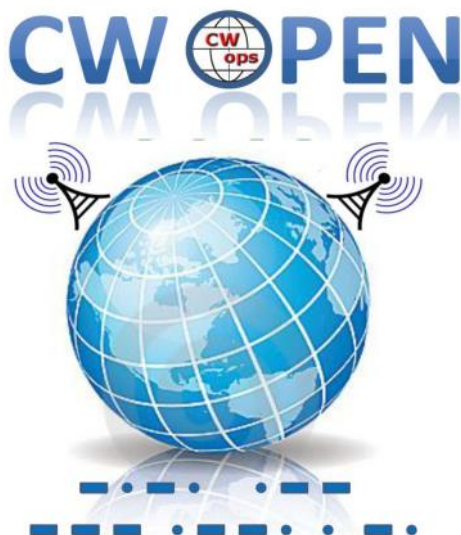


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The CW Operators Club Newsletter

October 2021 — Issue 141



Results are in for the 2021 CW Open. [See story by Bruce, N1LN on page 8.](#)

President's Message

Unfortunately and despite my best intentions in the face of a busy family event I never managed to get on for any of the CW Open sessions just gone. Luckily I'd demoted myself to the 'B



Team' but will still experience the ignominy of seeing a Triple Zero next to my call when the results come out. Hope everyone had a great time – I'm already looking forward to next year.

(Continued on page 2)

CWops "CWT" Every Wednesday

Start: 13Z, 19Z, 03Z (+1), 1 hour each session

Exchange: name/number (members)
name/SPC (non-members)

Avoid DX pileups!

US Vanity Callsign web site:

<http://cwomc.org>

CWops "neighborhood": Look for CWops on 1.818, 3.528, 7.028, 10.118, 14.028, 18.078, 21.028, 24.908, 28.028, 50.098 "and up"

CWops Officers and Directors

President: Stew Rolfe, [GW0ETF](#)

Vice President: Peter Butler, [W1UU](#)

Secretary: Jim Talens, [N3JT](#)

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Director: Riki Kline, [K7NJ](#)

Director: Ken Tanuma, [JN1THL](#)

WebGeek: Dan Romanchik [KB6NU](#)

Newsletter Editor: Tim Gennett [K9WX](#)

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At the back end of September my local club held its first face to face meeting since before the first Covid lockdown more than 18 months ago! I say face to face but most were sporting masks deemed obligatory in this Council owned venue which is larger than our previous site and big enough to allow mandated social distancing. It is also more suited for putting on special event stations so in spite of a slightly higher rental perhaps the Covid debacle may have a silver lining.

I was recently asked by Howard Bernstein, WB2UZE to provide some information to include on a forthcoming website for the International CW Council of which CWops is a participating member. On-the-air 'gathering' frequencies was one thing requested and this reminded me that we do indeed feature a so called "on the 8s" on our website which suggests members and friends should look around 1.818, 3.528, 7.028, 10.118, 14.028, 18.078, 21.028, 24.908, and 28.028 MHz. Maybe this isn't too well known so if you are browsing the bands or wanting to put out a CQ why not check out these frequencies and perhaps hook up with another member or hopeful nominee?

For many, of course, the CWTs are the principal gathering points for members and 'friends'. The format of these events attracts the contesters looking for a weekly fix and adrenaline rush but these are not official adjudicated contests and also attract some who use them in other ways. I for instance have used them lately to increase my CMA score when 10 and 15m have shown signs of life – you can be sure the CWT hours will produce activity on any non-WARC bands that are open!

I enjoy hearing or reading about the different ways members take advantage of the CWTs that don't necessarily involve racking up big numbers of QSOs in 60 minutes. Common amongst these are those intrepid members who take off to some National Park or mountain wilderness to sit on a rock for an hour with a KX2/3 or QCX Mini and a battery or solar panel just to see what can be achieved or simply for the hell of it. This seems to be mainly confined to the US mainland at present so unfortunately over here we don't hear their handful of watts and simple wire but I'd love to be able to work them. It shows great spirit and a touch of adventure and perhaps we Europeans and others could follow their example and become a little more innovative in some of our CWT sessions. My K2 is now equipped with the internal ATU which should make /P from our VW California campervan with its newly installed solar panel even easier – at least I won't have to perch on a rock in the rain.

Parts of the world have recently endured some awful wildfires and areas of Northern Europe were hit by unprecedented flooding in the summer. Some of our members have suffered. Another concern for some is the current northern hemisphere hurricane season. And Covid 19 is still rampant albeit now mitigated for some by vaccines.

Take care everyone and stay safe.

73, Stew GW0ETF, President

From the Editor

There's No Place Like Home

The vast majority of my QSOs are contest QSOs. And the vast majority of those are CW QSOs, typed into N1MM+ one QSO at a time.

Contesting is sometimes referred to as radiosport and, like any sport, those who are serious about it are always looking for ways to improve. Increasing my score by typing with more speed and accuracy is one strategy. When contesting, your hands spend more time touching your keyboard than touching your radio. So, typing skills are not a trifle but something deserving serious consideration.

I bought my first dedicated shack computer in 2004, a second-hand Compaq something or other. It has long since gone to the computer graveyard but it came with a Compaq rubber dome K8-3923 keyboard (right) which I have used continuously since. There's a label on the bottom that says it was made in 1998. That would make it 23 years old and I have never found anything that allowed me to type faster or with more accuracy.



Not that I haven't looked. Gamers tend to be very picky about their keyboards and I've browsed lots of gamer web pages to read about keyboard preferences. The rage among gamers is for mechanical key switches instead of rubber dome and [Cherry is one of the big names](#) among switch manufacturers. [There are lots of choices](#). Mechanical keyboard switches come in a range of switch types: linear, tactile and clicky are the most common and within those switch types there are additional options for activation force. Switch manufacturers designate these options by switch color: a Cherry MX Red switch is a linear switch with a 45 cN activation force while a Cherry MX Blue switch is a clicky and tactile switch with a 60 cN activation force, etc. It's complicated.

[You can buy switch testers](#) that give you a sense of how the different switches feel, but since you

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can't actually type with these, I have found them of limited value. Better are the display keyboards you see in retail stores. Whenever I would come across these I would always stop to type [the "Quick Brown Fox" English language pangram](#). Every now and then I would find a keyboard that seemed to offer promise for improving my typing speed and accuracy.

But I could never justify a purchase, largely due to cost. Until last month. I came across a mechanical keyboard with high ratings from gamers and, while testing it in-store, it seemed I could type with gratifying speed and accuracy. The keyboard also had individual, programable LEDs integral to each switch, allowing you to design your own light show, and it had a solid feel and heft by virtue of being built on a steel frame. The price was deeply discounted and I took the plunge.



Once I got home, I found I could indeed type quickly and accurately with the new keyboard. It felt very different from the old but I figured it would only be a matter of time before the fingers made the adjustment. And the programmable LED lights were also very nice, although I had to be careful to not get too dramatic or they would become a distraction.

What I *didn't* like about the new keyboard was the noise. I tried to evaluate this in the store but there was no way to judge the noise of the new keyboard relative to the old until I could get the two together, side by side in the shack. The new keyboard was noticeably noisier and the clicking it made as I typed, even though the switches were non-clicky, would cover up or at least distract me from some of the weaker signals that are a part of our hobby. And, I typically wear noise-isolating headphones.



The fix for this (it seems the gamer community can also be concerned about noise) is to install rubber O-rings on the individual switches. Which come in a variety of thicknesses. So I took that plunge and they made a considerable dent in the noise. Unfortunately, as the O-rings reduced the travel distance of the keys, they also changed the feel of the switches and I no longer felt I would have an improvement in typing speed and accuracy. So, at the end of the day, the only part of the experience that was successful was the LED light show. The mechanical keyboard looked fantastic sitting on the desk, but it's now in a box on the shelf, waiting for the right opportunity to sell it. I guess I will have to look elsewhere for my contest score improvements.

Looking back, I felt a bit like Dorothy who had to travel to Oz to learn that she really had it pretty good back in Kansas and that there was no place like home. Yes, that Compaq keyboard is old technology but sometimes old technology is still the champion. Which is the way most of us feel about CW. How's that for a great metaphor?

73, Tim K9WX, Editor

Background image page 3 from [Flickr](#).

News and Notes

[Jerry Weisskohl AC4BT](#)

We regret to report that AG4CC, KC Chancellor (CWops #2712), became a SK on September 10, 2021.

We regret to report that K4LQ, Fred Perkins (CWops #1302), became a SK on September 21, 2021.

Petr, OK1FCJ/OL8R: I will be on a DX vacation from October 2nd till October 16th. I am part of the Czech DX pedition (CDXP) team, and we plan to activate S9 with call sign S9OK.

More info is here www.cdyp.cz or on Facebook <https://www.facebook.com/groups/1472348776313779>.

I hope to work many friends and CWops members!

Randy, KN4YRM: My 11year old daughter passed her Technician license and is now KO4SGC.

She's now studying for the General and slowly learning Morse!

Lee, WA9LEY: One of my sons recently got married. There was a table set up where attendees could leave wedding wishes on wooden blocks set up as a Jenga game.

I was surprised when I walked up to the table and saw my call written across one of the blocks. No one in my family admitted to doing it. I suspect it was one of my son's friends who used to come over years ago and listen to me pound out CW. I think they thought I was some kind of secret agent!

One of them had a good memory and probably remembered my call from the Ham license plates that I've had for many years.

Dan, N5TM: Living in an urban area with HOA issues, antennas are a problem.

For years we had a very tall palm tree in the corner of the yard. There was a pulley attached close to the top, with a line, which I used to hoist a G5RV antenna and other antennas.



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In February, Texas had a very hard freeze. It got down to 13 F one night which froze the trunk of the palm. Sadly, we had to have it cut down this summer.

I am now using a homebrew 40m $\frac{1}{4}$ wave vertical (MFJ 33' fiberglass mast with wire down the middle) and a $\frac{1}{2}$ wave 20m vertical made from the elements of a scrapped tri-bander. The 20m half wave is erected about one meter from the 40m quarter wave, so it acts like a director when using the 40 antenna, and the 40 antenna looks like a reflector to the 20 antenna. The 40 vertical also has a reasonable match on 15m. I had very good results this weekend in the cq-ww-Rtty contest, working quite a few EU stations.

The two antennas stand close to where the palm was located in the corner of the yard and are not visible from the street.

Bill, K3WJV: After having ordered my K4 with full deposit back in Dec 2019, today Oct 1, 2021, my K4 has finally shipped. Expected delivery is Oct 6.

New toys are still a wonderful thing at my age!

WRTC2022: 17 CWops members have qualified as Team Leaders for QRTC 2022: Fan, BA1RB; Matt, CE2LR; Ulf, DL5AXX; Champ, E21EIC; Juan, EA8RM; Drew, K3PA; Larry, K4AB; Randy, K5ZD; Mitch, K7RL; Kent, KH6CJJ; Scott, NE9U; Rich, NN3W; Felipe, NP4Z; Todd, VE5MX; John, W2GD; Mike, W9RE; Uli, ZR2A. Another CWops members 75 have qualified as Team Mates, eligible to be selected by a Team Leader to be part of that Leader's team. See <https://www.wrtc2022.it/en/qualification-standings-9.asp?Allt=1#score> for more details.

Mark, KC4T: I had the privilege of going through all the CWops Academy course levels before becoming a member of CWops. In the process I tried to build a couple small apps to help me learn Morse code. In particular, I wanted a way to practice CW when I wasn't at my desktop.

There are a few decent mobile applications out there, but they're either targeting beginners (Morse Toad), or focus on passive listening (Ham Morse for iOS). I wanted something like RufzXP, where I felt challenged each time I ran the app and I could track my progress with some type of score. Long story short I decided to scratch my own itch and built a mobile focused webapp (also works on desktop) for practicing CW.

You can check it here: <https://morse.mdp.im/head-copy/>

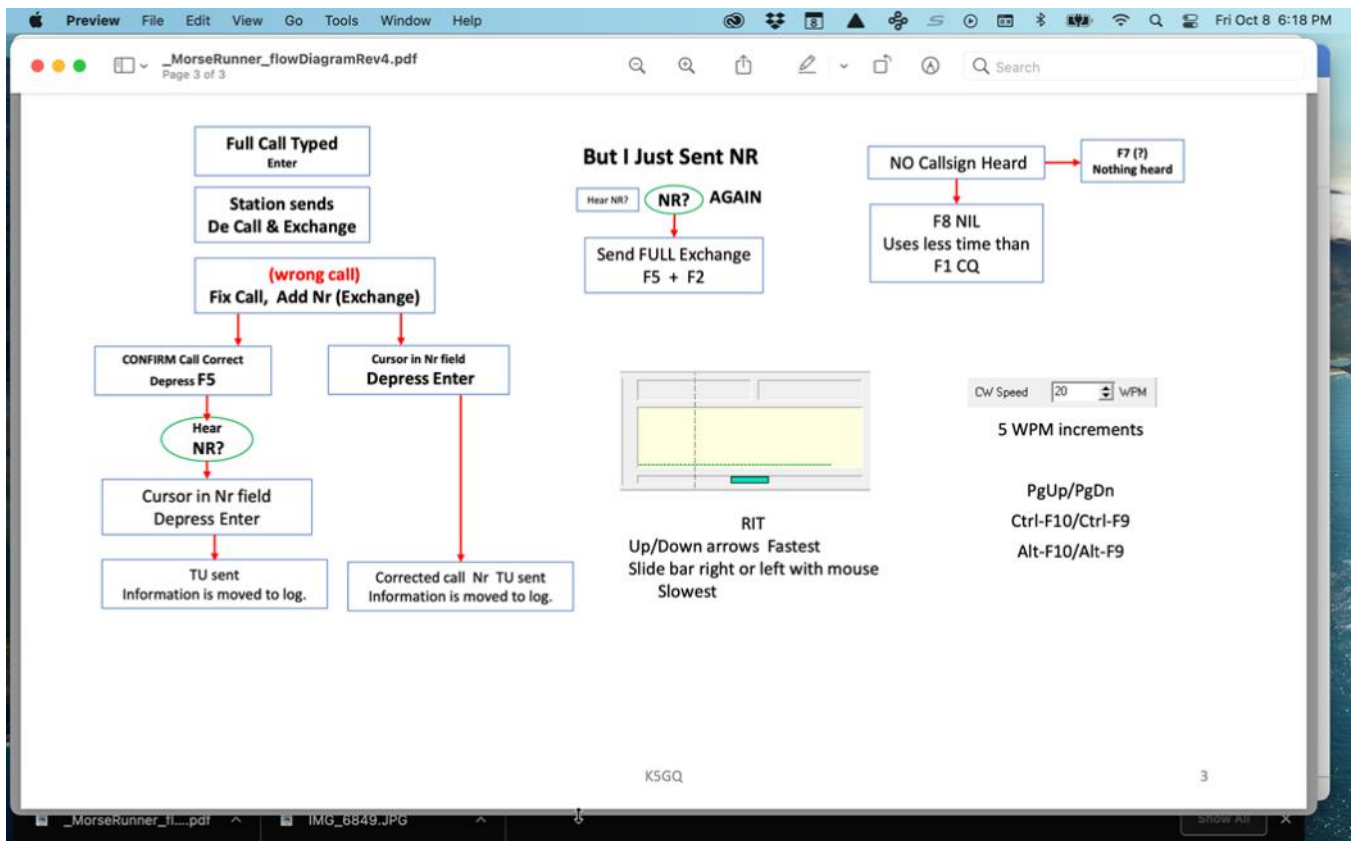
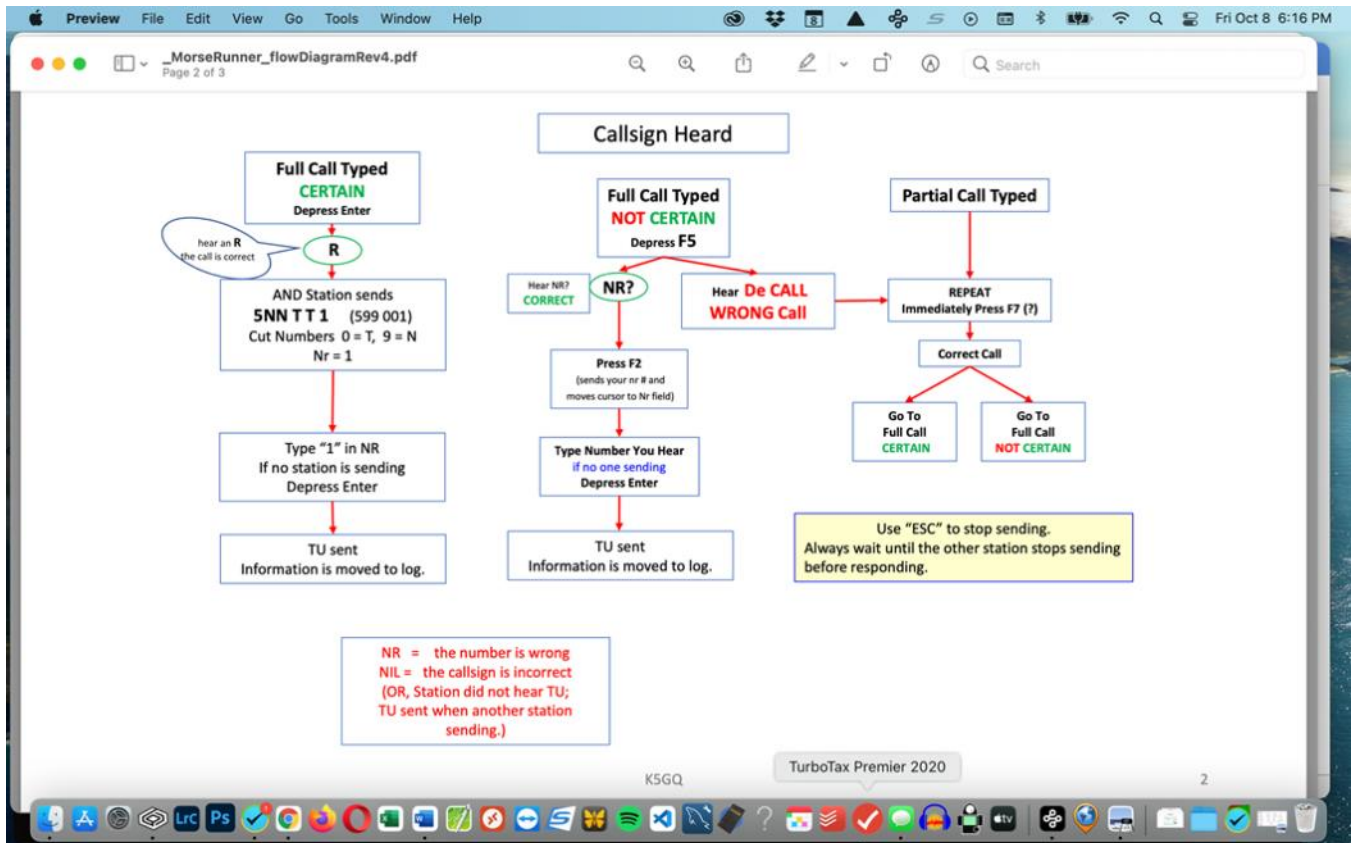
It's free, open-source (<https://github.com/mdp/morse.mdp.im>), and hopefully I'll be able to find the time to add more features.

Maybe some of you will find it useful to hone your skills, or you know someone that could benefit from it. Happy to hear you feedback (but with work and kids don't expect it to be acted on immediately :)).

Mark, K5GQ: One of my intermediate students, Chris, KT9N helped me put the flowchart (next page) together for the Morse Runner program.

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Bruce, K1BG: During the weekend of September 10, 11, and 12, CWops made its presence known at the Northeast HamXposition held in Marlborough, MA. The event was well attended with total of 23 CWops members checked in at the table, and a group photo was taken at 10 AM on Saturday morning. Approximately 50 people were in attendance for a presentation on CW Academy given by Bruce, K1BG on Saturday afternoon. A good time was had by all!



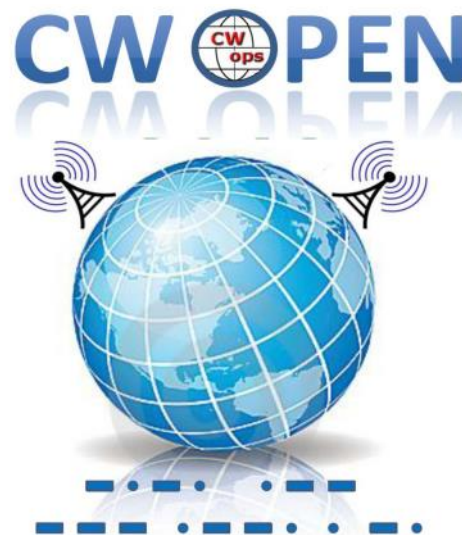
Three CWops members authored articles in the September/October *National Contest Journal*. David Jaffe, WD6T wrote "Adapt or Perish: Station Ergonomics," John Thompson K3MD wrote, "Book Review, *The Network, The Battle for the Airwaves and the Birth of the Communication Age*," and Scott Wright, W0MD co-authored, "ARRL November Sweepstakes as a Gateway to Contesting." Reprinted with permission, copyright ARRL.

