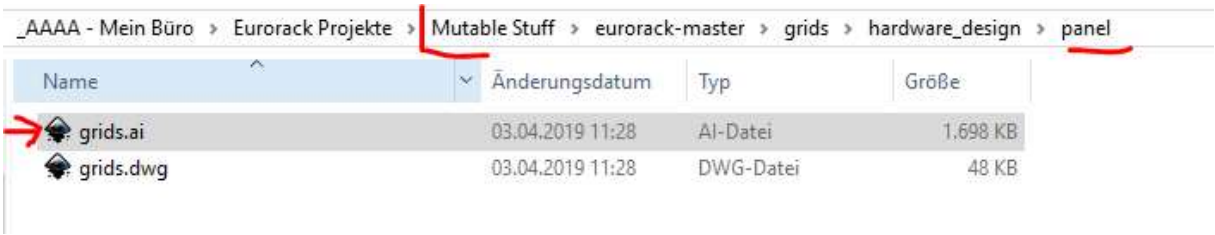
Created by 8bitPig aka Jens Steinheil

https://github.com/8bitPig

Hot to create a eagle panel out of the Muable instrument Shared files on Github with free to use tools.

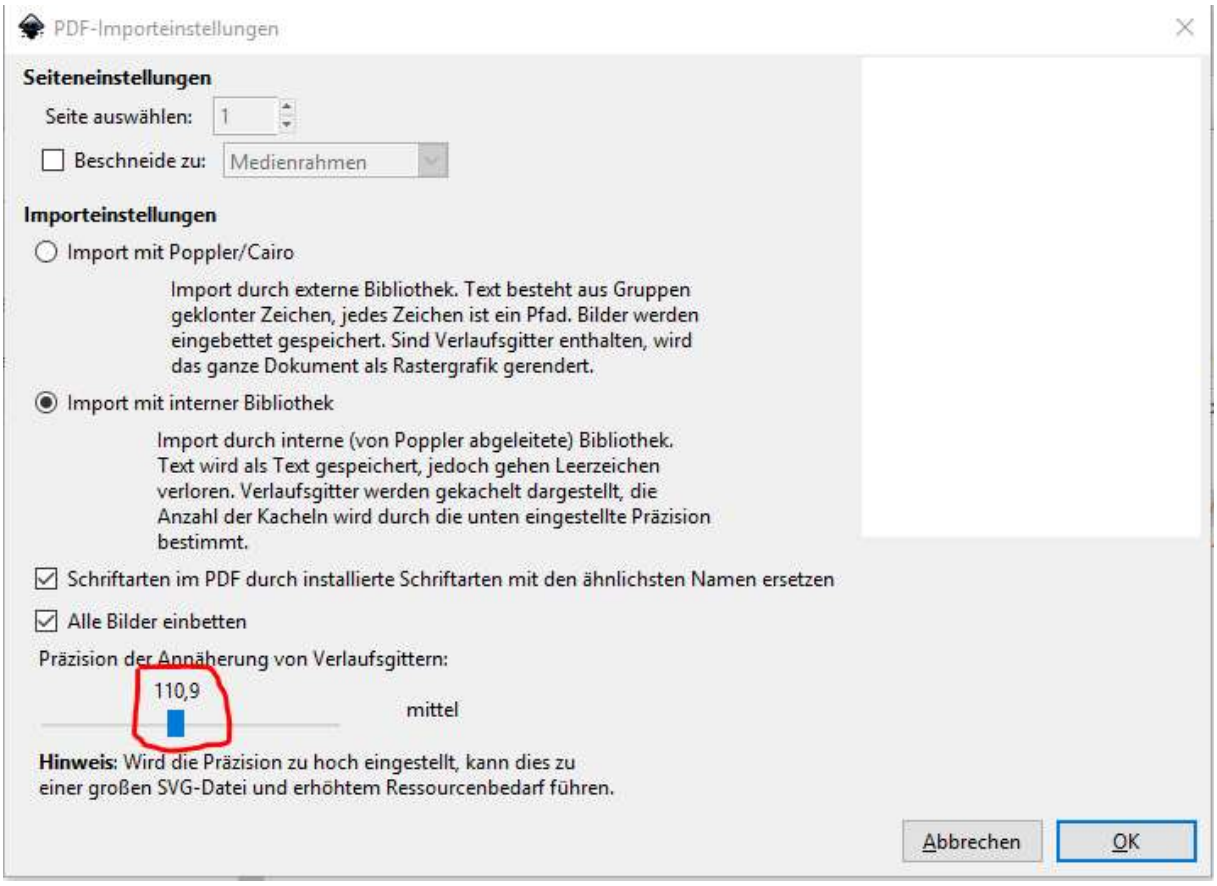
1.)

