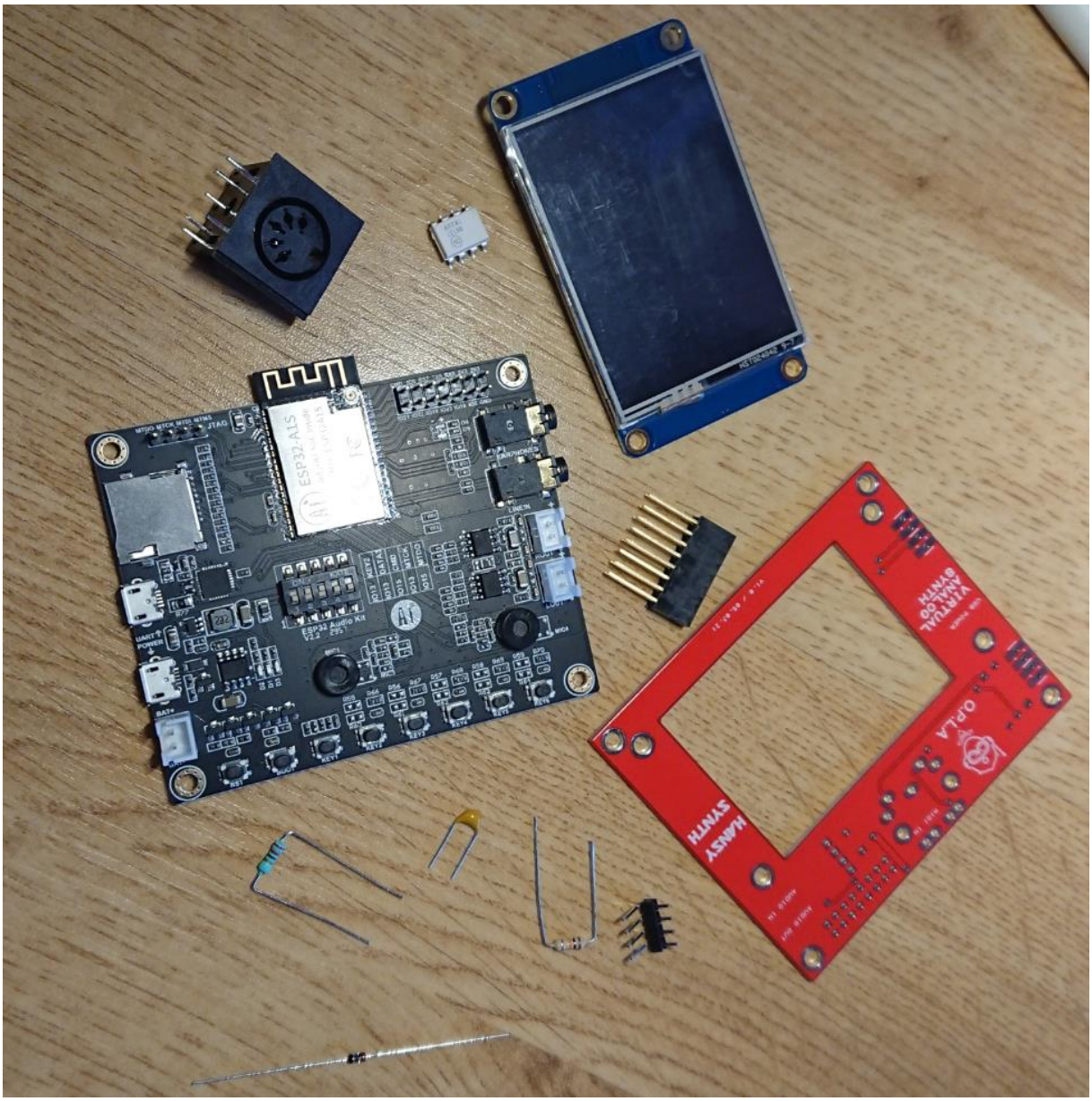

O.P.L.A
USB POWER
VIRTUAL
ANALOG
SYNTH
HANSY
O.P.L.A
Virtual Analog Synth
HANSY
SYNTH
V1.0 / 05.07.21

Contents

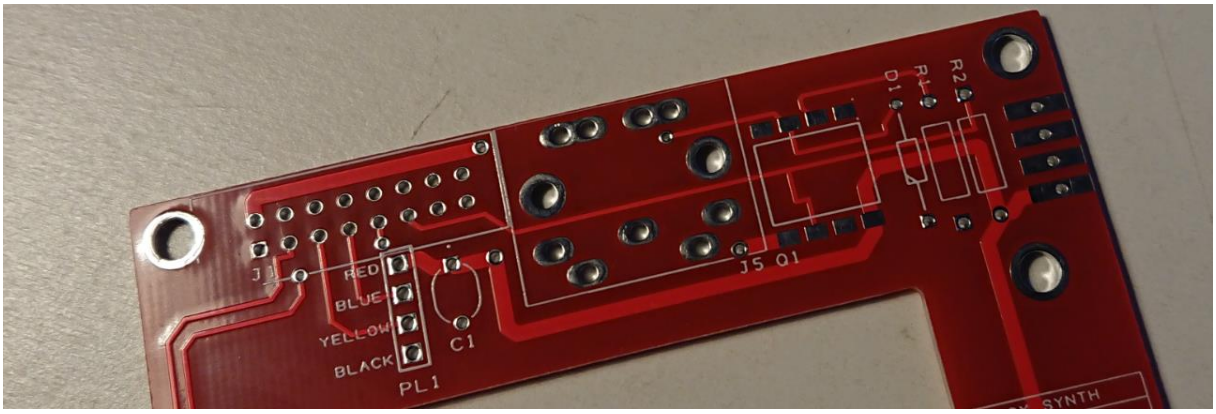

ESP32-A1S
HANSY
SYNTH
O.P.L.A
VIRTUAL
ANALOG
SYNTH

BOM

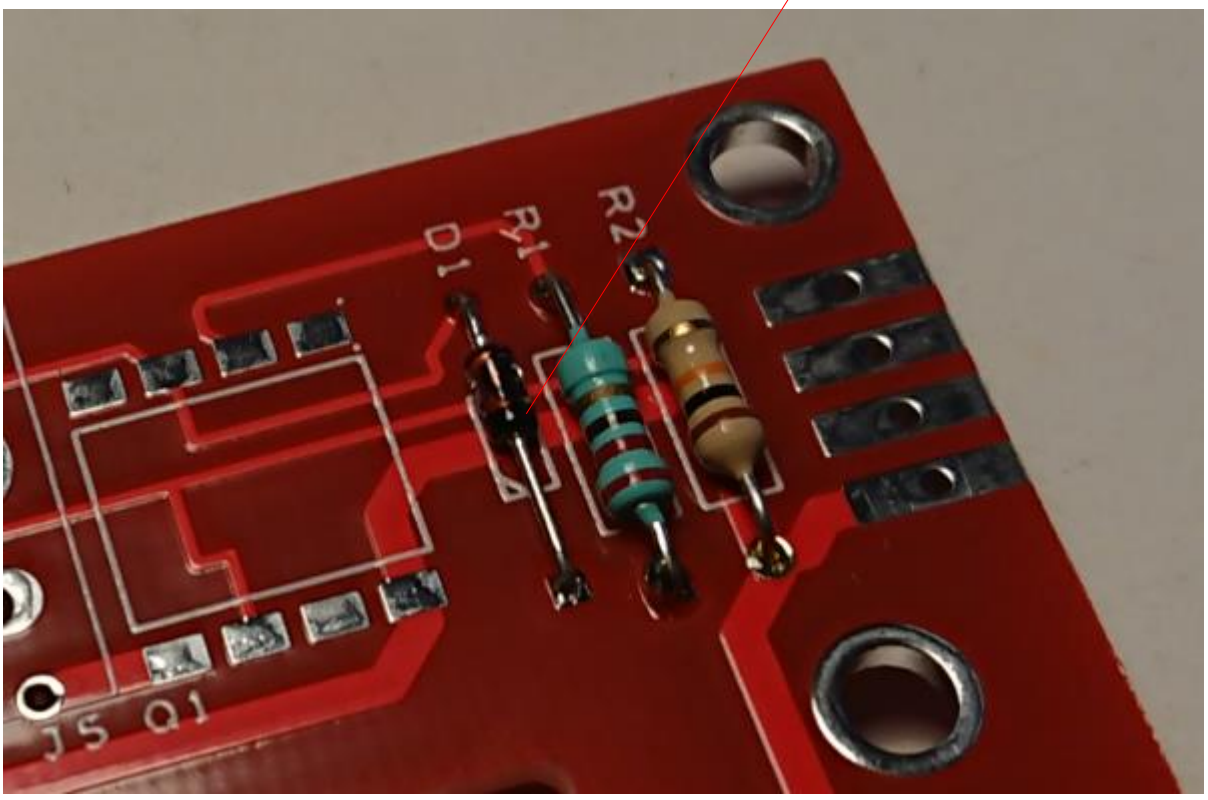
DESIGNATION	QT
Screw M3*12	4
Screw M3*6	8
Nuts M3	12
Spacer M3*20	4

