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Editor: Kevan Nason, N4XL

Thank you to our group leadership:
    President – Ed, K3DNE
    Vice President - Dave, WN4AFP
    Treasurer – Scott, KG9V
    Secretary – Kevan, N4XL
Web Master – Dave, WN4AFP &Frank, KG4IGC
SFCG Webpage: swampfoxcontestgroup.com

K4DQP – Welcome!

Please welcome Darcy K4DQP to the Swamp Fox Contest Group! Darcy was invited to SFCG by John NJ4Z with an endorsement from Scott KG9V. Darcy holds a General class license and is working on his Extra. He lives in Rock Hill with his XYL and 5 children. John is a member and Treasurer of the York County Amateur Radio Society. He enjoys contesting and finished 2'nd place SC (SOLP-U) in the 2020 ARRL International DX Contest SSB, 1'st place the previous 3 years (Multi-op K4YTZ) in the SC QSO Party and enjoys special event operations including 13 Colonies, VOTA and POTA activations. Darcy states that he's interested in all kinds of aspects of Amateur Radio, technology and the interfacing of data and physical world, building antennas, Raspberry PI, Arduino, etc. His favorite mode is voice however he recently received a certificate of completion of beginner CW skills from CW Academy. In addition to ham radio, Darcy keeps busy with leatherworking, fly fishing, fly tying and bee keeping!
Darcy: Welcome to the Swamp Fox Contest Group!

Editor's Note: Checkout Darcy's QRZ page. I think we need to encourage him to get a Bowler hat and go back up to Washington for a redo of his meeting with Churchill. Darcy is well read too. Haven't spent time with all the books he recommends but have read two, Contact Sport and Longitude, and agree they are worth reading. Intend to check out his other recommendations too. Darcy sounds like an interesting man with much to bring the group.

Contest Tips:

From Operating Mechanics: The X Factor in Contesting Success, by Patrick Barkey N9RV

Bad Habits: "The timing was right"	We have all done this: • You call in an ugly pile. You hear the guy clearly coming back: "599 34" • Oh Boy! But did he come back to you? • Do not, repeat not, send a report • Send your call again, send "AGN", or just wait • If he is really calling you, he will repeat his exchange. If not, you have avoided a NIL
Bad Habits: Failing to confirm	If you bust someone's call and they give you the correction, you must send the correction back to them. You are not "saving time" by omitting this step. You are risking a NIL because they might not log you.
A Few Comments on SSB Mechanics	SSB is different than CW because you can communicate a tone as well as information. • Friendly, firm, professional • Rhythm, efficiency just as important as CW • SSB contesting also draws you into more conflict than CW • Work people! You don't get points for cursing the competition. • The art of frequency maintenance (or the decision of whether to try)

From the Florida Contest Group, Contesting Do's & Don'ts Rev. June 2021

For Any Contest
Determine your best historical score for this contest and post it in front of you as a goal to beat this time.
Know propagation, sunrise/sunset times, etc. Being at the right place at the right time will help your score.   Display your loggers "gray line" map to watch for sunrise/sunsets in target areas, such as deep Asia, Eastern EU, Western EU.
Use a band scope (e.g., Elecraft P3 scope, Icom scope) to literally view the band with your eyes – to spot open slots for CQ'ing, to avoid splattering SSB signals, to spot signals on a "dead band".
For a Low-power Entry
Search and pounce operation will make up a good portion of your Q's, but don't be afraid to call CQ if you find an open spot in the band.   Spending a few minutes calling "CQ Contest" loses little and there is much to be gained. The numbers of operators that are tuning a band far exceed those who are calling CQ. If you find a spot (after a quick "QRV"), jump in. You might be surprised at the result
Be prepared to QSY after a few minutes of unanswered CQs or if someone decides that they like that frequency as much as you do. Ego and playing "macho man" in a frequency fight usually doesn't improve your score. Often those fights inevitably result in the station with the weaker signal moving on. Don't give the frequency away at the first hint of the presence of another station but recognize that when stations start answering someone else on your frequency, it's time to QSY. Your score and your blood pressure demand it!

When Planning a Part-Time Contest Entry
Know what bands, modes and operating times will maximize your goals for the amount of time that you can spend on the air.
Unless you are philosophically opposed, use packet or Reverse Beacon Network (RBN) assistance to increase score and enjoyment. While unassisted operating is a greater challenge and perhaps offers more personal reward, operating with Packet/RBN can be a great learning tool for those not familiar with openings and activity. WARNING: Use of Packet can be hazardous to your score by giving you BAD information (think broken calls). In the words of one famous guy, "Trust but verify."

From the Reflector:

- Ed K3DNE provided a link to raw scores for the ARRL DX SSB contest. Log check still needs to be done, but he noted some respectable placement of SFCG members. N4XL is 2nd USA/VE in SOLP(U), WN4AFP 2nd SOLP(U) 40m, NU4E and K3DNE are 19th and 25th USA/VE respectively in SOHP(U). Keep in mind none of those people have what would be considered as being large well equipped stations or are located in the geographically advantaged Northeast. Well done!
- Dave NJ4F is making steady progress with his SteppIR. He shared a picture. Looks like you almost need to have at least completed a technical program from a local community college to assemble that thing.
- It's great to see Suzanne N1SUZ being so active. It was sad to hear she had some issues with N3FJP in the VAQP requiring her to manually redo nearly 125 q's. Ugh. N4QI George tried to come to the rescue. George mentioned the logger puts the correct county abbreviation format when it generates the Cabrillo file. Hope Suzanne can get that sorted out for next time. She's been having some antenna problems too.
- Bob KZ3P received a great looking certificate from the NCQP of the Wright brothers' plane. Bob worked the six special call sign stations needed to receive the certificate.
- Several were able to snag CY0S both during a contest and the days leading up to it. Not super rare DX, but still an ATNO for many.
- Bob AC4MC is downsizing his shack by selling off, and giving away, many goodies. Keep your core contesting equipment Bob! I'm doing some of that too. Just too much clutter around here. Speaking of that, Frank KG4IGC needs to do a bit of that. He had a heck of a time finding the digital calipers he needed to identify the proper fuse size he needs for his failed power supply.
- Ed K3DNE shared a link to a video on contesting. A good listen and filled with interesting comments by many top notch contesters – including our own Denis K2SX.
- Matt NU4E gave Van N4VGE a warning. Van planned on doing a 40 meter single band effort for the CQ WPX. Matt pointed out the stiff competition he'd be facing from Dave WN4AFP.
- The bands were alive for the WPX and the comments flew. Everyone very happy with the high bands opening up. Frank KG4IGC has a smaller LP station and was both surprised and pleased when he worked ATNOs A60A and UP2L.
- John NJ4Z put in a very respectable WPX effort 868 q's and 1,110,754 points in just 24 hours. That's the type of rate that puts you well over 2 million should you be able to put in more BIC time. Good job, John!

