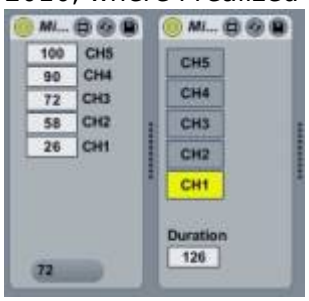
# TriggerMatrix V0

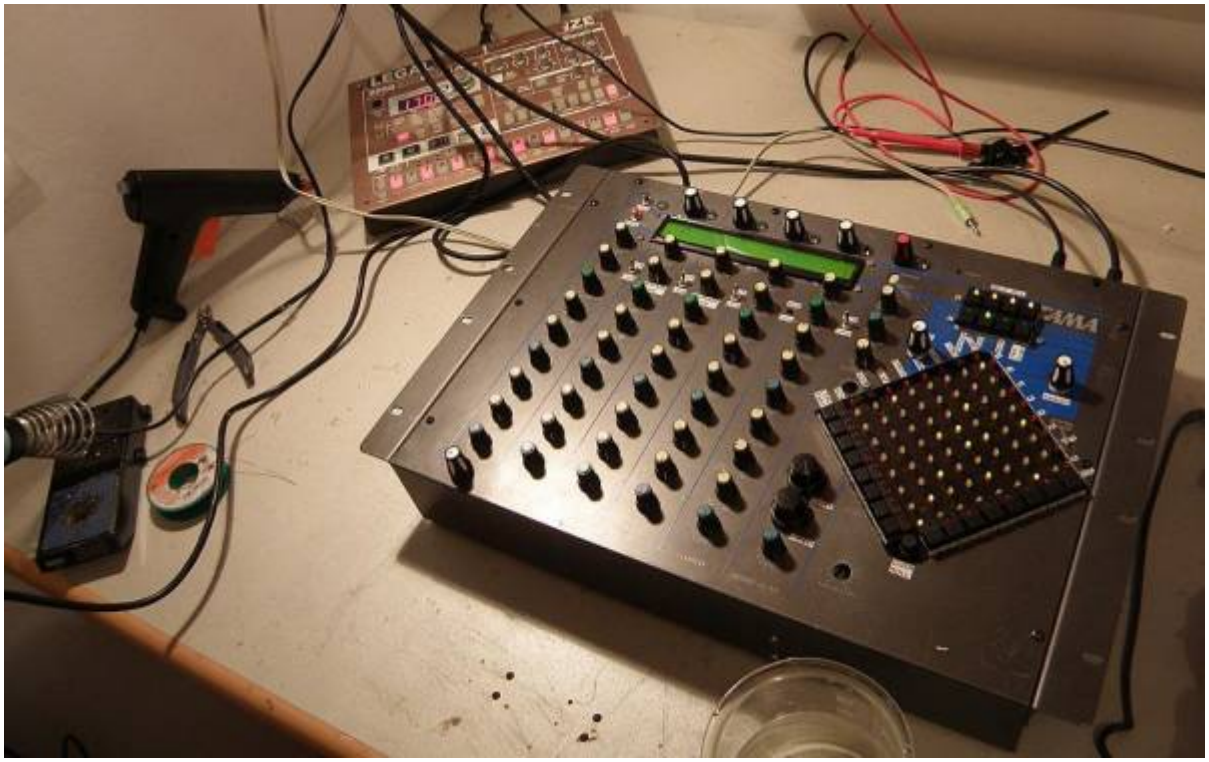
The Idea from Retriggering Melodys and Drums from a static drum-sequence, goes (for me) back into 2010, where i realized it via Max4Live:




in abletons drumtrack, i placed the SENDER, it triggered via CC the RECEIVERS, the Receivers directly where feedet with Midi-Melodys in there Parent-Track, a basic ReTrigger
Max4Live-Device
2012 i kicked Ableton, and made a standalone MAX-MSP Groovebox with Triggermatrix as Core-Feature:

Video-GruftBox-in-use

then comes the 8bit Prototype, built in a Techstar made it a TEKKSTAR, but also there it was soon replaced with a 32Bit Core,



