

Solid Copy

The CW Operators Club Newsletter

May 2021 — Issue 136



First time SOTA Activations



Johannes KI6M gets great views and great activity during his SOTA activations. [See story page 13.](#)

President's Message

It's been fairly quiet in the shack these past 2 or 3 weeks. Perhaps it's climate change but in recent years summer has been arriving here in April with gorgeously sunny days but clear



frosty nights (which drives my wife nuts nurturing her precious seedlings). So I've been spending more time on outside chores, cycling, or walking and scrambling in the Snowdonia hills.

(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"

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Table of Contents

President's Message	1
From the Editor: Approaching Normal?	3
News & Notes	4
K6RB: Giving Back Update	11
K6IM: First-Time SOTA Activations	13
K5XU: Meet the Braille Team	19
K7QA: Shunt Feeding Multiple Towers	23
N3JT: CWops Scholarship Funded	31
K6ICS: Multi-Station Special Events	32
CW Academy	35
CW Tests	36
New Members	38
CWops Member Awards	39
QTX Report	47
My Story: New Member Biographies	51

(Continued from previous page)

I always enjoy reading about the exploits of members working a few CWT contacts sitting on a rock in some national park using a couple of watts and a piece of wire; perhaps it's time I got set up and activated some of our many SOTA summits with the sound of CW which is rarely if ever used for SOTA activity around here.

The arrival of better weather has coincided with some relaxation of Covid restrictions in these parts which would allow single operator portable operating; this also opens up the prospect of a solo Region 1 Field Day entry in early June which could involve me parking our VW Camper in a nearby field and filling up the genny! So hopefully with care, and remembering what complacency can lead to as I watch the news from India while writing this, some sort of 'normality' may be returning to this aspect of our hobby.

DXpeditions have also been reappearing including Mats RM2D/SM6LRR (#1820) who was 8Q7MS (CW only) for a couple of weeks in late March/early April and gave a great demonstration of how to handle extended pile-ups. I don't get too excited unless it's an 'All Time New One' but I tried and failed a couple of times to break the considerable pile-ups just because it was a fellow CWops member but soon gave up when it became too unruly as these things frequently do. On the second occasion a loud IK7 began calling incessantly on Mat's run frequency and the ensuing additional cacophony of 'Up Police' made it impossible to continue. I checked the IK7 on qrz.com and saw a pathetic line in large red letters saying "Someone is pirating my call and disrupting DXpeditions – sorry, but it's not me!!" Such behaviour is shameful and ruins the fun for the vast majority as well as spoiling the experience for the DXpeditioner who will have invested much in time, effort and money to provide some fun for the rest of us. I'm glad that none of our members would ever be involved in such reprehensible behaviour!

On a more positive note Howard WB2UZE has done a fine job of cajoling the clubs that make up the recently formed International CW Council to provide volunteers for our Giving Back program. We're beginning to see slots activated by more than one operator and the JA time zone is looking particularly good now. Multiple ops means we can operate on both 40m and 80m and cover for inevitable absences so the more the merrier. The ultimate intention is to give learners in every time zone the opportunity to have a QSO at around 7pm local time on every day of the week – a noble aim indeed. Many who are involved in GB are forming the impression that the word is getting around now and more CWA students and other learners are listening out for us. Certainly my own sessions seem to be changing from significant numbers of GW prefix hunters to fewer and longer QSOs with mostly learners so it appears to be working as Rob K6RB originally planned it would. Some of us have been receiving positive follow-up responses via email and QSL cards which is both gratifying and motivating.

The Giving Back program runs in parallel with the K1USN Slow Speed Contests for those learners and improvers who want to ease themselves into CW contesting in a gentler environment than that offered by our CWTs or other full on events. The EDT Sunday evening hour is well established now in North America; the newer Friday evening 2000 UTC slot is attracting more students and learners but still needs more support from experienced European members. The initial flush of enthusiasm has been tailing off slightly so if you find you have some time to spare any Friday and are willing to spend a small chunk of it helping our future CW testers, please consider jumping

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in now and then – see www.k1usn.com/sst.html. All are welcome and like Giving Back it's a case of the more the merrier..

The ever popular CQ WPX CW contest takes place at the end of the month so let's hope those taking part are blessed with good propagation. Have a great month whatever you get up to...

Stay safe everyone....

73, Stew GW0ETF, President

From the [Editor](#)

Approaching Normal?

On April 8 I did something I had not done in 18 months. The XYL and I drove to the airport, parked our car, worked our way through security ("Drop your mask, please") and boarded a plane, a completely full flight from Indianapolis to Phoenix. Followed by a repeat of the process but in reverse 10 days later. To visit family we had not seen for that same 18 month period.

