Difference between Repeater and Amplifier

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Compare Repeater and Amplifier

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Definition Repeater

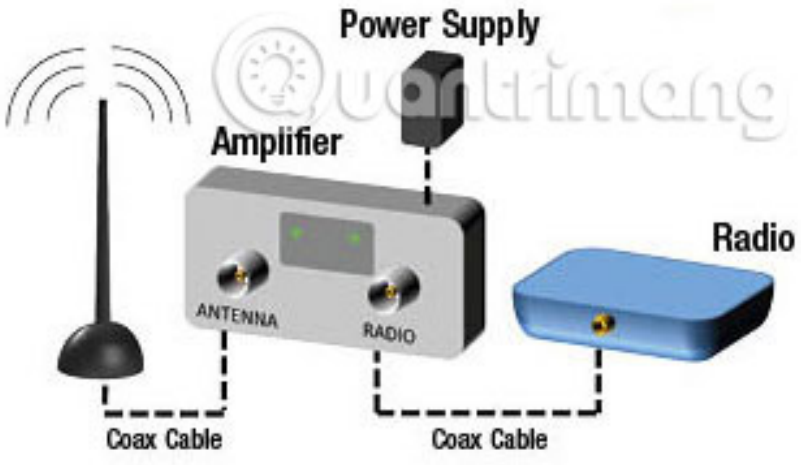
Repeater is an electronic device that only works on the physical layer of the OSI model. When data is transmitted over the network, it is transmitted by signals from one server to another. Information-carrying signals can travel over fixed distances in the network because the signal can be lost or degraded, thus leading to loss of information or part of the information.

The attenuation is created because the environment through which the signal is transmitted creates some kind of resistance. Therefore, to overcome the signal degradation problem, the repeater is installed on a signal-receiving link, before the signal reaches its limit or becomes extremely weak. The repeater will 'listen' to the signal and reproduce the original signal, eliminate the noise and retransmit the refreshed signal to the network.

Repeater only provides a means to extend the physical length of the network. It does not change any network functions and is not smart enough to stop the incoming signal or redirect the incoming signal to another direction.

Definition Amplifier

Amplifier is also an electronic device, with the aim of increasing the waveform amplitude of the signal without changing other parameters such as frequency or wave shape. It is one of the most commonly used circuits in electronic devices and can be used with different functions. Amplifier is often used in wireless connection.



Unlike repeater, an amplifier cannot reproduce the original signal. It only amplifies anything loaded, because it cannot distinguish between signals carrying information and noise. In other words, even if the incoming signal is broken and contains a few noises, the amplifier merely enhances the amplitude of that broken signal regardless of the quality of the signal.

The main difference between Repeater and Amplifier

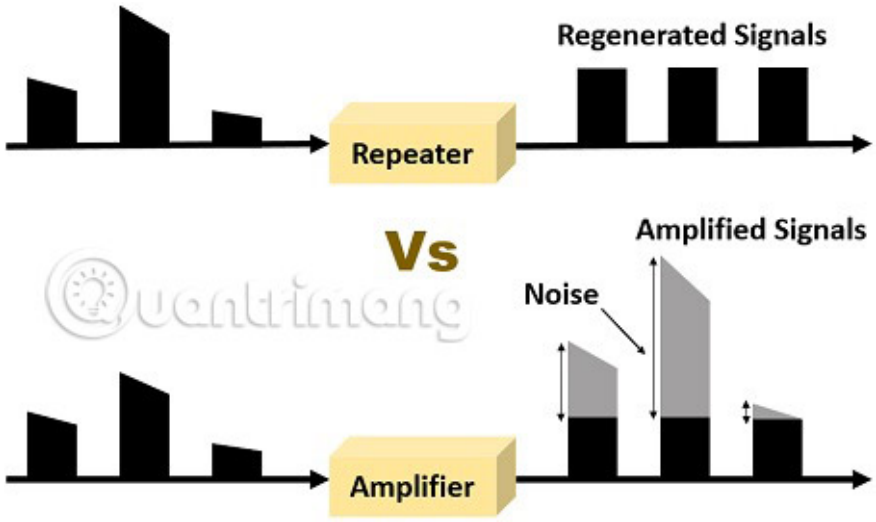
1. Repeater is used to regenerate the original signal with the help of the received signal pattern and retransmit the regenerative signal. On the other hand, amplifier amplifies the signal by increasing its amplitude.

2. Since the amplifier cannot distinguish between signals carrying information and noise, it enhances the power of the entire signal, including the noise in it. In contrast, repeater eliminates signal interference, while reproducing signals bit by bit.

3. Repeater has high amplifier power and low output power. In contrast, the amplifier has low amplifier power and high output power.

4. The repeater is used in fixed environments, where radio frequency signals are stable, such as buildings. In contrast, the amplifier is used in mobile environments, where radio signals are weak and constantly changing, for example, remote areas.

5. Amplifier minimizes the ratio between signal and noise phenomenon, thereby increasing noise. In contrast, repeater increases the signal-to-noise ratio, thus limiting signal-related errors.



Comparison table Repeater and Amplifier

To help you read more easily, the article will summarize the main differences between Repeater and Amplifier based on criteria.

Based on comparisonREPEATERAMPLIFIERN basic operation principle It decodes the signal, extracts the original signal and recreates it, then retransmits the signal. It only increases the amplitude of the signal. Generating Repeater noise eliminates noise by regenerating signals. Amplifier signal amplifier along with noise. Properties High power output and low output power. Low amplifier power and high output power. Mainly used in Office environment. Remote areas and environments are mobile. Results of device usage Maximize the ratio between signal and noise thus reducing signal-related errors. Reduce the ratio between signal and noise level, thus increasing noise.
Amplifier is part of repeater. Amplifier enhances the amplitude of the signal regardless of whether the noise contained in the signal or not, repeater reproduces the signal, bit by bit from the input signal and eliminates the noise in the signal.

Hopefully the above information on two devices Repeater and Amplifier network will be useful for you. If there are any questions you need to answer, please leave a comment in the comment section below!

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