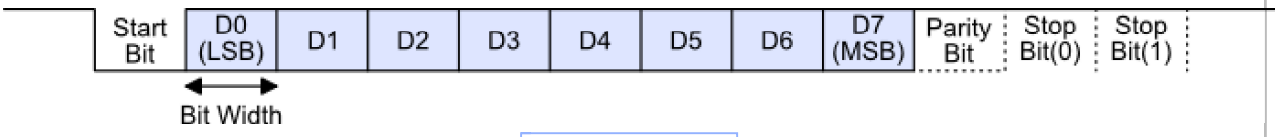
The Lab Book Pages
An online collection of electronics information

Dr. Andrew Greensted
Last modified: 18th November 2009

PC Serial Port

Information on the PC Serial Port

Serial Frame



Serial Frame Format

The table below shows some serial frame specs for different baud rates.

Baud	Bit Width	Frame Width (1 start bit, 8 data bits)	Real Data Rate * (1 start bit, 8 data bits, no parity, 1 stop bit)
4800	208.33us	1875us	480 Bytes/s 0.47 KBytes/s
9600	104.17us	937.5us	960 Bytes/s 0.94 KBytes/s
19200	52.08us	468.75us	1920 Bytes/s 1.88 KBytes/s
38400	26.04us	234.38us	3840 Bytes/s 3.75 KBytes/s
57600	17.36us	156.25us	5760 Bytes/s 5.63 KBytes/s
115200	8.68us	78.13us	11520 Bytes/s 11.25 KBytes/s

* It takes a minimum of 10 bits (1 start bit, 8 data bits, no parity, 1 stop bit) to transfer 8 bits of real data. Real data rate is equal to `1/(bitwidth * 10)`, or `Baud/10`.

Linux Serial Port Setup

`stty` is a command line tool for setting up the serial port. Below are some examples of use.

Set Baud to 9600, use one stop bits.

```
> stty -F /dev/ttyS0 9600 -cstopb
```

Set Baud to 115200, use two stop bits.

```
> stty -F /dev/ttyS0 115200 cstopb
```

Set Baud to 115200 and character size to 5 bits (can be 5 to 8). Enable parity, set to odd parity.

```
> stty -F /dev/ttyS0 115200 cs5 parenb parodd
```

Set Baud to 115200 and character size to 8 bits. Enable parity, set to even parity.

```
> stty -F /dev/ttyS0 115200 cs8 parenb -parodd
```