R1	200Ohm Resistor 1/4W			
R2	10KOhm Resistor 1/4W			
D1	1N4148 Diode			
C1	100nf Capacitor			
Q1	6N137 Optocoupleur			
PL1	Four pin right angle connector			
	Midi 5 pin connector			
J1	2*8 pins PC104 Connector			
	Nextion screen			
	Hansy Synth HS021 Board			
	ESP32 Audio Kit			

RESISTOR & DIODES

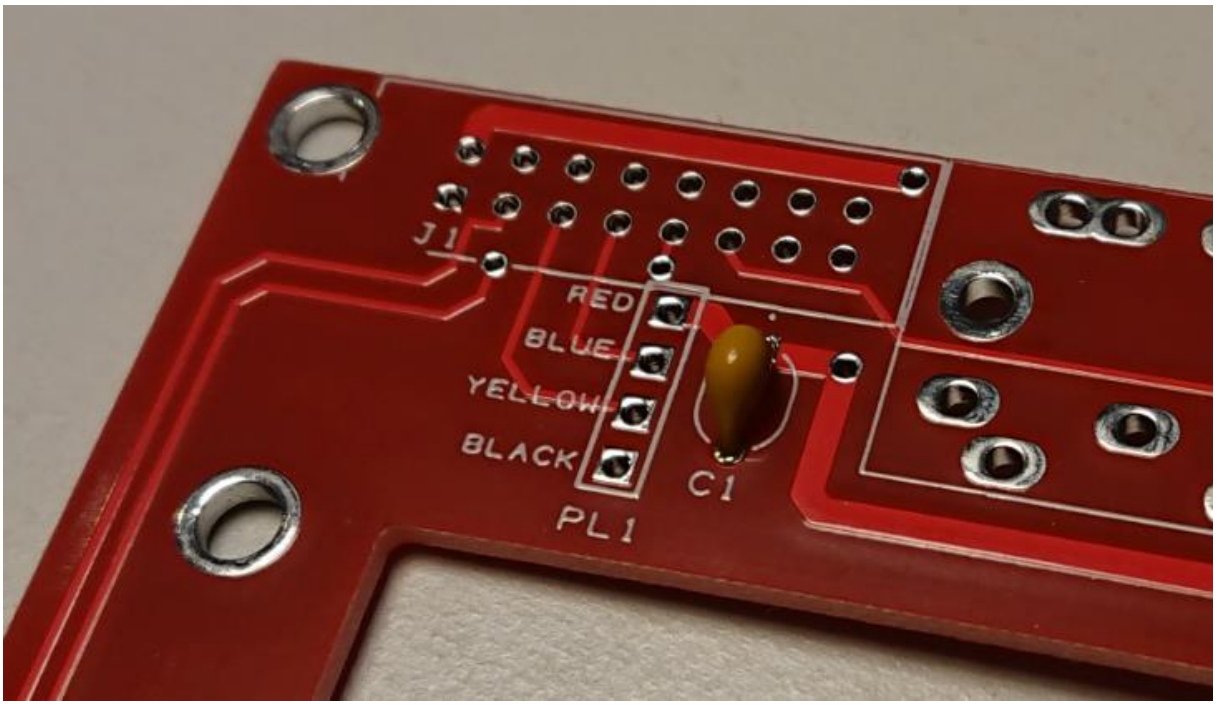


200 Ohm	R1
10 KOhm	R2
