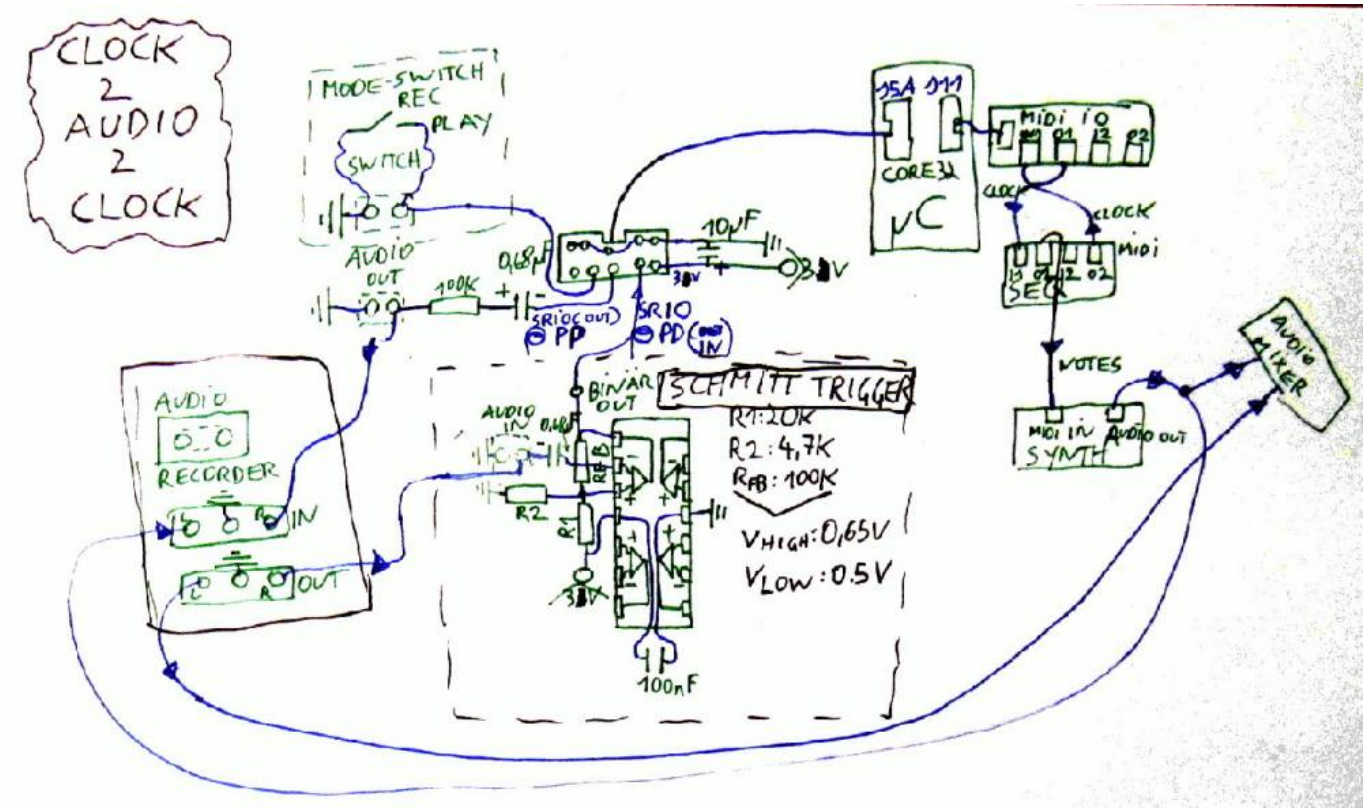
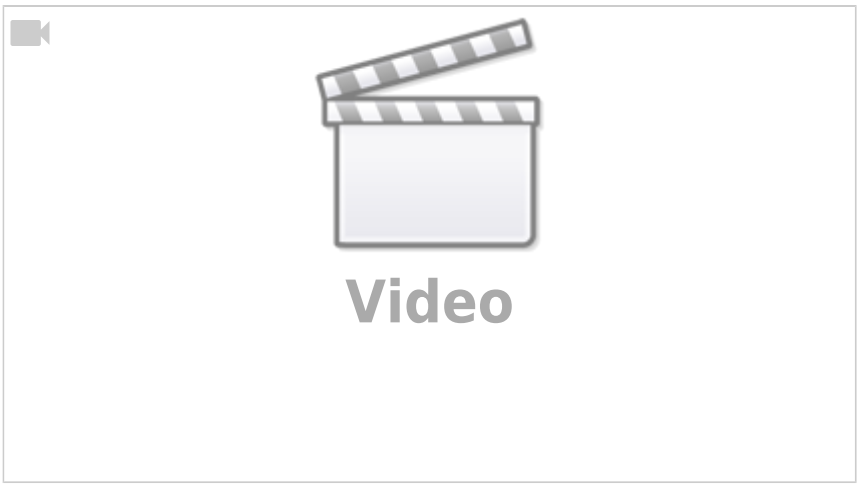
