



TALES FROM THE SWAMP

October 2021

Editor: Kevan Nason, N4XL

Thank you to our current group leadership.

President – Ed, K3DNE

Vice President - Dave, WN4AFP

Treasurer – Phil, NI7R

Secretary – Ed, WB4HRL



Radio is Fun!!



Franks first attempt at Winter Field Day in his front yard. Setup was a Yaesu FT-991A, Ground mounted (tripod) Hustler antennas for 20/40/ 80/ 160, marine battery for power.

Posted on March 5, 2020

The Presidents Corner

Will You be Participating? The Fall and Winter Contest Season and Club Competitions are Approaching!

Ed Kucharski K3DNE

As president of SFCG, one of my presidential goals is to increase SFCG's standing in club competition events. I use the word "event" because some are multiple contests (SSB and CW contests combined). The club is already rising to the challenge as our club competition standing has improved almost across the entire spectrum of club competition contests in the past year. This is fantastic!

How can we increase SFCG's club competition standing even more? I see two possibilities; increase participation and/or increase individual's score.

1. Participation.

This is key! More participation and more log submissions equate to bigger club competition scores. I'll be blunt. As a club, we can and should be doing better with participation. Using our internal Swamp Foxes on the Air (SFOTA) competition as a benchmark for all submissions, only 59% of members have submitted to SFOTA this year and just 57% in 2020. Both would be considered a failing grade in most schools. SFCG does not have a contest participation requirement - many contest clubs do - maybe we need one? Perhaps a consideration for the future, perhaps not?

I consider it part of my presidential duties to "encourage" participation at every opportunity. You all have seen my reflector posts about upcoming club competition contests, how we've done in the past and a goal to shoot for. I understand that there are many reasonable reasons for non-participation (health, work, family, travel, station problems, etc.). I find it hard to believe, however, that those situations are responsible for 13 of our members not submitting even one score this year! That's zero contests entered (to SFOTA) by 13 "active" members – remarkable. I've only been informed via email of one of those extenuating situations. What's the solution? I'm into goal setting. I'd like to suggest to the club members who are yet to participate this year, to set a goal and make a personal commitment to participate in at least two of the upcoming fall-winter club competition contests. This commitment is not an expectation or even the suggestion that you operate 12, 24, 36 or 48 hours of a contest. As I've

said before, every QSO counts! Even a couple of hours here and there during a contest can have a significant effect on our club score and ranking. Anything is better than nothing!

Using myself as an example, I am not much of a CW or RTTY operator, however, in the spirit of being a “team player” I participated (part-time) in several CW contests for the club (1013 CW QSO’s this year) and due to the encouragement of a fellow club member, I got on RTTY (never before this year had I made a RTTY QSO) and entered several RTTY contests (1334 QSO’s this year). None of these CW or RTTY contests were full-time or a burden on my home schedule – I operated part-time as my schedule permitted.

How many members, who have not submitted a score this year, will commit to operating a minimum of two club competition contests in the next six months? If help is needed to attain this goal, please reach out via the reflector – there are plenty of club members happy to assist.

2. Increase individual score.

- Station improvement and readiness; hopefully, we all make repairs, maintenance and improvements to our stations on a routine basis that result in higher scores.
- How can we *not* make improvements to our personal contesting operating performance considering the plethora of articles and information in our newsletter, Zoom meetings, website and reflector posts? N4XL has done an excellent job of sending out applicable and timely operating suggestions in the newsletter (<https://www.swampfoxcontestgroup.com/newsletter>) and via Zoom meetings. Kevan pulls together many operating tips and tricks of his own and from well-known contesters worldwide – our newsletter is a very valuable tool.
- Stretch your comfort level - operate on a mode you usually don’t.
- Try changing your style. Just an S&P operator? Try running! A previous mentor once told me; “if you ain’t running you ain’t winning!
- Operate in the Assisted category and take advantage of spots to give your score (and the club’s) a boost.
- Not ready for SO2R? Experiment with SO2V.
- Need an added sense of competition to push you to the next level or to meet a personal goal? Use an on-line scoreboard (see my article in the

November 2020 newsletter:

https://www.swampfoxcontestgroup.com/SFCG_Newsletter%2011-2020.pdf).