Was it a return to normal? Not in full but pretty darn close. Everyone sat wearing masks for the entirety of the three hour plus flights. As we landed in Phoenix, the flight attendants asked everyone to stay seated until the row of seats in front of them had gotten up to avoid crowding in the aisle and, by golly, people actually did as they were asked. When we landed in Indianapolis on the return flight we listened for a similar announcement but it was never made; nevertheless, to our surprise, everyone remained in their seats as we had been asked to do in Phoenix. Holy cow! We were able to patronize lots of restaurants in Phoenix due to the al fresco-friendly climate, dining out more in 10 days than we had in the previous 18 months. We felt we could take all of these



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risks since, to use that new phrase from the global lexicon, we were “fully vaccinated.”

On May 1 I was able to operate in the annual Indiana QSO Party in my traditional status as a mobile, making nearly 700 mostly CW QSOs in 11 counties, with thanks to XYL Kathleen for driving. In 2020, the INQP mobile category had been suspended as Indiana was under emergency travel restrictions.

It was great to see the family, and great to do some old things that felt new by virtue of their long absence from our lives.

As president Stew GW0ETF pointed out in his column on page 2: “with care, and remembering what complacency can lead to as I watch the news from India while writing this, some sort of ‘normality’ may be returning” to our lives.

Stay safe, there are signs of a new dawn on the horizon.

73, Tim K9WX, Editor

News and Notes

[Jerry Weisskohl AC4BT](#)

We regret to report that K5WQG, Edward M. Reynolds (CWops #2127), became a SK on April 9, 2021.

Jim, N3JT: I will be returning to Virginia May 2nd via Auto Train from Florida. Just before leaving, the refrigerator ice maker stopped working, my bicycle displayed corroded spokes (only 18 months old), and a ‘long pole saw’ delivery was lost by the post office. Looks like some tasks for next November! Otherwise, all is well!

Bob, N6TV: I would like to express my appreciation to CWops for sponsoring the NCJ NAQP Team Winner Plaque (August 2018), which just arrived.

Steve, WA8Y: I will be joining a DXpedition to Bimini, Bahamas July 14 to 21, 2021. Two CWops members will be operating CW (me Steve WA8Y and Juan AC6ZM).

Ted, W3TB: In my Beginner level class for CW Academy, let me congratulate Richard Bohlman, KG5QLS, for getting ambitious during our 4th week together and making his first CW QSO ever! A 20 m CW contact with NY2PO.

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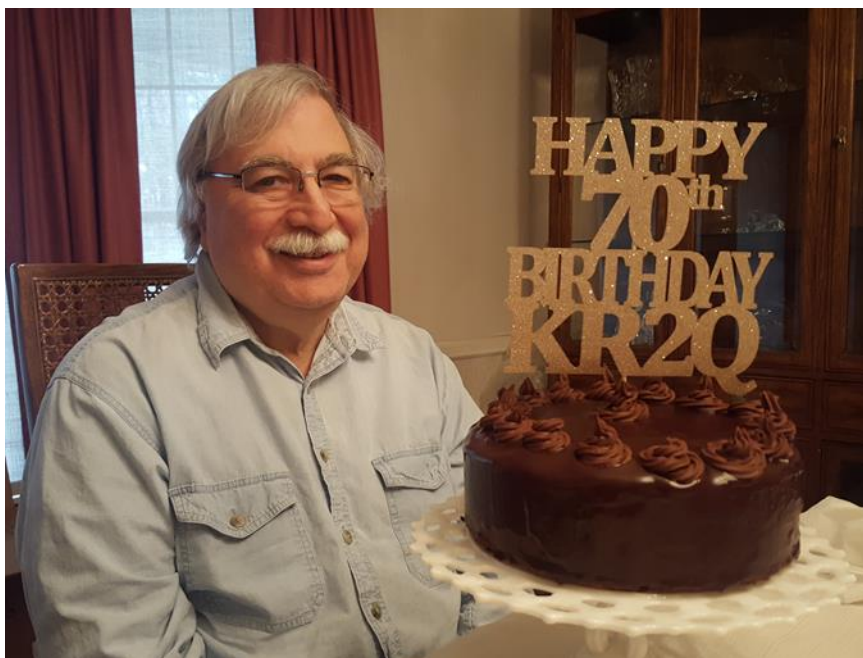
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Chuck, WS1L: After some waiting, I finally have my building permit for my new tower! It's on the way and with any luck will be up by the end of May. The big Yagi is not expected until sometime in June, so the Hexbeam will take its place for a few weeks.

