

TriggerMatrix V4



Planned in 3D:



Left: Serial Nr1 « » Right: Prototype



CODE, FIRMWARE

Install [MIOS Studio](#), connect TM4 via USB, and Start the STUDIO

1. Upload [MIOS BOOTLOADER](#)**2. (only needet for Virgin Machines) type following commands into the MIOS-TERMINAL:**

- set lcd_type GLCD_SSD1306_ROTATED
- set lcd_num_x 9
- set lcd_num_y 1
- set lcd_width 128
- set lcd_height 64
- store

3. (for Version Updates) Unzip [the TM4-Firmware](#), and Upload the TM4.hex

4. Unconnect USB & Connect the USB again — finished.

5. If the Machine is not detected by mios studio, and you already checked the usb-connections, the device or the code is broken, for that on the backside of TM4 is a switch, please set it to "bLOAD", now you can upload new & unbroken codes, dont forget to set it to "normal" back again - after upload new code - else the APP will not boot...

===== BUILD ===== ===== BOM, Components, PCBs ===== * [BLM16x16x](#), not longer produced anymore...

*** [CORE32 STM32F4](#)**

*** [2x Midi IO](#) * [DINX4](#) * [8x 10K Lin, Faders](#) * [6x Fader-Knob, BLACK](#) * [2x Fader-Knob, WHITE](#) * [9x Switches](#) * [3x Encoder](#) * [9x OLED-Displays 128x64px 0,96"](#) * [108x M2 Nuts](#) * [36x M2 Screws](#) * [20x Crimpable connector, 2x5 Pole](#) * [5x Crimpable connector, 2x8 Pole](#) * [1x 26Pole Wire](#) * [1x Boot-Switch for Bootload-Mod](#) * [3x Encoder Knob](#) * Full Sized SD-CARD, which is not Hi-Capacity, eg take 4 or 8GB Cards!**

*** [2x Wood: 15 x 400 x 39mm, or > 16 x 400 x 39mm \(39mm is minimal, i took 40mm...\)](#) * [1x Wood: 15 x 335 x 39mm, or > 16 x 333 x 39mm \(39mm is minimal, i took 40mm...\)](#) * [3mm Alu Plates for Ground and Backpanel \(you cut and drill it by your own\)](#) * [3mm Alu Frontpanel, CNC-machined \(See DXF-File for more info\)](#) =====Pictured Doku=====**

