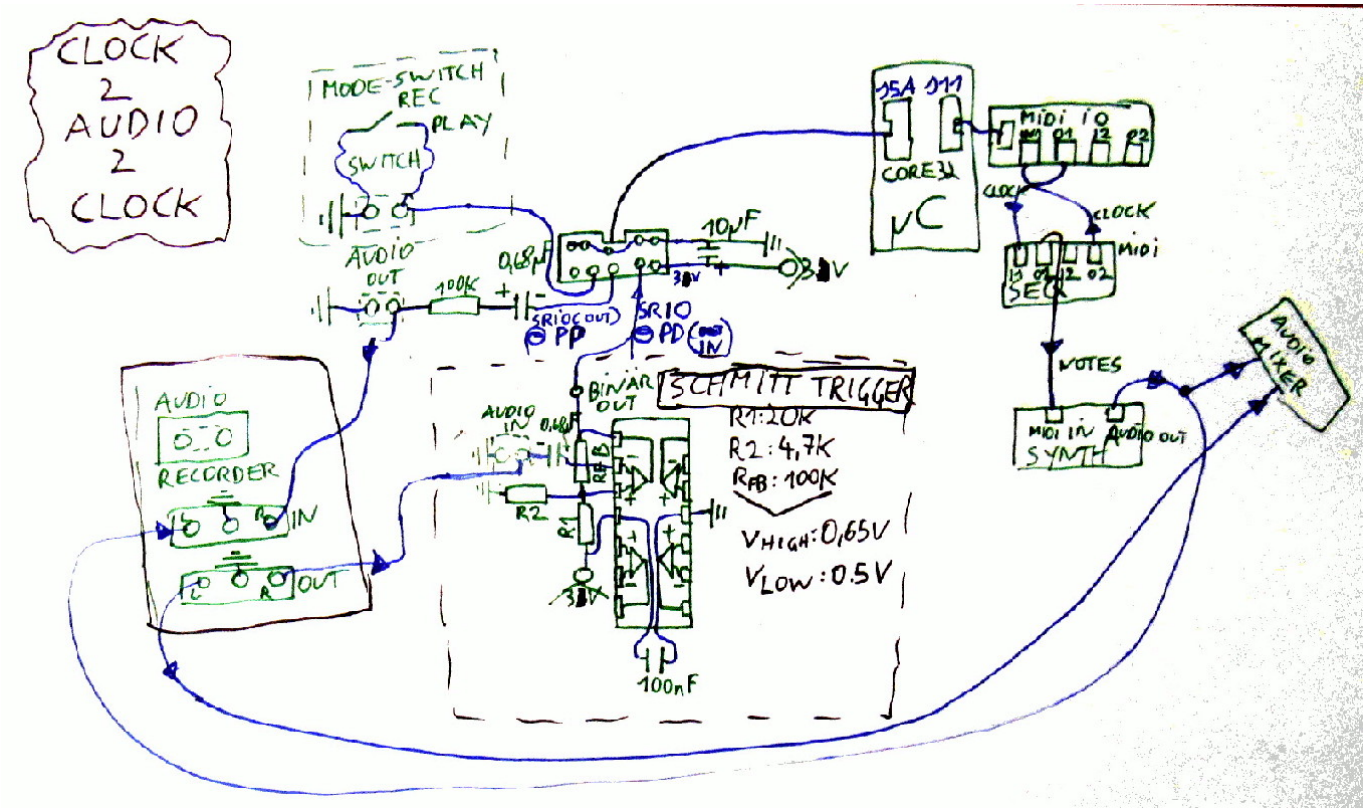
