

How to flash the binaries of the ESP32 edition of TCode controller

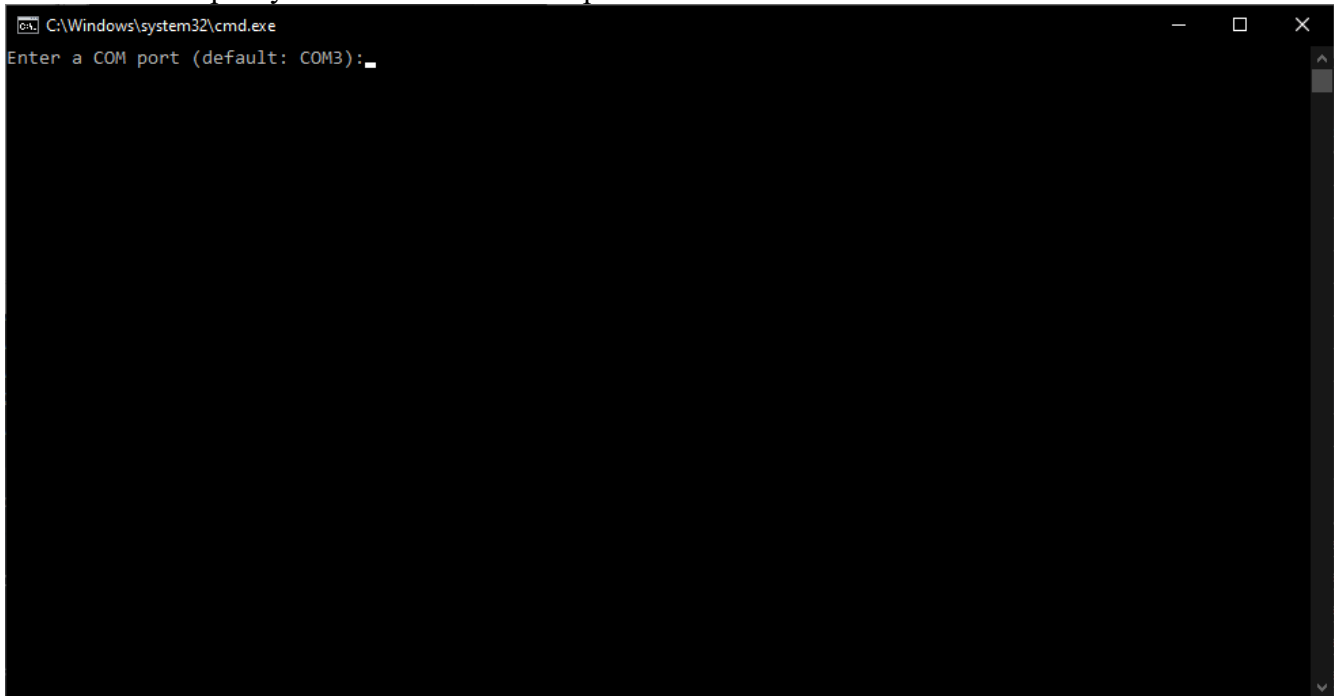
Extract the zip archive.

(Linux/Mac users [click here](#) viewing the the batch content should be simple enough to extract the command needed)

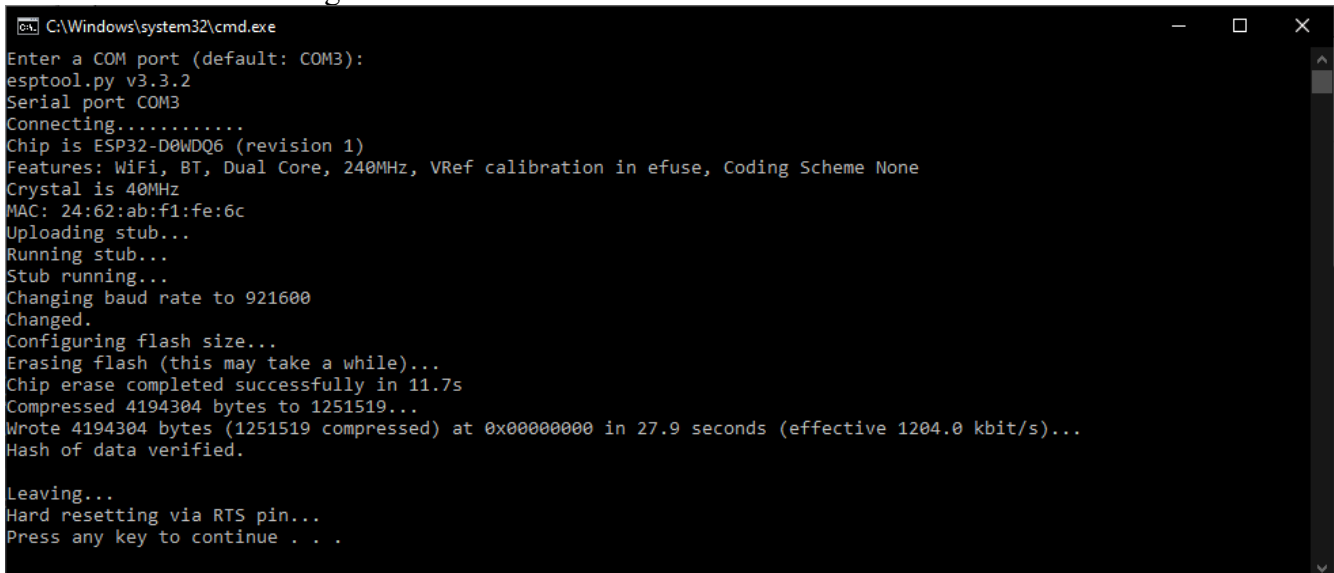
(Windows users)

