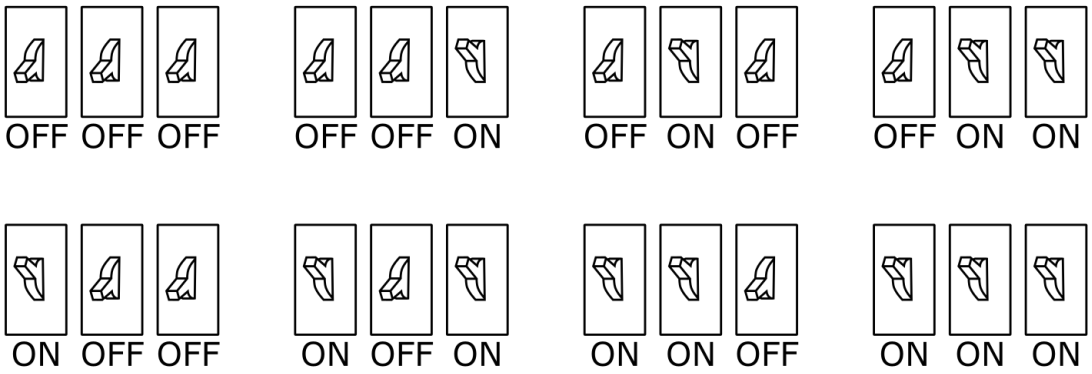
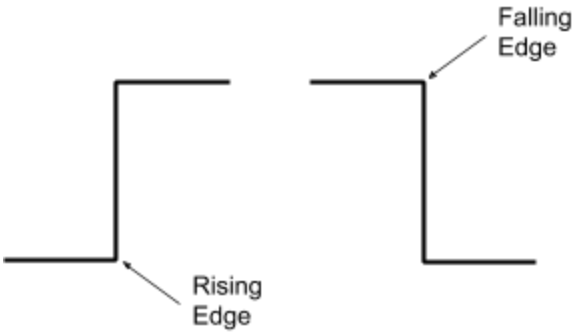
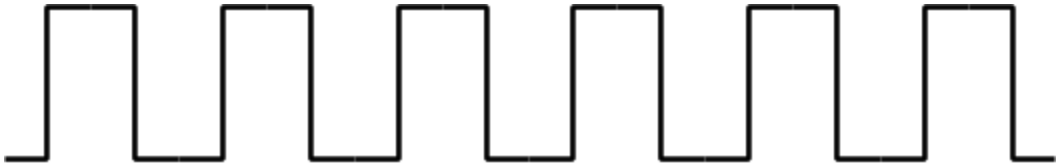
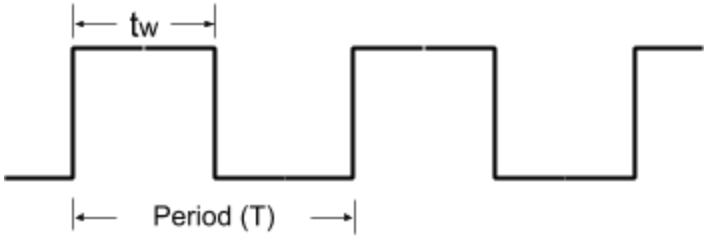
Episode 1.3 – Anatomy of a Binary Signal

(Transcript URL: https://intermation.com/episode-1-3-anatomy-of-a-binary-signal/)

Show Description: In this episode, we define the components of a single binary signal as its value changes over time. This will provide us with a starting point for the terminology we will be using throughout the rest of the series.

Podcast Timestamp	Supporting Details
3:09	
4:04	
5:17	

Podcast Timestamp	Supporting Details
6:20	 Non-Periodic Pulse Train
7:18	 Periodic Pulse Train
7:36	
8:25	$T = 0.1\ seconds \Rightarrow frequency = \frac{1}{T} = \frac{1\ cycle}{0.1\ seconds} = 10\ Hertz$
8:35	$frequency = 2\ GHz = 2,000,000,000\ Hertz \Rightarrow$ $Period\ (T) = \frac{1}{frequency} = \frac{1}{2{,}000{,}000{,}000\ Hertz} = 5 \times 10^{-10} seconds = 0.5\ nS$

Sample Problems

1. If four “binary” light switches control the lighting in a room, how many lighting settings are there?
2. If a computer runs at 12.8 GHz, what is the period of its clock signal?
3. If the period of a periodic pulse train is 125 nanoseconds, what is the signal's frequency?