

Commonly Used Repeater Terms

- Capture Effect** A phenomenon of FM where only the stronger (even slightly) of two concurrent signals is demodulated by a receiver. This is in contrast to other modes like CW, AM and SSB where both signals would be heard, even if not understandable.
- COR** Carrier Operated Relay. This is how the repeater knows when you have started and end your transmission, by sensing that there is an FM carrier present. It is not listening to your voice. (see below: Kerchunking, hang time and Over)
- Cross-Band Repeater** A mode which many dual band radios make available. Transmit on one band and receive on another. Typically 2m and 440. Can be done either direction. Useful to allow one to use a dual-band handheld back to a mobile radio in cross-band repeat mode in an area where ordinary repeater coverage may not be useable, like in the mountains for an emergency or search-and-rescue operation.
- CTCSS tones** Continuous Tone-coded Squelch System a tone code system used to allow one to only hear certain coded signals from other radios, individual or repeaters. For example, repeater owners can set up a tone required to cause their repeater to only respond to a transmission carrying that particular tone signal. Useful when repeaters share a common frequency so that users of one will not key up the other. There are as many as 50 possible tones. Another example would be for emergency responders to only get a call with the code during the night, when otherwise, any transmission would have broken their squelch and come in interrupting their sleep, but they would be alerted when they are needed. Originally developed by Motorola for commercial applications and called PL or Private Line. There are also DQS and TQS modes that you can look up and read about. Not in nearby use.
- Desense** When a transmitter on the same band or nearby frequency overloads a close by receiver. Especially noted between close mobile units trying to contact each other on a repeater. One transmitter effectively blanks the other receiver and the operator doesn't hear the repeater. Understand and be aware of this effect in emergency situations where it may become a problem.
- Diplexer/Duplexer** Devices used to allow a repeater (duplexer) or your dual band radio (diplexer) to use the same antenna for transmit and receive. In the case of a repeater, with the transmit and receive frequencies close together (600 kHz on 2m, 5 MHz on 440) the duplexers are usually High Q cavities to produce the required attenuation. Of course, in the repeater situation, the receiver and transmitter are operating simultaneously, requiring the greater isolation.
- Double** When two operators transmit at the same time and thus can't hear what each other said. One of the reasons that 'This Is' and a pause, are used during a net. Also recommended in

Hang Time The time after one quits talking (transmitting) until the repeater itself stops transmitting.

Kerchunking When the repeater is keyed up and no audio or identification is heard. It is done quite a lot by folks just checking to see if their radio is working and/or if the repeater is working. Not recommended and actually constitutes a transmission made without identifying by call sign, a violation of the FCC Part 97 rules.

Line of Sight Typical signal path for VHF communications. Means signals traveling in straight line and not reflected off an atmospheric layer. Also known as ground wave. Signals can still be reflected off objects such as mountains, water towers, etc and still be ground wave.

Machine HamSpeak for 'Repeater'

Split, Odd Split, Offset, Positive, Negative The generally accepted difference between the transmit and receive frequencies of a repeater. Varies by band e.g. -100kHz on 10 m, -1MHz on 6m, +/-600kHz on 2m, -1.6MHz on 222, +/-5MHz on 440, -12MHz on 900 and 1200 MHz bands. Negative means down in frequency and Positive means up in frequency. Coordinated repeaters use the offset that they have been assigned. There are divided areas in some bands where the typical or recommended offset is either positive or negative and modern hand-held and mobile FM radios have these offsets pre-programmed for those divided areas. This is the reason so many new hams in our area have problems with the N4KHQ Dahlenega repeater as it was assigned a positive offset in a frequency range where the offset is typically negative. When one attempts to program their radio with that frequency, the radio defaults to a negative offset and you must manually select a positive offset to access the repeater. Also then, if you don't save that offset in memory, the next time you turn the radio off and back on, it will again default to the negative offset and you wouldn't be able to access the repeater.

Example: GARC repeater 146.910 transmit, 146.310 receive (-.600) CTCSS tone 100

To use the repeater, your radio will transmit on 146.310 (-.600) and receive on 146.910

Hope that's confusing enough for you. If not, try to manually program a Baofeng!!

'Over' A traditional word used to indicate the end of your transmission. Still used on simplex communications on HF and VHF voice to end and turn over to the other station. Not really needed or used so much on modern repeaters as the repeater will stop transmitting after it sends a courtesy beep when you stop transmitting (after the hang time).

Simplex communication between two radios without the use of a repeater. Using a repeater, the communication would be described as half-duplex, in contrast to full duplex that you are used to using a telephone.

Squelch Tail The short noise you hear on some repeaters at the end of a transmission before the