Run “flash.bat”

Enter the COM port your ESP32 is on. Example: COM12

A screenshot of a Windows command prompt window titled "C:\Windows\system32\cmd.exe". The prompt shows "Enter a COM port (default: COM3):" followed by a cursor. The window has standard Windows window controls (minimize, maximize, close) in the top right corner.

You should see something like this in the terminal

A screenshot of a Windows command prompt window titled "C:\Windows\system32\cmd.exe". The output shows the execution of "esptool.py v3.3.2" with various status messages: "Serial port COM3", "Connecting.....", "Chip is ESP32-D0WDQ6 (revision 1)", "Features: WiFi, BT, Dual Core, 240MHz, VRef calibration in efuse, Coding Scheme None", "Crystal is 40MHz", "MAC: 24:62:ab:f1:fe:6c", "Uploading stub...", "Running stub...", "Stub running...", "Changing baud rate to 921600", "Changed.", "Configuring flash size...", "Erasing flash (this may take a while)...", "Chip erase completed successfully in 11.7s", "Compressed 4194304 bytes to 1251519...", "Wrote 4194304 bytes (1251519 compressed) at 0x00000000 in 27.9 seconds (effective 1204.0 kbit/s)...", "Hash of data verified.", "Leaving...", "Hard resetting via RTS pin...", and "Press any key to continue . . .". The window has standard Windows window controls in the top right corner.

If your ESP32 isn't recognized as a COM port you may need to install the drivers for your USB chip.

For micro USB Devkit <https://www.silabs.com/developers/usb-to-uart-bridge-vcp-drivers>

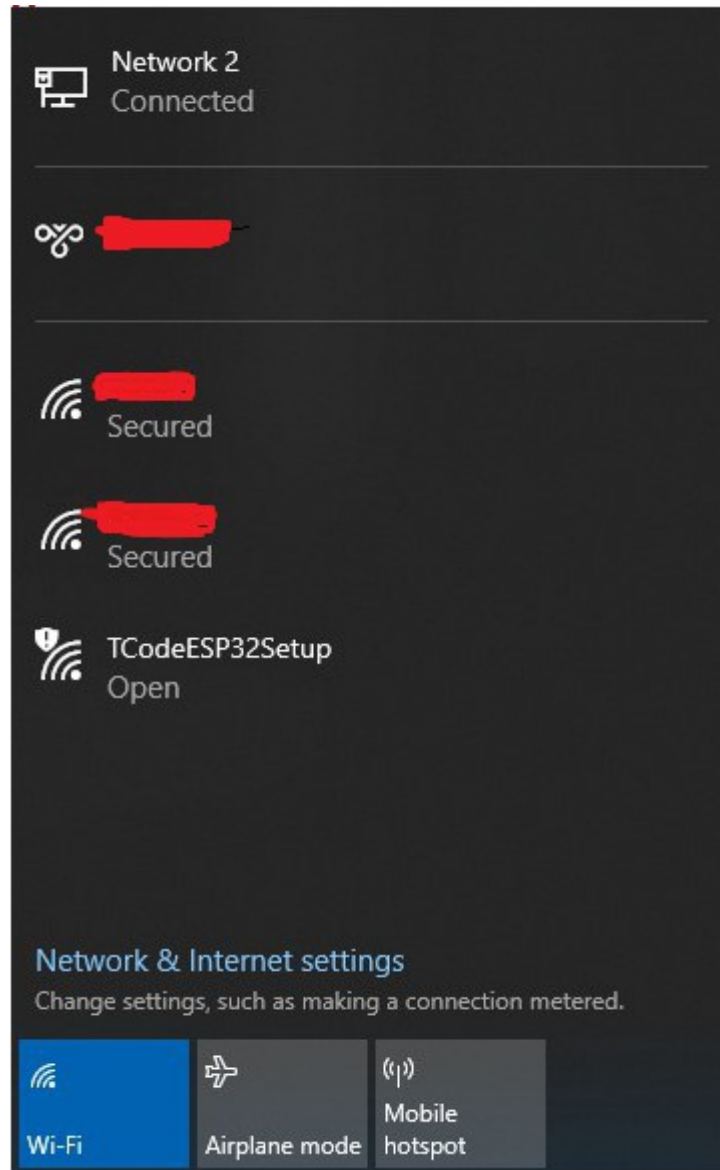
For USB-C Devkit (CH340) <https://learn.sparkfun.com/tutorials/how-to-install-ch340-drivers/all>

