

Asynchronous Serial Interfaces

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 - output on DTE, input on DCE
 RxD - input " " , output " "

computer can be either.

PCs are typically DTEs

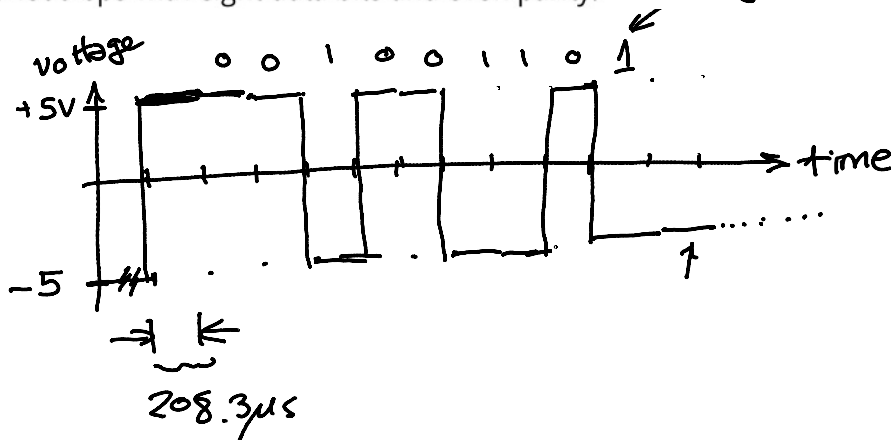
Exercise 2: Will the parity bit allow the receiver to detect all single-bit errors? All double-bit errors?

yes → changes even to odd
 or odd to even

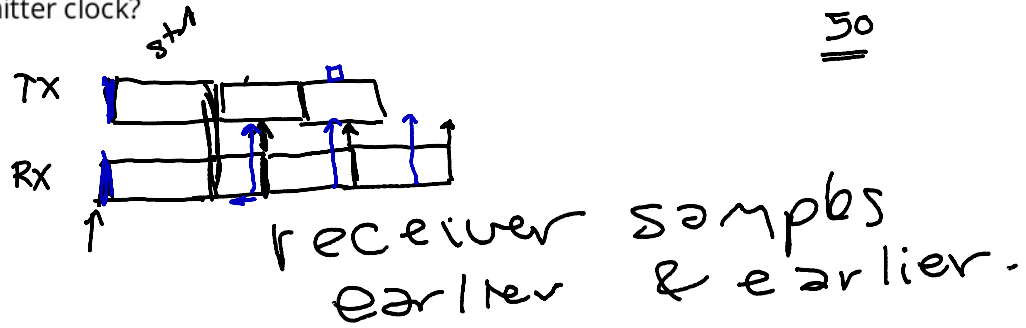
no → change even → odd → even.
 or vice-versa

Exercise 3: Draw the waveform used to send the ASCII character 'd' (hex 64) at 4800 bps with eight data bits and even parity.

0x64 = 01100100
 msb ← → lsb
 3



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



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?