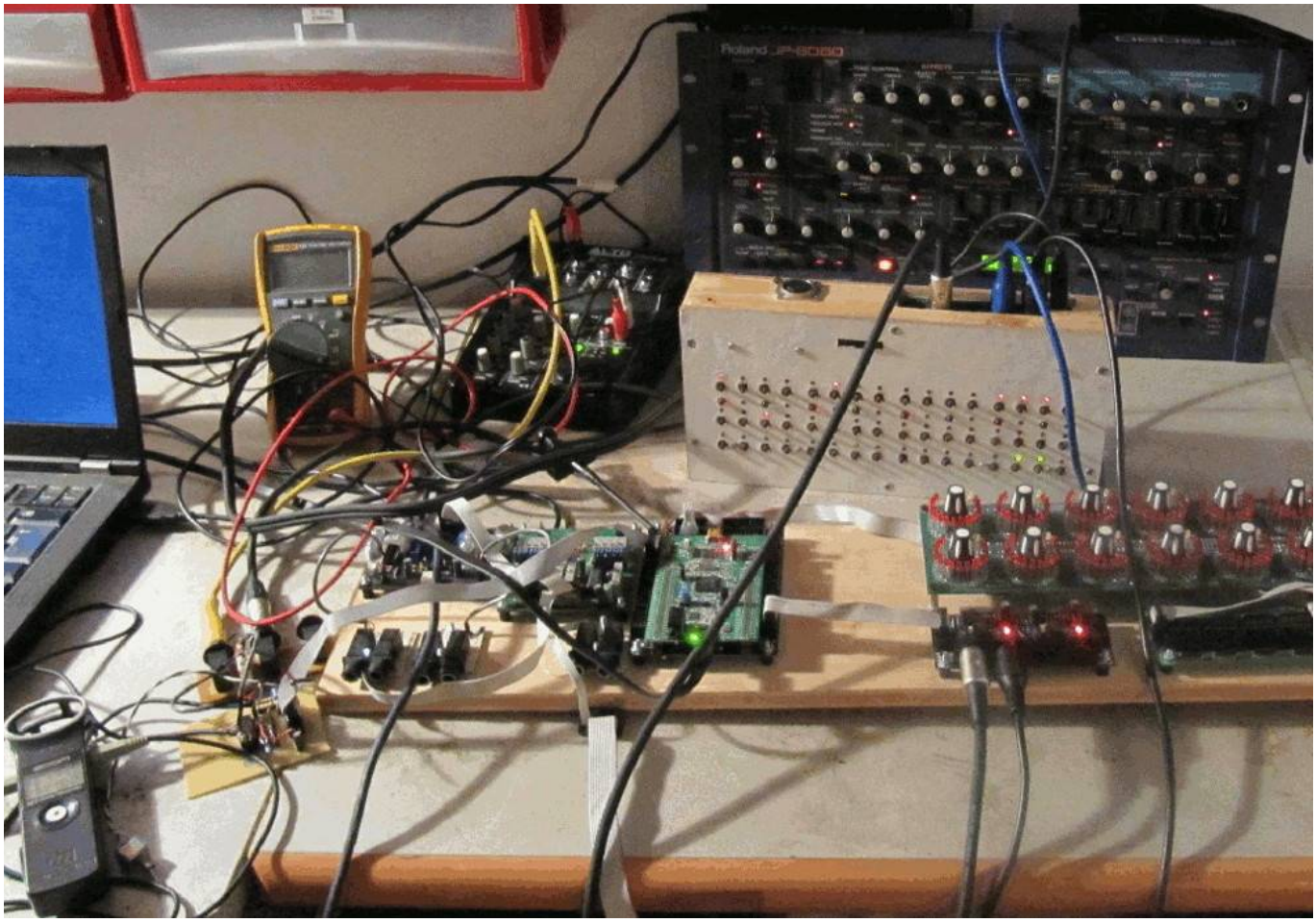
# clk2a2clk

