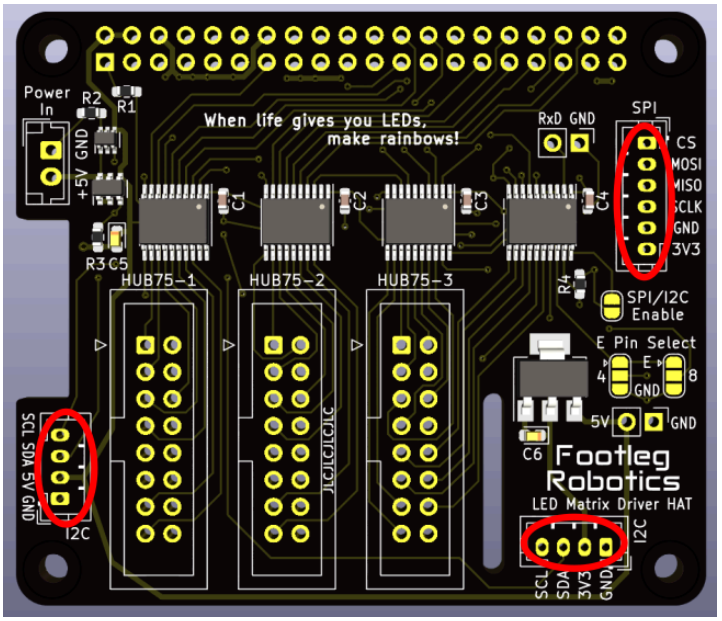
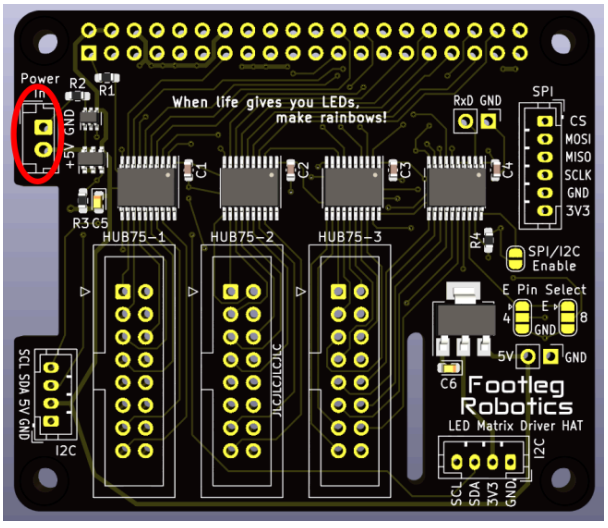
When only driving 2 chains of LED panels (connected to HUB75 connectors 1 and 2), the I2C and SPI pins on the Raspberry Pi can be used through the JST-PH sockets on the HAT.



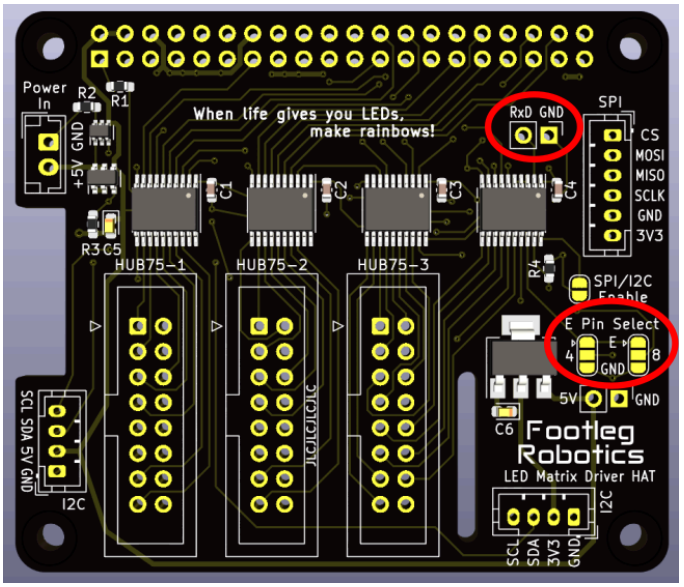
I2C devices can be connected to either a 5V power, or 3.3V power Grove compatible socket. SPI devices can be connected to the 6 pin JST-PH SPI socket. This includes a CS pin connected to GPIO 7. If the logic level shifter in parallel to the I2C and SPI pins causes issues, it can be disabled by soldering the SPI/I2C Enable jumper below the SPI socket. This may not be necessary in practice, but is provided as an option.