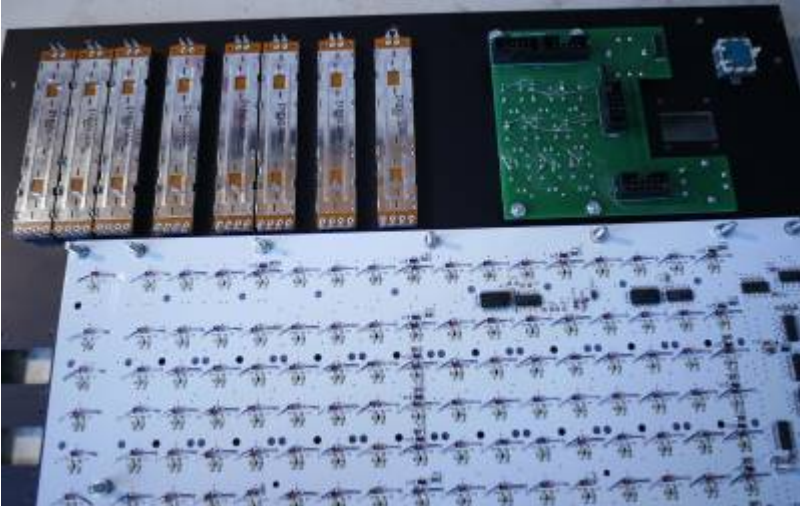
BLM16x16





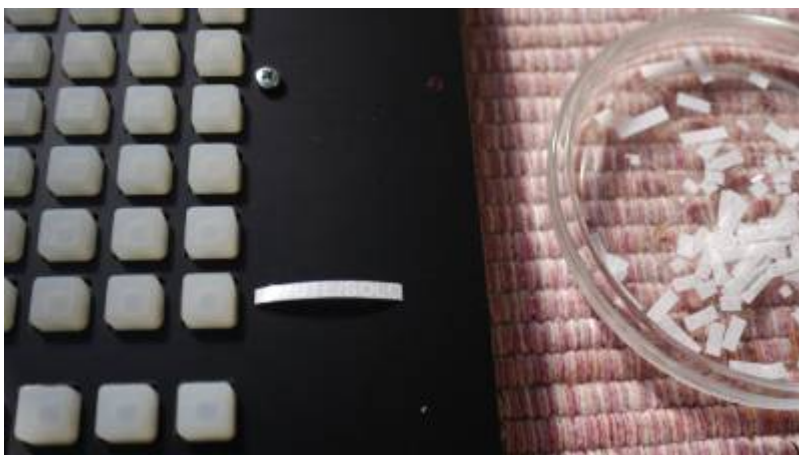
Code-Block





Labels:





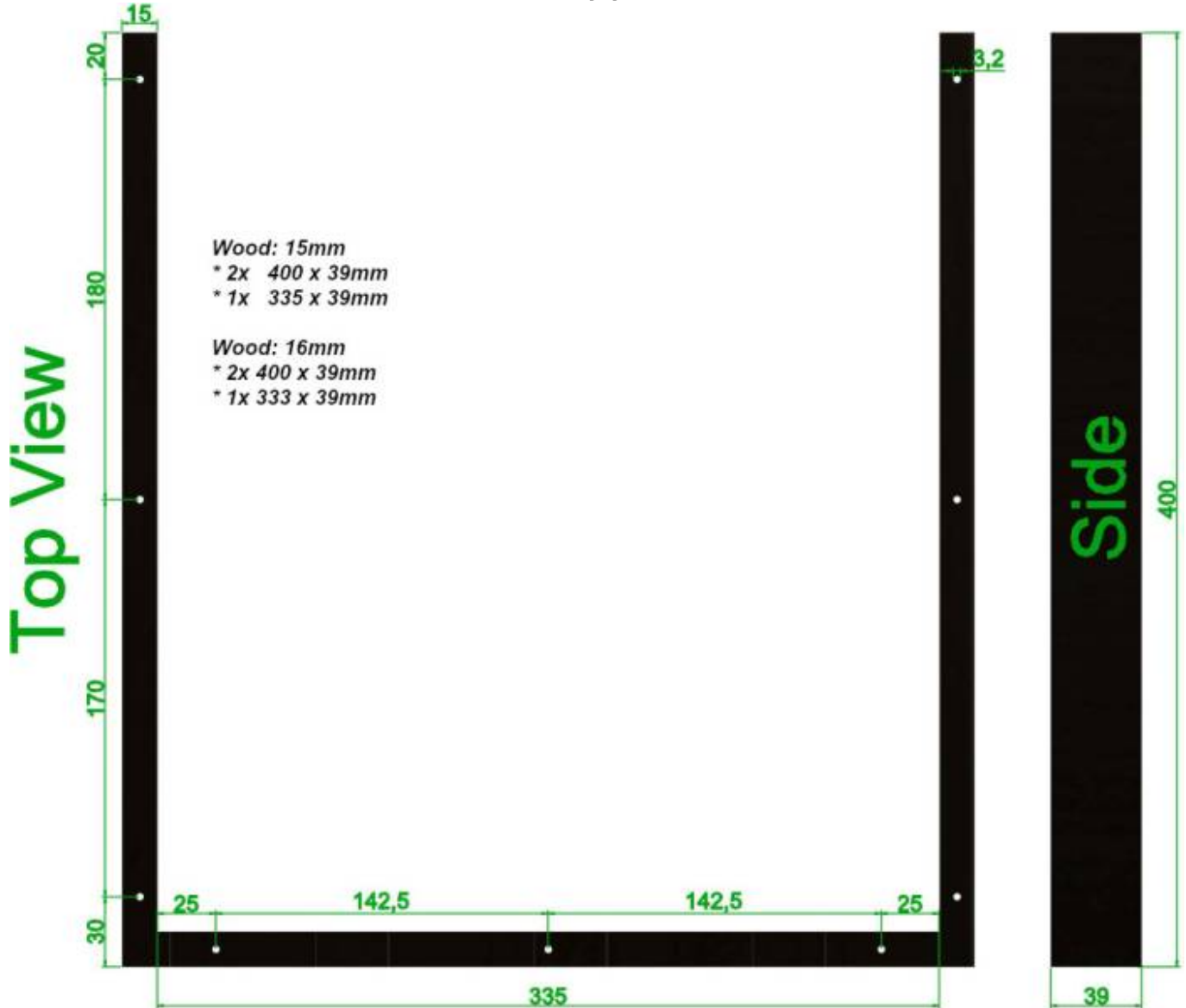
Wires:



