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Help

2.2 QUIZ QUESTION 1 (1/1 point)

Consider a system that uses 8-bit ASCII codes to encode letters. How long will it take to transmit the bit sequence encoding "Hello" (not including quotation marks) if we use a bit time of 10 samples per bit, and transmit samples at a rate of 1MHz?

Please key in the numerical value of your answer in units of μs in the box provided below.

Answer: 400

EXPLANATION

The correct answer is $400\mu s$.

- Sample rate $F_s = 1\text{MHz} = 1 \cdot 10^6 \text{ samples/second}$
- Sample period $T_s = (F_s)^{-1} = 1 \cdot 10^{-6} \text{ second} = 1\mu s$
- The bit time = $\text{SPB} \cdot T_s = 10 \cdot 1\mu s = 10\mu s$
- The number of bits to encode "Hello" (5 characters) = $8 \cdot 5 = 40$
- The transmission time = number of bits \cdot bit time = $40 \cdot 10 = 400 \mu s$

Check

Save

Hide Answer

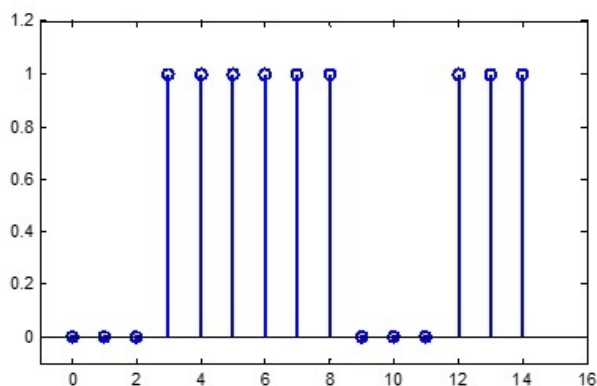
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2.2 QUIZ QUESTION 2 (1/1 point)

2.2 Quiz Question 1 | 2.2 Discrete Time Bit ...

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Consider a communication system where the transmitter uses 0V to represent bit "0" and 1V to represent bit "1". An example of a transmitted waveform is given in the following figure.



Assume that the first bit starts at sample 0 what is the **largest** possible bit time (in SPB) used in the transmission?

Please key in the numerical value of your answer in the box provided below.

Answer: 3

Final Check

Save

Hide Answer

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