Open *.ai file in inkskape



2.)

I import with ~110 and the internal library.



3.)

You have to create 2 picture files now,

(can be more if you do it more complex, we stay simple)

for the layers to import later:

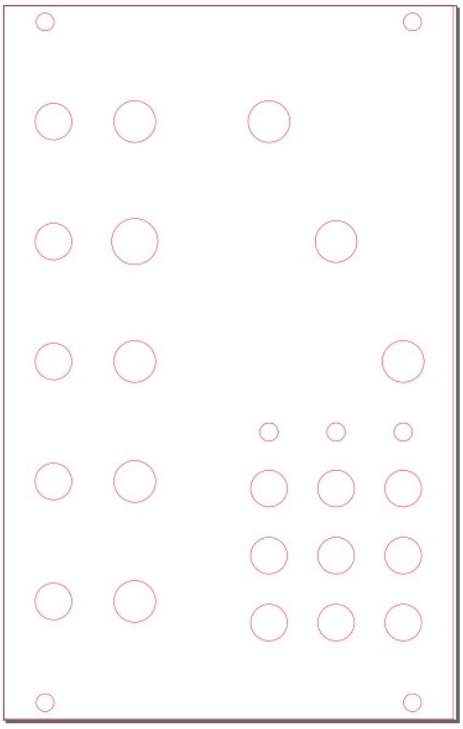
- outline & drills (1 layer only!)

- silkscreen (usually white, can be selected at manufacturer)

Use CTRL + Mousewheel to scroll.

- Hit CTRL + A to select all
- Hit Shift + CTRL + R to resize page to selection!!!

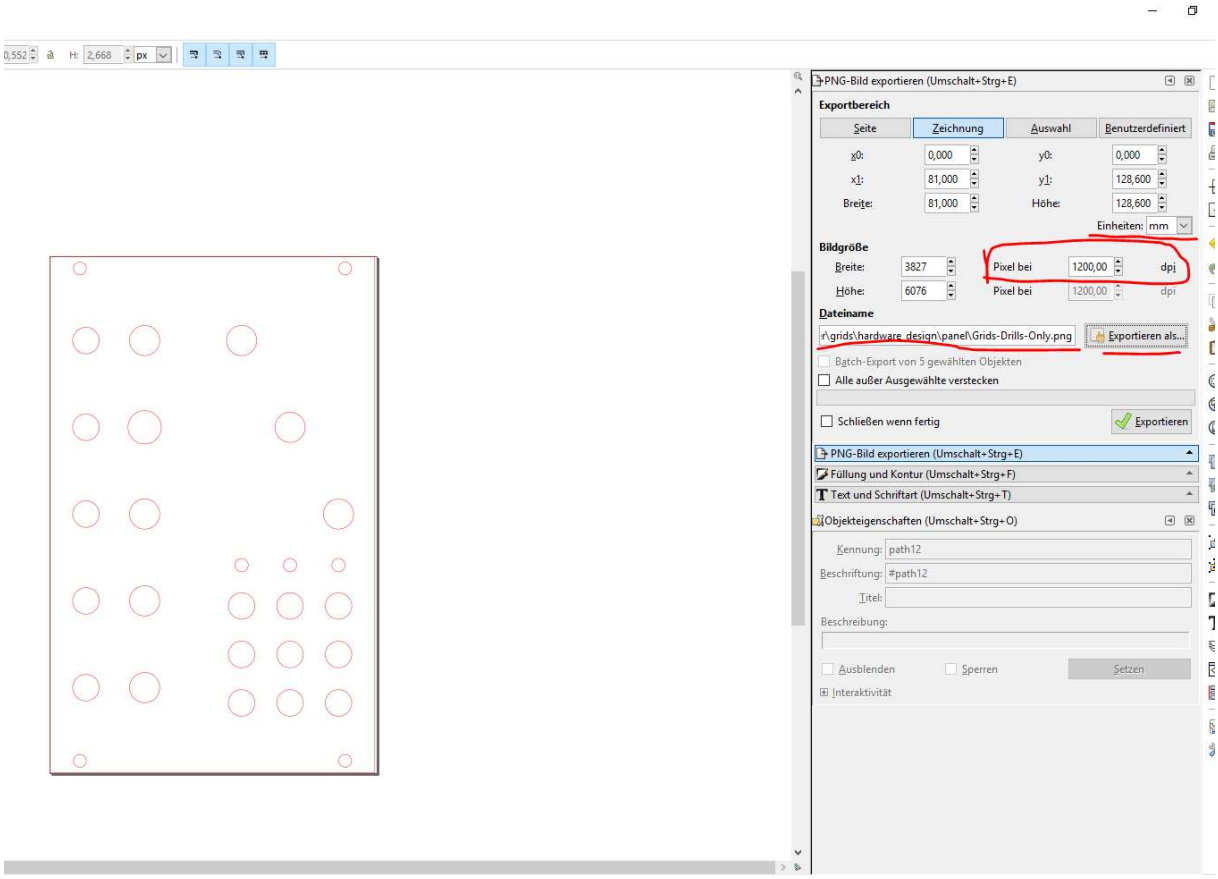
4.) delete everything except the outline and the drills