- Scott N2OG is working on improving his CW speed and asked about character and word recognition. Bob K4RLC taught CW with the Long Island CW club and responded with some suggestion. Bob's post was #23967.
- Several Foxes noted what appeared to be radar QRM during the ARRL DX SSB contest. We can expect to hear more of that now that the high bands are opening up.
- Bill N4IQ finally received his ARRL DXCC Honor Roll Award plaque. Congratulations, Bill!
- Frank KG4IGC found a midweek non-contest 20 meter band opening at 4AM. He ran across a group on 14.195 that turned out to be bicycle mobiles in England. That's the type of knowledge folks talk of when they say contesters should know propagation and when possible band openings might happen.
- Several shared their CQWW DX SSB Log Check Reports (LCR). Bob KZ3P had a very respectable 0.6% error rate for his 329 submitted Q's. Everyone should be shooting for a 1% or less error rate no matter how many q's they have in a contest.
- Dennis K2SX had the most interesting LCR to read about though. He received a LCR without having entering that contest – or so he thought. Dennis is primarily a CW op and had forgotten he broke out the mic for a few contacts. His XYL reminded him of it. Wonder if that somehow put him in a belated form of the multi-one category?
- Dave WN4AFP is a bit bird-brained now and then. Many mornings, he is woken up by hearing CW coming from a bird. The bird is believed to be a Tufted Titmouse. Robert AJ5E shared information about an app called Merlin from Cornell University. It lets you identify birds using your phone based on their call. Wonder if Cornell has some undergrads working on individual call signs?
- Scott KG9V is recruiting Foxes from our skulk to participate in 13 Colonies. Give him a shout if you are interested.

Madeira Goulash and MO2R

By Dennis McAlpine, K2SX

At the midway point of a major contest like CQWW, the adrenalin rush at the start of the event has died out; the contest has turned into how to keep your butt in the seat and grind out QSOs. The 2010 CQWW CW at CR3L in Madeira Island was no different but maybe the Madeira Goulash that was served on Sunday was a way of re-energizing the eight operators who had assembled to participate in CQWW. Or, maybe it was the new MO2R boxes that pushed each of the ops to outdo the other op. Or, maybe it was that it now seemed possible to beat last year's score, which had been tops in the M2 category. Whatever the reason: it worked because CR3L ended on the top of the scores for M/2 once again. But, I have jumped too far ahead. Let me go back to the beginning.

In the beginning

In the 2009 event, I had been lucky enough to be one of the ops at HC8GR, which had run away with the top Multi-Multi score for the CW contest. To our surprise, the closest competitor was not an MM station but was a Multi-Two effort turned in by a group operating at CR3L. While I was pondering where to go for the 2010 contest, Les Kalmus,W2LK, a frequent companion on DX Contest trips, told me that he had signed on to go to CR3L and suggested that I contact Ulf,

DL5AXX, who was heading the group at CR3L since they were looking for some additional ops. I did and quickly signed up. I was told by Ulf not to expect to come close to the nearly 1300 QSOs we had pulled in on 10 meters since HC8GR was right on the equator and CR3L was much higher in latitude at 32 degrees. Maybe the propagation gods would smile on us and give us some good high band openings. Other than that, CR3L is considered as part of Africa so both North American and European contacts would count as three pointers rather than the one or two points that QSOs within the same continent were worth if one were in either of the two most populous continents. Of course, being in the M2 category, rather than MM, meant that we would have to pay much closer attention to band management than was necessary at HC8GR.

The team consisted of Les, W2LK, and myself plus six Germans, none of whom I had met before. Les had met Ulf at a prior J38 operation, which helped. In addition to Ulf, the other key organizer was Walter, DJ6QT, (now an SK) who had found the Madeira QTH a number of years ago and had obtained permission to build a modest permanent station in a small house located on the property plus the ability to supplement it by putting up a bevy of other towers and antennas on a temporary basis. Of course, that meant a lot of work erecting the station before the contest and taking it down after the event ended.

The other members of the team were Uli, DJ2YA, Falk, DK7YY, Arno, DL1CW, Frank, DL8WAA, and Ulf, DL5AXX all of whom had been part of one or more prior CR3L operations. Fortunately, all of the Germans spoke reasonable English, which was a necessity since neither Les nor I spoke any German other than "nein". Communications did not prove to be much of a problem since all eight of us were pretty fluent in Ham Radioese, which seems to be a universal language.

MO2R – the secret weapon?

Prior to the contest, Ulf described a new piece of equipment he was designing and building which would allow two ops to both listen on the same band on separate radios and antennas. The box would have a lock-out system so that only one transmitter could send at a time and would also include a muting system to protect the listening station. This was important because the antennas would be located in close proximity to each other. While many MM operations have some version of a run station and a multiplier hunting station operating at the same time, the utilization of this technique at CR3L was rather novel. Using this device, both operators would listen to the same CQ frequency using different radios and antennas. The first one to type in a call and push "Send" would seize the frequency while the other station would be locked out. By setting the two stations a bit apart in frequency, each op was listening to a slightly different pitch than the other. The real benefit came when one antenna was pointed towards Europe and the other was pointed to North America. This was particularly helpful during the parts of the day when signals were coming in from both parts of the world at the same time, which, fortunately, was quite often. While I was a bit skeptical, the idea was intriguing. For lack of a better term, we began referring to the unit as the MO2R box. It could also be used to facilitate the more traditional one radio running, one radio hunting technique.

Off to Madeira

Finally, it was time to head off to Madeira Island, an archipelago located in the Atlantic Ocean about 300 miles off the coast of Africa, but considered as part of that continent. It is one of the autonomous regions of Portugal. The population of the island is about 250,000 people with 100,000 of them living in the capital city of Funchal, on the southern part of the island. Although there are few

beaches on Madeira itself, vacation travel is an important part of the island's economy with its major products being a variety of flowers and wine.

Les and I met in Scarsdale, NY, where I had lived before moving to South Carolina, and headed off to Newark Airport on the Monday before the contest. After leaving at about 8 pm and enduring a six hour lay-over in Lisbon, we were met at Madeira airport at 4:30 pm Tuesday by Ulf and Walter and drove the fairly short distance to the station QTH in Santana, in the northeast corner of the island.

This drive taught me several things about Madeira: it is an island consisting mainly of steep mountain peaks and valleys, which means often driving on curvy, narrow roads where the right hand side of the road ends with a fall of hundreds of feet downward if one slides off the edge of the road. The country wisely built dozens of tunnels through the mountains saving countless time, and lives, in getting from one place to the other. The island is a Portuguese territory which means most of the people speak another language that I do not know. The saving grace was, again, that many of the natives also speak some English.