- Last but not least, in my opinion, the best way to improve an individual score is butt-in-chair time (BIC). Keep operating and plugging along – slow and steady may actually win the race!

I'm looking forward to the upcoming fall-winter contest season. My favorite HF contests are CQ WW DX SSB, ARRL SS SSB, ARRL 10M (when sunspots are good), ARRL International DX SSB and CQ WPX SSB. I won't limit myself to just those four though – I plan on participating in most of the club competition events in the chart below. How about you? Who's ready to commit to operating in at least 2 of the upcoming contests – especially if you haven't submitted a score this year? Who can submit a score in *each*?

Go Swamp Foxes!

Below is a list of upcoming Club Competition ARRL and CQ contests. It doesn't include some "team" competition contests such as Sprints and NAQP.

For more info on ARRL contests and a calendar: <http://www.arrl.org/contest-calendar>

For CQ Contests: https://cq-amateur-radio.com/cq_contests/cq_annual_contest_calendar/cq_annual_contest_calendar.html

Contest	Month	Mode(s)
CQ WW DX	October	SSB
CQ WW DX	November	CW
ARRL Sweepstakes	November	SSB
ARRL Sweepstakes	November	CW
ARRL 10 Meter	December	SSB, CW, Mixed
ARRL 160 Meter	December	CW
ARRL RTTY Round-Up	January	RTTY
ARRL January VHF	January	Phone, CW, Digital
CQ 160 Meter	January	CW
CQ 160 Meter	February	SSB
CQ WPX RTTY	February	RTTY
ARRL International DX	February	CW
ARRL International DX	March	SSB
CQ WW WPX	March	SSB
CQ WW WPX	May	CW

Contest Tips:

K2YWE Contesting Best Practices	
Running Best Practice	Rationale
<ul style="list-style-type: none"> • Call CQ when the band is active if you are able to find a frequency and hold it. 	<ul style="list-style-type: none"> • You will usually beat your S&P rate. • An exception is the start of the contest when everyone is “fresh meat” for you and your S&P rate can be very high.
<ul style="list-style-type: none"> • Speed up if your run is being sustained. This is especially true in contests like SS where the exchange includes your call sign. Slow back down appropriately. 	<ul style="list-style-type: none"> • Stations waiting will usually know your info. More stations will be inclined to wait (shorter time) Your rate will go up with speed (duhhh)

From the 2019 Contest University presentation Preparation and Practice, K5ZD

- No one expects to play sports at a high level without practice and coaching. Why is radio competition any different?
- Necessary Contest Skills that can be Improved with Practice
 - Copying/Logging
 - Callsign Vocabulary
 - Running
 - Search and Pounce
 - Changing Bands
- Repetition is a key learning aid because it helps transition a skill from the conscious to the subconscious.
- Know Your Logging Software.
 - Find a consistent set up that you use for all contests
 - Practice entering calls and exchanges by typing in old contest logs
 - Practice FIXING typing errors
 - Logging needs to be automatic so you have brain power left for processing other info
- Common Busts
 - SSB
 - V and W
 - E and I
 - G and J
 - CW
 - I, S, H, 5
 - V and 4
 - B and 6

(Continued)

- Which of these calls are bad?

C73NL	FY5KE	LY7A	RG8U
CD6416	GT8IOM	OB9DCM	TM6M
E2E	K5BLC	M5O	W0ASH
EY8MM	HI3TIJ	P3W	YU15OTC

Answer can be found at <https://www.contestuniversity.com/files/>

From the Reflector:

