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## mnmlCore

we want to create a small STM32F4 based Board (for example 10x4cm in size), with limited Pins/sockets...

FantomXR had made such a thing before, so we start with his working design, and invest some time in it

see also this article: Another Midibox Core

### Introduction

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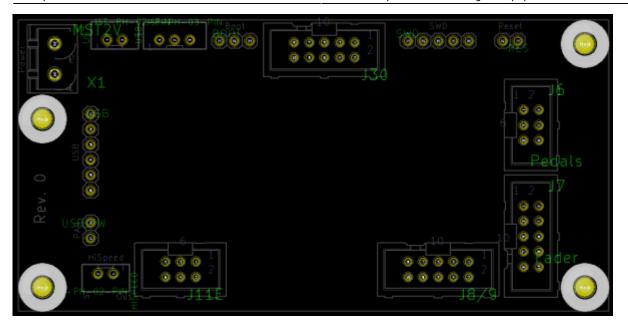
### a Name

mnmlCore, miniCore32, 10x4CORE, RFcore, fundimentalCore, basisCore, baseCore, XRcore, midicore

## **PCB**

## the original [[FantomXR]] Board:

- **Size V0:** 98,5mm x 48,5mm
- Micro-SD-Slot(flat @back on the board)
- **J8/9 SRIO** (for normal shiftregisters)
- Midi A+B (+HiSpeed?) (need external Optocoppler)
- J30 Displays(need external HC595)
- **Bootloader-Switch**(for program-alphas...debug)
- **onboard-Voltage-Regulator** (5V input regulated to 3,3V)
- **USB over Pinheader** (no onboard-socket)
- USB-Power-Jumper
- **J6+J7 Pedals+Fader**: "for an AINSER64-like-analog-scanning", "I made some pcbs with faders which I connect directly to that connectors"
- **SWD-Header** (to program BOOTLOADER into board by using for a example a Discovery-Board)
- Reset-Header



#### **Features**

FantomXR made some improvement in his other projects, so we also should change this things: "For example I changed:

the oscillator to SMD

all none-VDD-traces to 0.2032mm

all vias to round-style and 0.32mm diameter.

all 0603 SMD parts to 0805. removed the ID-pin from USB.

added an inductor behind the USB connector for EMC-improvements  $\label{eq:connector}$ 

# **Hardware Requirements**

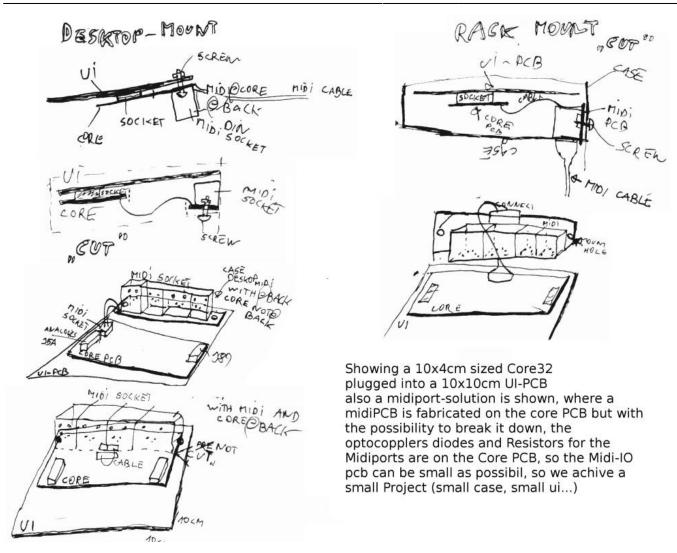
- a jtag programmer (or a Discovery Board)
- Soldering Iron, Wires, PCB....
- USB Power Supply

# **Design Concepts**

phatlines idea with onboard-split-cut MidilO:

http://wiki.midibox.org/ Printed on 2025/11/04 01:18

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### Resources

Forum to discuss

# Community users working on it

• **Phatline** = Documentation, PCB-layout-or at least give it a first try...

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

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