Getting organized

Upon arriving at the QTH, we met the other members of the team, unloaded our luggage and moved into the room we were sharing in a small hotel adjacent to where Walter's station was located. In fact, hams seemed to have taken over the entire place since we saw no one else the entire week we were there other than a cleaning lady every afternoon. We then spent the waning hours of the day hauling various beams and verticals from the attic above the station in which they were stored to where-ever they would be erected over the next two days. By then, it was time for dinner.

Being an optimist and forgetting that we were situated on a big mountain side, I agreed to join the group that would make the 15 minute walk from the station to the restaurant where we ate all of our pre-contest evening meals. After walking for a few minutes, I realized that the place was further up the mountain which meant a steep climb up the country road. It was much easier coming back to the station, which was fortunate since we were usually completely filled from the evening repast. For meals, we were joined by Ulf's wife, Utta, and Norbert, a non-ham friend of Walter's.

For the next two days, we erected a variety of towers, beams, verticals, etc. until the field around the shack looked like a command center. We ended up with ¼ wave verticals for 160 and 80, a 3-element parasitic vertical array for 40 pointed at NA, a 2-element rotatable yagi for 40, a Pro 57 and 4-element yagi for 20, another Pro 57 and 4-element yagi for 15 and 4-element and 3-element yagis for 10, Given that the QTH was already 1200 feet above sea level, we could get by with fairly low towers, e.g. 40'.

Some time for exploration

The next day consisted mainly of setting up the software and stations which was handled by Ulf. Walter was kind enough to take Les and me for a tour of Funchal, the capital city of Madeira, located about 25 km away as the crow flies (but much longer as the car drives). I learned that on a mountainous island like Madeira the only way to get from one place to another is to climb up one side of a mountain and down the other side. Going down is much easier because your car is on the inside of the road, next to the mountain, rather than on the edge of the cliff.

By now, a light rain had started, which surely would end soon. It did not and actually intensified as the day continued. By mid-day, torrents of water were rushing down the mountainside, clogging

the streets and even washing one house off the mountain into the ocean below. The latter necessitated a call home to my wife to assure her that we were not in danger of sliding off the mountain, or, at least, I hoped that would not be the case.

On Friday, Ulf and his team were continuing to set up the station and had that under control. We had a problem with the two 10m yagis which were mounted on the same tower with about five foot separation. We knew that was close but hoped that pointing them 90 degrees apart would reduce any interaction. It didn't, so the lower fixed three element yagi was removed. As it worked out, 10m did not open up enough to warrant two antennas anyway.

With things under control, Walter and his friend Norbert took Les and me for a tour to the west side of the island. The rain had slowed down a bit but was still coming down, hard at times. The route we took consisted more of switchback turns up and down the sides of the mountains rather than over them as we had done the day before. I'm not sure if this was an improvement for my stomach or not. On the far side of the island, we had a quick meeting with Jose, CT1BOH, who was getting ready to join the fray as CR3E. We returned to our home QTH about 3 pm, with only nine hours to go until the start of the contest. It was rather strange to have CQWW actually start at midnight on Friday night but it did make for a more relaxing Friday.

Ready, get set, go

The final configuration was one station with two radios and amps which would be used on 40m and 15m; another station with two radios for 80m and 20m; and a third station, with just one radio and amp, for running 160m and 10m when activity was high enough and, otherwise, as a multiplier chaser. The output from both radios was fed to both antennas so that the signal from each radio was consistent. Under the rules, we were allowed to make eight band changes per hour which allowed us to potentially pick up another four multipliers per hour. This set-up proved to work out well.

Throughout the contest, we had various equipment problems, mainly with amps giving up for one reason or another. We eventually ended up using five K3s, which performed quite well, and a hodgepodge of amps including an ACOM 2000, Drake L4B and several homebrew amps.

How to use MO2R

The MO2R set-up required some getting used to, particularly in two ops adapting their operating methods to each other. Once we got in sync, everything worked quite well. Many times, both ops would copy the same call so there was little advantage. However, when the band was open to two different areas of the world at once, the system shined. One op would try and pick up mainly callers from EU while the second op would focus on NA. Instead of sending "QRZ" at the end of an exchange, the op would type in the call from the second op's screen and send the exchange. The second op would type in the received exchange and log the QSO. If the first op had another call, the second op would repeat the whole process. In practice, this meant essentially alternating QSOs between EU and NA. The most common problem with this was that sometimes the second call would not realize that he had just been worked and would stand-by waiting for "QRZ". The key to this whole technique is, of course, the existence of a substantial and ongoing pile-up, which we were fortunate to have quite often.

Every so often, we would see a spot for a needed mult on one of the run bands. In that case, the second op would go to the spotted frequency and listen for the needed mult. If he heard it, the hard

part would begin. He would have to wait for the mult to send "QRZ" at about the same time the run op finished his QSO. When that happened, the mult op would signal the run op and take control, locking out the run transmitter while the mult op made his call. If he were successful in snagging the mult, he would complete the exchange and then turn control back to the run op. This was often a very frustrating process but it did work well enough for us to pull in some extra mults.

Slogging in the trenches

With eight ops, it was possible to schedule operating times so that everyone got some decent rest, e.g., about six hours per day. That meant being "on" for 12-16 hour stretches but when things slowed down a bit it was possible for an op to take a break and let the MO2R revert to SO. One slight problem for me was trying to get used to the German keyboard. On it, the "Z" and "Y" keys are swapped so for all those guys with calls that had a "Z", I apologize for sending it as a "Y", or vice versa. The other major difference was that the forward slash "/" on the German keyboard is the uppercase on "7". Fortunately, there were not too many calls with "/" in them. Being a devotee of n1mm+ logging program, it took a while to get used to Win-Test but that was pretty effortless after a bit of fumbling around.

The second secret weapon

By midday Sunday, the initial adrenalin rush had died down and we were settled into a comfortable rhythm, steadily adding QSOs to the log. At lunch time, the secret incentivizer was unveiled – Madeira Goulash. On Saturday, Walter and Norbert had cooked up a huge pot of what normally might be called beef stew served over noodles. But, by the time they got through adding ingredients (including a number of things I had not seen before), it was too unique and spicy to go by such a common name. Thus, it became known as Madeira Goulash. If one was feeling tired, this certainly would revive them. The pot remained on the stove for the course of the contest, picking up steam as the weekend progressed.

By midnight Sunday, everyone was happy to hear the closing gong. About all we knew was that we had beaten the prior year's score, which had been big enough to capture the top M/2 category. But, would it be enough to beat PJ4A and 9L5VT who had been very loud all weekend. The preliminary results of our efforts are shown in Table 1. The radios were silenced, a quick snack was had and it was off to bed.