- Matt, NU4E, shared his First Place SOLP Mixed 2020 SCQP plaque. Way to go, Matt!
- Not to be outdone, Ed, K3DNE, shared the First Place SOHP and Top WW4SF operator plaques he received for that one too. Ed, your antenna and station improvement work is really paying off. You also wrote about having found some FSJ4-50B cable. Give us a reflector update as to what you will be using that for.
- Kevan, N4XL, stirred up the group with requests for RTTY help. (Sorry about the way it was done.) More on RTTY tips and sources in an upcoming newsletter.
- K4QQG, is staying active. John wrote "I'll be there" in response to Dave, WN4AFP, posting about Five QSO party contests in one weekend.
- Bill, N4IQ, had his best CWT ever during the Sept 22 1300z run. 151 q's and a very respectable 19,881 pts.
- Dave, WN4AFP took top SFCG honors in the 2021 ARRL DX CW contest. AC4MC and NI7R also gave respectable scores. Ed, K3DNE, led the way in the SSB event. Ed, K3DNE pointed out the SFCG moved up in the club standings from 41st in 2020 to 19th in 2021.
- Matt, NU4E, asked for some guidance in designing a dual band ground plane antenna for a friend. Gary, AF7T, mentioned W8JI's great site. Gary also suggested using a Battle Creek Special antenna. Thanks for reminding us about that one, Gary. I had been very interested in it several years back but had forgotten about it.
- Ted, K7OM, and Frank, KG4IGC, had fun in the Makrothen RTTY contest. Ted recognized some more BIC time would have been helpful because he wrote "Frank, you whopped me pretty bad :- (But you did put a lot more time in that me"

Article

Clean, Punchy, Competitive Contest Audio Without Splatter

That is the title of a paper written by Jim Brown, K9YC. It can be found at

<http://audiosystemsgroup.com/ContestAudio.pdf>

Here are some excerpts...

- ... our first rule is to minimize any part of the audio signal below about 400 Hz, and to not waste bandwidth transmitting sound above 3 kHz
- Getting Audio Levels Right: This is the most critical part, and more than half of the stations I hear in a typical contest screw it up. The most common mistake is cranking these settings up too high – often way too high! The result is muffled, distorted audio that is hard to copy, often with lots of room noise... the most critical settings are
 - 1) the Mic Gain in the computer sound card, which must be set so that the mic never overloads the sound card input, even when things get real exciting;
 - 2) the Output Gain of the computer sound card, which must be set so that the sound card itself never overloads; and
 - 3) the Input Gain of the radio, which must be set so that it never overloads. Any one of these overload points will turn your audio to mush!
- The key to all of these adjustments is to listen with headphones as you adjust them. Adjust #1 (sound card mic input) and #2 (sound card output) by plugging headphones into the sound card output jack and carefully listen for any distortion.
- Once you have good, clean sounding modulation, set your rig so that its display shows you a bar graph for compression and turn on (or turn up) Compression (processing). Talking as you normally would during the contest, increase the compression until the display indicates 10 dB of compression on voice peaks. Most rigs sound good at 10 dB, and most get nasty when pushed beyond that – intelligibility degrades, room noise increases.
- Most modern rigs are designed to operate from DC power supplies that provide 13.8 – 14 VDC. When operated at a lower voltage, the distortion produced by most of these rigs increases, often by 3-6 dB. That distortion produces harmonics and intermodulation products (splatter). *(Editor's note: See more about voltage in "Observations by the Editor" below.)*
- Once audio is well adjusted, the most common cause of splatter is a badly tuned or over-driven power amplifier.
- Cardioid mics have an important characteristic called proximity effect, which is a very strong bass boost for sound sources very close to the mic. In addition to making voices "bass heavy," proximity effect magnifies breathe pops, wind noise, and handling noise. Virtually all mics used in live sound are cardioids, and those intended for use by singers have a strong low frequency rolloff that partially compensates proximity effect. Although cardioids reduce room noise pickup, proximity effect generally makes them a poor choice in the ham shack.

- An omnidirectional mic, whether dynamic or an electret, is the best choice for ham radio. It has no problem with proximity effect, so it can be worked close. I position the omni mic of my CM500 about two inches above and an inch to the left of my mouth.
- Being a good neighbor on the bands isn't just politeness. In major contests, it's required. When in S&P mode, I'll tune right past signals that are too distorted to copy easily, and when running, I won't waste my time trying to work those stations calling me. In an email exchange, Jeff said, "Personally, I'm loathe to do many more SSB contests due to so many poor quality signals on the air. It just so happens that the last good number of trips I've done have coincided over SSB contests." I think Jeff speaks for many of us – he certainly does speak for me. Take these steps and you will make SSB contesting more enjoyable for all of us, including yourself. And you'll boost your score!

