Using UART on macOS

A brief guide on establishing serial (UART) communication with microcontrollers on macOS using native utilities.

> Open Terminal: Press **⌘ + Space**, type **Terminal**, press Enter.

Find the serial port

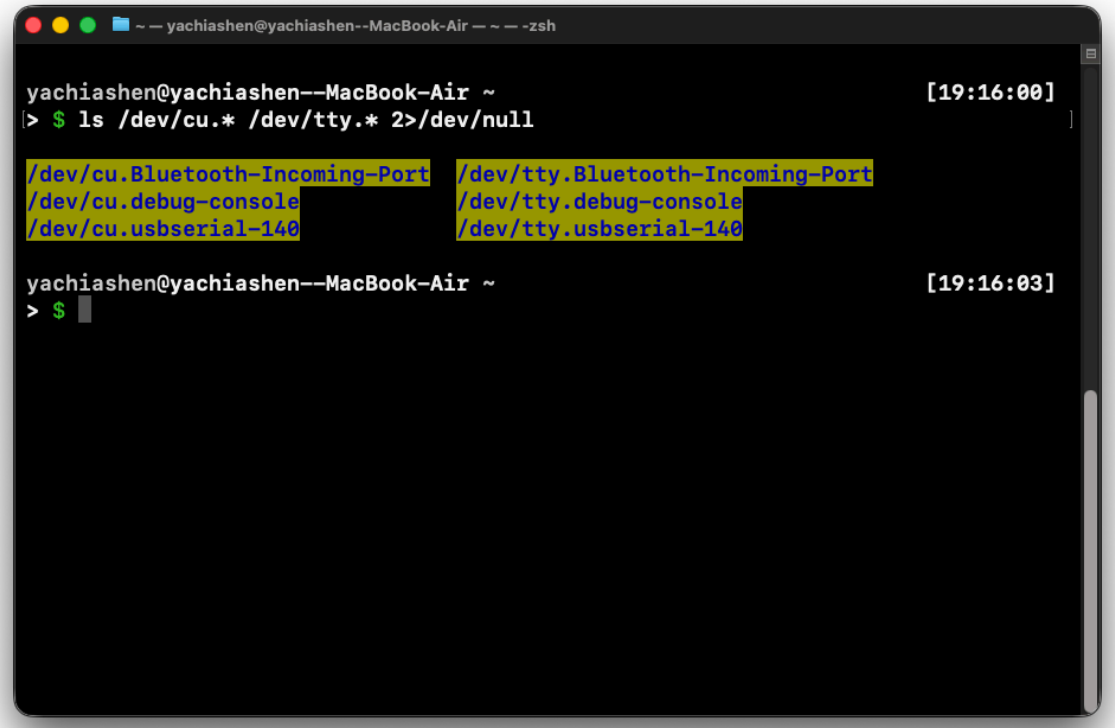
List current serial devices:

```
ls /dev/cu.* /dev/tty.* 2>/dev/null
```

Typical results:

```
/dev/cu.usbserial-140
/dev/tty.usbserial-140
```

> Prefer the `/dev/cu.*` device for active/open-now usage.

