GOCUPI

https://gocupi.com for project info https://github.com/brandonagr/gocupi for the source code https://github.com/earthtown/gocupi-stl for 3D printed part files. gocupi main board stacks on to the GPIO of the Raspberry Pi. This board uses a 12v power supply to power the stepper motors and supplies +5v source for the Raspberry Pi. The ATMega328P uses 3.3V logic to communicate uith the Pi, the A3967 chips also use 3.3V logic. Commands/files are processed on the Pi using the gocupi source which is written in Go (http://golang.org). The data is passed to the ATMega328P which feeds the step and direction information to both A3979s which directly control the stepper motors.

Swithcing power supply based on Texas Instruments TL2575. Short SJ1 to bypass on/off switch.

FEEDBACK

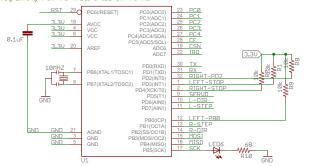
VOLIT

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ON/OFF

ATMega328P

ATMega328P running the Arduino optiboot bootloader is connected to the Raspberry Pi GPIO serial pins for communication during normal use. Also connected to the SPI bus for programming from the Arduino IDE on the Pi.



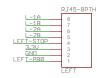
Pi's GPIO



Connections

RJ45

Two ethernet connectors provide easy connection to the stepper motors and sensors embedded in the motor mounts.





Headers

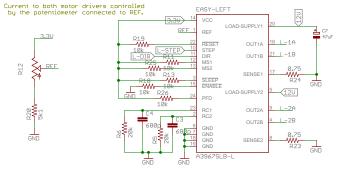
There is a 3 pin header for servo control on the gondola. Various voltage levels broken out. NRF24L01+ Header for wireless communication.

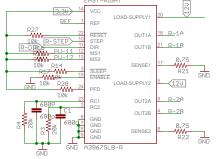






A3967 Motor Drivers





Unused IO broken out from ATMega328P.







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