Midiclock 2 Audio Converter, Audio 2 Midiclock Converter
4 Recording a Midiclock on a Audio-Track on your Multitrack-Recording-Device
in order to get the possibility to overdub a sequencer track on Recording Devices without Midi-Clock builtin




Video

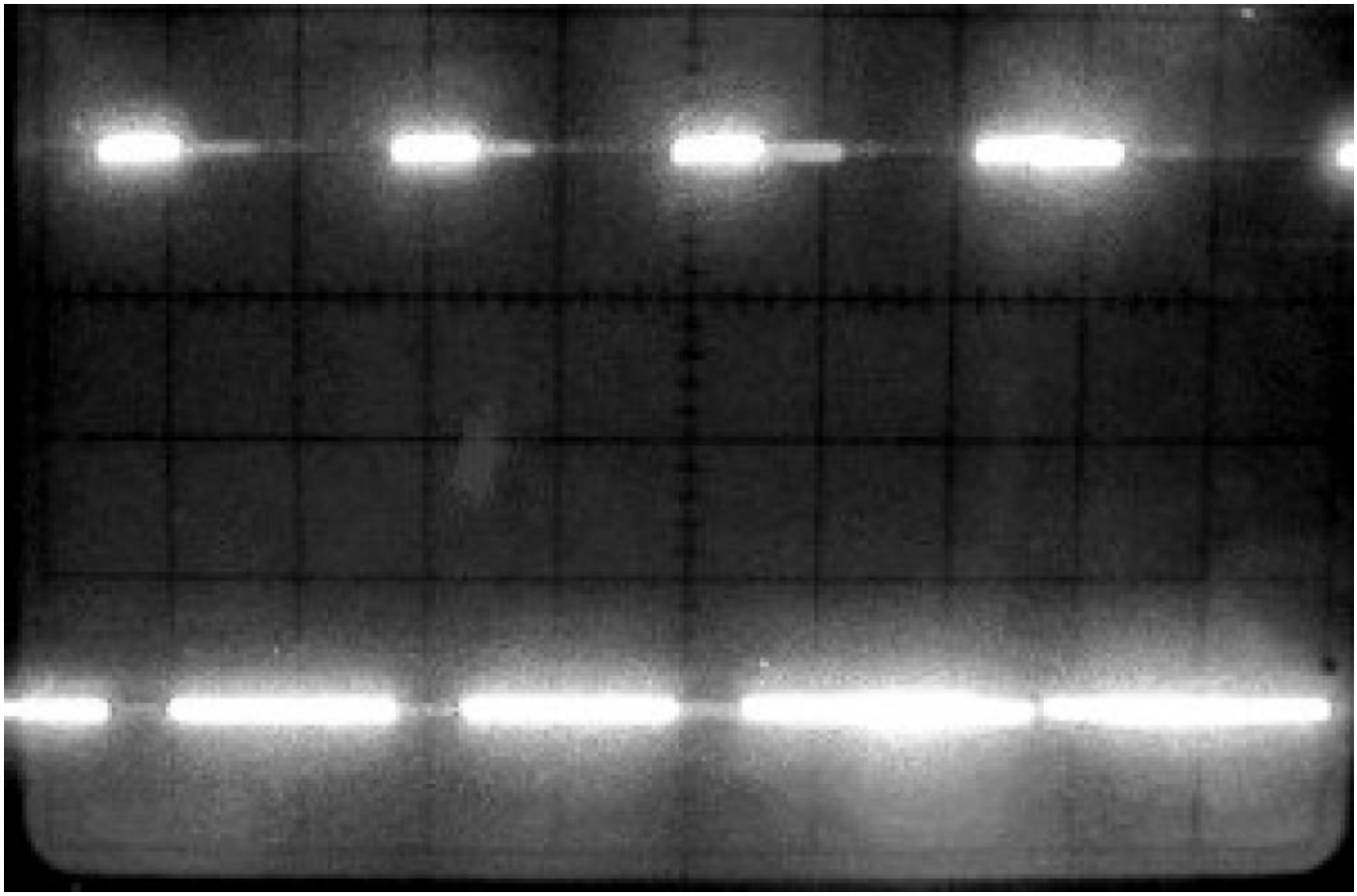


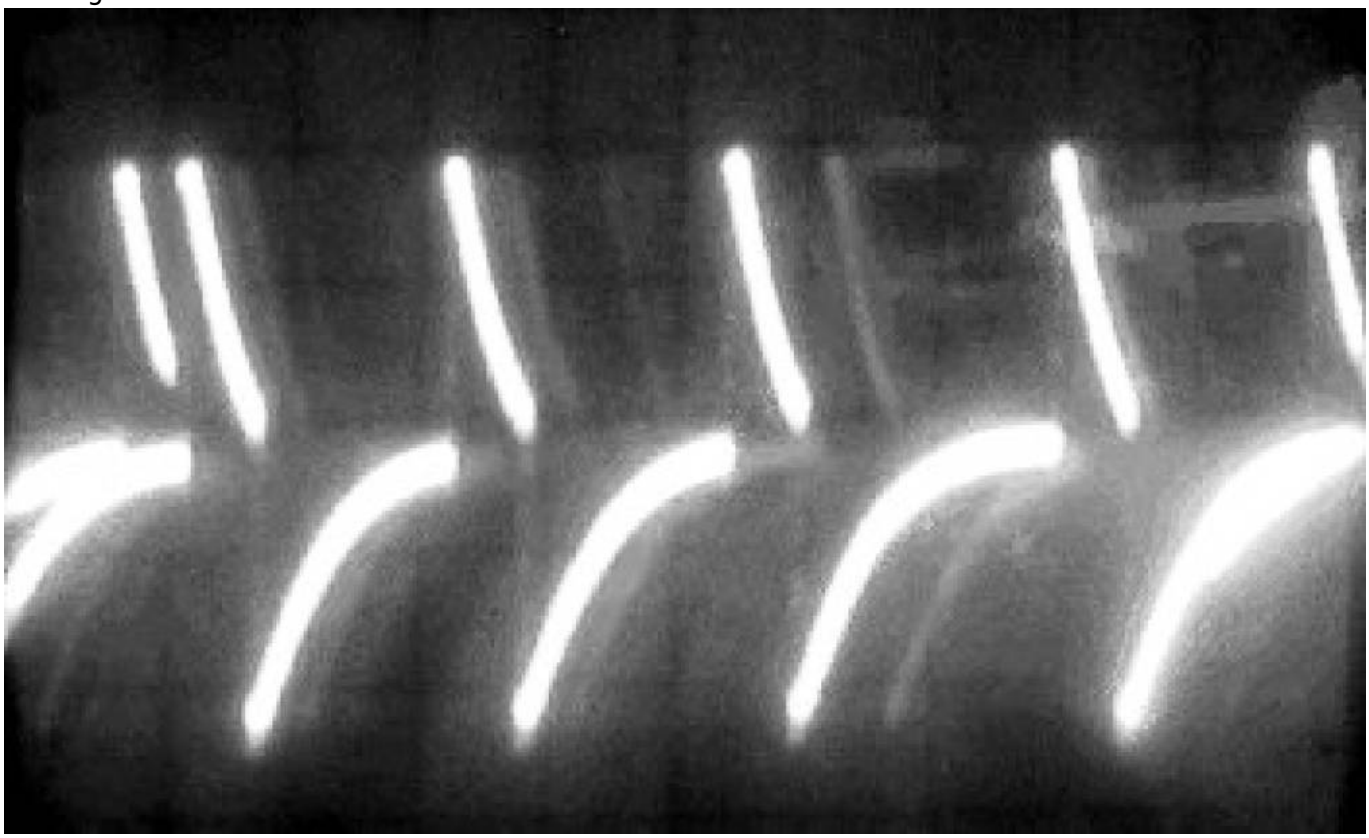
# Introduction

i use a zoom livetrack-l12, a multitrack-audio-recorder: compact design, severell submixes, parametric eqs, compressor, efx and a master-track-recording, a good price...
AND it doesnt have midi... it does not do midiclock.
so when i have to make a track new, or i want to overdub a track, a track that is Midiclock-Driven a sequencer track for example...

