Note: Prints best using Preview at 90% print scale

+3.3V

J6
1 GND
2 3.3v
3 Spindle
4 SpinDir
5 SpinPWM
6 Coolant

R18 150 ohm
R19 150 ohm
R20 150 ohm
R21 150 ohm

D5 RED
D6 RED
D7 RED
D8 RED

GND

PORTA

U1
ATxmega192A3-AU

AVcc Vcc Vcc Vcc Vcc
61 53 45 35 25 15

PA0 62
PA1 63
PA2 64
PA3 1
PA4 2
PA5 3
PA6 4
PA7 5

PA7
PA6
PA5

PB0 6
PB1 7
PB2 8
PB3 9
PB4/TMS 10
PB5/TDI 11
PB6/TCK 12
PB7/TDO 13

PC0 16
PC1/XCK0 17
PC2/RXD0 18
PC3/TXD0 19
PC4 20
PC5/XCK1 21
PC6/RXD1 22
PC7/TXD1 23

PDI_DATA 56
RESET/PDI_CLK 57

PR0 58
PR1 59

GND GND GND GND GND
14 24 34 44 60

PD0 26
XCK0/PD1 27
RXD0/PD2 28
TXD0/PD3 29
PD4 30
XCK1/PD5 31
RXD1/PD6 32
TXD1/PD7 33

PE0 36
XCK0/PE1 37
RXD0/PE2 38
TXD0/PE3 39
PE4 40
XCK1/PE5 41
RXD1/PE6 42
TXD1/PE7 43

PF0 46
XCK0/PF1 47
RXD0/PF2 48
TXD0/PF3 49
PF4 50
PF5 51
PF6 54
PF7 55

PD5
PD6
PD7

PORTD

PE5
PE6
PE7

PORTE

PF5
PF6
PF7

PORTF

J16
1
2
Boot

J13
1 GND
2 SS2
3 SS1
4 MOSI
5 MISO
6 SCK
SPI

+3.3V

J14
1 TX
2 RX
3 GND
4 +5v
TTL Serial

R7 4.7K
R8 2.7K
R9 2.7K

U6
FT230X
VCC 12
VCCIO 3
TXD 1
RXD 4
RTS# 5
CTS# 6
3V3OUT 10
USBDM 9
USBDP 8
RESET# 11
CBUS0 2
CBUS1 14
CBUS2 7
CBUS3 16
Gnd 5
Gnd 13

J9
1 Vbus
2 D-
3 D+
4 GND
5 shield
6 shield
USB

+3.3V

D4 RED
D3 RED

R3 150 ohm
R2 150 ohm

C14 0.22 uF

J10
1 PDI
2 VCC
3 nc
4 nc
5 CLK/RESET
6 GND
PDI

+3.3V

R6 56K

SW1

3 1
4 2

J15
1
2
Reset

GND

X1
16 MHz

C8 18 pF
C9 18 pF

J7
1 GND
2 3.3v
3 Xmin
4 Xmax
5 Ymin
6 Ymax
XY switches

J8
1 GND
2 3.3v
3 Zmin
4 Zmax
5 Amin
6 Amax
ZA switches

R10 2.7K
R11 2.7K
R12 2.7K
R13 2.7K
R14 2.7K
R15 2.7K
R16 2.7K
R17 2.7K

C43 0.22 uF
C44 0.22 uF
C45 0.22 uF
C46 0.22 uF
C47 0.22 uF
C48 0.22 uF
C49 0.22 uF
C50 0.22 uF

F1
F2
F3