

# Quickstart manual

You have decided, you want to have your very own Schwurbler MVP - Here is how to get one



Release Package  
get it from Github

<https://github.com/mommel/hs-lr-midi-schwurbler/releases>

- \* Get your board
- \* Get all materials
- \* Solder all parts
- \* upload Firmware
- \* install Midi2LR
- \* configure Midi2LR
- \* Debug
- \* get your hands on it

from:  
**Manuel Braun**  
(Comic & Layout)  
**Wolfgang Hahner**  
(Revision & Correction)  
**Happy Shooting  
Community**



# What's inside the package?

BOM.pdf - Bill of materials

Gerber.zip - Ready to order circuit board

Etchprint.pdf - Etchable board layout

Schema.pdf - Circuit diagram

Quickstart guide - This file

precompiled firmware & the Sourcecode

## Option 1 - Order



Upload the Gerber.zip to a manufacturer you trust

## Get your board

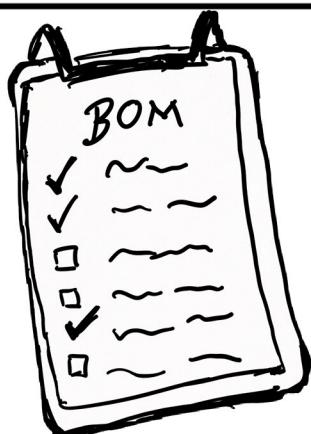
## Option 2 - Etch yourself



Etchprint.pdf

Print with a laser and deal with the deadly chemicals

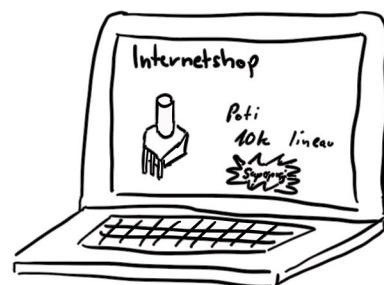
1.



All mandatory and all optional materials are listed in the BOM

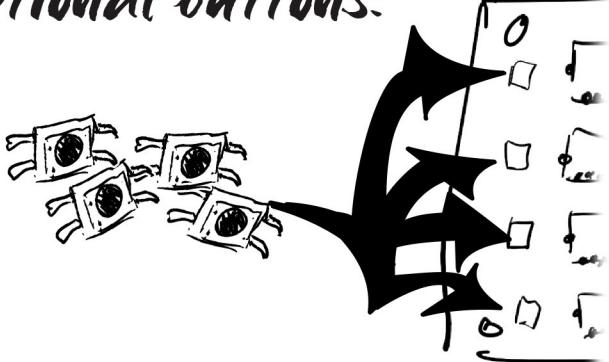
## Get your parts

2



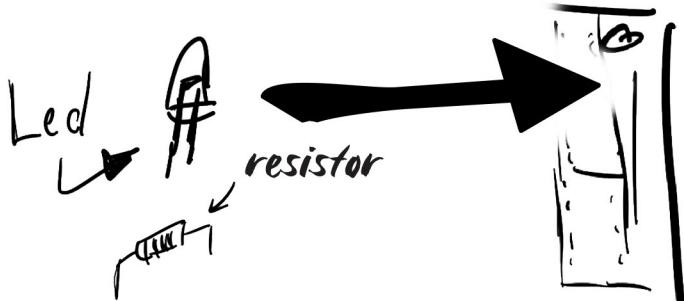
Put all mandatory items in your basket, and decide if and what you want as optional

## optional buttons:



Are buttons on the left of the poti you really desire? Then grab the four additional buttons OB1 - OB4

## optional status LED:



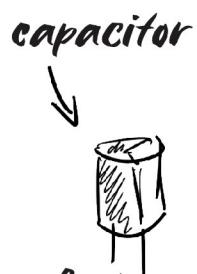
You want the LED?  
So add the led D1 and a resistor R 15 to your order

## Debug option 1



Teensy's have a pull-up Resistor on all of their pins. If that fails you might want to solder the bunch of resistors. Add R1-R14 then.