Tekkstar in use

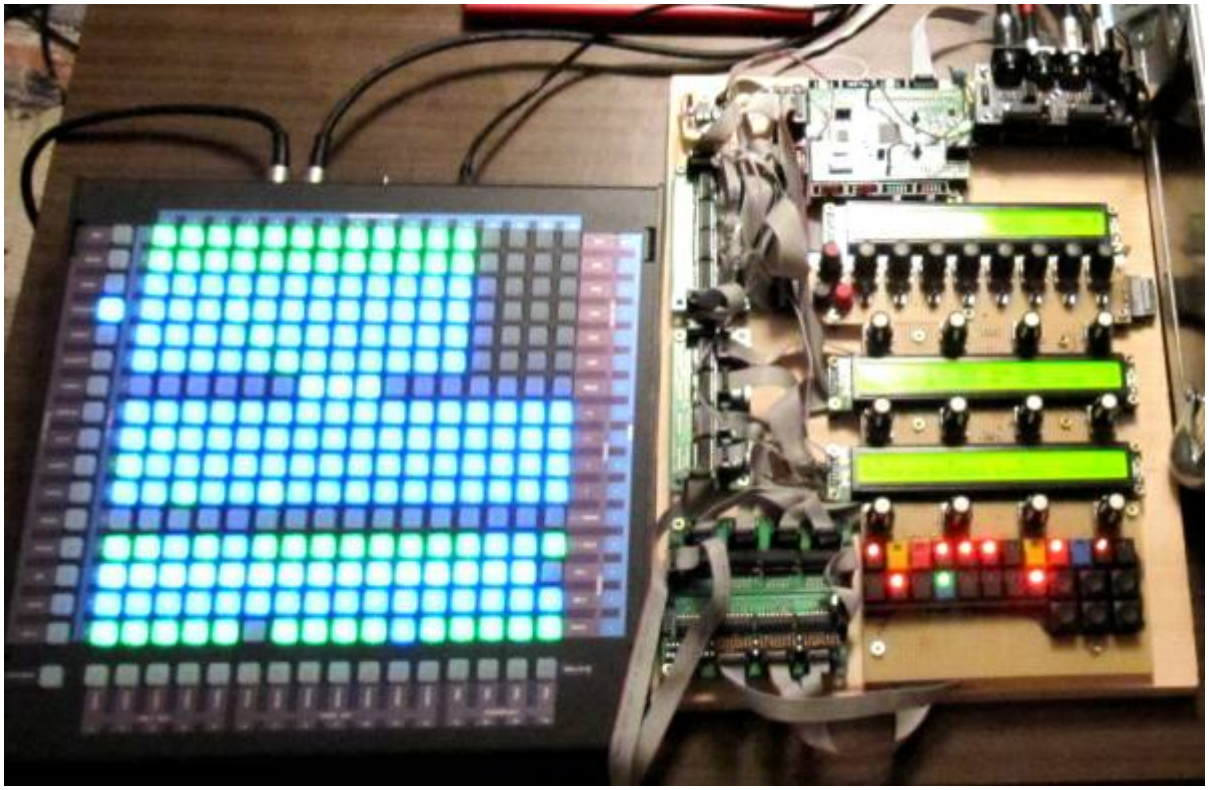
it was a 8×8 LED-Matrix, with 2×8 Buttons, on Breathboard

a other 32bit Variante built in on the Upper-Manual in Crumar 198, UI-controlled via a BCR2000

Video-Crumar-In-Use

# TriggerMatrix V1

32 Bit PROTOTYPE



# TriggerMatrix V2

not supported any more, it has timing issues, use the way more lightweight V3!

## What is Triggermatrix ?

a quick but not full view into triggermatrix and sequencing (german-austrian)
Triggermatrix Teaching
Triggermatrix-basics
Echtzeit Musik

## Teaser

You have spend time to program a cool rythm, and you already know which chords/melodys you want to play, and now its time to programm the timing/steps/the rythm in the melody… after quite a while of trying and looking on your drumline you have a fitting melody line for your drums…

now you change the drums a bit… o no i also have to change the melody now… i make a break, a intro…oh no so much work and time…and all because, the melody is fixed in arrangement,

you want a melody line that goes with beat? you want to change the beat note stream also (noteprocessing)? > read more… i have a tool for you!!! it will change your way doing LIVE!
get ready for JAM!

## Features

### Short spoken:

- 16xdrumtriggers > Trigger-Routing-Matrix > Drum-Syntesizers
- Melody-lines > Trigger-Routing-Matrix > Melody-Syntesizers

### Rules:

- Drum-Trigger are Velocity Master > we dont care about the velocity of the Melodys
- There are Songs (ProgramChange), each Song has 16 different Trigger-Routings Presets> these are the Song-Parts
- 512 Songs saved on SD-Card, and Load-able while playing
- 512 System-Settings(Setups) saved on SD-Card…i use only one of it
- 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
- 6x Polyphonic Melody-Retrigger-OUTs on 6 MidiChannels - to connect MelodySynths to it
- 12x Monophonic Melody-Retrigger-OUTs on 12 MidiChannels - to connect Monophonic Synths like pitchable Drums or Bass-Synths
- 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**
- 6x 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.

