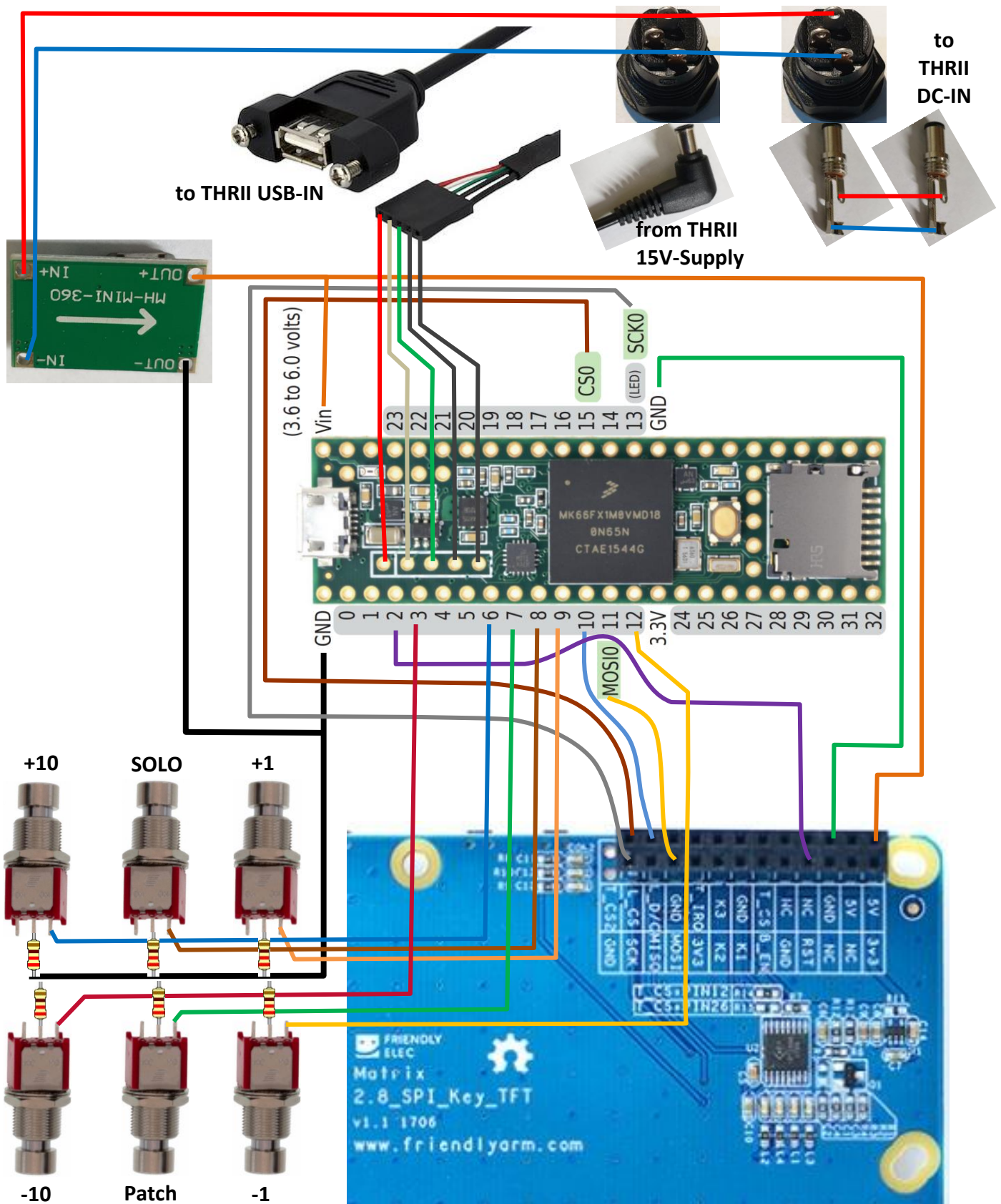


Foot Switch for THRII Teensy 3.6, 2.8_SPI_Key_TFT, 6 SPDT Switches

Vivid schematic



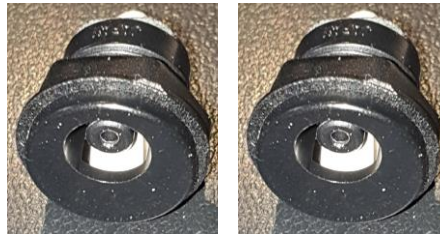
Foot Switch for THRII
Teensy 3.6, 2.8_SPI_Key_TFT, 6 SPDT Switches

