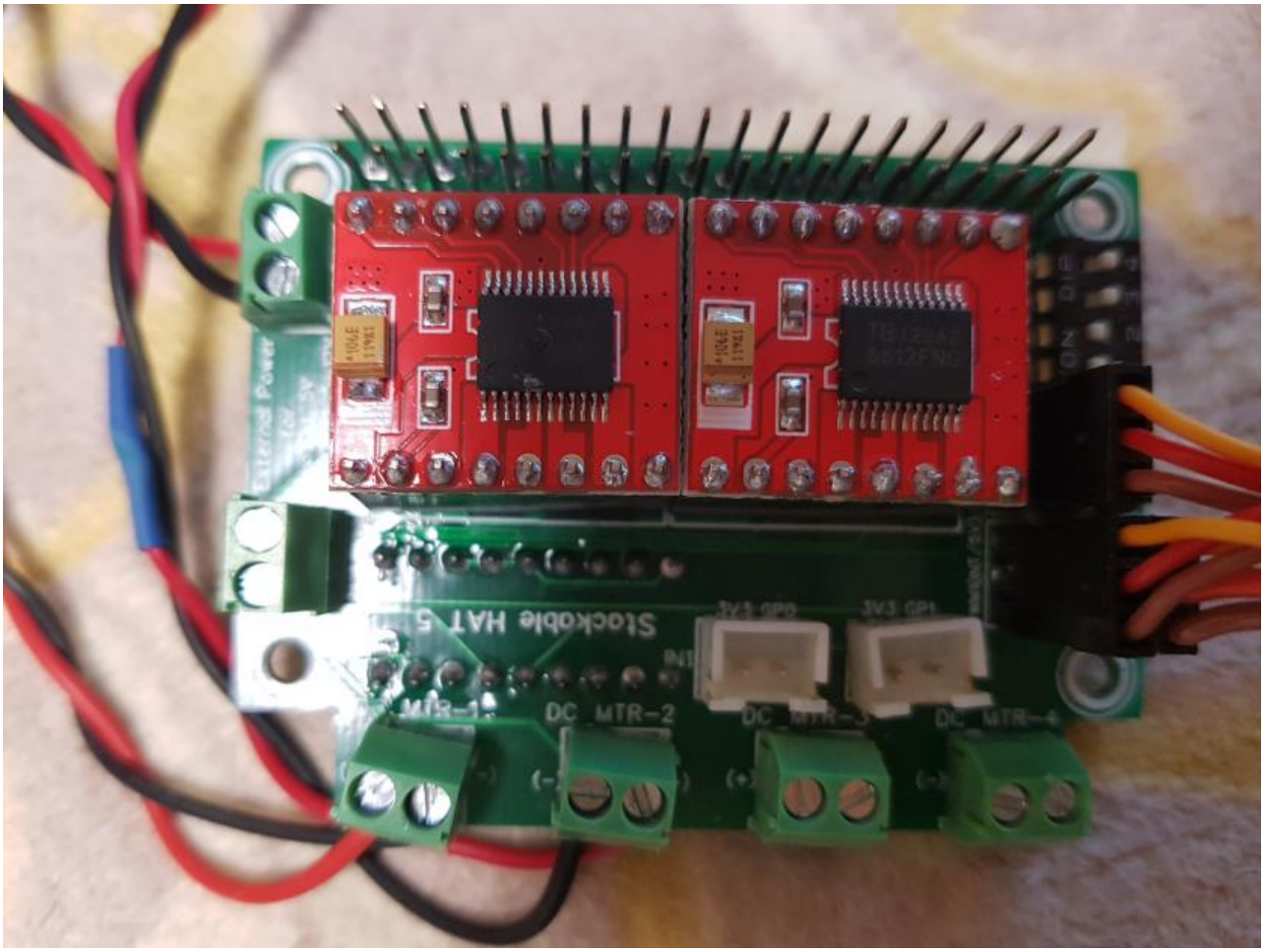
MLS (Multi Layer Stackable) Hat–5 User Guide



