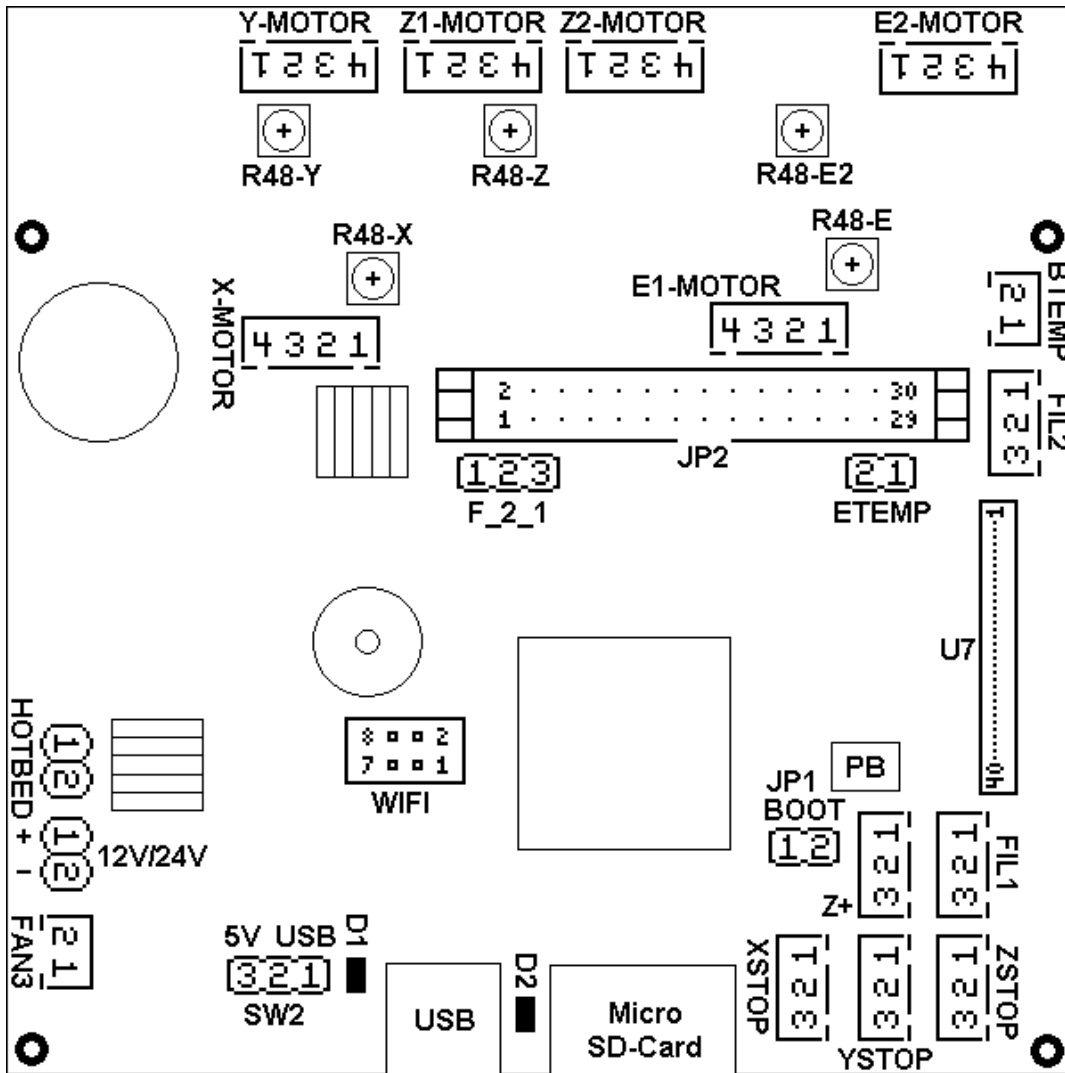


XY-2Pro-Titan Mainboard CXY-V6-19107



! Incorrect pins !
 A square PCB pad normally marks pin 1 of each connector but this PCB often transposes/violates numbering norms, so ignore the pads!