Material and hints

Adjustable 15V -> 5V Converter
(be sure to adjust to 5V before
connecting to the Teensy 3.6 or
4.1 controller board)



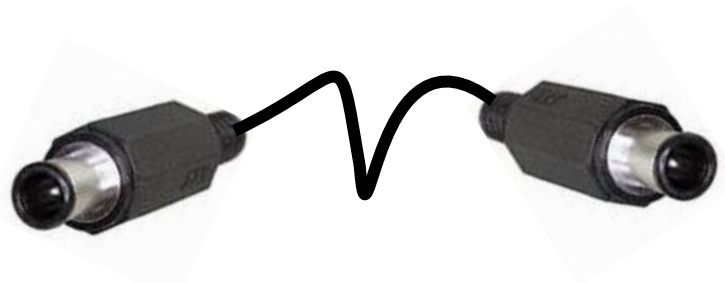
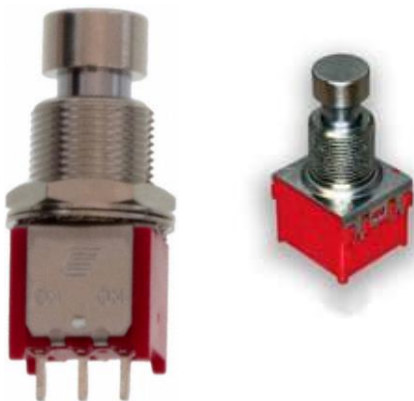
Two DC-Jacks (connected in parallel)
and fetching 15V-DC from the THRII-Power-
supply



Two DC-plugs (connected with wire)
and bridging 15V-DC to the THRII



6 foot switches
(may be momentary or latching
switches – can be adapted in
software)



6 Resistors 220 Ω



Foot Switch for THRII
Teensy 3.6, 2.8_SPI_Key_TFT, 6 SPDT Switches

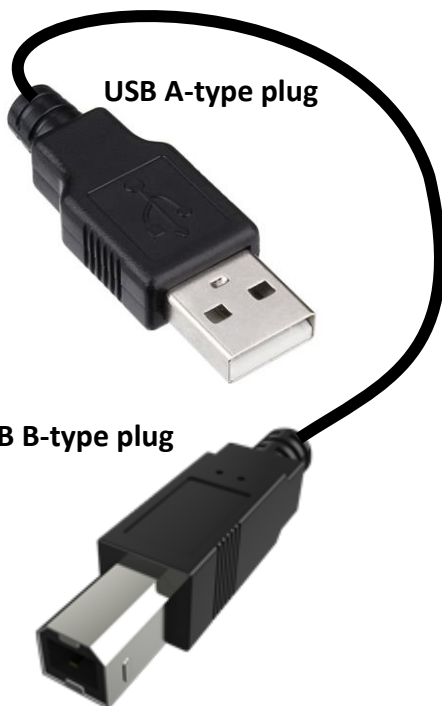
USB-Adapter (Type A socket -> Motherboard pin header)
Teensy controller will act as USB-host.
Plug in the THRII with the supplied USB-A<->USB-B cable



USB-Adapter (Micro USB socket-> Micro USB plug)
With this adapter the Teensy controller can be programmed. Connect this to PC.



USB-cable (USB B plug -> USB A plug)
With this cable a PC is connected to the THRII.
In this project the pedalboard is connected to the THRII with this cable instead.



THRII-Power supply 15V. In this project the pedalboard as well grabs power from this supply.



