Just about every modern ham radio has two operating modes: **Memory** (also known as Channel) mode and **VFO** (also known as Frequency) mode. Memory or Channel mode is merely a set of memory channels that have several frequencies stored in them, along with the appropriate settings for each, such as offset, tone, and power level. You select each by simply scrolling through the stored channels. VFO or Frequency mode, however, does not quite work the same way, and it is often convenient to understand how to work it.

VFO stands for *variable-frequency oscillator*, which simply means that this mode will allow you to set your radio to almost any arbitrary frequency and other parameters needed for any desired type of operation on that frequency. That is useful for manually tuning to a frequency, setting the parameters, and testing it before you commit it to a memory channel. Even though VFO mode is a kind of *scratch pad* location to get a frequency set up, most radios will preserve those settings in VFO, so that, after you turn off your radio, and then power it up again later, all the information you put into VFO will still be there.

Here are some of the parameters that can be set for a particular frequency:

- repeater offset
- repeater shift direction, such as plus, minus, or off
- ARS, which stands for *automatic repeater shift*, when it is on, will automatically set your frequency offset and shift direction for *standard* repeater frequencies
- tone mode, such as TONE, TSQL, CSQ, DCS, and CTCSS
- tone frequency
- power level
- squelch level
- bandwidth, meaning *wide* or *narrow*

Also, for HF radios:

- signal mode, such as AM, FM, LSB, USB, CW, and RTTY
- split, to indicate different transmit and receive frequencies

A few other settings can be saved in memory, some cannot, depending on the radio model, but these are among the important ones.

As you can see, it might be difficult to remember all of the necessary settings, so it'll take a little time and practice on your part, to manually set up your VFO set correctly for a given frequency on your particular radio. Once you get it set up right, you can then store the frequency and all the details in a memory channel, so that you can retrieve it later in Memory or Channel mode.

It is helpful to know how to manipulate and program your VFO when you need to, without needing to rely on a manual or another person. Yes, it's one more thing to learn, about amateur radio, but can be convenient, so that you're not always dependent on somebody else to program your radio for you, especially when you're not near a computer.