Ultimainboard V 2.1.4 PCBA overview
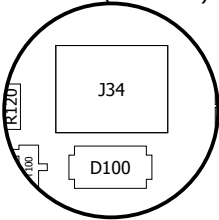
DETAIL A (Scale 2:1)

J4
PB7 (4)(3) PB5
PB6 (2)(1) PB4
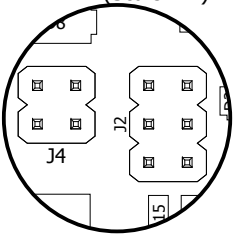
J2 (ICSP2)
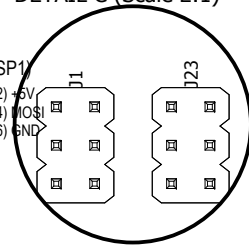GND (6)(5) nReset
MOSI (4)(3) SCK
+5V (2)(1) MISO

J4
J2

DETAIL B (Scale 2:1)

J34

D100

J34 (Hotend fan)
PWM (-)
+5V

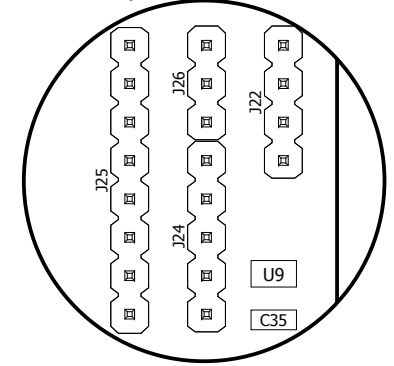## DETAIL C (Scale 2:1)

J1 (ICSP1)
MISO (1)(2) +5V
SCK (3)(4) MOSI
nReset (5)(6) GND

J1   J23
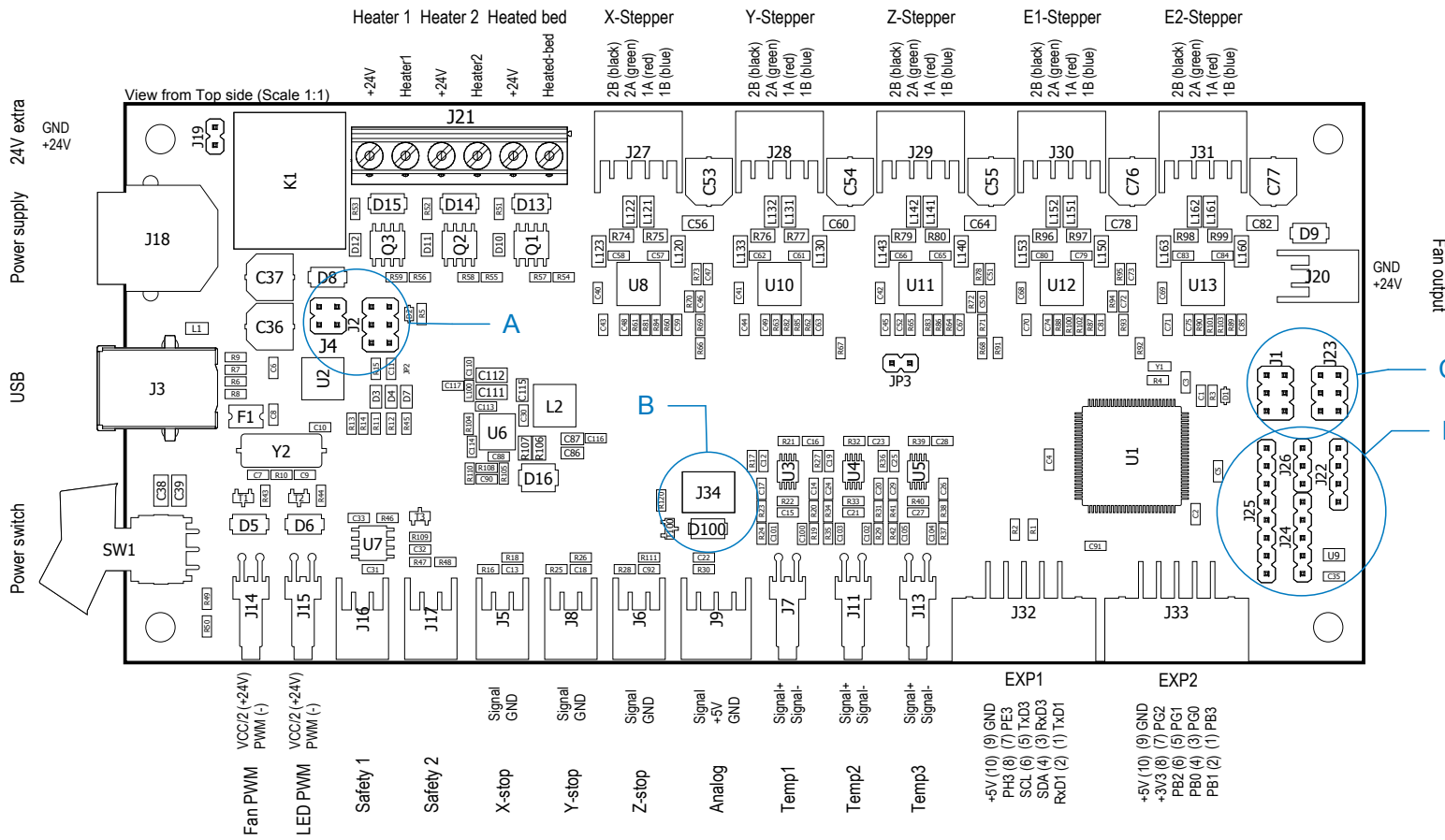
J23 (EXT/IO)
GND (1)(2) GND
+5V (3)(4) +5V
PC7 (5)(6) PD7

