

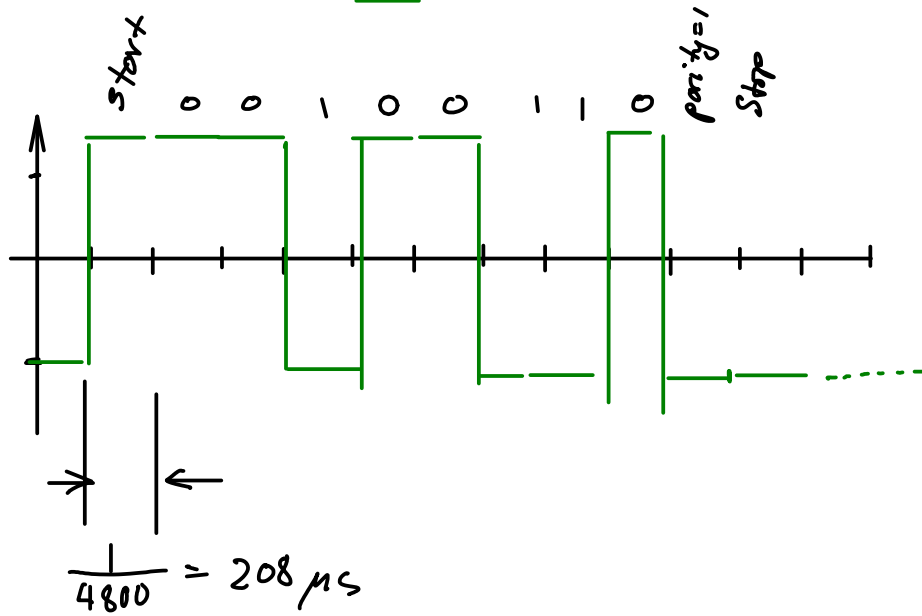
Exercise 1: Is the "Transmit Data" (TxD) signal an input or an output? How about "Receive Data" (RxD)? Is a computer a 'modem' (DCE) or a 'terminal' (DTE)?

TxD is neither or both or either
"it depends"

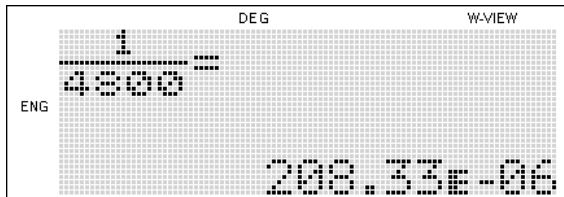
RxD : same

computer: usually DTE
unless connected to another computer.

Exercise 2: Draw the waveform used to send the ASCII character 'd' (hex 64) at 4800 bps with eight data bits and even parity.



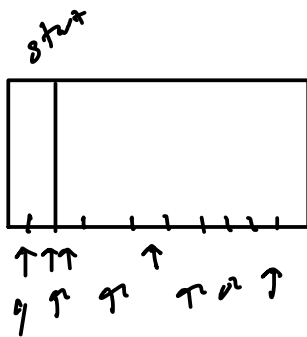
0x64
= 01100100
reversed:
00100110
number of 1's
= 1+1+1=3
for even parity
parity bit = 1.



Exercise 3: Will the parity bit allow the receiver to detect all single-bit errors? All double-bit errors?

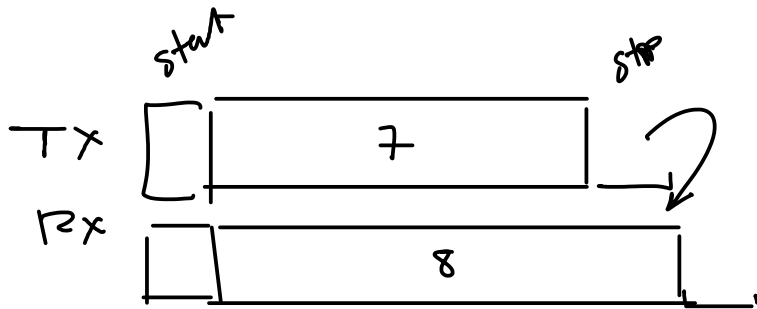
↳ yes | changes parity
↳ No . parity is unchanged.

Exercise 4: What happens if the receiver's clock is running faster than the transmitter clock?

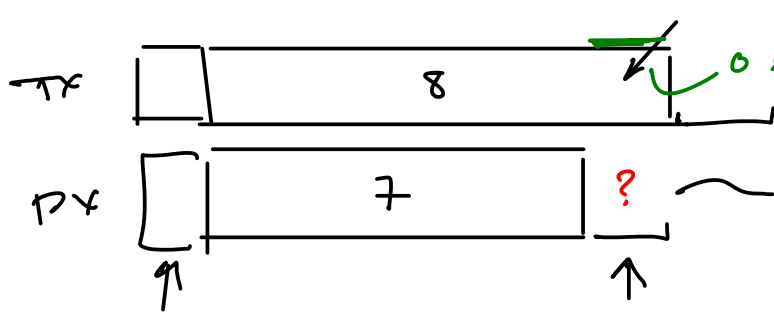


→ receive wrong bit values
(depending speed mismatch).

Exercise 5: What would happen if the receiver was expecting 8-bit characters and the transmitter was sending 7-bit characters? What about the reverse case?



stop bit is seen as 8th data bit
 as a '1' $2^7 = 128$
 so all received values have M.S. bit set



if rx sees stop bit high then \rightarrow framing error