Sampling



Sampling is defined as the process of converting an analog value into discrete value.

Nyquist – Shannon Sampling Theorem:

A band limited signal is fully defined by its samples if they are taken at a rate of 2X the highest signal frequency. Mathematically:

Sampling rate should be > 2 x W

What happens if the signal is sampled at a frequency less than Nyquist sampling rate?

If the signal is sampled at less than the required rate it can not be fully recovered, and aliasing will take place.

Alias frequency = | Signal frequency – n x Sampling frequency |

'n' is selected such that n x Sampling frequency is closest to signal frequency.