Now that your image is flashed time to configure the wifi if you wish to do so  
**IMPORTANT! The ESP32 we are using currently is ONLY compatible with 2.4ghz WiFi**

You can either configure with the Command line or via the AP mode instructions below.

Reboot the ESP32

Check your available wifi networks



Connect to TcodeESP32Setup (leave connect automatically **unchecked**)

No password

Once connected (It can be slow be patient. About 30 secs or so)



Open your internet browser and navigate to 192.168.1.1

Enter your wifi ssid and password and change the network info if required

## Device Settings

### Wireless

SSID (2.4ghz only)

Password

☐ Show Password

Static IP ☐

### General

TCode version

SR6 mode ☒

Servo Frequency (hz)

Pitch Frequency is different ☐

Valve Frequency (hz)

Twist Frequency (hz)

Squeeze Frequency (hz)

Set ( $\mu$ ) for 270 degree servos ☐

Micro seconds per radian ( $\mu$ )

Servo	PIN	ZERO ( $\mu$ )
Right	<input type="text" value="13"/>	<input type="text" value="1500"/>
Left	<input type="text" value="15"/>	<input type="text" value="1500"/>
Pitch	<input type="text" value="4"/>	<input type="text" value="1500"/>
Valve	<input type="text" value="25"/>	<input type="text" value="1500"/>
Squeeze	<input type="text" value="17"/>	<input type="text" value="1500"/>
Twist	<input type="text" value="27"/>	<input type="text" value="1500"/>

Disable PIN validation ☐

PWM available on: 2,4,5,12-19,21-23,25-27,32,33

### SR6

Servo	PIN	ZERO ( $\mu$ )
Right upper	<input type="text" value="12"/>	<input type="text" value="1500"/>
Left upper	<input type="text" value="2"/>	<input type="text" value="1500"/>
Pitch right	<input type="text" value="14"/>	<input type="text" value="1500"/>

PWM available on: 2,4,5,12-19,21-23,25-27,32,33

### Other

Inverse T-Valve ☐

T-Valve 90 degree servo ☐

Inverse Stroke ☐

Feedback twist ☐

Vibe 1

Lube/Vibe 2

Vibe 3

Vibe 4

Lube enabled on V2 ☒

Lube button PIN

Manual lube speed (1-255)

Udp port

Web port

Host name

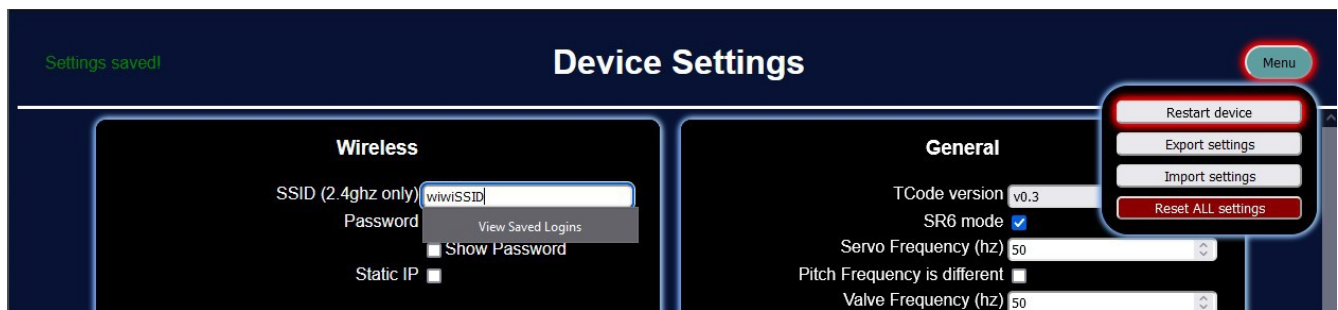
Friendly name

### Battery

Enabled ☐

### Motion generator

And wait for the Settings saved text to appear and the Menu/Restart device buttons will flash..



