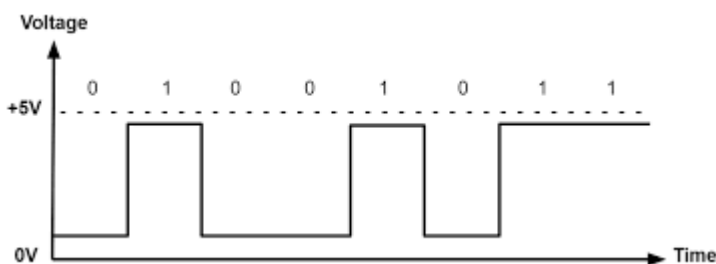# Chapter 4

Digital Signals

An analogue signal is a signal that changes in amplitude over time when impacted by an external data.

A digital signal represents data as discrete values.

A to D and D to A

A method to convert analogue signals to digital and reconvert them back to analogue is needed.

The analogue to digital conversion is referred to as the **ADC**.

The digital to analogue conversion is referred to as **DAC.**

A **CODEC** (coder/decoder) performs both ADC and DAC functions in one.

The sampling rate of an analogue signal, for conversion to digital, should be at least twice the highest frequency of the analogue signal. This is called the Nyquist Theorem.

Duty Cycle

The duty cycle is the ratio of the time a piece of equipment is operating to time it is off.

An amateur transmitter is not designed for 100% transmission time so has a duty cycle included in the design and should be operated within the manufacture's parameters.

Go to Chapter 4 Questions.

Have fun and stay safe.