So with this device, i lose one Audio-Track, because i use this one Audio-Track, as a Click-Track, it records Audio-Rectangle-Pulses, which are a converted Midiclock-Pulses



when i then playback the Click-Track-Recording, it converts this Audio Pulses back to Midiclock-Messages.



Thats all, not much code, stripped down, running thight.

### Features

- **convert Midi-Clock-Data to Audio-Pulses**
- convert Audio-Pulses to Midi-Clock-Data

# Hardware Requirements

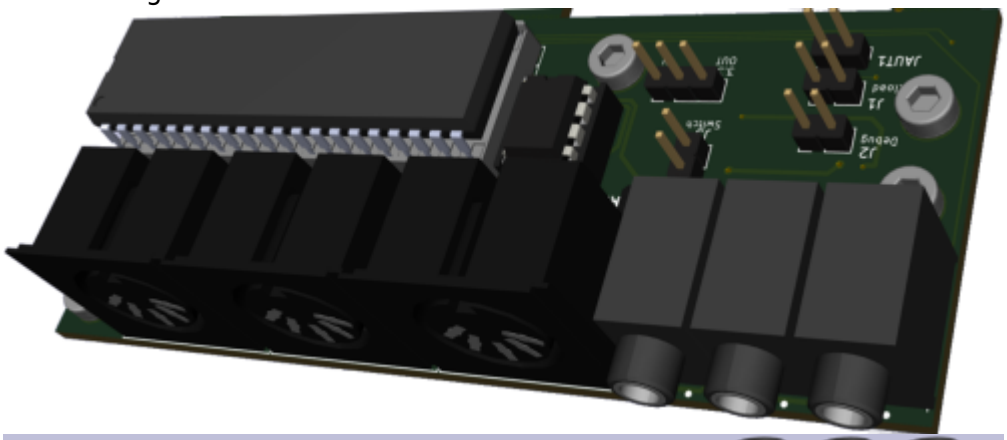
**External Requirement:**(for example)

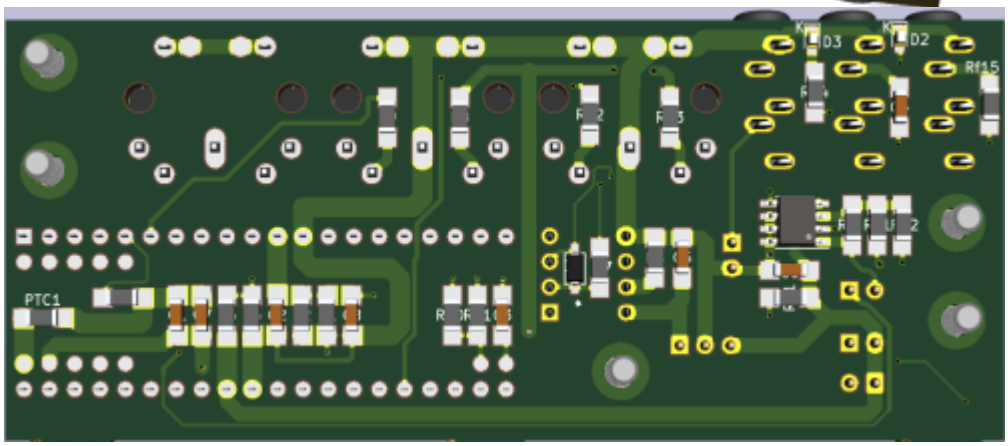
- Clock Source aka Sequencer: midibox_seq_v4l
- a Synth: JP8080
- a Multitrack-Audio-Recorder: Zoom Livetrack L12
- 3x Midi-Cables

# Building FABRICATED PCB

for DIY on Protoboard - see below “Building DIY”
The Design is optimized for Pick and Place most SMD Parts are on the Back-PCB
i ordered 5 PCBs from JLCPCP with almost all SMD Parts (except Thruholes and the PTC) presoldered

now waiting for Presoldered PCBs 🤣 - for 8€ a Piece!