V1: 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
- 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 by the TriggerMatrix
- Full Velocity control, visible with 3 different colours, each colour-Vel is set with its own CC
- Free programmable Swing to each Step, with 2 different swing Length-sets, which are controlled live via CC
- copy, paste, erase of pages
- copy, paste, erase of rows
- forward, backward, fw><bw - play direction
- Not only 4/4 are possible, all other things like 5/4 are possible! +++

# Generic Interface

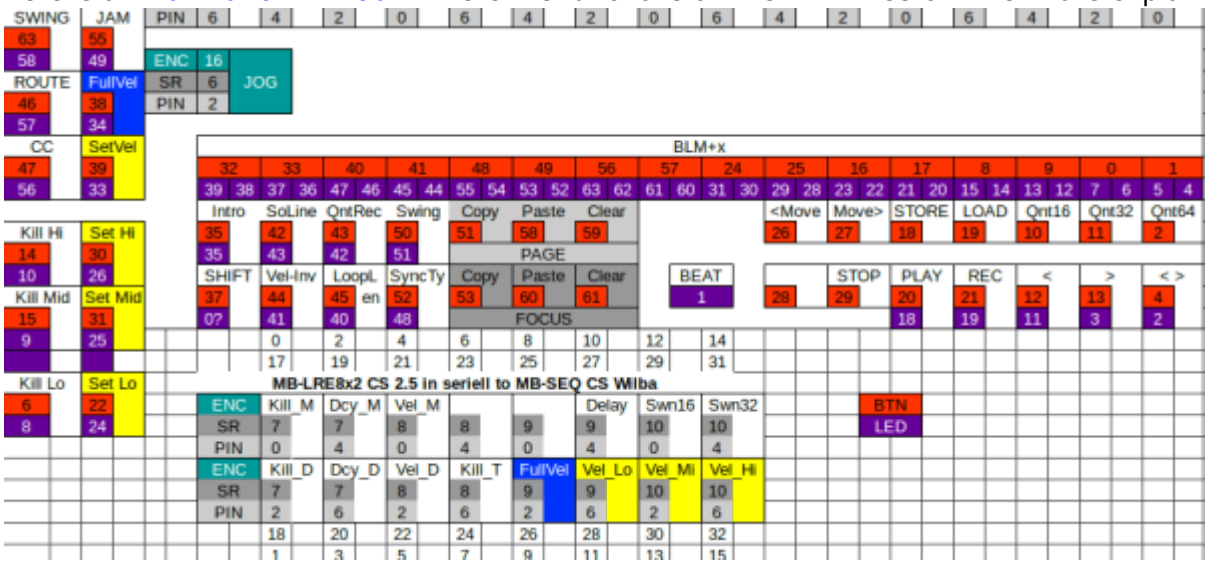
Generic in sense of: PCBs that already out there:

- Wilba SEQ CS
- BLM16x16x
- LRE8x2CS_PCB
- CORE32 STM32F4
- 2x 2x40Char Display
- 2x Midi IO
- SD-Card and some wires (which all are crimpable)

so when you have those things, upload the Code & watch the videos above

Serial Chain is: Wilba SEQ-CS and then LRE8x2
code is working, SEQUENCER timing is a mess, i was still a newbee in c > “learning by doing”

here is a "FrontPanel+Pin-Out" where the functions on the WILBA CS & LRE8x2 are explained



# TriggerMatrix V3

## Teaser

V2 was Song-Structured, **V3 is to JAM**

in V2 where lot of UI-Elements, Menues, and Settings.
**V3 is stripped down and optimized:** 8 Faders, 5 Tactial Buttons, 3 Switches, 1 Encoder, + BLM16+16X.
its more the orginal V0 Tekkstar, there we had only a matrix a view buttons and Pots
3/4 4/4 5/ 7/4… and others, is Set on the 16×16 Matrix with “on matrix text”.
Timing now is rock-steady. And we are Sequencing on 32th
New is the **Clip-Launcher**, here we can Ableton-Style switch Clip-Variations and Songs
Now we have a **Roll-Variation Fader**!

## Features

### Short spoken:

- 16xdrumtriggers > Trigger-Routing-Matrix > Drum-Syntesizers
- Melody-lines > Trigger-Routing-Matrix > Melody-Syntesizers

### 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
- 256 Songs saved on SD-Card, and Load-able while playing
- System-Settings, like Ports or MidiChannels are Hardcodet
- 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
- 11x Monophonic Melody-Retrigger-OUTs on 11 MidiChannels - to connect Monophonic Synths like pitchable Drums or Bass-Synths
- 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**
- 6×16 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 via CC EDIT no CC for that right now
- copy, paste, erase of pages
- copy, paste, erase of rows
- fixed forward play direction

## U Interface

PCBs that already out there:

- BLM16x16x
- CORE32 STM32F4
- 2x Midi IO
- SD-Card and some wires (which all are crimpable)

so when you have those things, upload the Code & watch the videos above

Extendet UI via GPIO via J10AB, J5AB:

## Community users working on it

- **Phatline** = Programming, Documentation, Hardware-Prototype, Testing, Jamin…

## Getting Involved ?

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

From:
http://www.midibox.org/dokuwiki/ - **MIDIbox**

Permanent link:
**http://www.midibox.org/dokuwiki/doku.php?id=triggermatrix&rev=1517194418**

Last update: **2018/01/29 02:53**