

a walking 3 count...

When you are talking with someone on VHF or UHF using an HT, you will probably be limited to 5W and a rubber duck or perhaps a whip with a bit more gain. Regardless, you will sometimes be dealing with weak or noisy signals. What can you do improve things?

Assuming that you are talking with a fixed station with an omnidirectional antenna, the onus is on you to do what you can to improve communications. If you already have your HT up on high power don't have any other antenna options, all you can do is move around to find a better location, often referred to as a hotspot. You can try different locations at random or you can make it easier for the person on the other end to tell when your signal is as good as it's going to get.

First, suggest that the fixed station reduce their power. With them transmitting, and your HT held vertically to match the vertical polarization of the antenna of the fixed station, do an X / Y grid to find where you get the best signal from them. After that, the fixed station can turn the power back up if needed. Then you can do a bit of extra magic.

If you are on a simplex frequency, the wavelength will be the same for transmit and receive, so the location for your best transmitted signal will probably be the same as your best receive signal. Press your PTT and take three short steps while counting 1 - 2 - 3. When you unkey, the fixed station can tell you where they got the best signal from you. This technique is called a "walking 3 count". If you were moving east-west when you first try it, next do it while moving north-south. On the 2M VHF band, the wavelength is 2M. If you are dealing with multi-path distortion, you usually only have to move about half a wavelength, or about 1M, to "phase" a signal in. If the problem is a just plain weak signal rather than multi-path, you might have to take more than 3 steps. You can even change it to a "walking 5 count" but the most important thing is make the length of your steps the same and don't clutter the transmission up with all kinds of descriptions about where

you are. Just go key down and start counting from 1 to 3 (or 5) while taking 3 (or 5) short steps e.g. in an east-west direction. If you get the best signal report at the "3" position, go back there and do it again while moving north-south. If you are lucky, you will find a hotspot the first time around. If you are unlucky, you might have to do it a few times.

What is multi-path? This is just when signals arrive at the receiving station from more than one direction. One might be direct from antenna A to antenna B, and another might be reflected off a nearby mountain, or all signals could arrive from reflections. When signals arrive in-phase, they are additive. When they arrive out-of-phase, they try and cancel each other out. If you have two equal strength signals arrive exactly 180 degrees out of phase, they will completely cancel each other out. More often, multi-path will make a signal sound somewhere between a bit noisy to very distorted and all but uncopyable.

What if the station on the other end isn't a fixed station? If you are both using HTs, one of you should stand still while the other does the walking 3 count. Once you find a location where you can both hear each other, try and stand still.

If you are a mobile station and right at the fringe of coverage of a simplex station or even a repeater, you can pull over to the side of the road and do a driving 3 count. This is really the same technique except in a vehicle. Of course, it's easier to go forwards and back than it is sideways! This should of course be done somewhere safe and not in the middle of a busy road!

Can you do a walking 3 count on a repeater frequency? Absolutely! The repeater is a fixed station. However, the transmit and receive frequencies are different. This means the wavelength is slightly different for transmit and receive. How does this affect things? First, move your HT around until you get the best reception from the repeater. Then do the walking 3 count. you will often find that your

best signal into the repeater is not at the same location where you had your best reception. This is because with the different wavelengths for transmit and receive, signals might arrive "in phase" on one frequency but slightly out of phase on another. Start by finding where you have the best reception on the HT and then do a walking 3 count while transmitting from the HT. If the path is really marginal, you might have to stand in one spot for receive and other for transmit.

The above is a very wordy description for a simple procedure. Knowing how to do it might just make the difference between getting through to the other station or not. Like many things, the best way to learn the technique is to practice it.

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