



v2.5

The code is highly customizable and there are several alternative codes on my website, www.ginkosynthese.com. (Please do share your own customized code with me via email: info@ginkosynthese.com)

Ok, let's start building!

First of all get your desk ready and make sure you have the necessary tools:

- soldering iron
- soldering tin
- cutter (the ones like in the picture are the best but a small nail clipper will do the job too)



Follow the next steps in the order it is written down.

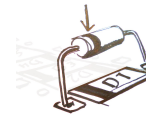
After each step flip the board and clip off the wires.

1 Diodes

D1-D6 – 1N4148 (glass, red with black stripe)

D7 – 1N4001 (blank with white stripe)

Make sure you solder them in the right direction! There is a black marker on one side which should correspond with the marker on the PCB [like on the drawing](#).



2 Resistors

R8 – 150R , it is the small blue colored resistor

R5-R7 – 3K6 (Orange – blue – red)

R9 – 10K (brown – black – orange)

3 Capacitors 1

Start with the yellow ones, these are marked with 104 (100nF): C1, C2, C3, C5, C7, C8 and C9. C4 and C6 will be soldered later.

4 78L05

Mind the direction drawn on the PCB!

5 Power header

It should be placed on the back

6 Potentiometers and jack sockets

(Don't solder the potentiometers and the jack sockets yet!)

Place the jack sockets and the potentiometers. Notice that one potentiometer has no feet! This is the middle one as the mounting holes for the feet are so close to the arduino pins it could have interference.

Now [place the panel](#) and tighten it with the nuts.

Solder the potentiometers and jack sockets.

Remove the frontpanel again as it will make it easier to solder the caps and arduino headers.

7 Capacitors 2

The two bigger caps will be soldered on the back side of the PCB after you soldered the potentiometers.

Mind that these caps have two sides (a + and – side) so it is important to check the direction before you solder them!

The – side is marked on the PCB with a small “-” and has a square pad. First solder C4. This one should be soldered laying flat on the PCB [like on the drawing](#). C6 can be soldered just standing.



8 Arduino: The Arduino goes on the back with the USB connector heading in the direction of the jack sockets. In the package you will find 2 female headers. Place the headers on the arduino and then solder the Arduino including the headers onto the PCB.

Mind that the headers have one pin too much, simply cut this pin away.

Place the powercable with the red line facing “-”.

The output is less loud than a standard modular oscillator. The overall point to point output voltage can simply not exceed 5Vpp the way it is designed, the “mix” is finetuned to boost the “grains” to modular level.

Enjoy!