The Raspberry Pi can be powered through the HAT via the 5V Power In header -->



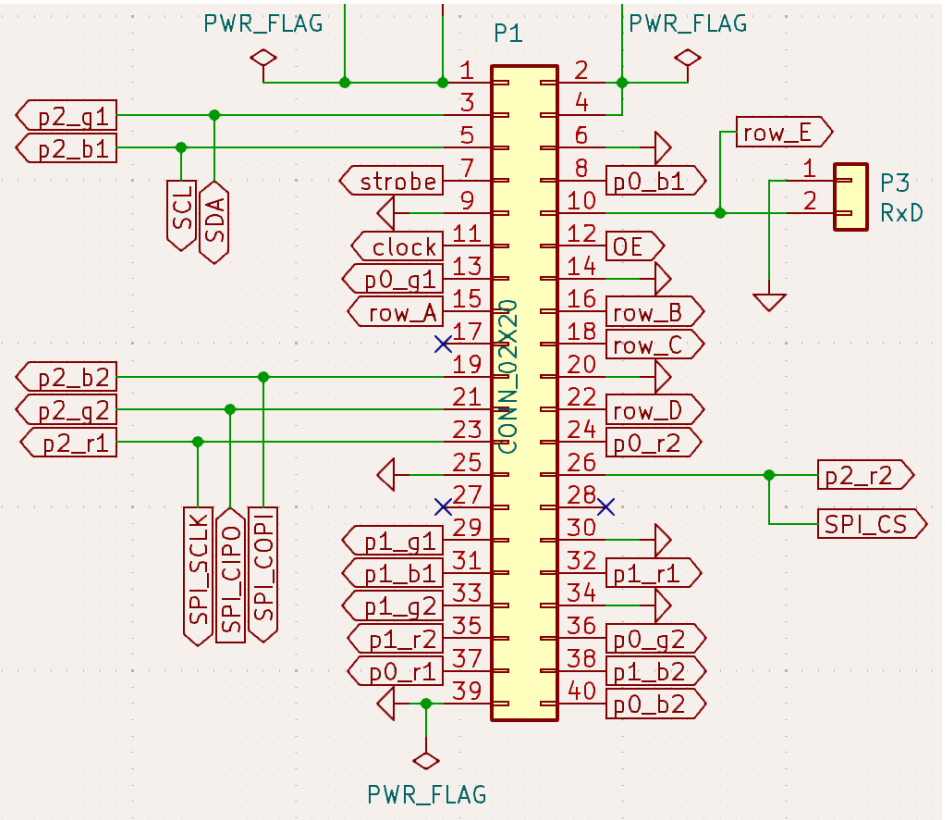
There is also a 5V + ground output header located just about the Footleg Robotics logo if you need to power any additional external devices. This draws power from The Raspberry Pi 5V supply, so DO NOT USE THIS TO POWER THE LED PANELS, which should be supplied with external 5V power via a supply with sufficient current for the number of panels used.

To drive panels with 64 x 64 LEDs (or other sizes with address lines A-E) the row E assignment to a pin on the HUB75 sockets needs to be made using a pair of solder jumpers.



The boards are supplied with pin 8 assigned to row E, and pin 4 connected to ground, as this is the most common type of panel pinout. If your panels use pin 4 for row E you will need to change (resolder) these jumpers. If using panels with only addresses A-D (32 x 32 panels) then both jumpers can be set to ground, which enables the RxD pin to be used for additional input on the Pi.

This is the complete pin out for the Raspberry Pi header on these boards.



See here for code and more documentation:

https://github.com/Footleg/LED_Matrix_HAT