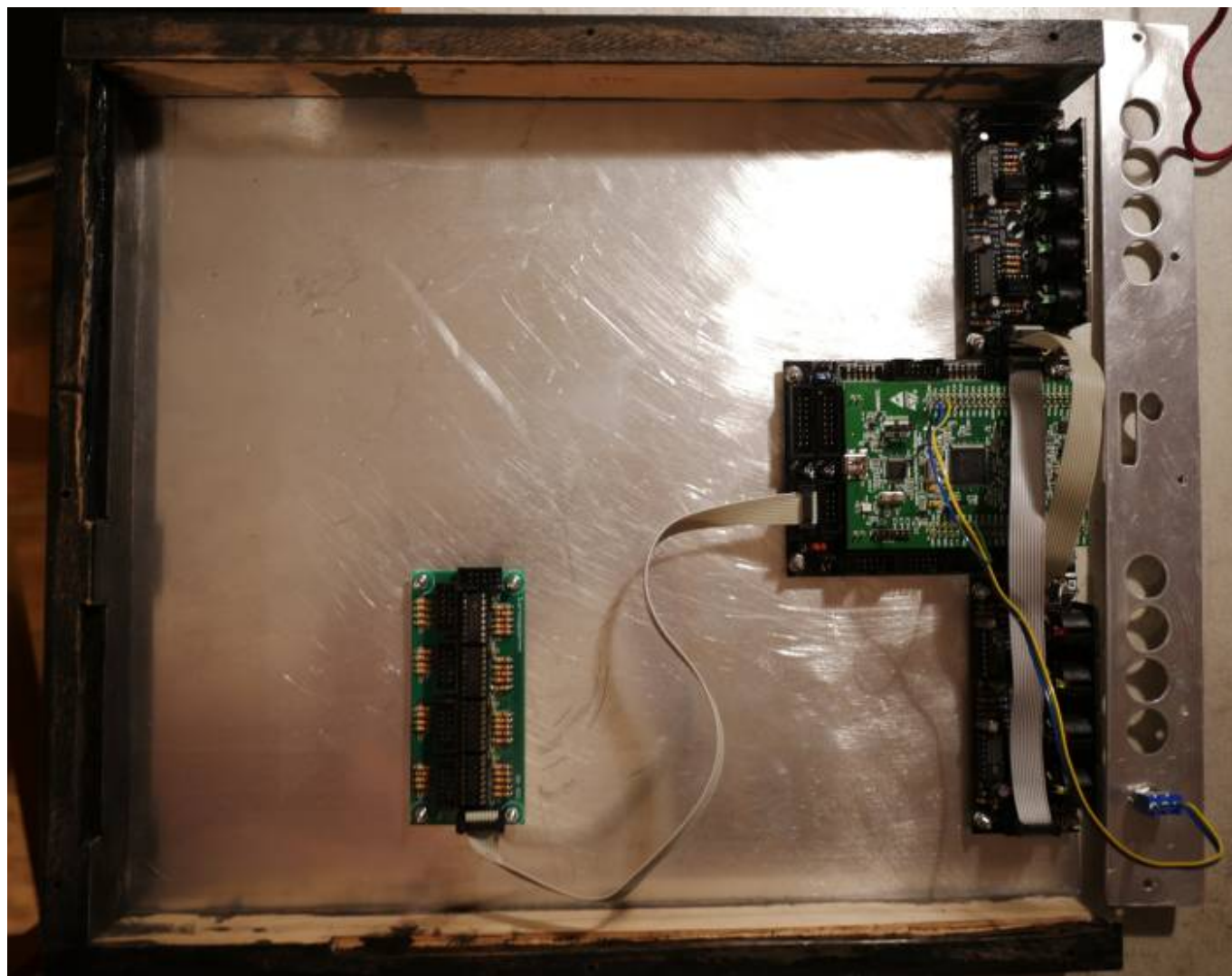


Wood-Elements:

15mm "hard-Wood", i use BEECH, let it cut by your local hardwarestore...





