

USB2IO Quick Start Guide



Included in the box:

1. USB2IO Device



2. USB-C Cable



3. 2 Wire bundles (for connecting devices to usb2io)



Get Started:

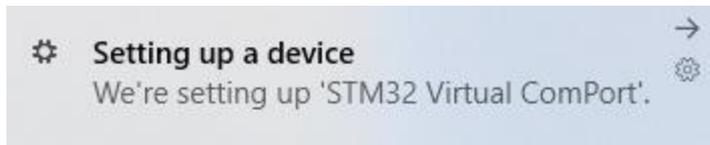
1. Connect USB2IO to your computer using the supplied cable.

2. Check if the Green LED on the top is illuminated.

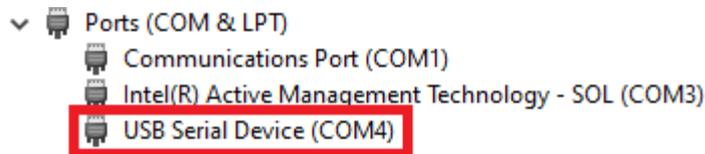


3. Check device manager (in Windows) for “USB Serial Device” or find ttyACMx device in Ubuntu Linux/MacOS.

-If using Windows, it will automatically setup a driver, you should see a popup.



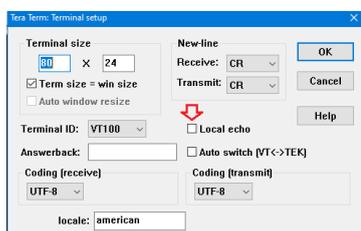
Listing in device manager (windows):



4. Open a COM port with any terminal program (such as TeraTerm) or use Python script (examples can be found at usb2io.com) to manipulate USB2IO.
5. In order to use IO ports, the voltage will need to be set.

Opening the COM Port on TeraTerm:

1. Find out what com port the device is setup on in device manager. An easy way to find out which com port the device is using is by unplugging the usb cable, and checking to see which device disappears under the Ports section.
2. TeraTerm (for Windows) can be found at this link: <https://osdn.net/projects/ttssh2/releases/>
3. Open Teraterm
4. Select Serial
5. Click Dropdown and select the COM port that was found to be the device.
6. Click OK.
7. By Default, it will not echo your input back to you. To change this, click Setup, then Terminal. Make sure the box labeled "Local Echo" is checked.



NOTE: All commands should end with <CR><LF> (like AT-commands).

Basic connection pin arrangements:

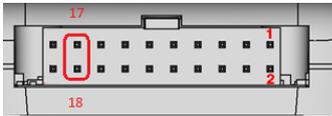
PIN 19 = VCC IO

PIN 20 = GND

I2C:

Clock = Pin 17

Data = Pin 18

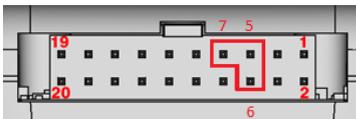


I2S Block A:

Data = Pin 5

Word/Frame Sync = Pin 6

Clock = Pin 7



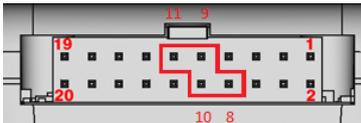
I2S Block B:

Data = Pin 8

Word/Frame Sync = Pin 9

Clock = Pin 10

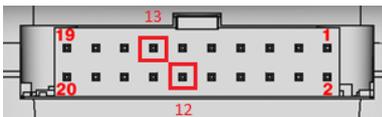
Master Clock = Pin 11



I2S PDM Microphone:

Clock: Pin 12

Data: Pin 13



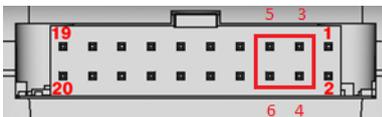
SPI:

Chip Select: Pin 3

MISO: Pin 4

Clock: Pin 5

MOSI: Pin 6



Device configuration/communication(i2c):

1. Set VCCIO to 0V, by sending the command 'expv write 0' to the device.

Warning!: I2C pins always have 3.3V voltage levels.

2. Connect the external device to the according pins on usb2io device.



3. Turn VCCIO to necessary voltage, for example 3.3V: 'expv write 3300'.
4. Interface with i2c device: (TMP117)

```
i2c scan
OK, 0x48, 0x5D
i2c write 0x48, 0
OK
i2c read 0x48, 2
OK, 0x0F, 0x13
```

5.
 - i2c configure 0 (100kHz setting)
 - i2c scan (find address of connected device)
 - i2c write 0x48 0 (0x48 being slave address found in scan and 0 being data register 0)
 - i2c read 0x48 2 (0x48 address, 2 being # of bytes to read back)