1N4148	D1



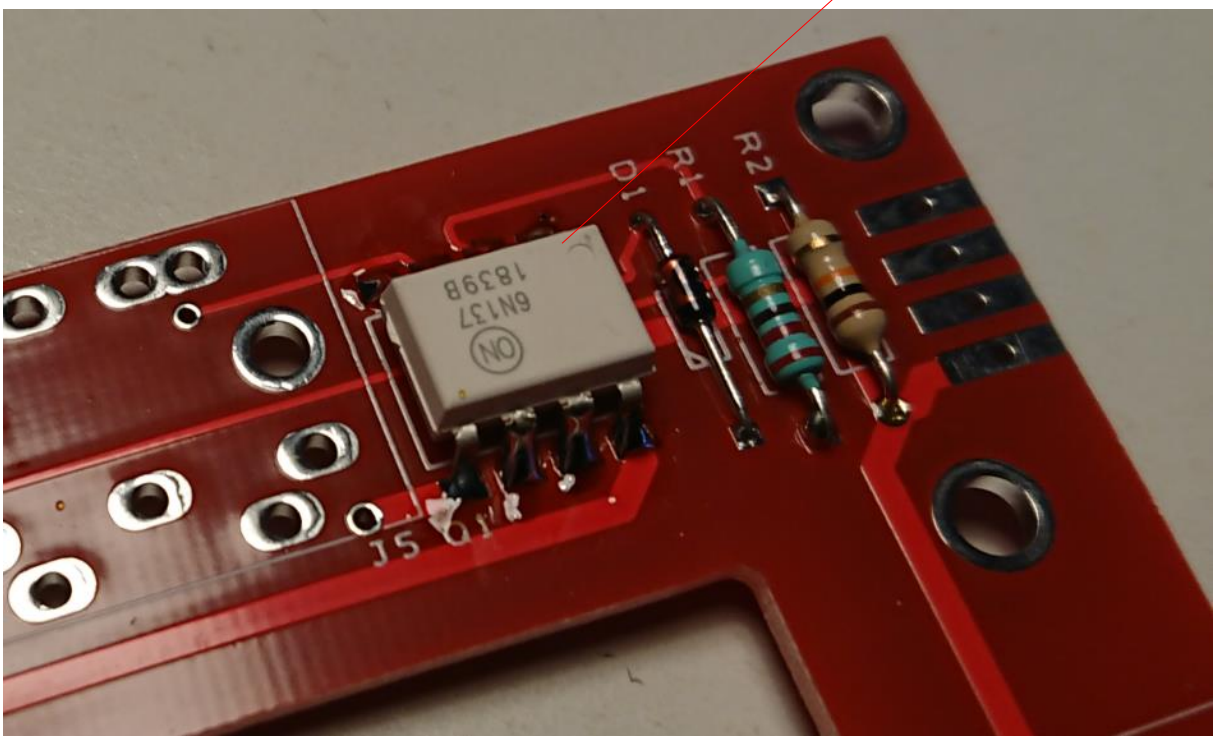
CAPACITOR

100nF C1



IC

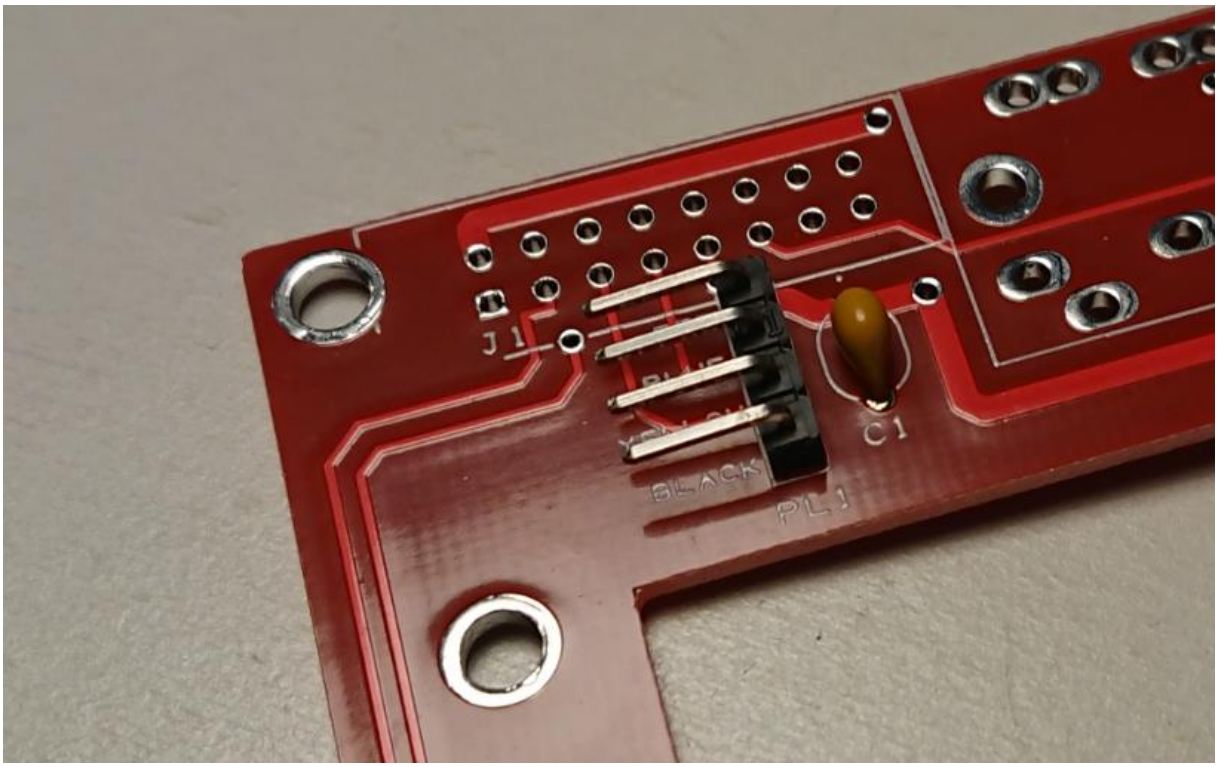
6N137 Q1

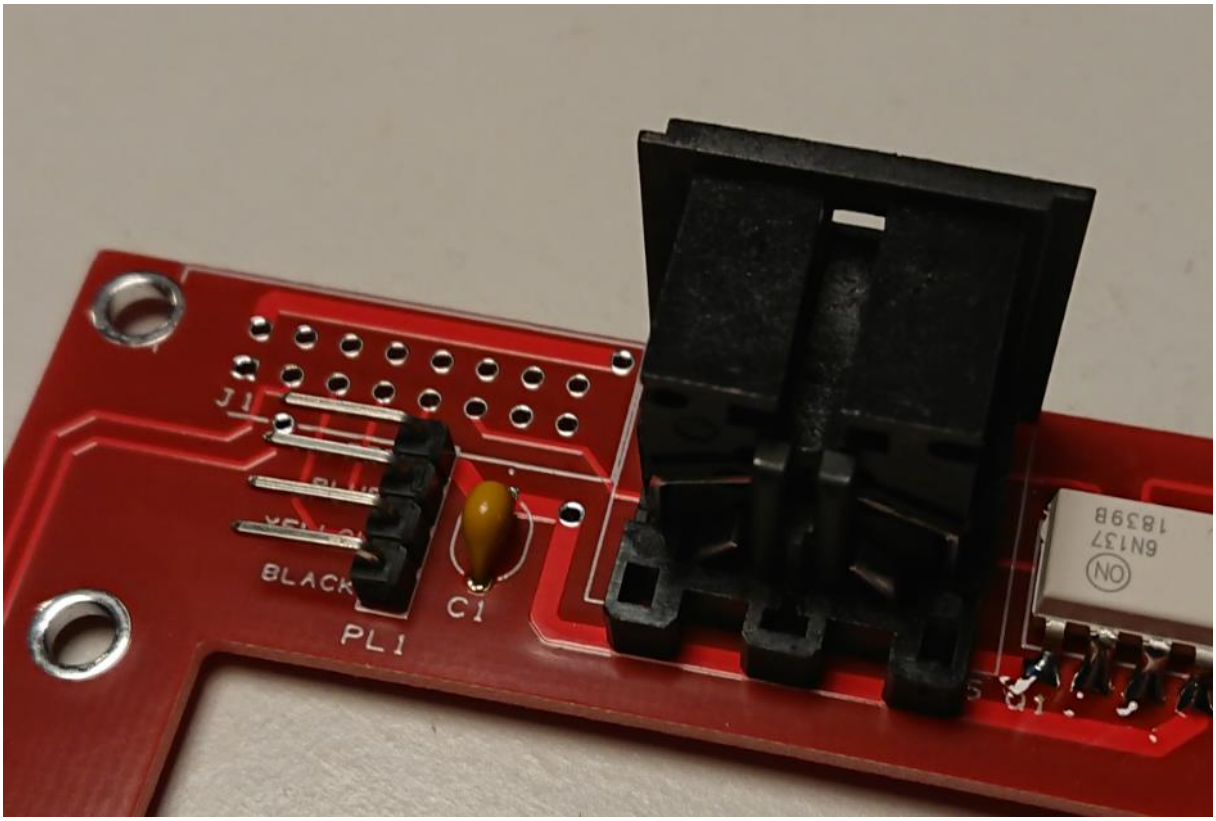


CONNECTORS

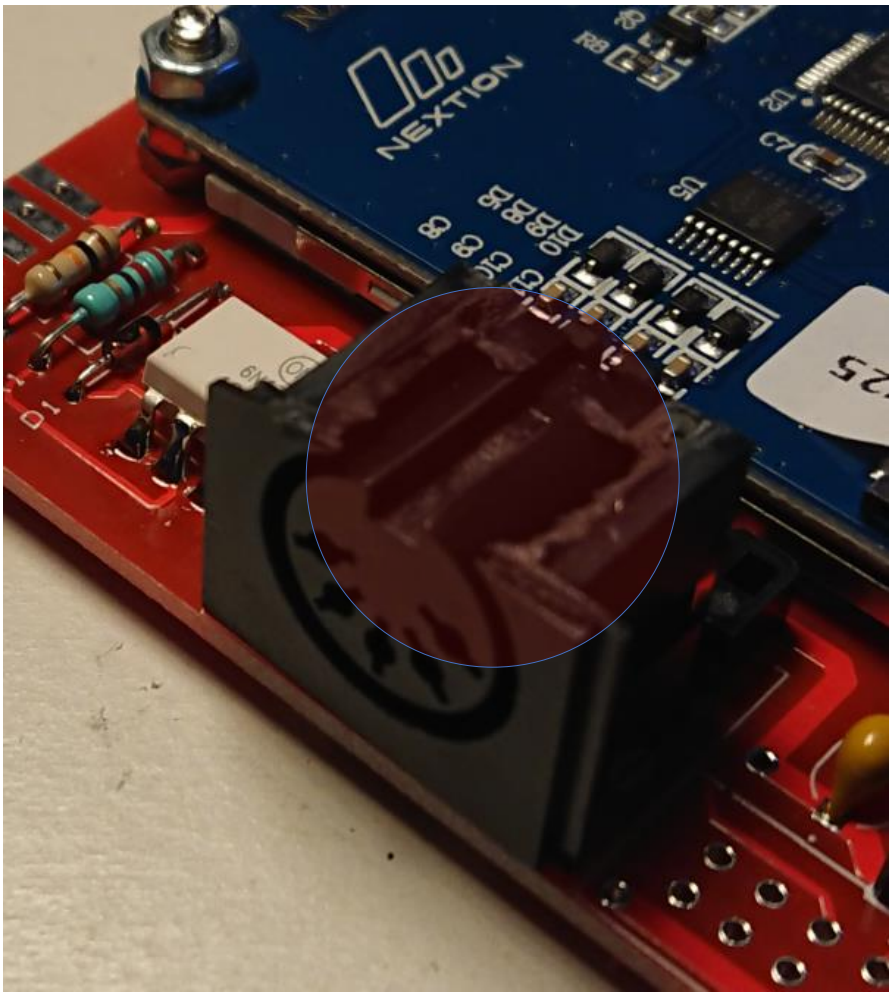
4 pins PL1

Din 5 pins J5





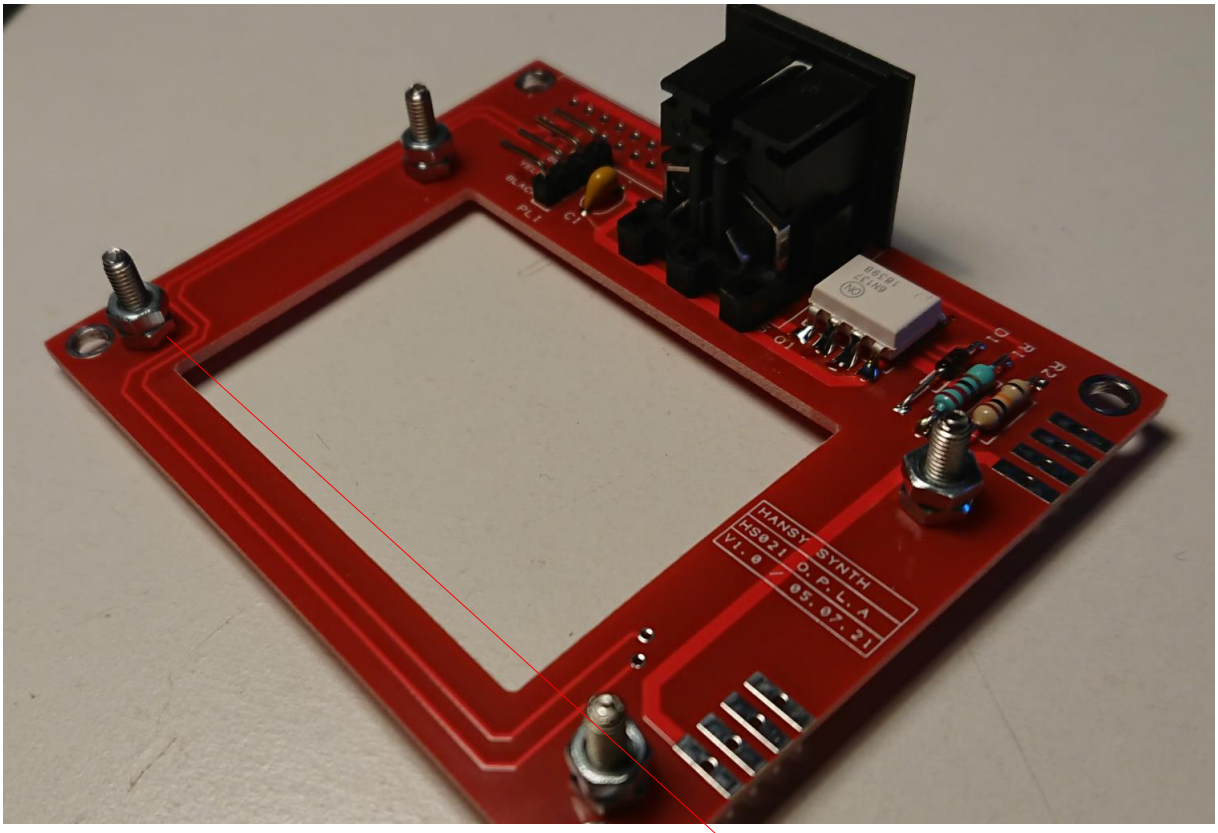
Cut the Midi DIN 5 Pts



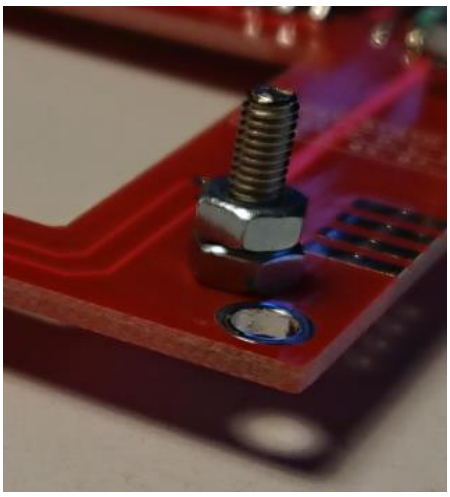