! Design defect !
 USB and MicroSD card shells are not grounded. This must be fixed for card-detect to function and for protection from ESD damage.

! Helpful hints !
 Set motor currents at R48s for 1.10 ~ 1.25 VDC from A to B:



MCU xtal 8.000MHz

JP3_NC FILAMENT1		JST-XH-M (Pin 1 is transposed on PCB)
Pin	Label	Function & Notes
1	S	10kΩ Pullup to +5V and 100nF to GND, then 47kΩ to MCU Pin110 PA15
2	-	GND
3	+	+5V

J?? FILAMENT2		JST-XH-M (Pin 1 is transposed on PCB)
Pin	Label	Function & Notes
1	S	10kΩ Pullup to +5V and 100nF to GND, then 4k7Ω to MCU Pin53 PF13
2	-	GND
3	+	+5V

JP7 XSTOP		JST-XH-M (Pin 1 is transposed on PCB)
Pin	Label	Function & Notes

1	S	10k Ω Pullup to +5V and 100nF to GND, then 47k Ω to MCU Pin125 PG10
2	-	GND
3	+	+5V

J4 YSTOP JST-XH-M (Pin 1 is transposed on PCB)

Pin	Label	Function & Notes
1	S	10k Ω Pullup to +5V and 100nF to GND, then 47k Ω to MCU Pin104 PA12
2	-	GND
3	+	+5V

J5 ZSTOP JST-XH-M (Pin 1 is transposed on PCB)

Pin	Label	Function & Notes
1	S	10k Ω Pullup to +5V and 100nF to GND, then 47k Ω to MCU Pin109 PA14
2	-	GND
3	+	+5V

J2 Z+ JST-XH-M (Pin 1 is transposed on PCB)

Pin	Label	Function & Notes
1	S	10k Ω Pullup to +5V and 100nF to GND, then 4k7 Ω to MCU Pin105 PA13
2	-	GND
3	+	+5V

JP9 FAN3 JST-XH-M (Pin 1 is correct on PCB)

Pin	Label	Function & Notes
1	BLK	Controller cooling Fan3 driver Q9 AO3400A X07S via MCU Pin122 PD6
2	RED	+24V

JP3 BTEMP JST-XH-M (Pin 1 is correct on PCB)

Pin	Label	Function & Notes
1	NTC	4k7 Ω Pullup to +3V3 and 100nF to GND, then 4k7 Ω to MCU Pin34 PA0
2	NTC	GND

JP8_NC ETEMP 2 1 Hdr2.54-M (Pin 1 is square PCB pad)

Pin	Label	Function & Notes
1	NTC	GND
2	NTC	4k7 Ω Pullup to +3V3 and 100nF to GND, then 4k7 Ω to MCU Pin35 PA1

JP80_NC F_2_1 1 2 3 Hdr2.54-M (Pin 1 is square PCB pad)

Pin	Label	Function & Notes
1	+	+24V
2	F_2	Extruder cooling Fan2 driver Q8 AO3400A X07S via MCU Pin129 PG14
3	F_1	Part cooling Fan1 driver Q7 AO3400A X07S via MCU Pin128 PG13

JP2_NC X-MOTOR**JST-XH-M (Pin 1 is correct on PCB)**

Pin	Label	Function & Notes
1	2B	Stepper Winding Drive
2	2A	Stepper Winding Drive
3	1A	Stepper Winding Drive
4	1B	Stepper Winding Drive

JP13 Y-MOTOR**JST-XH-M (Pin 1 is correct on PCB)**

Pin	Label	Function & Notes
1	2B	Stepper Winding Drive
2	2A	Stepper Winding Drive
3	1A	Stepper Winding Drive
4	1B	Stepper Winding Drive

JP14 Z1-MOTOR**JST-XH-M (Pin 1 is correct on PCB)**

Pin	Label	Function & Notes
1	2B	Stepper Winding Drive
2	2A	Cascade to Z2-2B aka JP11-1
3	1A	Stepper Winding Drive
4	1B	Cascade to Z2-1A aka JP11-3

