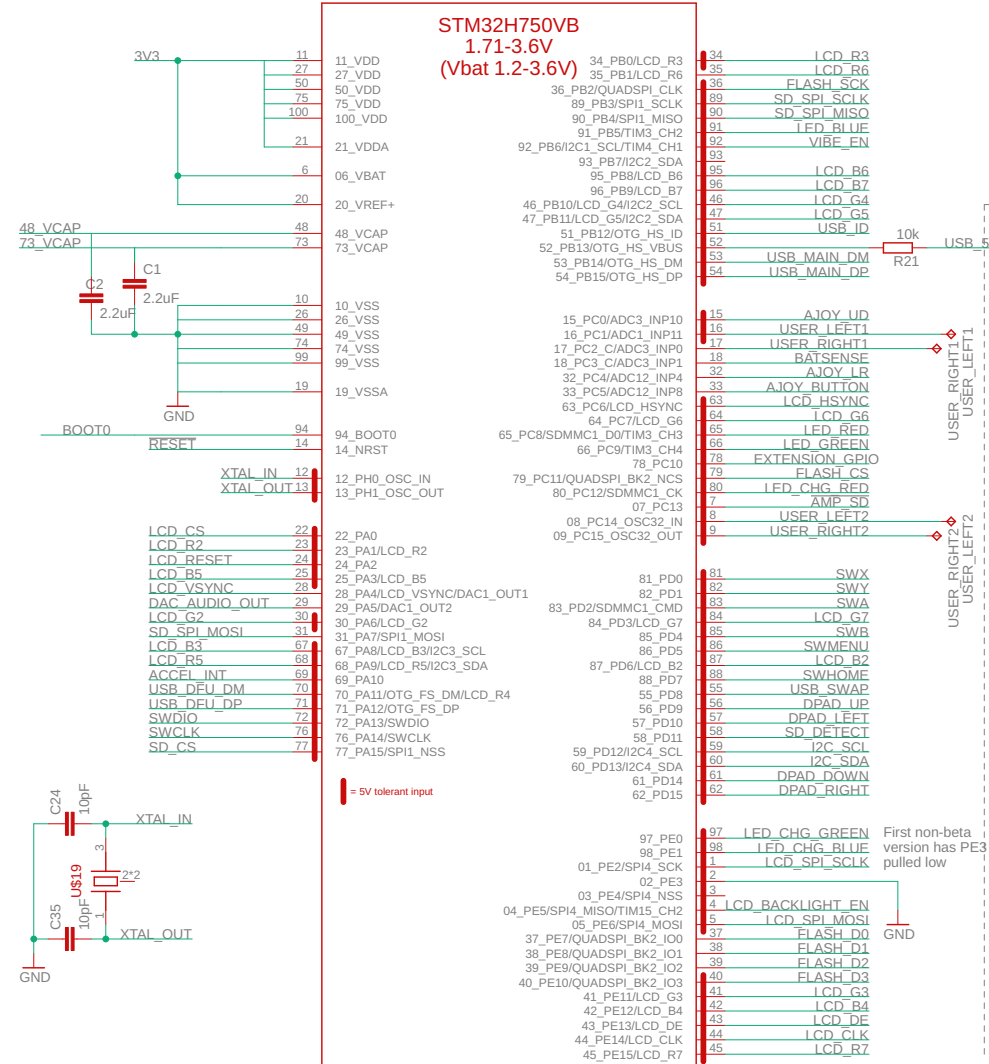


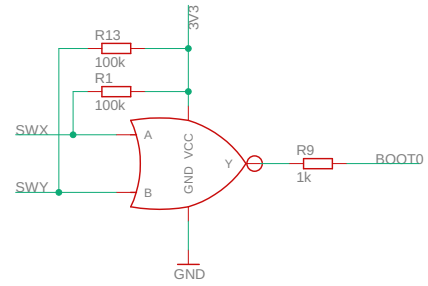
STM32H750VB



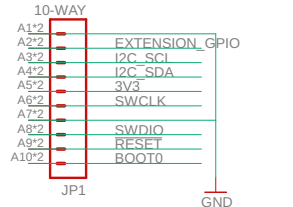
USB DFU logic

To enter USB DFU at boot, an user presses both X and Y buttons at the same time. X and Y input to a NOR gate, which outputs high when the buttons are pressed. The NOR output is wired to BOOT0.

