

Gijs Gieskes 3TrinsRGB-1c --- 3x Comparators PCB Build Guide

The comparator pcb has 3 inputs and 6 outputs.
Inputs get compared to the HIGH signal and can be trimmed.
There are 2 outputs per comparator; lower and upper result.
The power comes from the 3TrinsRGB-1c (HIGH and GND)

patch examples:

video 2 shape:

vid to in1, output to RCV or GCV or BCV

color bar displacement:

F01a to in1, output1a to Rsin, output1b to GCV (lfo range switch to the right)

wobbly mirror:

Rout to in1, output1a to GCV.

F01A to RCV

Bout to in2, output2a to GCV.

F01B to BCV

Oscillator TYPE switches to the right.
LFO RANGE switch to the right, LFO TYPE switch in middle position.
Set all pitch knobs to low rate vertical, lfo to slow triangle wave.

For extra fun, patch out1b to G-

Resistors:

First solder all resistors.
On the vertical pcb, r13 is standing up, next to the C2 capacitor)



Capacitors:

The 100nf capacitor helps stabilising the power to the 74HC14N IC, but is optional.

The codes for the 2 (vertical and right angled) capacitors differ!

Vertical:

c1: 100nf (0805 smd) – optional

c2: 47uf (16v electro)

right-angled:

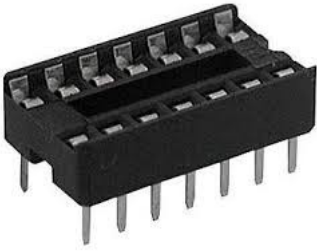
c1: 47uf (16v electro)

c2: 100nf (5mm film)

IC socket:

Take care of the orientation!

Solder the IC socket. First two opposite pins. Then check if the socket is flat to the pcb. If not, heat the soldered pins and push the socket to the pcb. It should click flat.



Transistors:

Solder the 3 transistors. (T1, T2 and T3) (orientation!)

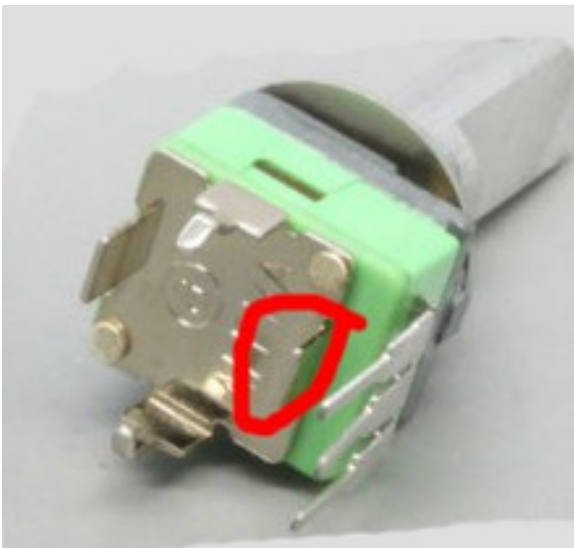
These components are heat sensitive!

First solder one leg of each, let them cool a bit and continue with the rest.

Potmeters:

Vertical pcb:

The pots go on the other side of the pcb.



The vertical Alpha 9mm pots have these flaps on the underside.

You have to cut one of these metal flaps off, so that it does not touch the underlying pins of the transistor.

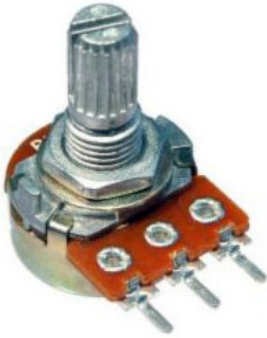
Use a good sidecutter. If you cannot reach the metal flap, bend the three legs of the pot to the side. Be careful with this, you do not want those to break :)

Bend 'em back when you are done.

Stick the pots into the pcb and check if there is anything touching on the underside.

If all is well, solder the pots.

Right-angled pcb:



Put in the three pots. First solder only one pin of each.
Check if the pots are aligned correctly.
Solder the rest.

IC:

Bend the legs of the IC on a flat surface, so that the legs are in a 90 degree angle.
Push the IC firmly into its socket.

Connectors:

Choose what connectors you want to use.
(pin headers, jacks or banana etc.)

GND and HIGH should be connected to the 3TrinsRGB-1c .

Wire all inputs and outputs to your connectors.

The pcb's are designed to be 'standing up' , so POT1 is on the top, POT3 is on the bottom.

And you are done!

If you have questions: ask 'm in the thread on Muffwiggler or PM me.

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