

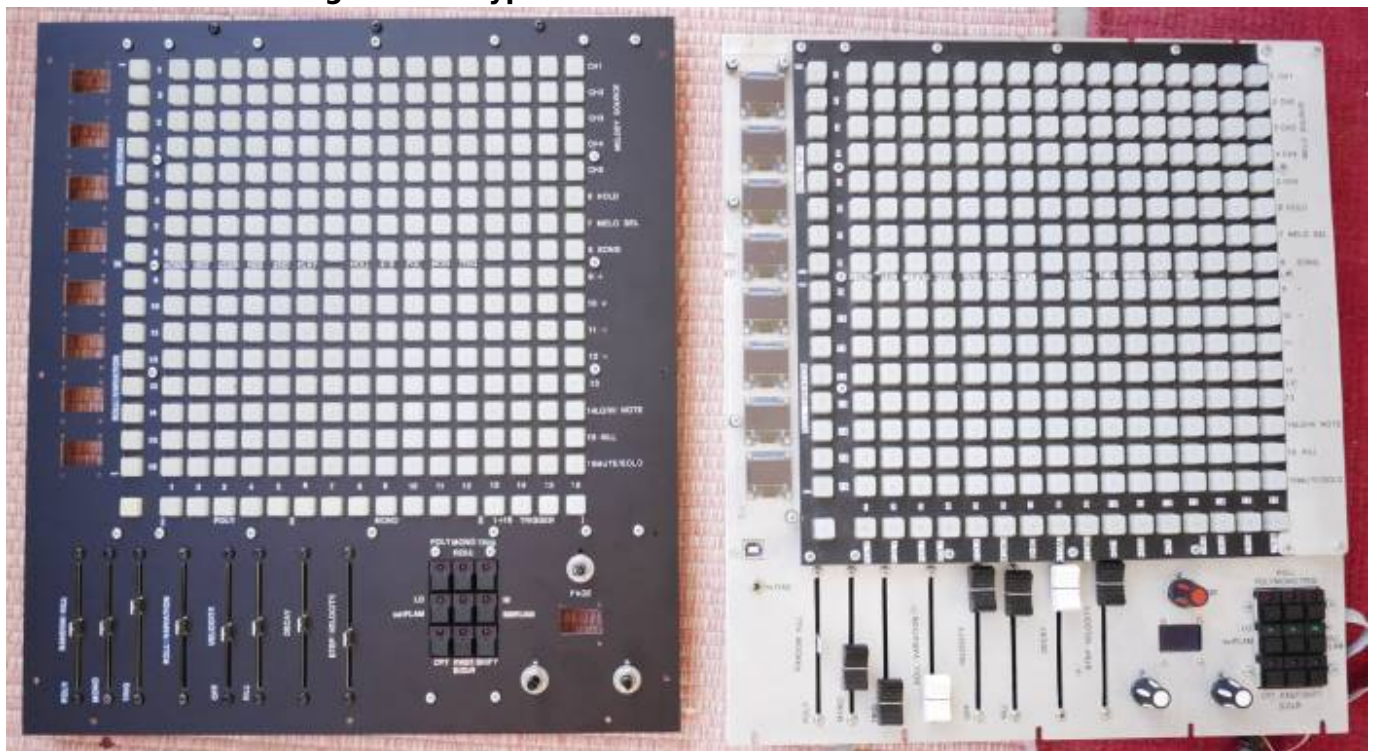
# TriggerMatrix V4



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. **X. 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:





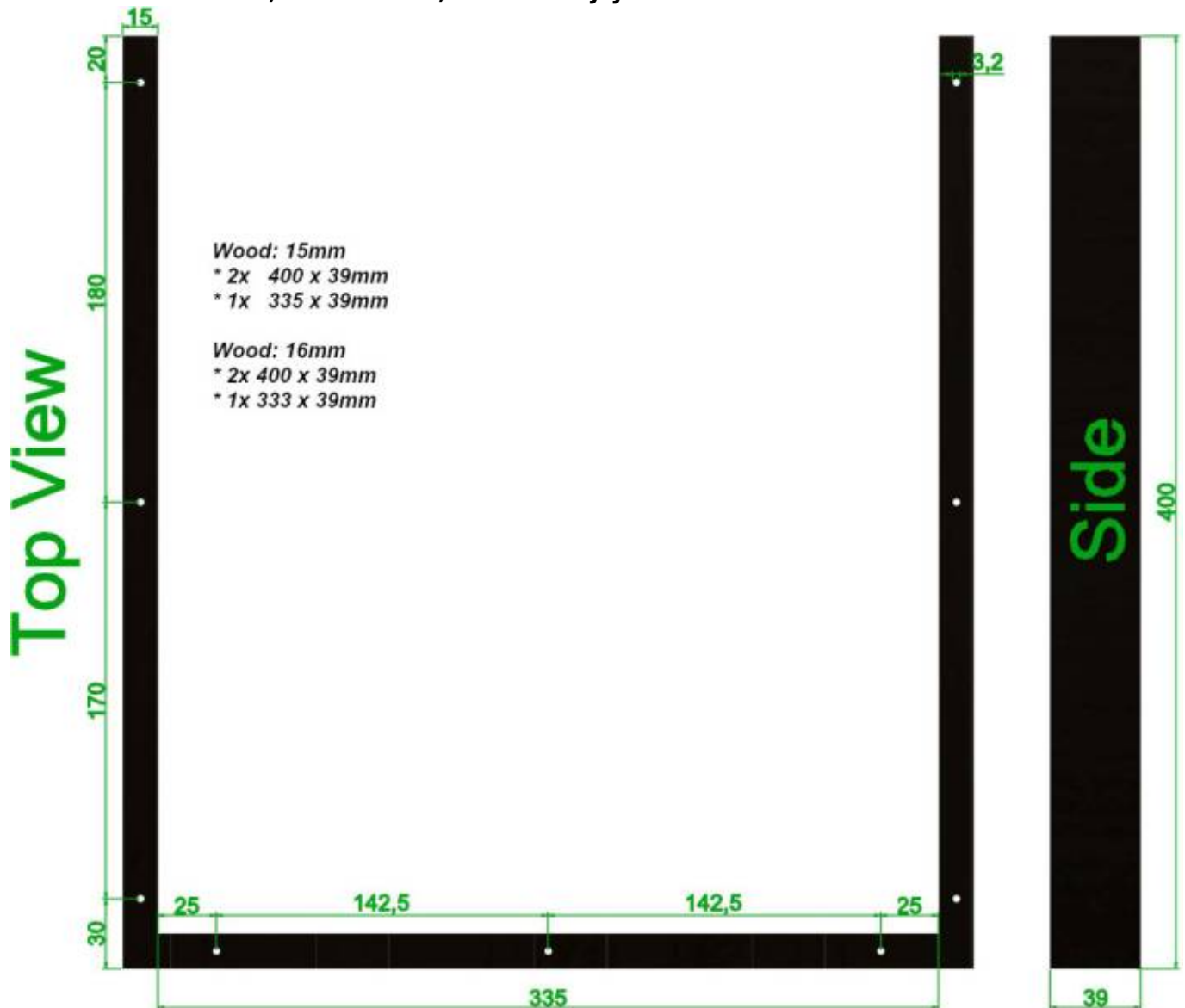
Wires:





Wood-Elements:

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





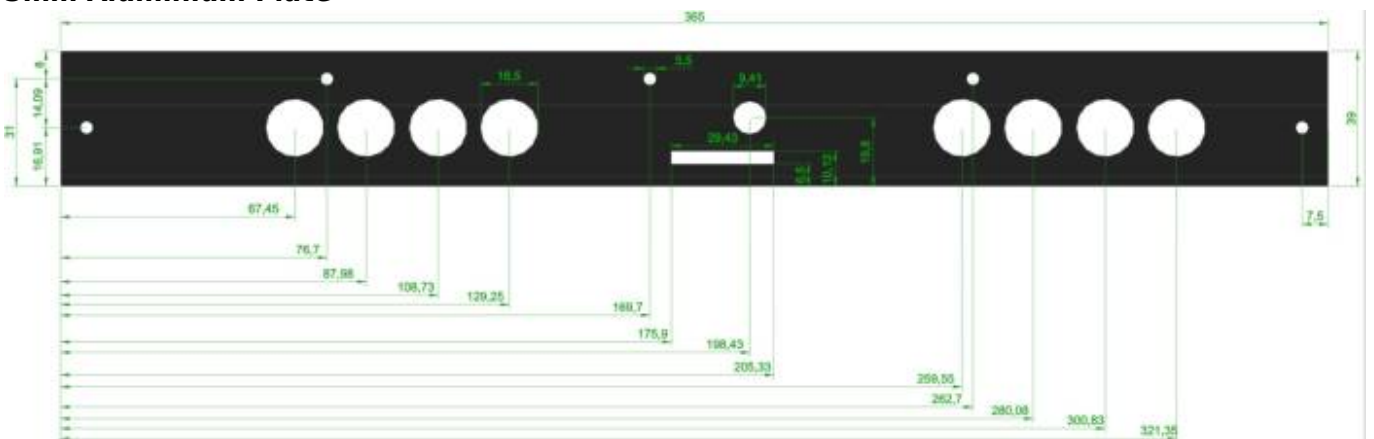


Screws:





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

From:

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