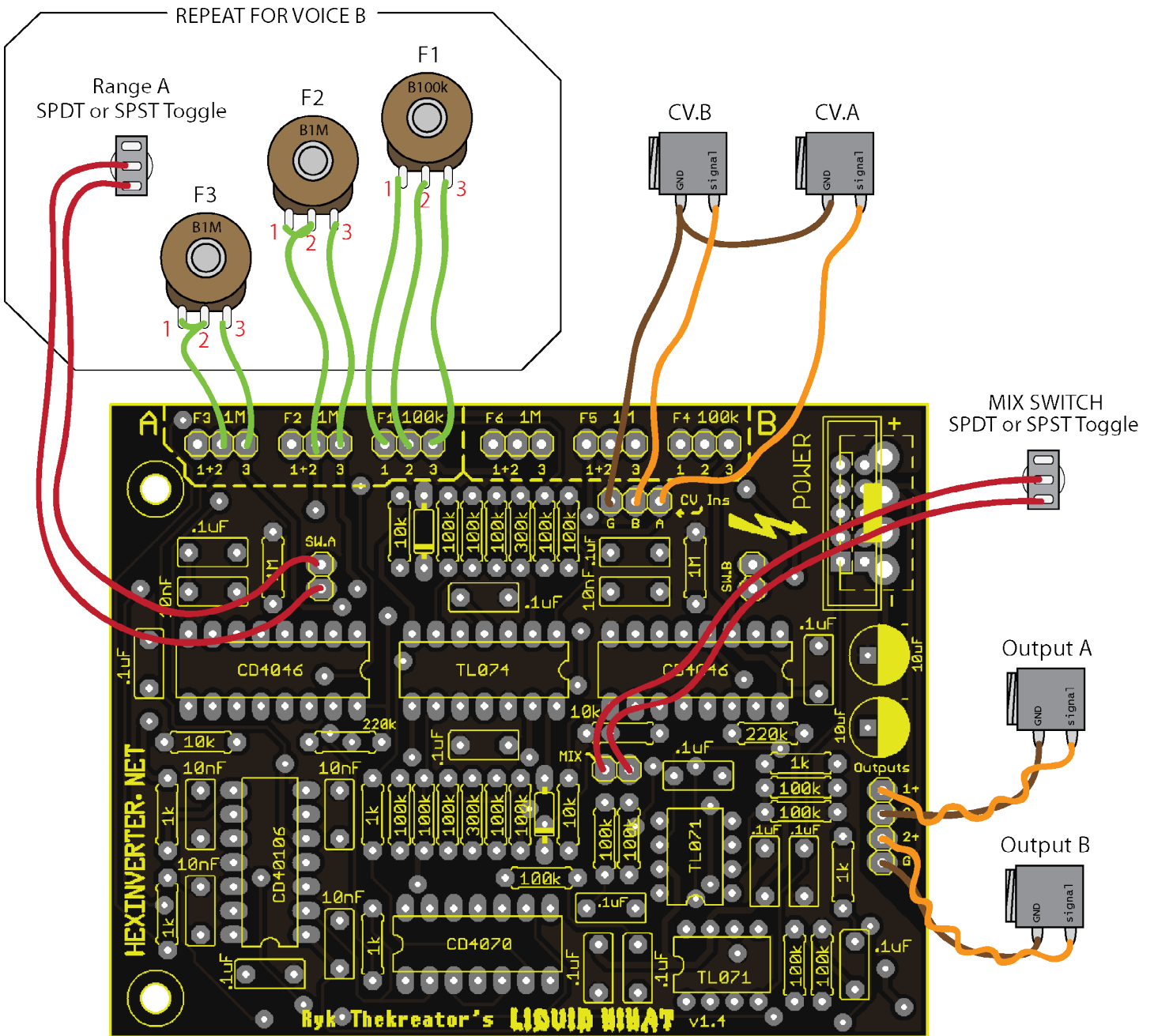
CV.A/CV.B -- These are linear CV inputs that control the frequency of their respective voices. The control voltage affects the ENTIRE VOICE at once.

OUTPUT.1/2 -- Also referred to as "Output A" or "Output B" in some of this documentation (sorry for the confusion), these outputs output their respective voice's sound, unless of course the MIX switch (described above) is set to have Output A as a mix of the two voices instead of just Voice A.

F1, F2, F3 -- These are the base frequency controls. Each one represents the frequency of one of the noise generating oscillators (there are 6 in total) and is a standard linear frequency sweep.

(panel wiring on following page)

POTENTIOMETERS VIEWED FROM FRONT

REPEAT FOR VOICE B

Range A
SPDT or SPST Toggle

F1
B100k

F2
B1M

F3
B1M

CV.B
GND signal

CV.A
GND signal

MIX SWITCH
SPDT or SPST Toggle

Output A
GND signal

Output B
GND signal

HEXINVERTER. NET

Ryk Thekreator's LIQUID HIHAT v1.4

When MIX SWITCH is toggled up, Output A outputs
a mix of Voice A+B

When Range A or B are toggled up, the respective
voice's pitch range is set to HIGH

The use of coaxial or twisted pair cable is recommended
for the output jacks