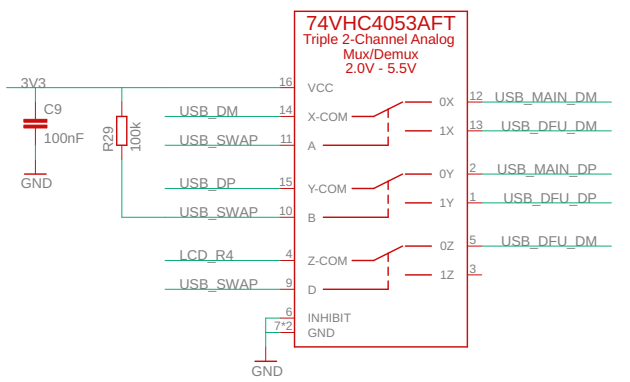
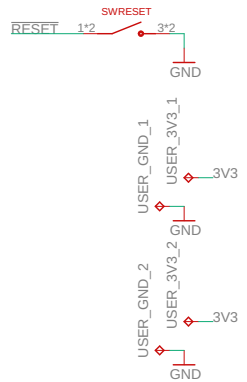
When USB\_SWAP is high (i.e. not actively driven low by the MCU), USB pins are routed to USB\_DFU\_DM/DP to enable entering DFU mode.



