Newcomers and Elmers Net: Exploring a Typical Handheld Radio's Operation
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Intro
– This topic may sound almost too basic for discussion, but I have to tell you there are a lot of people, including experienced old-timers, who do not know how to use their handheld!
-- part of the reason for this is because we often get used to depending on programmed memory channels with everything set up
-- the problem comes in when we have to go to a simplex frequency, or when we have to put in a new repeater without our computer software!
-- but even things like entering PL tones can be easy to forget, and more and more radios are becoming smaller and smaller, meaning less room for buttons and knobs
-- even simple things like volume and squelch settings may be relegated to a menu, which makes changing things more complex or time consuming

The bottom line is that there is no substitute for using the main features of the radio regularly
-- enter simplex frequencies just to remember the process (which usually involves switching between memory mode and VFO mode
-- even the term VFO can be forgotten because we don't usually talk that way ("let's put our radios in variable frequency mode!" – doesn't quite sound right, does it?!)
-- also entering PL tones, offsets, and the like should become second nature to us, and all the more so if you are like me and have several brands of handhelds
-- some radios really make it hard to just enter a basic frequency
-- if need be, you could type out a small cheat sheet and tape it to the back of your HT

Operation
Volume and Squelch – if you are lucky this is as simple as two knobs on the top of the radio, one inside the other
-- many radios have moved the squelch to a menu setting to avoid accidentally turning it open or down too far so that only really really strong signals get through
-- I still prefer a knob, but I make do as one brand I use has knobs while the other brand uses a menu
-- if yours uses a menu, make sure you know how to get to it easily because there will be times when you will want to have it open or when you will need to close it down some to avoid local interference

Frequency Navigation – this is one of those again which at face value seems like it should be easy, but can be fairly complex depending on the radio
-- for example, some radios use a knob to change frequencies or memory channels, depending on the mode the radio is in
-- there are also radios like the TYT which change channels by up/down arrows
-- even with knobs/arrows changing frequencies can be slow if you are making large changes
-- most radios allow direct keypad entry, but again this is not a given, and some newer low-cost radios are eliminating the keypad
-- while this seems obvious, you may find you cannot get the exact frequency; depending on the mode chosen the automatic spacing may be set differently—5 MHz, 2.5 MHz, etc.; this is usually referred to as the step size.
-- most radios allow for manually setting the step size, but some will only let you get close
-- the newest radios meet the standards for the smaller channel spacing even though amateur radio bands are not subject to them
-- some radios allow you to select a one MHz jump with each click of the dial or arrow push
-- you can also scan up and down

Selecting the Operating Band
-- if you have a dual or tri-band antenna there will be several ways to choose the band
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Repeater Operation
Repeater Shifts – sometimes this is one of the most difficult things to set depending on the radio
-- many radios set this automatically, but with a manual override
-- some radios make it very difficult by requiring two separate input/output frequencies to be set rather than an offset
-- There are two elements to the repeater shift, the direction (+/-) and the shift size
-- some radios have the option to check a repeater input frequency by pressing a Reverse key—lets you know if you are within simplex range

PL/CTCSS/DCS
If you are getting into this repeater you already know how to put in a PL tone, usually indicated by a "T" in the display
-- what you may not have tried is setting the mode to the full CTCSS mode which not only sends a tone to the repeater, but also listens for one before opening the squelch

-- I have found this useful to avoid some of the interference that can come over a repeater signal
-- this can affect a weak signal from a repeater, so keep that in mind
-- this setting only works with a repeater which transmits a tone
-- it can also be used radio to radio to only allow the squelch to open when the tone is sent
-- this can be very useful to talk with someone else when there is a crowd on the bands and you don't want to hear everyone else
-- an even better system for privacy is a DCS code – this is a version of coding which sends a specific code before each transmit and opens the squelch on a radio with the same code
-- you could have 5 people with the code programmed in and then carry on conversations between each other without hearing everyone else
-- BTW, if you ever want to check to see if there is a signal which is not breaking through the squelch, open the squelch manually (usually a button on the radio); also good for checking for weak signals

-- Tone scanning is a feature which allows you to scan for a tone if you don't know what it is
-- if a transmitter sends a tone on transmit you can scan the output frequency; but if the repeater only uses an input tone, you will need to scan the input frequency (assuming you are close enough to hear the caller)
-- you can usually scan for either CTCSS or a DCS code

RF squelch preset – this setting allows you to set the radio so that only really strong signals get through

Memories
Memories are a topic to themselves almost, but in general most radios offer several options which are very useful
-- individual channels can be scanned one at a time
-- ranges of channels can be scanned such as a band, or a range of frequencies
-- memory banks are usually in units of 50 or 200 channels per bank; this allows you to organize frequencies into categories which fit your needs
-- local repeaters could be one, simplex frequencies could be another, and public service channels another
-- there may be other options as well
-- some radios offer a smart search feature which let you scan for repeaters in a new town, for example, and store them in memories.

DTMF operation allows for programming/accessing repeater functions, using a phone patch, and other uses
-- this is like the tones on a phone

Transmitter Timeout feature alerts you to avoid timing out a repeater -- may either be a tone or may drop transmission altogether

Lockout Options- lock out changes to keyboard, menu settings, or everything

Accessories