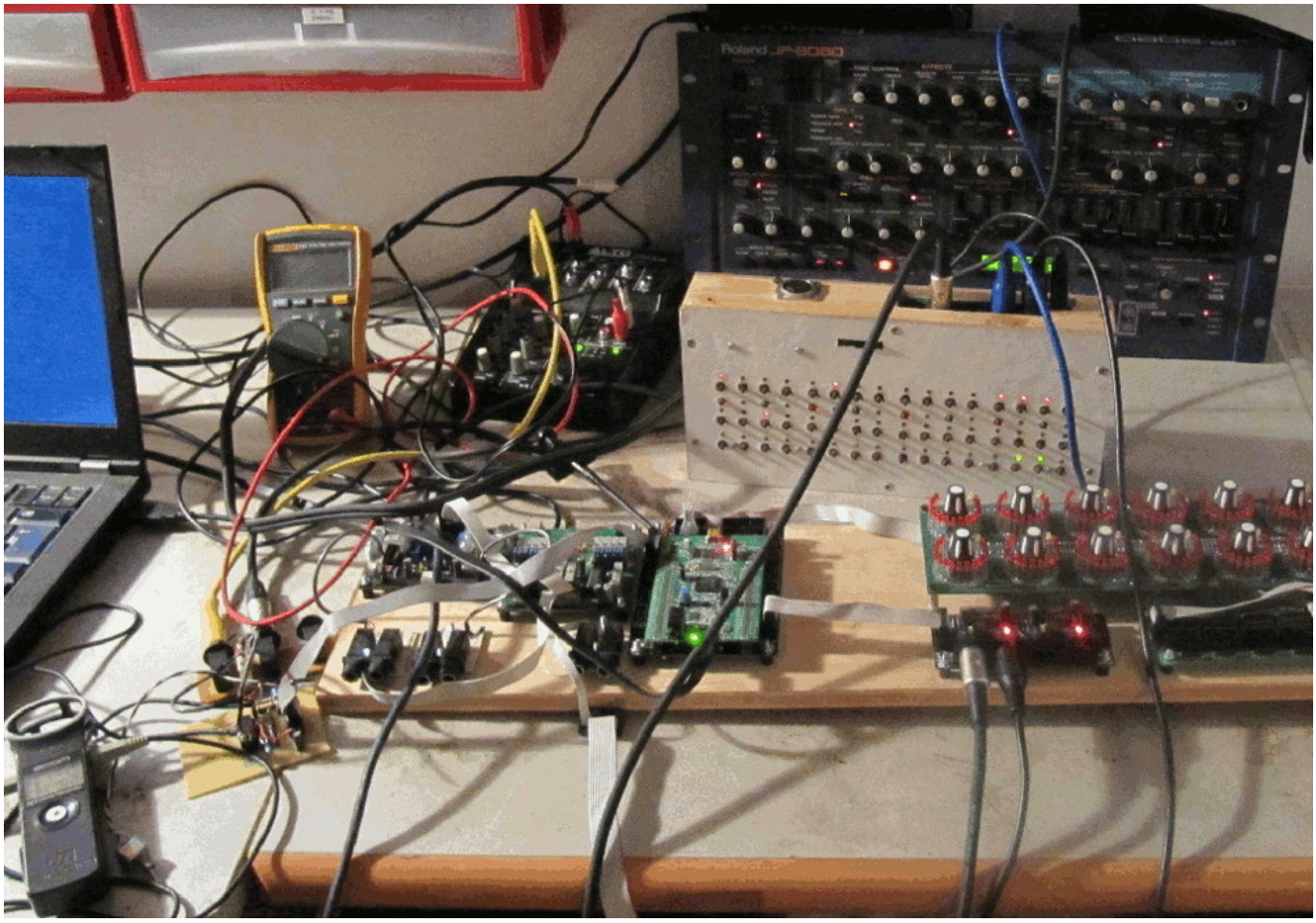
clk2a2clk