DETAIL D (Scale 2:1)

J25   J26   J22
J24

U9
C35

J25 (ADC1)
ADC1 (1)
ADC2 (2)
ADC3 (3)
ADC4 (4)
ADC5 (5)
ADC6 (6)
ADC7 (7)
ADC8 (8)

J24 (ADC2)
GND (1)
+5V (2)
ADC11 (3)
ADC12 (4)
ADC13 (5)

J26 (EXP3)
+5V (1)
GND (2)
PB7 (3)

J22 (Serial)
+5V (1)
GND (2)
TxD2 (3)
RxD2 (4)

View from Top side (Scale 1:1)

24V extra
GND
+24V

Power supply

USB

Power switch

J18

J3

SW1

J19

K1

J21

Heater 1   Heater 2   Heated bed
+24V Heater1 +24V Heater2 +24V Heated-bed

X-Stepper   Y-Stepper   Z-Stepper   E1-Stepper   E2-Stepper
2B (black) 2A (green) 1A (red) 1B (blue)

J27   J28   J29   J30   J31

U8   U10   U11   U12   U13

U1

J1   J23   — C
J25 J26 J22
J24   — D

Fan output
GND
+24V

J20

J14   J15   J16   J17   J5   J8   J6   J9   J7   J11   J13

EXP1   EXP2
J32   J33

Fan PWM
VCC/2 (+24V)
PWM (-)

LED PWM
VCC/2 (+24V)
PWM (-)

Safety 1

Safety 2

X-stop
Signal
GND

Y-stop
Signal
GND

Z-stop
Signal
GND

Analog
Signal
+5V
GND

Temp1
Signal+
Signal-

Temp2
Signal+
Signal-

Temp3
Signal+
Signal-

EXP1
+5V (10) (9) GND
PH3 (8) (7) PE3
SCL (6) (5) TxD3
SDA (4) (3) RxD3
RxD1 (2) (1) TxD1

EXP2
+5V (10) (9) GND
+3V3 (8) (7) PG2
PB2 (6) (5) PG1
PB0 (4) (3) PG0
PB1 (2) (1) PB3