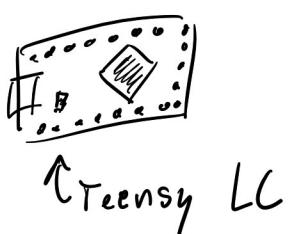
## Debug option 2



If your power feels a bit flacky, you might want to add a capacitor to smooth the voltage. Add C1

## MicroController - So many options

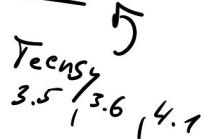
LC, 3.2, 4.0



Teensy 3.2, 4.0



3.5, 3.6, 4.1



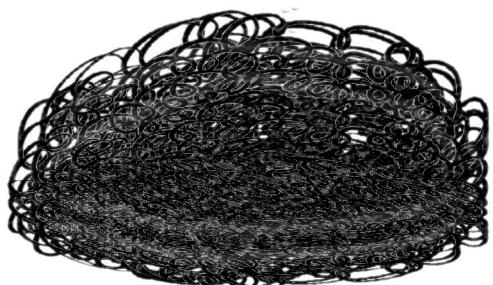
In general you need nothing more than the LC. It's el cheapo version but totally fits the needs of the MVP Version. So if you don't know why you should get e.g. the super fast and longer 4.1 - just take the Low Cost

# Checklist

MVP

- circuit board
  - potentiometer
  - buttons
  - painter's tape
  - soldering iron
  - solder
  - sponge\*
  - Teensy
- optional
- LED + resistor
  - resistors
  - capacitor
  - extra buttons

## \*Flint:

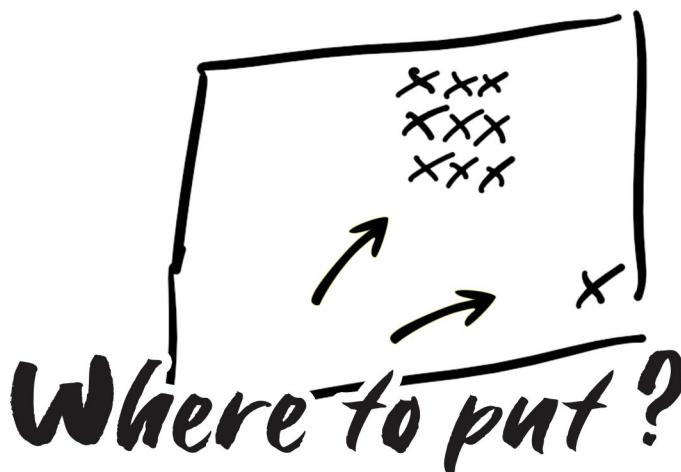


If the heck no sponge is around, have a look in your kitchen, there might be a steel sponge. You can use it without water. But beware! Do not put it back in the kitchen.

— It's contaminated —

# Equip the board

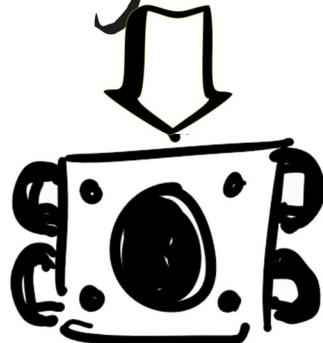
1



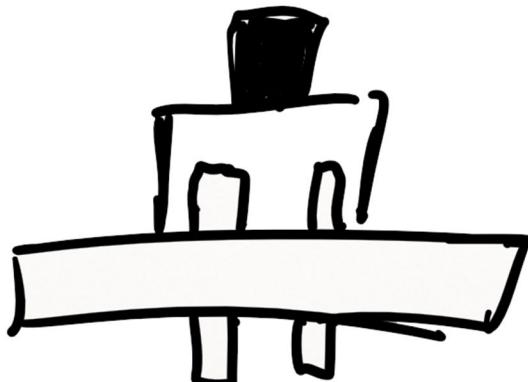
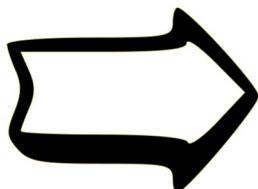
## The buttons

Amount 10  
(Identifier: B1 - B 10)

## Birdseye view



## Side view



Keep in mind!

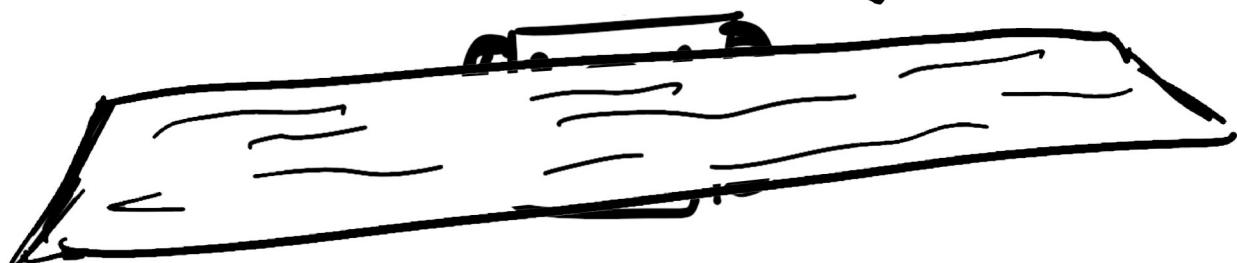
Always start with the parts with the lowest height,  
so you keep your live much easier!

