Consider a system where the DAC is updated every 4us (250 kHz) with a value from a 200-element wave table containing a single cycle of a waveform. What would be the frequency of the output wave?

250 Khz / 200 Samples per cycle = 1250Hz

Consider that the ADC in 12-bit mode divides the input voltage range (0-3V) into 4096 steps (where 0V is 0, and 3V is 4095).

• What is the voltage/measurement resolution (how much does the voltage change per bit) of the ADC? The resolution is 0.732 mV per bit.

• What would be the ADC output value (nearest integer) if the input voltage was 1.75V? The ADC output value would be 2389.

$$\frac{V}{Steps} = Resolution \qquad \frac{3V}{4096} = 0.000732V$$

$$\frac{V}{res} = Steps \qquad \frac{1.75V}{0.732mV} = 2389$$