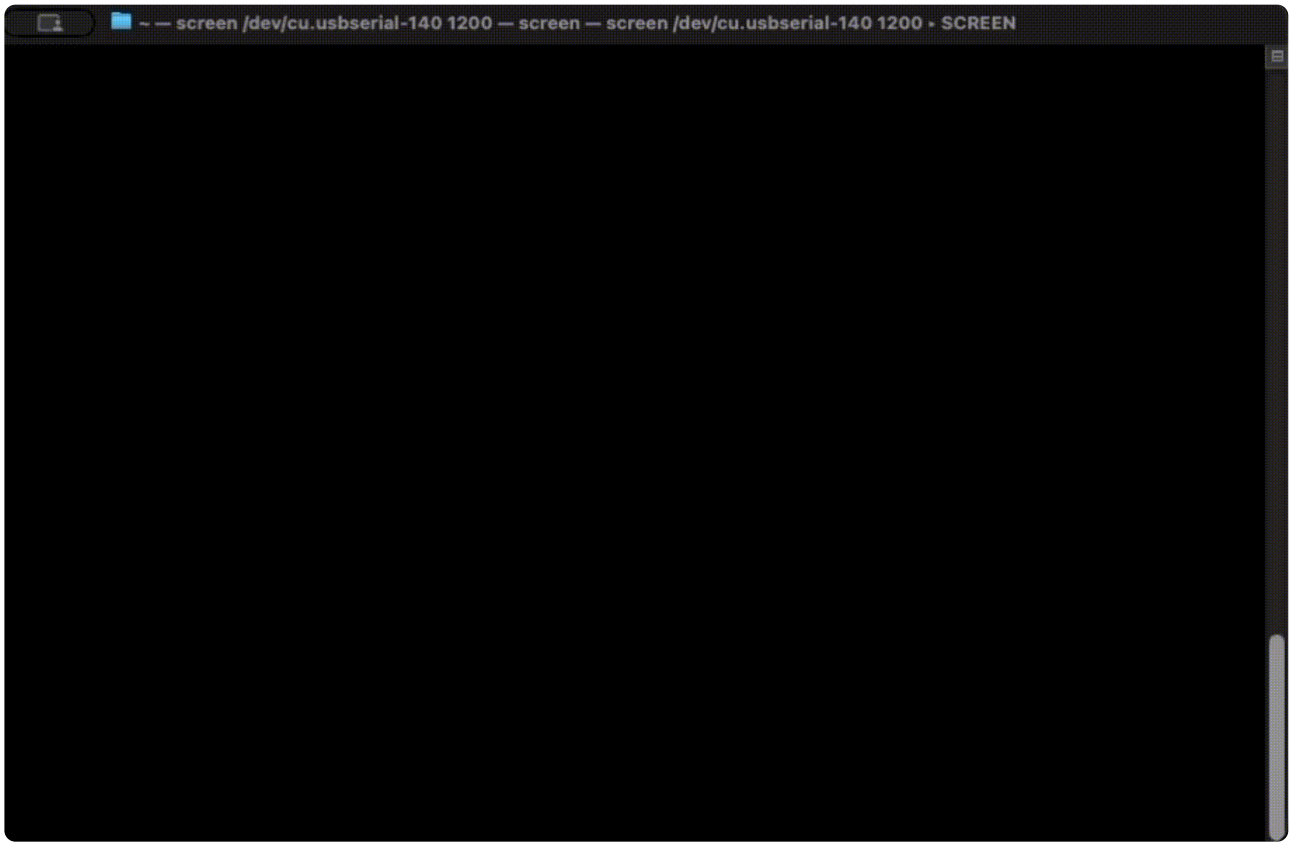


Connect with `screen` (built-in)

Use the **cu** device and the correct Baud Rate.

```
screen /dev/cu.usbserial-140 [BAUD]

# Replace [BAUD] with your MCU's baud rate (e.g., 9600, 115200, etc.)
# Examples:
screen /dev/cu.usbserial-140 1200
```



To exit `screen`

Press **`Ctrl + A`** , then press **`K`** , then type **`y`** .

Troubleshooting

Resource busy or cannot open the port

If you closed screen incorrectly (for example, by closing the Terminal window),
the serial port may remain locked and show an error like:

```
Cannot open line '/dev/cu.usbserial-140' for R/W: Resource busy
```

Fix:

1. List active screen sessions

```
screen -ls
```

2. Terminate them

```
# Detach (if attached)
screen -d [session_name]
# Quit
screen -X -S [session_name] quit

# Example:
screen -X -S 59394.ttys002.yachiashen--MacBook-Air quit
```

3. If still stuck, kill all screen processes

```
pkill screen
# or force
pkill -9 screen
```

Tip: Avoid the problem next time

- Always exit screen properly:

  Press **`Ctrl + A`**, then **`K`**, then **`y`**.
- You can name your session to make it easier to close later:

```
# For example:
screen -S uart /dev/cu.usbserial-140 115200
# then close with
screen -X -S uart quit
```