NEXTION SCREEN

Screws M3*16 4

Nuts M3 8



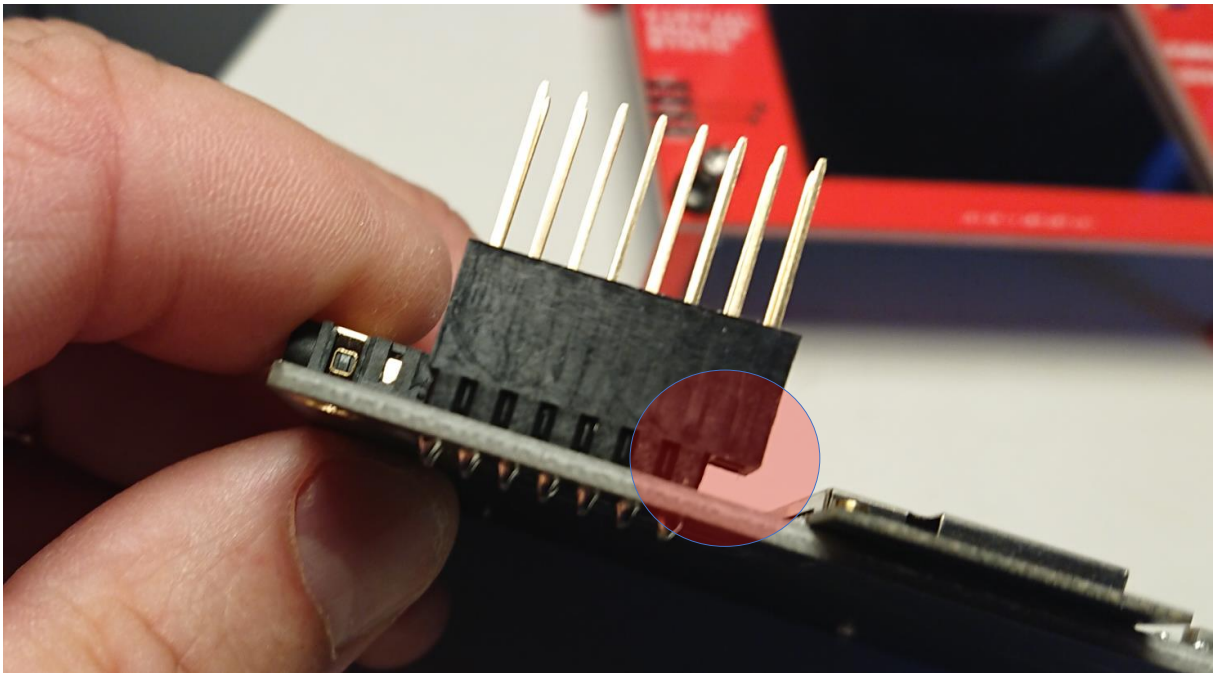
2 Nuts



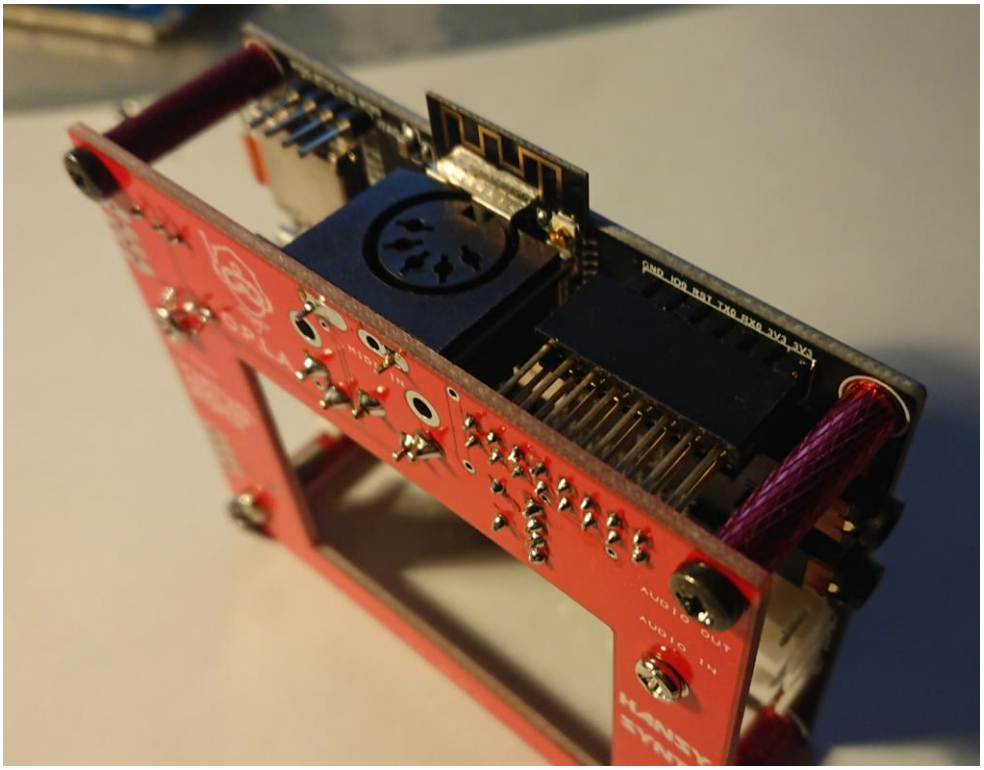
J1 CONNECTOR

Plug the PC104 connector to the ESP32 Audio kit board

The last row on the right is unconnected



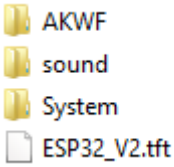
Plug the two boards together and sold the connector, then unplug the 2 boards



