

Digital Signal Processing: Theory and Practice

Sampling, quantization and number representation

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Sampling and interpolation

Sampling is the process of converting a function $x(t)$ into a sequence $x[n]$.

Interpolation is the process of converting a sequence $x[n]$ into a function $x(t)$.

The following process is the foundation of digital signal processing,

$$x(t) \longrightarrow x[n] \longrightarrow y[n] = Hx[n] \longrightarrow y(t)$$