Observations by the Editor:

- I had said I would put some of the RTTY things I've learned in this newsletter but have decided to wait until I've a bit more experience in RTTY to do so. Right now I have some book smarts without a clear understanding of whether I agree with the given advice or not.
- Thoughts on power supply cabling. (The following information is from multiple posts that are often repeated on the TS590 reflectors. The TS590 series is known to be more susceptible to voltage variation than some other radios are.) Voltage should be measured at the rig itself -- not at the power supply output. Voltage shown on a power supply voltmeter may not accurately show what the voltage is at the radio power terminals when transmitting. Take voltage readings at the radio itself to account for the voltage drop in power supply wiring when maximum current is being drawn and power cable voltage drop is maximum ($E = I^2R$). Hams have reported corrosion buildup at the fuse holder contacts causing further voltage drop due to increased resistance. Besides audio, low rig voltage can also affect output power. Be careful when adjusting power supply voltage during transmit. When shifting from transmit to receive voltage at the radio will increase. If you raise power supply voltage too high to compensate for power cable loss receive voltage could go above design specification and damage could result. It is best for power supply wiring to be as "short" and "fat" as possible to reduce its resistance and the associated voltage drop. Some hams recommend blade type fuse holders to increase the contact area between fuse and wire as compared to a straight inline fuse holder. More area means lower power cabling resistance. Some disagree with using blade fuses. They have experienced degradation of metal plating on the blades due to manufacturer use of cheap plating material which potentially makes blade fuses more prone to corrosion. A periodic rig voltage check should be part of your station maintenance plan.)
- As we mentioned before, N1MM has an option to export your contacts from all contests to an ADIF file. I had fallen behind in keeping my general logging program, Log4OM updated and uploading to Log Of The World (LOTW). Every now and then I idly wonder how many contest Q's I've made so I took a minute to look. Not as many as some operators, but I was mildly impressed to see 53,154 logged with 29,352 confirmations from my home station

since I was issued the call N4XL back in 2007. That's quite a bit of BIC time. It made me wonder how many people like Bill, N4IQ, or Ed, WB4HRL, has.

- I saw something during the California QSO Party that reminded me of last issues article about Contest Controversies back in August. It could mean nothing, but it could be something else to add to the list.

During several international and domestic contests spots of rarer multipliers have popped up which I've quickly jumped on quickly. But when I get on frequency a different and more common station is calling CQ instead. I had been chalking it up to false skimmer reports, but this CQP observation has made me reconsider. Here are the facts. I'll let you draw whatever conclusion you feel appropriate.

I was having trouble finding three counties so when N1MM reported a new multiplier was available I jumped within just a few seconds. This is a shot of my band map. KG6N had just appeared as a new spot. N1MM reported him as being in rare Yuba county.



Although I needed WX6B on 20 meter CW, I was a bit disappointed KG6N wasn't calling CQ. Note that WX6B has a "#" symbol behind the call indicating a skimmer had picked him up. Because he was a skimmer report he likely been on that frequency calling CQ for a bit of time. I don't know how long. Notice KG6N does not have a "#" meaning someone manually spotted him on WX6B's CQ frequency. Since KG6N was a brand new spot it is unlikely he had been on frequency calling CQ before the spot or he would have been picked up by a skimmer. Someone manually spotted KG6N. Here's what N1MM said about the new spot.