PROGRAM THE SD CARD

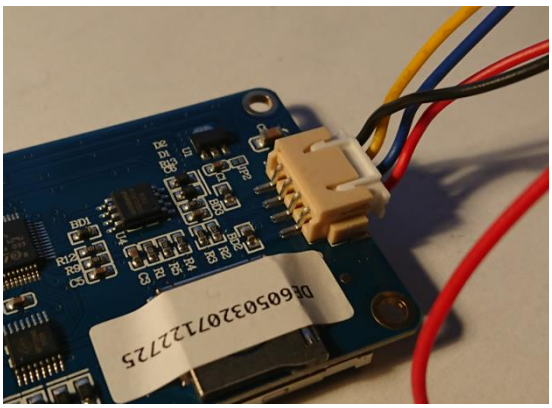
In the SD card you must have these files

You can find all these files in the github repository

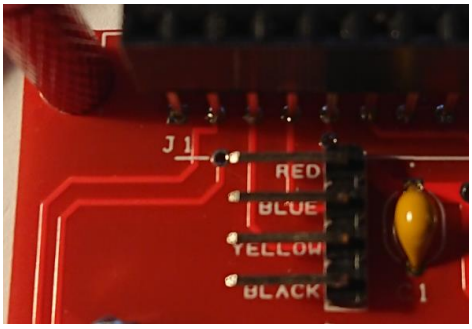


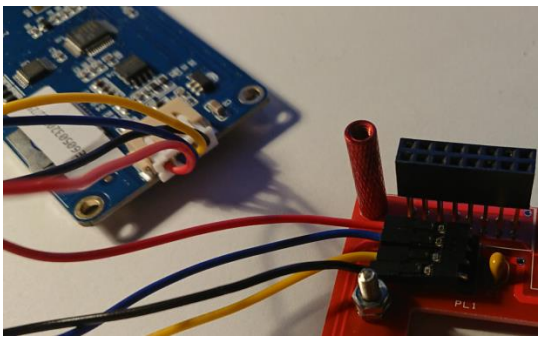
PROGRAM THE NEXTION SCREEN

Insert the connector in the Nextion screen

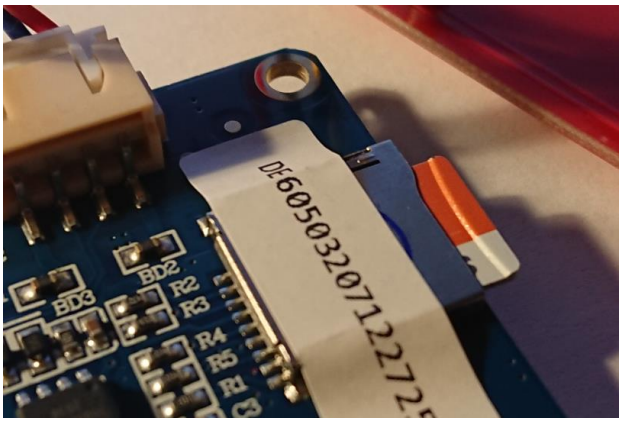


Connect the PL1

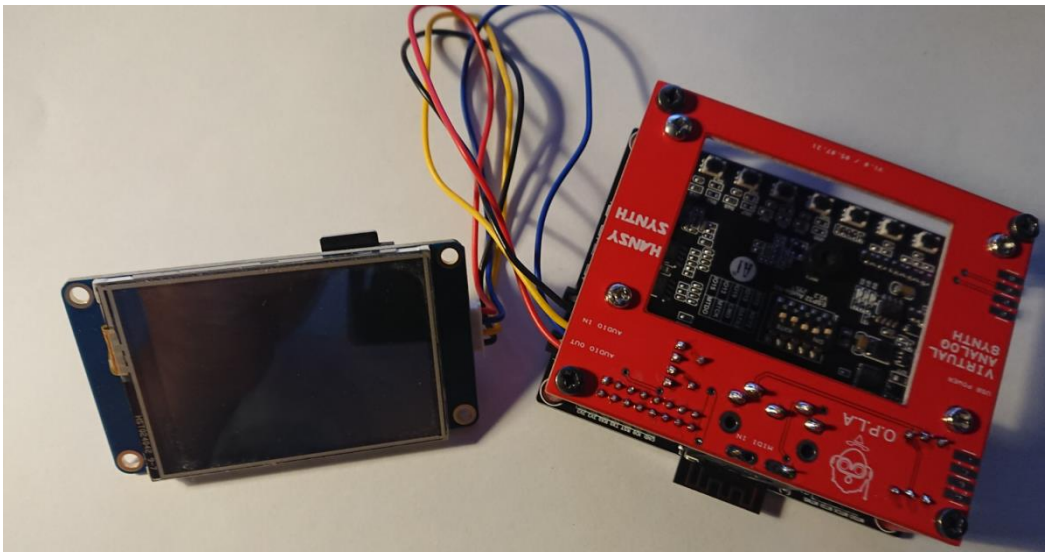




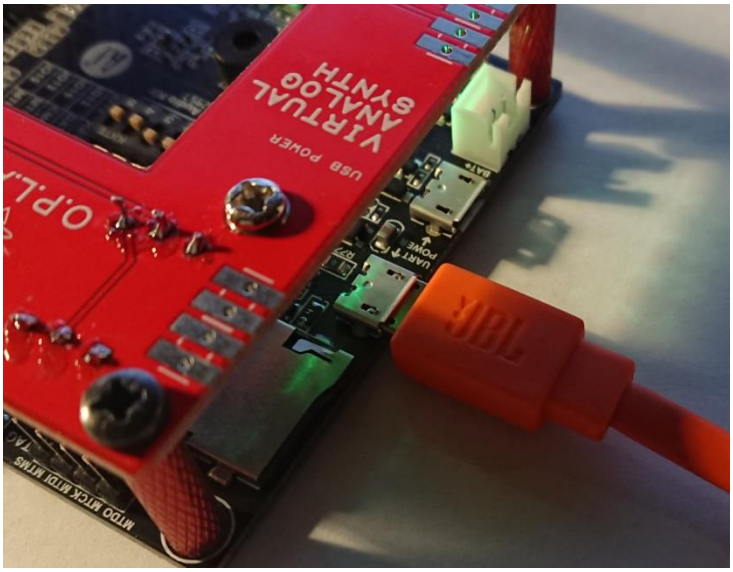
Insert the SD card in the Nextion screen