<p>David A. Jaffe, WD6T / e@jaffe.com</p> <h3>Adapt or Perish: Station Ergonomics</h3> <p>BIC</p> <p>One of the most important elements in contesting is pulling in the time — aka "BIC" or "butt in chair." We know which butt. But, which chair? Just as a high-performance radio and great antennas are important for success, so is an ergonomic setup that can keep your body in good shape. As I am someone who required carpal tunnel surgery from violin playing at age 19 (I quit my lessons at age 12 and then developed some bad bow-holding habits) and who has struggled with lower back pain for 40 years (I was playing a gig at a gym and decided to see if I could do a flip on the rings), I'm no stranger to repetitive stress injuries. Working as a software engineer involves a lot of sitting, so I've had to figure out how to minimize my back and arm pain. I've cultivated active hobbies and avoided those in which I have to sit. And then, contesting stole my heart. This has forced me to take seriously the issue of station ergonomics. While I am no expert on the subject, I can tell you what has worked for me.</p> <p>Sit/Stand Desk</p> <p>My first important realization was that "BIC" doesn't require sitting. There's no reason you can't stand up while contesting. Or lie down for that matter. It's all a matter of setting up your station in a flexible manner. My first "standing desk" consisted of no more than a few pillows with the keyboard sitting on top. After several years of rotating between sitting and standing by moving the pillows back and forth, I finally invested in a sit/stand desk. This is a motorized desk that allows rapid adjustment to any height. In fact, I can lower it so far that I can work or operate kneeling on the ground. In a long contest, I will rotate between sitting, standing, and</p>  <p>Figure 1 — WD6T at motorized sit/stand desk with low pressure.</p> <p>NCJ Septem</p>	<p>John Thompson, K3MD / k3md009@gmail.com</p> <h3>Book Review: <i>The Network: The Battle for the Airwaves and the Birth of the Communication Age</i></h3> <p><i>The Network: The Battle for the Airwaves and the Birth of the Communication Age</i> by Scott Wootley focuses on the struggle for superiority in the early days of radio — wireless, as it was called then. I have read it twice, and it is good. It does somewhat overemphasize the ignominious end of Edwin Armstrong, in my book the greatest electrical engineer of the 19th century. He had a long struggle with David Sarnoff, chairman of the board of RCA, and there were several behind-the-back courtroom battles which Armstrong lost, and the suits kept up even after Armstrong took his own life. He could not just let things go.</p> <p>Not limited to, but including, E.A. Armstrong's inventions are: The regenerative detector, the US patents for the superheterodyne design (later actually lost to others after the longest patent battle in history), FM, Dolby, and others.</p> <p>From a technical standpoint, Wootley's work is somewhat deficient. You will be forced to search online for the original patents of Armstrong to ascertain how incredibly revolutionary the design of the superheterodyne receiver was (originally designed with triodes). The leap was beyond that of the design and manufacture of the original telephone or electric lamp, the sensitivity increase is on the order of 10,000 to 1,000,000 over the existing technology, perhaps more. The design now has been superseded by the direct digital conversion scheme, which, like many nascent technologies, is showing growing pains, at least in the amateur radio market. It is interesting to note that the early superhets had life of about 60 kHz</p>  <p>and were prone to many times 455 kHz IF came later, as evidenced by such radios as the 1935 model all-band radio in the 1930s.</p> <p>The crushing of the new invention by slewing it up to MHz instead of leaving it at kHz is interesting in a measure that AT&T's phone distribution of AM stations was used. Few had the money, or technology, to receive stations in that range that matter, so effectively the course, those initial radiois conquered in the 1930s. I had in restoring many tube-type receivers with 114 triode sets.</p> <p>The importance of radio is at the sinking of the ably described, although many radio operators have</p> <p>NCJ September/October 2021</p>	<p>Scott Wright, KOMD / scottwrightmd@me.com and Frank M Howell, K4FMH / k4fmh@arrl.net</p> <h3>ARRL November Sweepstakes as a Gateway to Contesting</h3> <p>"These are the best of times...these are the worst of times." — Charles Dickens, <i>A Tale of Two Cities</i></p> <p>Scott Wright: My participation in ARRL November Sweepstakes waxes and wanes due to work issues, family issues, and general interest. My contest station was designed primarily for DX events; "domestic" contesting is secondary. As a former editor of NCJ, I was always intrigued at the diversity of viewpoints and strong loyalty many in the contest community displayed toward Sweepstakes. The COVID-19 pandemic reconfigured work for many of us. The early part of the pandemic was nothing less than overwhelming with 16- to 18-hour days, 7-day workweeks on end, and involvement with what turned out to be the world's largest</p> <p>study on convalescent plasma. The pace of the work, media interviews, and other management activities slowed considerably in the fall of 2020, and radio contesting provided once again an important outlet for my fatigued and stressed mind. My own contest club has a "Get a life award," and I decided this was the contest season to compete for it. You have to enter every major contest as defined by the club, regardless of score. It is an incentive to get operators on the air and keep butts in the chair. I entered the CW and SSB Sweepstakes weekends with intense interest in rediscovering my enthusiasm and affection for this contest series and with a</p> <p>determination that the CW exchange would not prove overly challenging. Much to my surprise, I ran into a lot of relatively newly licensed hams in the contest, handing out checks of 2018 – 2021. I did not recall working as many "newbies" in the past. My feeling was that I worked more newish hams over the SSB weekend than the CW, but both events had a remarkable number.</p> <p>My tenure as NCJ editor ended with the November/December 2020 issue, so I thought it might be an opportune time to analyze what I had actually observed. ARRL was contacted and endorsed the analysis of ARRL SS log checks from the</p>  <p>Figure 1 — US participants in CW and Phone Sweepstakes weekends for 2000, 2005, 2011, 2015, and 2020.</p> <p>16 September/October 2021 NCJ</p>
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The 2021 CW Open

Bruce Meier – N1LN

The 2021 CW Open was another one for the record books. It didn't break as many records as the 2020 Open, but that would have been hard to impossible. However, each Session did break at least one record. The specifics will be detailed in the session by session write-up, but at a high level the results were about flat with last year. For example, in 2020 the CW Open log submissions totaled 1141. For this year log submission was 1167. Only a 2.2% increase, but with looking back at last year's increase of 89%, that little increase is OUTSTANDING!. For 2021 logs were submitted by 532 members and non-members. This was up from 518. Again, not a huge increase but it was still an increase. The CW Open is definitely increasing in global participation and popularity. While we are on the topic of global participation, I would like to bring everyone's attention the Region 3 participation and results. This year the 100 QSO log submission rule for award qualification was reinstated. As you will read in the upcoming Session detail, participants from Region 3 received both trophies and plaques with logs exceeding 100 Qs. The final overall statistic that I would like to mention is the high scores. In 2020 there were 5 logs submitted exceeding 200K points and 64 logs submitted exceeding 100K points. In 2021 there were 8 logs submitted exceeding 200K points and 66 logs submitted exceeding 100K points. 8 of the >100K logs were from low power stations. I hope every participant had as much fun with this year's CW Open as I did.



The CW Open is always held on the first weekend of September. This year the CW Open Session 1 started on September 4 at 0000Z. Session 2 started at 1200Z and Session 3 started at 2000Z. This flexible session schedule and format allows participants to operate in all sessions or any combination of sessions. The winners of the trophies are selected by ITU region based on session high scores and combined scores. The plaques are also ITU region based and awarded by session for high scores in each power level; High, Low, QRP. The specific winners of the trophies and plaques can be found below for each session.

We would like to once again recognize and thank ICOM America for providing the beautiful trophies and plaques to the CW Open winners. The CW Operators Club really appreciates ICOM's continuing support of our premier operating event. Please be sure to check out ICOM at: <http://www.icomamerica.com/en/amateur/>

So, let's take a look at the 2021 session results.

Session 1 – 0000Z to 0400Z

Session 1 results are based on 356 logs received, up 7 from last year and I am thrilled to report that all 3 ITU Regions submitted logs and qualified for trophies and plaques. The QSO totals increased by 1.5% and the multipliers were down by .8%. The relationship of Qs and Mults resulted

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in a small increase of .2% to points, but points per log dropped by 1.4%. NOTE: In Session 1 we had 9 CHECK LOGS.

Here are the details for Session 1. Plaque and Trophy winners are highlighted in **YELLOW**.

Call	Name	QSOs	Mults	Score	Power	Call (Cont.)	Name	QSOs	Mults	Score	Power
AA3B	BUD	653	399	260547	HIGH	KC9EE	GARY	231	202	46662	HIGH
K3WW	CHAS	608	387	235296	HIGH	N4KS	KEN	233	200	46600	HIGH
N4YDU	NATE	547	335	183245	HIGH	W3MA	JOHN	253	182	46046	HIGH
N5ZO	MARK	513	316	162108	HIGH	K8JQ	STEVE	238	192	45696	HIGH
N4AF	AL	479	328	157112	HIGH	NP2X	ED	233	191	44503	HIGH
N5RZ	GATOR	488	317	154696	HIGH	K4WW	BO	230	193	44390	HIGH
NY3A	STEVE	476	308	146608	HIGH	KV0I	BILL	245	180	44100	HIGH
K5PI	ROB	463	305	141215	HIGH	N3JT	JIM	221	195	43095	HIGH
N1LN	BRUCE	448	311	139328	HIGH	LZ1ZF	GOSHO	199	198	39402	HIGH
AD4EB	JIM	450	304	136800	HIGH	K4EU	STEVE	215	180	38700	HIGH
K3WJV	BILL	433	290	125570	HIGH	VE5MX	TODD	214	176	37664	HIGH
K7RL	MITCH	436	273	119028	HIGH	N2RC	MIKE	215	174	37410	HIGH
CR6K	FIL	405	291	117855	HIGH	K0INN	TOM	204	178	36312	HIGH
K2SX	DENNIS	413	278	114814	HIGH	WN7S	DICK	217	167	36239	HIGH
N3QE	TIM	392	292	114464	HIGH	N6XI	RICK	203	174	35322	HIGH
N3AD	ALAN	406	281	114086	HIGH	WT2P	CJ	208	165	34320	HIGH
W6SX	HANK	406	279	113274	HIGH	WK2G	JOE	208	164	34112	HIGH
K4BAI	JOHN	410	273	111930	HIGH	EA1X	JUAN	213	160	34080	HIGH
K4OAQ	FRITZ	387	283	109521	HIGH	K4AFE	JOHN	191	177	33807	HIGH
KR2Q	DOUG	393	277	108861	HIGH	AA5JF	ANDY	206	164	33784	HIGH
K5TU	KIM	390	277	108030	HIGH	WO4O	RIC	178	176	31328	HIGH
W6AQ	DAVE	396	271	107316	HIGH	K6TJ	PETE	191	162	30942	HIGH
AB0S	TIM	402	266	106932	HIGH	VE2FK	DUB	186	165	30690	HIGH
W2MKM	ED	388	274	106312	HIGH	M2G	JOHN	183	165	30195	HIGH
W5TM	ED	390	263	102570	HIGH	I2WIJ	BOB	199	147	29253	HIGH
K6RB	ROB	375	267	100125	HIGH	W1RM	PETE	177	164	29028	HIGH
N3OC	BRIAN	378	263	99414	HIGH	VE3NNT	LES	191	149	28459	HIGH
K9CT	CRAIG	383	257	98431	HIGH	PA3AAV	GERT	186	148	27528	HIGH
N4ZR	PETE	375	261	97875	HIGH	N2NC	JOHN	169	158	26702	HIGH
W4WF	CHRIS	364	268	97552	HIGH	WA5YOM	TIM	196	136	26656	HIGH
W2GD	JOHN	391	238	93058	HIGH	WA8KAN	DAVE	188	131	24628	HIGH
AE6Y	ANDY	363	255	92565	HIGH	OK3C	LUD	172	139	23908	HIGH
N5EE	KEN	353	259	91427	HIGH	YU7KW	ZORAN	156	150	23400	HIGH
K7QA	TOM	367	242	88814	HIGH	N7US	JIM	173	134	23182	HIGH
N6RK	RICK	353	251	88603	HIGH	EA5FID	JUAN	155	144	22320	HIGH
K3SW	STEVE	343	251	86093	HIGH	NW3Y	CC	158	141	22278	HIGH
K0ZR	JEFF	328	260	85280	HIGH	EC3A	FER	158	134	21172	HIGH
N8AA	JOHN	345	246	84870	HIGH	W4XO	LEX	156	129	20124	HIGH
N0TA	JOHN	331	249	82419	HIGH	NN4K	MAC	149	122	18178	HIGH
K6NR	DANA	333	244	81252	HIGH	EA4OR	NACHO	135	129	17415	HIGH
N3RD	DAVE	326	247	80522	HIGH	W2XYZ	FRANK	142	122	17324	HIGH
N4IQ	BILL	317	240	76080	HIGH	K0TC	RON	148	116	17168	HIGH
WT3K	DARYL	318	235	74730	HIGH	W3FIZ	PAT	144	119	17136	HIGH
W8FN	RANDY	318	228	72504	HIGH	KA5M	MARSH	128	128	16384	HIGH
DK9PY	ARMIN	287	243	69741	HIGH	K7RB	DICK	151	105	15855	HIGH
W3FV	BARRY	320	217	69440	HIGH	K5GQ	MARK	137	114	15618	HIGH
KQ4R	ED	311	223	69353	HIGH	K1RV	PI	127	121	15367	HIGH
K3JT	TERRY	283	245	69335	HIGH	KE4S	DAVE	128	114	14592	HIGH
KU8E	JEFF	309	224	69216	HIGH	WA6URY	DAN	140	104	14560	HIGH
K4QS	CHUCK	292	237	69204	HIGH	SP1NY	MIREK	129	109	14061	HIGH
WA3AAN	GRANT	295	231	68145	HIGH	4X6GP	VIC	118	118	13924	HIGH
VA7DX	NEIL	295	230	67850	HIGH	SP2LNW	SLAW	131	105	13755	HIGH
K8PK	PETER	296	222	65712	HIGH	EA5IUY	GARY	120	112	13440	HIGH
K9MA	SCOTT	306	214	65484	HIGH	OK1RR	MARTIN	123	109	13407	HIGH
K3UL	BOB	289	221	63869	HIGH	UR7GO	ALEX	114	114	12996	HIGH
K1EBY	FRANK	286	207	59202	HIGH	ZL1BBW	GAVIN	110	109	11990	HIGH
EB5A	YURI	265	220	58300	HIGH	K1DJ	RICH	114	105	11970	HIGH
K4NMR	TOM	229	218	49922	HIGH	WD6T	DAVE	110	101	11110	HIGH
VE3KP	KEN	262	187	48994	HIGH	KE4KY	TOM	103	102	10506	HIGH
WA8Y	STEVE	255	191	48705	HIGH	N1SNB	JEFF	101	99	9999	HIGH
N4FP	WAYNE	265	183	48495	HIGH	N5AW	MARV	101	93	9393	HIGH
VE7KW	KEITH	256	183	46848	HIGH	KT4XN	TOM	102	90	9180	HIGH

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Call (Cont.)	Name	QSOs	Mults	Score	Power	Call (Cont.)	Name	QSOs	Mults	Score	Power
N9RV	PAT	97	92	8924	HIGH	W9ILY	JOHN	60	60	3600	HIGH
NS4X	BART	100	89	8900	HIGH	WA5LXS	DENNIS	57	54	3078	HIGH
WE5P	BILL	105	83	8715	HIGH	N4GU	MIKE	50	49	2450	HIGH
KA7MDM	GREGG	104	83	8632	HIGH	NS3L	STEVE	50	48	2400	HIGH
WC7Q	SAM	93	91	8463	HIGH	SD1A	ERIC	50	46	2300	HIGH
G4LPP	PHIL	103	82	8446	HIGH	KC7V	MIKE	47	43	2021	HIGH
WR7T	PHIL	97	86	8342	HIGH	VK2GR	ALLAN	43	43	1849	HIGH
AC4CA	JOHN	94	85	7990	HIGH	LY7M	AL	45	39	1755	HIGH
NM5G	KEITH	97	81	7857	HIGH	VE3BXG	MARK	41	41	1681	HIGH
DF5EG	JOE	94	83	7802	HIGH	HP3SS	ROBBY	38	38	1444	HIGH
GM2V	CHRIS	96	81	7776	HIGH	DL6KVA	AXEL	37	37	1369	HIGH
K3ZA	TONY	89	87	7743	HIGH	M0NGN	NIGE	35	35	1225	HIGH
AC3LZ	FRED	96	79	7584	HIGH	JN1THL	KEN	32	32	1024	HIGH
K1TH	TOM	91	83	7553	HIGH	K5LY	LEE	28	28	784	HIGH
N4KW	PETE	90	80	7200	HIGH	VE7IO	FRED	27	27	729	HIGH
OZ3SM	STEVE	98	73	7154	HIGH	UA4PAQ	RAS	29	25	725	HIGH
K0HD	JOHN	94	76	7144	HIGH	JF1UOX	MISA	18	18	324	HIGH
VE3TW	STAN	92	77	7084	HIGH	VU2CPL	MANOJ	14	14	196	HIGH
K6NV	BOB	80	73	5840	HIGH	W7PEZ	PAUL	10	10	100	HIGH
K7NJ	RIKI	76	76	5776	HIGH	JS2AHG	ATSU	3	3	9	HIGH
NN2NN	STEVE	82	68	5576	HIGH	K6TTT	BRUCE	3	3	9	HIGH
N5EP	STEVE	79	70	5530	HIGH	K4RUM	MIKE	107	0	Check	HIGH
N3CW	ED	75	73	5475	HIGH	KG7MVH	PETER	6	0	Check	HIGH
DL4ME	RON	77	70	5390	HIGH	N5TOO	VAN	27	0	Check	HIGH
W3SA	JOHN	71	70	4970	HIGH	RM4F	NICK	15	0	Check	HIGH
AF5J	HAL	73	65	4745	HIGH	VK2PN	PAT	1	0	Check	HIGH
K2QMF	TED	72	65	4680	HIGH	W2CDO	PETER	395	0	Check	HIGH
NF3R	JOEL	68	64	4352	HIGH	YL2TD	GENE	21	0	Check	HIGH

Call (Cont.)	Name	QSOs	Mults	Score	Power	Call (Cont.)	Name	QSOs	Mults	Score	Power
N4ZZ	DON	421	290	122090	LOW	N5XE	CARL	195	140	27300	LOW
WT9U	JIM	378	260	98280	LOW	AA4NP	JIM	180	147	26460	LOW
N2YO	CHIP	341	244	83204	LOW	N4DW	DAVE	177	149	26373	LOW
KG9X	FRED	344	220	75680	LOW	NJ8J	BEN	180	138	24840	LOW
K1VUT	DAVE	323	233	75259	LOW	K4EJ	FRANK	167	146	24382	LOW
K4FN	DAN	325	217	70525	LOW	CO8NMN	NOE	152	152	23104	LOW
W1QK	DAN	320	220	70400	LOW	WR4T	TED	153	150	22950	LOW
KE2D	BOB	311	224	69664	LOW	W3VHK	SAUL	186	123	22878	LOW
W1NN	HAL	305	224	68320	LOW	N8LR	GARY	175	128	22400	LOW
W0AAE	BOB	312	218	68016	LOW	N2EY	JIM	169	131	22139	LOW
KM6Z	VLAD	317	214	67838	LOW	K4GM	GEO	159	125	19875	LOW
WJ9B	WILL	290	209	60610	LOW	VE3TM	VLAD	151	128	19328	LOW
KG5U	DALE	291	205	59655	LOW	WS1L	CHUCK	138	135	18630	LOW
N2UU	BOB	290	203	58870	LOW	K3IE	HUNTER	151	120	18120	LOW
W0UO	JIM	277	207	57339	LOW	K8BB	DON	139	121	16819	LOW
KE8G	JIM	231	230	53130	LOW	N3AC	DAVE	140	120	16800	LOW
K0AD	AL	266	192	51072	LOW	9A1AA	IVO	141	119	16779	LOW
N7DX	TONY	246	197	48462	LOW	KX3H	TONY	140	119	16660	LOW
N3ZL	GREG	249	194	48306	LOW	K4TZ	TOM	132	115	15180	LOW
W3KB	KEITH	281	171	48051	LOW	K3QP	BILL	125	112	14000	LOW
KY0Q	RICK	246	190	46740	LOW	AA2IL	JOE	128	108	13824	LOW
NW0M	MITCH	264	173	45672	LOW	N4AO	JEFF	131	102	13362	LOW
K2ZR	DICK	241	167	40247	LOW	N0AT	RON	123	108	13284	LOW
N1DC	RICK	226	178	40228	LOW	KD2KW	KEN	123	105	12915	LOW
NJ3K	BRUCE	215	178	38270	LOW	W4KAZ	KAZ	120	106	12720	LOW
K3PP	GLENN	236	162	38232	LOW	M0RYB	PETER	117	99	11583	LOW
NR3Z	MARTY	231	164	37884	LOW	W2LCQ	ED	109	91	9919	LOW
NN5O	LARRY	219	167	36573	LOW	NF8M	FRANK	109	90	9810	LOW
AH6KO	STAN	205	173	35465	LOW	N4BP	BOB	99	99	9801	LOW
K2QB	JIM	210	166	34860	LOW	W6LAX	ROGER	108	88	9504	LOW
VE3GFN	MIKE	209	153	31977	LOW	KC4WQ	BUD	100	95	9500	LOW
KB3AAY	RON	214	149	31886	LOW	K5XU	MIKE	104	89	9256	LOW
N3CKI	DAVE	199	158	31442	LOW	AA6XA	JEFF	106	85	9010	LOW
KN7T	MARK	194	161	31234	LOW	K1SEI	TAGE	103	85	8755	LOW
KM4FO	DWIGHT	193	156	30108	LOW	AI6O	ED	96	91	8736	LOW
W0TG	BILL	212	139	29468	LOW	SN5J	JAN	105	82	8610	LOW
NK4O	AJ	198	147	29106	LOW	KC8J	WALT	102	83	8466	LOW
W8EH	ERNIE	195	145	28275	LOW	W4EE	JIM	98	86	8428	LOW

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Call (Cont.)	Name	QSOs	Mults	Score	Power	Call (Cont.)	Name	QSOs	Mults	Score	Power
G3LDI	ROGER	105	79	8295	LOW	Z32U	ZOKI	38	38	1444	LOW
AC5XK	DON	98	84	8232	LOW	W6GMT	BROCK	37	36	1332	LOW
SM5IMO	DAN	99	83	8217	LOW	K8VA	MIKE	36	36	1296	LOW
K7GS	GARY	93	87	8091	LOW	W7GF	MIKE	35	35	1225	LOW
SP2R	DAREK	101	80	8080	LOW	WT8P	JIM	35	35	1225	LOW
W8OV	DAVE	99	81	8019	LOW	UR7MZ	VLAD	35	33	1155	LOW
AC9EZ	JIM	93	85	7905	LOW	WB2KWC	KEN	35	32	1120	LOW
VE3MV	DOUG	93	82	7626	LOW	W4SSF	STAN	32	32	1024	LOW
N4ARY	AARON	99	77	7623	LOW	AB5XS	JIM	31	31	961	LOW
N9ID	MIKE	87	86	7482	LOW	K3ZGA	BOB	31	30	930	LOW
W9NXM	GUS	92	79	7268	LOW	PA2TA	TJAKKO	31	30	930	LOW
N7WY	BOB	90	80	7200	LOW	WS5D	JACK	31	30	930	LOW
KA1YQC	MARK	86	78	6708	LOW	VE4DL	DAVID	29	27	783	LOW
IK3YBX	RICKY	88	72	6336	LOW	RA3XCZ	VLAD	28	23	644	LOW
WA9LEY	LEE	84	74	6216	LOW	AJ4F	ROBIE	25	25	625	LOW
LB6GG	HANS	89	66	5874	LOW	W7JET	BRIAN	25	25	625	LOW
K8RGI	BOB	76	75	5700	LOW	WO9B	MIKE	25	23	575	LOW
KD2EPM	DOM	79	71	5609	LOW	W4CMG	CATHY	23	23	529	LOW
KG4W	ED	74	74	5476	LOW	KW7WP	JAMIE	22	22	484	LOW
W1UJ	JAY	71	70	4970	LOW	VA3PM	PIERRE	22	22	484	LOW
KE0TT	DAN	69	69	4761	LOW	VE7JH	GABOR	22	22	484	LOW
G3WRJ	DICK	75	63	4725	LOW	G8VPE	JOHN	22	21	462	LOW
UA6GO	VLAD	70	59	4130	LOW	AG3I	MARTY	21	21	441	LOW
AA4WW	MATT	61	61	3721	LOW	K9WX	TIM	19	19	361	LOW
PA2ST	BEN	62	57	3534	LOW	SM5S	GI	19	19	361	LOW
M0XUU	PAN	66	53	3498	LOW	K9KM	HOWIE	18	18	324	LOW
AJ1DM	JOHN	59	58	3422	LOW	KC9YL	ANNE	18	18	324	LOW
W8MET	MET	57	57	3249	LOW	W2NRA	ART	17	17	289	LOW
F5SGI	JEAN	61	53	3233	LOW	F5OKB	PETER	16	16	256	LOW
KP3W	JOSE	55	55	3025	LOW	K8GT	GERRY	14	14	196	LOW
W6QX	STEVE	58	49	2842	LOW	K6UFO	MORK	13	13	169	LOW
W6AYC	JOE	56	49	2744	LOW	KD9KHA	ANDY	13	13	169	LOW
N3NR	NICK	53	51	2703	LOW	K1ARR	ART	12	12	144	LOW
G3YLA	JIM	58	44	2552	LOW	KE6JAC	AL	11	10	110	LOW
DJ1OJ	HEIJO	49	45	2205	LOW	WA3GM	GREG	9	9	81	LOW
KB4DE	BILL	45	45	2025	LOW	WA3GPP	RICH	9	9	81	LOW
NN0G	DANA	44	43	1892	LOW	N4ZM	NANCY	4	4	16	LOW
W0HY	JEFF	44	42	1848	LOW	VU3RDD	RAM	4	4	16	LOW
KB5RF	TOM	44	41	1804	LOW	RC9A	ANDY	2	2	4	LOW
CO8WN	MANDY	42	42	1764	LOW	AA8IA	MIKE	1	0	Check	LOW
WA7BNM	BRUCE	39	39	1521	LOW	G4KQY	MIKE	30	0	Check	LOW
2E0OBO	BOB	39	38	1482	LOW						

