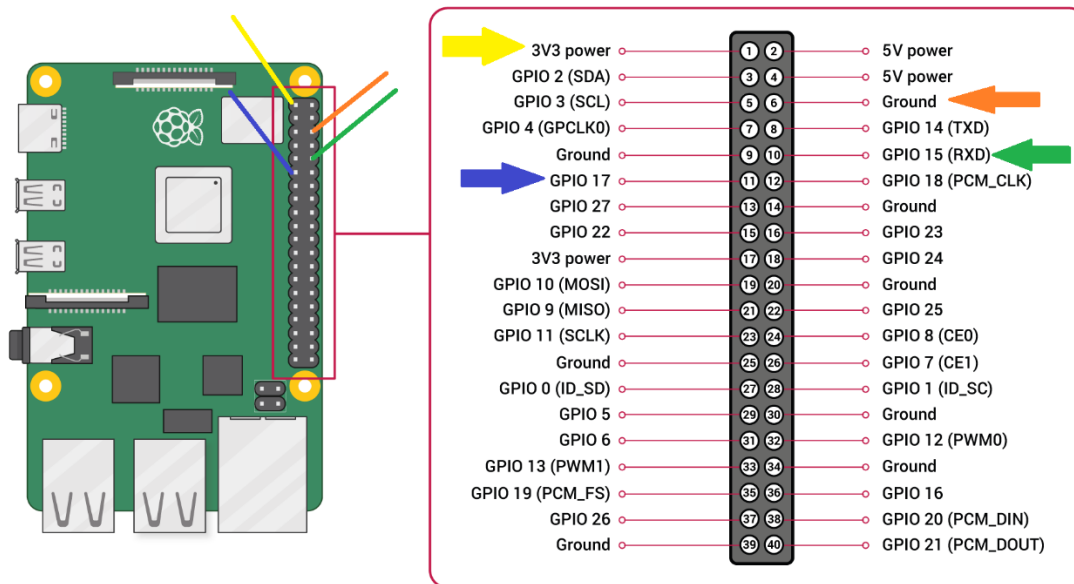# Instruction on building control units for portable 3D scanner

Parts:

2 Raspberry Pi 4 Model B

1 crossover ethernet cable
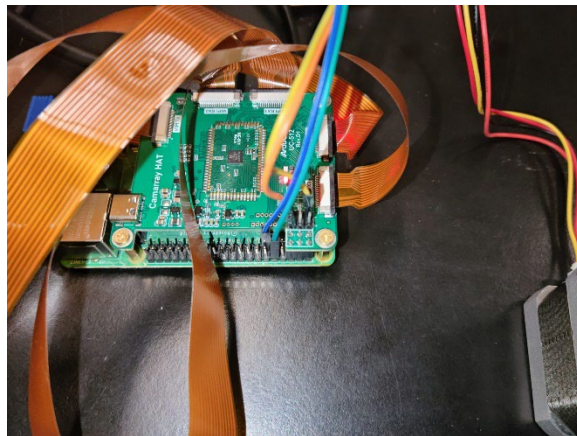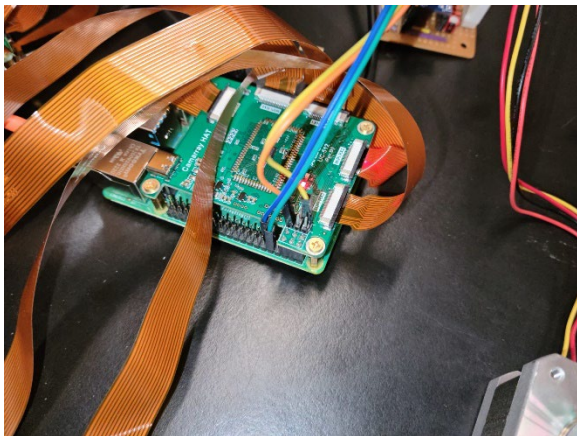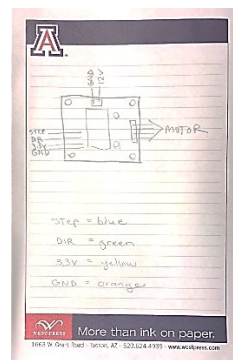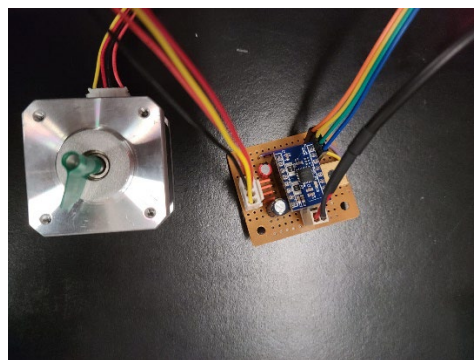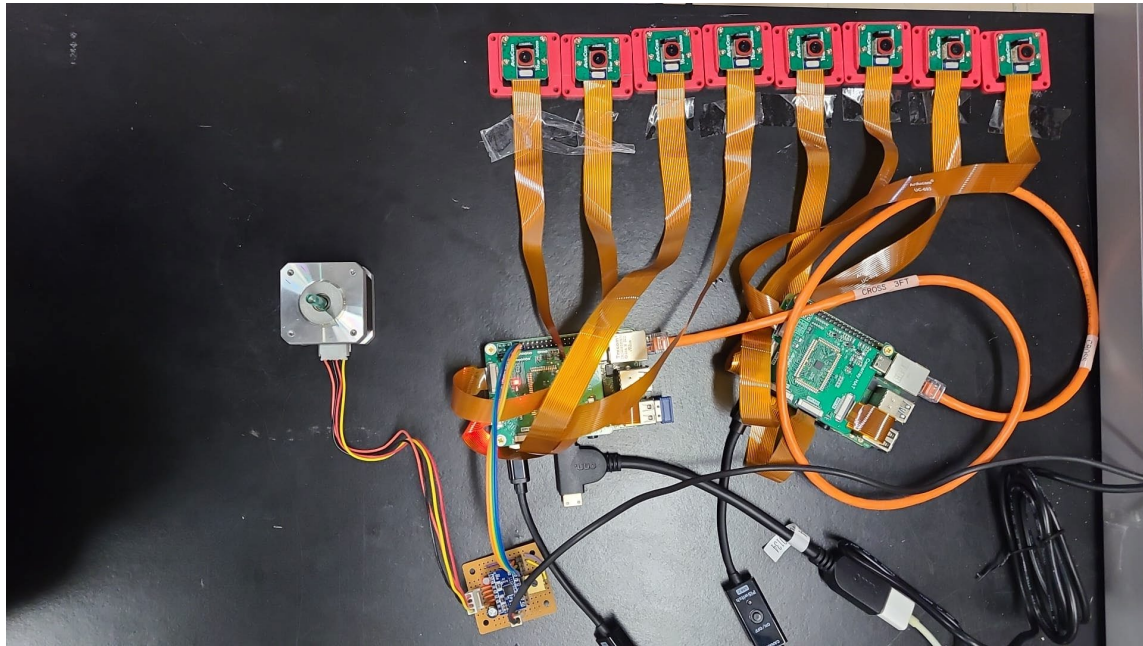
[Arducam 16MP Autofocus Quad-Camera Kit for Raspberry Pi, 16MP IMX519 Autofocus Synchronized Pi Camera](#)

Stepper motor plus hat

Step 1: Connect one Raspberry Pi (master/controller) to cameras and the stepper motor.

Raspberry Pi pins board connection diagram, 4 wires from the motor hat, color labeled.

Raspberry Pi camera and motor connection

Step 2: Connect the second Raspberry Pi to cameras and the first Raspberry Pi via crossover cable.

Configure each Pi to have a unique static IP within the same network.

  sudo geany /etc/network/interfaces

For example, setup PiController (IP address: 192.168.1.5) (PiController)

   setup Pi 01 (IP address: 192.168.1.6)

on PiController

```
auto eth0
iface eth0 inet static
address 192.168.1.5
netmask 255.255.255.0
gateway 192.168.1.6
```

on Pi 01

```
auto eth0
iface eth0 inet static
address 192.168.1.6
netmask 255.255.255.0
gateway 192.168.1.5
```