Plug again the 2 boards

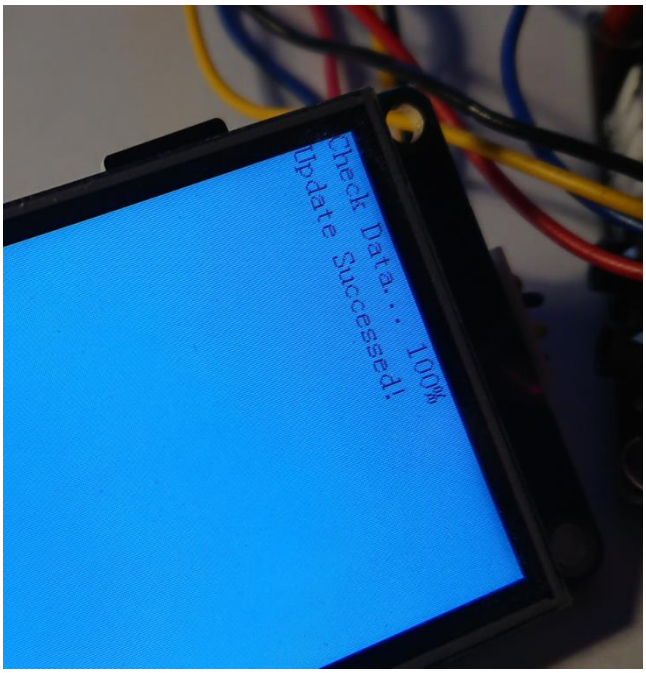


Power on the OPLA



After some seconds you must see something like that

Then

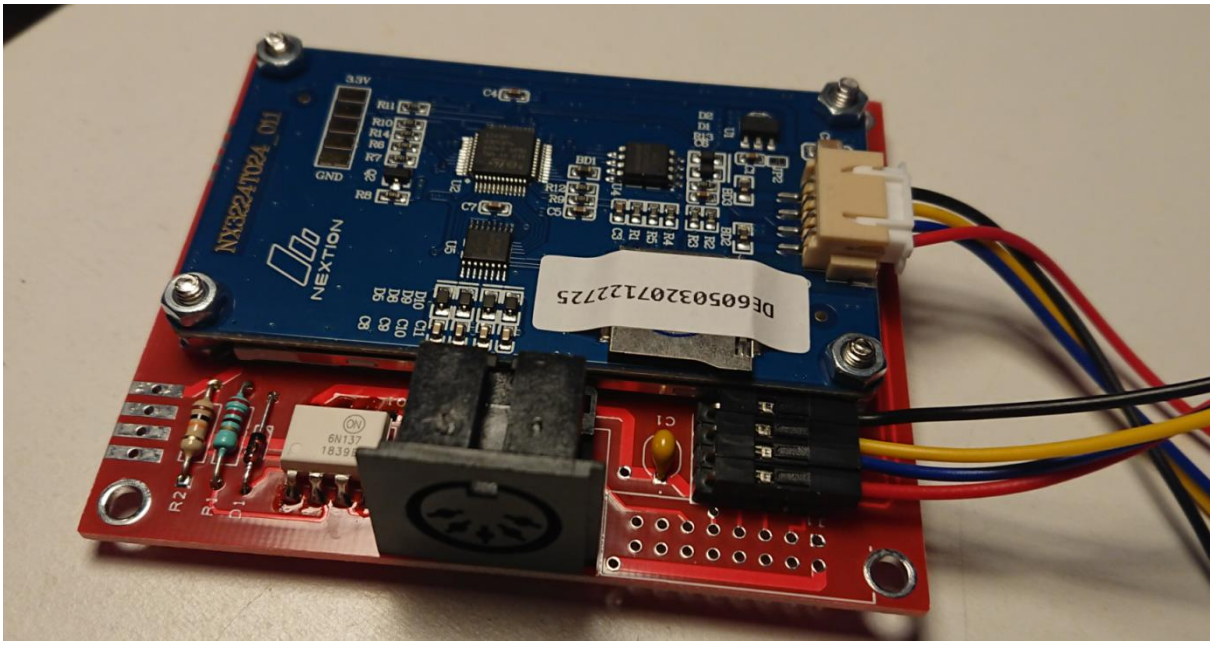


Unplug the SD Card / Power off and on the OPLA. The screen must start with the OPLA main screen

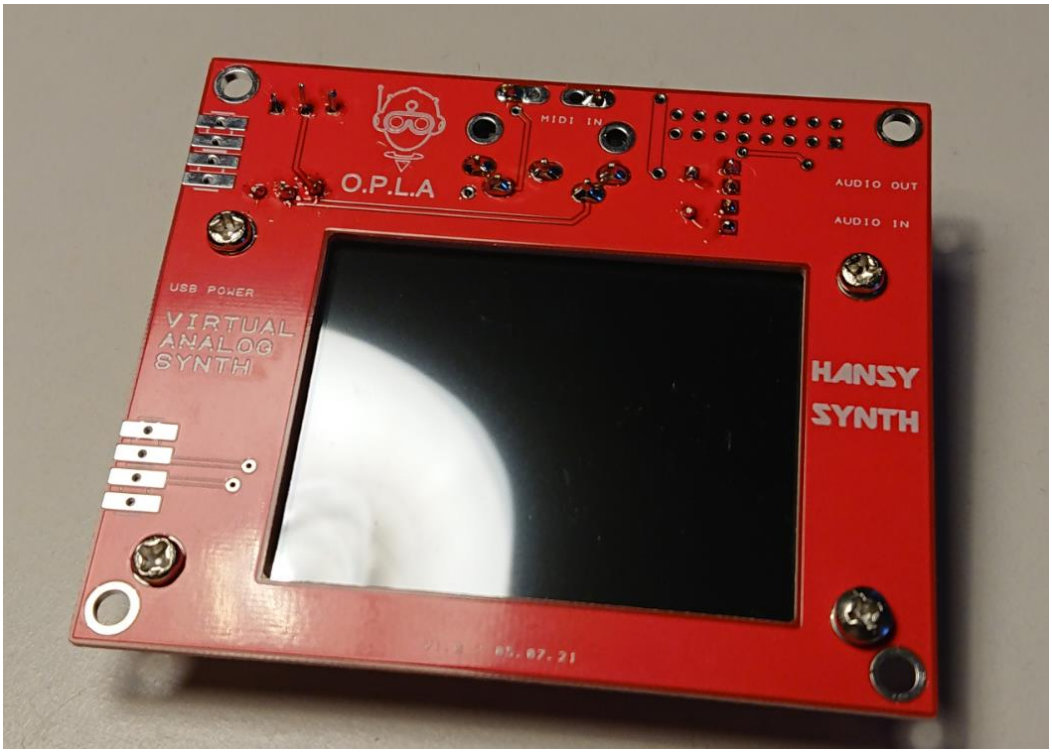
INSERT THE NEXTION SCREEN

Unplug again the two boards

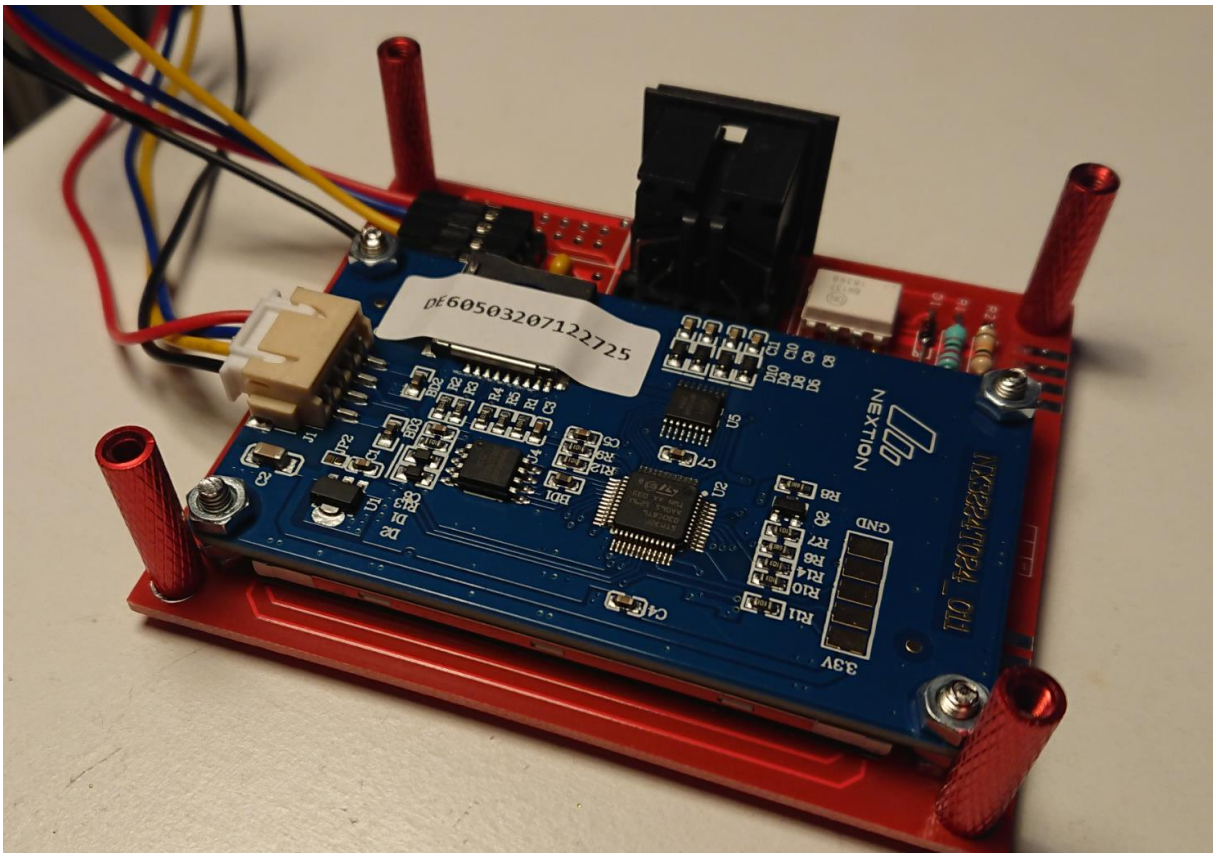
Insert the nextion screen and set the 4 nuts



