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WAVELENGTH

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PARTICIPATE – LEARN – ENJOY

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SARC Nets

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

Field Day

Field Day is on the last weekend in June (Saturday, June 26 and Sunday, June 27). Once again we are at the Open Acres area at the Bruce's Mill Conservation Area, 3291 Stouffville Road (east of Highway 404, between Warden Avenue and Kennedy Road). Please note that the Warden gate we used in past years no longer exists, so you will have to use the main entrance on Stouffville Road. Keep an eye on our website (www.ve3we.org) for more information. The last two meetings of the spring term (May 31 and June 14) will be devoted to Field Day preparation.

From Spark to Space

The Saskatoon Amateur Radio Club (yes, SARC) back in 1968 published a book titled: "From Spark To Space, The Story of Amateur Radio In Canada". This book is now on their website: www.ve5aa.dyndns.org - click on the link "From Spark to Space". It is a 42 MB file in PDF format and may be downloaded or simply read on line. Saskatoon ARC did this work as their "Centennial Project" celebrating the 100th anniversary of the founding of Canada in 1867.

There is a paper copy in our SARC Archives, donated by Jim Ashfield, VE3FOE and it makes for interesting reading and Scarboro Club is mentioned. Read and enjoy.

73 de Gord, VE3CNA

A Beginner's Guide to Making CW Contacts (Part 5)

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Editor's note: This guide was written several years ago, so some references may be out of date, but the general principles are the same.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 – some more tips about operating procedure.

Dealing With QRM and QRN

Characteristically, when listening to shortwave radio frequencies, which include the most popular ham radio bands, you will hear noise, static, interference, and fading. They sometimes make reception of ham radio signals difficult, sometimes downright impossible. I view them as a challenge. I call them the three dreaded Qs: QRM(interference), QRN(noise and static), and QSB(fading). With experience and practice you can learn to deal with the three dreaded Qs and enhance your enjoyment of amateur radio.

First let me discuss QRM, probably the most frequently encountered and most disturbing of the three Qs. And the only one you yourself can help reduce by your own radio operating habits. QRM is a fact of life on the ham bands, get used to it. Try to plan your operating methods so that you cause as little QRM to other hams as possible, and everybody will be happier. There are technical means to help alleviate QRM: passband filters, audio filters, DSP and RIT. For example your RIT(receiver incremental tuning) can be used to "tune out" QRM. You can move your RIT away from the interfering signal until

it is nearly out of your receiver's passband tuning range, leaving just the signal you want to hear. I have found that even when there is no QRM, moving my RIT a little bit changes the tone of the signal I want, often improving reception.

With practice you will be able to eventually, with your ears alone, "tune out" many of the interfering stations and concentrate on the signal you want. Most QRM from other hams is unintentional. If you find someone intentionally QRMin you, playing games with you, the best advice is to ignore them. Do not acknowledge their presence in any way or you may encourage them to continue. Ask for a repeat, change frequency, sign off if you have to. I would not mention anything about "QRM" or "SOME LID".

Sometimes when I answer a CQing station and that station is unable to copy me, perhaps due to QRM near our frequency, I will then call them a second time after changing my transmit frequency a few hundred Hertz. That small change may allow the other ham to now hear me through the QRM. The same thing is true if some QRM suddenly appears during your QSO. Although don't QSY too far, or the station you are talking with may lose you.

You and the other station may both agree to QSY(change frequency) to escape some QRM. Be careful. Successful QSYing on CW is quite difficult. For me it works about fifty percent of the time. Quite often you will lose each other. QSY during a CW QSO with caution. Be careful to state exactly where you would like to QSY, say up 2 kHz, or to 3715 kHz, rather than simply stating, "let's QSY up" somewhere.

Another practical use to having dual VFOs in your ham rig is that you may be able to use them to chase off QRM. Sometimes during a QSO I will put both of my transceiver's VFOs on my same operating frequency. Then tune the inactive VFO a few hundred cycles(or Hertz) up or down in frequency. Whether you tune up or tune down a few hundred cycles depends on the direction that your rig's receiver "sweeps" as you tune. My Kenwood sweeps or changes pitch from high to low as I tune higher in frequency. During my QSO if I hear another ham call "QRL?" to see if the frequency is clear, I will interrupt my own QSO for a few seconds, switch to my second inactive VFO, and transmit a quick "C", meaning, "yes this frequency is in use." I could have remained on my original frequency and sent my "C" in answer to his "QRL?" But it is likely the QRLing ham would not have heard my answer due to the narrow passband of his receiver(in other words he is too far away from my transmit frequency) or due to the direction of the sweep of his own receiver. By leaving my second inactive VFO a bit off of my own transmit frequency, I can protect a larger area of frequency space around myself from potential QRM. Again, please do not answer a CQ if the CQer is too close(within a kHz or less) to an ongoing QSO in order to avoid QRMin the other QSO.

