

# Code@TACC: Connected Real-time Clock (RTC-PCF8523)

## Connected Camp Website



URL:

<https://jeaimehp.github.io/codeattacc-connected/>

**Site Contains:**

- Schedule
- RPi Development Environment
- Programming Examples
- References/Guides

## What is a Real-time Clock (RTC) and why is it important?

On a computer, the device that keeps the time is called a *Real-time clock* or RTC. In the case of the RaspberryPi 400 (as well as most RPi's) there is no included RTC so the device cannot keep accurate time. This function is normally handled when a RPi is connected to internet where it can get the time. Because the Code@TACC:Connected camp will be hiking, internet will not be available so the RPi will not have accurate dates or times for the sensor recordings. To correct that issue an Adafruit PCF8523 RTC module is being added.

Connecting the PCR8523 RTC by STEMMA QT /Qwiic  
Connector

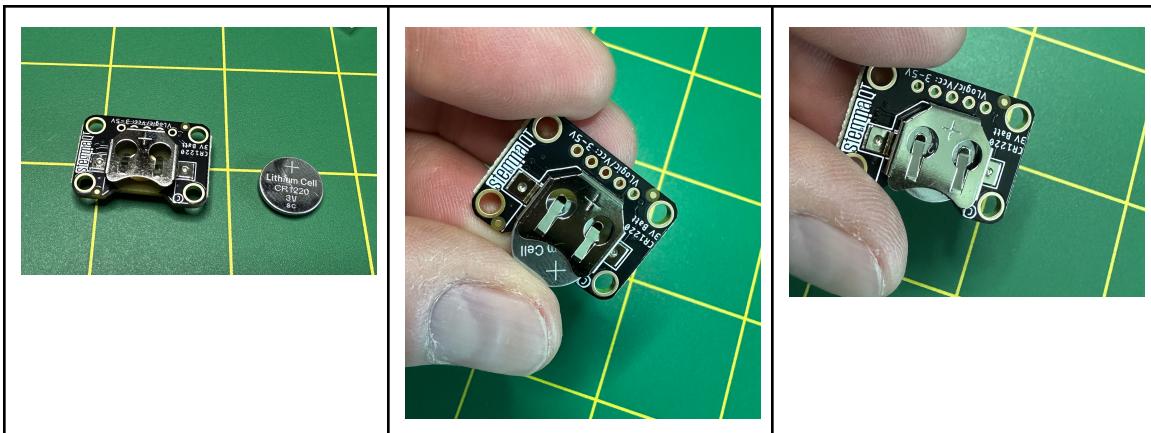
## Parts:

1. Adafruit Cyberdeck with STEMMA QT
2. CR1220 Coin Cell Battery
3. STEMMA QT male/male connector cable
4. Adafruit PCF8523 RTC with STEMMA QT Module

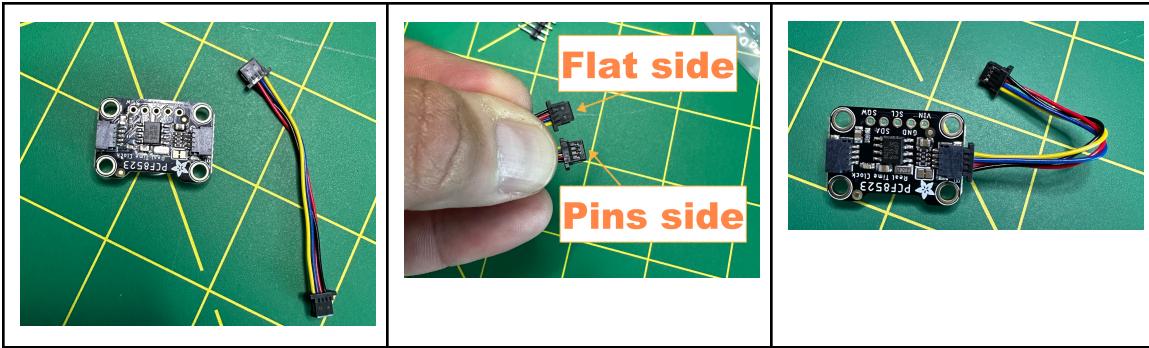


## Build Steps:

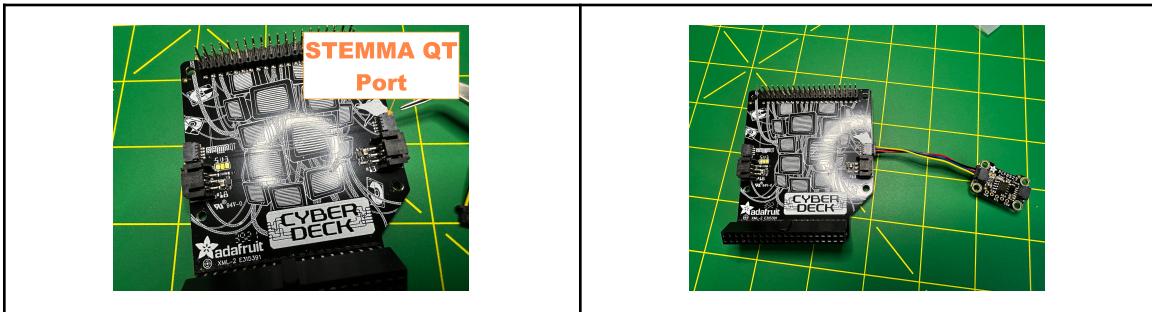
1. Insert the CR1220 Coin Cell Battery into the battery holder of the PCF8523 RTC Module with the positive (+) side of the battery away from the circuit board.



2. Insert one side of the STEMMA QT cable with the flat side of the connector away from the circuit board into either of the two STEMMA QT connectors ports on the PCF8523 RTC module.

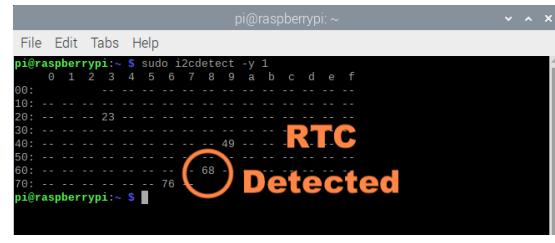
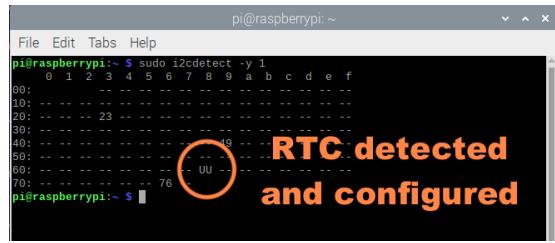


3. Plug the other end of the STEMMA QT cable with the flat side of the connector away from the circuit board into either of the two STEMMA QT connector ports of the Cybedeck board.



### Checking for the RTC

1. Open a Terminal window and type `sudo i2cdetect -y 1` and press [Enter]

	
If you see "68" in column 8 row 60 the RTC is detected but not configured	If you see "UU" in column 8 row 60 the RTC is detected and configured

To check the date and time of the RTC open the Terminal and type `sudo hwclock -r`  
To set the date and time of the RTC open the Terminal and type `sudo hwclock -w`