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

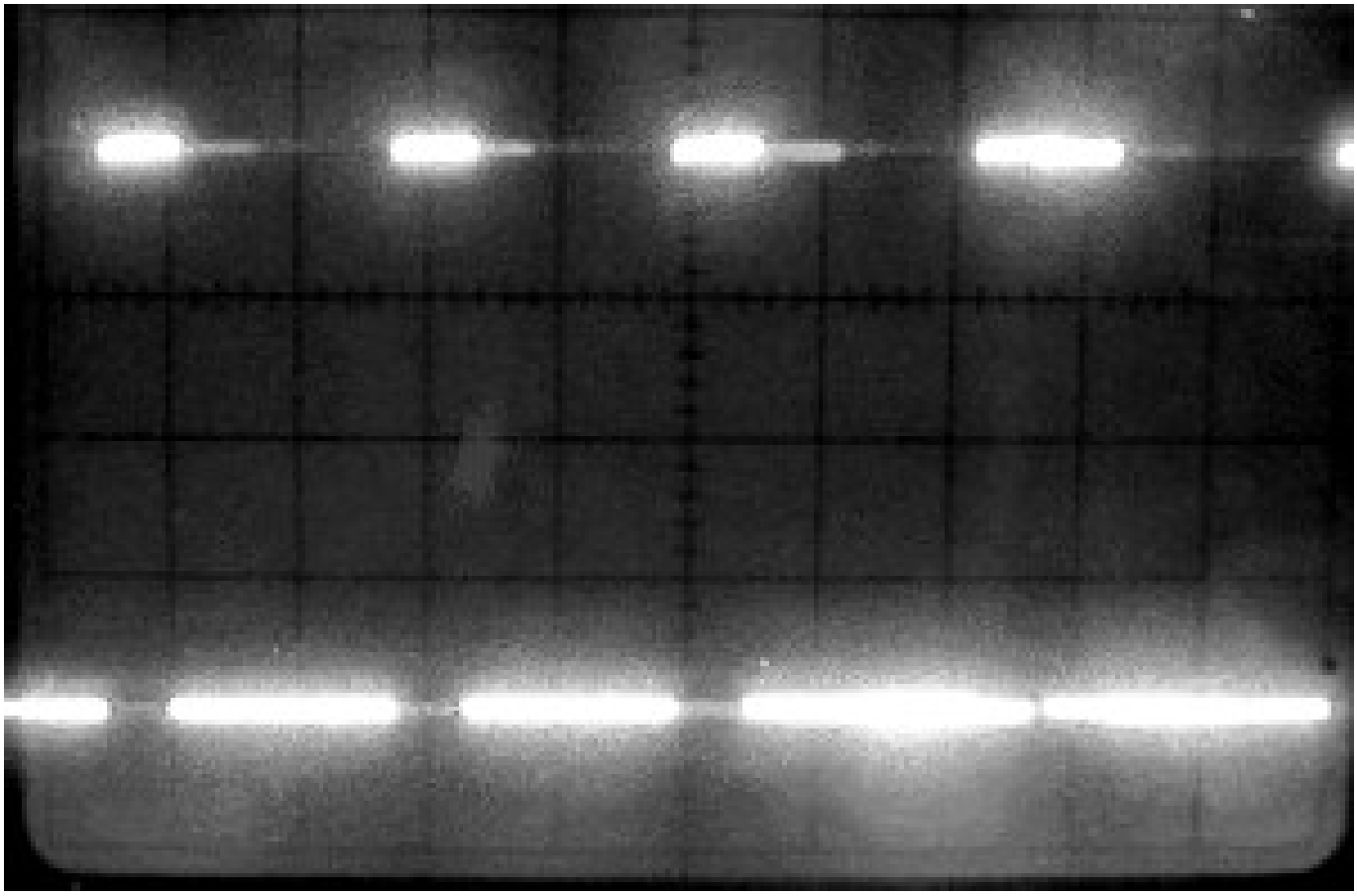
Video



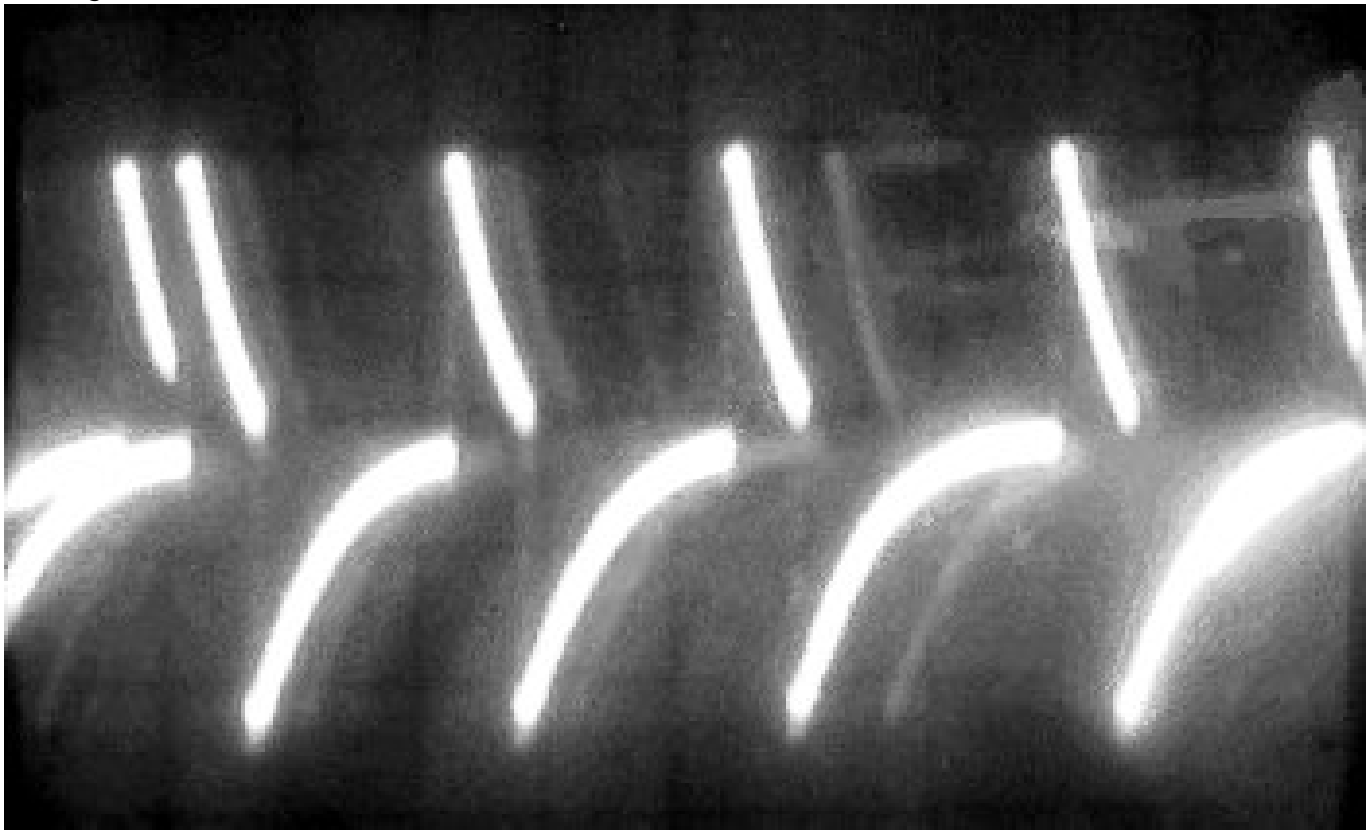
Introduction

