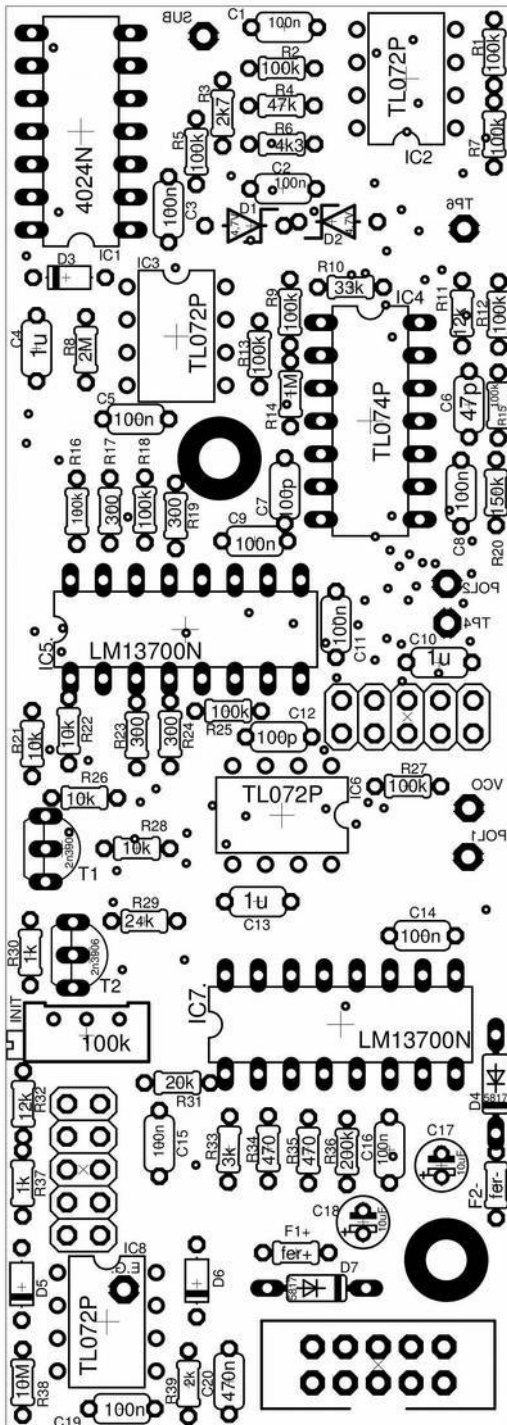




Thank you for choosing this kit. Let's go !

**WARNING:** Please, read the instructions completely before start and follow the steps carefully. Some of assembly parts are not so obvious as they seem even for the expert DiYers.

## MAIN PCB



1) Solder the resistors according to their value. Identify the resistors by their colour code or using a multimeter.

12	100k	R9, R1, R2, R5, R7, R12, R13, R15, R16, R18, R25, R27	Brown black black orange brown
4	10k	R21, R22, R26, R28	Brown black black red brown
4	300	R17, R19, R23, R24	Orange black black black brown
2	470	R34, R35	Yellow violet black black brown
2	12k	R11, R32,	Brown red black red brown
2	1k	R30, R37	Brown black black brown brown
1	33k	R10,	Orange orange black red brown
1	2k	R39	Red black black brown brown
1	47k	R4,	Yellow violet black red brown
1	150k	R20	Brown green black orange brown
1	200k	R36,	Red black black orange brown
1	2k7	R3	Red violet black brown brown
1	2M	R8	red black black yellow brown
1	4k3	R6	Yellow orange black brown brown
1	1M	R14	Brown black black yellow brown
1	10M	R38	Brown black black green brown
1	20k	R31	Red black black red brown
1	3k	R33	Orange black black brown brown
1	24k	R29	Red yellow black red brown

2) Now with the capacitors.

11	100n	C1, C2, C3, C5, C11, C8, C9, C14, C15, C16, C19	104
3	1u	C4, C10, C13	105
2	10u	C17, C18	10uF 35v <b>polarized</b>
2	100p	C12, C7	101
1	470n	C20	.47k (the yellow one)
1	47p	C6	47 (or 470)

3) Diodes and ferrites using a cut leg of resistor or diode...

3	1N4148	D3, D5, D6	1N4148
2	Zener 4v7	D1, D2	4v7 or ...B230
2	5817	D4, D7	1N5817
2	ferrites	F1+, F2-	



4) Transistors

2	2N3906	T1, T2	2N3906
---	--------	--------	--------

5) Solder the IC sockets and insert de IC.