Click restart device or unplug and re-plug the usb powering the ESP32.

Your device should reboot and connect to the network.

You can verify this by using serial monitor

```
PROBLEMS  OUTPUT  TERMINAL  GITLENS  DEBUG CONSOLE

SPI_FAST_FL
INFO: ESP32 Chip model = ESP32-D0WDQ6 Rev 1
INFO: This chip has 2 cores
INFO: Chip ID: 15859308
INFO: Read Settings: /userSettings.json
INFO: Last reset reason: Reset due to power-on event
INFO: Version: ESP32 v0.251b
INFO: Setting up wifi
INFO: Station Mode Started
INFO: Mac: 24:62:AB:F1:FE:6C
INFO: Establishing connection to hex
WARNING: Disconnected from station, attempting reconnection
INFO: Reason: 0
INFO: Unknown reason 0
INFO: Connected to [REDACTED]
INFO: IP Address: 192.168.0.95
.INFO: Connected IP: 192.168.0.95
INFO: Starting UDP
INFO: UDP Listening
INFO: Starting web server on port: 80
INFO: Setting up websocket
hostName: tcode
friendlyName: ESP32 TCode
ESP32 v0.251b
TCode v0.3
Ready!
[]
```

Or by logging into your router and looking for A Device named “TcodeESP32”

10	TCodeESP32	192.168.0.145
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You should now be able to access the configuration page from `192.168.0.145` or what ever you type into the Host

Manual lube speed (1-255)	<input type="text" value="255"/>
Udp port	<input type="text" value="8000"/>
Host name	<input type="text" value="tcode"/>
Friendly name	<input type="text" value="ESP32 TCode"/>

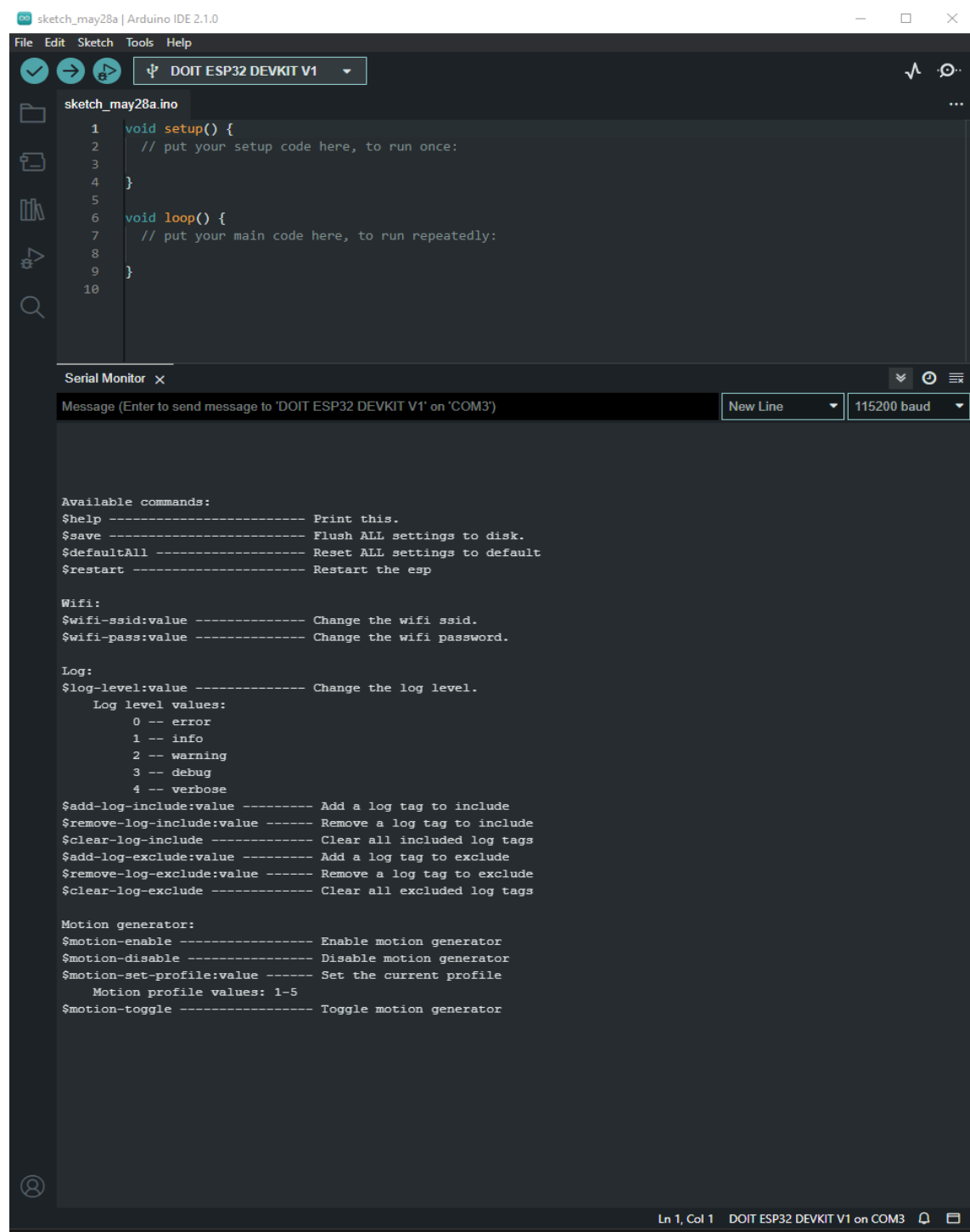
name field on the configuration.