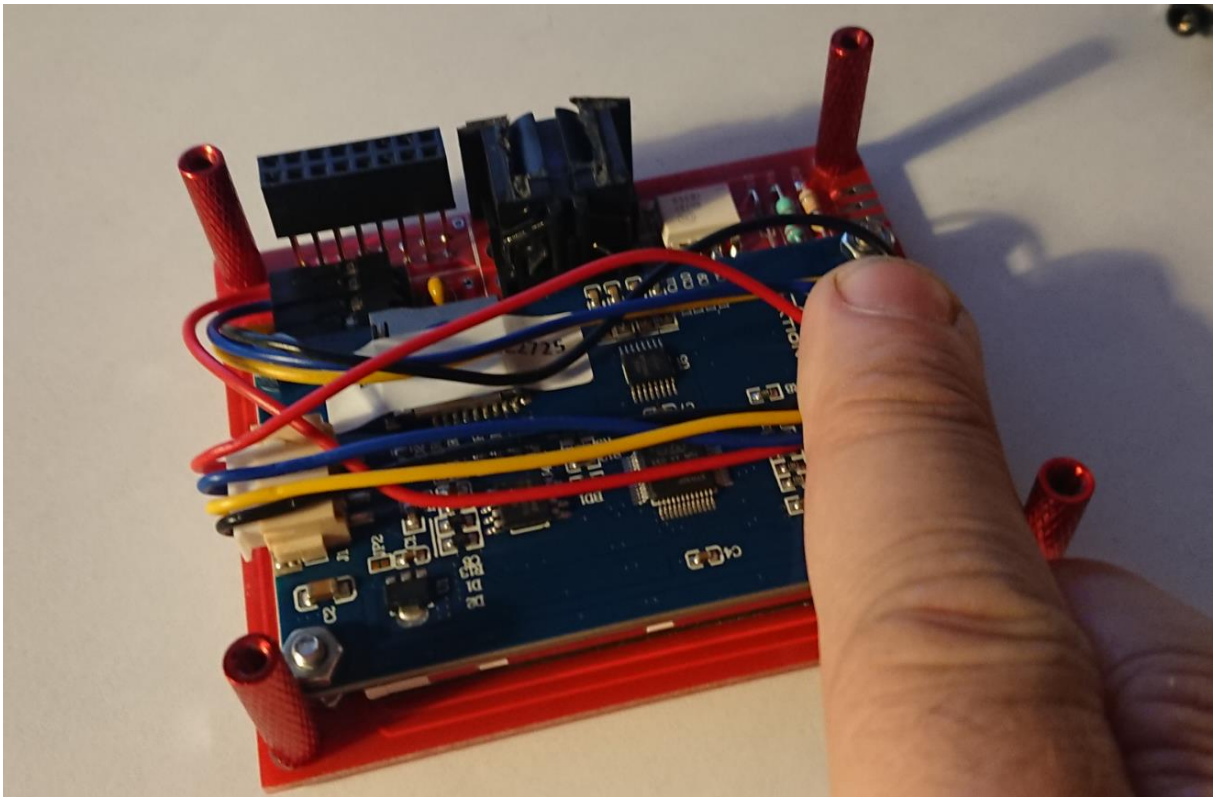
View of the other side



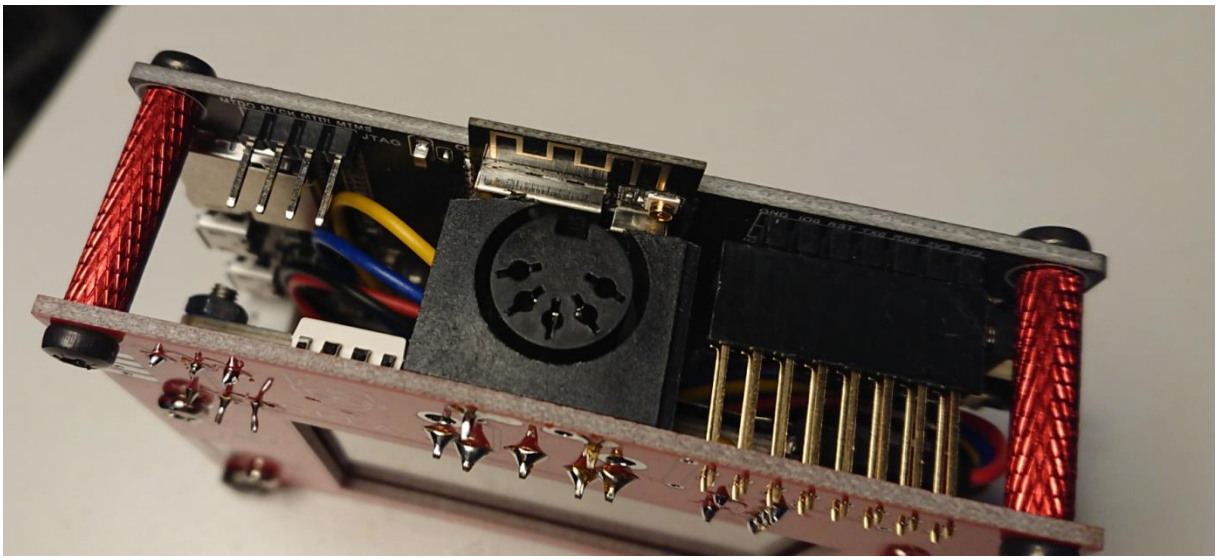
Add the 4 spacers + 4 M3 screws



Set the wire as follow



The plug the other card and add the last 4 screws



PROGRAM THE OPLA MULTI FILE VERSION

Plug the SD card in the ESP32 Audio Kit board

Download the **ESP32 Flash download tool** here.

Flash Download Tools

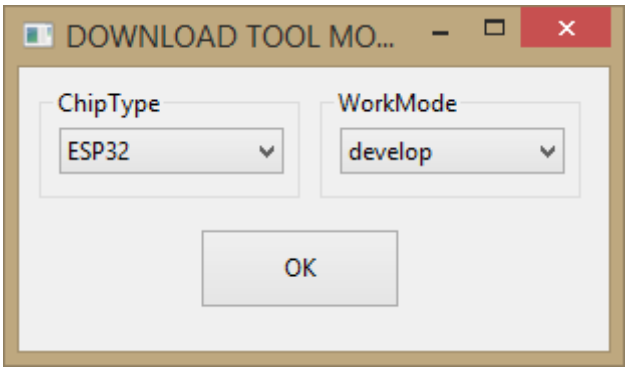
Title	Platform	Version	Release Date	Download
+ Flash Download Tools	Windows PC	V3.8.8	2021.06.02	

Unzip the file

Click on the file **flash_download_tool_3.8.8.exe**

bin	29/04/2021 04:44	Dossier de fichiers	
configure	30/08/2021 22:05	Dossier de fichiers	
dl_temp	31/08/2021 20:49	Dossier de fichiers	
doc	29/04/2021 04:46	Dossier de fichiers	
logs	31/08/2021 20:50	Dossier de fichiers	
RESOURCE	02/06/2021 11:07	Dossier de fichiers	
flash_download_tool_3.8.8.exe	02/06/2021 10:58	Application	16 048 Ko