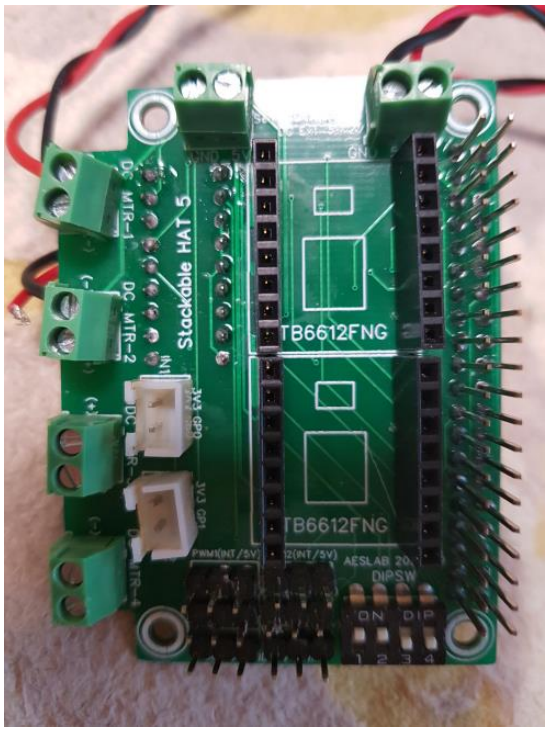
External 5~12V KF350-3.5-2P ... 1 EA for DC Motor
External 5V KF350-3.5-2P ... 1 EA for Servo Motor

Digital input ... 2 Port for Encoder
TB6612FNG DC Motor Driver ... 2 Port
KF350-3.5-2P DC Motor Connection ... 4 EA for DC Motor

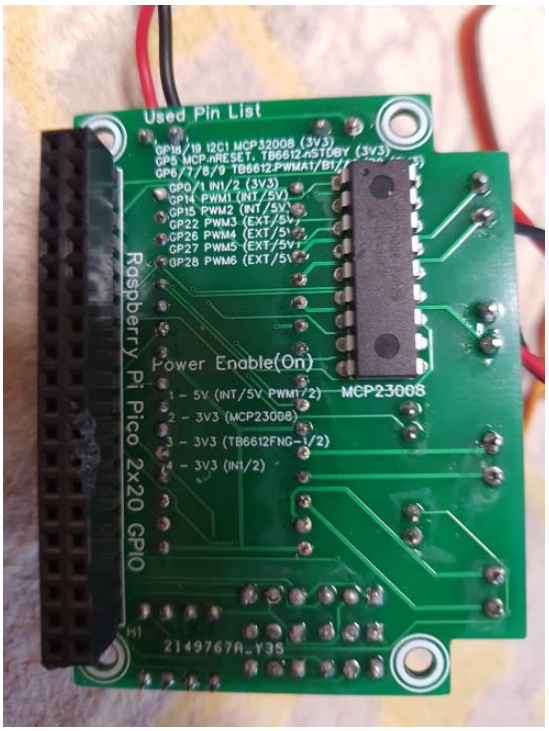
Servo Motor ... 6 Port

1. Hardware Setup

a) PCBA (PCB Assembled)