5.) Hit Shift + CTRL + E to open the page for PNG export
- set units to mm

- set DPI to 1200

- set directory and export the Drills Only File. See Settings for export next page (no other changes needed)

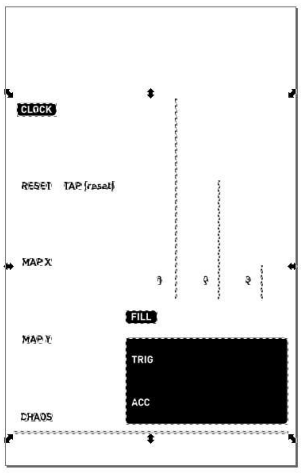


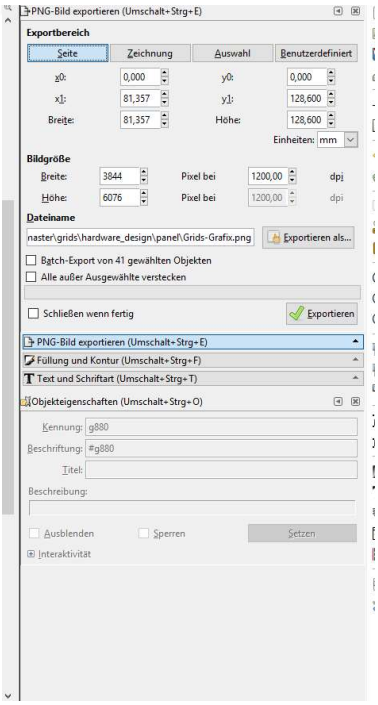
6.)
Drill File finished!
- Hit CTRL + Z few times to come back tot he starting page in inkscape again. (you should have the full original panel again. We do the Silkscreen now before working with other tools.)

- If the design includes colourfull parts, you have to paint the black to make the single colour import work.
  To do so, I clicked on the colourfull part and the clolour black in the colourtab at the bottom of the screen.
  Sometimes it may be nessesary to ungroup parts before you can change single elements.
  Often this needs tob e done multiple timest o entert he depth of subgroups needed.