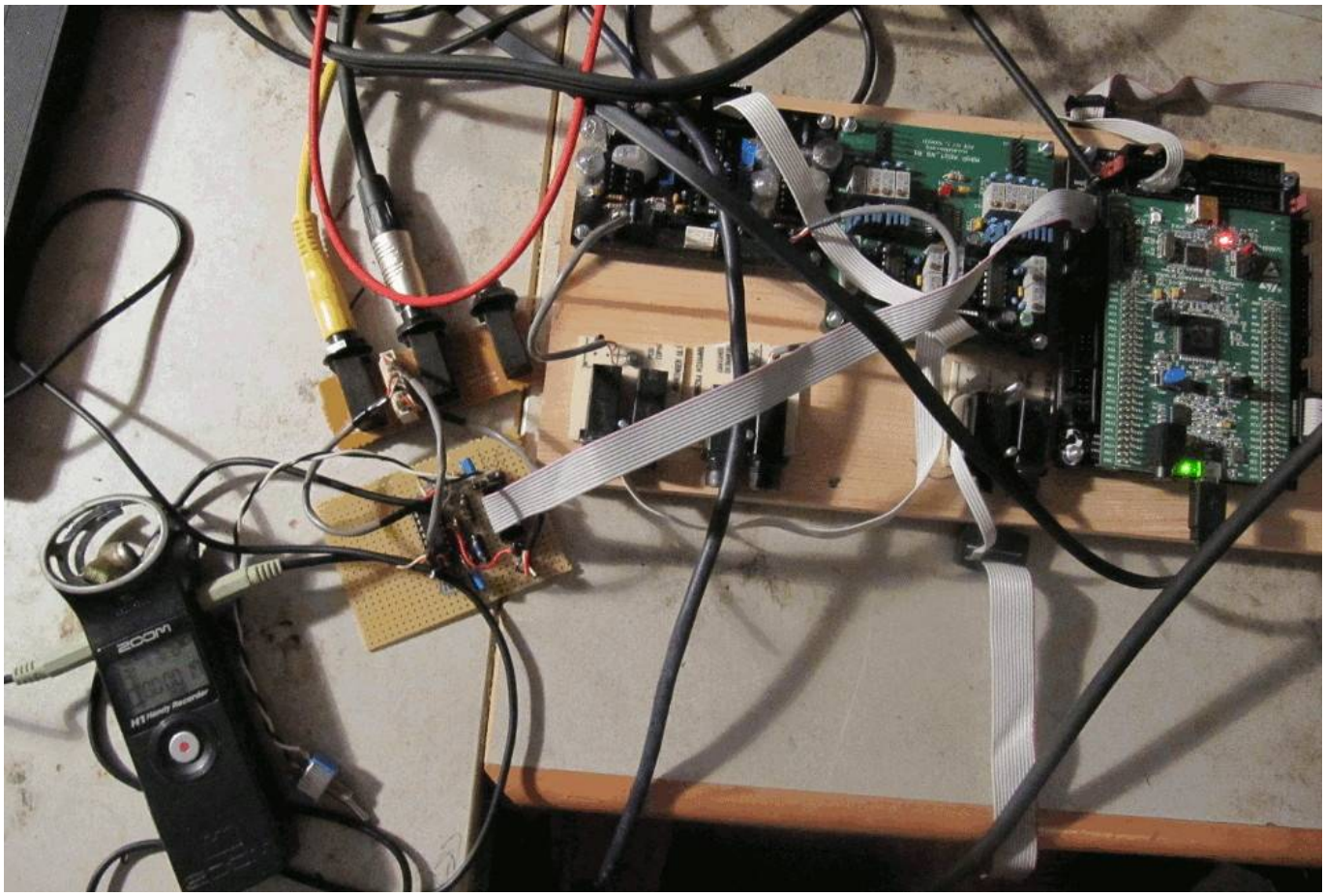




# BOM

| Value | Designator | Footprint | LCSC Part Number | Library-Type | Mouser |
|---|---|---|---|---|---|
| 47uF | C1,C2,C3,C4 | midibox:1206-C | C96123 | basic | |
| 100nF | C5,C6,C7 | midibox:1206-C | C24497 | basic | |
| 220nF | C8 | midibox:1206-C | C1857 | basic | |
| 1N4148W | D1 | midibox:SOD123-DIODE | C81598 | basic | |
| LED-Yellow | D2,D3 | midibox:0603-LED | C72038 | basic | |
| BootLoad | J1 | midibox:Header-1×2 | | | |
| Debug | J2 | midibox:Header-1×2 | | | |
| Int.Sw | J3 | midibox:Header-1×2 | | | |
| Header-1×3 | J4 | midibox:Header-1×3 | | | |
| Midi-DIN-5-Socket_RX | J5 | midibox:Midi-DIN5-MAB5SH | | | 806-KCDX-5S-S2 |
| Midi-DIN-5-Socket_TX | J6,J7 | midibox:Midi-DIN5-MAB5SH | | | 806-KCDX-5S-S2 |
| 3.5Jack | J8,J9,J10 | midibox:35JACK-CUI_SJ1-3535NG-PI | | | 490-SJ1-3535NG |
| CV1 | JAUT1 | midibox:Header-1×2 | | | |
| Mounting-Hole | M0,M1,M2,M3,M4 | midibox:Mounting-Hole-M3 | | | |
| PTC | PTC1 | midibox:1206-R | C126818 | extended | 576-1206L150THWR |
| 4K7 | Rb1,R1,R2,R3 | midibox:1206-R | C17936 | basic | |
| 1K | R4 | midibox:1206-R | C4410 | basic | |
| 220 | R7,R8,R9,R10,R11,R12,R13,R14 | midibox:1206-R | C17958 | basic | |
| 10K | Ra1,Ra2,R5,R6 | midibox:1206-R | C17902 | basic | |
| 100K | Rf1,Rf15 | midibox:1206-R | C17900 | basic | |
| DIPCOREF4_52P | U1 | dipcore-V2C:dipCoreF4_v2c-52p-DIP-40-CMPNT_CORE_52P | | | |
| 6N138 | U2 | midibox:DIP-8 | | | 512-6N138M |
| MCP6002 | U3 | midibox:SOP-8_SOIC-8 | C7377 | basic | |
| mouse-cut | cut1,cut2,cut3 | midibox:mouse-cut | | | |

# Building DIY




**Midibox:**

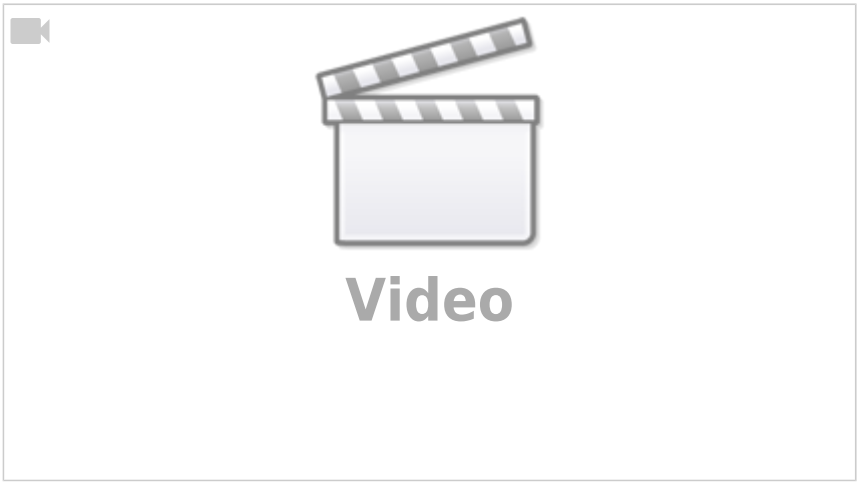
- core32
- 1xMidi IO
- Soldering Iron, Wires, PCB....
- USB Power Supply