4	TL072	IC2, IC3, IC6, IC8.	TL072
2	13700	IC5, IC7	13700
1	TL074	IC4	TL074
1	4024	IC1	CD4024

6) Trimmer

1	100k	INIT	104
---	------	------	-----

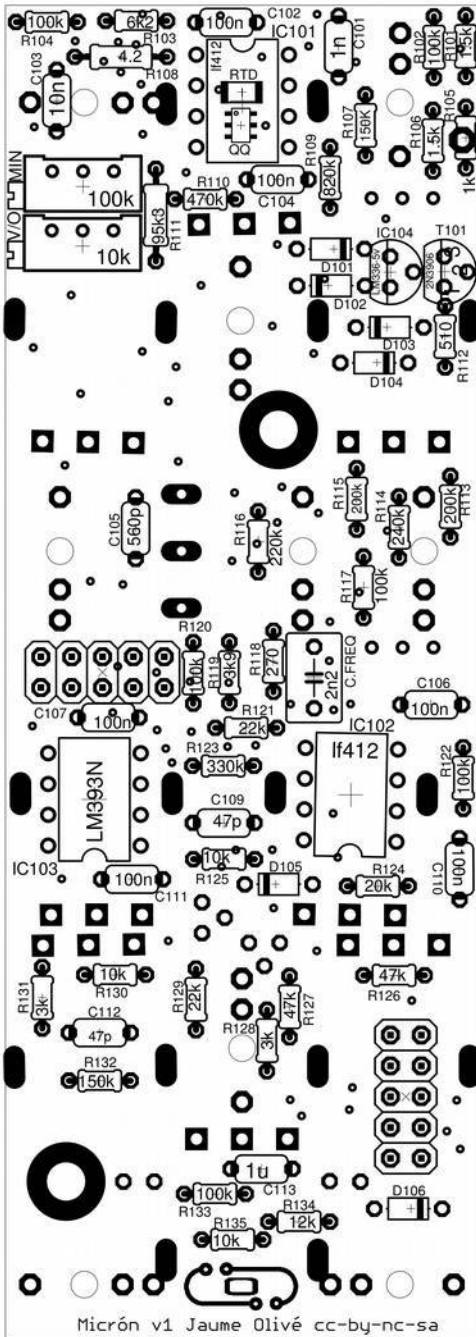
and pin header



7) Power connector female

## CONTROL PCB

1) Solder the resistors according to their value.



6	100k	R102, R104, R117, R120, R122, R133	Brown black black orange brown
3	10k	R125, R130, R135	Brown black black red brown
2	1K5	R101, R106	Brown green black brown brown
2	3k	R128, R131	Orange black black brown brown
2	200k	R113, R115	Red black black orange brown
2	47k	R126, R127	Yellow violet black red brown
2	150k	R107, R132	Brown green black orange brown
2	22K	R121, R129	Red red black red brown
1	240K	R114	Red yellow black orange brown
1	270	R118	Red violet black black brown
1	12k	R134	Brown red black red brown
1	1k	R105	Brown black black brown brown
1	510	R112	Green brown black black brown
1	220K	R116	Red red black orange brown
1	20k	R124	Red black black red brown
1	3K9	R119	Orange white black brown brown
1	4.2	R108	Yellow red red silver brown
1	6K2	R103	Blue red black brown brown
1	820K	R109	Grey red black orange brown
1	95K3	R111	White green orange red brown
1	330K	R123	Orange orange black orange brown
1	470K	R110	Yellow violet black orange brown

2) Capacitors

6	100n	C102, C104, C106, C107, C110, C111	104
1	1u	C113	105
2	47p	C109, C112	47 (or 470)
1	10n	C103	103
1	1n	C101	102
1	2n2	C.FREQ	Red Wima
1	560p	C105	561

3) Diodes

6	1N4148	D101, D102, D103, D104, D105, D106	1N4148
---	--------	------------------------------------	--------

4) Transistors

2	2N3904	T102, T103	2N3904
1	2N3906	T101	2N3906

5) Sockets and IC

2	LF412	IC101, IC102	LF412
1	LM393	IC103	LM393
1	LM336-5v	IC104 <b>it's like transistor!</b>	LM336-5v

6) Trimmers

2	10k	REF, V/O	103
1	100k	MIN	104
1	1k	EXP	102

7) Pin header male

8) Screw the spacers **before** place the front panel components

## FRONT PANEL

**This stage is critical**, please, read carefully the instructions. Take your time. **The components must be in the PCB and attached to the board prior to soldering**, otherwise it will be very difficult (even impossible) to place the front panel.

