

-=[sampleslicer]=-

manual V1.4

It is easy... so, 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.

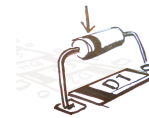
After each step flip the board and clip off the wires.

Start with the "back board".

If there is a "-" between the component values than all components between them have the same value, if there is a "/" the components between them are different. Example: if there is written "R1-R17" all 17 resistors have the same value, if there is written "R28/R33" than only R28 and R33 have the same value.

Diodes

D3-D12	BAT43 (Blue with black stripe)
D1/D2	1N4001 (black 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.

Resistors (back board)

R1-R17/R34	1K (brown – black – black – brown – brown)* blue resistors
R18-R23/R35-R37	100K (brown – black – yellow – gold)
R24-R27/R29	3K6 (orange – blue – black – brown – brown)* blue resistors
R28/R33/R41	10K (brown – black – orange – gold)
R30-R32/R38-R40/R42	20K (red – black – black – red – brown)* blue resistors

Capacitors 1

C1/C2	22 (22pF)
C3-C6	10 (10nF)
C7-C22	100 (100nF)
C23/C24	330 (330nF)* blue capacitors

(The other caps will be soldered later)

XTAL

The 16MHz crystal is the oval metal can with two pins.

78L05

There are two 78L05 on the board. This is the black thing with 3 feet which looks like a transistor, in the kit they are marked with "7805". Mind the direction drawn on the PCB!

IC sockets

there are 8 IC's in the sampleslicer. Mind the direction!

Pin 1 is marked on the PCB and is marked on the IC with a dot or small gap. Place the IC sockets with the gap towards pin 1 (square pad). The name of the IC is written on the PCB but is less easy to read when the socket is in place so remember where the IC's should be placed. Place the IC's after you finished and checked the boards.

Capacitors 2

C25-C27	820pF (small red WIMA's)
C30/C31*	47uF*
C32-C34*	10uF*
C28/C29	1uF (big red WIMA's)

* 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.

Power header

It should be placed on the back. Mind direction drawn on the PCB.

(the SPI header can be left out, you won't need it)

Take a coffee and go on with the front board

Step 2: Front board

Resistors (front board)

R43-R48 10K (brown – black – orange)
R50/R51* 100K (brown – black – yellow)
* R49 should be left open

Capacitors

C35-C38 10 (10nF)
C39/C6* 100 (100nF)
* C6 should have been renamed to C40 in the next batch

Jumper

this jumper is optional in case you want to use an alternative tracking for the start point. My advice is to leave it open unless you want the note tracking on the start point. When this function is activated the tracking of the incoming cv signal on the start point is not linear but calculated to 16 white keys on a keyboard, the potentiometer will react different as well.

Transistors

Q1-Q3 547 (BC547)

The direction drawn on the PCB is for 2N3904 transistors! If your kit has BC547 transistors then solder them in reversed position!!!

Connection headers

In the next step you are going to make the connection between the back board and front board. For this you need to cut the 2 male headers to the size of the female headers (16pins and 18pins). Put the male headers in the female headers and place them with the female headers on the component side of the back board. Then place the front board over the male headers (mind that you place the front board facing the components away from the back board).

If you aligned the boards then solder the connections. Now remove the back board again and go on with the next parts.

Potentiometers, LEDs, jacks and switches

In this part we will place all the components which are connected to the frontpanel. Don't solder anything before you have lined it all out*.

Start with placing the potentiometers (but don't solder after this step)

Potentiometers

Speed, Pitch, Start, Length 10Klin (Alps green pots)
Att lin (blue tall trimmer marked with B.-.... on the bottom)
Gain log (blue tall trimmer marked with A.-.... on the bottom)

* Don't solder anything yet

Jacks

Place all the jacks

* Don't solder anything yet

Switches

S1/S2 slide switch
S3 tall small switch
S4 low small switch with square head

Place the red cap on S4

* Don't solder anything yet

Place the frontpanel and tighten it with a few nuts. Tighten at least one or two potentiometers and a few jacks.

If you think it is all aligned then start soldering the components on their place while the frontpanel is keeping them right.

Remove the frontpanel and place the leds.

LEDs

Mind the direction! The long pin of the LED should be placed in the square pad marked with "+".

Place back the panel and keep it on place with some nuts. Check if all LEDs are on their place in the panel. Solder all LEDs if they are on their place while the frontpanel holds them in place.

Tighten all the parts on the frontpanel and put the knobs on.

You are finished! Time to power it on for the first time.

Calibrating

The sampleslicer needs to be calibrated. Before you start. Make sure nothing is plugged into the sampleslicer! Turn the gain knob fully anti clockwise (turn to left). Now power on the module while pressing down the "sample" and "pitch mode" button. Keep these button pressed down for about 30 seconds and the LEDs will light up one by one. When calibration is finished you will see a binary code on the LEDs. Just ignore this, this is the voltage it is calibrated to. Now restart the module and push the pitch mode button after you powered up. Now restart one more time and have fun slicing!

Keep in mind that the sampleslicer chops up the incoming signal, this means a pure sinewave for example might give clicks due to phaseshifting.