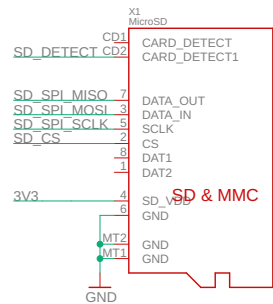
Programming & extension header



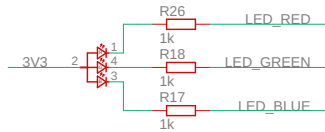
Reset switch



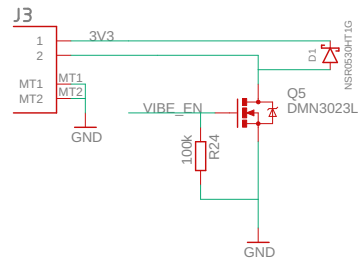
## microSD card



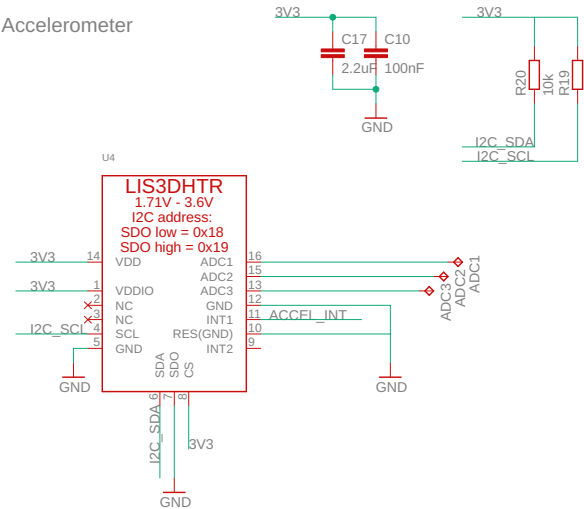
## Indicator LEDs



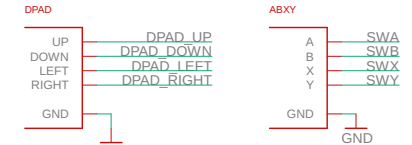
## LRA vibrate



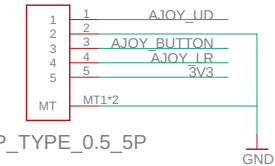
## Accelerometer



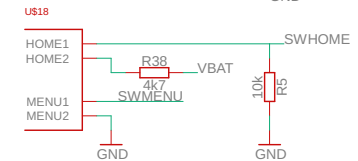
## Inputs



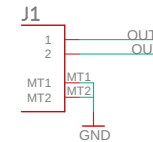
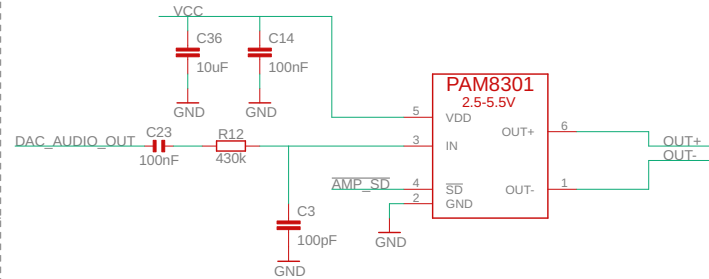
## JOYSTICK



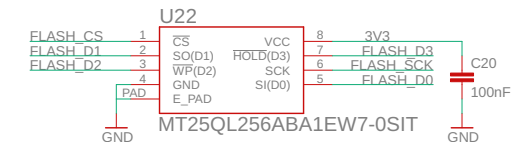
## FLIP\_TYPE\_0.5\_5P



## Amplifier



## Quad SPI Flash

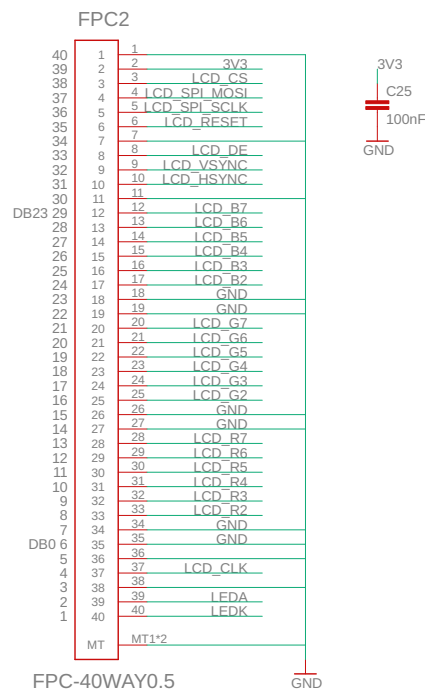


AMP TPA301: 150mA in shutdown  
SD card: up to 100mA, 0.1 - 30mA in idle  
LCD backlight: ~90mA full, 50uA shutdown  
Accelerometer: 180uA normal, 1uA shutdown  
Flash W25Q32FV: 20mA full, 10uA idle, 1uA shutdown  
LCD: 20mA  
NOR gate SN74AHC1G02: 10uA  
AP2112 LDO 55uA  
STM32: 100mA, 5uA standby

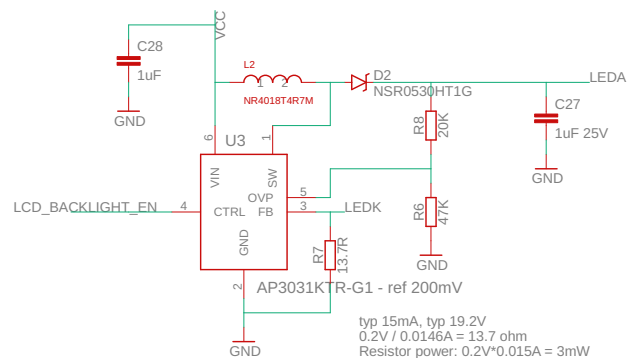
Voltages:  
STM32: 1.62-3.6V, separate VDD50USB (not on QFP100)  
XOR SN74AHC1G02 2-5.5V  
Accel MSA301: 1.62-3.6V  
Quad flash 2.7-3.6V  
Amp 2.5-5.5V  
(deleted: MicroSD: 3V3)  
USB: 3V3

