

Example of what is  
white noise and how  
does it affect a  
signal? essay



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White noise entails a sound frequency that a person can hear in the form of a gentle hiss (Proakis, 2013). In essence, white noise resembles the sound heard from an ocean surf, waterfall, radio static or wind rustling through vegetation or trees. White noise affects the signal because of the electron activity, which occurs in a given medium. More specifically, the electron activity tends to increase with an increasing temperature, and this raises the noise. Too much white noise often makes it cumbersome to interpret a signal and can sometimes lead to loss of a signal.

### **What Is Impulse Noise And Why Is The Most Disruptive?**

According to White (2013), impulse noise entails the common spurious of power, which can be considered as spontaneous because they do not originate from a particular point. Precisely, the impulse noise arises out of nowhere. Unlike other forms of noise, an impulse is regarded as the most disruptive because it can destroy multiple bits of information. Often, the effect of the impulse noise is more felt when the rate of transmission of signals is high.

### **What Is Jitter And Why Is It A Digital Signal Problem?**

More specifically, a jitter comprises the outcome of close timing irregularities that arise during the process of digital signal transmission. Notably, a jitter occurs when there is a continuous repetition of a digital signal. The jitter becomes problematic because it makes the digital signal to be represented in a less defined manner especially in relation to its ending and beginning points (White, 2013). In extremity, jitter poses a major problem to digital signal transmission because it makes the transmission systems less effective and efficient by slowing down their transmission.

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## **What Is An Echo And How Does It Affect Data Transmission?**

Typically, echo refers to the reflected sound that is formed during signal transmission through a given medium. Specifically, the movement of the signal through the medium creates a reflective feedback that constitutes what is referred to as echo (Minkoff, 2012). Notably, echo tends to be somehow constant, and its effects are reducible largely. Usually, the echo hinders data transmission because it may cause signal loss.

## **Which Types Of Noise Introduced In This Chapter Are Continuous And Which Are Non- Continuous?**

In essence, the chapter covers many forms of noise. Specifically, the types discussed include white noise, impulse noise, echo, crosstalk, and jitter.

Notably, all other types of noise are continuous with the exception of impulse noise that is known to be non-continuous.

## **What Is The Difference Between Even Parity And Odd Parity?**

Usually, parity describes the number of 1s evident in a specific binary number. In respect to this, odd parity implies that there are an off number of 1s whereas the term even parity denotes the presence of an even number of 1s in the specific binary number (Lathi, 2011). Pertinently, the parity bits are useful in error detection during the transmission of digital data.

## **Which Type of Noise Is the Most Difficult To Remove from an Analog Signal and Why?**

In fact, impulse noise entails the most challenging type of noise to remove from an analog signal. Notably, the inherent non-continuous form of this type

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of noise complicates the ease with which it can be eliminated from an analog signal. Precisely, the non-continuous nature of the impulse noise means that it represents itself as an analog waveform, a situation that complicates its separation because of the evident resemblance with the analog data waveform (International Conference on Natural Computation, Jiao, & International Conference on Fuzzy Systems and Knowledge Discovery, 2009).

### **Which Type of Noise Is the Most Difficult To Remove from A Digital Signal and Why?**

In respect to a digital signal, jitter is the most challenging type of noise to remove. Essentially, the regeneration of the signal tends to eliminate or reduce other types of noise and considerably increases the amount of jitter.

### **Explain the Relationship between Twisted Pair Wires and Cross Talk**

When a signal is transmitted through one wire, a magnetic field develops around the wire. In a situation where a second wire run parallel in respect to the first wire, a current will be generated in the second wire because of the magnetic field that develops in the second wire(Minkoff, 2012).

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