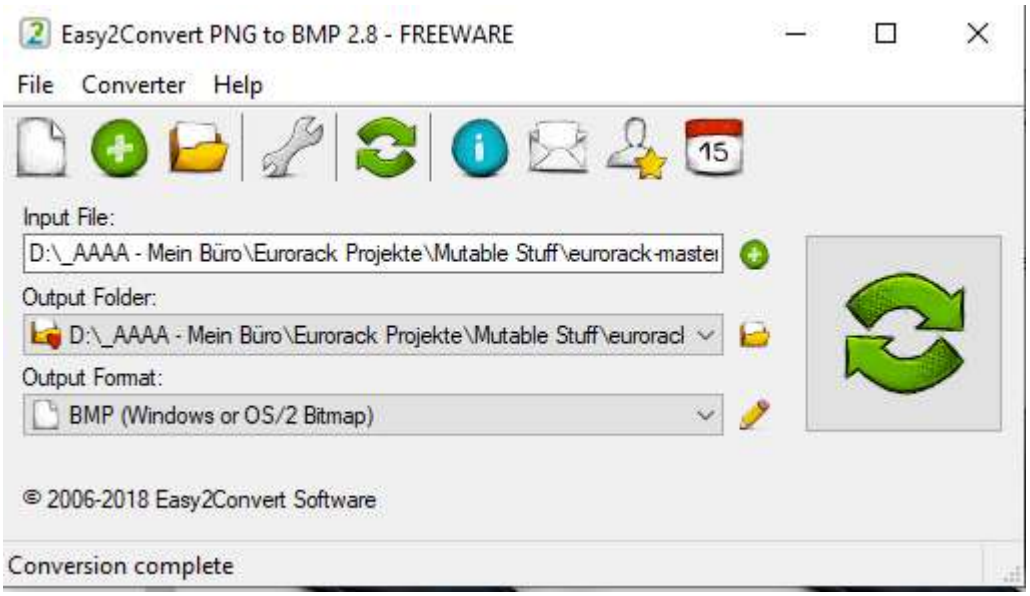
  e.g. Grids Grafix

7.) export page as PNG (SHIFT + CTRL + E)
export Page NOT Selection to have the correct dimensions at import!





8.)
I use this tool now to convert both exported files from PNG to BMP



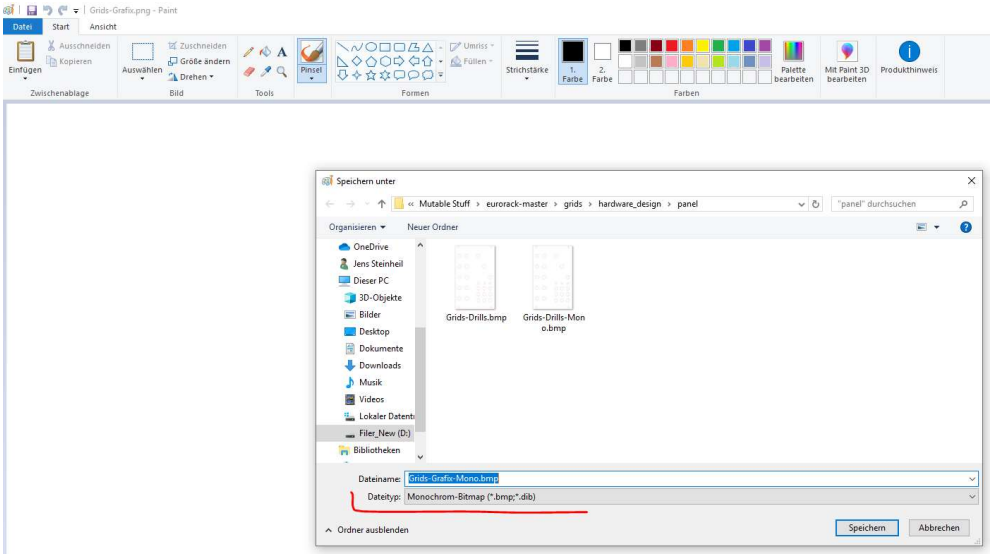
- Simply add and convert one file, repeat fort he second.

9.)

Open the newly created *.BMP file with Windows Paint:

- simply resave them as Monochrome Bitmap File!

(File-> Save As… -> Filetype:MonochromeBitmap -> overwrite ok)



10.)

Now to Eagle: size don’t matter for panels.