### 3.5" LCD connector

Driver: ST7272A  
Backlight: 6S1P, 19.2V, 15mA typ

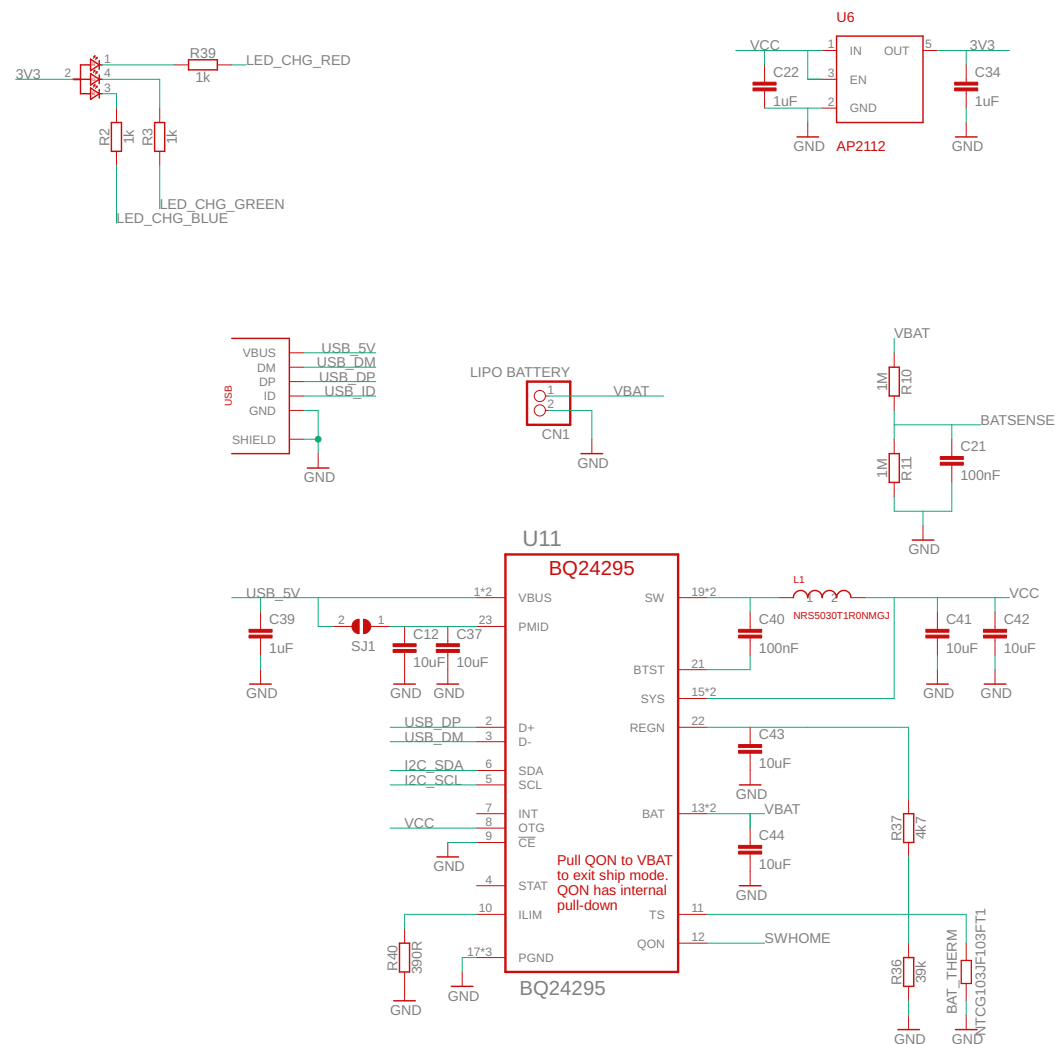


### 3.5" LCD backlight driver



## Battery Charger and Power Path Management

### USB and Lipo connectors



Max input current =  $(1V/R_{lim}) * 435$   
 $390R$  results in a  $1.1A$  max input current.  
 $1.1A/3.7V * 5V * 0.9A - 0.2A$  = average charge current would be  $1.1A$