One very annoying, for US hams, form of QRM is the shortwave broadcast stations found most evenings throughout the 40 meter novice band. We have to share the band with them, I like to view it as a challenge. There will be times during a QSO when one of these broadcasting stations will sign/on and begin transmitting on or very close to the frequency you are talking on. First you will hear their unmodulated carrier as they tune up, followed by their interval signal. Then usually at the top or bottom of the hour, the broadcast station will begin their official broadcast with their national anthem. Then the news. Quite often you will lose all trace of the other ham you were in QSO with as soon as the broadcaster opens up with their carrier. Sometimes you can still hear each other through the unmodulated carrier, but you had better quickly say your 73s before the music starts. A few times I have been able to continue a contact as long as the broadcast station does not transmit music. If the broadcast QRM on 40 meters is just too much for you, there is always 80 meters. Or switch your ham receiver to the AM mode and delve into the fascinating world of shortwave broadcasting.

QRN refers to noise heard on shortwave radio. There are basically two types of QRN, natural and man-made. Natural QRN is the static generated, for the most part, by thunderstorms. The radio static, or QRN, generated by thunderstorms travels great distances via skip, just like radio signals on shortwave.

At any given moment you may be able to hear the static from dozens of storms, hundreds and thousands of miles away. At a given distance from a radio station on shortwave there is a dead zone, which the radio signal skips over. Same thing is true for thunderstorm static. I have been on 40 meters CW while I knew there was a thunderstorm nearby, and heard no static. I was in the thunderstorm's dead zone, its static was skipping over me. Other hams I then contacted were barely able to copy me through the static, although I heard them fine. Pretty weird. There are many more thunderstorms during the warm summer months, meaning that winter provides the best reception on the 40 and 80 meter ham bands. Both thunderstorms and static decrease in number and intensity with nightfall. Rarely, during a particularly intense solar disturbance, the shortwave radio frequencies will go dead. All you may hear is a continuous rushing noise or QRN caused by the solar disturbance.

Man-made QRN comes from many sources, including automobile engines, electric motors, fluorescent lights, electric fences, loose wires on electric power lines, and lawnmowers. Other QRN is purposely broadcast on shortwave radio frequencies, such as over-the-horizon radar and high speed RTTY. It becomes what we call QRN when it is broadcast by nonhams on ham frequencies. A good noise blanker or a ham radio equipped with DSP may help reduce this noise. Before I purchased my current home, I walked the property with a portable SW radio receiver tuned to 80 meters, to determine if there was any man-made QRN inherent to the site. I heard no local QRN, so I bought the house.

Oh yes, and then there is QSB, or fading. This is a natural phenomenon, one of the mysteries of radio propagation. Check out my Radio Fundamentals Homepage (<http://www.netwalk.com/~fsv/>) for an explanation of how fading works. How QSB works is not difficult to understand. Why it occurs is the mystery. There seems to be at least a little fading present on most shortwave frequencies, particularly at night. The duration and depth of the fades can vary widely. Just another challenge to make your ham radio operating and shortwave radio listening more interesting.

Repeating Info Due to QRM

It is important to ensure that the ham you are in contact with is able to copy at least the three essential items of the QSO: your name/location/RST. So normally in any CW contact these items are repeated twice, "UR RST IS 579 579 BT MY NAME IS JACK JACK" etc. If the band conditions are stinko, three repeats might be in order, of at least the name and RST. For the rest of the contact, in bad QRM, QRN, or QSB, hams have been known to employ one of two other repeating techniques. One would be, "MY MY WX WX IS IS CLOUDY CLOUDY" and the other technique is, "MY WX IS CLOUDY MY WX IS CLOUDY". I normally use the latter.

You can tell that the other ham you are in contact with is experiencing QRM if they tell you, if they ask for lots of repeats, if they get your name or callsign wrong, or if they hesitate long seconds before returning to you after you complete a transmission. If the ham you are talking with sends many more repeats than normal, you can assume they are hearing QRM on your signal, and they probably would like you to use many repeats as well. If I believe my signal is being stepped on, I will send the other ham's name more frequently than I normally would, to assure them that at least I can copy them. For example, "TNX DAVE BT MY WX IS LOUSY BT DAVE HW IS UR WX? HW COPY DAVE? N1XYZ de WB8FSV K". Even in very heavy QRM folks are more likely to pick out their own name or callsign out of the muck. Occasionally you will work another ham on CW who refuses to copy your callsign correctly. Usually you can correct them by repeating your callsign frequently at the beginning and end of your transmission. Or if that doesn't work, try, "MY CALL IS WB8FSV WB8FSV NOT WD8FSU". Amazingly a few hams on CW will continue to use your incorrect callsign regardless of what you tell them.

