

Analog vs. Digital Signals: A Comparison

Analog signals are continuous, representing information smoothly with waveforms like sine waves. They are susceptible to noise and require wider bandwidth but offer natural representation of sound and light. **Digital signals**, on the other hand, are discrete, representing information in binary form with square waves or pulses. They are more resistant to noise and bandwidth-efficient but involve quantization and sampling, potentially losing some information.

Analog applications include traditional broadcasting and audio recordings. **Digital** dominates computers, modern communications, and streaming services. While **analog** offers natural sound and light representation, **digital** excels in storage, manipulation, and transmission with advanced error correction and compression. However, **analog** suffers from degradation over distance and sensitivity to interference, while **digital** may lose information through quantization and requires conversion from analog, introducing delays.