What goes up, must come down – even if it is raining

Monday was set aside as dismantling day. Surely, what had taken three days to erect could be dismantled in one day. It would have to happen because we were all scheduled to depart Madeira on Tuesday for either the U.S. or various points in Germany. Monday morning came sooner than we would have liked, bringing with it a sight we would have preferred not to see – drizzle. Surely, the rain would stop soon. After all, this was Madeira, an island paradise. By 9 am, it not only had not stopped, it had intensified. Be it as it may, take-down had to be done and off to the outdoors we all went. It soon became apparent that wearing coats would only make things worse as they became soaked in the now heavy rain. Back to tee shirts and shorts. Soon, we were thoroughly drenched but the antennas were coming down – often with a splash. Those few who had brought waterproof boots soon found that they only kept out water from outside but did nothing to stop water falling from above from getting inside the boots. By mid-afternoon, all was finally dismantled and we assembled by the open hearth of the fireplace that had been heavily stoked to give us some warmth. We may have had a top score but we still looked and felt like drenched rats.

Back to where we started

Since we were leaving early Tuesday morning, Les and I said our good-byes to our new friends Monday night. Our thanks to all who stopped by during the contest and gave us a QSO, making this a special event. By Tuesday night, we were all back in our own homes, with the CR3L operation already little more than fond memories and an occasional bit of Madeira Goulash that had spilled on to our shirts.

Table 1

CR3L Claimed Score

CQWW CW M/2

Band	QSOs	Zones	Countries
160	423	16	68
80	1535	25	94
40	3401	37	124
20	2807	37	132
15	2798	30	107
10	687	28	104
Total	11651	173	629

Total Score: 27,866,292

Simple Repair for Damaged N-Female RF Connectors
By Ed K3DNE

I recently bench tested my seldomly used Yaesu FT-736R transceiver. My '736 includes the 222 and 1296 MHz modules. I noted a decreased power output (2 watts vs. the expected 10 watts) on 1296 MHz. I decided to dig into the radio and hoped the problem was a poorly seated interconnecting cable or similar that I could easily fix but that was not the case. During the process, I noticed the N-Female RF connector center pin receptor fingers were splayed apart and not making good physical connection with the N-Male center pin and assumed that may be the problem of the decreased power output. I thought it an easy solution to replace the N-Female connector however after digging into the module I determined it would be very difficult and probably beyond my technical expertise as the connector was buried deep inside the RF amplifier section and appeared to be soldered directly to the RF output circuit board.

I use N connectors frequently with my UHF and microwave gear and have seen this issue before. It often occurs when assembling a N-Male connector improperly – the measurement assembly tolerances are very exact and if the shoulder of the N-Male center pin is exposed too far, it will spread the fingers of the N-Female center pin receptor out of shape making a good physical

connection and electrical connection impossible. The other way to damage an N-Female connector is by accidently trying to attach a male UHF connector (PL-259) to the N connector! I did this once to my MFJ Antenna Analyzer and ended up sending it to MFJ for a costly repair.

I resorted to a Google search and found two articles describing an easy "fix" for this problem. https://forums.radioreference.com/threads/repair-female-n-connector.396216/ and https://www.radioworld.com/columns-and-views/repair-and-protect-type-n-connectors

The "fix" is made by using a fuel line tubing designed for RC vehicles. The tubing is cut to ¼ inch long and placed over the N-female center pin receptor *after* gently moving the fingers of the N-female center pin receptor closer together. The procedure is described in the above links in more detail. I purchased the fuel tubing #7724 from Associated Electrics for $3.99. It is also available from Amazon.

The "fix" worked! After installing the tubing over the N-Female center pin receptor, which now holds the fingers closer together and in place, the RF output has been restored to the expected 10 watts. This is a quick and easy fix to the problem but certainly not an ultimate solution – replacing the N-Female connector is ideal.

Here are a couple of before and after photos. Unfortunately, I had already gently moved the fingers back into position in the before photo but you can still see the fingers were slightly splayed apart before the addition of the tubing.

Here is a photo after the tubing has been installed over the center pin receptor.

Your Rig Power Cable Might Be Hurting You

By Kevan Nason N4XL

Although it has been discussed as a particular problem with TS590's for years, here is an issue that might be affecting many rigs. The final amplifiers in most of today's radios require 13.8 volts and can be sensitive to variations in supplied voltage. Increased transmitter distortion is often mentioned as happening from operation at too low an input voltage. Another is low power output. Low power out is a topic that comes up every couple months on the TS590 reflectors -- usually by someone who just bought a new, or new to them, TS590. The first solution mentioned is to replace the factory supplied fuses and to shorten the power cords. It seems a silly solution until you remember Ohm's Law. Current passing through a resistor causes a voltage drop. Most don't think of a rig's power cable as having resistance, but three things add resistance to the cable. The contact area of the fuse to the terminals it snaps into, the wire itself, and the connecting terminals.

It isn't unusual for a 100 watt radio to draw 20 amps. If there is only 1 ohm of resistance in the power cable Ohm's Law says there will be a 2.0 volt drop across it. Subtract that 2.0 volts from the 13.8 volts provided at the power supply leaves only 11.8 volts being supplied at the back of the radio. That is pretty low and may very well cause problems earlier mentioned in this article.

The folks on the reflectors recommend keying your radio at full power using a carrier, such as putting it into RTTY mode and pushing the "send" button. Then measure the voltage at the radio power terminal (NOT the voltage at the power supply). Some do so by poking a pin into the power connector at the back of the rig. Here's what Andy K3WYC found when he measured his TS590. He measured voltage using the standard manufacturer's power cable and also after he made various improvements to it:

Here are some numbers. In all cases the voltage was measured at the AT connector and includes the rig's internal voltage drop. I used a 50 ohm dummy load, CW mode, and power set to 100 W:

Unmodified power cable	Vrx 13.11,	Vtx 11.03, drop 2.08 V
Remove and reseat fuses	Vrx 13.13,	Vtx 11.26, drop 1.87 V
New fuses	Vrx 13.18,	Vtx 12.06, drop 1.12 V
Fuses and holders removed	Vrx 13.13,	Vtx 12.40, drop 0.73 V

The small variation in Vrx (the voltage when receiving) is the result of using a variable voltage power supply. The voltage drop is the significant number.

Raising supplied voltage from the supply to more than 13.8v can compensate for that, but it risks damaging your radio. That is because when in receive the current to the rig is less, meaning less voltage drop in the power cable, meaning that higher voltage from the power supply is applied to the rig during receive. (NOTE: I have raised my power supply voltage, but still keep it within the design specifications for the radio.)

Some have mentioned on the reflector they have noticed significant improvement in how their TS590 performs after improving their power cable. I would think this to be particularly true of those operating from a variable voltage source such as batteries.