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

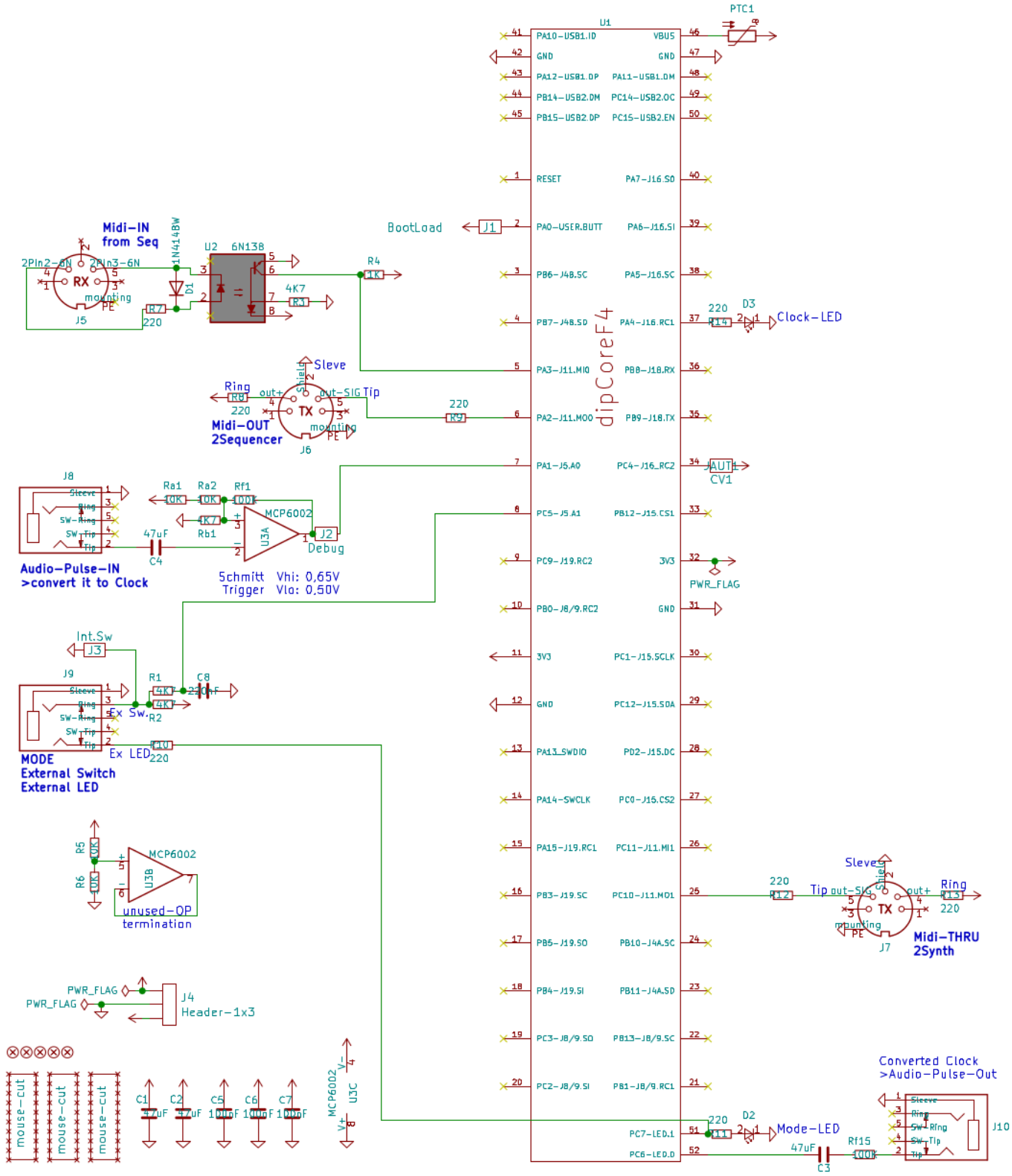
- **convert Midi-Clock-Data to Audio-Pulses**
- convert Audio-Pulses to Midi-Clock-Data