Besides, it will cause mechanic stress that will shorten the lifetime of the component or the soldering or even it could break it.

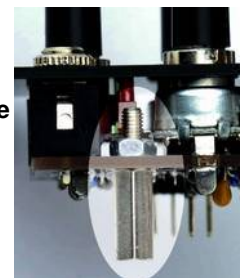
1) Screw spacers first

**One of the pot. have a different value. (105) See the bottom pot.**

2) **Without soldering**, place the potentiometers, jacks, switch and leds (**long led on +**), the green led goes to the EG, next to the jack gate. The red led goes next to the pote Drive. **All pots 104 (100k) except Release pot (rel) =105 (1M)**

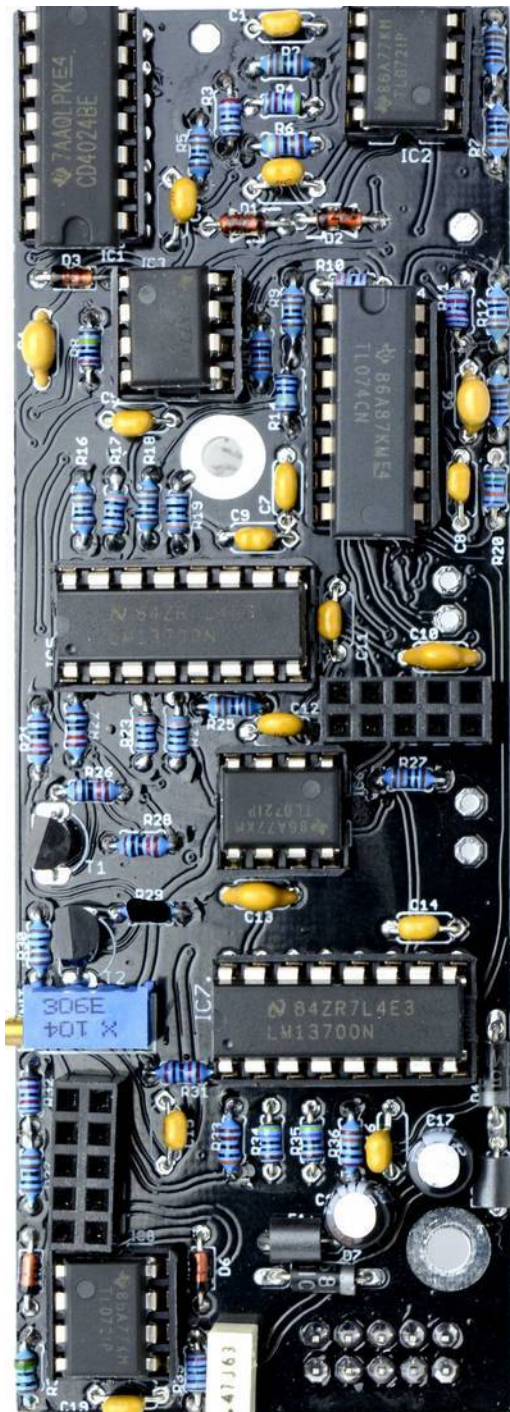
2) Place the panel and **screw** the potentiometers, jacks, switch and put the leds in his place, now it's **time to solder** all.

3) Put the knobs in their place and it's ready.

