

Core 4 Discoveryboard STM32F407VGT6



this is one essential part for my [triggermatrix5](#)
i need a core pcb which is avaiable in Europe, and uses the stm32f407vgt6 chip, which has 1MB ram...

Schematic

[core4disc-schematic.pdf](#)



i think there is a error - PB2 is not connected to the CORE MODULE



Building and BOM

parts off it is pick and place the other part is handsolder

BOM

the LCSC Parts are done with the Pick and place - so no need to order...

| Comment | Designator | LCSC | Lot |
|-----------|-----------------------------|---------|-----|
| SN74HC541 | IC1 | C116811 | 1 |
| 1K | Ra1,Rb1,Rc1,R5,R6,R7,R8,R24 | C11702 | 8 |
| J10B | GPIO1 | C124391 | 1 |
| AIN | J5A/B1 | C124391 | 1 |
| DIN/DOUT | J8/1 | C124391 | 1 |
| MCP3208 | IC2,IC3 | C16939 | 2 |
| 10 | R17 | C17902 | 1 |

| Comment | Designator | LCSC | Lot |
|--------------------|---------------------|---------|-----|
| 6N138-SMD | O1,O2,O3,O4 | C188666 | 4 |
| Pin-Header-2x4-SMD | AIN0,AIN1 | C192300 | 2 |
| J4A+B | IIC1 | C192300 | 1 |
| J15A | JA15 | C192300 | 1 |
| J10B | JB10 | C192300 | 1 |
| - | Midi1 | C192300 | 1 |
| LED | LED1 | C2286 | 1 |
| 220 | R1-4,R13-21 | C25091 | 12 |
| 2K2 | R22,R23,R25,R26 | C25879 | 4 |
| 4K7 | R9,R10,R11,R12 | C25900 | 4 |
| 100n | C4,C6,C7,C8,C10,C12 | C307331 | 6 |
| 10uF | C1-5,C9,C11,C13-15 | C440198 | 9 |
| uSD-Molex | SD1 | C585350 | 1 |
| 1N4148W | D1,D2,D3,D4,D6 | C81598 | 5 |

The Mouser parts that have to be soldered by hand - you have to order them on your own...:

| Comment | Designator | MouserNumber | Lot |
|-------------------------|------------------|----------------------|-----|
| PW2 | TSR_2-2450 | 495-TSR2-2450 | 1 |
| USB1 | USB-B-Socket | 538-67068-8000 | 1 |
| D5 | 1N5818 | 583-1N5818-T | 1 |
| Midi1 | - | 649-1012938390801ALF | 1 |
| Midi-IN1-2, Midi-OUT1-2 | Midi-KCDX-5S-S2 | 806-KCDX-5S-S2 | 4 |
| DISC1 | STM32F4DISCOVERY | 511-STM32F407G-DISC1 | 1 |
| PW1 | PJ-079BH | 490-PJ-079BH | 1 |
| SW1-3 | Power | 611-1101M2S4AV2BE2 | 3 |
| USB3 | USB_A-Molex | 538-89485-8000 | 1 |

Order-List

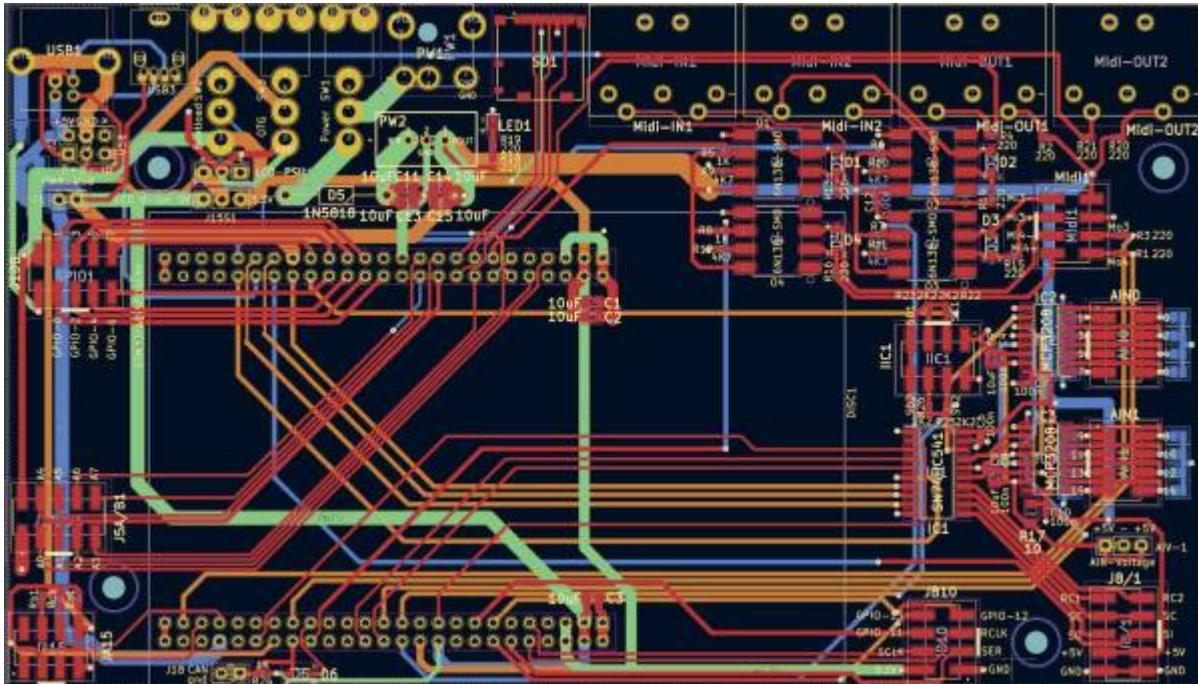
copy following list into this [mouser.com-Link](https://www.mouser.com)

```
495-TSR2-2450|1
538-67068-8000|1
583-1N5818-T|1
649-1012938390801ALF|1
806-KCDX-5S-S2|4
511-STM32F407G-DISC1|1
490-PJ-079BH|1
611-1101M2S4AV2BE2|3
538-89485-8000|1
```

Order from Reichelt:

2x [2x25Pin Female 2,54mm Heades](#)

- 1x 1x20Pin Male 2,54mm Header
- 1x 2x10Pin Male 2,54mm Header
- 5x 2x5Pin FeMale 2,54mm Header
- 4x 2x4Pin Female 2,54mm Header



Software

1. If the Discoveryboard is a virgin-one then upload the bootloader [via stm-utility](#)
2. Upload the [Bootloader](#)
3. Disconnect and Reconnect the USB-Cable to your PC, then type "help" into the MIOS-Terminal, this should print out the actual Board-Configuration, if this happens then: 4. Type following commands:
 - * set lcd_type 0x84
 - * set lcd_num_x 26
 - * set lcd_num_y 1
 - * set lcd_width 128
 - * set lcd_height 64
 - * store

at least this has to be done when using this core for [Triggermatrix5](#)

To Do

It works! next variant will be, without Discoveryboard and the STM32F407vgt6 directly soldered to the board...

Community users working on it

- **Phatline** = PCB & Schematic, UI-Programming, Documentation...

Just let a Private message on the forum to user already involved.
or join the forum: [Triggermatrix 5](#)

From:

<https://wiki.midibox.org/> - **MIDIbox**

Permanent link:

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