Call (Cont.)	Name	QSOs	Mults	Score	Power	Call (Cont.)	Name	QSOs	Mults	Score	Power
W1UU	PETER	177	123	21771	QRP	LY5G	VITAS	45	36	1620	QRP
W7ZRC	ROD	159	124	19716	QRP	NS2N	PAUL	37	37	1369	QRP
W6JTI	FRANK	137	109	14933	QRP	OK2NAJ	JIRI	36	33	1188	QRP
N5ER	JOHN	131	109	14279	QRP	KR4AE	ALAN	30	30	900	QRP
KU1N	KEITH	95	81	7695	QRP	UA6AK	VAL	18	18	324	QRP
W7LG	MIKE	66	62	4092	QRP	K1SX	DAVE	15	15	225	QRP
VA3AMX	ERIC	51	48	2448	QRP	K9AXT1	LARRY	8	8	64	QRP
N6MA	PAUL	48	47	2256	QRP	GW4OKT	KEITH	6	6	36	QRP
KJ4YM	MARK	47	46	2162	QRP						

Session 1 Analysis:

For Region 1 High Power, Fil (CR6K) came in first with final numbers of 405 QSOs, 291 Multipliers and a score of 117855. Armin (DK9PY) came in second with a score of 69741. The Region 2 winner, once again this year, was Bud (AA3B) with an outstanding QSO count of 653, 399 Mults and a score of 260547. Chas (K3WW) came in second place with a score of 235296. For Region 3, Gavin (ZL1BBW) came in first with 110 QSOs, 109 Multipliers and a score of 11990. Alan (VK2GR) came in second with a score of 1849. Moving on to Low Power, the Region 1 winner was Ivo (9A1AA)

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with a QSO total of 141 and a mult total of 119 resulting in a score of 16779. Peter (M0RYB) placed second with a score of 11583. For Region 2 Don (N4ZZ) finished first again this year with a QSO total of 421, mult total of 290 and a score of 122,090 points. Jim (WT9U) placed second this year with a score of 98280. In the QRP category, Region 2 was the only region to make the 100 QSO required total with Peter (W1UU) finishing first with a QSO total of 177, mult total of 123 and a total score of 21771.



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Session 2 - 1200 to 1600Z

Session 2 results are based on 410 logs received, up 4.4% from last year, with submissions from all 3 ITU Regions. The QSO totals were almost the same as 2020 with an increase of only 28. The multipliers dropped, but by only 1%. When these factors are rolled together it resulted in a points decrease of just under 26K or just over 1%. Session 2 had three submissions that exceeded 200K points and 18 exceeding 100K, 1 of which was a low power entry. Note: there were 13

Call	Name	QSOs	Mults	Score	Power	Call (Cont.)	Name	QSOs	Mults	Score	Power
N2IC	STEVE	652	374	243848	HIGH	NW0M	MITCH	295	219	64605	HIGH
AA3B	BUD	556	366	203496	HIGH	K4NMR	TOM	273	236	64428	HIGH
K3WW	CHAS	544	372	202368	HIGH	N0AT	RON	272	231	62832	HIGH
N5AW	MARV	505	340	171700	HIGH	W3FV	BARRY	294	213	62622	HIGH
K5PI	ROB	507	332	168324	HIGH	N8AA	JOHN	285	212	60420	HIGH
N5ZO	MARK	530	311	164830	HIGH	K7QA	TOM	277	218	60386	HIGH
N5RZ	GATOR	477	341	162657	HIGH	K5UV	MIKE	282	214	60348	HIGH
N4AF	AL	449	330	148170	HIGH	K4WW	BO	269	220	59180	HIGH
DK9PY	ARMIN	393	333	130869	HIGH	N4ZR	PETE	259	222	57498	HIGH
W6AQ	DAVE	419	285	119415	HIGH	K3SW	SW	259	216	55944	HIGH
W5TM	ED	399	299	119301	HIGH	OK3C	LUD	264	209	55176	HIGH
AD4EB	JIM	399	298	118902	HIGH	LZ1ZF	GOSHO	261	210	54810	HIGH
N1LN	BRUCE	411	288	118368	HIGH	VE7KW	KEITH	258	202	52116	HIGH
K5TU	KIM	412	283	116596	HIGH	K2DM	GEORGE	247	209	51623	HIGH
NY3A	STEVE	389	297	115533	HIGH	W3MA	JOHN	265	194	51410	HIGH
N3QE	TIM	384	295	113280	HIGH	K3UL	BOB	246	204	50184	HIGH
K4OAO	FRITZ	374	279	104346	HIGH	N4KS	KEN	242	201	48642	HIGH
W4WF	CHRIS	370	279	103230	HIGH	N3JT	JIM	242	199	48158	HIGH
AB0S	TIM	371	273	101283	HIGH	WA8Y	STEVE	238	201	47838	HIGH
KR2Q	DOUG	361	278	100358	HIGH	VA7DX	NEIL	208	206	42848	HIGH
WO4O	RIC	341	290	98890	HIGH	PA3AAV	GERT	222	193	42846	HIGH
CR6K	FIL	357	273	97461	HIGH	K1EBY	FRANK	228	183	41724	HIGH
N5EE	KEN	349	279	97371	HIGH	KV0I	BILL	226	182	41132	HIGH
K3WJV	BILL	364	262	95368	HIGH	DL6KVA	AXEL	224	183	40992	HIGH
K4BAI	JOHN	353	268	94604	HIGH	DL5AXX	ULF	217	184	39928	HIGH
W2GD	JOHN	369	250	92250	HIGH	N3RD	DAVE	217	183	39711	HIGH
K0ZR	JEFF	339	268	90852	HIGH	UR7GO	ALEX	197	194	38218	HIGH
N9RV	PAT	329	271	89159	HIGH	N2RC	MIKE	220	173	38060	HIGH
N3OC	BRIAN	330	265	87450	HIGH	N5TOO	VAN	211	177	37347	HIGH
VE3NNT	LES	314	267	83838	HIGH	K9MA	SCOTT	199	187	37213	HIGH
N3AD	ALAN	336	249	83664	HIGH	EA4OR	NACHO	201	185	37185	HIGH
EA1X	JUAN	322	258	83076	HIGH	SP2LNW	SLAW	196	179	35084	HIGH
N0TA	JOHN	333	238	79254	HIGH	WA3AAN	GRANT	215	163	35045	HIGH
NP2X	ED	319	242	77198	HIGH	EC3A	FER	200	159	31800	HIGH
K6RB	ROB	305	248	75640	HIGH	K2SX	DENNIS	188	165	31020	HIGH
EB5A	YURI	302	250	75500	HIGH	SF1Z	JENS	190	159	30210	HIGH
K6NR	DANA	333	223	74259	HIGH	K1TZQ	HOWIE	181	166	30046	HIGH
W8FN	RANDY	310	222	68820	HIGH	WN7S	DICK	191	157	29987	HIGH
KQ4R	ED	296	230	68080	HIGH	K4EU	STEVE	197	152	29944	HIGH
GM2V	CHRIS	292	230	67160	HIGH	I2WIJ	BOB	201	147	29547	HIGH
M2G	JOHN	268	249	66732	HIGH	K0INN	TOM	187	158	29546	HIGH

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Call (Cont.)	Name	QSOs	Mults	Score	Power
KU8E	JEFF	181	162	29322	HIGH
OZ3SM	STEVE	179	162	28998	HIGH
SP1NY	MIREK	172	167	28724	HIGH
N3CW	ED	179	156	27924	HIGH
W1TO	TOM	167	154	25718	HIGH
K1DJ	RICH	169	149	25181	HIGH
DL5JQ	ERHARD	168	148	24864	HIGH
WT3K	DARYL	162	150	24300	HIGH
VE2FK	DUB	156	153	23868	HIGH
WA8KAN	DAVE	171	139	23769	HIGH
NW3Y	CC	163	143	23309	HIGH
OY1CT	CAEN	161	143	23023	HIGH
KE4S	DAVE	169	134	22646	HIGH
G4LPP	PHIL	156	144	22464	HIGH
EA5FID	JUAN	151	140	21140	HIGH
DF5EG	JOE	146	140	20440	HIGH
4X6GP	VIC	152	132	20064	HIGH
W4XO	LEX	163	123	20049	HIGH
N6RK	RICK	146	131	19126	HIGH
YL2PJ	SIGI	150	126	18900	HIGH
K4AFE	JOHN	135	134	18090	HIGH
K2QMF	TED	138	129	17802	HIGH
M1X	STEVE	150	118	17700	HIGH
VE3KP	KEN	142	122	17324	HIGH
W3FIZ	PAT	142	118	16756	HIGH
KA5M	MARSH	132	126	16632	HIGH
W1KM	GREG	137	120	16440	HIGH
W2XYZ	FRANK	139	110	15290	HIGH
N4YDU	NATE	130	115	14950	HIGH
K3JT	TERRY	126	115	14490	HIGH
W1RM	PETE	122	118	14396	HIGH
K6TJ	PETE	119	119	14161	HIGH
EA5M	DANI	119	109	12971	HIGH
AA5JF	ANDY	113	109	12317	HIGH
K7RB	DICK	110	102	11220	HIGH
K0TC	RON	118	94	11092	HIGH
VK2GR	ALLAN	105	103	10815	HIGH
N4FP	WAYNE	112	92	10304	HIGH
UY1HY	VAL	107	96	10272	HIGH
KE4KY	TOM	101	101	10201	HIGH
G3XLG	RAY	113	86	9718	HIGH
UA9CTT	MIKE	97	97	9409	HIGH
KT4O	BEN	99	93	9207	HIGH
G3WZD	MAC	96	95	9120	HIGH
W9ILY	JOHN	100	89	8900	HIGH
SD1A	ERIC	101	87	8787	HIGH
N1SNB	JEFF	95	90	8550	HIGH
KC7V	MIKE	96	89	8544	HIGH
K1TH	TOM	97	88	8536	HIGH
N5EP	STEVE	101	84	8484	HIGH
WE5P	BILL	101	81	8181	HIGH
OK1RR	MARTIN	96	84	8064	HIGH
K5GQ	MARK	100	80	8000	HIGH
DD7CW	ROCKY	93	83	7719	HIGH
VE7IO	FRED	88	82	7216	HIGH
UR5R	ALEX	85	83	7055	HIGH
EA5IUY	GARY	83	80	6640	HIGH
K8PK	PETER	85	77	6545	HIGH

Call (Cont.)	Name	QSOs	Mults	Score	Power
W4PF	STEVE	78	78	6084	HIGH
AA2AD	PETE	81	73	5913	HIGH
NS4X	BART	81	72	5832	HIGH
NM5G	KEITH	82	65	5330	HIGH
K2UA	RUS	73	73	5329	HIGH
NF3R	JOEL	76	66	5016	HIGH
K7UT	DARRYL	71	64	4544	HIGH
N4KW	PETE	69	64	4416	HIGH
YL2TD	GENE	70	62	4340	HIGH
EA3HSO	AL	64	64	4096	HIGH
AD0AB	JIM	67	60	4020	HIGH
K3CT	JOHN	65	58	3770	HIGH
A4WVW	DAN	61	61	3721	HIGH
N2NC	JOHN	63	57	3591	HIGH
NN2NN	STEVE	58	56	3248	HIGH
DL4ME	RON	58	54	3132	HIGH
VU2CPL	MANOJ	55	54	2970	HIGH
W7PEZ	PAUL	56	51	2856	HIGH
AC4CA	JOHN	52	52	2704	HIGH
KJ9C	MEL	49	49	2401	HIGH
KT4XN	TOM	49	48	2352	HIGH
YU7KW	ZORAN	47	47	2209	HIGH
KA7MDM	GREGG	51	43	2193	HIGH
AF5J	HAL	47	41	1927	HIGH
K8JQ	STEVE	43	43	1849	HIGH
NS3L	STEVE	41	41	1681	HIGH
JN1THL	KEN	40	40	1600	HIGH
K7WP	JOHN	40	40	1600	HIGH
AC6ZM	JUAN	39	39	1521	HIGH
JF1UOX	MISA	37	36	1332	HIGH
K0HD	JOHN	36	36	1296	HIGH
PA0INA	FRANS	40	31	1240	HIGH
AF4T	DOUG	34	34	1156	HIGH
LZ5N	SPAS	34	34	1156	HIGH
R2FZ	VLAD	34	34	1156	HIGH
WA5LXS	DENNIS	35	32	1120	HIGH
VE3BXG	MARK	32	32	1024	HIGH
K6TTT	BRUCE	31	29	899	HIGH
K1RV	PI	29	29	841	HIGH
AC3LZ	FRED	30	27	810	HIGH
WR7T	PHIL	29	25	725	HIGH
PA5KT	HENK	26	25	650	HIGH
W6SX	HANK	26	25	650	HIGH
AC0E	JIM	25	24	600	HIGH
M0NGN	NIGE	25	24	600	HIGH
N4GU	MIKE	22	22	484	HIGH
K4RUM	MIKE	21	21	441	HIGH
K2YR	CARL	20	19	380	HIGH
K6NV	BOB	20	19	380	HIGH
UA0DAR	VLAD	14	14	196	HIGH
VE3TW	STAN	14	14	196	HIGH
JS2AHG	ATSU	5	5	25	HIGH
JA3AVO	SUMI	1	1	1	HIGH
AE2W	DEN	221	0	Check	HIGH
KG7MVH	PETER	2	0	Check	HIGH
LY7M	AL	12	0	Check	HIGH
M2D	PHIL	92	0	Check	HIGH
W2CDO	PETER	203	0	Check	HIGH

Call (Cont.)	Name	QSOs	Mults	Score	Power
N4ZZ	DON	405	316	127980	LOW
K0AD	AL	339	252	85428	LOW
WJ9B	WILL	345	239	82455	LOW
VE3KI	RICH	291	236	68676	LOW
WT9U	JIM	290	232	67280	LOW
KG9X	FRED	294	223	65562	LOW
KM6Z	VLAD	279	209	58311	LOW
K1VUT	DAVE	273	209	57057	LOW

Call (Cont.)	Name	QSOs	Mults	Score	Power
KE2D	BOB	273	203	55419	LOW
N2YO	CHIP	262	206	53972	LOW
W0AAE	BOB	265	200	53000	LOW
NN5O	LARRY	258	205	52890	LOW
9A1AA	IVO	246	207	50922	LOW
N3HEE	JOE	218	193	42074	LOW
KG5U	DALE	235	168	39480	LOW
K9WX	TIM	224	176	39424	LOW

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Call (Cont.)	Name	QSOs	Mults	Score	Power	Call (Cont.)	Name	QSOs	Mults	Score	Power
W3KB	KEITH	218	172	37496	LOW	G3LDI	ROGER	87	68	5916	LOW
N4BP	BOB	198	182	36036	LOW	SM5IMO	DAN	78	74	5772	LOW
NJ3K	BRUCE	195	184	35880	LOW	NR3Z	MARTY	75	71	5325	LOW
K2ZR	DICK	209	161	33649	LOW	N3NR	NICK	77	69	5313	LOW
N1DC	RICK	200	162	32400	LOW	EA3FZT	FRANCIS	73	70	5110	LOW
N7DX	TONY	190	155	29450	LOW	IK3QAR	PAOLO	72	69	4968	LOW
K3PP	GLENN	195	149	29055	LOW	N8LR	GARY	75	65	4875	LOW
K4EJ	FRANK	178	148	26344	LOW	KD2KW	KEN	73	66	4818	LOW
KM4FO	DWIGHT	170	154	26180	LOW	KE0TT	DAN	71	67	4757	LOW
IK3YBX	RICKY	179	146	26134	LOW	LZ1VKD	KIRIL	66	66	4356	LOW
SP1D	ROBERT	168	146	24528	LOW	K7AZT	PAUL	68	60	4080	LOW
KB3AAY	RON	176	133	23408	LOW	G3WRJ	DICK	71	57	4047	LOW
W8EH	ERNIE	173	134	23182	LOW	K1SEI	TAGE	67	60	4020	LOW
W1NN	HAL	159	145	23055	LOW	AA4WW	MATT	62	62	3844	LOW
AH6KO	STAN	169	136	22984	LOW	KB4CG	JACK	65	58	3770	LOW
DF7TV	TOM	162	141	22842	LOW	AF8A	GARY	61	60	3660	LOW
KV8Q	TOM	165	130	21450	LOW	PA2ST	BEN	71	50	3550	LOW
VE3TM	VLAD	156	136	21216	LOW	W2LCQ	ED	62	57	3534	LOW
N4AO	JEFF	164	129	21156	LOW	G3YJQ	FRED	59	59	3481	LOW
N3ZL	GREG	144	128	18432	LOW	YO3XX	MIRCE	58	58	3364	LOW
KK0U	JIM	143	119	17017	LOW	IN3FHE	HELGA	59	57	3363	LOW
G4PVM	PAUL	143	115	16445	LOW	AC9EZ	JIM	60	56	3360	LOW
K4GM	GEO	140	117	16380	LOW	K8WWS	BILL	59	56	3304	LOW
KE8G	JIM	130	124	16120	LOW	G3YLA	JIM	65	49	3185	LOW
K3UA	PHIL	129	123	15867	LOW	SM5S	GI	57	53	3021	LOW
LB6GG	HANS	133	119	15827	LOW	M3X	HARRY	60	48	2880	LOW
K4TZ	TOM	129	121	15609	LOW	K8LBQ	BAIN	55	52	2860	LOW
WB8JAY	DAN	135	114	15390	LOW	UW8SM	ANDY	54	52	2808	LOW
N3CKI	DAVE	127	114	14478	LOW	DL5DBY	TOM	55	50	2750	LOW
N2UU	BOB	131	110	14410	LOW	G4PFZ	JOHN	59	46	2714	LOW
HB9ARF	PHIL	128	111	14208	LOW	OE9WGI	WALT	51	50	2550	LOW
K2KW	KEN	129	107	13803	LOW	N7WY	BOB	55	45	2475	LOW
N5XE	CARL	135	102	13770	LOW	WO9B	MIKE	50	47	2350	LOW
M0RYB	PETER	122	108	13176	LOW	R1DX	VIC	48	48	2304	LOW
SN5J	JAN	124	105	13020	LOW	HA9RC	ZOLI	47	47	2209	LOW
CO8NMN	NOE	127	101	12827	LOW	K3IE	HUNTER	47	47	2209	LOW
WS1L	CHUCK	121	105	12705	LOW	N5SY	NICK	47	46	2162	LOW
NF8M	FRANK	120	102	12240	LOW	AB5XS	JIM	48	44	2112	LOW
K2QB	JIM	116	105	12180	LOW	G8VPE	JOHN	50	42	2100	LOW
N8NA	EE	114	101	11514	LOW	AJ4F	ROBIE	46	43	1978	LOW
KG4W	ED	114	100	11400	LOW	CT1ELZ	MANUEL	44	42	1848	LOW
G4IZZ	MIKE	118	95	11210	LOW	K3ZGA	BOB	47	39	1833	LOW
DJ1OJ	HEIJO	114	98	11172	LOW	WA7BNM	BRUCE	44	40	1760	LOW
KC4WQ	BUD	112	97	10864	LOW	K5IX	DAVE	46	38	1748	LOW
NK4O	AJ	118	91	10738	LOW	UX1HW	ART	40	40	1600	LOW
N2EY	JIM	113	94	10622	LOW	AA6XA	JEFF	41	38	1558	LOW
M0XUU	PAN	106	92	9752	LOW	NN0G	DANA	42	37	1554	LOW
W6LAX	ROGER	110	88	9680	LOW	K9CPO	NATE	39	39	1521	LOW
KP3W	JOSE	107	89	9523	LOW	KC8J	WALT	36	36	1296	LOW
LZ3QE	ANDO	99	96	9504	LOW	WA9LEY	LEE	35	35	1225	LOW
KA1YQC	MARK	103	89	9167	LOW	UR7EC	ALEX	35	33	1155	LOW
W4SSF	STAN	103	88	9064	LOW	KY0Q	RICK	32	31	992	LOW
PA2TA	TJAKKO	103	85	8755	LOW	PA3DBS	PETER	31	31	961	LOW
K8RGI	BOB	97	89	8633	LOW	WS5D	JACK	32	29	928	LOW
WR4T	TED	94	91	8554	LOW	RN4SC	ALEX	30	30	900	LOW
VE3GFN	MIKE	94	90	8460	LOW	SV2BBK	THEO	30	29	870	LOW
VE5UO	DAVE	94	88	8272	LOW	AE1T	PETER	29	28	812	LOW
SQ5VCO	ADAM	95	86	8170	LOW	W4EE	JIM	28	27	756	LOW
KA0PQW	MATT	96	82	7872	LOW	W6QX	STEVE	30	25	750	LOW
W8OV	DAVE	91	86	7826	LOW	VA3PM	PIERRE	27	27	729	LOW
W9NXM	GUS	95	82	7790	LOW	W1UJ	JAY	27	27	729	LOW
RX9CC	YURI	93	78	7254	LOW	CO8WN	MANDI	26	26	676	LOW
SP2R	DAREK	92	77	7084	LOW	G4UZE	CHRIS	25	24	600	LOW
UA6GO	VLAD	84	84	7056	LOW	EA3NO	LUIS	24	24	576	LOW
AI6O	ED	86	79	6794	LOW	KB4DE	BILL	24	24	576	LOW
F5SGI	JEAN	83	79	6557	LOW	VU3NXI	SID	24	24	576	LOW
UR7MZ	VLAD	80	78	6240	LOW	WA3GM	GREG	24	24	576	LOW
2E0OBO	BOB	84	74	6216	LOW	VE3UTT	ART	23	23	529	LOW
K5XU	MIKE	85	73	6205	LOW	UW3HM	SLAVA	21	21	441	LOW
K5QR	ANDY	82	74	6068	LOW	W4CMG	CATHY	21	21	441	LOW