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

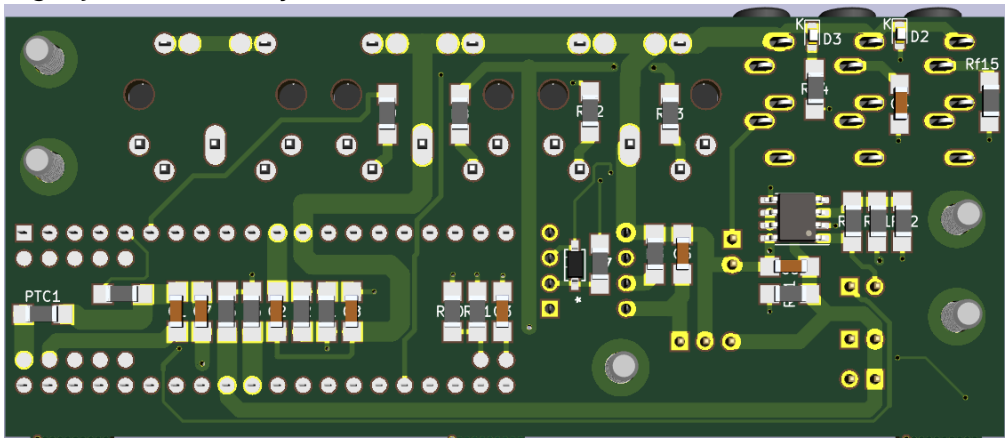
Shematic



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

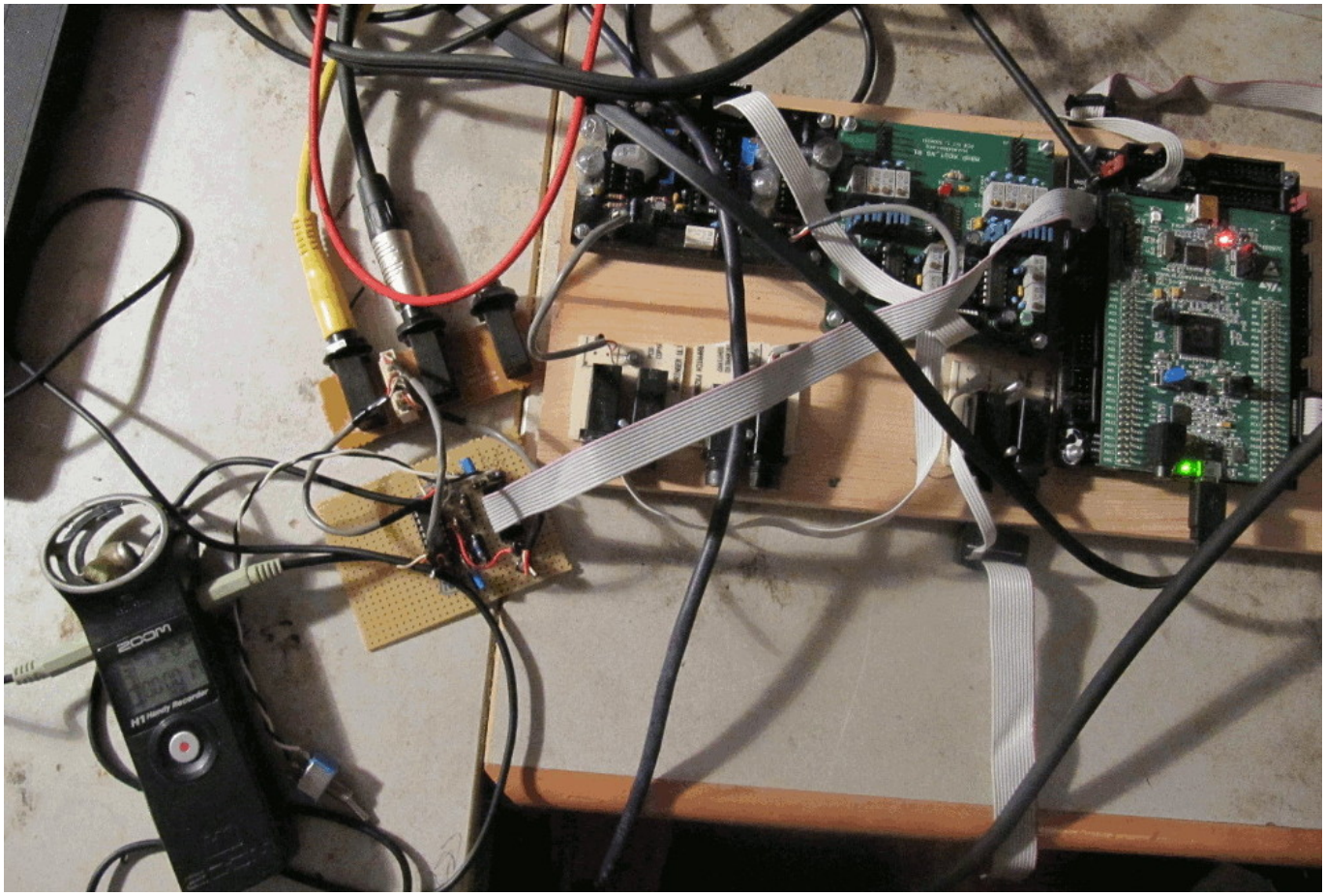
arg... Jacks to near by... Fix Me!



