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WAVELENGTH

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PARTICIPATE – LEARN – ENJOY
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SARC Nets

Sunday	28.730 Mhz CW 10:00 AM SSB 10:30 AM
Tuesday	147.060 MHz (VE3RPT) 7:30 PM Alternate frequency 146.520 MHz simplex
Thursday	28.730 MHz SSB 7:00 PM

Everyone is invited to check in on CW before the nets start.

These are open nets. All licensed hams are welcome. Come and join us.

We also want to emphasize that 28.730 MHz is our calling frequency. Please monitor and/or call your friends. 7:00 PM is a good time.

Tech Nights

Every Friday night, 6 to 9 PM

What Should Every Ham Know How to Do?

By Dan Romanchik, KB6NU

On the HamRadioHelpGroup mailing list, there was recently a discussion about using modulated CW on 2m. One fellow pointed out that MFJ sold a unit that would do this. When I pointed out that this box cost $100 and that they could do exactly the same thing with the $18 PicoKeyer from HamGadgets.Com, I got some flack that the PicoKeyer was a kit, and that some people might not be able to build it.

I pointed out that a couple of years ago our club held a construction night, and that several people who had never soldered before successfully completed the kit. I also pointed out that even if the ham didn't have the proper tools, he or she could purchase a soldering iron, needle-nose pliers, and diagonal cutters, in addition to the kit, for less than $100.

I don't know if that convinced him, but it got me thinking about what a ham should be able to do. This is the list I've come up with so far:

1. Solder. Every ham should know how to solder a connection, and by extension, build small kits and cables. Over the course of one's ham career, this skill will save you a ton of time and money.

2. Build a dipole antenna. The dipole is the simplest and most versatile antenna. Knowing how to build one and use one is an essential skill.

3. Check into a net. Net operation is one of the most basic operating skills.

4. Use a multimeter to measure voltage, current, and resistance and know what those measurements mean. This is the most basic skill used in troubleshooting, and at some point or another, you're going to have to troubleshoot something.

This list does, of course, imply that a ham is physically capable of doing them. I would not expect hams that are physically disabled to be able to do everything on this list.

After I posted this to my blog (www.kb6nu.com), I got several good responses. Jeff said, "I believe hams should know how to install RF connectors, particularly the three most used in our hobby, the PL-259, the BNC, and the N connector." Blair, WB3AWI, replied, "Another thing that hams should know how to do is to measure the SWR of an antenna."

So, now I ask you, What do you think every ham should know how to do? Feel free to post a comment to my blog or e-mail me at cwgeek@kb6nu.com.

When not analyzing the abilities of amateurs, KB6NU pounds brass on nearly all the HF bands and teaches various ham radio classes in Ann Arbor, MI. You can read his other musings on our fine hobby at www.kb6nu.com.

A Beginner's Guide to Making CW Contacts (Part 2)

by Jack Wagoner WB8FSV

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Editor's note: This guide was written several years ago, so some references may be out of date, but the general principles are the same. This month we present the second part of the guide.

Finding Someone To Talk With

Answer a CQ

How the heck do you begin a CW conversation? How do you find another ham to talk with? My favorite method is to answer a CQ. Sending several CQs followed by your callsign indicates you want to start a contact with someone. Simply tune up and down the band searching for that familiar "CQ", zero beat your transmit frequency with that of the CQer(or as close as you can get), and call them when they finish their CQ. Normally a one by two call on your part is all that is needed, "N1XYZ de WB8FSV WB8FSV K". If band conditions are poor, or there is a lot of QRM(interference), perhaps a two by three or a one by four call is in order. One by two initial calls in response to a CQ are common these days, sending your call letters too many times marks you as a beginner.

