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TriggerMatrix V0

The Idea from Retriggering Melodys and Drums from a more or less 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



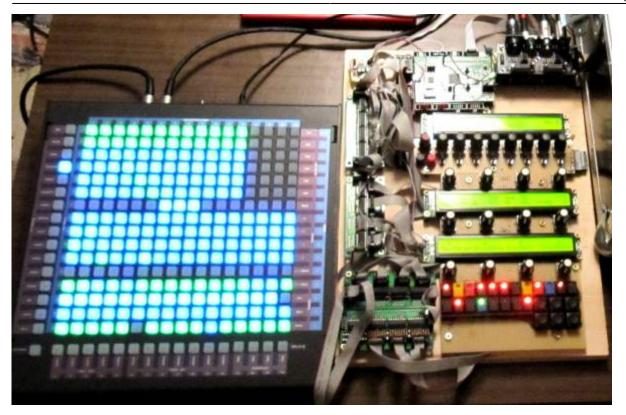
a other 32bit Variante built in on the Upper-Manual in Crumar 198, UI-controlled via a BCR2000 Video-Crumar-In-Use

TriggerMatrix V1

32 Bit PROTOTYPE

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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

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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 SEO 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

SWING JAM PIN 6 4 2 0 6 4 2 0 6 4 2 0

63 55

8 49 ENC 16

ROUTE FullVel SR 6 JOG

STOP PLAY REC < > CONTROL STOP PLAY REC STOP



TriggerMatrix V3



Teaser

V2 was Song-Structured, ${\bf V3}$ is to ${\bf JAM}$

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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 original 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

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- 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)
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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?

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

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