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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

I have started a new Tread in the Forum, so we can discuss things there: mnmlcore, but i hope that most of the things will be done in the wiki, so it is more clear

### Introduction

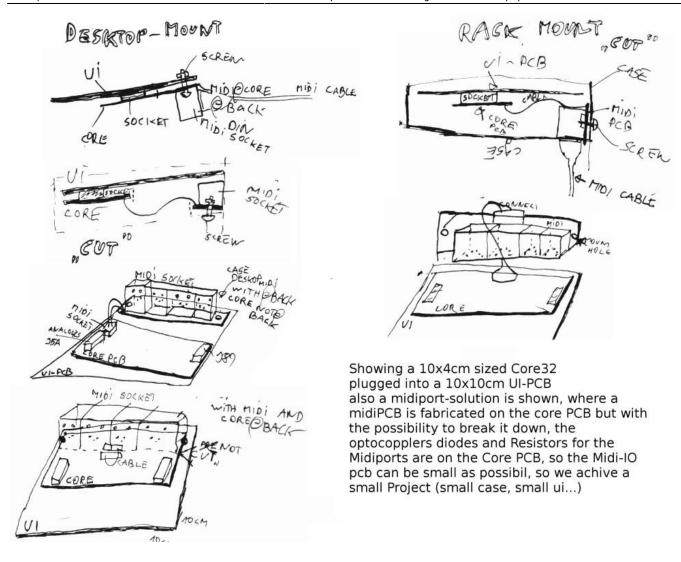
...

#### a Name

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

# **Design Concepts**

phatlines idea with onboard-split-cut MidilO:



## **PCB**

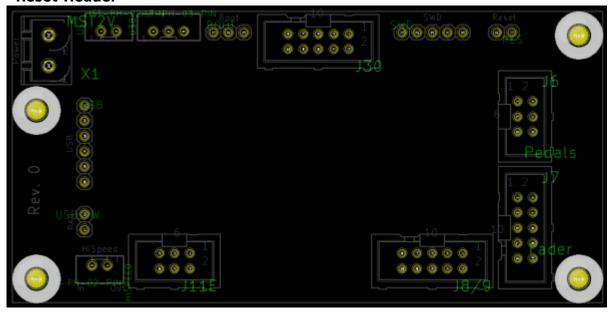
### the inital FantomXR Board:

#### **Features**

- **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)

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#### - Reset-Header



### our modified Board:

#### improvements

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

## **PCB Fabrication/Pick and Place:**

FantomXR have a pick and place machine, price he not knows up to now



need to ask him about the size of a sheet



of multiple pcbs his machine can

hold Fix Me!

find cheap PCB-Manufactor, which do this sheets





#### Last update: 2018/08/02 03:24

# **Hardware Requirements**

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

#### 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

From:

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