HW#6

1. A binary digital communication system transmits bit 1 and bit 0 by the waveform $x_{i,1}(t)$, $x_{i,0}(t)$ respectively, as shown in Fig. 1:

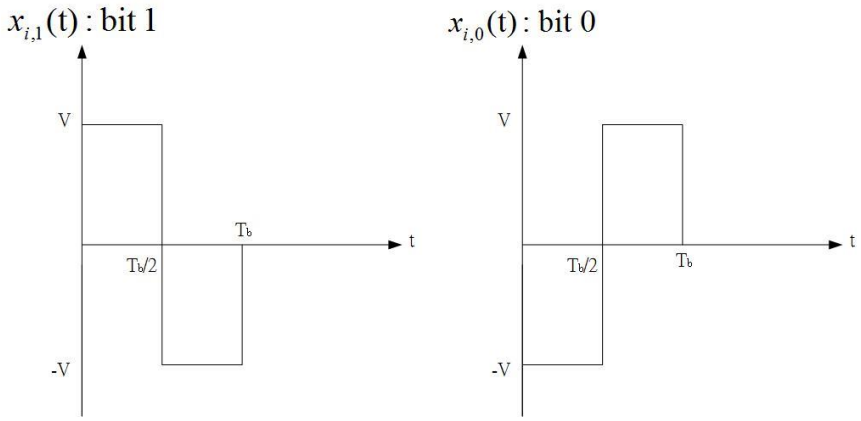

Fig. 1

where $T_b = 10^{-6}$ sec, and bit 1 and bit 0 are transmitted with equal probability. The signal is corrupted by noise.

(a) What is the bit rate and average bit energy?

(b) Sketch a correction receiver structure to detect these signals.