Please do not reply to a CQ if the CQer is transmitting too close(within one kHz or so) to an ongoing QSO. Doing so will likely cause unnecessary QRM to the ongoing QSO, you may even drive them off the air. Not cool. Common ham courtesy says do your best not to cause unnecessary QRM. Occasionally I will hear a CQing station that I would really like to answer, but the CQer is too close to an ongoing QSO, as I mentioned above. The best thing would be to not answer the CQer, but I have been know to answer the CQer at least one or two kHz away from the CQers frequency. My hope is that they will hear me and move their transmitting frequency to mine. Then I can have my contact and not cause QRM to the ongoing QSO. Sometimes this works, but likely the CQer will not even hear you, or will not change their transmit frequency when they answer you.

Sometimes when you answer another ham's CQ, they may not hear you well enough to get all of your callsign. Or they may not hear you at all if the band conditions are bad. There is such a thing as one way skip: you may hear West Coast stations fine, but none of them hear you. Not uncommonly more than one station besides you will reply to the same CQ that you did. You may even hear the other station(s) answering the same CQer that you are, at the same time. The CQing station may hear a mixed jumble of several stations answering him or her at the same time. The CQing station may then send "QRZ?" or "QRZ de N1XYZ?" Meaning, who the heck is calling me, please call again. Or the CQer may send nothing at all, perhaps they are just overwhelmed by more than one answer at a time, or by all the QRM. Many times I have found that if a CQer does not respond to my first reply and I hear only silence, if I call him(or her) again, they may well return to me.

Not uncommonly, when you begin to reply to another ham's CQ, you will hear other stations besides yourself calling the CQer at the same time that you are. I usually continue transmitting and then see if the CQer answers me or one of the other stations. If the CQer chooses you over the other stations, you can assume your signal was likely stronger or more interesting. If you do not have a competitive nature,

then stop transmitting as soon as you hear other hams answering the CQer. Let them have the contact. Should you really want to make the contact yourself, continue calling and then drag out your call by sending your callsign once or twice after you hear the other answering station(s) finish their call. This trick, often used by DXers, sometimes works. Also, if while answering a CQer, you hear the CQer return to another different station, stop transmitting. You lost. Continue your search for another CQer. If you really want to contact this CQing station you could simply wait for them to finish their current contact and then tailend them.

Occasionally as I scan the band looking for a CQ to answer, I may come across a ham sending their callsign two or more times, before they sign, "N1XYZ N1XYZ K". I believe it is safe to assume this ham has just finished sending a CQ, and often, if I like their callsign, I will listen a second, then go ahead and call them. Since I heard only their callsign and not the actual CQ, it is possible that this is not a CQ(maybe they were calling another ham instead). Listen a few seconds to ensure you are not interrupting a QSO, then assume that it was a CQ. I have found that sometimes if I wait for this suspected CQer to send another separate CQ, by that time they will have attracted a few more replies to their CQ, and I may lose out on what could have been a good contact. In the same regard, you may be in contact with another ham and end one of your transmissions by sending your own callsign two or more times(perhaps you repeat your call a few times because the other ham has copied it wrong). Then as a result, in the middle of your contact, you may be called by a third ham, who incorrectly assumes you have called CQ. Simply ignore the interrupting third ham.

When answering a CQer you should zero beat the other ham's frequency, or set your transmit frequency as close to theirs as possible. Many hams today, in order to deal with the increasing QRM, make use of very narrow receive filters. The CQer may have their narrow filter turned on and not hear you answer if you are more than a few hundred cycles away from their transmit frequency. This is a quite common occurance on the CW ham bands, and points to the importance of correctly zero beating with your ham rig. By the same token, should you be calling CQ, do so with your narrow CW filter turned off, or you may well not hear several answering hams. Many hams are uncertain how to correctly zero beat their rigs on CW.

If you are fortunate to have a newer transceiver that has dual VFOs, it can simplify your search for a CQ to answer. While scanning for a CQ, if you come across something interesting, such as someone tuning up(a potential CQer), a clear frequency(that you may wish to use later to call your own CQ), or an interesting QSO(that you might want to tailend when it finishes), then leave one of your VFOs on that spot. As you then continue scanning for a CQ, you can periodically, at the press of one button, switch to your second inactive VFO and see what's happening on your other interesting frequency. Having two VFOs built into your radio can greatly enhance the ease and convenience of your CW operation. Sometimes I wish my rig had three or four VFOs. HI. If your ham rig does not have dual VFOs, you can simply remember, or write down, any interesting frequencies you come across while scanning.