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Call (Cont.)	Name	QSOs	Mults	Score	Power	Call (Cont.)	Name	QSOs	Mults	Score	Power
K1ECU	CHAS	20	20	400	LOW	DF3SM	ULLI	7	7	49	LOW
SM7RYR	ROGER	20	20	400	LOW	DL1NKB	BERND	7	7	49	LOW
UR2Y	VAL	20	20	400	LOW	ON7XN	HANS	6	6	36	LOW
KX3H	TONY	18	18	324	LOW	RK3TT	DIMA	6	6	36	LOW
PY4XX	CARLOS	18	16	288	LOW	XQ3WD	FRED	6	6	36	LOW
PG6F	DICK	16	16	256	LOW	VU3RDD	RAM	4	4	16	LOW
US3LX	LEN	16	15	240	LOW	G3SQU	CHRIS	3	3	9	LOW
N1CEO	PETER	15	15	225	LOW	KE6JAC	AL	3	3	9	LOW
RA3XCZ	VLAD	15	15	225	LOW	PA3GUO	HENK	3	3	9	LOW
OE1TKW	HELMUT	14	14	196	LOW	WA2ZDM	PAT	1	1	1	LOW
K1ARR	ART	14	13	182	LOW	WJ0C	STEVE	1	1	1	LOW
YO5BTZ	DAVID	13	13	169	LOW	AA8IA	MIKE	25	0	Check	LOW
KD2EPM	DOM	12	12	144	LOW	AB5XM	ALLAN	1	0	Check	LOW
OH2BN	JARMO	11	11	121	LOW	DL2VN	VEIT	4	0	Check	LOW
AG3I	MARTY	10	10	100	LOW	DL9ZOG	JOHN	64	0	Check	LOW
KD9KHA	ANDY	10	10	100	LOW	EA3X	MIA	8	0	Check	LOW
KC9YL	ANNE	9	9	81	LOW	G4KQY	MIKE	70	0	Check	LOW
W2NRA	ART	8	8	64	LOW	SP2HMT	ROM	7	0	Check	LOW

Call (Cont.)	Name	QSOs	Mults	Score	Power	Call (Cont.)	Name	QSOs	Mults	Score	Power
W1UU	PETER	154	120	18480	QRP	OK2NAJ	JIRI	59	53	3127	QRP
NS2N	PAUL	133	109	14497	QRP	RW3AI	VAL	51	46	2346	QRP
N5ER	JOHN	128	101	12928	QRP	UA6AK	VAL	46	41	1886	QRP
KU1N	KEITH	103	86	8858	QRP	PE2K	ADI	42	35	1470	QRP
W7ZRC	ROD	101	77	7777	QRP	IK1YRA	CARL	30	29	870	QRP
N6MA	PAUL	97	79	7663	QRP	GW4OKT	KEITH	16	16	256	QRP
LY5G	VITAS	95	79	7505	QRP	K1SX	DAVE	11	11	121	QRP
KR4AE	ALAN	91	82	7462	QRP	K9AXT2	LARRY	8	8	64	QRP
W7LG	MIKE	65	54	3510	QRP	US3EO	SERG	25	0	Check	QRP
SD6F	KLAS	58	55	3190	QRP						

Session 2 Analysis:

For Region 1 High Power, Peter (DK9PY) came in first with final numbers of 393 QSOs, 333 Multipliers and a score of 130869. Fil (CR6K) finished in second with a score of 97461. Steve (N2IC) finished in first place for Region 2 with an outstanding QSO count of 652, 374 Mults and a score of 243848. Bud (AA3B) came in second place with a score of 203496. For Region 3, Allan (VK2GR) came in first with 105 QSOs, 103 Multipliers and a score of 10815. Moving on to Low Power, the Region 1 winner was once again Ivo (9A1AA) with a QSO total of 246 and a mult total of 207 resulting in a score of 50922. Robert (SP1D) placed second with a score of 24528. For Region 2 Don (N4ZZ) once again claimed first place with a QSO total of 405, a mult total of 316 and a score of 127980 points. Al (K0AD) placed second with a score of 85428. Moving on to the QRP class, Peter (W1UU) once again finished in first place for Region 2 with 154 QSOs, 120 mults and a score of 18480. Paul (NS2N) came in second with a score of 14497.



Session 3 - 2000Z to 0000Z

Session 3 results are based on 402 logs, up 2 from 2020, represent the most significant increases for 2020. The QSO count was virtually equal to 2020 results and Mults increased by 1.3%. Even with the slight log and mult increases the overall QSO point total dropped by just under 1%.

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Again, virtually even with the 2020 results. Session 3 had (3) submissions that exceeded 200K points and (22) exceeding 100K, 2 of which was a low power entry. NOTE: There were 8 logs submitted as CHECK LOGS.

Here are the details for Session 3. Plaque and Trophy winners are highlighted in YELLOW.

Call	Name	QSOs	Mults	Score	Power	Call (Cont.)	Name	QSOs	Mults	Score	Power
AA3B	BUD	598	403	240994	HIGH	EA5FID	JUAN	255	219	55845	HIGH
K3WW	CHAS	550	394	216700	HIGH	EC3A	FER	267	205	54735	HIGH
CR6K	FIL	540	394	212760	HIGH	KP3W	JOSE	236	217	51212	HIGH
DK9PY	ARMIN	465	381	177165	HIGH	N5TOO	VAN	236	213	50268	HIGH
N4AF	AL	454	331	150274	HIGH	WA8Y	STEVE	245	205	50225	HIGH
EA1X	JUAN	428	333	142524	HIGH	DL5AXX	ULF	225	220	49500	HIGH
N3QE	TIM	409	344	140696	HIGH	N8KH	KEN	241	204	49164	HIGH
EB5A	YURI	418	336	140448	HIGH	NW3Y	CC	235	204	47940	HIGH
W1RM	PETE	420	333	139860	HIGH	KE1B	RICH	230	205	47150	HIGH
K5PI	ROB	425	325	138125	HIGH	N4FP	WAYNE	235	200	47000	HIGH
KR2Q	DOUG	410	328	134480	HIGH	VA7DX	NEIL	218	214	46652	HIGH
NY3A	STEVE	398	322	128156	HIGH	SP2LNW	SLAW	237	196	46452	HIGH
N1LN	BRUCE	419	305	127795	HIGH	K2QMF	TED	238	195	46410	HIGH
W4WF	CHRIS	386	314	121204	HIGH	I2WJ	BOB	252	182	45864	HIGH
AC4CA	JOHN	400	301	120400	HIGH	N4YDU	NATE	228	190	43320	HIGH
N3AD	ALAN	391	307	120037	HIGH	DL5JQ	ERHARD	220	192	42240	HIGH
N5ZO	MARK	381	313	119253	HIGH	PA3AAV	GERT	229	184	42136	HIGH
K7RL	MITCH	364	309	112476	HIGH	YU7KW	ZORAN	218	193	42074	HIGH
K2SX	DENNIS	362	288	104256	HIGH	UY1HY	VAL	222	186	41292	HIGH
K5TU	KIM	348	298	103704	HIGH	W5TM	ED	208	195	40560	HIGH
W2GD	JOHN	366	281	102846	HIGH	W6SX	HANK	213	190	40470	HIGH
AD4EB	JIM	363	280	101640	HIGH	W3FIZ	PAT	236	168	39648	HIGH
N3OC	BRIAN	359	282	101238	HIGH	W1KM	GREG	206	190	39140	HIGH
K3WJV	BILL	363	278	100914	HIGH	KQ4R	ED	204	183	37332	HIGH
W2MKM	ED	350	285	99750	HIGH	OZ3SM	STEVE	214	172	36808	HIGH
WO4O	RIC	332	280	92960	HIGH	K8JQ	STEVE	210	171	35910	HIGH
N4IQ	BILL	322	265	85330	HIGH	G4LPP	PHIL	203	172	34916	HIGH
AE6Y	ANDY	311	270	83970	HIGH	VE2FK	DUB	197	175	34475	HIGH
W6AQ	DAVE	330	253	83490	HIGH	WN7S	DICK	194	177	34338	HIGH
K3ZA	TONY	321	260	83460	HIGH	DF5EG	JOE	187	167	31229	HIGH
AB0S	TIM	321	256	82176	HIGH	N3JT	JIM	182	158	28756	HIGH
OK3C	LUD	307	266	81662	HIGH	NA3M	NICK	184	156	28704	HIGH
K4BAI	JOHN	327	248	81096	HIGH	KV0I	BILL	174	154	26796	HIGH
K6RB	ROB	292	274	80008	HIGH	SF1Z	JENS	181	145	26245	HIGH
W3FV	BARRY	324	236	76464	HIGH	EA5IU	GARY	178	144	25632	HIGH
N0TA	JOHN	313	243	76059	HIGH	K0VXU	RUSS	171	146	24966	HIGH
K4OAQ	FRITZ	315	241	75915	HIGH	K0INN	TOM	156	147	22932	HIGH
N4ZR	PETE	309	234	72306	HIGH	N0AT	RON	157	144	22608	HIGH
WT3K	DARYL	293	245	71785	HIGH	SE5E	INGO	156	143	22308	HIGH
M2G	JOHN	298	237	70626	HIGH	N4KS	KEN	148	148	21904	HIGH
EA4OR	NACHO	281	249	69969	HIGH	W0CW	DRAGAN	152	143	21736	HIGH
K7NJ	RIKI	278	250	69500	HIGH	A4WW	DAN	150	136	20400	HIGH
EA5M	DANI	290	236	68440	HIGH	W8FN	RANDY	147	138	20286	HIGH
K9CT	CRAIG	280	241	67480	HIGH	VE7KW	KEITH	142	141	20022	HIGH
K1EBY	FRANK	290	232	67280	HIGH	K4WW	BO	145	135	19575	HIGH
K3SW	SW	295	224	66080	HIGH	VE5MX	TODD	141	133	18753	HIGH
K3PP	GLENN	280	233	65240	HIGH	KA5M	MARSH	140	129	18060	HIGH
SP1NY	MIREK	283	228	64524	HIGH	N9RV	PAT	134	131	17554	HIGH
N3RD	DAVE	283	226	63958	HIGH	NS4X	BART	146	120	17520	HIGH
WA3AAN	GRANT	270	236	63720	HIGH	G3XLG	RAY	147	106	15582	HIGH
N8AA	JOHN	287	222	63714	HIGH	OK1RR	MARTIN	138	112	15456	HIGH
N5EE	KEN	269	233	62677	HIGH	KC7V	MIKE	128	120	15360	HIGH
K7QA	TOM	274	226	61924	HIGH	LZ5N	SPAS	135	107	14445	HIGH
KU8E	JEFF	269	230	61870	HIGH	NN2NN	STEVE	132	108	14256	HIGH
K1DJ	RICH	281	218	61258	HIGH	NN4K	MAC	123	108	13284	HIGH
K3UL	BOB	271	215	58265	HIGH	4X6GP	VIC	115	114	13110	HIGH
WD6T	DAVE	256	227	58112	HIGH	DL4ME	RON	127	102	12954	HIGH
N5UM	AL	262	218	57116	HIGH	K4EU	STEVE	114	110	12540	HIGH
DL6KVA	AXEL	264	216	57024	HIGH	W2XYZ	FRANK	120	104	12480	HIGH
K9MA	SCOTT	246	231	56826	HIGH	LZ1ZF	GOSHO	115	108	12420	HIGH

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Call (Cont.)	Name	QSOs	Mults	Score	Power
KT4XN	TOM	112	107	11984	HIGH
VE3TW	STAN	118	99	11682	HIGH
K0TC	RON	114	102	11628	HIGH
W0CWO	CLEM	115	100	11500	HIGH
EW1I	ALEX	104	103	10712	HIGH
VE3KP	KEN	105	100	10500	HIGH
W9ILY	JOHN	105	99	10395	HIGH
K1SM	BILL	104	99	10296	HIGH
K0HD	JOHN	108	94	10152	HIGH
VK2GR	ALLAN	100	99	9900	HIGH
VE3NNT	LES	99	99	9801	HIGH
GM2V	CHRIS	101	97	9797	HIGH
WT2P	CJ	100	96	9600	HIGH
NM5G	KEITH	103	90	9270	HIGH
W3SA	JOHN	99	92	9108	HIGH
W4VG	JAY	99	92	9108	HIGH
WA8KAN	DAVE	101	89	8989	HIGH
N5RZ	GATOR	101	88	8888	HIGH
WB8BZK	MIKE	98	90	8820	HIGH
AF4T	DOUG	96	87	8352	HIGH
VE3BXG	MARK	91	85	7735	HIGH
SD1A	ERIC	95	79	7505	HIGH
N5EP	STEVE	90	81	7290	HIGH
N4KW	PETE	89	81	7209	HIGH
N5KO	TREY	82	82	6724	HIGH
HA5NR	GABOR	81	78	6318	HIGH
LY7M	AL	88	69	6072	HIGH
K7RB	DICK	77	76	5852	HIGH
AA2AD	PETE	77	71	5467	HIGH
KE4S	DAVE	69	69	4761	HIGH
N2RC	MIKE	67	63	4221	HIGH
W3UL	BILL	59	59	3481	HIGH
K4QS	CHUCK	60	58	3480	HIGH
KE4KY	TOM	56	56	3136	HIGH
K1RV	PI	59	53	3127	HIGH

Call (Cont.)	Name	QSOs	Mults	Score	Power
K2YR	CARL	55	55	3025	HIGH
AA5JF	ANDY	51	51	2601	HIGH
G3WZD	MAC	49	48	2352	HIGH
K5GQ	MARK	49	47	2303	HIGH
M1X	STEVE	50	44	2200	HIGH
PA5KT	HENK	51	43	2193	HIGH
ZL1BBW	GAVIN	46	46	2116	HIGH
K3CT	JOHN	47	45	2115	HIGH
AF5J	HAL	43	42	1806	HIGH
K6NR	DANA	42	42	1764	HIGH
AC3LZ	FRED	41	41	1681	HIGH
K5LY	LEE	41	40	1640	HIGH
WA5LXS	DENNIS	36	35	1260	HIGH
W7JRD	JIM	34	34	1156	HIGH
NB3R	DAVE	31	31	961	HIGH
WR7T	PHIL	32	29	928	HIGH
KA7MDM	GREGG	30	30	900	HIGH
WA6URY	DAN	26	26	676	HIGH
AC0E	JIM	24	23	552	HIGH
EA3HSO	AL	23	23	529	HIGH
K8PK	PETER	23	23	529	HIGH
JN1THL	KEN	23	22	506	HIGH
K6TTT	BRUCE	21	21	441	HIGH
WE5P	BILL	20	20	400	HIGH
K7WP	JOHN	19	18	342	HIGH
PA0INA	FRANS	19	18	342	HIGH
W7PEZ	PAUL	18	18	324	HIGH
K4NMR	TOM	17	17	289	HIGH
K2UA	RUS	15	15	225	HIGH
JF1UOX	MISA	13	13	169	HIGH
K6NV	BOB	13	13	169	HIGH
KG7MVH	PETER	9	9	81	HIGH
UA4PAQ	RAS	7	7	49	HIGH
AE2W	DEN	43	0	Check	HIGH

Call (Cont.)	Name	QSOs	Mults	Score	Power
9A1AA	IVO	349	303	105747	LOW
N4ZZ	DON	357	289	103173	LOW
K0AD	AL	342	260	88920	LOW
N4BP	BOB	296	296	87616	LOW
KG9X	FRED	305	241	73505	LOW
N2YO	CHIP	284	237	67308	LOW
WT9U	JIM	289	232	67048	LOW
KM6Z	VLAD	290	223	64670	LOW
KE2D	BOB	280	229	64120	LOW
K1VUT	DAVE	289	219	63291	LOW
W0UO	JIM	272	219	59568	LOW
W3KB	KEITH	271	198	53658	LOW
SP1D	ROBERT	251	204	51204	LOW
WJ9B	WILL	238	212	50456	LOW
HA5OV	PETER	229	209	47861	LOW
N1DC	RICK	234	180	42120	LOW
W0AAE	BOB	210	182	38220	LOW
KG5U	DALE	215	174	37410	LOW
K2ZR	DICK	212	173	36676	LOW
NJ3K	BRUCE	202	173	34946	LOW
KV8Q	TOM	197	164	32308	LOW
N2UU	BOB	198	157	31086	LOW
VE3TM	VLAD	192	161	30912	LOW
KM4FO	DWIGHT	173	167	28891	LOW
VE3GFN	MIKE	187	154	28798	LOW
KB3AAY	RON	188	151	28388	LOW
KK0U	JIM	178	144	25632	LOW
N8LR	GARY	172	148	25456	LOW
WR4T	TED	161	158	25438	LOW

Call (Cont.)	Name	QSOs	Mults	Score	Power
EA3FZT	FRANCIS	180	140	25200	LOW
W8MET	MET	164	150	24600	LOW
N7DX	TONY	164	146	23944	LOW
W1QI	WALT	171	140	23940	LOW
W3WHK	SAUL	164	145	23780	LOW
VE3MV	DOUG	174	136	23664	LOW
CO8NMN	NOE	160	145	23200	LOW
IK3YBX	RICKY	166	137	22742	LOW
LZ3QE	ANDO	161	137	22057	LOW
M0RYB	PETER	166	130	21580	LOW
SN5J	JAN	176	122	21472	LOW
K4EJ	FRANK	157	135	21195	LOW
VE3EJ	JOHN	154	134	20636	LOW
LB6GG	HANS	167	122	20374	LOW
WB8JAY	DAN	148	134	19832	LOW
N5XE	CARL	144	125	18000	LOW
F5SGI	JEAN	146	123	17958	LOW
N3NR	NICK	141	127	17907	LOW
W0TG	BILL	144	123	17712	LOW
KG4W	ED	139	124	17236	LOW
N4AO	JEFF	135	124	16740	LOW
G3LDI	ROGER	146	114	16644	LOW
K4GM	GEO	138	119	16422	LOW
AF8A	GARY	133	114	15162	LOW
PA2TA	TJAKKO	142	106	15052	LOW
W6AYC	JOE	126	119	14994	LOW
NJ8J	BEN	135	111	14985	LOW
AH6KO	STAN	124	115	14260	LOW
N3CKI	DAVE	119	116	13804	LOW

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Call (Cont.)	Name	QSOs	Mults	Score	Power	Call (Cont.)	Name	QSOs	Mults	Score	Power
G4IZZ	MIKE	130	105	13650	LOW	WA9LEY	LEE	48	48	2304	LOW
N4CWZ	DAVE	117	114	13338	LOW	VA3PAF	PAT	49	47	2303	LOW
K8WWS	BILL	118	111	13098	LOW	PA3DBS	PETER	49	46	2254	LOW
KE9SA	CHUCK	123	105	12915	LOW	EA3NO	LUIS	47	47	2209	LOW
KD2KW	KEN	119	108	12852	LOW	KX3H	TONY	46	46	2116	LOW
N3ZL	GREG	118	108	12744	LOW	KX4KU	KEVIN	46	46	2116	LOW
HB9ARF	PHIL	112	108	12096	LOW	OE1CIW	MICHAEL	52	40	2080	LOW
N4DW	DAVE	115	105	12075	LOW	WA3GPP	RICH	47	44	2068	LOW
AA4NP	JIM	111	108	11988	LOW	KE0QKF	MIKE	43	42	1806	LOW
G3WRJ	DICK	126	95	11970	LOW	AJ4F	ROBIE	42	42	1764	LOW
W2CDO	PETER	114	103	11742	LOW	KE8G	JIM	40	40	1600	LOW
N8NA	EE	108	107	11556	LOW	N7WY	BOB	43	35	1505	LOW
K9WX	TIM	110	105	11550	LOW	Z32U	ZOKI	39	38	1482	LOW
W9WI	DOUG	110	101	11110	LOW	W8OV	DAVE	38	38	1444	LOW
SP2R	DAREK	118	94	11092	LOW	M3X	HARRY	38	35	1330	LOW
W2LCQ	ED	108	102	11016	LOW	K8VA	MIKE	36	36	1296	LOW
VE7JH	GABOR	103	101	10403	LOW	K9KM	HOWIE	37	35	1295	LOW
DL5DBY	TOM	104	95	9880	LOW	SF6W	GEO	37	34	1258	LOW
PA2ST	BEN	117	84	9828	LOW	W0PF	DAVE	35	35	1225	LOW
W6LAX	ROGER	99	98	9702	LOW	CT1ELZ	MANUEL	35	33	1155	LOW
G4PFZ	JOHN	114	85	9690	LOW	NN0G	DANA	34	32	1088	LOW
K4FN	DAN	97	95	9215	LOW	K5XU	MIKE	29	29	841	LOW
M0XUU	PAN	107	86	9202	LOW	SV2BBK	THEO	29	29	841	LOW
KB8GAE	RICH	98	91	8918	LOW	XQ3WD	FRED	29	28	812	LOW
K7GS	GARY	94	94	8836	LOW	G3SQU	CHRIS	29	27	783	LOW
SM5S	GI	101	87	8787	LOW	WO9B	MIKE	28	27	756	LOW
AI6O	ED	96	91	8736	LOW	F5IND	JC	25	25	625	LOW
K9LA	CARL	95	86	8170	LOW	KB4DE	BILL	25	25	625	LOW
K3UA	PHIL	89	89	7921	LOW	WS5D	JACK	25	25	625	LOW
NK4O	AJ	89	87	7743	LOW	W4CMG	CATHY	24	24	576	LOW
KA0PQW	MATT	95	80	7600	LOW	VE3UTT	ART	23	23	529	LOW
G3YLA	JIM	94	80	7520	LOW	UA6GO	VLAD	23	22	506	LOW
DJ1OJ	HEIJO	95	76	7220	LOW	KD9KHA	ANDY	22	22	484	LOW
W4SSF	STAN	86	83	7138	LOW	DL1NKB	BERND	22	21	462	LOW
SQ9S	ADAM	85	80	6800	LOW	OE1TKW	HELMUT	20	20	400	LOW
HA9RC	ZOLI	82	82	6724	LOW	AB9YC	AJ	19	19	361	LOW
PY4XX	CARLOS	83	79	6557	LOW	N1CEO	PETER	19	19	361	LOW
W4KAZ	KAZ	80	76	6080	LOW	0A4DX	TONY	17	17	289	LOW
K8GT	GERRY	79	76	6004	LOW	M0MUI	MUI	16	16	256	LOW
2E0OBO	BOB	76	75	5700	LOW	N2EY	JIM	16	16	256	LOW
AC9EZ	JIM	76	73	5548	LOW	WJ0C	STEVE	16	16	256	LOW
K7AZT	PAUL	77	72	5544	LOW	UR7MZ	VLAD	16	15	240	LOW
UW8SM	ANDY	74	68	5032	LOW	ON7XN	HANS	14	14	196	LOW
KB4CG	JACK	75	67	5025	LOW	DK5KF	WOLFGANG	13	13	169	LOW
KD2EPM	DOM	73	66	4818	LOW	AG3I	MARTY	12	12	144	LOW
SM7CIL	ARNE	69	68	4692	LOW	RA3XCZ	VLAD	13	11	143	LOW
K4TZ	TOM	67	67	4489	LOW	AA4WW	MATT	11	11	121	LOW
W4EE	JIM	68	66	4488	LOW	HI8A	RAFA	11	11	121	LOW
VE5UO	DAVE	67	66	4422	LOW	G3YJQ	FRED	10	10	100	LOW
NN5O	LARRY	65	65	4225	LOW	W2NRA	ART	10	10	100	LOW
K5QR	ANDY	64	64	4096	LOW	WA2ZDM	PAT	10	10	100	LOW
UR7EC	ALEX	67	59	3953	LOW	KE6JAC	AL	9	9	81	LOW
CO8WN	MANDI	60	59	3540	LOW	W8EH	ERNIE	8	8	64	LOW
NR3Z	MARTY	55	55	3025	LOW	WB2KWC	KEN	7	7	49	LOW
VE3MA	AL	56	52	2912	LOW	K0JP	JACK	4	4	16	LOW
AE1T	PETER	57	51	2907	LOW	PA3GUO	HENK	4	4	16	LOW
K1SEI	TAGE	53	52	2756	LOW	WA3GM	GREG	4	4	16	LOW
KA1YQC	MARK	51	51	2601	LOW	RA5AV	MIKE	3	3	9	LOW
WA7BNM	BRUCE	51	51	2601	LOW	XR1D	DAN	3	3	9	LOW
K3ZGA	BOB	52	50	2600	LOW	OH2BN	JARMO	2	2	4	LOW
K8LBQ	BAIN	52	50	2600	LOW	AB5XM	ALLAN	9	0	Check	LOW
KW7WP	JAMIE	52	49	2548	LOW	G4KQY	MIKE	72	0	Check	LOW
G8VPE	JOHN	52	48	2496	LOW	LY5AX	ARNAS	14	0	Check	LOW
G4BYE	TOM	54	46	2484	LOW	SP2HMT	ROM	26	0	Check	LOW
R1DX	VIC	49	49	2401	LOW	SP9IHP	ANDY	14	0	Check	LOW
W9NXM	GUS	49	49	2401	LOW	WQ6X	RON	27	0	Check	LOW
KC8J	WALT	52	46	2392	LOW						