Correcting Mistakes in CW

Everyone occasionally makes a mistake while sending their Morse Code. Sometimes your key or keyer seems to have a mind of its own. The most common method to correct a mistake is for the sending station to send a rapid series of dits, like the number five with a few extra dits added. Eight dits is the recommended number of dits, although no one is counting. And to then send the correct CW character or word. This is fine. Personally when I send a mistake in the middle of a word, I don't see the need to emphasize it with the rapid dits. I simply pause and then send the correction. The station you are talking with is copying along with you, letter by letter, and they probably realize as soon as you that you have made a mistake. I feel it is more professional to use a pause rather than the rapid fire dits.

But, if I make a mistake at the beginning of a word, the other ham copying along with me has no idea I have made a mistake. So in this case a device is needed to signal that a mistake has been made. I prefer to use a question mark rather than the rapid fire dits. Another CW device you may hear less often to indicate a mistake is "dit-dit", like the CW letter I, sent once or twice after the mistake and before the correction.

You will hear some hams use a question mark to signify that they are going to repeat a word, even if they have not made a mistake. For example, "MY NAME IS JACK? JACK". This use of a question mark is frequently employed to indicate the repetition of a difficult or unusual word in a CW radiotelegram by CW traffic handlers.

How Long Should the Contact Last?

Talk as long or as short as you like. Most CW contacts on the novice bands seem to last about half an hour or so, which mean that they rarely get beyond the standard name/location/RST/rig/WX/73 stage. That is perfectly OK. I myself like to talk a bit longer. For me, a good CW rag chew generally lasts around an hour, sending and receiving at about 13 wpm. My longest CW contact ever was a 3 1/2 hour marathon, but after the second hour we began trying to stretch it out to see how long we could go! At about 10 wpm(words per minute), a common speed on the novice bands, it can easily take half an hour just to send the name/location/RST/rig/WX/age/73 info. Normal human verbal conversation is around 120 wpm, so a SSB or phone QSO of half an hour would cover a lot more ground than a CW QSO of half an hour at 10 wpm.

How Fast/Slow Should You Send CW?

Normally, adjust your code speed to match that of the other ham you are talking to. This is especially true if you answer another ham's CQ or tailend a conversation. People commonly send a CQ at the speed they would like to be answered. If you answer a person CQing at say, 15 wpm, and you send at 10 wpm, the CQer generally will be polite and slow down to your speed. This does not always happen, so be careful about answering a CQ sent by a CW speed demon. Normally a "PLEASE QRS" (please send slower) sent to the other station will elicit the correct response from them, and they will slow down.

It is easy, especially with an electronic keyer, to send faster than you are able to comfortably receive. Try to match your send speed to that of your receive speed. With practice your speed will improve. Making CW contacts is a great and fun way to increase you code speed. Another tip is to occasionally stretch yourself, try to copy CW at a slightly higher speed than you are comfortable. Do not do this during a QSO you are having when you are under pressure to copy everything correctly. But just listening around the band. Participating in slow speed CW traffic nets is another neat way to help you increase your code speed, and perform a public service at the same time.

You'll discover a wide variety of CW speeds on the novice bands. Most folks go slow, less than 15 wpm, but you will hear hams going over 30 wpm also. They may go fast to show off, or perhaps there are no more clear frequencies available in the general bands. Some speedy novices and techs may be experienced CW operators, perhaps they were hams years ago and were recently relicensed, or learned CW in the military or merchant marine and just now got into ham radio. Also the 80 meter novice band was moved a few years ago and now includes frequencies used by higher speed CW traffic nets. You will frequently hear them in the early evening between 3675 and 3700 kHz. Many of the hams you encounter on the novice bands will be novices and technician-pluses, but there are a number of general, advanced and extra class hams to be found also. They may feel more comfortable doing CW at slower speeds or they may, like me, simply enjoy working new hams. I have been lucky in my 33 years as a ham to have been the very first contact for over 80 hams now.

How Do You Gracefully End a QSO?

It's no big deal, many hams will just send, "TNX FOR QSO 73" or "GOTTA GO TNX 73" and sign off. That is fine. Myself, I like to leave a bit more politely, such as, "DINNER HR 73", "I GOT A PHONE CALL, CUL", "TIME HR TO QSY TO BED", "MY XYL IS YELLING, TURN OFF THAT RADIO AND DO SOMETHING USEFUL", or "SRI ED MCMAHN IS AT MY DOOR WITH 10 MILLION DOLLARS 73".