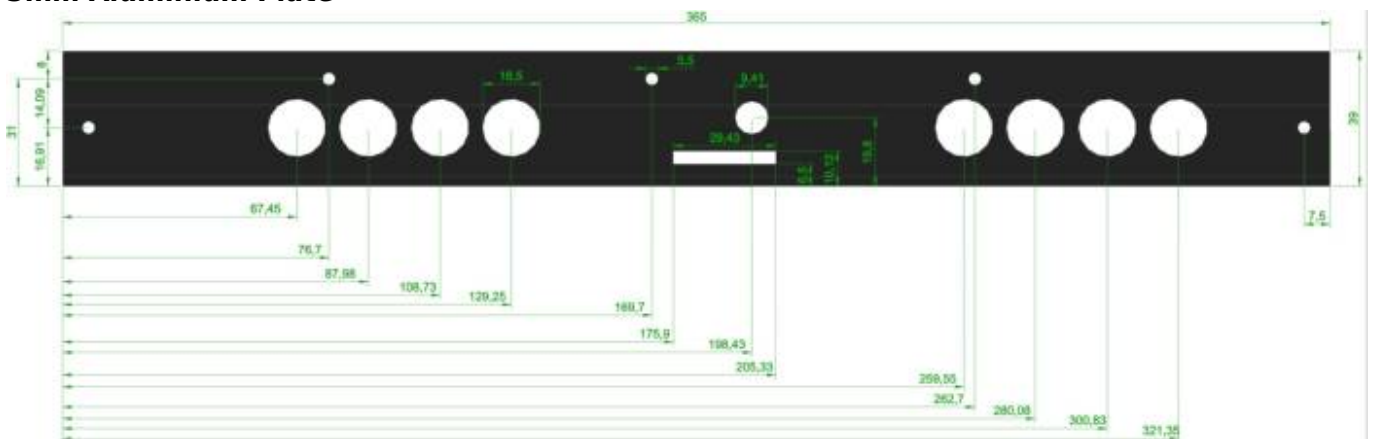


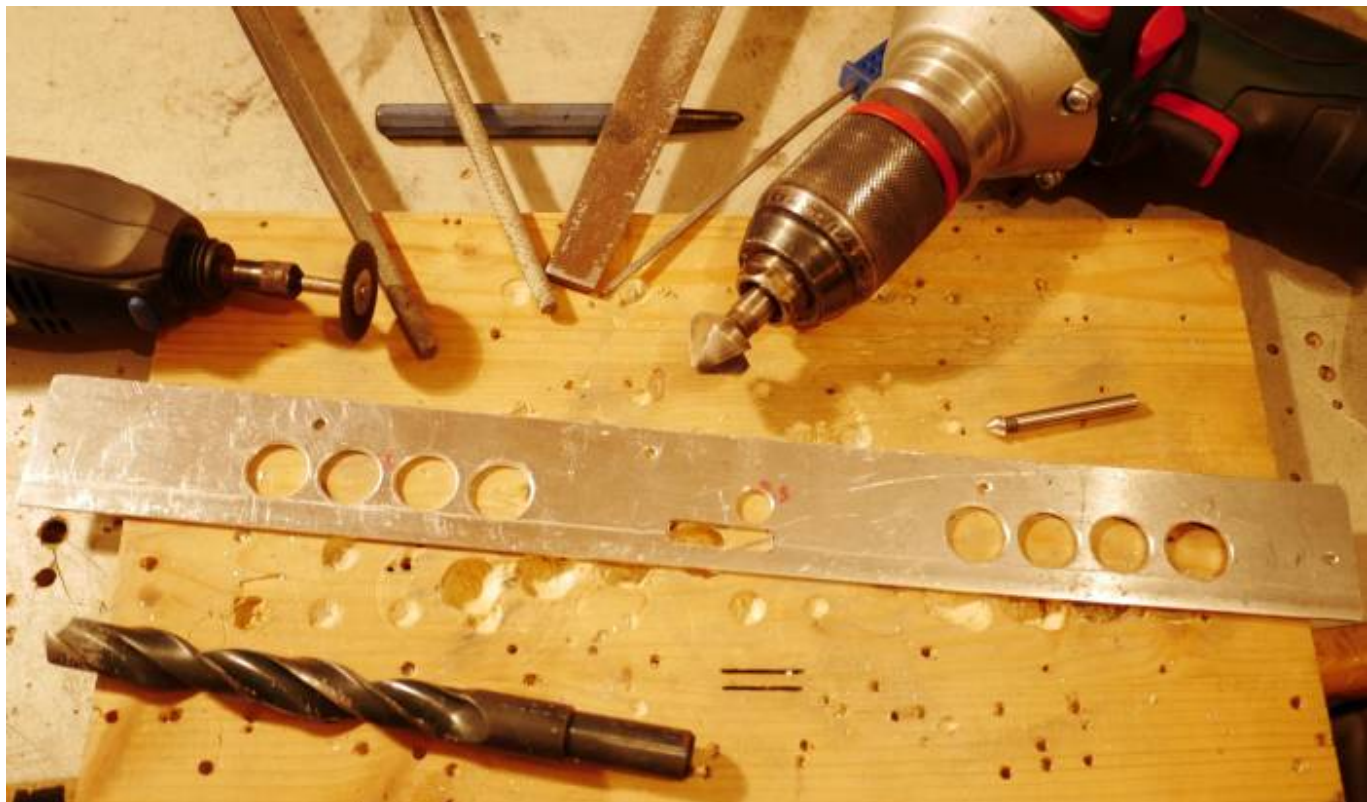
Screws:





DIY-Back-Panel:
3mm Aluminium Plate





==== Features ===== Short spoken:

- * 16xdrumtriggers > Trigger-Routing-Matrix > Drum-Syntesizers
- * 5x Poly Melody-lines > Trigger-Routing-Matrix > Melody-Syntesizers (track 1-5)
- * 7x Mono Melody-lines > Trigger-Routing-Matrix > Melody-Syntesizers/Pitachable Drums (track 6-12)

Rules:

- * Drum-Trigger are Velocity Master > we dont care about the velocity of the Melodys
- * There are Songs (ProgramChange), each Song has 8 different Trigger-Routings Presets> these are the Song-Parts
- * Each Song has 4 StepSequencer-Variants (Rythms)
- * Each Song can Remote up to 6 Melody Scenes (LoopA-compatible!)
- * 256 Songs saved on SD-Card, and Load-able while playing
- * The Tempo has to be changed by Hand or Midi, it is not saved with the song
- * System-Settings, like Ports or MidiChannels are Hardcodet, but there will be a sys- menue in near future
- * Triggermatrix midi-outs are connected to all synths, so it manage the program-change also
- * 16x Trigger-OUTs with fixed Notes, on one midichannel - to connect Drum-Synths, Drum-Samplers
- * 5x Polyphonic Melody-Retrigger-OUTs on 5 MidiChannels - to connect MelodySynths to it
- * 7x Monophonic Melody-Retrigger-OUTs on 7 MidiChannels - to connect Monophonic

 **Fix Me!**

Synths like pitchable Drums or Bass-Synths - i think 1-5 is poly the rest is mono!

- * All 16 Trigger & ReTrigger-OUTs share the same Routing and Channelstrip UI (Mute, Solo, Roll...)
- * Trigger, Poly, Mono-OUTs can be controlled seperatly by > Random-Kill & Velocity-OFFSet
- * 5x16 Melody-Input-Matrix - Route & Mix Melody Inputs to the 16 Melody-Retrigger-Outs (saved in Song)

* **16x Melody-Input-Matrix-Hold-Buttons** - hold the last Note, save it in the Patch - usefull when pitch drums.

the Matrix has also a Trigger-Sequencer built in, the Melodys have to come from anywhere else, but @ the end, they have to be plugged into the matrix...

Trigger-sequencer, a few facts:

* **is a Drum-Step-Sequencer**

* **256 Steps in total**

* **32 th fixed rate**

* **3,4,5,7,11,13/4 tact**

* **minimal LoopSection is 16steps = 1 Page, there are 16 pages to chain**

* **intro LoopSection, from step 0 until to the "minimal LoopSection"- is played once, then it loops the normal LoopSection**

* **The sequencer is made to give a static NoteStream, the Song-Structure is done LIVE by the TriggerMatrix-ROUTER**

* **Full Velocity control, visible with 3 different colours, Velocity Set via FADER**

* **Free programmable Swing to each Step, with 2 different swing Length-sets, which are controlled live with encoder**

* **copy, paste, erase of pages**

* **copy, paste, erase of rows**

* **fixed forward play direction**

==== **Community users working on it** ==== * **Phatline**** = Programming, Documentation, Hardware-Prototype, Testing, Jamin...

- Maxim Anokhin - as first User of TM4 - Serial Nr.1

Getting Involved ?

Just let a Private message on the forum to user already involved

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