Call Your Own CQ

Tuning around searching for CQs can tend to be frustrating. At times there just don't seem to be many folks calling CQ, and the ones I do hear are jumped on by a much stronger or faster station than me. Never fear, there are other productive ways to find a CW contact. Obviously another method would be to find a nice quiet unused frequency and call CQ yourself. Before you fire up your transmitter and send a CQ, listen a few minutes to the frequency to ensure that you are not going to stomp on another conversation. It is very possible that another ham is transmitting on the same frequency but their signal is skipping over you. It is highly recommended that you send a "QRL?", or better yet send a "QRL de WB8FSV?" to see if the frequency is clear. Technically the FCC requires you identify each transmission, and an unidentified "QRL?" is frowned upon. Although everybody does it. Or, if you have the patience,

an even better method is to simply listen to the frequency in question for at least 5 minutes. Even then I would still send a "QRL?" before I cut loose with my CQ.

An old fashioned and rarely heard equivalent of "QRL?" is "dit-dit dit", or the CW letters, "I E". It would be sent before a CQ to see if the frequency was clear. Just like "QRL?". The correct response is the same as that to "QRL?" If you happen to be listening and hear someone send an "I E", if the frequency is not busy the correct response is to say nothing or to perhaps send an "N" for "no". If the frequency is busy, like you are having a QSO on the frequency, the correct response would be to send a "C" or "yes". "C" is often used as a CW abbreviation for the word "yes".

If your CQ is answered by more than one station, usually the best practice is to reply to the strongest station. The strongest station is more likely to copy you stronger also, and you will be better able to copy each other should you both be attacked by QRM, QRN, or QSB. If you are able to copy the callsigns of both hams who answer your CQ, and the weaker station has a more interesting callsign, certainly you could answer the weaker/more interesting ham. Since the weaker station is answering your CQ, obviously they can hear you as well. Should two stations respond to your CQ, you can answer them both and try a three-way contact. Three-way contacts on CW are difficult to do.

Send your CQ at the speed you would like to be answered. A three or four by two call repeated twice should be sufficient, "CQ CQ CQ de WB8FSV WB8FSV CQ CQ CQ de WB8FSV WB8FSV K". There are many variations. You will hear some beginners sending 15 or 20 CQs before their callsign, not a good idea. If you scan the band and find it active and full of ham signals, a shorter CQ should work. At times when I know another ham is listening on the frequency(perhaps I just heard them tune up), I may get them to answer with a simple one by one, "CQ de WB8FSV K".

After sending your CQ you may get an instant response, or you may get no response at all. It may also take some hams a moment to respond to your CQ. They may need to tune up their rigs, zero beat your frequency, or take a few seconds to run to their desk from across the shack. These folks may answer you five or ten seconds after your CQ. Be patient. After sending a CQ myself, I may tune around my transmit frequency a bit using my receiver's RIT(receiver incremental tuning). Because some hams may have trouble zero beating my transmit frequency correctly. Perhaps they are still using crystal control - not uncommon with homebrew QRP radios.

If I get no response after a couple 3 by 2 CQ calls, or I can tell there is very little activity on the band, I may then send a 6 by 2 CQ. The more CQs you transmit, the greater the chance that another ham scanning by will hear and answer you. I believe a pair of 6 by 2 calls is more than enough CQs. Should you still get no response to your own CQs, maybe the band conditions are just plain lousy, maybe you are transmitting too close to another QSO that you can't hear, maybe no one wants to talk to you. Try another frequency, try another band, listen for someone else calling CQ, or turn off the radio and go feed the cat.

Tailend Another QSO

A third major way to find someone to talk with on the ham bands is tailending. To tailend a conversation is to wait until another contact is completed, and then call the participant you want to talk with. This may work about half the time. Not uncommonly you will get no answer. The station you call is probably not expecting a call, they may have already turned off their radio, or may simply have something else to do. But sometimes tailending works. As you scan across the band looking for CQs or for a clear frequency on which to call your own CQ, you may hear an interesting conversation that you wish to contribute to, or you may hear a ham friend you want to say hello to.

