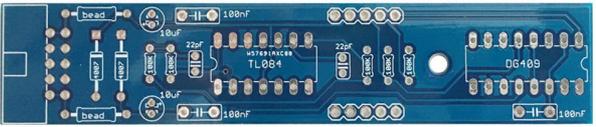Hello!

This guide is for building the 1F module from Transient Modules.
It is good to have basic soldering skills and to be able to identify electronic components before starting this kit. In case you're an experienced DIYer, please read all the steps thoroughly before starting as some of them are not so obvious.
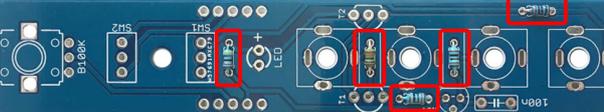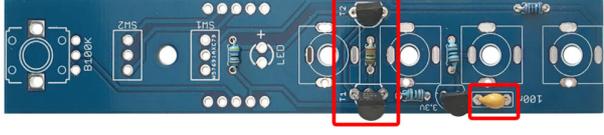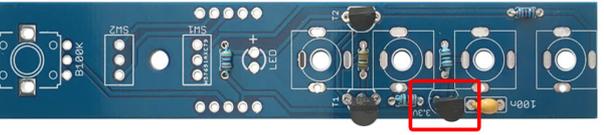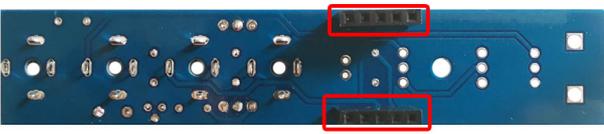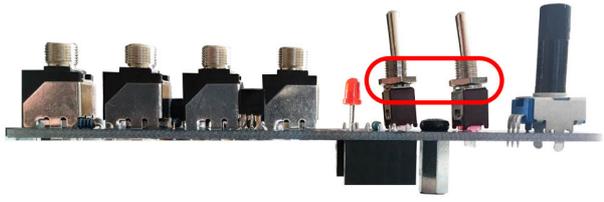
The 1F kit consists of two boards and all the parts comes in only two bags separated. See the parts list below to identify each one of them easily before start building:
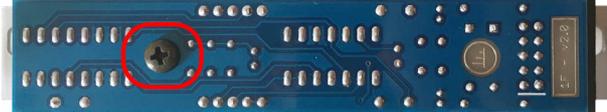
Part	Qty
Resistors:	
Resistor 100K **0.1%**	5
Resistor 100K 1%	1
Resistor 10K 1%	1
Resistor 1K 1%	1
Resistor 4K7 1%	1
Resistor 100R 1%	1
Capacitors:	
100nF	4
22pF	2
10uF electrolytic	2
Diodes:	
1N4007	2
Potentiometers:	
100KB	1

Part	Qty
Ics:	
DG409DJ	1
TL074/084	1
Sockets:	
14 pin DIP	1
16 pin DIP	1
Jack mono	4
Screws:	
M3 silver screw	2
M3 black screw	2
Headers:	
5 pin header female	2
5 pin header male	2
Power connector	1

Part	Qty
Transistors:	
2N3904	2
Regulator:	
3.3V	1
Spacers:	
11mm	1
Others:	
LEDs	1
Knurled nuts	4
Ferrite bead	2
Mini switch	2
Panel	1
Bottom PCB	1
Top PCB	1
Ribbon Cable	1

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1. Let's begin with the back PCB. Start by emptying the bag into a bowl or container. This makes it easier to pick parts as you need them and you're a lot less likely to lose anything.	
2. Solder the two ferrite beads.	
3. Solder the two 1N4007 diodes. *NOTE! The gray ring on the diode should match the silkscreen on the PCB.*	
4. Solder the 3x 100nF capacitors (**104**).	
5. Solder the 2x 22pF capacitors (**220**).	
6. Solder the two 10uF electrolytic capacitors (labelled 10uF). *NOTE! The longer leg should be positioned in the pad marked with the positive symbol.*	
7. Solder the five 100K (**0.1% tolerance**) resistors. They're larger than the space on the board. Place them standing up, as shown.	
8. Solder the **IC Sockets**. Make sure the notches in the sockets match the silkscreen**.**	
9. Take the TL084 and the DG409 and place them in the sockets with the notch on the top face at the same end as the notch in the socket and silkscreen.	

10. Solder the **power header.**	
11. Place the two **5 pin male header** and solder both ensuring they are 90º to the PCB. Back PCB is now finished!	
12. Top PCB! Solder the 5x resistors. Double check before soldering (use multimeter if possible), the color codes are very similar between them: **100K**: brown, black, black, orange, brown. **100R**: brown, black, black, black, brown. **10K**: brown, black, black, red, brown. **1K**: brown, black, black, brown, brown. **4K7**: yellow, violet, black, brown, brown.	
13. Solder the two **2N3904** transistors T1 and T2, and the 100nF capacitor (labelled **104**).	
14. Solder the 3.3V regulator, labelled **KY5033**.	
15. Solder the two **5 pin female header.** *NOTE! This part is placed at the bottom of the PCB and soldered from the top, as shown.*	
16. Screw the **11mm** spacer using a M3 black screw. Place the **100KB** potentiometer, the 4x jack sockets, the LED and the 2x **toggle switches** (leave one hex nut on the bottom of both switches). *NOTE! The long lead of the LED should be positioned in the pad marked with the positive symbol.* *- DO NOT SOLDER ANYTHING YET -*	

17. Place the front panel. Screw the 4 jack knurled nuts and the 2 toggle switches with the remaining hexagonal nut. Check that the led is fully inserted through the panel before soldering and the 'output' nut is centered with the silkscreen on the panel.	
18. Now you can solder all the parts!	
19. Join the front PCB and the back PCB using the pin headers and ensuring the 3mm hole match the spacer. Screw both boards with the remaining M3 black screw.	
20. Connect the ribbon cable. The red stripe on the cable must line up with the line indication on the back of the module. And... :) Module finished! :) Patch a clock signal into CTRL. The led should blink following the clock. Set the second switch at 'Y' and patch the output to an oscillator v/oct input. The frequency should change depending on the position of the CV2 pot, only when CTRL is high. Patch any signal into CV1. The module should switch between the two signals.	

If something is not working as it should, the build process went wrong for any reason

or missed any part, write us to: contact@transientmodules.com

If everything went fine: congratulations! We hope you had some fun while building the

module, patch wisely and enjoy the 1F !!

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