

Passive Repeater Basics

[0m:0s]



[0m:4s] Hi I'm Josh Bloom, welcome to another video in the RSP Supply education series. If you find that these videos are helpful to you, it certainly helps us out if you could give us a big thumbs up and subscribe to our channel.

[0m:16s] In today's video, we are going to be talking more about radios and the antennas that we use to communicate all over the world.

[0m:24s] More specifically, we want to discuss situations where a repeater site may need to be used in order to communicate properly. However, instead of discussing a standard repeater site, we want to talk about something that is known as a passive repeater. In this video we intend to cover what a passive repeater is and why they are used.

[0m:46s] We will also talk about some of the pros and cons to using this style of repeater.

[0m:52s] As always, the information we provide in this video is intended to give a basic overview and should never take the place of proper electrical or radio communication instruction.

[1m:4s] If you have questions about your specific scenario, it is important that you seek the help of a qualified person that can assist you. With that said, let's talk more about passive repeaters and see if we can't learn what they are and why we use them. Before we talk about passive repeaters let's quickly review what a repeater is and why we use them in radio communications scenarios. Repeater sites are used in situations when two or more radios are unable to communicate with one another.

[1m:36s] This inability to communicate typically has to do with some kind of physical obstruction that can impede the radio signals ability to reach its intended target. Examples

of these obstructions could be mountains trees, buildings, or even the curvature of the earth. If you are trying to communicate over a great enough distance.

[1m:57s] Repeaters are used to overcome these obstructions

[2m:1s] by being located specifically so that both of the sites in question can effectively communicate with the repeater site. This repeater site can thus allow proper communication between two or more sites that could not otherwise communicate. So, what is a passive repeater? Well, in most cases, repeaters require additional radio hardware at the site.

[2m:26s] This hardware would include one or more radios, antennas and other hardware needed to power the radios as well. So in most cases, the repeater sites require a decent amount of infrastructure to function as intended.

[2m:41s] The purpose of a passive repeater is to allow for the same communication that is needed to occur with much less difficulty. A passive repeater does not require any amplification of the signal being received and sent to the other site.

[2m:58s] Typically a passive repeater will consist of only two antennas connected by an appropriate communication cable and nothing else. So unlike standard repeater sites that require power, radios, and other kinds of hardware to function a passive repeater only needs an antenna mass, two antennas, and one cable, in most cases. So why wouldn't we always use a passive repeater?

[3m:23s] Well, there are some significant disadvantages to using passive repeaters.

[3m:28s] The first is that the signal strength can be significantly reduced, so much so that the passive repeaters are typically only used in situations where the two sites that need to communicate with one another are very close to each other.

[3m:43s] For example, several hundred yards but typically not more than one or 2 miles depending on the line of sight and the type of radios being used.

[3m:54s] Another disadvantage to using a passive repeater. Is that the angle of which the antennas can be pointed from one another cannot be too sharp.

[4m:3s] The sharper the angle, the less likely the signal will be able to be altered enough to properly communicate.

[4m:10s] So if the distances are short and the angle at which the signal direction is being switched is minimal,

[4m:16s] then a passive repeater can be a great option. As you can imagine, one of the biggest benefits to using this type of repeater is the cost savings and the ease of installation. Not all situations allow for passive repeaters to be used,



[4m:32s] but under the right conditions, they can be a very affordable option while also allowing for reduced installation labor because of the lack of infrastructure that is required to bring these sites online. By understanding which type of repeater site will work best for your specific application can help in ensuring that your radios communicate as expected. For a full line of industrial radio hardware as well as thousands of other products, please go to our website. For more information or other educational videos, go to RSPSupply.com the Internet's top source for industrial hardware. And also, don't forget:

[5m:9s] like and subscribe.



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