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Call (Cont.)	Name	QSOs	Mults	Score	Power	Call (Cont.)	Name	QSOs	Mults	Score	Power
W1UU	PETER	168	138	23184	QRP	KR4AE	ALAN	65	60	3900	QRP
N0UR	JIM	165	133	21945	QRP	NF8M	FRANK	49	49	2401	QRP
N5ER	JOHN	112	97	10864	QRP	UA6AK	VAL	48	48	2304	QRP
KU1N	KEITH	111	94	10434	QRP	PE2K	ADI	47	47	2209	QRP
NS2N	PAUL	102	97	9894	QRP	K1SX	DAVE	27	27	729	QRP
W7ZRC	ROD	101	95	9595	QRP	RW3AI	VAL	23	22	506	QRP
W7LG	MIKE	94	84	7896	QRP	K9AXT3	LARRY	15	14	210	QRP
SD6F	KLAS	95	73	6935	QRP	GW4OKT	KEITH	11	11	121	QRP
OK2NAJ	JIRI	83	75	6225	QRP	DF7CB	CHRIS	6	6	36	QRP
N6MA	PAUL	71	71	5041	QRP	F3WT	PIERRE	4	0	Check	QRP
KJ5T	STEVE	73	67	4891	QRP						

Session 3 Analysis:

For Region 1 High Power, Fil (CR6K) once again came in first with final numbers of 540 QSOs, 394 Multipliers and a score of 212760. This is the first >200K score for Region 1! Armin(DK9PY) came in second with a score of 177165. Bud (AA3B) finished in first place once again for Region 2 with a QSO count of 598, 403 Mults and a score of 240994. Chas (K3WW) came in second place with a score of 216700. For Region 3, Allan (VK2GR) came in first with 100 QSOs, 99 Multipliers and a score of 9900. Moving on to Low Power, the Region 1 winner once again was Ivo (9A1AA) with a QSO total of 303 and a mult total of 303 resulting in a score of 105747. This was the first time Region 1 placed ahead of Region 2. Well done Ivo! Robert (SP1D) placed second again with a score of 51204. For Region 2 Don (N4ZZ) once again claimed first place with a QSO total of 357, a mult total of 289 and a score of 103173 points. Second place again went to Al (K0AD) with a score of 88920. Moving on to the QRP class, Region 2 first place once again was won by Peter (W1UU) with another impressive showing with a QSO total of 168 QSOs, 138 mults and a score of 23164. Jim (N0UR) came in second with a score of 21945.

Team Scores

The 2021 CW Open also delivered in the team entry statistics. Putting together a team to participate in the CW Opens is always a fun way to increase participation and friendly intra and inter team competition. This year we had 27 teams register. The team sizes ranged from a minimum of 3 members up to the maximum allowed of 10 members but the number of team members that did not actually participate were up some this year. All Regions had team member representation. The team scores followed the 2021 overall statistics and dropped some, but were still excellent. Even with the overall drop in scores, there were a few good horse races as you will see below.

Here are the detailed scores and team finishes:

Call	Session 1	Session 2	Session 3	Total	Call	Session 1	Session 2	Session 3	Total
1. FRC Team Proficiency					2. Deep Dixie CC Team Phoenix				
AA3B	260,547	203,496	240,994	705,037	K7RL	119,028	-	112,476	231,504
K3SW	86,093	55,944	66,080	208,117	AB0S	106,932	101,283	82,176	290,391
K3UL	63,869	50,184	58,265	172,318	N0TA	82,419	79,254	76,059	237,732
K3WJV	125,570	95,368	100,914	321,852	N5EE	91,427	97,371	62,677	251,475
K3WW	235,296	202,368	216,700	654,364	N5ZO	162,108	164,830	119,253	446,191
N3AD	114,086	83,664	120,037	317,787	N8AA	84,870	60,420	63,714	209,004
NY3A	146,608	115,533	128,156	390,297	NN5O	36,573	52,890	4,225	93,688
W2GD	93,058	92,250	102,846	288,154	W4WF	97,552	103,230	121,204	321,986
W3FV	69,440	62,622	76,464	208,526	W5TM	102,570	119,301	40,560	262,431
				3,266,452	WT9U	98,280	67,280	67,048	232,608
									2,577,010

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Call	Session 1	Session 2	Session 3	Total
3. Seven Zones				
WA8Y	48,705	47,838	50,225	146,768
JN1THL	1,024	1,600	506	3,130
AH6KO	35,465	22,984	14,260	72,709
K6RB	100,125	75,640	80,008	255,773
KR2Q	108,861	100,358	134,480	343,699
W6AQ	107,316	119,415	83,490	310,221
K0INN	36,312	29,546	22,932	88,790
AD4EB	136,800	118,902	101,640	357,342
4X6GP	13,924	20,064	13,110	47,098
IK3YBX	<u>6,336</u>	<u>26,134</u>	<u>22,742</u>	<u>55,212</u>
				1,680,742

5. PVRC NC #1

N1LN	139,328	118,368	127,795	385,491
W4KAZ	12,720	-	6,080	18,800
K4OV	-	-	-	-
N4GU	2,450	484	-	2,934
N4KW	7,200	4,416	7,209	18,825
N8BR	-	-	-	-
N4AF	157,112	148,170	150,274	455,556
N4YDU	<u>183,245</u>	<u>14,950</u>	<u>43,320</u>	<u>241,515</u>
				1,123,121

7. EU-CWops Europhoria

DK9PY	69,741	130,869	177,165	377,775
LZ5R	-	-	-	-
LZ1ZF	39,402	54,810	12,420	106,632
I2WIJ	29,253	29,547	45,864	104,664
SD1A	2,300	8,787	7,505	18,592
OZ3SM	7,154	28,998	36,808	72,960
PA3AAV	27,528	42,846	42,136	112,510
DL6KVA	1,369	40,992	57,024	99,385
SP1NY	14,061	28,724	64,524	107,309
SP2LNW	<u>13,755</u>	<u>35,084</u>	<u>46,452</u>	<u>95,291</u>
				1,095,118

9. FRC Team Efficiency

NW3Y	22,278	23,309	47,940	93,527
W2MKM	106,312	-	99,750	206,062
W3FIZ	17,136	16,756	39,648	73,540
W3KB	48,051	37,496	53,658	139,205
W3MA	46,046	51,410	-	97,456
W3WHK	22,878	-	23,780	46,658
WA3AAN	68,145	35,045	63,720	166,910
WA3GM	81	576	16	673
N2EY	22,139	10,622	256	33,017
N3DXX	-	-	-	-
				857,048

11. FRC Team Competency

AC3LZ	7,584	810	1,681	10,075
K3HW	-	-	-	-
K3PP	38,232	29,055	65,240	132,527
KE2D	69,664	55,419	64,120	189,203
N2NC	26,702	3,591	-	30,293
N2RC	37,410	38,060	4,221	79,691
N3NR	2,703	5,313	17,907	25,923
NR3Z	37,884	5,325	3,025	46,234
W2LCQ	9,919	3,534	11,016	24,469
NS3L	<u>2,400</u>	<u>1,681</u>	<u>-</u>	<u>4,081</u>
				542,496

Call	Session 1	Session 2	Session 3	Total
4. The Iberian Team				
EA4OR	17,415	37,185	69,969	124,569
EA1X	34,080	83,076	142,524	259,680
EA5IUY	13,440	6,640	25,632	45,712
EA5FID	22,320	21,140	55,845	99,305
EA5M	-	12,971	68,440	81,411
EA8RM	-	-	-	-
EB5A	58,300	75,500	140,448	274,248
EA7W	-	-	-	-
EC3A	21,172	31,800	54,735	107,707
CR6K	<u>117,855</u>	<u>97,461</u>	<u>212,760</u>	<u>428,076</u>
				1,420,708

6. South East Contest Club

K4BAI	111,930	94,604	81,096	287,630
W8FN	72,504	68,820	20,286	161,610
KU8E	69,216	29,322	61,870	160,408
AE4Y	-	-	-	-
NJ8J	24,840	-	14,985	39,825
K2SX	114,814	31,020	104,256	250,090
N3ZL	48,306	18,432	12,744	79,482
NK4O	29,106	10,738	7,743	47,587
AA5JF	33,784	12,317	2,601	48,702
NN4K	<u>18,178</u>	<u>-</u>	<u>13,284</u>	<u>31,462</u>
				1,106,796

8. CTDXCC

K5PI	141,215	168,324	138,125	447,664
N5AW	9,393	171,700	-	181,093
N5RZ	154,696	162,657	8,888	326,241
W5MJ	-	-	-	-
KB5RF	<u>1,804</u>	<u>-</u>	<u>-</u>	<u>1,804</u>
				956,802

10. Deep Dixie CC Team Firebird

AC6ZM	-	1,521	-	1,521
JF1UOX	324	1,332	169	1,825
K4AFE	33,807	18,090	-	51,897
K4OAQ	109,521	104,346	75,915	289,782
KE8G	53,130	16,120	1,600	70,850
WO4O	<u>31,328</u>	<u>98,890</u>	<u>92,960</u>	<u>223,178</u>
				639,053

12. Big Sky Contest Team

K7QA	88,814	60,386	61,924	211,124
W7XT	-	-	-	-
K0SN	-	-	-	-
K7QA	88,814	60,386	61,924	211,124
N9RV	<u>8,924</u>	<u>89,159</u>	<u>17,554</u>	<u>115,637</u>
				537,885

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Call	Session 1	Session 2	Session 3	Total
13. K1USN Radio Club				
N1DD	-	-	-	-
K1RV	15,367	841	3,127	19,335
K1DJ	11,970	25,181	61,258	98,409
K1VUT	75,259	57,057	63,291	195,607
K1TH	7,553	8,536	-	16,089
WS1L	18,630	12,705	-	31,335
K1EBY	59,202	41,724	67,280	168,206
WV1D	-	-	-	-
				528,981

15. MWA Walleye

W0AAE	68,016	53,000	38,220	159,236
N0AT	13,284	62,832	22,608	98,724
K0AD	<u>51,072</u>	<u>85,428</u>	<u>88,920</u>	<u>225,420</u>
				483,380

17. Team UK

G3LDI	8,295	5,916	16,644	30,855
M2G	30,195	66,732	70,626	167,553
G3WZD	-	9,120	2,352	11,472
G3WRJ	4,725	4,047	11,970	20,742
G4PFZ	-	2,714	9,690	12,404
G4LPP	8,446	22,464	34,916	65,826
GM2V	7,776	67,160	9,797	84,733
M0RYB	11,583	13,176	21,580	46,339
G4KQY	-	-	-	-
G3YLA	<u>2,552</u>	<u>3,185</u>	<u>7,520</u>	<u>13,257</u>
				453,181

19. KCG

K4FN	70,525	-	9,215	79,740
K4WW	44,390	59,180	19,575	123,145
K4AVX	-	-	-	-
KC4WQ	9,500	10,864	-	20,364
WE5P	8,715	8,181	400	17,296
W4PF	-	6,084	-	6,084
KM4FO	30,108	26,180	28,891	85,179
AA4WW	3,721	3,844	121	7,686
KE4KY	10,506	10,201	3,136	23,843
K4TZ	<u>15,180</u>	<u>15,609</u>	<u>4,489</u>	<u>35,278</u>
				398,615

21. DFWCG No 1

W0UO	57,339	-	59,568	116,907
NM5M	-	-	-	-
W8OV	8,019	7,826	1,444	17,289
N5XE	27,300	13,770	18,000	59,070
K7RB	15,855	11,220	5,852	32,927
KT5V	-	-	-	-
				226,193

23. Team UK Casuals

GW4J	-	-	-	-
G4PVM	-	16,445	-	16,445
G4IZZ	-	11,210	13,650	24,860
G3XLG	-	9,718	15,582	25,300
G8VPE	<u>462</u>	<u>2,100</u>	<u>2,496</u>	<u>5,058</u>
				71,663

Call	Session 1	Session 2	Session 3	Total
14. TDXS				
N5DIT	-	-	-	-
K5TU	108,030	116,596	103,704	328,330
K5GQ	15,618	8,000	2,303	25,921
NM5G	7,857	5,330	9,270	22,457
AF5J	4,745	1,927	1,806	8,478
KG5U	59,655	39,480	37,410	136,545
AJ4F	625	1,978	1,764	4,367
K0NM	-	-	-	-
N5XZ	-	-	-	-
				526,098

16. EU-CWops Eurelax

LB6GG	5,874	15,827	20,374	42,075
SP2R	8,080	7,084	11,092	26,256
9A1AA	16,779	50,922	105,747	173,448
DL5JQ	-	24,864	42,240	67,104
DL5DBY	-	2,750	9,880	12,630
EA3HSO	-	4,096	529	4,625
SN5J	8,610	13,020	21,472	43,102
Z32U	1,444	-	1,482	2,926
PA2TA	930	8,755	15,052	24,737
SF1Z	-	30,210	26,245	56,455
				453,358

18. PVRC MDVA #1

N4ZR	97,875	57,498	72,306	227,679
N2YO	83,204	53,972	67,308	204,484
W2CDO	-	-	11,742	11,742
				443,905

20. Venice Sharks

K4EU	38,700	29,944	12,540	81,184
W2XYZ	17,324	15,290	12,480	45,094
K4NMR	49,922	64,428	289	114,639
N4ZM	<u>16</u>	-	-	<u>16</u>
				240,933

22. YCCC Code Runners

W1VE	-	-	-	-
W1WEF	-	-	-	-
W1TO	-	25,718	-	25,718
W1KM	-	16,440	39,140	55,580
				81,298

24. Santiago de Cuba Contest Team

CO8NMN	23,104	12,827	23,200	59,131
CO8WN	1,764	676	3,540	5,980
CO8OH	-	-	-	-
				65,111

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Call	Session 1	Session 2	Session 3	Total
25. SWODXA				
AJ8B	-	-	-	-
W8EH	28,275	23,182		51,457
				51,457

27. Team Iron Ham				5,548
AC9EZ	7,905	3,360	5,548	16,813
K0HD	7,144	1,296	10,152	18,592
W0HY	1,848	-	-	1,848
AJ6ET	-	-	-	-
K7ULM	-	-	-	-
N4UCM	-	-	-	-
K9LA	-	-	8,170	8,170
VA3DKL	-	-	-	-
KB9LLD	-	-	-	-
				45,423

Call	Session 1	Session 2	Session 3	Total
26. Missing Dits				
M0XUU	3,498	9,752	9,202	22,452
SQ5VCO	-	8,170	-	8,170
PA2ST	3,534	3,550	9,828	16,912
DL3TM	-	-	-	-
IK1HGE	-	-	-	-
VE3BXG	1,681	1,024	7,735	10,440
VU2CPL	196	2,970	-	3,166
VU3NXI	-	576	-	576
VU3RRD	-	-	-	-
				61,716

Team Analysis:

Consistency is a word to describe the first two high scoring teams. The first place team this year was once again the 10 member FRC Team Proficiency. They certainly proved they were "Proficient" by turning in a VERY impressive 3,266,452 point total. The Deep Dixie CC Team Phoenix placed second again this year with a score 2,577,010 points. Team Seven Zones came in third with a score of 1,5748,432. In this time of Social Distancing, what a great way for people to "get together"!

Trophies and Plaques:

Below is a listing of the 2021 Trophy and Plaque winners. As in the past, should the same individual qualify for more than one award, the awards will be grouped on one Trophy or Plaque.

Trophies: High Score, each session, each ITU Region

Filipe Lopez, CR6K

Combined Scores, ITU Region 1 Winner

1,302 QSOs, 958 Multipliers 428,076 points

Session 1, ITU Region 1, Winner

405 QSOs 291 Multipliers 117,855 points

Session 3, ITU Region 1, Winner

540 QSOs 394 Multipliers 212,760 points

Armin Sturm, DK9PY

Session 2, ITU Region 1, Winner

393 QSOs, 333 Multipliers 130,869 points



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Bud Trench, AA3B

Combined Scores, ITU Region 2 Winner

1,807 QSOs 1168 Multipliers 705,037 points

Session 1, ITU Region 2, Winner

653 QSOs 399 Multipliers 260,547 points

Session 3, ITY Region 2, Winner

598 QSOs 403 Multipliers 240,994 points

Steve, N2IC

Session 2, ITU Region 2 Winner

652 QSOs 374 Multipliers 243,848 points

Gavin Williams, ZL1BBW

Session 1, ITU Region 3 Winner

110 QSOs 109 Multipliers 11,990 points

Allan Mason, VK2GR

Combined Score, ITU Region 3 Winner

248 QSOs 245 Multipliers 22,564 points

Session 2, ITU Region 3 Winner

105 QSOs 103 Multipliers 10,815 points

Session 3, ITU Region 3 Winner

100 QSOs 99 Multipliers 9,900 points

Plaques: High Score, All power levels (HP, LP, QRP), each session, each ITU Region

High Power –

Fil, CR6K

Session 1, ITU Region 1, Winner

405 QSOs 291 Multipliers 117,855 points

Session 3, ITU Region 1, Winner

540 QSOs 394 Multipliers 212,760 points

Armin, DK9PY

Session 2, ITU Region 1, Winner

393 QSOs, 333 Multipliers 130,869 points

Bud Trench, AA3B

Session 1, ITU Region 2, Winner

653 QSOs 399 Multipliers 260,547 points

Session 3, ITY Region 2, Winner

598 QSOs 403 Multipliers 240,994 points

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Steve, N2IC

Session 2, ITU Region 2 Winner

652 QSOs 374 Multipliers 243,848 points

Gavin Williams, ZL1BBW

Session 1, ITU Region 3 Winner

110 QSOs 109 Multipliers 11,990 points

Allan Mason, VK2GR

Session 2, ITU Region 3 Winner

105 QSOs 103 Multipliers 10,815 points

Session 3, ITU Region 3 Winner

100 QSOs 99 Multipliers 9,900 points

Low Power -

Ivo Novak, 9A1AA

Session 1, ITU Region 1, Low Power Winner

141 QSOs 119 Multipliers 16,779 points

Session 2, ITU Region 1, Low Power Winner

246 QSOs 207 Multipliers 50,922 points

Session 3, ITU Region 1, Low Power Winner

349 QSOs, 303 Multipliers 10,5747 points

Don Binkley, N4ZZ

Session 1, ITU Region 2, Low Power Winner

421 QSOs 290 Multipliers 122,090 points

Session 2, ITU Region 2, Low Power Winner

405 QSOs 316 Multipliers 127,980 points

Session 3, ITU Region 2, Low Power Winner

357 QSOs 289 Multipliers 103,173 points

QRP -

Peter Butler, W1UU

Session 1, ITU Region 2, QRP Winner

177 QSOs 123 Multipliers 21,771 points

Session 2, ITU Region 2, QRP Winner

154 QSOs, 120 Multipliers 18,480 Points

Session 3, ITU Region 2, QRP Winner

168 QSOs 138 Multipliers 23,184 points

In summary: Thanks to all the participants in the 2021 CW Open. Both CWOps members and non-members. A BIG CONGRATULATIONS to the winners of trophies and plaques. Some really

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big scores were turned in again. Hopefully everyone agrees with me that this was another great way to spend a few hours on the bands, talking to friends and perhaps making a few new ones. I would like to thank Rob, K6RB, for the outstandingly quick turnaround of the log processing and checking. I would also like to thank the regional communications volunteers that helped me get the message out there. We can thank them for the excellent participation. They are Region 1; Bert (F6HKA) and Roger (G3LDI) Region 2; Lar (K7SV). Region 3; Barry (VK2BJ). Looking toward next year the propagation should be improved. Lately there have been a few 15meter openings and even a rare 10meter opening or two. Let's try to break a few more records in 2022.