Although the TS590 seems particularly sensitive to low voltages, it is not hard to imagine other radios might also suffer problems from power cord voltage loss. Particularly mobile or portable stations. I doubt it is only the Kenwood's engineers that have amplifier designs requiring a narrow voltage operating range to achieve optimal performance.

## Observations by the Editor:

- Not much this time. Not that anyone really cares, but I'm just getting over a three weeklong fight with Covid. It put me down in bed twice during that time and I've just recently begun to feel normal. I just wasn't interested in much during that period so don't have many observations to record. Thank you Ed K3DNE and Dennis K2SX for your articles. Without them this newsletter would have been a bit sparse.
- Several of our group are using N3FJP. Favoring N1MM, I write up and publish tips about that software. However, I am more than willing to add N3FJP tips if anyone wants to send them my way.
- This is general interest rather than Ham Radio related. The news has lately had quite a bit about the social media platform TikTok. Governments are banning it from devices they provide workers and military personnel. During a recent newscast one user was taped saying he wasn't concerned because he didn't have any secrets that were critical like the government fears might be compromised. I subscribe to emailed news from Military.com who had a short article about the software. Besides the expected things about disinformation and propaganda, they mentioned this which should concern anyone who uses a cell phone for accessing financial or other important data. "TikTok's parent company, ByteDance, can access and record every keystroke made by American users on their phones -- even when the app is not actively being used. As a result of a 2017 Chinese cybersecurity law, ByteDance could be compelled to share data with the Chinese government. Thus, Beijing could collect sensitive information and be given a powerful tool for espionage against American targets." Although they could, I doubt I or individuals like the man mentioned earlier have anything the Chinese government would be interested in regarding national or business secrets. But it isn't hard to imagine someone benefitting from collecting usernames, passwords, and account information from millions of consumers. That could be done by hacking into and accessing TikTok's capability for monitoring keystrokes on their phones, from someone stealing the data from Chinese servers, or intentional action from the Chinese government to cause a little chaos in countries who oppose their goals. I had removed TikTok from my new phone immediately after receiving it based solely on concerns expressed by several governments, including our own. I feel even better about having done that after reading about its ability to capture keystrokes. Oh, another thought. Conspiracy theory time. Should you feel save because you don't do business with your phone I imagine TikTok could capture your phone login credentials allowing nefarious actors to place software on your phone that could infect your home network and compromise your main computer's security too. Even if they didn't do that for financial gain, should we ever have conflict with China what an opportunity TikTok infections would give them to disrupt information flow or create robot servers for denial of service attacks on critical government and business services.

N1MM+ Tips:

The N1MM Entry Window

(Editor's Note: The following is a reprint from the March 2020 newsletter. Slight modifications have been made to the original. After reading this again I believe all is still true, but I have not verified everything to see if any of the weekly N1MM updates have made something below to no longer be accurate.)

Most of the following probably isn't new to many of you, but some might be. Regardless, it is often good to refresh things. Every now and then during a contest I would notice a new feature of the Entry Window and thought, "Huh. That's useful". I decided to summarize them while preparing for a presentation on Radiosport. As I wrote the long list down it dawned on me just how fantastic tool the Entry Window is. I realized that by making it a point to actually look at those features while operating they would remind me to do things in real time. It told me things to help like here is an opportunity to pass mults to another band or here is what ESM is going to send next and you are going to screw up if you hit Enter right now. Now that I am looking at what N1MM is telling me I feel more in control of what I am doing while contesting.
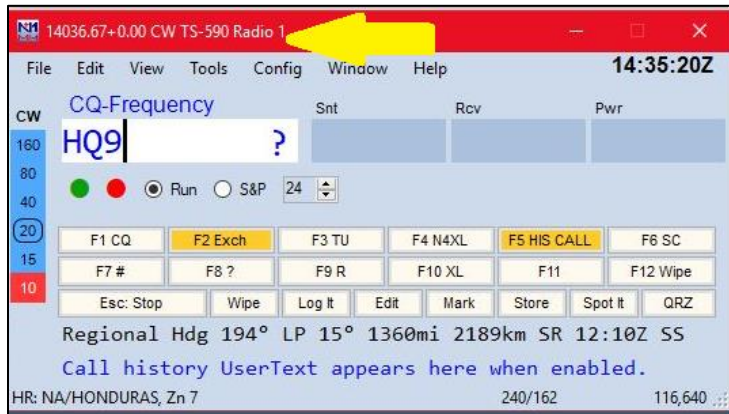
The top shows rig frequency, RIT status (+0.00), What rig is active, and that is assigned Radio 1 in my SO2R capable shack.

As an aside, although there is a reason why some choose not to I use the {CLEARRIT} command in my TU macro to automatically reset the RIT to 0.00 after each q. As a Little Pistol station that particularly seems to help me get the next guy more quickly when running CW.

The white circle in the band area shows the rig is on 40 meters. OE2S is red in the Call sign field indicating it is a multiplier on that band. Notice the 40 in the band area is also red. The red band numbers indicate he is a mult on 160, 80, 40, 15, and 10. He is not a multiplier on 20, but I can work him for points there. Gray in the band area indicates I have already worked the station on that band. Use that information to try and pass him to another band where you need the mult. Usually running stations will

