**Input buffer and sync separator**

J1 Video In
C9 22p
R8 10K
Q1 2N3904
R1 620R
C3 100n
R9 1K
C2 510p
C4 100n
R2 680K
U2 LM1881 — VIDEO, INT, VCC, CSYNC, FRAME, BURST, O/E, GND
+5V
CSYNC
FRAME
GND

**Edge select**

+5V
R5 1K
Q2 2N3904
R6 10K
GND
U3B 74LS109 — J, C, K, R, S, Q, Q̄
U3A 74LS109 — J, C, K, R, S, Q, Q̄
ARMN
ARM
D3 1N914
D4 1N914
R7 10K
+5V
J5 Trigger Out
GND

**Controller**

+5V
C1 100n
GND
J2 ICSP
GND
U1 ATmega328P-P
AREF
VCC AVCC
PB0 14
PB1 15
PB2 16
PB3 17
PB4 18
PB5 19
XTAL1/PB6 9
XTAL2/PB7 10
PC0 23
PC1 24
PC2 25
PC3 26
PC4 27
PC5 28
RESET/PC6 1
PD0 2
PD1 3
PD2 4
PD3 5
PD4 6
PD5 11
PD6 12
PD7 13
GND
SW
ENCA
ENCB
R3 1K
D1 LED
GND
C5 22p
Y1 20MHz
C6 22p
GND
SDA
SCL
+5V
D2 1N914
R4 10K
C7 100n
SW1 RESET
GND
CSYNC
FRAME
ARM
ARMN
GND

**Power**

+5V
J3 5V Power
PWR_FLAG
C8 100n
U3C 74LS109 — VCC, GND
PWR_FLAG
GND

**Display and encoder**

+5V
U4 DISPLAY_SSD1306_OLED_128x32
SDA 4
SCL 3
VCC 2
GND 1
GND
SW2 RotaryEncoder_Switch
ENCB B
C
ENCA A
S2 SW
S1
GND
GND