Until then, I will see you on the bands and in the weekly CWTs.

73,

Bruce, N1LN, CW Open Manager

Giving Back Update

[Rob Brownstein K6RB](#)

CWops' Giving Back (GB) program is meant to provide on-air QSO experience and practice for anyone who wants it. It was initially intended as a way for our CW Academy students to get some on-air experience. We all know that when there is activity on the bands, these days, it's usually a DXpedition pileup or a contest. Today's CW aspirants have had little chance to work others who are skilled at CW, operate at moderate speed, and are committed to helping. That's the mission of Giving Back. The GB volunteers get on the air at approximately 7 PM local time and seek out CQers, or call CQ, and engage in routine QSOs including some conversational tidbits. Here (next page) is the current schedule:

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Giving Back Operating Schedule 7 PM Local 40 meters 7.035-7.045 MHz and/or 80 meters 3.535-3.545											
UTC+9	UTC+7	UTC+3	UTC+2	UTC+1	UTC/BST	UTC-1	UTC-4	UTC-5	UTC-6	UTC-7	Hawaii UTC-10
Mon											
JH2HTQ JO1DGE			ON5CFT		GM0EUL G2CWO		WA2AKV W2LCQ WB2LQF K1CHM W2XS WK4WC	K8UDH NS6W KE7VE	N6HCN		KH6LC
Tues											
JH2HTQ JR1WYW	E25JRP		SV2BBK		GW2CWO G0POT		WE5P W2TE KW4WA AC0BQ N4TMM		K7NJ K0ES KE7VE	K6RB AA0IZ	
Wed											
JH2HTQ JS2AHG			ON5CFT		G0HKC G4XWJ		W4HXH K3ZGA WB1LLY NU2Q	K5XU K2MZ W2ITT	KU7Y K2MZ KE7VE		
Thurs											
JH2HTQ			SV2BBK		G0POT		K1KHU K4LRC W2LCQ K8BMA		KE7VE		
FRI											
JH2HTQ JR1WYW			SV2BBK ON5CFT DL1LAF		GW2CWO MI0WWB		VE3FXX N2GSL		KE7VE WB7S	K6RB	
Sat											
JJ1FXF				LA1IO			VE3FXX		KE7VE		
Sun											
JS2AHG JJ1FXF				IZ8NXG			W5DT		KE7VE	K6RB	

Here are the results of last month's GB efforts:

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Volunteer: Stations Worked

AA0IZ: AE7UT, KA3LOC, KA6ACN, KJ7GNB, KK6KL, N7AZZ, N8AFT, W0YSE, W5CVK, W6QLF, W7DLZ, W7LRM, W9IGX, WA0JJC, WA7DXZ, KA6IOM

E25JRP: HS0GWL(2), VU2PHD(3), YD2UWF, HS2DV, YE4U, E20TWR, 9M2LAN, YC0ATE, HS4RBS, VU2ACC

G2CWO: DJ8TX, SV9/OH1LA, RM2R, EA2BTN, YU7OL

GW2CWO: PB7RS, UT1LF, LA1IO, ON4CLF, UN7LAM, RM2R, E73KW, YO3EM, DL5DRM/P, YO8DOH, JA7MBT, ON4JXC, OK1YR, I1PJK

JH2HTQ: 7N2XZB(4), JR1JWR(3), JM6JFP, JJ0VEF, JH6TNH, ZL2AUA, JQ3AZJ, JE9AST, JA5IVG, JJ5MKY, JA5IBP

JJ1FXF: JJ0VXN(2), JJ0VNP, VK4SYD, JR1JWR(3), 7N2XZB(2), JF7URV, JM8QGN, JQ3BUM, JJ0VEF, JM8QGN

JO1DGE: DS5RLI, JA8EQZ, JG6DMH, JJ0VEF, JJ0VXN, JO4JFH, JQ7AMA/7, JR1JWR, JR3OYH, JS2GBG

JR1WYW: DS5RLI, JR1JWR, JF8DIC, 7N2XZB, IQ7AMA/7

JS2AHG: BH9EAZ, JR1JWR(2), JM8QGN(2)

K3ZGA: AF4QK, KI4TI, W3DF, KM4PIH, W5CVK, K4IBZ, K4ZNC, K1YYM, W8KJP

K6RB: NN6T, ND7T, AJ6FN, KJ5T, KI7NRI, WA6BXV/6, LU3VED(2), NG9D, KE6K, W4AUV, VE3IID, KD2FSH

K7NJ: WA7WKY, NE5E, K1ARR, N2KTC, W7AEH, W5WTH, WB0L, NO0V, W4ZXT, AJ6FN, WA0ILY, NT5TT, KE7VE, KB9ACW, W5ESE, KI5PAX, W0HY, W1WAV, AB0BM, KB2RL, K0PV, W4MUB, N4NTO, W0TT, N8DX, W7AEH, KI7NRI, N7KM, K9FM

NT5TT: KE7VE, KB9ACW, W5ESE, KI5PAX, W0HY, W1WAV, AB0BM, KB2RL, K0PV, W4MUB, N4NTO, W0TT, N8DX, W7AEH, KI7NRI, N7KM, K9FM

K8UDH: KI4DEF, KT3K

KE7VE: NO0V, K1SW, K0WVL, N8AE, WS1L, N5RZ, K5PIA, K4WW, K8JQ, K6TJ, N0TJ, N2SFS, WT3J, KN2CZZ, K4KYN, WB5DRG, VP9KD, WA7WKY, NN0D, W7ONE(2), WC7C(2), AG4JT, W7JAS, N6EED, N9EP, K7BNY, K5GQ, N4MJ, KD0V, W6C, K4BAI, W4DAN, W6G, AA6P, W6V, W6M, KB9UWR, W6A, W1Z, W7OM, N7BV, N7RO, K0KT, K7RL, WC7Q, N7EPD, KN7T, K5WSN, WG7MM, AI6QZ/P, VE3QAM, K7NJ(2), AD5UA, K2PMC, WC7C, K7JPF, KA1ULN, N9XVZ, NX3Z/7, KB3NSK, W1RCP, W3SI, AB0BM, KF7SNH, WB5DRG, AJ6QL

N2GSL: N9YB, NN9K, N2JPR, KE4MAC, WB5LAI, N2AIR, W3ZRW, N5DDG, VP9KD
N4TMM: AC5XK, K4EJQ, KG2B, K4ZNC

SV2BBK: OK2BEI, R2ARW, 4X5SB, UR5WAF, OK1YR/P, IN3FUC, IU5MPW, IK8SCR, IT9BYS

W2ITT: I2UVZ, KB2RL, W3HIZ, VE3AIH, KC9ERZ, KA2KGP, W1BLU, KA3LOC, WB9LPU, W8NEE

W2LCQ: K1YYM, LZ3ND, W4AMV, KB9RPG(2), WV2I, AA4FPD, KA2KGP, AI8AI, W1AAF, N4SNI, N1CMA, K0YI

W5DT: KB8MCZ, KA4SCV, KR2Q, N2ANL, AC5XK, K4ABC

WB1LLY: S51MF, K3ZGA, KF0IN, N9EE, AD8WR, W1HKJ, K8DO, KT5S, W5FIV, KO4OIP(2), WB4MED, KC8RVD, WB8MIW, N9GVP, K1YYM, KC1FUU, W1JBD, WA3VSO, W1BLU

WB2LQF: AC4BN, N2EGA, KI4PS, N2ANL

WE5P: N2SFS, KC8CJG, G4BSW

WK4WC: WB5RYB, KN4YOH, AA4MZ, KC1PJE, KC9YI, W2ITT

Those interested in working these folks and practicing should look for them at around 7 PM in each time zone. They will usually send a "CWA" just before signing after a CQ.

73,

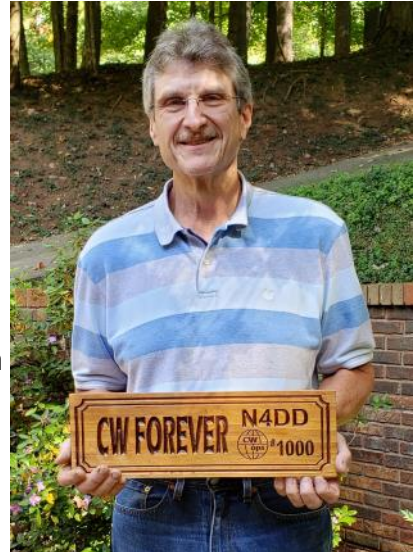
Rob K6RB, Giving Back Manager



CWops Membership Milestones

[Jim Talens, N3JT, CWops Secretary](#)

When CWops was formed, none of us thought much about the future growth prospects for the club. Sure, we were confident that an organization with an international administration, a reasonable proficiency requirement and an attitude of welcoming would likely succeed. Today, some eleven years later, we have a club that is vibrant, active, and still growing. We've assigned over 3,000 membership numbers, support a scholarship fund, teach CW to many hundreds of students annually, support on-air activities, and publish an outstanding monthly newsletter. Our club has developed into a mature organization that is doing more than any other in securing a future for CW in ham radio.

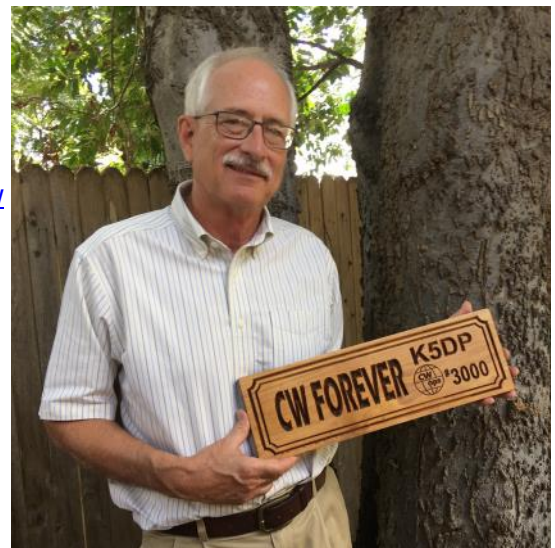


Membership #1,000 was assigned to N4DD (Dennis) in 2011, #2,000 to K2TW (Tom) in 2018 and #3,000 to K5DP (Mark) in 2021. At this rate, we should find ourselves second only to ARRL in membership in a few more years! In celebration of our growth and success, we recently issued call sign plaques to Dennis, Tom and Mark. We look forward to similar plaques for numbers 4,000 and 5,000 soon!

Of course, we can only do that if you, our current members, continue to nominate and sponsor new members. You can nominate or sponsor someone as soon as you become a member, and there is no limit to the number of operators you can support. The procedure is easy because we have a simple form for both nomination and sponsorship. We only ask that the nominee give his or her blessing to becoming a member before the nomination is submitted. That confirmation can be done by email or on the air, though an email address is needed anyway because our club membership communications are done solely by email.



The nomination form is at <https://cwops.org/nomination-form/>. The sponsorship form is at <https://cwops.org/new-member-sponsorship-form/>. The password to access these forms is morse8. You must have had 2 QSOs at 25 wpm or faster within 12 months of the nomination or sponsorship. Generally, QRZ.COM is a good source to find a prospective nominee's email address, though sometimes a little Googling is needed – or just asking in a QSO.



Congratulations to N4DD, K2TW and K5DP!

Improving Your Contest Score with a Waterfall Display

[Javan Miller, W8UA](#)

A common misconception among many new testers is that those in the Top 10 must use \$10,000 radios and towers that seem to reach halfway to the moon in order to be competitive. While that may be partially true, most contesting optimization need not be accomplished by the local tower crew.

Although I currently contest using a limited antenna array ([see the February 2021 issue of Solid Copy](#)), I am constantly improving my scores by simply adjusting my techniques. Most recently, I have discovered the spectrum display feature in N1MM Logger+, which has helped me as an unassisted operator boost my scores considerably.



W8UA

Before I dive into how that tool works, let me give a brief description of my current situation. I have been operating HF for almost 2 years, starting with a thrilling introduction during my club's participation in ARRL Field Day. Shortly after that exciting weekend, my family's station got a major upgrade - an HF base transceiver and an antenna. Due to structural reasons, all of my antennas have been limited to my attic - an additional degree of difficulty for contest participation. I am very fortunate, though, that the radio I use is an extremely popular "SDR with knobs" that has provisions to be used with the spectrum monitor feature in my logging software. Since I am continually tweaking everything within my station to maximize my score, I am able to compete against friends who may utilize much more competitive antenna systems.

Although I've picked up many tricks over the past 18 months of CW contesting, the one tool that I have extensively capitalized on has been the spectrum display in my logging software. A very popular approach that I took for several months was to look at the waterfall on an SDR transceiver and tune with the big knob to find running stations to work. That method may work fairly well for a big gun tester, where they may sequentially tune across the entire band making each QSO on the first call. But, a little pistol like me cannot always successfully do that. I admit that I had wasted much time jumping across the band in disorder every time I saw a bright orange line on the waterfall display. I then lost the position where I was systematically tuning through the band, which obviously resulted in missing some unworked stations. Now that I use the spectrum display window with additional features, many of those deficiencies of the traditional S&P strategy no longer occur.

When I started to investigate Spectrum Monitor in N1MM+, I was unaware of the features it included. I mistakenly believed that it was a simple copy of the waterfall display shown on the

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touchscreen of my radio. Little did I know that the tool has provisions for jumping from station to station, placing a red box under each unworked signal (see Figure 1). Luckily, the N1MM+ developers made setup extremely simple. It takes me just a few minutes to properly interface my radio's waterfall display with the logging software.

Once setup was complete, I instantly found out that this tool had some hidden features that I had never used before. I discovered the little red boxes under each signal, which prompted me to jump from signal to signal using my mouse. After [reading the well-written N1MM+ user guide](#), I noticed that clicking on each signal is not necessary. A simple keystroke (Shift + Up/Down) allowed me to rapidly move through the band without taking my hands off the keyboard. Since the little red boxes only appear under unworked stations, I

Editor's Note:

The original version of this story appeared in the July/August 2021 issue of the *National Contest Journal's* "Next-Gen Contesters" column. Reprinted with permission, copyright ARRL.



found myself jumping across the band more freely, since I no longer had to systematically tune through the band. The spectrum display window and accompanying features are extremely easy to set up, and they substantially increased my unassisted S&P rate by allowing me to instantly jump around the band to each unworked station.

Over the past year and a half, I have participated in quite a few contests with my antenna-limited station. During every contest, I try to learn something new about my station and how I can better use it. Of course, the number one thing that improves performance in an activity is the refining of the set of strategies. While I still strive to practice on-the-air or with *Morse Runner*, I have found my contest strategy can also be perfected by utilizing different features within my contest logging software as well as my radio. Since I explored my contest logging software and decided to use a feature that is not commonly known, I have been able to considerably improve my unassisted S&P rate. No matter how limited a contest station might be, the one variable that can always be improved and refined for no cost at all is the operator and their strategies.

Intangible World Cultural Heritage Status and the Code

[Martin Gloger, DM4CW](#), and [Colin Hall, GM4JPZ/N6OET](#)

This article will fill you in on our attempts to achieve the status of [UNESCO Intangible World Cultural Heritage](#) for Morse code, which would mean increased international recognition, respect and prestige for CW, as well as open up funds to support the code.

First of all, what does Intangible World Cultural Heritage mean, and who bestows it on whom? UNESCO (the United Nations Educational, Scientific and Cultural Organization) was founded in 1949 to promote, amongst other things, international peace, cooperation among countries, human rights and – in their own words – develops educational tools to help people live as global citizens free of hate and intolerance. When UNESCO accepts a practice, tradition, language etc. as part of the Intangible World Cultural Heritage, it commits to encouraging the development and maintenance of that practice and working towards its promotion on the world stage. It also gives grants up to \$100,000 to keep the practice alive. The United States left UNESCO in October 2017 but internationally the organization still plays a significant role in the cultural sphere.



[Georgian polyphonic singing](#), one example of an Intangible World Cultural Heritage.

This UNESCO program has as its goal the protection of intangible cultural artifacts which should be preserved for future generations, so the main emphasis is on tradition and international friendship as well as education. Morse code fits perfectly into this pattern as it is valuable in all these areas.

In a joint venture, the DARC ([Deutscher Amateur Radio Club](#)) and AGCW-DL ([CW-DL Working Group](#)) have been working on this project in Germany since early 2020. Our goal is to make this an international project, as we have learned from other proposals that a multilateral approach has the best chance of success with UNESCO. Right now, we are focusing on persuading new national ham radio societies to join us in this venture and our friends from Belgium and the Netherlands have already joined us. The IARU conference for Region 1 decided to support our work and has established a working group to promote this proposal. This gives us confidence that this pro-

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ject will get more attention amongst the general public who are unaware of amateur radio.

The cultural impact of Morse code can be seen in its worth as an artificial language like Esperanto, as it helps people to communicate and make friends all over the world; even in the post-Covid world you will make new friends at every ham radio convention or rally if you approach somebody with a well-known call sign and introduce yourself as a fellow CW operator. Yes, some Morse code enthusiasts are heavily into contesting, but they are still communicating and helping create a friendly community all over the world. As for the educational value of Morse code, a student derives a whole range of benefits from learning the code. Learning a new skill helps to increase self-esteem; students learn to focus on a subject and they quickly develop a real feeling of pride in their achievement – especially after their first QSO! There are even attempts to use the code therapeutically, and we all know many other positive examples. A newbie entering the ham radio community develops new interests in technology, geography, physics and much more, facts that are known to the ham radio community but not in detail to the general public. Achieving the status for CW as an Intangible World Cultural Heritage would mean wide international publicity and increased respect for our favorite means of communication.



United Nations
Educational, Scientific and
Cultural Organization

In Germany, a group of retired naval radio operators founded a group some time ago, intending to establish the Code as an Intangible World Cultural Heritage, but they were faced with major problems in achieving this goal.



Intangible
Cultural
Heritage

The national register of applications to UNESCO in most European countries contains a long list of competitors. There are local festivals, crafts, traditional dishes, card games and many more projects which are all vying for Intangible World Cultural Heritage status, including about 70 competitors in Germany alone. The situation in Belgium and the Netherlands is similar: their previous successful world cultural heritage proposals have included windmills and French Fries. Of course everybody knows and loves these things, so the chances for Morse code are quite low against this kind of competition unless we increase awareness of what CW means.

Another problem has been that the boards which decide on the status of world cultural heritage are dominated by scholars based in humanities and they tend not to be acquainted with Morse code — even ham radio itself is an odd subject to them. So we have to develop strategies to reach these individuals and find ways of educating them about the importance of amateur radio in general and CW in particular.

An interesting perspective emerged at the recent IARU conference, which took place virtually in 2020 due to Covid restrictions. Some developing countries such as Nigeria and Senegal, which normally tend not to attend IARU events, were taking part and showed some interest in our project. This provides us with an intriguing opportunity for support, as they have hardly put forward any entries to their own national world heritage list so far. Maybe this will lead to an interesting

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outcome on the way to establishing Morse code as an Intangible World Cultural Heritage.

At any rate, we need all CW enthusiasts to be behind this effort, banging the drum daily for CW, and supporting our work to raise awareness of the importance of Morse to the world. Every time you have a CW QSO on the bands you are adding your voice to ours and adding weight to our argument that Morse code is very much alive and contributing to world peace and understanding, the very ethos of UNESCO. We are also open to any suggestions and comments you may have that you think will help us reach our goals, and urge you all to participate. Think of this as an ongoing CWT we can all contribute to!

A Fun Visit to Northern Italy!

[Jim Talens, N3JT](#)

After a two-year delay Nina and I went on an OAT (Overseas Adventure Travel) 3-week tour of northern Italy in early September 2021 with 13 other travelers, focusing on the regions of Tuscany, Umbria and Emilia Romagna. We used this company before because the groups are limited to 15 people (14 in our group) and they do some unusual things. For example, we visited places where world-famous culinary products are made, such as Parmigiano-Reggiano cheese, Modena balsamic vinegar, goat pecorino cheese, culatello (a kind of prosciutto), unique chocolates, wineries, etc. We even visited Carrara, where marble is still mined for statues, and we went on a truffle hunt where they use dogs (because dogs won't eat the truffles!). (Yes, I gained 2 kilos during the trip.) But included on the itinerary were periods of free time so we could visit small museums on our own or just wander the old cities we visited. Speaking of cities, we were in Bologna, Ravenna, Parma, Lucca, Tavarnelle Val di Pesa, Florence (half a day), Siena, Perugia, Chianti, Carrara, Montepulciano, Spello, Spoleto, Pitigliano, Sorano, Sovana, Terni, Assisi and Rome (half a day). Somewhere in there we spent two nights at a lovely resort hotel overlooking the mountains.

In advance of our departure for Italy, I made arrangements to visit with 4 ham radio friends, using those "free time periods." The first, Claudio, I4VEQ, was in Bologna. He was kind enough to come to our hotel and take us to the club station IR4Q, atop a mountain overlooking the city. Getting to the shack required climbing a ladder astride the small road leading to the hilltop. I operated for a short time using the stacked monobanders and a K4. Claudio is involved with the arrangements for the 2023 WRTC that will be conducted from his region so it was great fun to chat with him about the plans. Through him we visited the fantastic Marconi Museum that features a large array of items that spawned radio as we know it.

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Antennas at the IR4Q club stations (left). The ladder you must climb to get to the IR4Q shack (right)



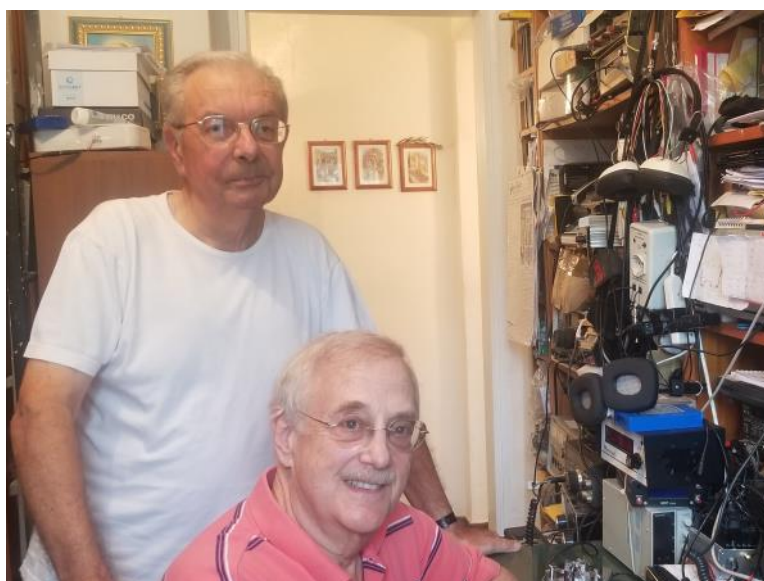
N3JT operating at IR4Q (left); Nina, his XYL, watches the excitement (right).



