

The schematic diagram illustrates the interface connections for a NUCLEO STM32F401re microcontroller. The central component is the NUCLEO STM32F401re (U6), which is connected to several peripheral modules:

- SD-Card Reader (U4):** An SD Card SDIO Breakout module connected to the microcontroller's SDIO pins (PC10-PC15) and powered by +3V3 and GND.
- Encoder:** A RotaryEncoder_Switch (SW1) connected to the microcontroller's PA0, PA1, and PA2 pins, with a +5V supply and GND.
- Fader:** Five potentiometers (RV1-RV5) connected to the microcontroller's PA0-PA4 pins, with a +3V3 supply and GND.
- Display (U5):** An SH1107_128x128 OLED display connected to the microcontroller's PB6-PB8 pins, with a +3V3 supply and GND.
- Power Supply:** A USB_B_Mini connector (J4) providing +5V and GND, and a +3V3 supply connected to the microcontroller's VDD and VSSA pins.

The microcontroller's pins are labeled with their functions: NRST, BOOT0, VREF+, PH0, PH1, PD2, PC0-PC15, VCAP1, VBAT, VDD, VSS, VSSA, PA0-PA15, PB0-PB15.

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