# Equip the board

1.1

## still buttons

To fix the loose items, put painter's tape over the buttons and board. First when all buttons are covered, swap the board down facing



Turn the board

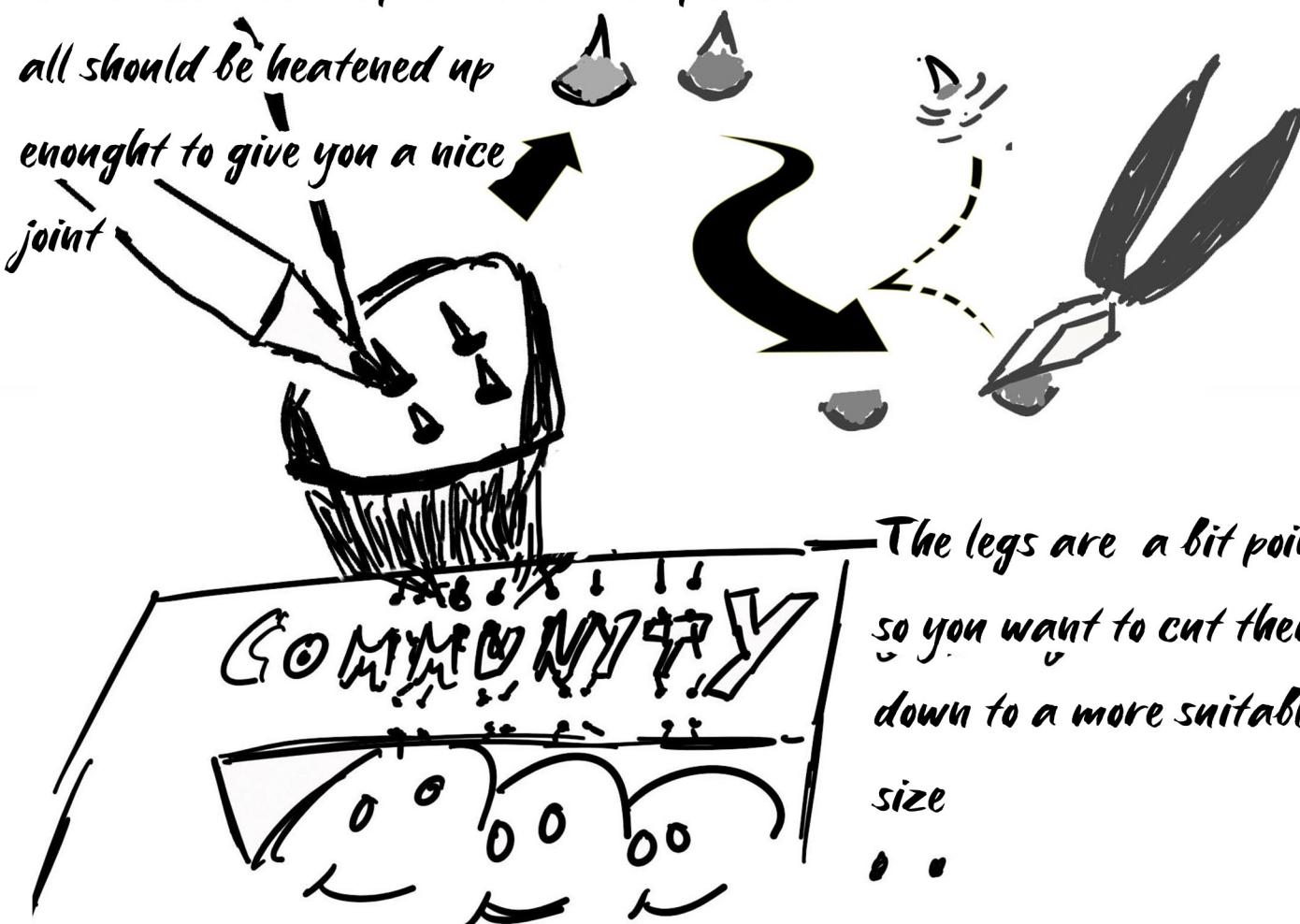
# Equip the board

1.2

The board is turned upside down

solder the buttons

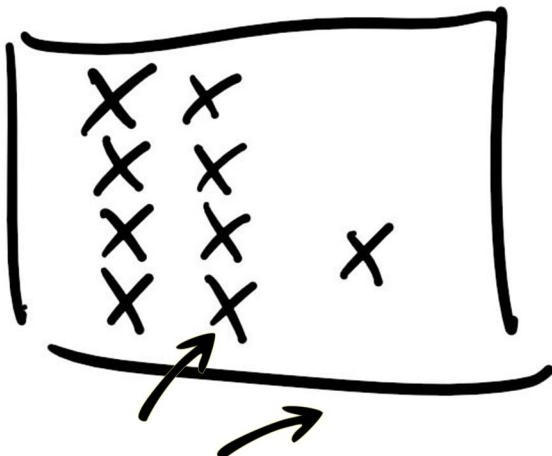
Stick about 2 seconds with the tip of your soldering iron to the hole and the pin. After that period all should be heated up enough to give you a nice joint



The legs are a bit pointy so you want to cut them down to a more suitable size