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Some days later we met up with Emil, I5EFO and his XYL, Marcella, near Lucca. Emil has some 200 olive trees and gave us two large containers of his olive oil from last year's harvest. This year's crop of olives was a disaster due to drought. I operated much of a 13z CWT session from his QTH using his quad antenna. His shack made me feel at home because it really does look like a shack!



Left: Emil I5EFO and N3JT. Right: the I5EFO quad antenna.

A week later we were greeted at our hotel in Pienza by Andy, IK5VLL. He took us to Pitigliano where we saw Little Jerusalem, Etruscan catacombs in Sorano and of course Andy's shack. From there I operated another 13z CWT session though conditions were somewhat less than ideal. We had a great day together.



Left: N3JT in the IK5VLL shack. Right: Andy, IK5VLL

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Then, when we were in Spoleto we had the great pleasure of meeting Marco, IK0YVV. We spent the afternoon with him, chatting about business, ham radio and seemingly everything else!

Note: Traveling in Italy is relatively safe. You must have proof of COVID inoculation before entering any museum or church, and a mask must be worn anywhere there are other people indoors, like in hotel lobbies, restaurants (except when actually eating), etc. In addition, you must get a COVID test prior to boarding any flight to or from Italy and show that negative test result at check-in.

Ham radio is unique in its potential for having “brothers” virtually anywhere in the world. It was especially meaningful to meet the guys in Italy I have worked so many times on the air. Now, when we have QSOs I have memories of our eyeball meetings, as do they. That makes the QSOs even more special.



Left: Marco, IK0YVV (left) and N3JT. Right: the IK5VLL tower. Note the hole in the roof.

CW Academy

[Kate Hutton, K6HTN](#) [Joe Fischer, AA8TA](#)
[Bob Carter, WR7Q](#) [Roland Smith, K7OJL](#)

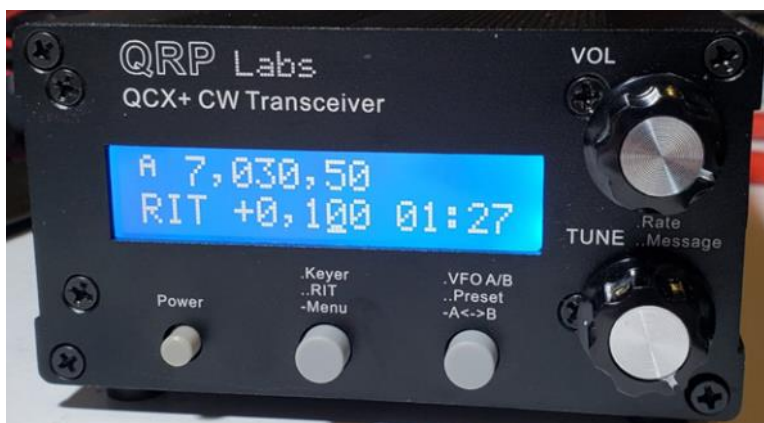
Let us look at something that has had a profound impact on the CW Academy: the QRP Labs QCX and the Elecraft KX3.

There are, of course, other QRP radios available but these seem to be among the most popular. What is amazing about these radios is that they are light-weight, have capable receivers, are easy to operate, are small and are easy to carry around to outside venues such as camping spots or parks. One might notice that the QCX transceiver has two VFOs. Quite a bit of what would have been considered advanced technology several years ago is built-in to these affordable radios. Many of these radios have built-in keyers and include memories for storing call signs, park IDs or other things that are sent repetitively.

Although the Elecraft, Yaesu and some other QRP radios can operate voice and digital modes, the QCX and several other similar radios are CW-only. Those who are intrigued by these radios, and what can be done with them, quickly find out that CW is an efficient way to get a few watts of transmit power that feeds a less-than-ideal antenna to travel a decent distance.

Since CW is the way to go, how does one learn that? We see many students who either own QRP radios or are interested in acquiring them. In some cases, portable operating at a park or campground is the only way some of our students can get on the air. After learning enough Morse code to be able to send their call sign and understand another ham's call sign, the student is ready for lots of QRP fun. This can become an addiction and one excited student can inspire other students to give it a try.

For those of us who have more experience with CW, there is a good possibility that we might encounter a weak signal, possibly with QSB (fading) and somewhat slow CW. This just might be a student, or recent student, with one of these low-power radios out somewhere with a wire hang-



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ing from a tree trying to make a few contacts and have fun. Let's encourage them to keep packing up their lightweight radios and simple antennas and explore how far their few watts can go.

We always encourage experienced CW operators who would like to share their passion for CW operating to become CW Academy advisors. But anybody can be a mentor by listening for weak signals and engaging in a contact and giving somebody a big thrill. Trust me, when this happens, our classes take on a whole new meaning when the student describes his or her experience.

73,

Kate K6HTN, Joe AA8TA, Bob WR7Q, Roland K7OJL
CW Academy Managers

How We Were

Hank Garretson, W6SX

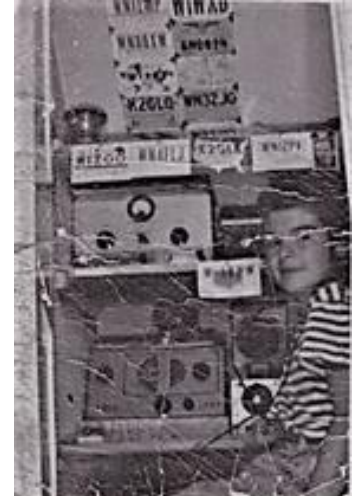
This Month: W1UU, Peter Butler. CWops #91, CWops Vice President

- First licensed as WN1BPW in 1954, age 14 (top).
- Upgraded to General W1BPW in 1955 (bottom).
- Extra in 1965. W1UU in 1975.

Peter runs QRP only and is a master at dropping his call at just the right moment, often beating out much stronger callers.

Please send your How We Were picture(s) and story to w6sx@arrl.net.

CW Exuberantly! Hank, W6SX



Editor's Note:

Many thanks to Hank, W6SX, for offering to reprise his popular "How We Were" feature of *Solid Copy*. Turn on your time machine and send him your story and pictures.



CWops Member Awards

[Bill Gilliland, WØTG](#)

Several operating awards are available for contacting CWops members. These include Annual Competition Award (ACA) recognizing the total number of CWops members contacted in a single year, Cumulative Membership Award (CMA) recognizing the total number of members contacted on each amateur band since January 3, 2010, CWops WAS Award for contacting members in all 50 states, CWops DXCC Award for contacting members in countries on the ARRL DXCC list, CWops WAE Award for contacting members in Europe, and CWops WAZ Award for contacting members in each of the 40 CQ zones. All contacts must be via CW and with current CWops members. To qualify for these awards, you must submit your logs via the tool at the CWops Award Tools website <https://cwops.telegraphy.de/>. You can also print out your awards certificates at that same website.



A set of tools for managing your awards status is provided on the CWops Award Tools website and if you regularly upload your logs your awards will be automatically tracked for you. **To view complete data for all currently active participants and see where you and others rank among active participants in the awards program, use the tools at <https://cwops.telegraphy.de/scores-by-call>.** For more details on the tools provided, see the August 2021 Solid Copy article.

Fabian, DJ1YFK, who created the website and the tools, made it extremely easy to participate in the awards program. If you are not among the 229 CWops members who are currently participating, please join us! It adds a lot of friendly competition and fun to your operating.

This month, in the ACA ranking, **AA3B**, **K3WW** and **N5RZ** retained the top three positions, but **KR2Q** moved up two positions to take over fourth place and **K7QA** moved up two positions to take over tenth place. Farther down the list, there was a lot of movement in the rankings with **W8FN**, **W0VX**, **NK4O**, **NE2V**, and **9A1AA** all jumping more than ten spots, and **M0RYB** and **G4LPP** appearing in the top 100 for the first time. Thirty-four members have contacted 100 DXCC entities. There were no new CWops WAS awards this month, but with active CWops members in all 50 states, each passing month should bring new CWops WAS awards.

For more information on the CWops Awards Program, please go to <https://cwops.org/contact-us/awards/>, and address any questions or comments to cwopscam@w0tg.com.

Here are the rankings for the top 100 ACA scores as of the first week of October 2021.

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CWops Member Awards Standings							
RANK	CALL	ACA	CMA	DXCC	WAS	WAE	WAZ
1	AA3B	1634	11168	126	50	47	38
2	K3WW	1508	8593	126	50	46	36
3	N5RZ	1457	7026	116	50	43	36
4	KR2Q	1406	4111	126	50	50	34
5	K3WJV	1327	6246	108	50	46	30
6	NA8V	1326	6752	107	50	44	36
7	K3JT	1235	4664	91	50	42	29
8	W1RM	1200	7540	209	50	60	38
9	N7US	1192	5148	105	50	36	28
10	K7QA	1180	4258	79	50	36	29
11	K1VUT	1168	4300	71	50	37	22
12	K4WW	1160	4092	81	50	35	32
13	KG9X	1154	4668	75	50	34	24
14	W4WF	1109	3809	77	50	37	29
15	W0UO	1104	2835	53	50	30	21
16	AC6ZM	1101	3473	59	50	33	19
17	WT3K	1096	3341	72	49	41	29
18	WT9U	1078	4805	100	50	39	24
19	VE3KI	1076	6528	136	50	51	27
20	K3PP	1065	4422	100	50	44	38
21	F6HKA	1061	6858	198	50	58	37
22	N8BJQ	1060	7046	130	50	46	38
23	K8AJS	1039	3940	100	50	42	30
24	W8FN	1032	3369	55	49	29	24
25	W9ILY	1029	5445	129	50	45	36
26	K6NR	1024	3438	60	50	28	24
27	NA4J	1014	3123	68	49	31	21
28	N1DC	1004	4196	84	50	38	28
29	K9WX	986	4165	86	50	33	26
30	WN7S	980	3344	62	49	30	25
31	DL6KVA	963	4985	167	50	59	36
32	VE3TM	946	2443	71	50	38	23
33	AA5JF	942	2231	65	49	33	30
34	WS1L	911	2219	57	49	34	19
35	KG5U	910	3902	75	50	24	18
36	K1DJ	902	3718	92	50	40	32
37	N2UU	899	4890	108	50	44	31
38	K3ZA	895	1726	36	50	25	14

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CWops Member Awards Standings							
RANK	CALL	ACA	CMA	DXCC	WAS	WAE	WAZ
39	K8PK	888	3177	80	50	38	19
40	KC7V	885	4480	87	50	34	29
41	NJ3K	883	2575	58	49	36	25
42	I2WIJ	862	3014	79	48	41	26
43	W0VX	842	4975	122	49	42	20
44	K1ESE	837	4866	124	50	45	18
45	KE8G	834	3013	77	49	35	29
46	K8JQ	828	4321	62	50	28	35
47	NK4O	827	1710	60	47	29	26
48	NE2V	817	1473	46	49	26	23
49	DF7TV	814	1734	80	48	44	26
50	K2TW	814	2943	56	49	30	15
51	AF4T	813	2007	56	50	33	31
52	W2CDO	810	1900	52	48	34	18
53	KT5V	800	2873	73	50	26	29
54	K4TZ	799	2335	36	50	16	21
55	9A1AA	796	3675	121	49	49	36
56	EA4OR	786	1759	71	49	42	22
57	W3WHK	785	2679	71	49	32	31
58	WA4JUK	779	3184	80	50	38	20
59	LB6GG	775	2253	81	44	47	25
60	CO8NMN	772	2839	66	47	33	16
61	KC4WQ	761	2325	43	50	23	23
62	N4ZR	758	3857	93	50	40	22
63	K1SM	757	3524	129	49	44	16
64	KM4FO	757	2132	41	49	15	18
65	KV8Q	750	2315	54	49	25	16
66	OZ3SM	744	2154	85	47	41	22
67	NF8M	734	1903	39	49	20	36
68	N4FP	733	2011	48	49	28	38
69	W1UU	733	3792	108	50	38	18
70	W6LAX	733	1728	34	49	13	32
71	AF5J	730	1496	38	50	18	22
72	NR3Z	717	1985	63	48	32	19
73	W2NRA	713	2437	71	50	34	17
74	K4GM	706	3369	78	50	32	35
75	VE3MV	675	2751	73	49	36	35
76	W1AJT	675	1302	48	49	32	27
77	GW0ETF	670	3447	109	50	47	20

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CWops Member Awards Standings							
RANK	CALL	ACA	CMA	DXCC	WAS	WAE	WAZ
78	N4DW	664	5316	117	50	42	19
79	K0TC	663	2590	56	49	24	23
80	N5XE	641	2102	61	49	31	16
81	WW3S	637	1202	53	48	30	16
82	KA1YQC	628	1184	47	48	30	25
83	K2YR	617	1571	39	47	25	25
84	W0TG	610	2341	58	50	23	27
85	DK3WW	603	1556	71	49	41	17
86	G3WZD	600	1294	77	46	39	16
87	KT4XN	600	1839	53	48	24	27
88	G3XTT	598	1975	78	46	41	20
89	F5SGI	591	1162	71	44	44	16
90	SM0HEV	591	1742	93	47	45	26
91	AG4EA	586	1414	42	47	25	22
92	WA2USA	581	1575	39	50	24	31
93	K1EBY	579	3168	78	50	34	23
94	N5IR	576	4147	119	50	44	16
95	K6KM	575	1694	41	50	16	17
96	G4LPP	572	1207	62	44	39	33
97	WA5LXS	556	1720	44	49	17	33
98	W8OV	554	1906	47	48	21	18
99	W2VM	551	2034	56	49	28	24
100	M0RYB	537	1625	71	44	43	34

CWops Tests

[Rich Ferch, VE3KI](#)

There is no log checking for the CWTs, and no log submission. All we ask is that you report your claimed score at 3830scores.com. Simple, right? Well, we don't have a log submission robot trying to catch obvious problems, so there is a bit more of an onus on you to get it right when you fill in the score submittal form.

The first step is to make sure you are using the correct form. There are four "CWops Mini-CWT Test" submittal forms to choose from on the left side of the 3803scores web page, one for each of the four CWT sessions in the current

Current Contests
CWops Mini-CWT Test - 1300Z Oct 13
CWops Mini-CWT Test - 1900Z Oct 13
CWops Mini-CWT Test - 0300Z Oct 14
CWops Mini-CWT Test - 0700Z Oct 14

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week (including the unofficial 0700Z session). Make sure you are using the correct one for the session for which you are entering your score.

The next important step is to fill in the call sign you used during the session in the Call Used box. Double-check to make sure you spelled your call sign correctly – if you make a typing error, do you really expect the computer to be able to figure out what happened and give the credit to

CWops Mini-CWT Test - 1300Z Oct 13

Use this form to submit your CWops Mini-CWT Test - 1300Z Oct 13 score to the 3830 reflector in a standardized format that allows the results to be automatically summarized. Items in **red** and marked with a * are required. Separate multiple operator call signs with a comma or space.

Please remember that submitting this form does not take the place of submitting your log to the contest sponsor.

☒ New Submission ☐ Correct Previous Submission

Submitter's E-mail Address* ☐ Send copy to this e-mail address.

Call Used* Operator(s) Call(s) Station Call

Class* Power* Check all that apply: ☐ SO2R ☐ Remote operation

Op Time (hrs) QTH Club

you? It can't. There is an easy way to make this step a bit more reliable. Near the top of the web page is a link called "Preferences". Click on that, and you will be given the chance to enter an automatic prefill value for the Call Used on the 3830scores submittal forms, so you don't have to type it in every time you submit a score after that.

What if you use more than one call – a club call sign, a portable call sign, a special event call sign, whatever...? You still enter the call sign you used on the air in the Call Used box. The Operator(s) Call(s) box is where you enter the call sign that should get the credit for the session, which is your call as it appears in the CWops member roster. If you have more than one call listed in the roster, pick one, usually your home call sign, and stick with it throughout the year to make sure all of your CWT sessions are credited to the same call. Otherwise, they may be split between the two call signs. If the call sign you would enter in this box is the same as the call in the Call Used box, you don't need to enter it here – why run the risk of mis-spelling it and confusing the computer about who should get the credit?

The submittal forms at 3830scores.com stay open for about 5-6 days after the contest session, which should be plenty – we're not looking for a detailed error-checked log, just a count of the number of QSOs and the number of callsigns you worked. Lately, though, it seems as if a number of participants have managed to find ways to enter a score even after the submittal form is no longer open, sometimes well over a week after the session. I wish you wouldn't wait so long that you need to do that. It results in a lot of extra work to find the extra score and insert it into my database. Entering your claimed score as soon as you can after the session makes life a lot easier for me.

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If you change call signs during the year, make sure you let me know, most easily by posting a message about the change to the CWops group at groups.io. This has the advantage of letting everyone else know about the change as well.

Enjoy the CWTs!

New Members

Trung Nguyen W6TN

With great pleasure we welcome the following new members to CWops:

CWops	Call	Name
3009	KE5EN*	Eric
3010	N6HI*	John
3011	JF1UOX*	Misa
3012	N3CKI*	David
3013	K4PQC*	Phil
3014	NM2A*	Mark

CWops	Call	Name
3015	N6KN*	Rocco
3016	N5TJ*	Jeff
3017	WS5D*	Jack
3018	WD0END*	Ron
3019	AB1KT/ VE3TMK*	Dave
3020	KB1NO*	John

CWops	Call	Name
3021	K8CKC	Mike
3022	KT5C*	Mike
3023	N4OK*	Bob
3024	KB9ML*	Mike

*Life Member

Current Nominees

As of October 8: **Need Sponsors:**

Invitations Extended: SP1NY, SM0HRP

For more details about nominees and up-to-date status, check the "Membership" then "Members only" page on the website: <http://www.cwops.org>. For information about joining CWops, check the "Membership" page on the website: <http://www.cwops.org>

Notes: If you have updated your personal info, e.g., new QTH, new callsign, or additional callsign, please send it to membership@cwops.org so I can add it to the roster. Vice versa, if your callsign becomes inactive I can remove it, too. Then the roster will be accurate and current for our usage.

73,

Trung W6TN, Membership Manager



QTX Report

Enjoying the Art of Conversational CW

[Bruce Murdock, K8UDH](#)

This year is far from over, but we can see 2022 not too far down the road. Several of our ragchewers have reviewed their logs for 2021 and identified some time periods where their QTX and Mini QTX CW QSOs were not submitted to CWops. That can happen to any of us for a number of reasons. If you have some time periods in 2021 that are unreported, please join the fun and submit your ragchew QSO scores via the CWops website. You can submit them by month for any month in 2021 and I'll add the QSOs to your yearly score. You can operate at any speed and your ragchews do not have to be with other CWops members. In order to qualify for an award, however, you must be a member at the end of the year when the awards are presented. So have fun and enjoy some conversational CW QSOs.

Now let's take a look at some interesting comments from our QTX operators.

Comments from QTX Submissions

AA0IZ: I'm meeting a lot of new folks, and I really enjoy how multi-talented CW operators tend to be. Conditions were often tough, and I'm thankful for the QTX's I had. I hope to catch you on the air!

W9EBE: My QTX submission this month is in memory of my very dear friend Wink/WA8KOQ who became a Silent Key on September 8. We enjoyed many fine ragchews throughout the years. VY 73, ol' buddy - R.I.P. es ZUT - dit dit

AJ1DM: Continuing to have regular FB rag-chews with W0HY (#2912), K2KRG (#1926), N2DA (#2806), WA3JJT (#2914), and W4TG (#one-of-these-days!). 73 de John AJ1DM

K5YQF: Had more time this month. Hope to finish the year a little better.

K7TRT: I forced myself to only use my 1968 Vibroplex Champion bug, and occasionally the straight key, this month. It really paid off. As a former paddle and keyer man, I feel a lot more comfortable having long ragchews on the bug now.

AA0YY: I worked two of my students from CWA Basic. One was scheduled, the other was not and was also a DX contact.

KG5IEE: Had some really nice ragchews in September. Came across my CW Academy Basic Advisor, Tom W0FN, and had a nice QSO. And surprised Bruce K8UDH a couple of times when I heard him on his vintage Drake gear.

G3WZD: Unfortunately, September was a very quiet month for QSOs. Hopefully October will be better! 73 de G3WZD

KB6NU: My score was way down this month. I was off the air (on a business trip) for several days and I worked more DX than usual, due to the good band conditions. I did have a nice rag-

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chew with DJ7PW, though, which is a rare DX ragchew for me.

N6HCN: Fine QTX with KR2Q in NJ, Doug is very glad to work from home instead of his three hour commute (each way) by car, bus, subway, and walking to a hospital in NYC!

GW0ETF: Quiet month here with campervan trips away

AA5AD: hope this isn't too late, i had lots of great rag chews this month, looking forward to fall and more great time in the shack on cw!

N2DA: All QSOs were on 40 meters - nice conditions for skeds with AJ1DM, WA3JJT, and W4TG the last few weeks!

W0HY: I've enjoyed QSO's with Bruce K8UDH and John AJ1DM!

K8UDH: It was a very quiet month with very little time in the hamshack and not enough rag-chewing. I'm actually looking forward to colder weather when most of the time-consuming outside work disappears.

Awards and Medals for 2021

Medals for 2021 are awarded for three different levels in QTX.

Gold – 400 QTX QSOs

Silver Medal – 300 QTX QSOs

Bronze – 200 QTX QSOs

Chuck WS1L is in the lead with 560 QTX QSOs and John K1ESE is close behind with 538 QTX QSOs. Chuck and John have both qualified for a gold medal. Chris N8AI with 388 QTX QSOs, Bruce K9OZ with 384, Bill N5IR with 378, and Joe KC0VKN with 331 QTX QSOs have qualified for a silver medal. Phil F5IYJ with 279, Dennis WA2USA with 228, Dan KB6NU with 221, and Chip W9EBE with 216 QTX QSOs have qualified for a bronze medal. Congratulations to all of you.