Once you have this IP address you can get into your machine settings via the web browser.

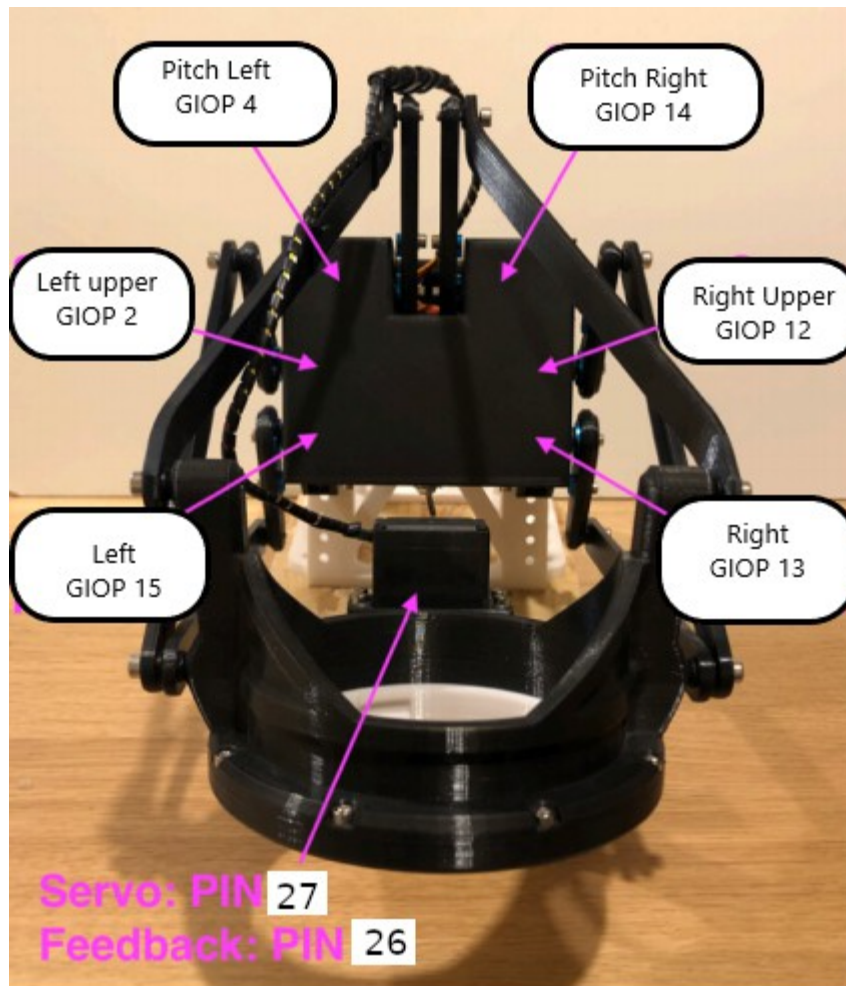
## **Configure via Serial monitor.**

If you can connect to the APM mode method above for some reason you can configure some device settings over serial communications including the wifi router login settings.

Connect to the esp32 via Serial monitor in Arduino ide or your app of choice.  
Enter the command `$help` to see a list of available commands.



From here you can view the default pin out and change them if you know what you are doing.



You can also set the default servo zeros.

If you are using this in an **OSR MAKE SURE YOU UNCHECK “SR6 Mode”**

Enjoy your wireless device!

PS.. this release is in its early stages with missing features and bugs. if you find any issues please report them on Github.