Top Side



Bottom Side

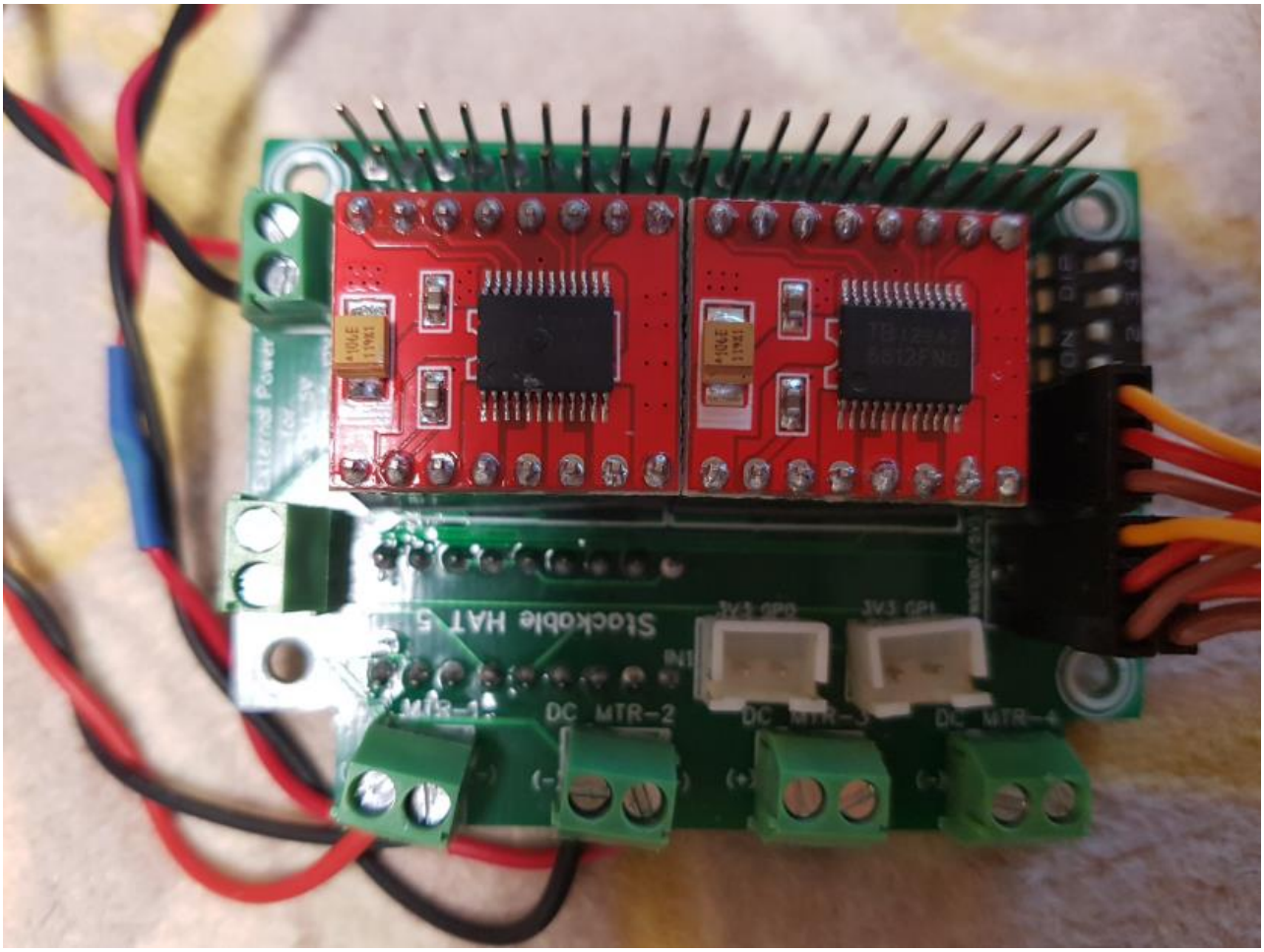
b) Used Pin List

GP18/19	I2C1 (MCP23008)
GP5	MCP.23008nRESET, TB6612FNG.nSTDBY
GP6/7/8/9	TB6612FNG PWM A1/B1, A2/B2
GP0/1	Digital Input
GP14/15	PWM (Internal 5V)
GP22/26/27/28	PWM (External 5V)

c) Power Enable (DIPSW On/Off)

1	5V	Internal 5V	PWM
2	3V3	I2C1	MCP23008
3	3V3	TB6612FNG1/2	
4	3V3	IN1/2	

d) Set Configuration



e) Parts

TB6612FNG DC Motor Driver ... 2 EA

f) Parts Setup

1. KF350-3.5-2P DC Motor Connection

focus DC Motor +/- mark on for easy use in script.
Even number KF350-3.5-2P +/- pin is reverted.

FL (Front Left) DC Motor

FR (Front Right) DC Motor

RL (Rear Left) DC Motor

RR (Rear Right) DC Motor

2. MicroPython with Thonny IDE

a) MicroPython Class Library

MCP23008_TB6612FNG.py

b) MicroPython Unit Test Code

I2C_Scanner.py
test_MCP23008.py
GP0_1_IN.py

GP14_15_18_19_22_28_Servo.py
test_TB6612FNG.py