

POWER

The diagram illustrates the power supply and CAN bus interface circuitry. Key components include:

- IC3 (AMS1117):** A 3.3V voltage regulator. It is powered by a +5V input and provides a +3.3V output. It includes a 1K resistor (R41) and capacitors C27 (0.1UF) and C28 (10UF).
- IC4 (TPS5430):** A DC-DC converter. It is powered by a VCC input and provides a +5V output. It includes a 4.7UF/50V capacitor (C4), a 10K resistor (R3), a 3K6 resistor (R5), a 0.01UF capacitor (C1), a 22UH inductor (L1), a 220UF capacitor (C2), a 1K resistor (R4), a 3.24K resistor (R7), and a blue LED (D9).
- CAN Bus Interface:** A MAX-2*2P component is connected to CAN_H and CAN_L inputs. It is also connected to a 4.7K resistor (R47) and a blue LED (D8).
- Other Components:** A diode D6 (SS34) is connected to the VCC input. A blue LED D5 is connected to the +3.3V output.

The diagram illustrates the wiring for a USB to RS485 module (TYPEC-304-BCP16). The module's pins are connected as follows:

- USB DP** and **USB DM** lines are connected to **R1** and **R2** (22R resistors) respectively. The other ends of these resistors are connected to the **A4B9** and **B4A9** pins of the module.
- The **+5V** supply is connected to the **A5**, **A6**, **A7**, **A8**, **B5**, **B6**, **B7**, and **B8** pins of the module.
- The **GND** pin of the module is connected to ground.
- The **VBUS** pin of the module is connected to the **VBUS** pin of the USB connector (pin 13).
- The **CC1**, **DP1**, **DN1**, **SBU1**, **GND**, **VBUS**, **CC2**, **DP2**, **DN2**, and **SBU2** pins of the module are connected to the corresponding pins of the USB connector (pins 14, 15, 16, and ground).

[illegible]

Accelerator

SHT42 BLTOUCH BOOT

ND +5V
SERV00-
+3.3V
4P

PROBE
GND
BOOT1
3P

SHT36
BLTOUCH

2

GND ||| +5V
SERVO0-BUFF
GND ||| PROBE

BLTOUCH

1 2 3 4 5

GND ||| 110
BOOT1
2

2.0-1*2

The schematic diagram illustrates the MCU board's internal components and their connections to the STM32C8U-MCU. Key components include:

- Power Regulation:** A 3.3V regulator (R46) and a blue LED (D7) are connected to the MCU's power pins.
- Reset:** A reset button (R43) is connected to the MCU's RESET pin.
- Temperature Sensor:** A temperature sensor (U1) is connected to the MCU's PA0, PA1, and PA2 pins.
- USB-to-UART Bridge:** A USB-to-UART bridge (U2) is connected to the MCU's PA0, PA1, and PA2 pins.
- Status LEDs:** Four status LEDs (D1-D4) are connected to the MCU's PA0, PA1, and PA2 pins.

The MCU pinout is shown on the right, with pins 1-48 labeled. The board is labeled "MCU" in large blue letters.

3.3V-5V


The diagram shows a 74HC541 decoder circuit. The VCC pin is connected to a +5V supply with a 0.1uF capacitor to ground. The GND pin is connected to ground. The inputs A0, A1, and A2 are connected to FAN0, FAN1, and HEAT0. The outputs Y0, Y1, Y2, and Y3 are connected to FAN0-BUFF, FAN1-BUFF, HEAT0-BUFF, and SERVO0-BUFF through 22R resistors. The outputs Y4, Y5, Y6, and Y7 are connected to RGB, RGB, RGB, and RGB through 10K resistors. The outputs OE1 and OE2 are connected to ground. The decoder is labeled IC2 74HC541.

DRIVES

The diagram illustrates the electrical connections for a stepper motor driver using the TMC2209-LA (U3) IC. The IC is connected to a 3.3V supply (R8, C8, C7, C12, C13) and a VCC supply (C9, C10, C11, C22). It controls a stepper motor (XH254-4) through its STEP (16) and DIR (19) pins. The motor's A-, A+, B-, and B+ pins are connected to the driver's output pins (29, 28, 27, 26). The driver's GND pins (3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29) are connected to GND. The driver's VREF pin (17) is connected to GND. The driver's VDDIO pin (15) is connected to 3.3V. The driver's VDDEN pin (2) is connected to 3.3V. The driver's VDDCP pin (5) is connected to VCC. The driver's VDDSP pin (6) is connected to VCC. The driver's VDDVS pin (7) is connected to VCC. The driver's VDDVCP pin (8) is connected to VCC. The driver's VDDSPREAD pin (9) is connected to VCC. The driver's VDD5V0UT pin (10) is connected to VCC. The driver's VDDMS1_AD0 pin (11) is connected to VCC. The driver's VDDMS2_AD1 pin (12) is connected to VCC. The driver's VDDDIAG pin (13) is connected to VCC. The driver's VDDINDEX pin (14) is connected to VCC. The driver's VDDPDN_UART pin (15) is connected to VCC. The driver's VDDSTEP pin (16) is connected to VCC. The driver's VDDGND pin (17) is connected to GND. The driver's VDDVREF pin (18) is connected to GND. The driver's VDDDIR pin (19) is connected to GND. The driver's VDDOB1 pin (20) is connected to GND. The driver's VDDOB2 pin (21) is connected to GND. The driver's VDDBRB pin (22) is connected to GND. The driver's VDDEN pin (23) is connected to GND. The driver's VDDVCP pin (24) is connected to GND. The driver's VDDVREF pin (25) is connected to GND. The driver's VDDVREF pin (26) is connected to GND. The driver's VDDVREF pin (27) is connected to GND. The driver's VDDVREF pin (28) is connected to GND. The driver's VDDVREF pin (29) is connected to GND.

CAN

The diagram shows the electrical connections for an MCP2542 CAN transceiver. The chip is powered by a +5V supply (with a 0.1uF capacitor, C20) and a +3.3V supply (with a 0.1uF capacitor, C21). The TXD pin is connected to the CAN TX signal, RXD to CAN RX, STBD to ground, and VSSVIO to ground. The CH pin is connected to the CAN H signal and CL to the CAN L signal. A 120R resistor (R18) is connected between the CAN H and CAN L pins. The CAN H pin is labeled 2.0-1*2 and the CAN L pin is labeled 2.0-1*2.

TITLE: 36/42 CAN Board		REV: 1.0
	Company: Flymaker/Mellow	Sheet: 1/1
	Date: 2022-04-14	Drawn By: jay_s_uk