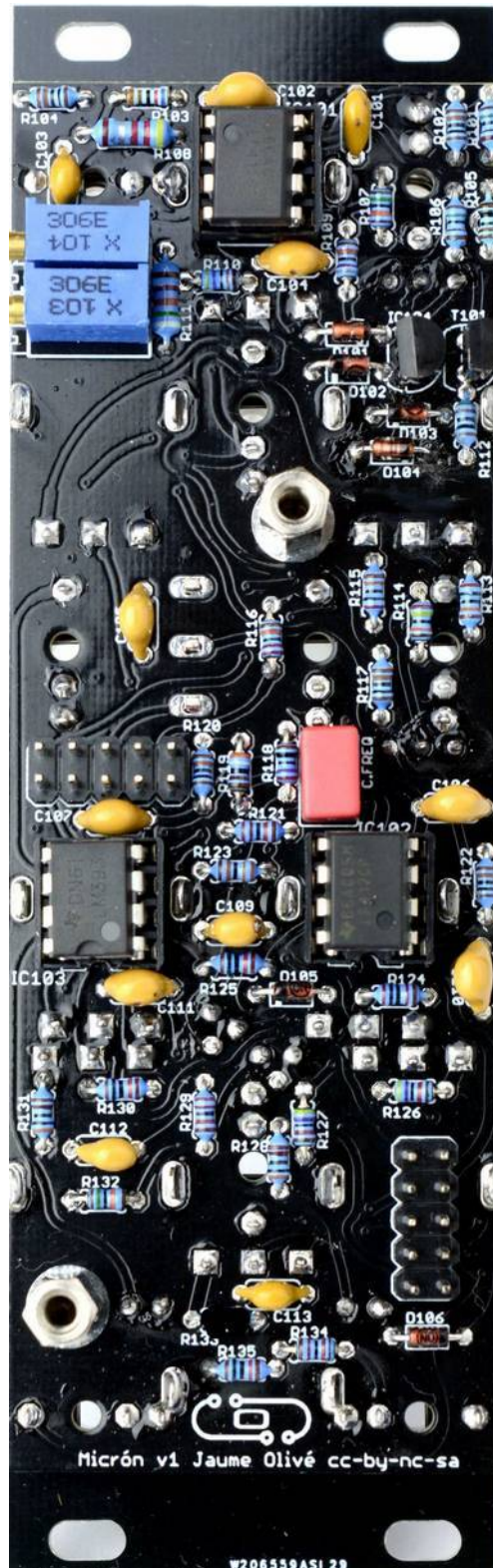


In these photos, some resistors or capacitors values may have changed, use these photos as reference for assembly only

MAIN PCB:



CONTROL PCB:



## CALIBRATION

After the assembly it's necessary to do some calibrations.

**Handle the trimmers multiturn with care. It's not a potentiometer as those of the panel. If you turn it and nothing happens, maybe it's the limit (there is no block).**

### 1) Adjust the start point of the VCA:

When the module is connected to the power bus, by default, you will have signal in the out. (Wave selector in saw or pwn and open the filter.) The gate led must be ON constantly. Now, connect a jack without signal to the gate. Gate led OFF.

When connecting the jack, if Micrón stops sounding, then it is ok. In order to increase precision, move the **INIT Trimmer** just to the point prior it starts sounding. After connecting the jack, if it continues sounding, adjust **INIT** until it stops sounding.

### 2) Adjust the VCO:

Tools:

- Small fatheaded screwdriver,
- Tuner,
- Tester/multimeter,
- source or module that can produce constant voltage (cv) of 3.000v.

**Some modules, which generate CV, have an output impedance that cause a bad calibration. For a fine adjustment, use your favorite sequencer, to generate this voltage. Measure with a precision multimeter to make sure that the sequencer is properly adjusted.**

### Calibration steps:

1-Next to the jack v/o there is a PAD (with a hole). The tester measurement should be 5.00v, otherwise, adjust using the REF. trimmer beside. See photo----->



2-Locate the trimmers **MIN** and **V/O** under the jack sync.

3-Connect a tuner to the micrón

4-Center the pote tune.

5-Make ready an out of another module of 3.000v with the multimeter/tester.

6-With the tuner, adjust a C2 (65.41Hz) with the **trimmer MIN**.

7-Now, **put those 3.000v** to v/o and adjust again with the **trimmer MIN** but this time to C5 (523.25Hz)

8-Remove the 3.000v now. If the tuner indicates C2 you have fnshes! Otherwise:

9-Adjust a C2 with the **trimmer V/O** and go back to the step 7).

It's quite normal to do the 7, 8 and 9 steps more than once.

But if you have done it more than 10 times, make sure you do the steps correctly, or /and take a rest and try it again later. If you cannot do it in another 20 times, you should check that you have soldered all the components in their correct place, value and polarity.

In my web, you will fnd tutorial videos.

10- Once it indicates C2 without the 3.000v and C5 with the 3.000v, (0v=C2 and 3.000V=C5), you can check with 5.000v it should get C7. Otherwise, do the following:

11- **Adjust** until C7 with the **trimm EXP**, next to the Jack FM. **Then, remove the 5.000v**. If it **indicates C2** go back to the step 7).

**If it doesn't** go back to the step 9). Do the loop 7, 8 and 9 another time, until it's C2 and C5. Afterwards, put 5.000v and check that there is C7. Otherwise, start again with step 10...

Now the Micrón is ready to be used. Enjoy it!!

If you have any question or doubt: [contact@olitronik.com](mailto:contact@olitronik.com)  
manual with color photos and more info at [olitronik.com](http://olitronik.com)