not move to another band, but they might. If you are running though, know that many S&P stations are willing to move. Also note the check mark behind OE2S in the entry window. We will talk about that later.
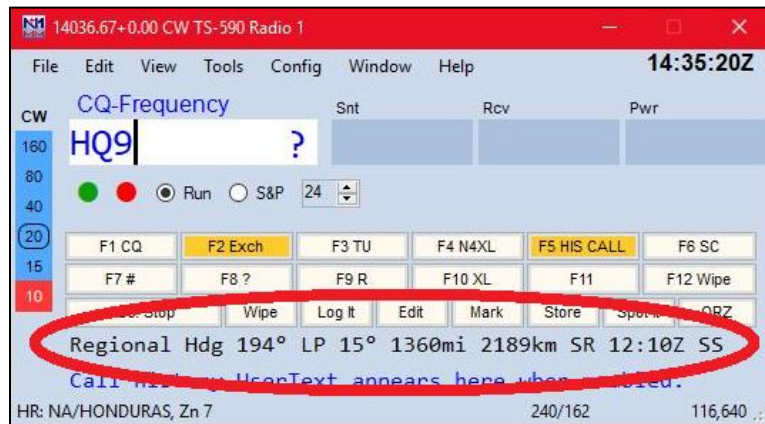
Beam heading for both Long and Short path. Distance to station. SR is his Sunrise. SS is Sunset, but I have shrunk my entry window and his sunset time isn't visible. I keep a gray line window open so don't normally look at SR/SS info. Note the ? mark in the call sign field. We talk about that next.
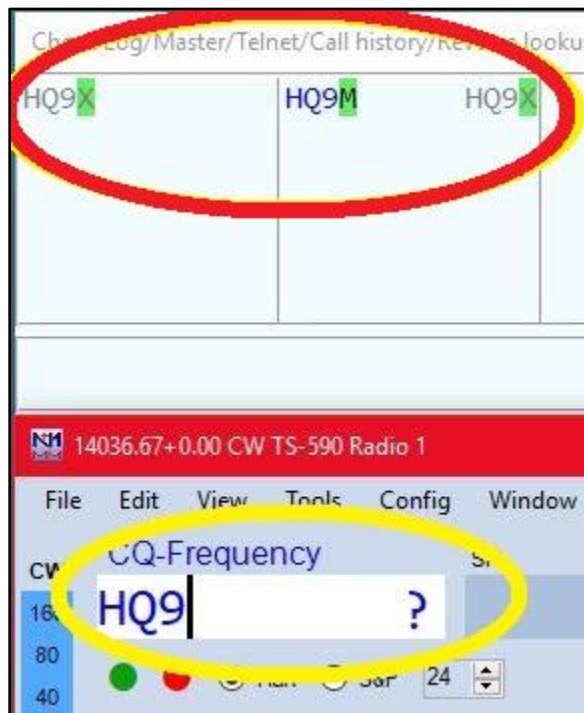
With Super Check Partial (SCP) turned on the call you enter in the Entry Window is compared to a call listing. If it does not find a match a "?" is shown at the right side of the Call Sign field. This doesn't mean the call is invalid, it just means it didn't find a match to the call listed in the SCP file. Possible call signs that are contesters are shown in the Check window at the top. You can use this list of possible calls to help "guess" at what his call might be. Useful if you are having trouble hearing it. Always confirm your guess though!

Looking at the SCP list of possible calls at the top shows HQ9X and HQ9M. If the next letter I typed after the "HQ9" in the Call Sign field was "X", the call would turn gray, meaning it was a dupe. Although previously worked, the "?" would change to a check mark meaning HQ9X was in the call list. Also, putting HQ9X in the call field would change its color to gray because he is a dupe. You can still, and should, go ahead and work him if running. Just tune on by if S&P.

If the next letter I typed for the HQ9 call was "M" instead of "X", the call would remain blue and the "?" would turn to a check because it also found HQ9M in the list. It would stay blue because I haven't worked HQ9M yet. If it was a mult the call would turn red.

If the next letter I typed for the HQ9 call was "R" instead of "X" or "M", the call would remain blue and the "?" would stay there. This could indicate either you have his call wrong or he is a valid call sign, but just isn't in the SCP database.

Each of the above scenario's happens to me during every contest.

The green boxes around letters in the Check Window show what N1MM thinks are the possible missing letter in the stations call as pulled from the listing of calls it has loaded. If you decide to use this feature, you should regularly update the SCP file.

Try typing "4AG" and then "W8?G" into the entry window sometime to get an understanding of how the green box thing works. There are several Super Check Partial files available. Some for are for regional or domestic contests and others are for major DX contests. The results you get from typing in a partial call sign will vary depending on what file you have associated with the current contest. I like to use a SCP showing only US/VE calls during NAQP's or state QSO parties, one only having DX calls during international DX contests, and one with all calls during the WPX where everyone can work everyone else.
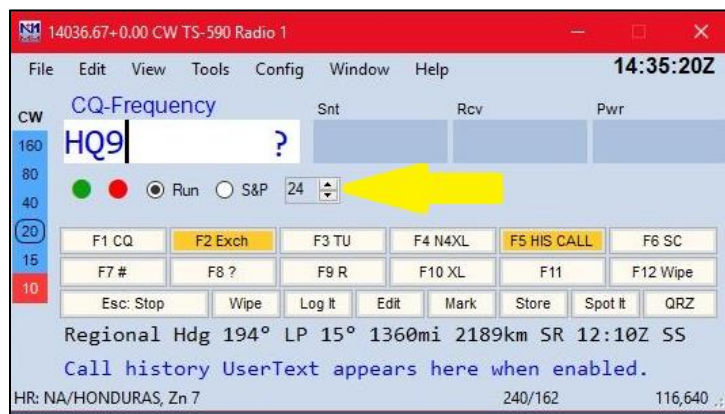
This area shows my selected CW speed (24 WPM), that I am in Run instead of S&P mode (you may have different macros for each) The green and red dots show receive/transmit focus/status. Those are used for SO2R/SO2V operation. The red dot turns orange if you are transmitting using that particular entry window
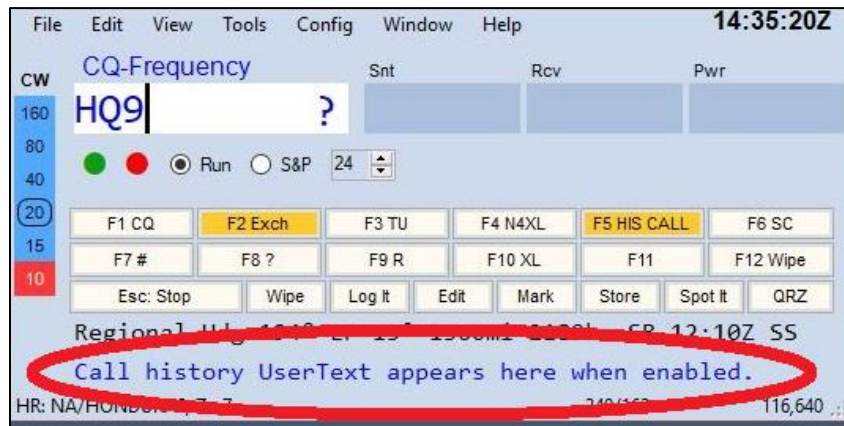
If you have loaded and then associated a Call History file with the contest, when you type a call into the Call Sign field window it will be compared to the Call History file for supplemental information. If a the call is found in Call History text associated with it will appear.

For example: I think the CW OPS mini-test (CWT) history file provides operator names and what state the station is in.