# Equip the board

2

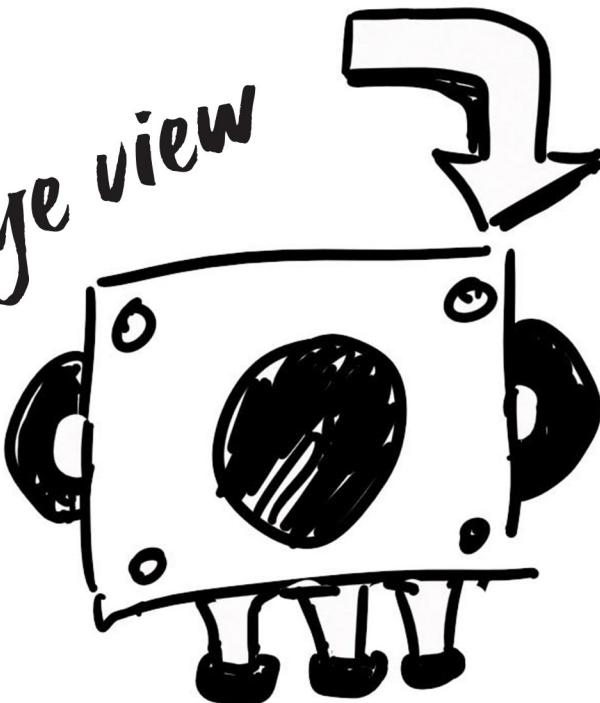


Potentiometers

amount 9  
identifier Re1 - Re9

Put it here!

Birdseye view



Side view

Fix, turn and solder as before.

# Equip the board



Warning!  
The Teensy has narrow pins

## Teensy

To not bridge pins take a tip with a flattened side. It's much easier to dose the right amount of solder when you come from the side.

3

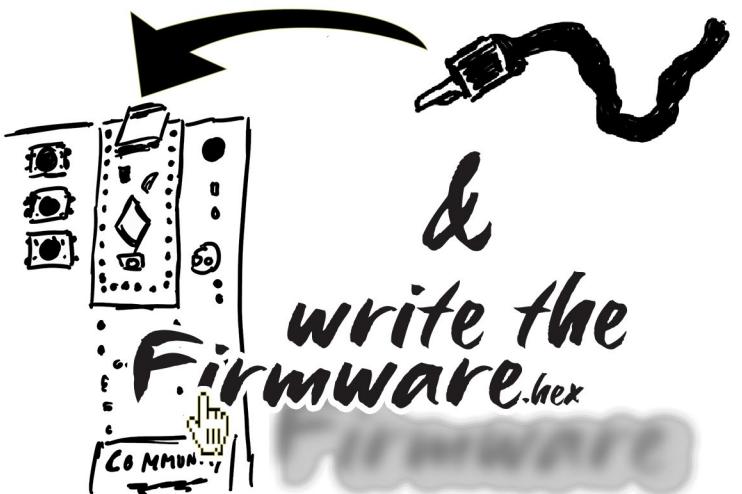
You made it! Gratz



Midi-2-Lr  
get it & install



attach USB



Lightroom Classic  
start & get your feet wet