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		@Antichambre	
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

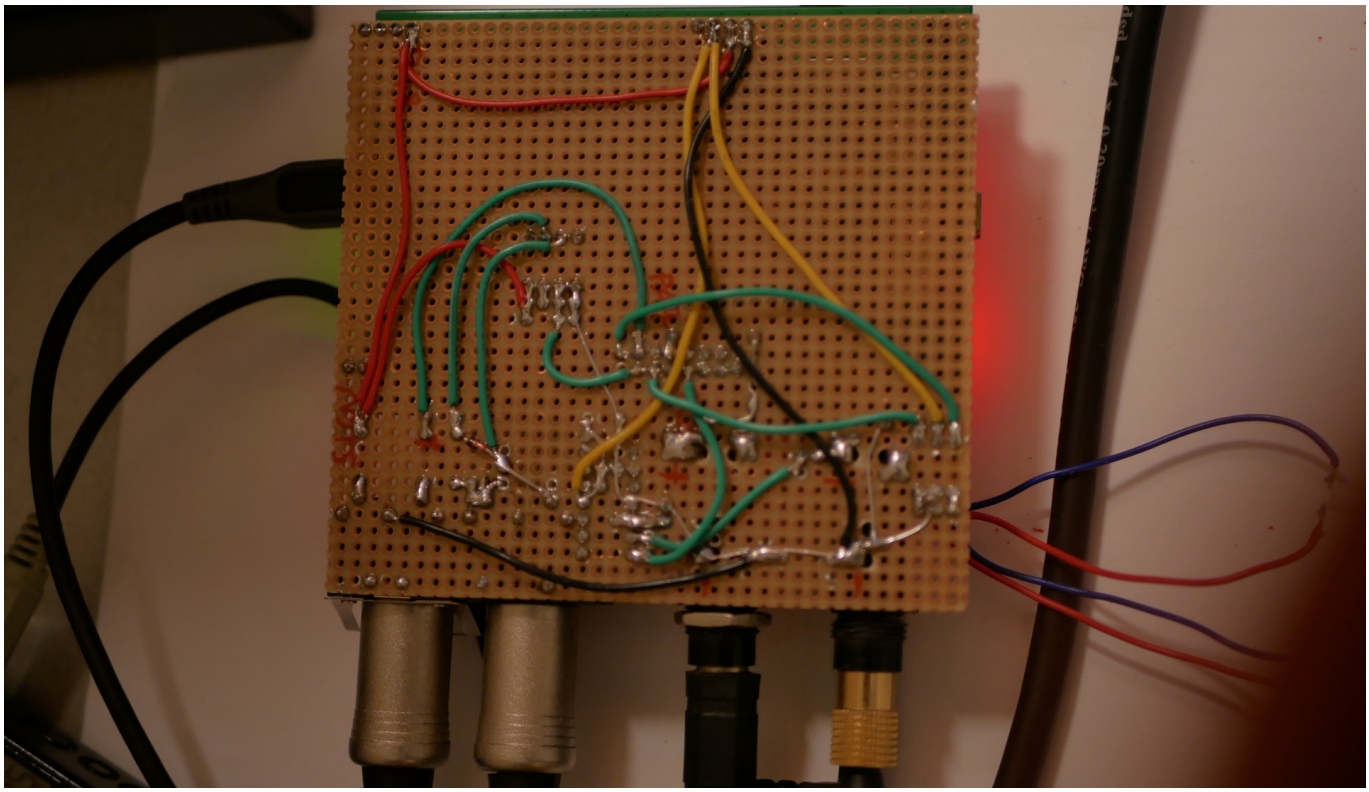
Schmitt-Trigger:

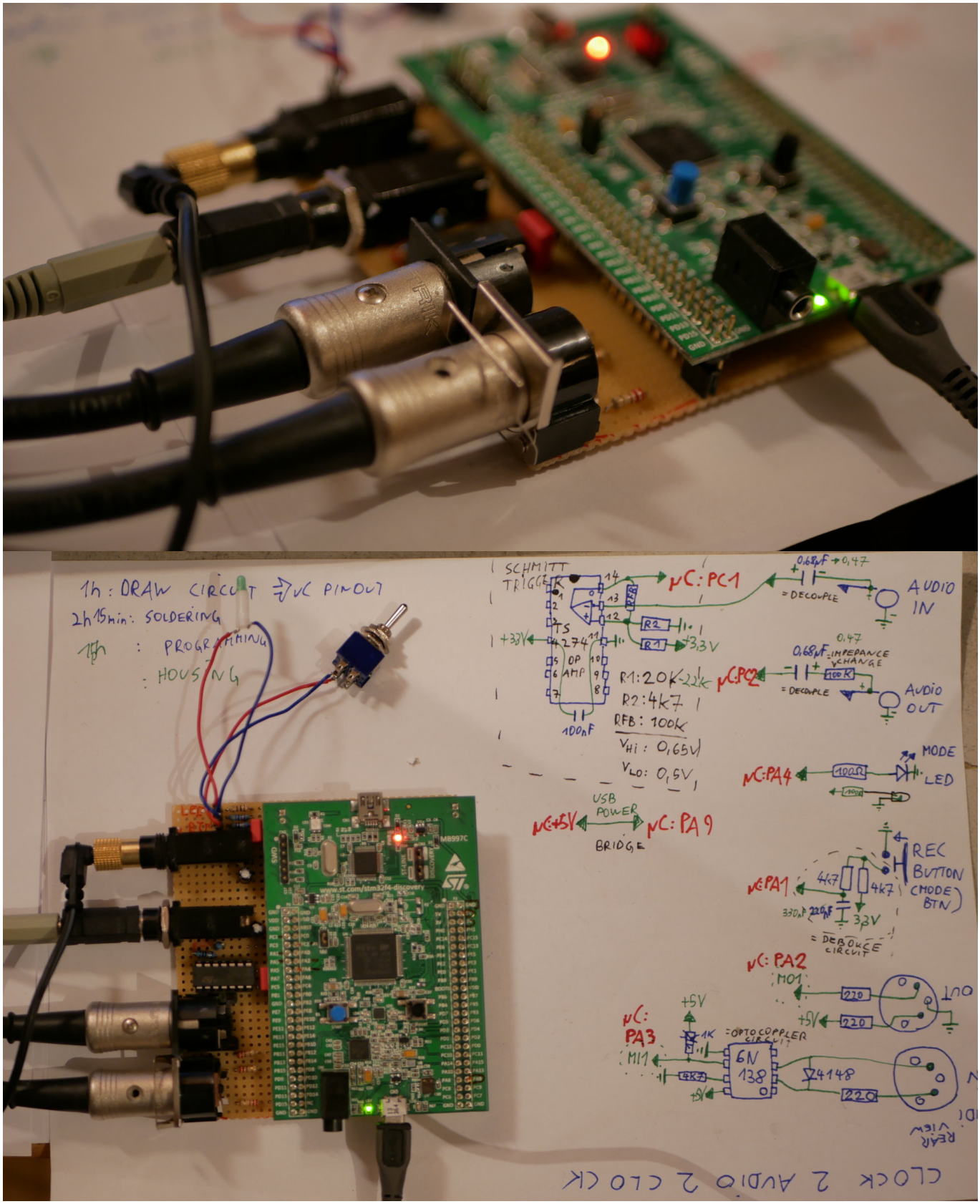
- TS-274 OP-Amp
- 14 Pin - DIP-Socket
- Pin-Header 2x5Pins (to connect the PCB to Core J5A)(you will also need a cable 4 that)
- Resistor R1 20K
- Resistor R2 4K7
- Resistor RFB 100K
- Resistor for Output-Gain-Reduction 100K
- 2x Electrolyt Capacitor 0,67uF (to decouple audio in and out)
- Electrolyt 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:

Video

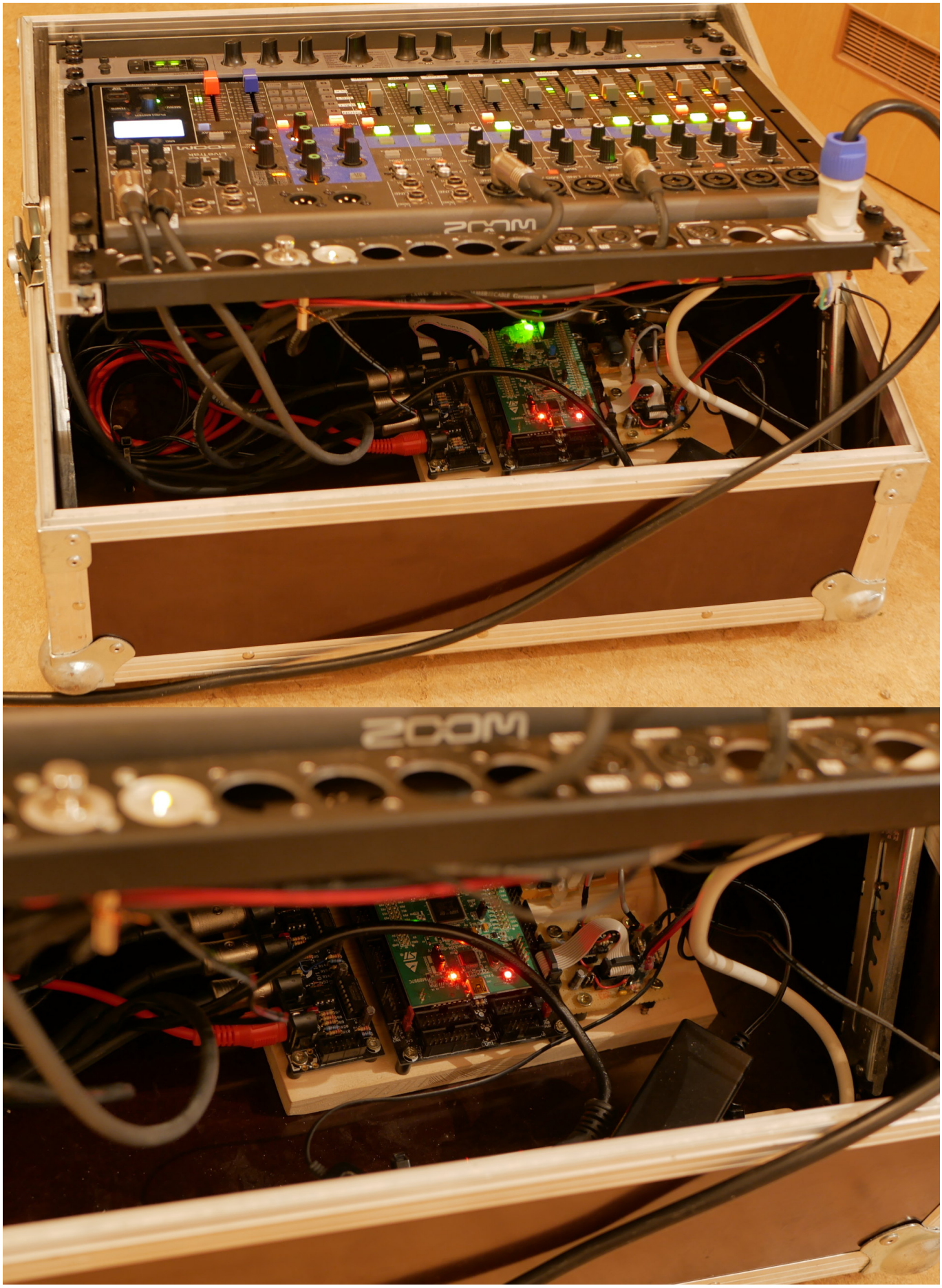




Firmware

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

How I Use It - built in Rack


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