NYQUIST SAMPLING THEOREM

A signal must be sampled at a rate, f_s, which is at least twice the highest frequency component, f_m, present in the signal to avoid the loss of information. Thus,

$$f_c \geq 2 \cdot f_m$$

If we do not satisfy this criterion we cannot recover the original signal. In particular, we may see frequency components that do not exist in the original signal. This is called aliasing**.**