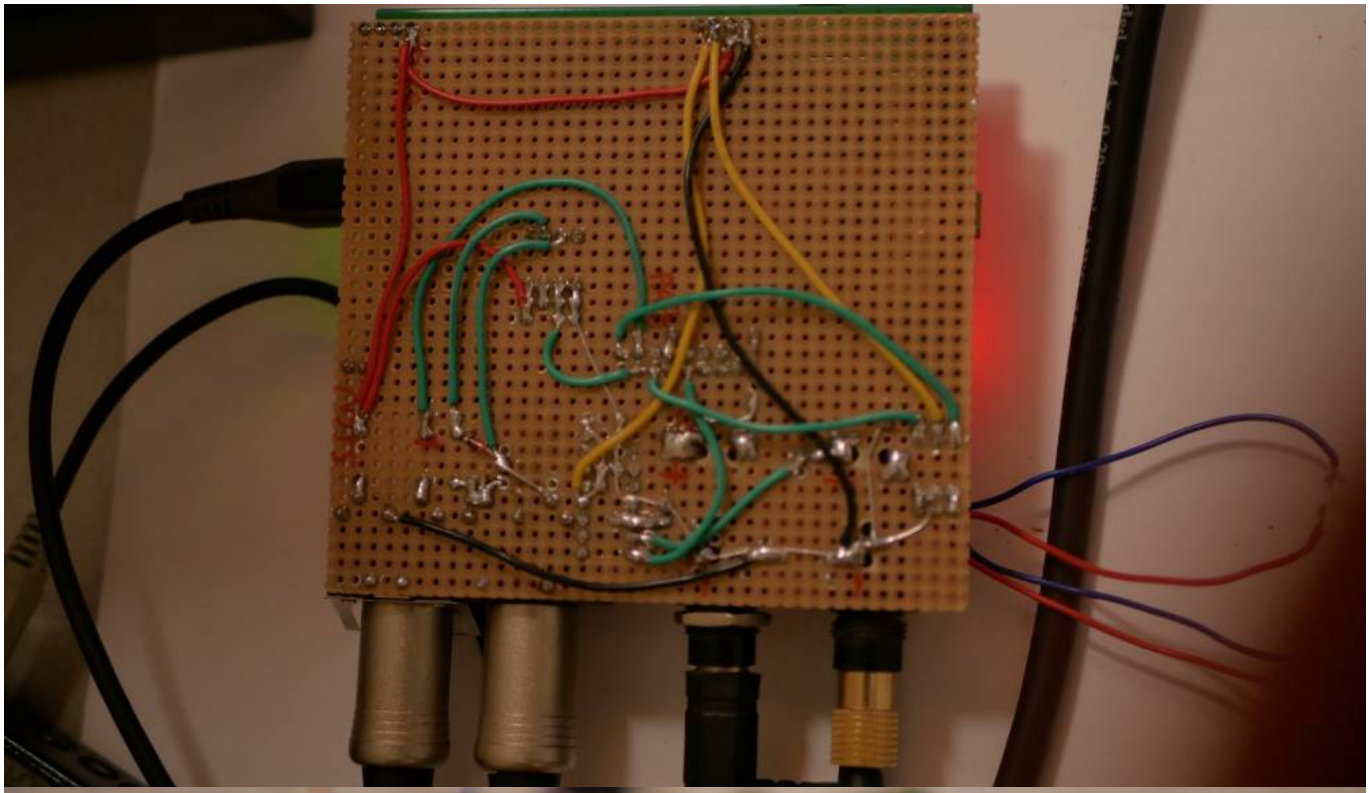
**Schmitt-Trigger:**

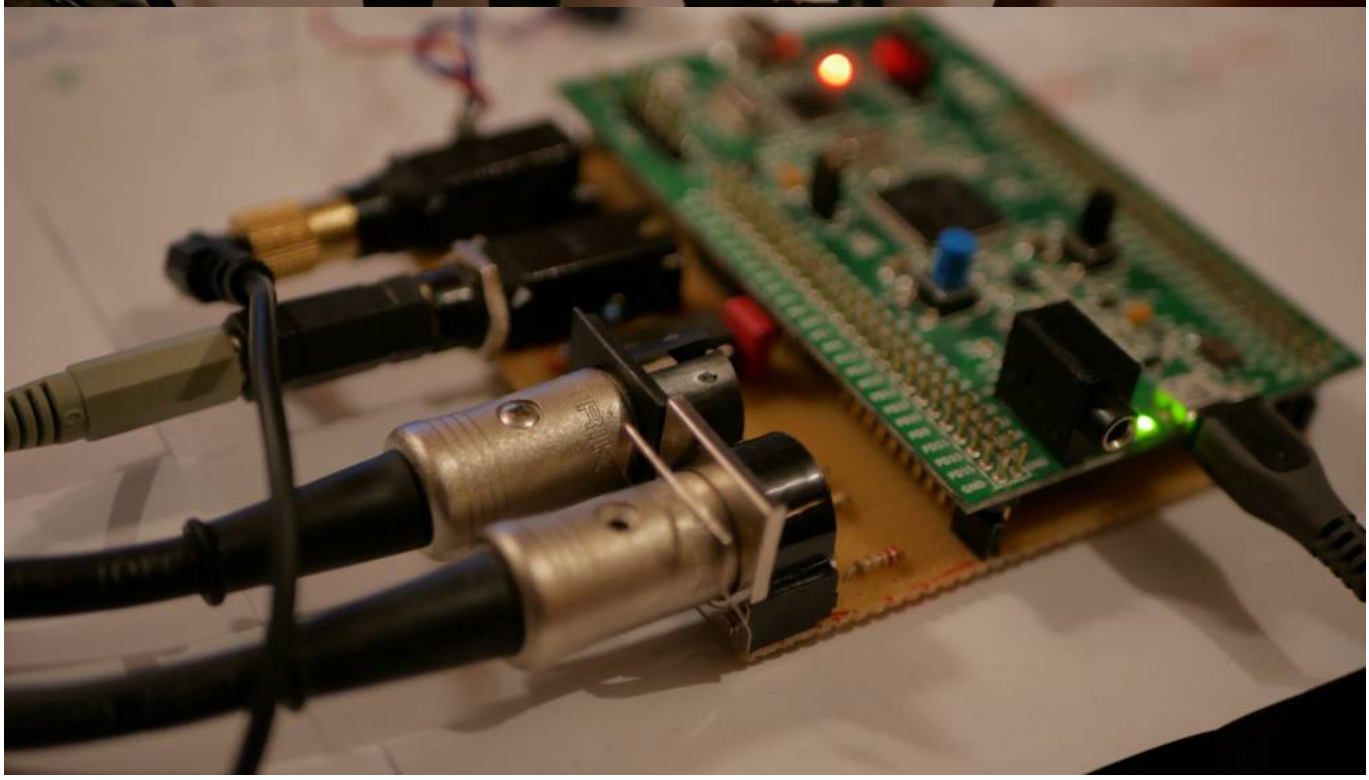
- TS-274 OP-Amp
- 14 Pin - DIP-Socket
- Pin-Header 2x5Pins (to connect the PCB to Core J5A)(you will also need a cable 4 that)
- Resistor R1 20K
- Resistor R2 4K7
- Resistor RFB 100K
- Resistor for Output-Gain-Reduction 100K
- 2x Electrolyt Capacitor 0,67uF (to decouple audio in and out)
- Electrolyt Capacitor 10uF for Supply
- Capacitor 100nF to denoise the OP-Amps-Rails...
- 2 Audio Cables+Sockets for the connection to the Recorder (6,3 mono jacks)

