

Editorial – Operating with SSB

In the brand new world of FM repeaters, recently licensed hams tend to become accustomed to the hushed world of squelch, believing the quiet is normal for radio. An amateur who first encounters SSB (**single sideband**), however, is often surprised at the sound of the background atmospheric noise, which is how radio (actually, demodulated audio) really sounds, because the squelch is turned off.

SSB is the preferred voice mode with which to make DX contacts because it requires less power and **bandwidth** than AM or FM, and it's the primary voice mode for both casual contacting and contesting. Other modes, such as FT8, CW, PSK31, Olivia, and more, can make use of low transmitting power and bandwidth even more efficiently to make DX contacts, but our focus is on SSB voice.

SSB does come with a price. Depending on the noise level at your QTH (transmitting location), the band conditions, and the relative receive signal strength, hearing the other station, or them hearing you, can be a little rough. While communicating with others on 2 meters FM, we typically use the phonetic alphabet *only when people ask us to* (because over-use tends to irritate people). But on SSB, we use phonetics by default when stating our call signs because of the noisy environment.

Whether we're operating on SSB or quiet FM, when using phonetics, be sure to **slow down**. No matter how long we've been licensed, we're simply not used to hearing **wisskeyehoseven** and deciphering it as quickly as we can **double-you-ee-seven**, especially if our native language is not English. In fact, you might not even realize that you rattle off your name or call sign phonetically as fast as you do. In many cases, it might take you three seconds to rapid-fire your call sign, then four seconds for the other person to ask you to repeat it slowly, then five seconds for you to repeat it slowly. Had you said it slowly to begin with, the entire exchange would have taken five seconds instead of the twelve that it took because of your machine-gun approach. Those five seconds might seem painfully slow to you, but it can save you from repeating yourself, and them from the embarrassment of having to ask you to.

And when you do use the phonetic alphabet, and happen to forget that "N" is November, is it alright to use a substitute word, like Nancy? There is no strict



rule demanding that we amateurs must use a particular set of phonetics, although using the ITU Phonetic Alphabet has become a standard. It's perfectly acceptable to use an **alternate set of phonetic words**, if it helps to clarify. When working DX, you might find that some alternate phonetic words are commonplace, because many international folks find it difficult to say Zulu, Sierra, or Golf, for example.

For most HF contacting, SSB can occupy a bandwidth up to 3.0 kHz (3000 Hz), although typically a little less. The ideal human ear possesses a detection range of about 20 Hz to 20 kHz, but human speech falls far short of this range, depending on gender and whether you have a cold. Modern telephony sets the usable human speech and hearing range to between 300 Hz and 3.4 kHz by convention, so amateur radio SSB fits well within that bandwidth.

Single sideband can be manifest as either LSB (lower sideband) or USB (upper sideband), and many amateurs are confused about which amateur bands conventionally use which sideband. The following table clearly shows the gentleman's agreement for SSB:

Band	SSB
160 meters 80 meters 40 meters	LSB
All others	USB

Some amateurs like to say that frequencies below 10 MHz use LSB, but that's not always the case. 60 meters and RTTY are exceptions, for example.

Anything to add? Email editor@utaharc.org