Doug, KR2Q: Despite joining CW Ops in 2010, I have been completely absent from the CWTs until recently. I live in northern New Jersey but commute to work (hospital administrator) in New York City. I wake up at 2:45 a.m. local time. Drive to the bus (30 miles away), just outside NYC and wait for the 5:10 a.m. bus. It is always jammed with construction workers (Hudson Yards project) so I have to get there at 4:30 a.m. to guarantee a seat. Then we arrive at Port Authority Bus Terminal in NYC and I walk underground to the Times Square 42nd Street station, about a city block away, and wait for the subway (#7 train). Then go two stops to Grand Central Terminal and walk the next couple blocks to work. I clock in at the office M-F at 5:40 a.m. When the work-day is done, I do the same in reverse, except the drive home from the bus depot in New Jersey takes much longer. I eat dinner and go to bed around 7 p.m., 8 p.m. local at the latest. So I miss all three CWT windows.

But in early March 2020, you know...we all got sent out of the office to work remotely from home. And suddenly, I could better control my day. But I didn't figure that out until November 2020 (it wasn't on my mind)! One day, I had the rig on while working on the work laptop and I heard all of this sudden activity. What was that? Then it dawned on me...CWT! Since Jan 2021, I have not missed one CWT session. This is great fun! I even sent in all of my logs (since 2010) for CWops awards tracking. More fun! This is great stuff. I hope that I never have to go back to "in the office."

My birthday is April 18, so I did not get to do a F/T effort for CQMM. But I worked a good number of "new" guys for ACA and CMA. Even some DXCC CWops. And my kids created this great cake for me. Because of COVID, we had not seen everybody for 14 months. But now we are all vaccinated and more than 2 weeks out, so it was good.



Flip, KT9X: I sold my FTDX3000 and a seldom used IC7300 and bought a new Yaesu FTDX101D with all the filters to add to my station.

I've been getting to know it the last few weeks and really like many of the features. The scope is very cool, of course, but I really love the receiver sensitivity and the VC Tune option is making CW a breeze! I also added a Begali Blade to my stable of Begali & Vibroplex keys.

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I also recently sold my FT818 and bought an Elecraft KX3/PX3 for portable work. Looking forward to some CWTs on the road!

John, N6HCN: My new station desk.

My father Wayne, KI6NEY came out of "tablesaw retirement" to build one with me over two weekends. It was a special time of talking and remembering car restorations and other projects past. The result, built around the gear in my vintage station, tucks neatly into a spot in the family room near the fireplace and a big window.

Dad gave me the used TS-520S in 1982 just in time for my first CW QSO, and there is a story behind each and every piece of gear and key. Dimmable LED strip lighting in each compartment looks so good that my spouse Lisa is known to gravitate there with a book and a glass of wine when I am QRT!

Maybe a few of the club members will enjoy the flexible self-adhesive LED strip lights. They are slick--cut to length, hook up/stick on, and you're done. The cheapo PWM dimmer unit I bought suffers RFI from the strips and hook up wires. Blinks in time with my CW. But I'm sure a ferrite or two at the dimmer will solve the issue.

John, K3GHH: The front page of the [May 7 Wall Street Journal print edition](#) (subscription may be required) has a piece on DXpeditions, focusing on Bouvet Island. It's pretty good, even if the author refers to hams using modernized 19th-century technology. Technically, I suppose he's right.



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Antoine, 3D2AG: I want to thank CWops very much indeed for the lovely "CW Forever" personalized plaque for my shack, which arrived safely today :-))

Much appreciated, indeed. It was a gift in recognition of my work on the recent [QSO Today Ham Expo](#).

Halfway through the semester here teaching the CW Academy Basic Class, which is very interesting as we get to know how students face various difficulties with learning to head copy code.



Frank, NF8M: NF8M's Michigan QSO Party Mobile Adventure

The Michigan QSO Party happens on the third Saturday of April each year. It's held at the time when Michigan is just emerging from winter, the snow has melted (or mostly melted in the Upper Peninsula), and the leaves and blossoms are coming back on the trees. Each year I think about how I'm going to operate, and despite the desire to hit the road, it's usually been from the home QTH in Oakland County, one of the most active and where I can maintain the best rates.