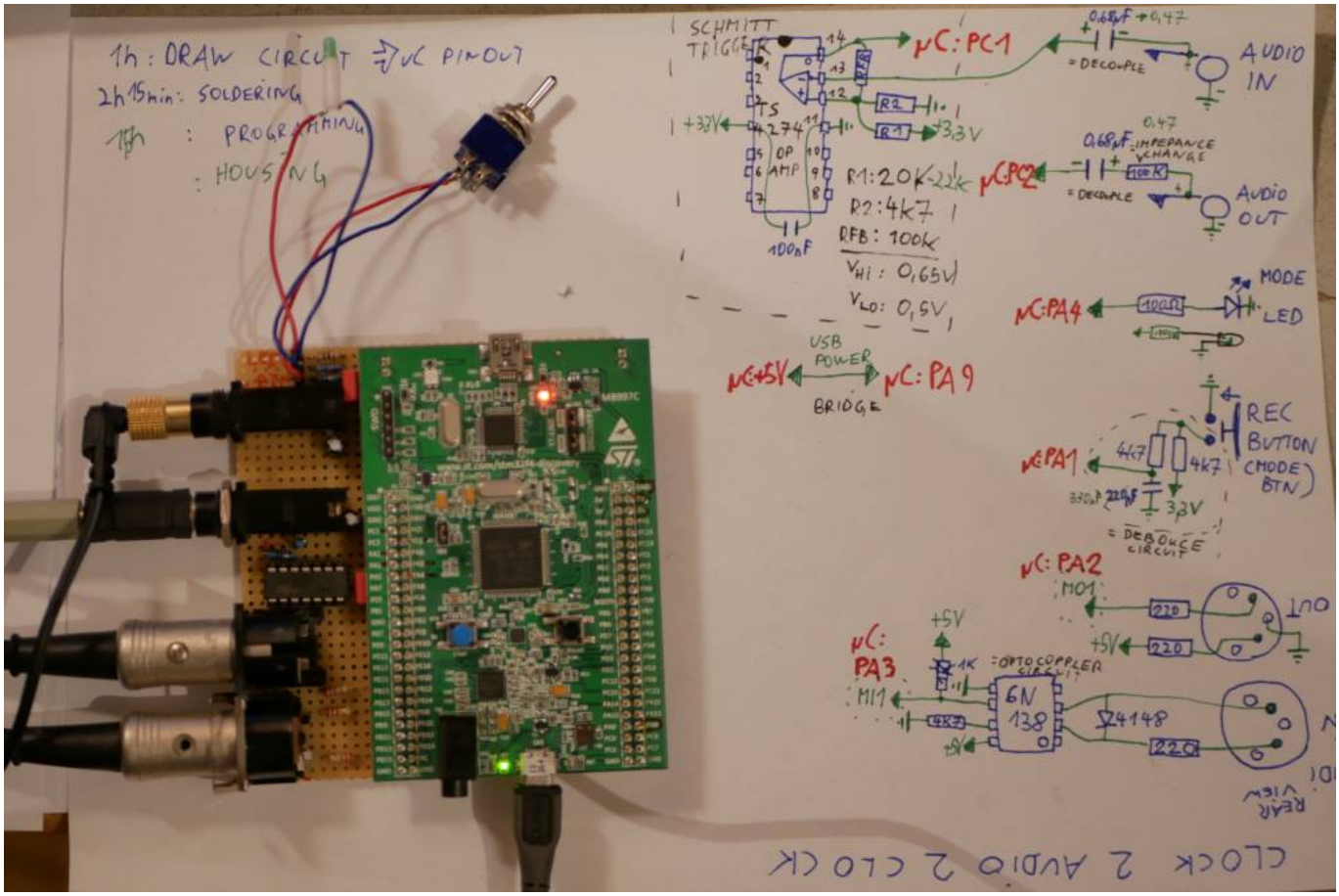
# on Protoboard

here i have made it all on protoboard:







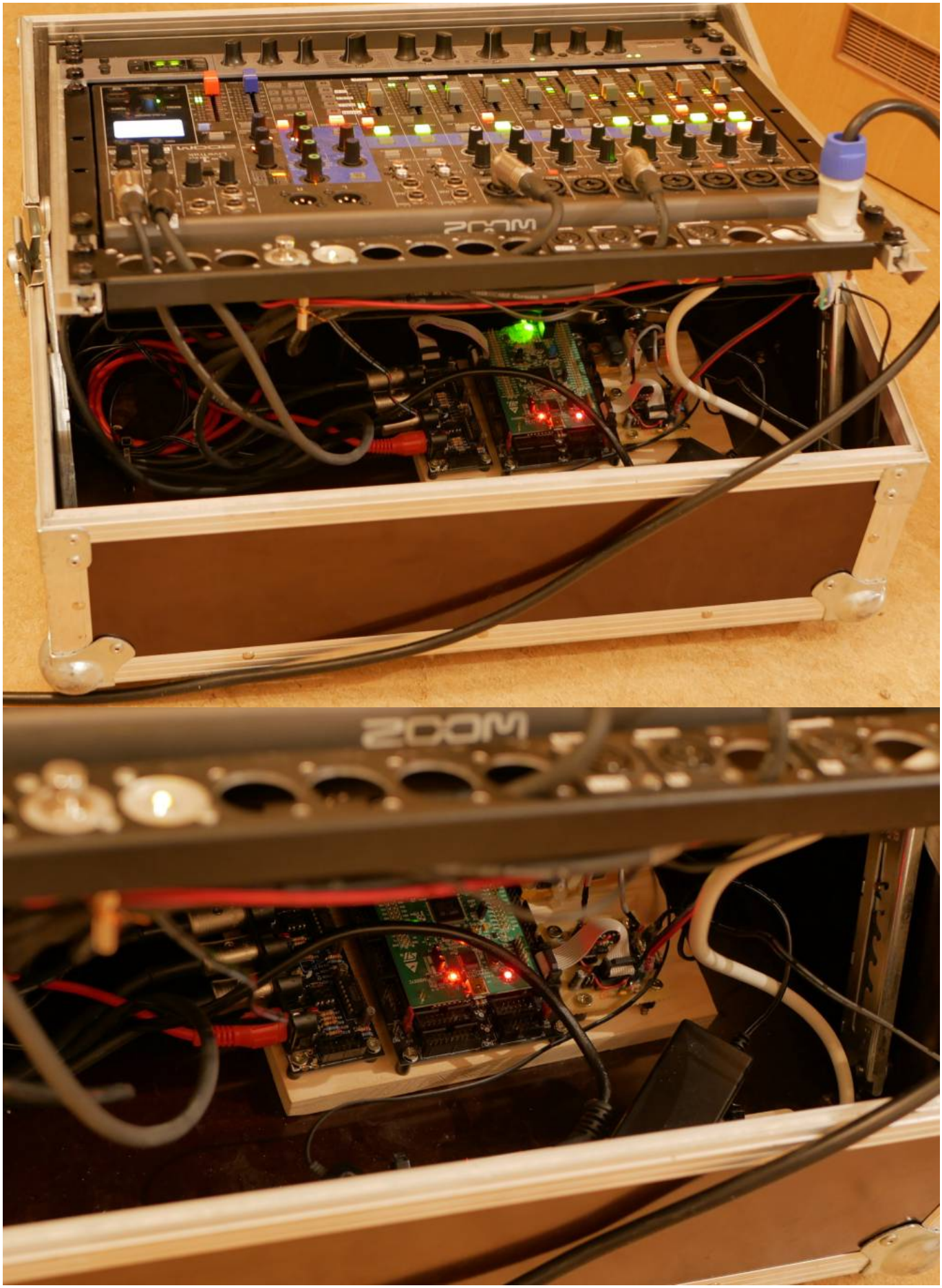



# Firmware

V1.2017clk2a2clk.zip hardcodet no menue, no nothing, stripped down to max performance

# How I Use It - built in Rack


CLOCK
MIC / LINE
MASTER OUT
MONITOR OUT
CHANNEL STRIP
SEND EFX
HALL
CLOCK
Send DIST
L-12
LiveTrak
ZOOM
tc electronic


ZOOM

## Resources

Schmitt-Trigger-Calculator

# Community users working on it

- **Phatline** = Programming, Documentation...

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

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

Permanent link:
**https://www.midibox.org/dokuwiki/doku.php?id=clock2audio2clock&rev=1609637820**

Last update: **2021/01/03 01:37**