JP11 Z2-MOTOR**JST-XH-M (Pin 1 is correct on PCB)**

Pin	Label	Function & Notes
1	2B	Cascade to Z1-2A aka JP14-2
2	2A	Stepper Winding Drive
3	1A	Cascade to Z1-1B aka JP14-3
4	1B	Stepper Winding Drive

JP6_NC E1-MOTOR**JST-XH-M (Pin 1 is correct on PCB)**

Pin	Label	Function & Notes
1	2B	Stepper Winding Drive
2	2A	Stepper Winding Drive
3	1A	Stepper Winding Drive
4	1B	Stepper Winding Drive

JP6_NC E2-MOTOR**JST-XH-M (Pin 1 is correct on PCB)**

Pin	Label	Function & Notes
1	2B	Stepper Winding Drive
2	2A	Stepper Winding Drive
3	1A	Stepper Winding Drive
4	1B	Stepper Winding Drive

HOTBED**KF301 (Pin 1 is square PCB pad)**

Pin	Label	Function & Notes
1	-	+24V
2	-	Hotbed driver Q5 RU30120L via Q12 via Q11 via MCU Pin126 PG11

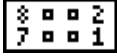
12/24V**KF301 (Pin 1 is square PCB pad)**

Pin	Label	Function & Notes
1	+	Power in +24V
2	-	Power in GND

JP2 RIBBON30**IDC-M (Pin 1 is correct on PCB)**

Pin	Label	Function & Notes
1	Hotend	Hotend driver Q6 HY1403 via MCU Pin127 PG12
2	Hotend	Hotend driver Q6 HY1403 via MCU Pin127 PG12
3	Hotend	Hotend driver Q6 HY1403 via MCU Pin127 PG12
4	Hotend	Hotend driver Q6 HY1403 via MCU Pin127 PG12
5	+24v	Hotend +24v
6	+24v	Hotend +24v
7	+24v	Hotend +24v
8	+24v	Hotend +24v
9	F_2	Extruder Fan2 driver Q8 AO3400A X07S via MCU Pin129 PG14
10	+24v	Extruder cooling Fan2 +24v
11	F_1	Part Fan1 driver Q7 AO3400A X07S via MCU Pin128 PG13
12	+24v	Part cooling Fan1 +24v
13	1B	X-MOTOR Winding Drive
14	1A	X-MOTOR Winding Drive
15	2B	X-MOTOR Winding Drive
16	2A	X-MOTOR Winding Drive
17	1A	E1-Motor Winding Drive
18	1B	E1-Motor Winding Drive
19	2B	E1-Motor Winding Drive
20	2A	E1-Motor Winding Drive
21	PROXIMITY	10kΩ Pullup to +5V and 100nF to GND, then 20kΩ to MCU Pin124 PG9
22	+24v	Proximity sensor +24v
23	+5V	Filament sensor +5V, XSTOP sensor +5V
24	GND	Proximity Sensor GND
25	FILAMENT1	10kΩ Pullup to +5V and 100nF to GND, then 47kΩ to MCU Pin110 PA15

26	GND	Filament Sensor GND
27	XSTOP	10k Ω Pullup to +5V and 100nF to GND, then 47k Ω to MCU Pin125 PG10
28	GND	XSTOP sensor GND
29	GND	Extruder temperature NTC sensor return GND
30	ETEMP	4k7 Ω Pullup to +3V3 and 100nF to GND, then 4k7 Ω to MCU Pin35 PA1

J1 WIFI  IDC-F (Pin 2 is square PCB pad)

Pin	Label	Function & Notes
1	GND	GND
2	WIFI_TX	To MCU Pin70 PB11 USART3_RX
3	-	Not connected
4	-	+5V
5	GND	GND
6	PU	From MCU Pin81 PD12 USART3_RTS
7	WIFI_RX	From MCU Pin69 PB10 USART3_TX
8	V3.3	+3V3