Foot Switch for THRII
Teensy 3.6, 2.8_SPI_Key_TFT, 6 SPDT Switches

SPI-TFT-Display (touch is not used)



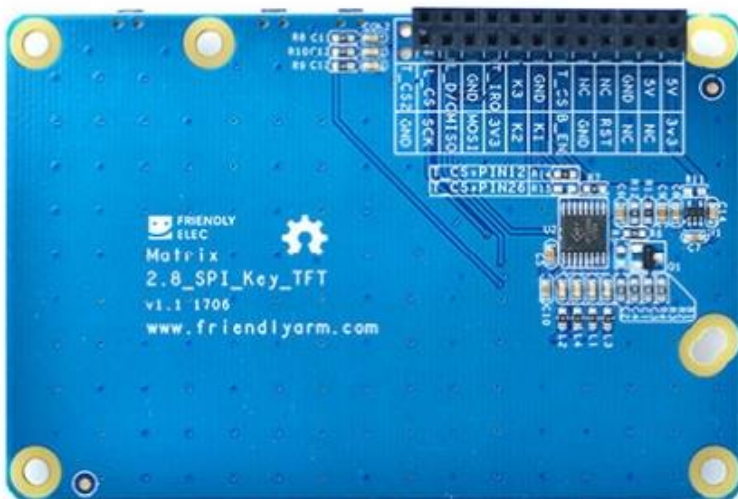
This display is quite cheap and has a good resolution. Normally it is intended for Raspberry Pi.

I adapted a speed optimized Teensy-library to make it work.

If you use a different display be sure to maintain a resolution of 240x320 (or you will have a lot of work adapting the software!)

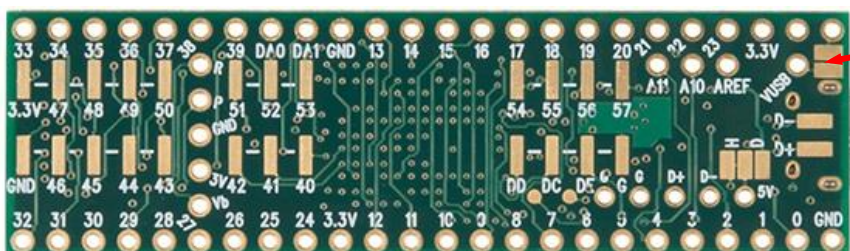
You will need a high-speed DMA-library for the TFT display or refresh is much too slow.

The display has got a touch interface. But touch it is not used and not needed for this project!



Teensy 3.6 or Teensy 4.1 controller (4.1 not tested)

Teensy 4.0 is possible but not advisable, Teensy 3.5 does not work!.



cut V_{in} from V_{USB} here, if you use micro-USB programming jack while supplying with DC-converter!

Foot Switch for THRII
Teensy 3.6, 2.8_SPI_Key_TFT, 6 SPDT Switches

Links:

TFT-Display: about 10€

https://www.friendlyarm.com/index.php?route=product/product&product_id=102&search=tft&description=true&category_id=0

Teensy 3.6 or Teensy 4.1 about 25€

<https://www.pjrc.com/store/teensy36.html>

<https://www.pjrc.com/store/teensy41.html>

USB-Adapter:

https://www.mindfactory.de/product_info.php/InLine-USB-2-0-Slotblech-2x-Buchse-auf-2x-intern_135296.html

<https://www.manomano.de/p/bematik-usb-adapter-2x5-pin-motherboard-2xah-halterung-13324591>

Foot switches: 4,35€ per piece (Digi-Key)

<https://www.digikey.com/en/products/detail/e-switch/FS5700SPLT2B2M1QEH/6825401>

DC-Jacks: 2,77€ per piece (Digi-Key)

<https://www.digikey.de/product-detail/de/schurter-inc/4840-2230/486-3578-ND/1731063>

DC-Plugs: 2,77€ per piece (Digi-Key)

<https://www.digikey.de/product-detail/de/schurter-inc/4840-1230/486-3379-ND/2646638>

DC-DC converter 15V 5V (adjustable) about 3€

<https://www.matts-electronics.com/wp-content/uploads/2018/06/MINI-360.pdf>