QTX for August 2021

Call	QTX	Call	QTX	Call	QTX	Call	QTX
WS1L	93	F5IYJ	18	N2DA	11	W0HY	5
K1ESE	51	K4AHO	18	W0OJ	11	AC8RG	3
N5IR	44	KB6NU	15	AJ1DM	10	WT9Q	3
K9OZ	38	KC0VKN	15	K7TRT	10	SV2BBK	2
N8AI	37	K8UDH	14	AA0IZ	9	W3WHK	2
K5YQF	36	N6HCN	14	AA5AD	8	WA2USA	2
W9EBE	29	KG5IEE	13	AA0YY	7	AB7MP	1

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MQTX for August 2021

Call	MQTX
K1ESE	34
WS1L	30
N8AI	20
SV2BBK	18
W9EBE	13
K7TRT	12

Call	MQTX
AA0IZ	11
K4AHO	9
K5YQF	9
KG5IEE	6
AJ1DM	4
AB7MP	4

Call	MQTX
AA5AD	3
G3WZD	3
N6HCN	3
K8UDH	3
AA0YY	2
GW0ETF	2

Call	MQTX
W0OJ	2
AC8RG	1
W3WHK	1
WT9Q	1

2021 Totals for QTX

Call	QTX
WS1L	560
K1ESE	538
N8AI	388
K9OZ	384
N5IR	378
KC0VKN	331
F5IYJ	279
WA2USA	228
KB6NU	221
W9EBE	216
N6HCN	163
K4AHO	122

Call	QTX
K5YQF	112
KG5IEE	111
N2DA	100
AJ1DM	97
K8UDH	96
AA0YY	74
AA5AD	58
AC8RG	51
W0OJ	42
NN0TE	40
K7TRT	32
AA0IZ	26

Call	QTX
K6DGW	21
SV2BBK	19
W3WHK	17
GW4VXE	17
N5LB	17
N0BM	14
G3WZD	11
EA2AJB	10
VA3DKL	10
W8UA	8
WT9Q	7
GW0ETF	7

Call	QTX
KF9VV	7
M0MUI	7
W0HY	5
KK5NA	5
N3FZ	4
N5PHT	4
W1AJT	3
K1BZ	2
MI0WWB	2
W3PNM	2
AB7MP	1

2021 Totals for MQTX

Call	MQTX
N8AI	443
SV2BBK	213
WS1L	200
K1ESE	176
W9EBE	157
KG5IEE	99
AA0YY	87
AA5AD	79
K6DGW	78

Call	MQTX
K4AHO	74
G3WZD	58
AC8RG	56
W2USA	55
GW0ETF	54
N6HCN	39
K7TRT	38
GW4VXE	36
MI0WWB	32

Call	MQTX
K5YQF	21
W3WHK	19
AJ1DM	18
K8UDH	18
AA0IZ	17
N0BM	13
VA3DKL	10
KF9VV	8
M0MUI	8

Call	MQTX
W1AJT	8
K1BZ	7
AB7MP	6
NN0TE	5
W0OJ	4
N3FZ	4
N5PHT	2
W8UA	2
WT9Q	1

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We have a variety of ways to enjoy CW. For many of us ragchewing is our favorite way.

73,

Bruce K8UDH, QTX Manager

My Story: New Member Biographies

Misae Soma, JF1UOX

I am very honored to be a member of CWops.

Thanks to N1DG/Don for nominating me and K3JT/Terry, K6RB/Rob, OK2PAY/Lada and JN1THL/Ken for sponsoring me.

I became a ham in 2008. The next year, I passed JA's 1st class and FCC Extra.

I was really happy to get the NQ1J callsign. Since then, I have also been working as an ARRL VEC. I was active from Dominica as J79JF from 11th to 17th May, 2012.



I live about 60 km south of Tokyo. My shack stands by the sea and faces it in three directions resulting in a very good location. I really like both domestic and international CW contests. Band conditions are getting better and better, so I'm looking forward to seeing many overseas members.

Another addictive part of my amateur radio activities is ARDF. I have participated in IARU Region 3 championships and World Championships several times. By continuing I can improve my skills for both CW and ARDF.

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By joining CWops, I have become more and more enthusiastic about CW.

I am looking forward to a QSO with you.

Rocco Lardiere, N6KN

I live in Rancho Palos Verdes, California, a suburb of Los Angeles. Palos Verdes is a peninsula, with the ocean on three sides, and my house is near the top at 1300 ft, near the old W6AM rhombic ranch site. I operate 160 m through 1.2 GHz with modern and vintage equipment.

I was first licensed in 1962 at the age of 12 as WN0DHZ, in Colorado Springs, CO. I then moved to Portland, OR and operated as WA7DAC as a teenager. With a DX-60 and Speed-X bug, CW was my favorite operating mode. In college, I operated the Rice University station, W5YG. In grad school at UCLA, I operated W6YRA and received my existing call, N6KN.

I then started my career as an avionics engineer on the McDonnell Douglas Delta Rocket Program and spent many decades designing, building, testing, and launching rockets and satellites, mostly from Cape Canaveral and Vandenberg AFB. These included many NASA planetary missions, such as several Mars rovers. In between launches, I was active from W6VLD, the Huntington Beach club station.

I raised a family in Palos Verdes and was fortunate to find a house and receive a permit for a 70-ft tower in a good location. I spent the last five years of my career at the Aerospace Corporation in El Segundo. Now retired, I have more time for operating events, including CW. I enjoy classical music, literature, and fine art. My wife and I now have a second house in Happy Valley, OR, a suburb of Portland, and I operate from there once in a while but prefer to operate the Palos Verdes station remotely. Remote CW operation is a special challenge, but it can be done, and I enjoy it.

Yes, I still own two DX-60's and several Speed-X bugs, and I put them on the air for vintage radio events!

Jack Bumgarner, WS5D

Many thanks to Hank (W6SX) who invited and nominated me for membership in CWops, and Jim

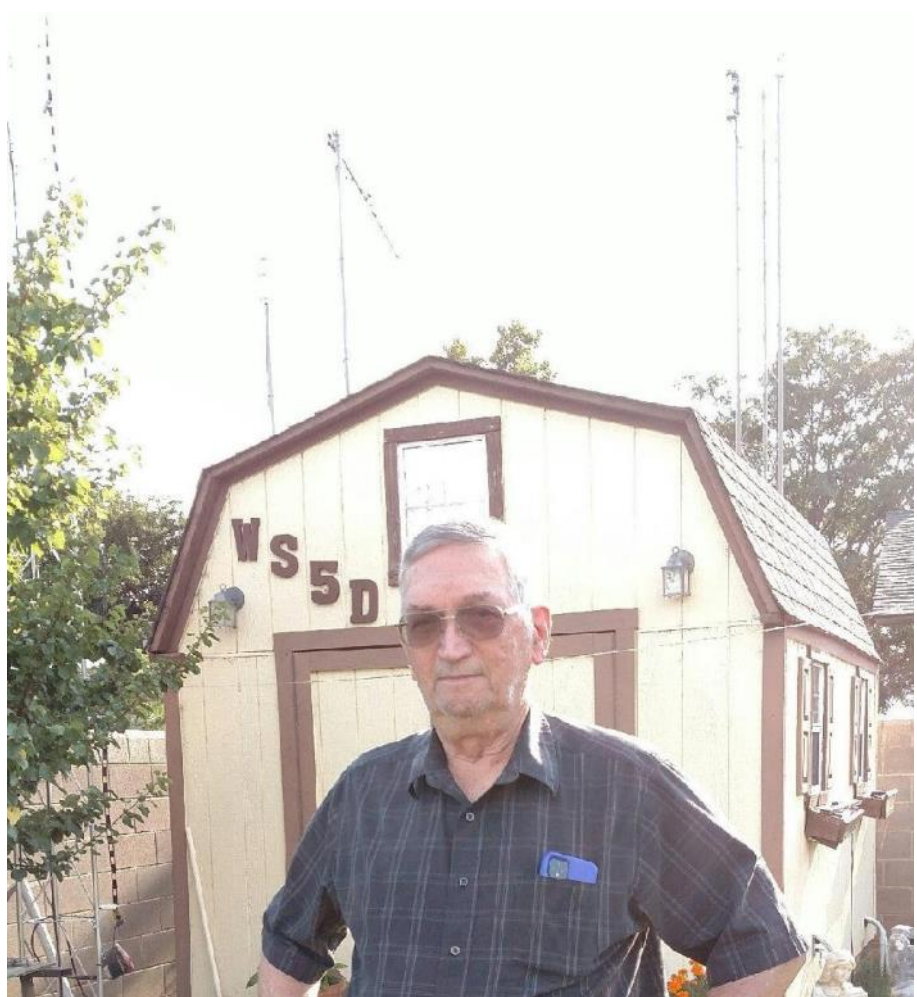


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(N7US) and Doug (K4BAI) who sponsored me. I had been working very hard on improving my skills for the last year, so the invitation was very welcome.

I first became a ham in 1968, shortly after leaving the Air Force in Fort Walton Beach, FL. I took the Technician test, written and 5 wpm code standing at the counter of the local ham radio store. After leaving the USAF, I worked in the defense industry as a contractor, servicing various radars, I was transferred to China Lake NWC in California to do much the same thing, except it was radars which simulated the Russian radars which controlled the SAMS in SEA. Many of the radars ended up with holes in the antennas from anti-radiation missiles.



I left the defense industry and went to work for the local phone company, mostly because of the job security. I did that until about 1980, when an offer came to get involved in the startup cellular industry, so I gave up job security for an exciting new career, going through 4 buyouts as the cell companies grew and swallowed each other. So, along about 2006, I turned 65 and retired. We relocated to Clovis, New Mexico to be near Rita's family. Having let my ham radio hobby lapse, I went to work and studied, and got my General, and a few months later, got my Extra. My first ticket was WB4NEU in Florida, then WB6IIB in California., then KE5RET here in New Mexico. I didn't like that call, so I applied for and received WS5D, which I plan to keep for a long time.

I never was really interested in CW until after retirement, but it became a bucket list challenge, so I went to work on it. I never had much success until I discovered the K7QO code course. I went through it twice and gained a good grounding in the code. Last year I got involved in CW Academy toward the end of the year in the Advanced class and all was going well, but, in January of this year, my wife suffered a pair of broken femurs, a bleeding ulcer, followed by a staph infection. I knew that, as I had become her primary care giver, study and practice time for CW was not going to happen for a while and I put ham radio aside. With great medical care, my learning to cook, clean, wash clothes, etcetera, she got pronounced fully healed by her excellent doctors in Sept. She was well enough by May, that I was able to return to the hobby and get back to work on the

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CW with her blessing.

So here I am, still working hard to continually improve my CW skills. The biggest problem I have run into in head copy is remembering callsigns long enough to type them in! But, even though this is probably age related, I am making good progress in that regard. I am enjoying ham radio and especially, the CW. It is challenging and satisfying to achieve each level.

David Tenenbaum, AB1KT/VE3TMK

First, I'd like to thank Eric WG3J, my Intermediate and Advanced CW Academy instructor who nominated me, and WS1L, KR2Q, AF5J, and W6SX who were kind enough to sponsor me. I think CW is where the real craftsmanship in amateur radio comes through, and am honored to join this community.

I was first licensed as WN2GUL around 1967, living in an apartment in a 16 story building in midtown Manhattan. I had a 40 meter dipole on the roof with a Viking Adventurer transmitter and a Lafayette HA-350 receiver. When I got my General and Advanced licenses in 1969 (WA2GUL) I graduated to an HT-37 and Drake R-4, and added a 3 MHz dipole to do AF MARS work while still in high school.

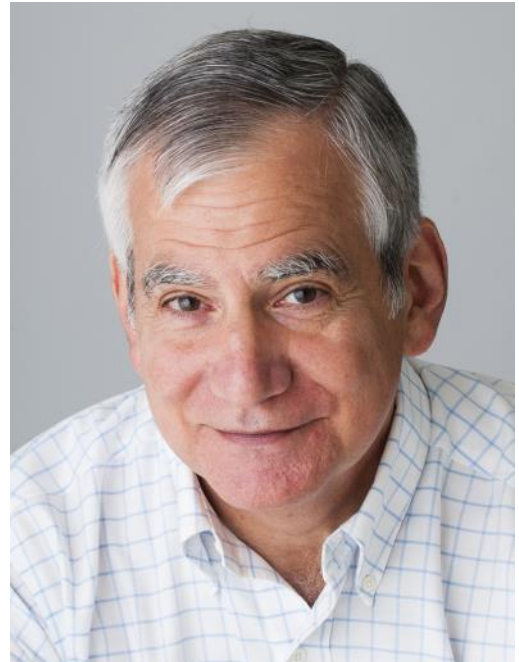
My high school (Bronx Science) had a Collins S-Line and a TH6DXX up 65 feet, and the magic of watching our faculty advisor W2RP turn the beam out west, call CQ DX ASIA at 9:30 am eastern time, and get a pileup. Just amazing! That little vibrations could travel through the air to far off lands and convey information grabbed me.

I got an MS/BS but got seduced into being a photojournalist for 15 years, running around the world covering Pope trips, wars, presidential trips, space shuttle launches and landings and all sorts of other stuff for The Associated Press, then left to start a company that does large databases of images, videos, and other digital documents for The New York Times, The White House, universities, hospitals and lots of other folks. I do AI applications for imaging these days.

Other passions are flying: I hold an ATP certificate and fly a Twin Commander 980 (which has an HF rig for Atlantic crossings I also use occasionally while airborne on ham bands).

After a hiatus I got back into ham radio, and did some SSB satellite work. Recently my interest shifted back to HF, and I needed to bring my CW back to where it was as a teenager, running a bug for Air Force traffic nets, so I joined CW Academy. Eric WG3J uses contests to get us engaged and drive our speeds up, and I got hooked on SSTs and now CWTs. Just started running on SSTs, but I am a ways from the confidence to try it on CWT yet!

I am also on the air from Canada, just north of Toronto, as VE3TMK.



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Thanks to all for this wonderful organization, and for getting me back on the air on CW!

Ron Martin, WD0END

I was first licensed in 1968 as a radio operator in the US Army where I served as the Station Operator for the 5th ARMY MARS Station A9USA at Ft. Sheridan IL. My duties were to pass messages received from personnel stationed in Vietnam to their families in the 5th Army area. We used only CW and it was a great service for military families!



Like most hams my key fell silent while going to college (BS Physics/MS EE), work and raising our three children with my wife Kathy – now married for 54 fantastic years!

I have been retired for 12 years and am now able to enjoy this great hobby and participate in my local ARES team and many activities with my grandchildren!

Bob Poulnot, N4OK

I am honored to be a member of CW Ops and to be a part of such a great organization for the preservation and proficiency of CW. I hope to do my part in the furtherance of that goal. I wish to thank Chris, N8AI for nominating me, and I wish to thank my sponsors, Carl, W2YH, Peter, W2CDO, and Chuck, WS1L. I also wish to thank Alan, W4MQC, John, K1ESE and Vic, WA0USA for their willingness to sponsor me.

I grew up in Atlanta, GA and graduated from Briarcliff High School in 1965 where I played quarterback for the football team. I loved to hunt, fish, and participate in all kinds of outdoor sports. I attended The Citadel in Charleston, SC as an electrical engineering major and also played quarterback there. I left The Citadel after 2 years and joined the Army in 1967 as a Private. I was accepted and graduated from infantry Officers' Candidate School, OCS, in 1968, and in 1970 I was honorably discharged as a Lieutenant. In 1971 I met the love of my life, Donna, and we were married in January 1972 in Gainesville, GA. This coming January marks 50 years of a happy marriage. She is my best friend and my rock. We have 2 healthy and successful children, Julie and John, ages 44 and 36 respectively. We have 2 grandchildren ages 5 and 18.

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When I was about age 12 my father gave me an old ham radio receiver. That set the spark for my later adventures of throwing wires into trees (which I still do), and trying to decipher Morse code with limited Boy Scout skills and no Elmer to guide me. In 1975 I graduated from law school with a J.D. degree, but I did not pass the Georgia bar exam. I began working for Atlanta law firms in 1972 and continued working for many Atlanta attorneys until 1995 in a legal capacity when I was licensed as a Private Investigator with my company agency Investigative Connections, Inc. I retired as a criminal defense investigator working major felony cases for defense attorneys, defendants and families of victims in 2017. If interested in my PI career please see <http://specials.myajc.com/gumshoe/>

Besides CW I enjoy boating, fishing and family. I play a little golf but the sight of my golf game should be on SNL. They are all more enjoyable now that I am retired and the stress has gone. I have been a CW only op since 1982 and was an avid CW DXer and Rag Chewer for many years. However, I became inactive in the 1990s because of work demands, living in a HOA and raising a family. I became active on CW again last February. Now that I am back in the CW saddle I have met some wonderful CW ops. I look forward to the camaraderie, focus on CW preservation and high standards that CW Ops membership offers.

Mike Batis , KT5C

I started out as WB5UDT, Advanced Class in 1976. My first rig was a Heathkit HW101. I sold the rig but still have the Heathkit wattmeter, clock, and electronic keyer. I got my Extra in 1982. I was very active through the 80s, then got busy with work and moved from Athens, TX to Tyler, TX, and did not get a decent station back until moving to my present QTH in 2007.

I have always been interested in electronics from childhood. I have always worked in some job that involved electronics. I was a radio/TV technician in early 70s, was a technical support representative for Curtis Mathes, a television manufacturer in Athens, TX. I held various technical and management jobs with them until they shut down in 1992. I moved over to a Motorola two-way radio shop as an RF technician and was there for 21 years. There, I went through various technical and



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management positions, and managed our VHF paging network for several of those years. I have just retired from working as Technical Support Manager for a software company here in Tyler that specializes in performance management and monitoring software for Motorola Trunked radio systems.

I have been married to my lovely XYL for 23 years and we have a daughter that was recently married and lives in Oahu, Hawaii.

Dave Lear, NE5DL

I'm an ex-pat Brit from London, UK and arrived in the US 1967. In the 70s I found the hobby of flying RC sailplanes and wanted to fly on 6m in contests avoiding frequency conflicts in RC contests, so I decided to get a ham license and took the test in Buffalo NY. I was so taken with CW after the test that nowadays I only use a mic for VHF/UHF. In recent times the frequency conflicts in RC has gone away with the advent of 2.5 GHz spread spectrum technology. So if I had found RC in modern times I probably would not have joined the ham radio fraternity.

In my bio picture I operated /MM while whale watching in MA, one for the bucket list. Rig was a KX2 with a 20m whip antenna and a trailing wire, keying with Pico paddles. Contacts were with the west coast and a DX QSO: the ocean sure is a great ground plane.

Early on I started out with an HW 101, then Ten Tec to Icom. Now an Elecraft "nut" and lately with QRPLabs gear. I built Elecraft's early models and assembled the later ones up to K3S. I operate QRP, especially in contests

Antennas ath are a Hex Beam and a Butternut 80/40/30 and recently a 160m helically wound vertical on a 10m pole. Latest portable antenna is a Steppir Crankir, other portables are a home brew vertical, EFHWs and dipoles.

Not much of a speed hound or DXer but at 85 years old I decided on a new challenge with CWT, so thanks to my sponsors and CWops for membership. Also thanks to W0TG for guiding me through the intricacies of N1MM, no small feat for me. I always recommend CW Academy to CW noobies and have a couple friends who are instructors with the academy.



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Mark Ennamorato, W4MUB

I became interested in ham radio when I was an early teen in the late 1960s. I got a Knight-Kit Star Roamer SWL radio kit for my 15th birthday. That was my first kit built, and I started listening to SWL in our home in a small town in upstate NY. My father worked at the electric utility company in town and one of his work mates was a ham. I learned Morse code mostly by listening to W1AW and got introduced to the local ham club where I could learn more and finally passed the Novice test in 1970 at age 16. As a rock-bound Novice during a peak solar cycle, I had a lot of fun working DX with a used Heathkit DX-60B transmitter and used Hammerlund receiver. I collected some other Ten Tec and Heath equipment, all used, and became fascinated with QRP operation on CW. I have been a CW only (mostly) operator ever since and still love QRP.



Ham radio directly led me to my desire to become an Electrical Engineer, eventually going to Clarkson College to get that degree with a major in communications and signal processing. I moved to Florida for my first real job doing satellite communications work but could not get very HF active living in an apartment with a limited money supply, so was off the air for some time. I eventually got active again 20 years later after moving the family to Raleigh, NC and bought an ICOM 756, put up some antennas in an attic due to HOA issues, and started to have fun again on CW.

Another move, this time to California put a halt on any HF radio for another 14 years. Finally, after retiring the electronics biz and moving to AZ, I started my ham career again, this time with an LNR MTR-4b for portable / POTA operation and a Xiegu G90 for my base station. Again, limited by HOA rules I have a stealth end fed random wire at the house, and some resonant end fed antennas for portable use. My goal was to hone my CW skills and after finding the CWops group decided to make the effort to get into the Advanced class and try to get my chops to where they needed to be. I am thankful to the Advisors and the CWops CWT weekly events to help me get there, plus the sponsors who approved my membership, this was a big honor for me.

Dennis (aka Den or Greg) Gregory, WU6X

FIRST LICENSED: December of 1972 as WN6UPE, then General as WA6UPE, Advanced as KF6FM, and finally to Extra with FCC sequence-issued WU6X.

CURRENT STATIONS: I live in a mobile home park with antenna restrictions. However, I was granted permission to put up an antenna after making a convincing argument for emergency communications here; I am the only ham in the park allowed to do so. Current equipment includes a

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Yaesu FT-1000D and a Kenwood TS-480HX which can be controlled remotely from my RV while traveling. The antenna is a 125-foot sloping, end-fed longwire from 5-feet to the top of the pine tree, fed with an MFJ-993BRT auto-tuner. This system gets me on 160 thru 6 meters.

When parked in my RV for more than a single night, I operate an Elecraft KX3 and KXPA100 amp using a homebrew 64:1 xfmr and 40m halfwave, inverted "L" off a 30-foot push-up mast at the ladder on the back of the RV. This system gets me on bands 40 thru 10m. The other radio/antenna used when traveling is a High Sierra HS-1800 screwdriver on the Jeep tow vehicle. The Jeep radio is an ICOM IC-706 MkIIIG.

OTHER HOBBIES: RC sailplanes, fly fishing for trout and lure fishing for bass, computers, RV'ing, black powder shooting, and public service event support as a member of Sierra Foothills ARC.

BIO: Vietnam veteran, active 67-68 aboard USS Hassayampa AO-145 as a Radarman, with 11 years total service in the US Navy Reserves; honorably discharged as Petty Officer 2nd Class (E-5). I've enjoyed varied career paths including: Mfg Eng at Atari Coin-Op Mfg, Los Gatos, CA, and then Dir of Facilities at Atari HQ in Sunnyvale; 4 years as a General Contractor building custom homes and light commercial projects; then as a TV Broadcast Sales Eng; and management positions at Grass Valley Group in Marketing, Field Services, and Training. Finally, the last eight "working years" as a Project Manager & consultant installing maintenance management systems in municipal water treatment plants for Stantec, a world-wide design/engineering company. Now "70 something", I'm enjoying retirement and RV trips with my XYL of 50+ years (W6LPG).



ON THE AIR: I work all HF modes with CW my favorite. I'm getting into "activating" Summits on the Air (SOTA) mountain tops, with the KX3, and often operate as a "chaser". I'm also occasionally found on FUSION; Sierra NorCal or US Southwest Lake Havasu (FCS360 or YSF73102, respectively), DSTAR (REF14c or 70c), DMR (St.Louis TG31292 or Sacramento TG311416) and the local Auburn VHF repeater with my Kenwood TH-D74A. I'm sure we have something in common and hope to chat with you soon.

Location: grid CM98lw, CQ Zone 3, ITU Zone 6

Memberships: Sierra Foothills ARC, CWOps #1632, SKCC #16255, Northern CA Contest Club and ARRL.

If you hear me, please break-in and say hello.