U7 Display  0.5mmFPC (Pin 1 is transposed on PCB)

Pin	Label	Function & Notes
1	+3V3	+3V3
2	-	Not connected
3	-	Not connected
4	-	Not connected
5	GND	GND
6	D0	MCU Pin85 PD14
7	D1	MCU Pin86 PD15
8	D2	MCU Pin114 PD0
9	D3	MCU Pin115 PD1
10	PS-CLK	MCU Pin123 PD7
11	A16-RS	MCU Pin80 PD11
12	LCD-nWE	MCU Pin122 PD6
13	LDC-nOE	MCU Pin118 PD4
14	Light-PWM	MCU Pin82 PD13
15	D4	MCU Pin58 PE7
16	D8	MCU Pin64 PE11
17	D9	MCU Pin65 PE12
18	D10	MCU Pin66 PE13
19	D11	MCU Pin67 PE14
20	D12	MCU Pin68 PE15
21	D13	MCU Pin77 PD8
22	D14	MCU Pin78 PD9
23	D15	MCU Pin79 PD10
24	7846-INT	MCU Pin136 PB6
25	SPI1-MISO	MCU Pin42 PA6
26	SPI1-MOSI	MCU Pin43 PA7
27	SPI1-CS3	MCU Pin137 PB7
28	SPI1-SCK	MCU Pin41 PA5
29	LCD-RST	MCU Pin40 PA4
30	D5	MCU Pin59 PE8

31	D6	MCU Pin60 PE9
32	D7	MCU Pin63 PE10
33	GND	GND
34	GND	GND
35	GND	GND
36	+5V	+5V
37	+5V	+5V
38	+3V3	+3V3
39	+3V3	+3V3
40	+3V3	+3V3

U5 MicroSD (Pin 1 is at RHS looking into slot)

Pin	Label	Function & Notes
1	DAT2	MCU Pin111 SDIO-D2 PC10
2	CD/DAT3	MCU Pin112 SDIO-D3 PC11
3	CMD	MCU Pin116 SDIO-CMD PD2
4	Vdd	+3V3
5	CLK	MCU Pin113 SDIO-CK PC12
6	Vss	GND
7	DAT0	MCU Pin98 SDIO-D0 PC8
8	DAT1	MCU Pin99 SDIO-D1 PC9
9	Card_Detect	Closes MCU Pin10 PF0 to shell
S	Shell	Shell is not grounded (design defect)

LEDs & BEEPER

Designation	Label	Function & Notes
LED1	PWR	Indicates presence of +3V3 power
LED2	SOURCE	Controlled by MCU Pin117 PD3
H1	BEEP	Controlled through Q2 by MCU Pin46 PB0

PUSH BUTTON & JUMPERS

Designation	Label	Function & Notes
PB	RESET	Press to ground MCU Pin25 nRST
JP1	BOOT	Remove to make MCU Pin138 BOOT0 high
SW2	SOURCE	Obtain 5V from Local-5V or from USB-5V

USB SERIAL ROUTING

CH340G to MCU Pin102 USART1_RX PA10
 MCU Pin101 USART1_TX PA9 to CH340G
 CH340G Crystal Frequency is 12.000MHz
 USB shell is not grounded (design defect)

STEPPER SIGNAL ROUTING

X	Y	Z	E1	E2
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Pin4	PE5	X-STEP	Pin1	PE2	Y-STEP	Pin140	PB9	Z-STEP	Pin134	PB4	E1-STEP	Pin97	PC7	E2-STEP
Pin5	PE6	X-DIR	Pin2	PE3	Y-DIR	Pin141	PE0	Z-DIR	Pin135	PB5	E1-DIR	Pin96	PC6	E2-DIR
Pin7	PC13	X-EN	Pin3	PE4	Y-EN	Pin142	PE1	Z-EN	Pin139	PB8	E1-EN	Pin93	PG8	E2-EN