Call ^	Freq ^	Dir	Time	Spotter	Mode	G
N6MU	14030.4	279°	2308Z	WE9V-#	CW	D
N6GK	14036.0	287°	2301Z	N9MKC-#	CW	C
KG6N	14038.5	290°	2304Z	WX6B	CW	C
WX6B	14038.5	290°	2312Z	N9MKC-#	CW	C

It appears WX6B was on frequency calling CQ, and while doing that he spotted a station on his own frequency. A station that just happens to be a rare county. I wondered why WX6B would do that. He risked losing his run frequency because people were likely to jump there to work the rare county. People like me that are likely to say to themselves, "Well, KG6N isn't there, but I need WX6B on 20 CW so I might as well work him while I'm here."

I was going to ask him about it, but after an internet search I discovered Bill, WX6B, apparently isn't a very competitive contester. It could have just been a "fat finger", or wrong mouse click mistake. But I'm seeing that scenario play out in more and more "bad" spot situations and will start looking closer at who is doing the bad spotting. If it isn't the on frequency station themselves, I'll look to see if it was just a bad skimmer spot or from another person.

- One can hope... Years ago (when my call was NS4T) I was lucky enough to have won a bottle of wine in the California QSO Party by being in the top 20 Out of State Single Op entrants. Not easy to do because both low and high power stations compete against each other for that award, we are all the way across the country, and many people have better stations than I do. I did well this year too with over 87K claimed points. The 3830 Contest Score Rumors page shows me as being #14. Not everyone posts to 3830 and the log check will probably knock me down some, but I have hopes to add a second bottle on the shelf next to the first. Whether the wine flows or not, it is pursuing those kinds of goals that keeps my BIC and interest in contesting high.
- Principles are often timeless and universal. My current reading book is "A Lonely Kind of War" by Marshall Harrison. It's about Forward Air Controllers (FAC) directing air strikes in Vietnam. A new pilot just went on his first in country combat flight with an experienced FAC. The new man is depressed after watching how the experienced guy so easily simultaneously juggles flying his plane, keeps track of the attack jets, watches enemy ground movement, evaluates the effectiveness of the bombing runs, and adjusts the strikes to the ever changing situation. He thinks he will never be able to do such a great job. Recognizing the emotion, the old guy says "For us, it's mostly a matter of letting your body fly the airplane without any conscious thought. One day you'll be putting in a strike and suddenly realize that you're not giving any thought at all to the flying but that you're using your brain to anticipate what to do next. Hell! Some people say that I haven't had a conscious thought in three months!"

Again and again, I've talked about the importance of learning contesting skills until they are in your subconscious. One of the "secrets" to being a good contester is learning your station equipment and the "job" of making contacts so well that you don't need to give any thought to routine repetitive tasks and can instead focus on the strategy. It's the same thing as athletes training until they develop muscle memory. Take a tip from Ed. Enter more contests. You'll help the club and hone your skills at the same time. You'll also have more fun at the radio and see your scores go up.

N1MM+ Tips:

72 additional CW/SSB message buttons!

Tom, N1MM, put out this message on the N1MM reflector. I'm looking forward to trying it out.

The current version of the program does not allow messages to be sent by the bandmap buttons.

There is an experimental version that supports this capability. Please download and test if you are interested. You can have up to 36 buttons for each bandmap.

<https://n1mmwp.hamdocs.com/mmfiles/categories/programexperimental/>

The thread also includes a recommendation to use a program called Touch Portal. It allows an Android phone or Tablet to interact with your computer. You can use the touch screen of the device to activate those additional buttons. The 72 buttons can also be programmed to send CATASC commands for rig control. The thread starts here:

<https://groups.io/g/N1MMLoggerPlus/message/64135>

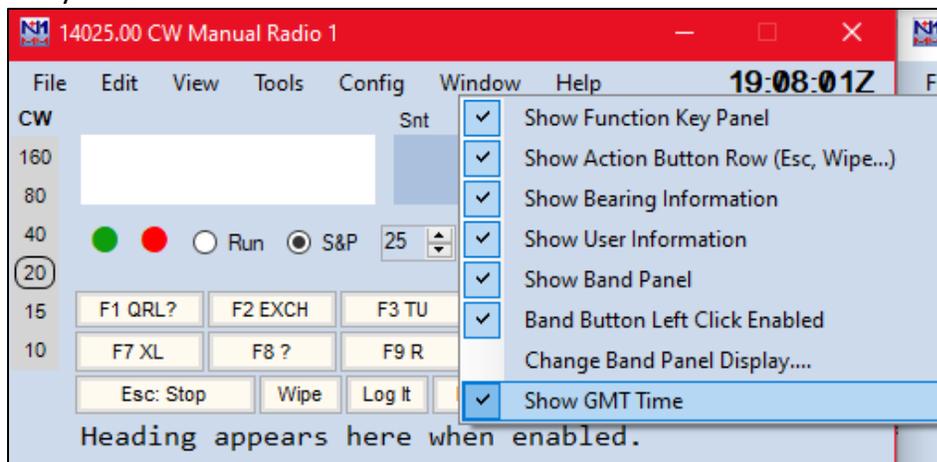
PTT Control Tip

Use ONLY ONE method of PTT or CW keying

Note that having multiple ports configured for CW or PTT can cause problems; for example, having two methods of PTT control operating at the same time can result in the radio failing to switch to transmit, or worse, locking up in transmit at the end of a function key message. This is particularly a problem with some radios when one of the methods is PTT via radio command and the other method is a hardware keying method. Pick one method of CW keying and one method of PTT control, check the CW/Other box for the port or ports you need for them and complete the port configuration using the Set button, and make sure CW/Other is not checked for ports that you are not currently using. Note that the PTT output from a Winkeyer is active in SSB and RTTY as well as in CW, i.e. if you are using this output from the Winkeyer, you do not need a separate method for PTT for SSB or RTTY. For digital modes, do not configure PTT control from the digital engine (MMTTY or Fldigi) if you have PTT control operating from the main N1MM Logger program.

Displaying GMT time

Right clicking the Entry Window brings up a menu giving an option to display GMT time in the Entry window



Tour command

(Editors note: I haven't used this, but it looks interesting for the few contests that are broken up into different time blocks, yet use a single log file)

A very few contests allow for multiple sessions in which you can work the same station in every session for QSO credit. You can enter TOUR into the Entry window in place of a call sign to reset dupe checking at any time before or during the contest. This command has 2 required parameters that are entered into the Sent RST field, separated by a forward slash "/". The first parameter is the time when the current session begins (GMT) and the second parameter is the duration of the session. The format for both parameters is hhmm. For example, 1200/30 means the session starts at 1200Z and has a duration of 30 minutes. The minimum value for the duration parameter is 10 (10 minutes). If the TOUR command is entered without any parameters, the current values of the start time and duration will be displayed. The default values are 0000/00

SO2V – Two VFOs, Two Entry Windows, Two BandMaps

In SO2V (one radio – two VFOs = 'normal' operation) QSOs made on VFO-A have to be entered in the standard (first) Entry window. Making a QSO on VFO-B (transmitting and receiving on VFO-B) has to be done by using the second (VFO) Entry window. So when using both bandmaps, both Entry windows are needed to make QSOs on both VFOs. However, when operating split, the program transmits on VFO-A, and only the master Entry window needs to be open. If both are open in SO2V the second entry window displays the receive frequency.

Upcoming Contests:

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

SFOTA Current Leaderboard:

Oct-13-2021						
Current Leaderboard						
2021 OVERALL STANDINGS						
CALL	Contests	CW QSO'S	SSB QSO'S	DIGITAL QSO'S	RTTY QSO'S	TOTAL QSO'S
1) N4IQ	94	11854	776	347	4305	17282
2) WB4HRL	140	7817	1185	231	1758	10991
3) WN4AFP	65	6089	1271	0	0	7360
4) K3DNE	37	1013	4771	227	1334	7345
5) K7OM	30	1573	115	0	2702	4390
6) AC4MC	29	2649	1428	4	247	4328
7) KG4IGC	18	632	974	0	2673	4279
8) N4XL	11	2755	1089	0	217	4061
9) NU4E	9	1645	1244	18	875	3782
10) K4QQG	49	0	3472	0	0	3472
11) WA2BCK	5	1187	1173	0	0	2360
12) N2OG	9	108	896	34	799	1837
13) KS4YX	4	120	14	77	368	579
14) NI7R	3	569	7	0	0	576
15) K9JDP	3	0	208	0	74	282
16) KY4ID	2	0	111	0	59	170
17) AJ4UQ	2	0	0	45	65	110
18) NE4EA	1	55	0	0	0	55
19) AF7T	1	4	0	0	0	4