The polite way to tailend another QSO is wait until the other stations are completely finished. This is easy to determine if you are able to hear both of the stations talking. But sometimes due to radio conditions you will hear just one of the stations. For example, you hear the end of a QSO between KH6XYZ and WB8FSV. You would like to work KH6XYZ and are unable to hear WB8FSV. When you hear the first station send something like, "HOPE TO CUAGN 73 WB8FSV de KH6XYZ TU K", wait. Wait a minute or two until the first station KH6XYZ acknowledges WB8FSV's last transmission, perhaps by sending a final "73" or a "dit-dit". If instead you call KH6XYZ as soon as you heard them sign, "de KH6XYZ TU K", you may well be transmitting at the same time and on the same frequency as WB8FSV, who KH6XYZ is trying to listen to. This is a good way to make KH6XYZ dislike you and decide not to answer you. This polite advice does not generally apply to tailending a rare DX station. Calling and working rare DX stations is usually a mean and cut throat procedure. Another reason I much prefer friendly domestic CW QSOs over fighting for rare DX.

At times you may be waiting to tailend a ham QSO, when the station you would like to talk to ends their last transmission with a "CL" for "closing" or "clear". This indicates that person is signing off and leaving the air, turning off their rig, and will accept no other calls. If you call the CLing station anyway, they may still reply out of politeness, but they are probably anxious to leave. If you just have to talk with them, don't keep them too long.

Breaking In

Breaking into an ongoing conversation is also possible, although rarely successful. Breaking into a QSO on CW is much more difficult than on phone. It is rarely done on CW. Some folks will think you impolite and ignore you, many newer hams will have no idea what's going on and consider you to be QRM. If you want to try, the standard method on CW is to wait between transmissions and then send "BK" for break, or better yet send, "BK de WB8FSV" if you have enough time. Allowing a third person to break into your contact can be confusing, especially for new hams. These "roundtable" QSOs are easier to manage on phone, or in the controlled environment of an organized net, like an NTS traffic net. But don't worry, breaking in is rarely encountered on CW. For those new hams who later move from CW to phone, be careful about using the word "break" on phone or SSB. On phone many hams use "break" to interrupt a net or a conversation when they have an emergency to report.

"Break in" has another meaning in CW. It refers to the time it takes your receiver to recover after you stop transmitting. Most modern transceivers have what is called full break in, meaning that you can receive instantly after transmitting on CW. You can even receive in between the dits and dahs of individual letters. Full break in CW even has its own Q signal, QSK. Years ago radio receivers had a several second delay before you could receive after transmitting, in order that your sensitive receiver was not overloaded by your nearby transmitter. Full break in CW is taken for granted today, but it is one of many technological innovations that today make ham radio so much easier. Such as dual VFOs, digital readout, automatic tuning, or one of my favorites: direct frequency keypad entry.

The History of Nipper and His Master's Voice

Illustration 1: Francis Barraud's original photograph of Nipper looking into an Edison Bell cylinder phonograph

From Wikipedia

Nipper (1884-1895) was a dog that served as the model for a painting entitled His Late Master's Voice that later became identified with a number of audio recording and associated brands: His Master's Voice, HMV, RCA, Victor, RCA Victor and JVC.

Biography

Nipper was born in 1884 in Bristol, England, and died in September 1895. It has been claimed in various sources that he was a Jack Russell Terrier, a Fox Terrier, a Dalmatian, or an American Pit Bull Terrier. He was named Nipper because he tried to bite visitors in the leg.

Nipper's original owner, Mark Henry Barraud, died in 1887, leaving his brothers Philip and Francis to care for the dog. Nipper himself died in 1895 and was buried in Kingston upon Thames, Surrey, in a small park surrounded by magnolia trees. As time progressed the area was built upon, a branch of Lloyds TSB now occupies the site. On the wall of the bank, just inside the entrance, a brass plaque is displayed commemorating the famous terrier which lies beneath the building.