File -> Import -> Bitmap -> ok

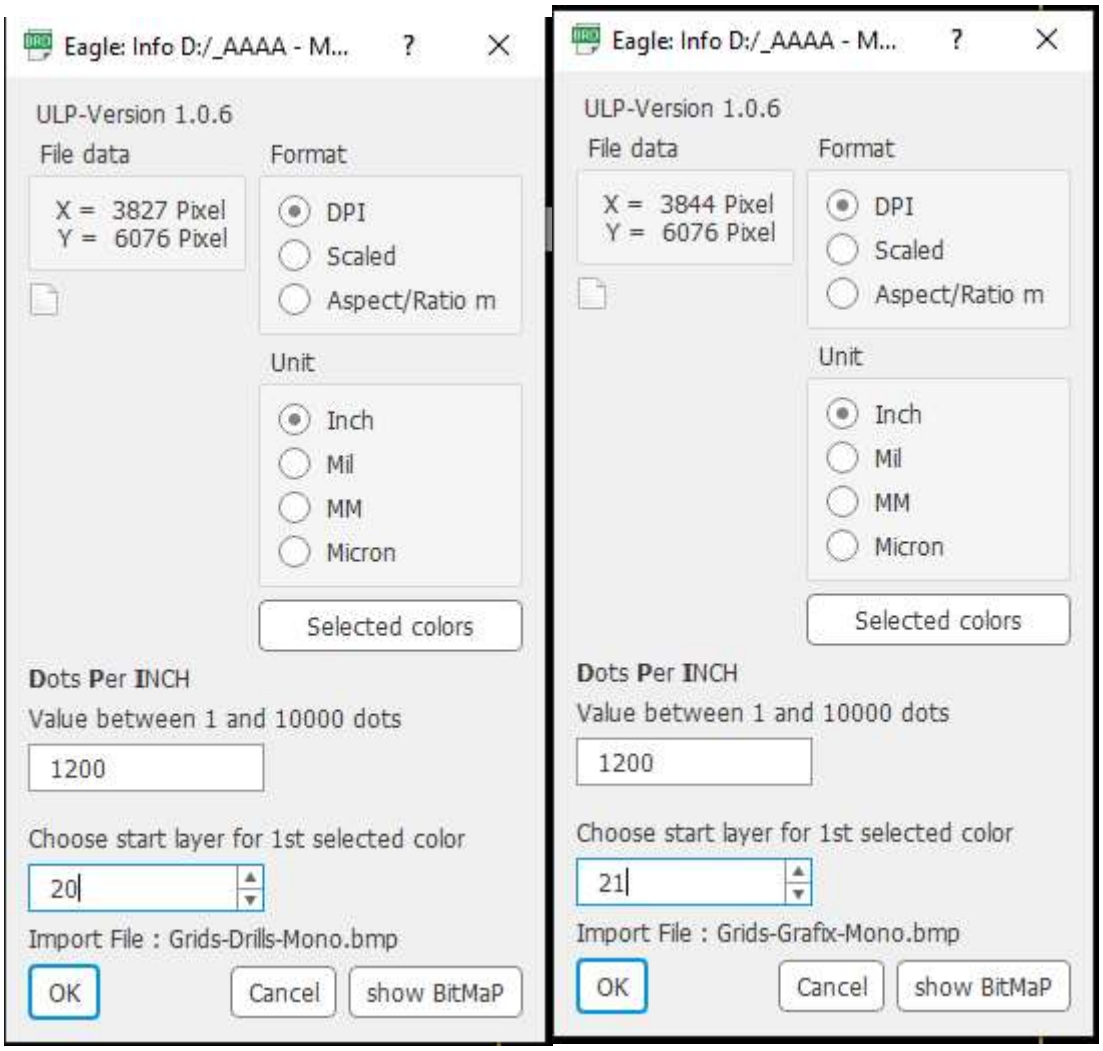
Select black as the only colour -> ok

Set Format to DPI, Value to 1200 and layer to 20 for outline / dimension.

Hit ok, a script is generated which needs some time. Then -> run script

Repeat File -> Import -> Bitmap with the Grafix layer (the other *.bmp file) but import it to layer 21 Top Silkscreen.

See Settings next page



11.)

You can already export this eagle brd as gerbers now at it will work.

However, the board preview at JLCPCB won't work if you upload like that. But they will cutout a correct outline and drills as well as paint a correct sikscreen.

12.)

It is better to add following steps to make it a more complete PCB file.

- For convience change grid to 1mm to have mm measurements
- Repaint the outline
- Repaint all holes (you can use via for optical finess)
- Paint a short front and back trace inside a hole (to make the bot think it is a double sided PCB (=more cheap))
- Paint your text to it
- Save and Export gerbers, you're done!