In addition to putting general information on this part of the screen Call history files can also provide what exchange information the call has provided in the past. For example, if you are in the CQWW contest it could provide the CQ Zone. If you are using that N1MM feature then just by typing a call into the Entry window the Zone would be automatically filled in when you left the Entry Window Call Sign field – assuming the history file provided a match to the call. *Don't trust what you are given by the computer though*. Be sure to actually copy what the other station is sending in case it is different.
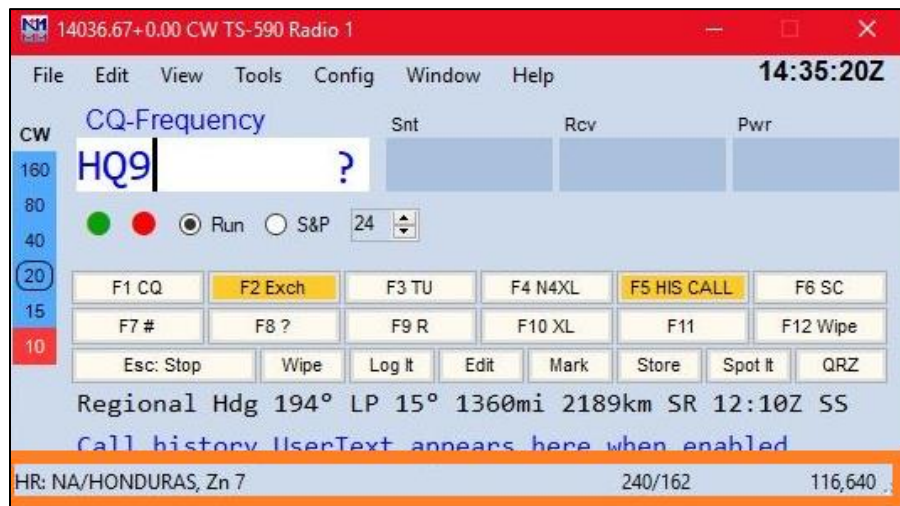
The bottom of the Entry Window shows the country and CQ zone for the callsign. If you were having trouble hearing the zone sent by the HQ9 station you could look there and "guess" he is in zone 7. Verify it of course by getting him to acknowledge with a "RR" or "CFM"

The right side of that row shows I currently have 240 q's and 162 mults for a score of 116,640. In the upper right corner, not highlighted, is the current UTC time. If I remember correctly showing that is not a default setting and you have to tell N1MM to display it.
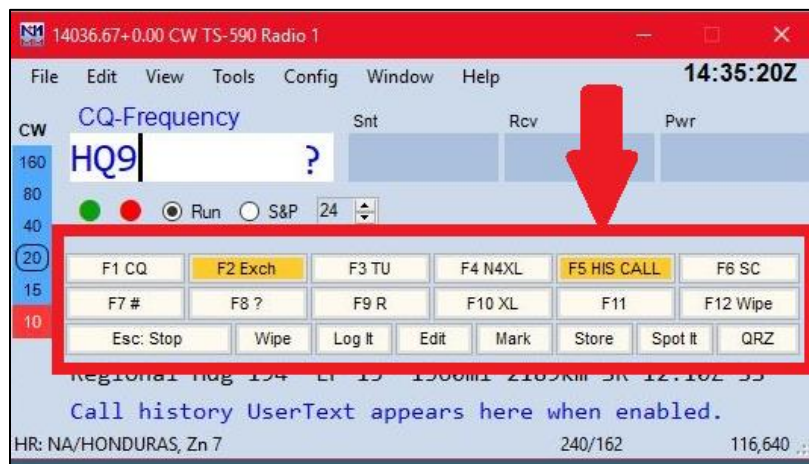
This section shows what macros are assigned to what Function keys. You can change them to whatever you want, but these are typical. F1 key is CQ, F2 Exchange, F3 Thank You, F4 My Call, and so on. You can either use the keyboard F-keys or click on the button with a mouse.

The F-keys shown in orange are colored because I have Enter Sends Message (ESM) activated. What that means is when I move the cursor from one Entry Window field into another N1MM will automatically send what I've told it to do.

For example: The screen shot shown indicates I am in Run mode and typing a call in response to my CQ. If I finish the call by typing HQ9M and press the Enter key. ESM will automatically send "HQ9M 5NN SC" (or whatever the exchange is – including sequential serial numbers). After sending my exchange I expect to receive an exchange. Pressing Enter also moved focus to the Power field (or whatever the exchange field is called for a given contest) so all I have to do is type in the received information. If I couldn't copy her exchange, I leave the Power field blank and hit enter again. That causes ESM to send "?" (or my .wav file "Again Again?"). Focus remains in the Power field waiting my entry. This time I can copy their info and type it in. ESM knows when I have put valid info into the exchange field and also knows the next thing I will send is Thank You, so it highlights the F3 TU button. After typing in the other stations

exchange I simply hit Enter and N1MM sends that message. If I have automatic CQ repeat turned on N1MM sits there for a couple-three seconds and automatically starts another CQ. S&P operation works in a similar fashion, only what ESM highlights for the next message is in the order of fields used by an S&P op.

You can easily get tripped up by ESM if you get out of sync. Say you didn't copy his power and needed a fill. Or say he has your call wrong and you need to correct it (copied N4XR instead of N4XL). It takes a bit of practice to seamlessly handle those situations. In the bad call sign case, instead of hitting "enter" after copying his exchange (Enter would send my exchange) I instead reach up and hit F4 twice sending my call out again to let him know he has the call wrong. I only hit enter to send my exchange after he has the correct call.

In closing, I've trained myself to pay attention to what the Entry Window has to offer. It has helped keep me focused on the q, made me aware of additional available scoring opportunities, and improved my "situational awareness" regarding the second-by-second operating state of my station.

Upcoming Contests:

See the WA7BNM webpages https://www.contestcalendar.com/contestcal.html

SFOTA Current Leaderboard:

Current Leaderboard

2023 OVERALL STANDINGS

	CALL	Contests	CW QSO'S	SSB QSO'S	DIGITAL QSO'S	RTTY QSO'S	TOTAL QSO'S
1)	K3DNE	8	135	5851	16	102	6104
2)	WN4AFP	40	2824	1454	0	0	4278
3)	K4FT	46	3592	229	0	182	4003
4)	N4XL	3	2396	1472	0	0	3868
5)	K4QQG	18	0	3575	0	259	3834
6)	NU4E	3	500	2300	0	0	2800
7)	N4IQ	7	1326	0	0	1272	2598
8)	KG4IGC	10	254	762	0	1574	2590
9)	N4QI	46	1413	463	0	531	2407
10)	KY4ID	19	2387	0	0	0	2387
11)	K7OM	11	731	0	0	1615	2346
12)	KZ3P	15	0	2331	0	0	2331
13)	AC4MC	5	769	933	0	0	1702
14)	NJ4Z	4	267	968	0	0	1235
15)	KS4YX	4	122	0	0	718	840
16)	KD4S	4	395	142	0	236	773
17)	NE4EA	6	271	477	0	0	748
18)	KG9V	1	0	465	0	0	465
19)	N2OG	2	12	293	0	0	305
20)	KM4RK	3	0	100	0	0	100
21)	WA2BCK	2	0	63	0	0	63
22)	KB1QU	1	0	57	0	0	57