Nipper used to live with his owner in the Prince's Theatre in Bristol. There is a small model of Nipper above a doorway of a building at the junction of Park Row and Woodland Road in Bristol, opposite where the theatre stood.

Nipper becomes an advertising icon

In 1898, three years after Nipper's death, Francis painted a picture based on a photograph of Nipper listening intently to a wind-up Edison-Bell cylinder phonograph, substituting a disc gramophone for the phonograph. On February 11, 1899, Francis filed an application for copyright of his picture "Dog Looking At and Listening to a Phonograph." Thinking the Edison-Bell Company might find it useful, he presented it to James E. Hough who, revealing a lack of imagination that would eventually result in Edison exiting the record business altogether, promptly said, "Dogs don't listen to phonographs." On May 31, 1899, Francis went to the Maiden Lane offices of The Gramophone Company with the intention of borrowing a brass horn to replace the original black horn on the painting. Manager, William Barry Owen suggested that if the artist replaced the entire machine with a Berliner disc gramophone, the Company would buy the painting. A modified form of the painting became the successful trademark of Victor and HMV records, HMV music stores, and RCA. The trademark itself was registered by Berliner on July 10, 1900.

The slogan "His Master's Voice" along with the painting was sold to The Gramophone Company for 100 pounds sterling. As Francis Barraud stated about this famous painting: "It is difficult to say how the idea came to me beyond that fact that it suddenly occurred to me that to have my dog listening to the Phonograph, with an intelligent and rather puzzled expression, and call it "His Master's Voice" would make an excellent subject. We had a phonograph and I often noticed how puzzled he was to make out where the voice came from. It certainly was the happiest thought I ever had."

Accident Report

Thanks to Luc VA3LMS for sending this in:

This HAM was in a tower climbing related accident. After filling out insurance claim forms the insurance company contacted him and asked for more information.

This was his response:

I am writing in response to your request for additional information for block number 3 of the accident reporting form.

I put 'poor planning' as the cause of my accident.

You said in your letter that I should explain more fully and I trust the following detail will be sufficient.

I am an amateur radio operator and on the day of the accident, I was working alone on the top section of my new 80-foot tower. When I had completed my work, I discovered that I had, over the course of several trips up the tower, brought up about 300 pounds of tools and spare hardware. Rather than carry the now unneeded tools and material down by hand, I decided to lower the items down in a small barrel by using a pulley, which was fortunately attached to the gin pole at the top of the tower.

Securing the rope at ground level, I went to the top of the tower and loaded the tools and material into the barrel. Then I went back to the ground and untied the rope, holding it tightly to ensure a slow descent of the 300 pounds of tools. You will note in block number 11 of the accident reporting form that I weigh only 155 pounds. Due to my surprise of being jerked off the ground so suddenly, I lost my presence of mind and forgot to let go of the rope. Needless to say, I proceeded at a rather rapid rate of speed up the side of the tower. In the vicinity of the 40 foot level, I met the barrel coming down. This explains my fractured skull and broken collarbone.

Slowed only slightly, I continued my rapid ascent, not stopping until the fingers of my right hand were two knuckles deep into the pulley. Fortunately, by this time, I had regained my presence of mind and was able to hold onto the rope in spite of my pain. At approximately the same time, however, the barrel of tools hit the ground and the bottom fell out of the barrel. Devoid of the weight of the tools, the barrel now weighed approximately 20 pounds. I refer you again to my weight in block number 11.

As you might imagine, I began a rapid descent down the side of the tower. In the vicinity of the 40 foot level, I met the barrel coming up. This accounts for the two fractured ankles and the lacerations of my legs and lower body. The encounter with the barrel slowed me enough to lessen my injuries when I fell onto the pile of tools and, fortunately, only three vertebrae were cracked.

I am sorry to report, however, that as I lay there on the tools, in pain, unable to stand and watching the empty barrel 80 feet above me, I again lost my presence of mind. I let go of the rope..."