There will be times when, after several exchanges, you realize that you just don't want to talk to this person anymore. You could, as I have heard some hams do, just disappear. But I think having a few tactful excuses for leaving to choose from is a good idea.

It is not uncommon that QRM will grow to the point that it is impossible to copy the other station you are in QSO with. Some hams in this case will just give up and stop transmitting. I would recommend instead that you at least send a 73 and sign off properly. Don't leave the other ham wondering what happened to you. On your end you may not hear anything except QRM, but perhaps the other ham you were talking with still copies you fine. Maybe the QRM is one way, skipping over his location. If the QRM or QRN or QSB just destroys a QSO I am involved in, I will send something like, "SRI DAVE NO COPY NO COPY QRM QRM 73 73 N1XYZ de WB8FSV."

Occasionally during a QSO, the station I am talking to simply disappears. Maybe they have rig problems, an important phone call, or the irresistible call of nature. Try not to simply disappear. If another ham vanishes during a contact with me, first I will send a friendly, "DAVE?", and if no answer, then send, "N1XYZ de WB8FSV K" once or twice before I give up. Even then I leave my VFO on the same frequency a few minutes while I fill out my logbook and the QSL card, in case the ham reappears.

Hamfests and Flea Markets

Information on Canadian hamfests is courtesy of RAC

Central Ontario Hamfest & Fleamarket

Sponsor: GARC & KWARC

Start date: Sunday, June 6, 2010

End date: Sunday, June 6, 2010

Closest town: Cambridge, Ontario

Directions to location: Waterloo Regional Police Association
R.R. 2, 1128 Rife Rd. North Dumfries Township
Beside Hwy 401, between exits 268 & 275
Lat: 43° 20' 51.20" N, Long: 80° 24' 58.89' W

Opening times: Public: 9 am to Noon
Inside vendors 7 am
Tailgaters 8 am

Cost: General Admission (under 12 free): \$7 -includes door prizes & grand prize entry.
Indoor vendors: \$20 per 8 ft table includes 1 admission. Electrical by request only. Book early!
Tailgaters: \$15 per pad includes 1 admission.

Talk-in frequency: VE3KSR 146.970 (-) tone 131.8

Description: We've moved our classic in its 36th year to a new location. We believe you'll find our new site easier to access- it's on the other side of Hwy 401 from Princess Auto. Major vendors, collectors, hobbyists, and enthusiasts enjoy this one. Lots of room. You meet your friends at this one!

For more info: Visit our website for reports, news and registration details.

Email contact: info@hamfest.on.ca

Webpage: <http://www.hamfest.on.ca>

London Vintage Radio Club Annual Flea Market

Sponsor: London Vintage Radio Club

Start date: Saturday, June 12, 2010

End date: Saturday, June 12, 2010

Closest town: Guelph Ontario

Directions to location: Held at Hammond Manufacturing, 394 Edinburgh Road, Guelph Ontario - east side of the parking lot. Take Highway 6 North off highway 401 into Guelph. At Speedvale, go east 3 blocks, Hammond Mfg. is on the north side.

Opening times: 7AM for vendors and general public. Please do not set up before 7AM. Overnight parking is not permitted.

Cost: \$10.00 for vendors, general public free

Talk-in frequency:

Description: This is an outdoor flea market with old radios, amateur radio equipment, radio parts, vintage audio equipment, magazines, electronic antiques and more. The Hammond Museum of Radio at 595 Southgate Road Guelph will also be open - so make it a great day come to the flea market, and then visit the largest and nicest museum of its kind in Canada.

For more info: Larry Asp 519-829-2431

Email contact: larry.asp@sympatico.ca

Webpage: <http://lvrc.homestead.com/>

Rochester Hamfest and ARRL Atlantic Division Convention

Sponsor: Rochester Amateur Radio Association, Inc.

Start date: Saturday, June 5, 2010

End date: Saturday, June 5, 2010

Closest town: Rochester NY

Directions to location: 360 Maiden Lane Rochester, NY 14616. From Toronto, follow QEW to 405, cross the border at Queenston/Lewiston bridge and follow I-190 south to exit 16, then I-290 east to exit 1-49, then I-90 east to exit 47, I-490 east to exit 9A, I-390 north to County Rd 267/Vintage Lane, turn right, right again on County Road 150/Mount Read Blvd. Maiden Lane is the second street on the left.

Opening times: 8 AM

Cost: \$5.00. Youths under 16 accompanied by paying adult are free. Parking is free. Overnight camping permit \$5.00. Saturday evening buffet dinner \$15.00.

Talk-in frequency: 146.790 (-) tone 110.9

Webpage: <http://www.rochesterhamfest.org/Hamfest.htm>