2023 INDIVIDUAL MODE STANDINGS

CALL	CW QSO'S	CALL	SSB QSO'S	CALL	DIGITAL QSO'S	CALL	RTTY QSO'S
K4FT	3592	K3DNE	5851	K3DNE	16	K7OM	1615
WN4AFP	2824	K4QQG	3575			KG4IGC	1574
N4XL	2396	KZ3P	2331			N4IQ	1272
KY4ID	2387	NU4E	2300			KS4YX	718
N4QI	1413	N4XL	1472			N4QI	531
N4IQ	1326	WN4AFP	1454			K4QQG	259
AC4MC	769	NJ4Z	968			KD4S	236
K7OM	731	AC4MC	933			K4FT	182
NU4E	500	KG4IGC	762			K3DNE	102
KD4S	395	NE4EA	477				
NE4EA	271	KG9V	465				
NJ4Z	267	N4QI	463				
KG4IGC	254	N2OG	293				
K3DNE	135	K4FT	229				
KS4YX	122	KD4S	142				
N2OG	12	KM4RK	100				
		WA2BCK	63				
		KB1QU	57				

3830 Activity:

Date	Call	Class	Power	Score
144SprngSprnt				
4/11/2023	K3DNE	Single Op	HP	234
4/11/2023	NU4E	Single Op	LP	48
ARRLDX SSB				
3/16/2023	KY4ID	M/S	LP	1,320
BARTG				
3/20/2023	K7OM	SOAB	HP	219,924
3/20/2023	KG4IGC	SOAB	LP	206,815
3/20/2023	N4QI	SOAB	LP	3,400
EA RTTY				
4/2/2023	K7OM	SOAB	HP	4,644
4/3/2023	KG4IGC	SOAB	LP	18,721
GaQP				
4/10/2023	K4FT	Single OpCW	LP	6,674
4/12/2023	KZ3P	Single OpSSB	LP	384
4/10/2023	N1SUZ	Single OpSSB	LP	360
4/10/2023	N4QI	Single OpMixed	LP	1,012
4/10/2023	WN4AFP	Single OpMixed	LP	22,295
IdQP				
3/16/2023	K4FT	SOABCW	LP	8
3/19/2023	N1SUZ	SOABSSB	LP	40
IG-RY RTTY				
4/9/2023	K7OM	Single Op	HP	6,424
4/9/2023	KG4IGC	Single Op	LP	20,500
LaQP				
4/3/2023	K4FT	Fixed CW/Dig	LP	36
4/2/2023	K4QQG	Fixed SSB	HP	50
4/3/2023	KZ3P	Fixed SSB	HP	8
4/4/2023	N1SUZ	Fixed SSB	LP	72

Date	Call	Category	Power	Score
4/2/2023	N4QI	Fixed CW/Dig	LP	100
4/2/2023	WN4AFP	Fixed Mixed	LP	1,470
MoQP				
4/3/2023	K4FT	SO Fixed	LP	2,754
4/2/2023	K4QQG	SO Fixed	HP	435
4/3/2023	KZ3P	SO Fixed	HP	228
4/5/2023	N1SUZ	SO Fixed	LP	315
4/2/2023	N4QI	SO Fixed	LP	602
4/2/2023	WN4AFP	SO Fixed	LP	736
MSQP				
4/3/2023	K4FT	Single Op	LP	216
4/2/2023	K4QQG	Single Op	HP	36
4/3/2023	KZ3P	Single Op	HP	81
4/4/2023	N1SUZ	Single Op	LP	120
4/2/2023	N4QI	Single Op	LP	242
4/2/2023	WN4AFP	Single Op	LP	736
NMQP				
4/10/2023	K4FT	Single Op	LP	32
4/9/2023	N1SUZ	Single Op	LP	12
4/10/2023	WN4AFP	Single Op	LP	56
OkQP				
3/16/2023	K4FT	SOABCW	LP	168
4/1/2023	N1SUZ	SOABSSB	LP	384
SP DX				
4/2/2023	N4QI	SOABMixed	LP	756
VaQP				
3/20/2023	K4FT	SOSB/CW/80Fixed	LP	210
3/20/2023	K4QQG	SOAB/MixedFixed	HP	4,257
3/20/2023	KZ3P	SOAB/PhFixed	HP	10,780
3/20/2023	N1SUZ	SOAB/PhFixed	LP	11,644
3/20/2023	N4QI	SOAB/MixedFixed	LP	3,885
3/20/2023	WN4AFP	SOAB/MixedFixed	LP	49,591
WiQP				

3/16/2023	K4FT	SO Fixed	LP	960
WPX SSB				
3/27/2023	K3DNE	SOAB TB-Wires	HP	3,843,462
3/27/2023	K4FT	SOSB40 TB-Wires	LP	2,575
3/27/2023	K4QQG	SOAB TB-Wires	HP	1,630,656
3/27/2023	KG4IGC	SOAB	LP	480,556
3/27/2023	KG9V	SOAB	HP	305,598
3/27/2023	KZ3P	SOAB TB-Wires	HP	801,450
3/27/2023	N1SUZ	SOAB Unassisted	LP	76,212
3/27/2023	N2OG	SOAB TB-Wires	LP	157,131
3/27/2023	N4QI	SOAB Unassisted	LP	4,560
3/26/2023	NJ4Z	SOAB	HP	1,110,745
3/27/2023	NU4E	SOAB	HP	278,000
3/26/2023	WN4AFP	SOAB TB-Wires	LP	323,088

DXpeditions:

(Thank you Dave NJ4Z)

CALLSIGN	LOCATION	DATES
VP2MEI	Montserrat, Caribbean	4/1
V26EI	Antiqua and Barbuda, Caribbean	4/1
D44KIT	Cape Verde, Africa	4/1 – 4/4
9X5RU	Rwanda, Africa	4/1 – 4/6
E6AF /E6CI	Niue (South Pacific)	4/1 – 4/8
RI1ANC / RI30ANT	Antarctica	4/1 – 4/9
TO1O	Guadeloupe (Caribbean)	4/1 – 4/14
Z81D	South Sudan, Africa	4/1 – 4/21
T30UN	Kirbati, South Pacific (Tarawa)	4/2 – 4/30
VK0AW	Antarctica	4/1 – 4/30
JG8NQJ	Minami Torishima (Japan)	4/1 – 4/30
H44MS	Solomon Islands, South Pacific	4/1 – 4/30
FH4VVK	Mayotte Island (Fr.) Africa Indian Ocean	4/1 – 4/30
TX5XG	Clipperton Island (Polynesia)	4/12 – 4/18
E51CIK / E51WEG	South Cook Islands (South Pacific)	4/13 – 4/26
V31JZ	Belize (Central America)	4/17 – 4/22
5X2I	Uganda, Africa	4/24 – 4/30
8Q7KB	Maldives, Indian Ocean	4/27 – 5/7

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73 es QRT de N4XL