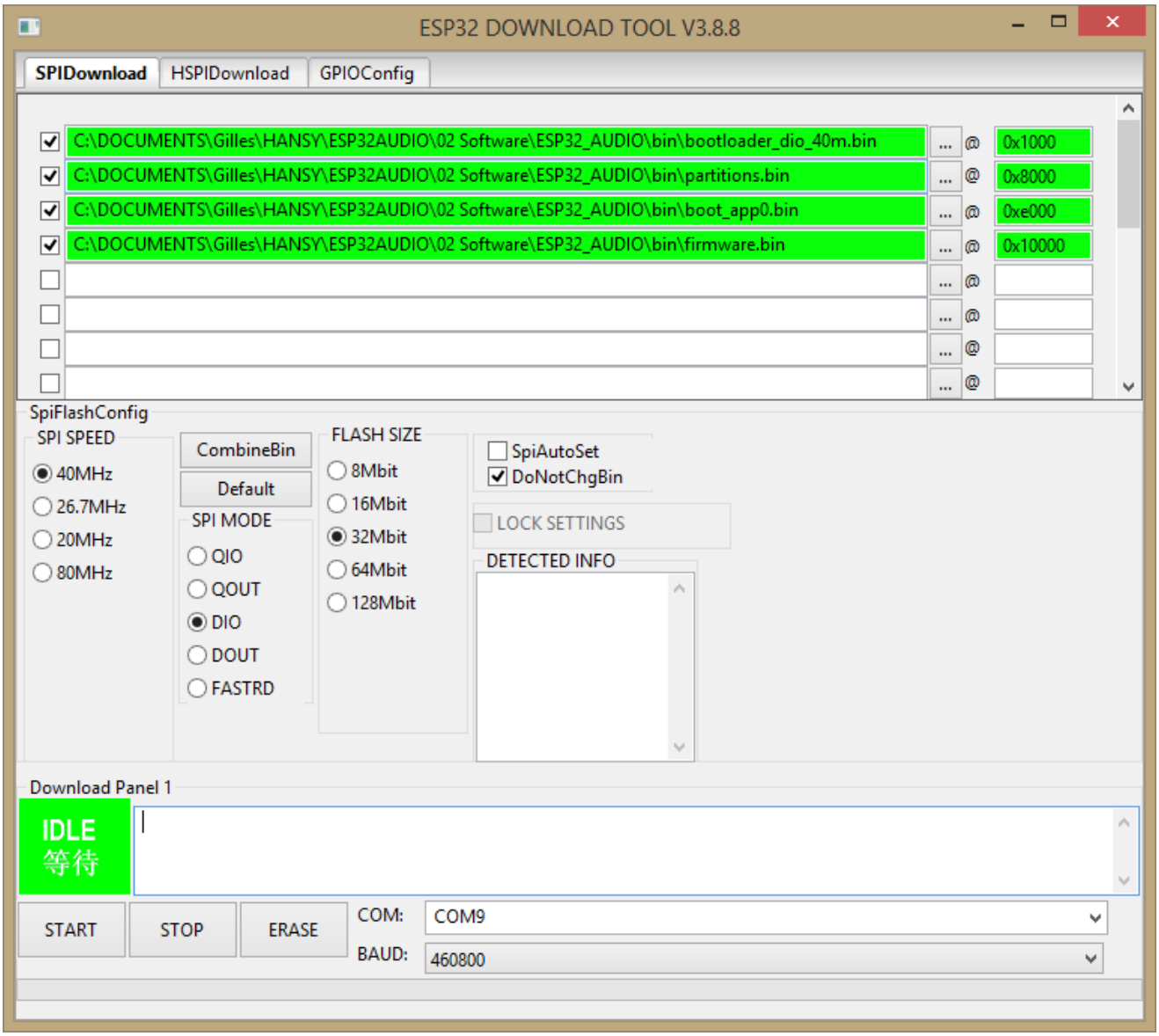
Select ESP32 for the chip type



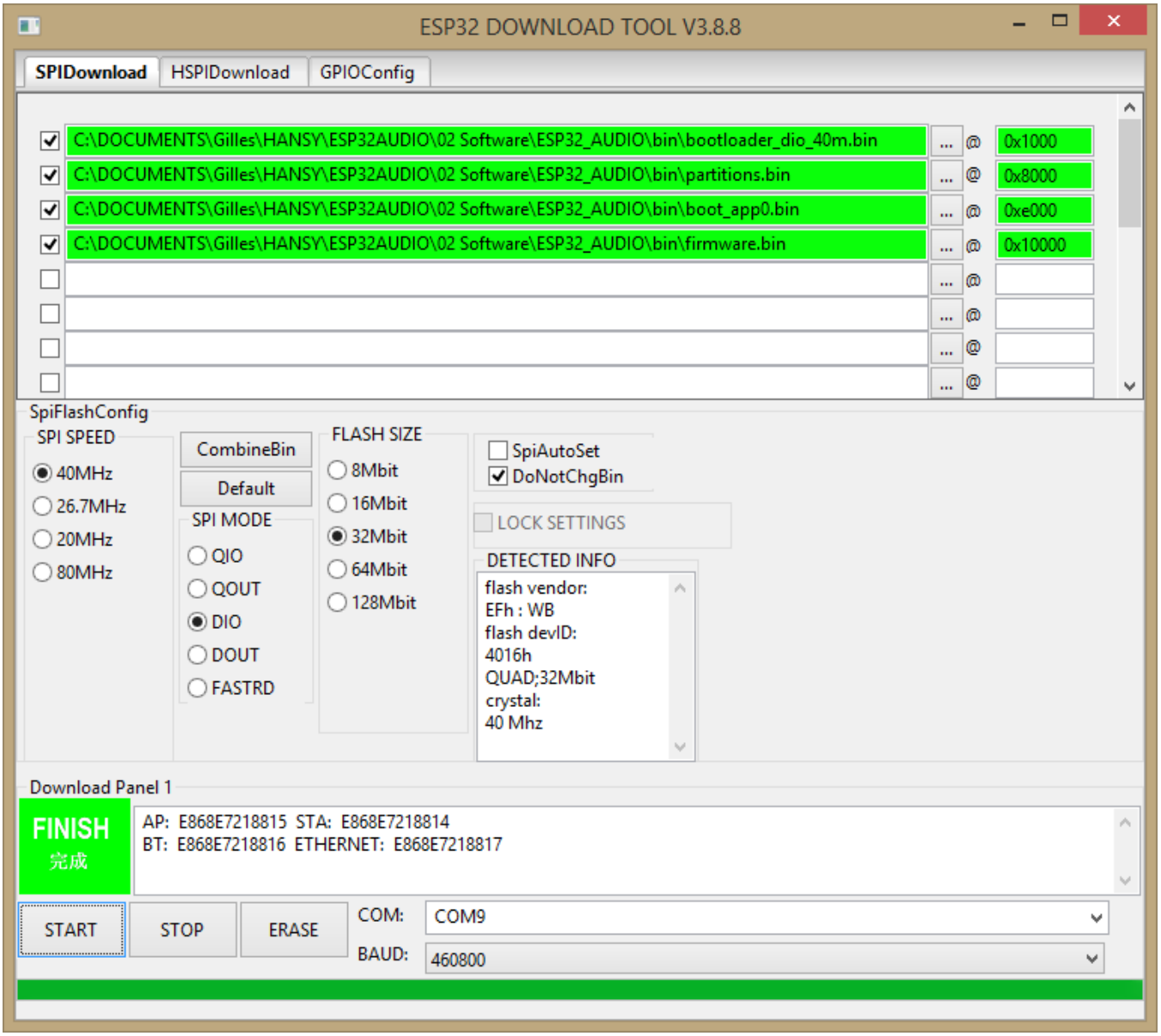
Bootloaderfile address	0x1000	bootloader_dio_40m.bin
Partition file address	0x8000	partitions.bin
Partition boot address	0xe000	boot_app0.bin
Firmware address	0x10000	firmware.bin

Chrystal 40M
Baud rate 460800
Flash size 4MB

Load the different .bin files and set the address.
Check the box on the left for the four files
Set the com port. It can be different from COM9
Set the Baud rate at 460800



Click on start after 10 seconds you must see this screen



PROGRAM THE OPLA WITH ONE FILE VERSION

The four file can be combine to just one file with the **Combinebin** button

The result is a target.bin file

Load this file, set the address to 0x00 and uncheck the **DoNotChgBin** button

Click on start