3830 Activity:

Contest	Call	Class	Power	Score
144FallSprnt				
09/21/21	N4IQ	Single Op	HP	165
09/21/21	NU4E	Single Op	LP	130
432FallSprnt				
10/07/21	NU4E	Single Op	LP	6
ARRL Sep VHF				
09/13/21	K3DNE	Single Op	HP	2,485
09/13/21	N4IQ	Single Op	HP	3,198
AzQP				
10/10/21	K4QQG	SOSSB	HP	108
CaQP				
10/03/21	AC4MC	SO	HP	30,850
10/04/21	K4QQG	SO	HP	9,204
10/05/21	WN4AFP	SO(A)	LP	12,426
CQ WW RTTY				
09/29/21	AC4MC	SOAB	HP	28,512
09/26/21	K3DNE	SOAB	HP	257,070
09/28/21	K7OM	SOAB	HP	125,860
09/27/21	KG4IGC	SO(A)AB	LP	214,887
09/27/21	N4XL	SO(A)AB	LP	74,298
CWopsT				
09/16/21	N4IQ	Single Op	HP	9,408
09/15/21	N4IQ	Single Op	HP	11,130
09/22/21	N4IQ	Single Op	HP	19,881
10/06/21	N4IQ	Single Op	HP	15,128
09/22/21	N4IQ	Single Op	HP	8,010
09/30/21	N4IQ	Single Op	HP	14,036
09/24/21	WB4HRL	Single Op	HP	3,968
09/30/21	WB4HRL	Single Op	HP	3,844
10/08/21	WB4HRL	Single Op	HP	4,224
09/24/21	WB4HRL	Single Op	HP	3,410
09/16/21	WB4HRL	Single Op	HP	3,720

Contest	Call	Class	Power	Score
09/30/21	WB4HRL	Single Op	HP	4,095
09/24/21	WB4HRL	Single Op	HP	3,969
09/16/21	WB4HRL	Single Op	HP	2,401
09/30/21	WB4HRL	Single Op	HP	3,596
09/22/21	WN4AFP	Single Op	LP	2,500
09/22/21	WN4AFP	Single Op	LP	2,209
10/06/21	WN4AFP	Single Op	LP	5,041
laQP				
09/19/21	K4QQG	SO Fixed	HP	48
Makrothen RTTY				
10/11/21	K7OM	SO/Multi Xcvr	HP	877,318
10/10/21	KG4IGC	SO/Single Xcvr	LP	1,369,666
MeQP				
09/26/21	K4QQG	Single Op	HP	23,700
09/26/21	WN4AFP	Single Op	LP	2,928
NA Sprint RTTY				
09/19/21	K7OM	Single Op	HP	375
NHQP				
09/23/21	WN4AFP	Single Xmtr Assisted	LP	24
NJQP				
09/19/21	K4QQG	Single Op	HP	35
09/23/21	WN4AFP	Single Op	LP	984
PaQP				
10/11/21	K4QQG	SOSSB	HP	8,008
10/11/21	WN4AFP	SOMixed	LP	13,214
SAC SSB				
10/11/21	K4QQG	SOAB	HP	17
Salmon Run				
09/19/21	K4QQG	SOSSB	HP	544
09/23/21	WN4AFP	SOCW	LP	620

Contest	Call	Class	Power	Score
SDQP				
10/11/21	K4QQG	SO FixedSSB	HP	80
TxQP				
09/19/21	K4QQG	SO SSB	HP	2,184
09/20/21	WN4AFP	SO CW	LP	29,133
WAE SSB				
09/14/21	K7OM	Single Op	HP	1,610
09/13/21	NU4E	Single Op	HP	167,359

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73 es QRT de N4XL