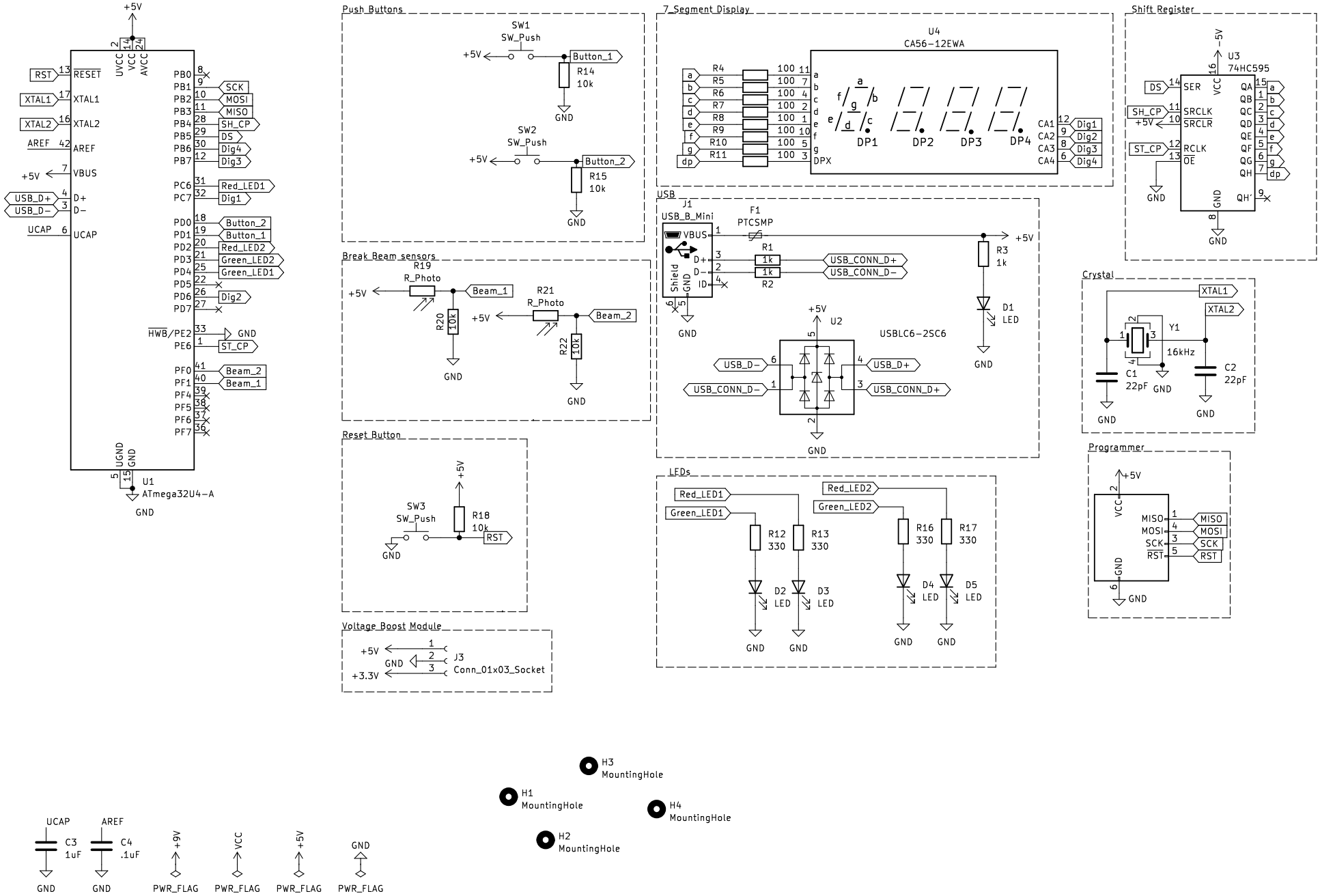
+5V
UVCC
VCC
AVCC
RST
RESET
XTAL1
XTAL2
AREF
VBUS
USB_D+
USB_D−
UCAP
PB0
PB1
PB2
PB3
PB4
PB5
PB6
PB7
SCK
MOSI
MISO
SH_CP
DS
Dig4
Dig3
PC6
PC7
Red_LED1
Dig1
PD0
PD1
PD2
PD3
PD4
PD5
PD6
PD7
Button_2
Button_1
Red_LED2
Green_LED2
Green_LED1
Dig2
HWB/PE2
GND
ST_CP
PF0
PF1
PF4
PF5
PF6
PF7
Beam_2
Beam_1
UGND
U1
ATmega32U4−A
Push Buttons
SW1
SW_Push
R14
10k
SW2
SW_Push
R15
10k
Break Beam sensors
R19
R_Photo
R20
10k
R21
R_Photo
R22
10k
Reset Button
SW3
SW_Push
R18
10k
Voltage Boost Module
J3
Conn_01x03_Socket
+3.3V
7_Segment Display
U4
CA56−12EWA
R4
R5
R6
R7
R8
R9
R10
R11
100
DP1
DP2
DP3
DP4
DPX
CA1
CA2
CA3
CA4
Dig1
Dig2
Dig3
Dig4
USB
J1
USB_B_Mini
F1
PTCSMP
R1
1k
R2
1k
USB_CONN_D+
USB_CONN_D−
R3
1k
D1
LED
U2
USBLC6−2SC6
USB_D−
USB_D+
USB_CONN_D−
USB_CONN_D+
LEDs
Red_LED1
Green_LED1
Red_LED2
Green_LED2
R12
330
R13
330
R16
330
R17
330
D2
LED
D3
LED
D4
LED
D5
LED
Shift Register
U3
74HC595
SER
SRCLK
SRCLR
RCLK
OE
QA
QB
QC
QD
QE
QF
QG
QH
QH'
Crystal
XTAL1
XTAL2
Y1
16kHz
C1
22pF
C2
22pF
Programmer
MISO
MOSI
SCK
RST
H1
MountingHole
H2
MountingHole
H3
MountingHole
H4
MountingHole
C3
1uF
C4
.1uF
UCAP
AREF
+9V
VCC
GND
PWR_FLAG