Over the last few years, a group of us Michigan State University alumni have been mentoring the amateur radio club (W8SH) and encouraging contest operations, with the MIQP being one of their favorites. The MSU club and our cross-state rival at the University of Michigan (W8UM) have a competition, and a trophy that is held by the winner each year. With the pandemic restricting access to our club stations, we went with aggregate club scores in 2020 and 2021, which W8SH won in 2020 and looks to be winning in 2021 as well, based on logs received to date.

The initial plan was to head to East Lansing, about an hour's drive away, and figure out how to do some sort of a multi-op at W8SH. As it happens, the club president and another club member are engineering students with recently reopened access to the Engineering Building, so they were able to get into the club station, which had sat idle for over a year. (I was actually the last one to operate W8SH in March 2020 before the shutdown, for the ARRL DX SSB contest.)

A few alumni and the two students gathered in the parking lot in front of the Engineering Building on the morning of the contest to strategize and figure out what to do. Since building access was off limits unless one is a student or faculty member with reason to be there, we debated setting up a second station in the parking lot, coordinating with the club station on bands and modes, but we figured it would be too difficult to manage - plus we'd have the problem of inter-station interference, being so close by. So we decided to just "do our own thing", since we were competing with the U of M club based on aggregate club scores anyway. The students headed to

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the club shack. Ed, W8EO, a retired professor, had his mobile rig and also lives in town so he operated just from Ingham County, as did other MSU retirees and alumni Al, W8RXY and Joe, W8JRK.

Ed headed for a quiet area in the college farmlands south of the campus, and I stayed in the parking lot, running CW on 20 meters. After an hour or so, I took a short break, then drove out to a parking lot next to the MSU golf course to continue on 20 CW and a bit of SSB to try to pick up a few multipliers (MIQP counts multipliers overall per mode).

Meanwhile, back at W8SH, it took the guys a couple hours to get the rigs fired up, the antennas configured, and tuner adjusted, and the shack computers and N1MM logging software updated to current versions. They got on the air, finally, running phone on 20 meters and had good success for an hour or two. Both students were preparing for final exams, so they had to cut their operating time short in order to hit the books.

I was doing well just parked in Ingham County, but it was a beautiful, mostly sunny day and the allure of the road was calling. Wanting to activate some lesser-heard counties, I noticed that Barry County doesn't get much activity and it's just under an hour's drive from East Lansing, through hilly terrain, farm fields and forests. Just inside the county line, there's a big dairy farm (with its accompanying "agricultural smell") and the MOO-Ville ice cream store on the corner. I set up in the nearby Park & Ride lot and hung out there for an hour or so. Twenty meters was fizzling out by then and I only made 6 Qs, but 40 was good and I added 45. A brief rain shower followed by sunshine treated us to a brilliant rainbow (photo below).



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I packed up, went into MOO-Ville and got a scoop of Java Chip, and hit the road again. Just before sunset, I found a place to park near Potterville and set up again, this time on 40 and 80, activating Eaton County. Forty meters was fading so 80 was the better option. Only 2 Qs on 40 but I made 41 on 80 in just under an hour.

After picking up takeout from our favorite Mexican restaurant in East Lansing, I headed home and finished out the contest with a 37-minute run on 80 CW for another 47 Qs. I wasn't equipped to operate and log while in motion, so I gave up on-air time while driving.

In-state QSOs are the real treasure trove for stations in states where there are lots of counties; however, I only worked sixteen out of Michigan's 83. Unfortunately, propagation just doesn't favor working the bulk of the state's ham population when you're in the middle of it.

Eighty meters after dark is the way to go, but mobile antennas just don't cut it as well. Those who live in or venture to the corners of the state tend to do a bit better in terms of multipliers. Most of mine were outside Michigan - 38 states, four provinces, and a handful of DX.

The mobile station consists of a Yaesu FT-891 with Hamstick antennas on a Diamond K-400 mount. I spent an hour or so this past week checking out the Hamsticks with an antenna analyzer and tweaking the whip length where needed. Hamsticks are primarily aimed at SSB operators so they sometimes require some creative tuning in order to work down at CW frequencies, especially on 80 where they are very narrow-banded. I have two Hamsticks for 75 meters. One tunes up nicely around 3800 kHz but won't go near the CW portion. The other seems like it has more turns (very nearly a "dummy load on a stick") but with the addition of a 10-inch capacity hat, it tuned up acceptably (2:1) at around 3540, just perfect for QSO party mobiling.

The actual mobile installation in my Toyota Prius is a subject for another article. But I was able to arrive at a reasonable solution for mounting a paddle within arm's reach. See photos at right and on next page. The plastic paddles made by CW Morse and sold by GigaParts are inexpensive and work decently - better than some of the other cheap keys. Though nobody would ever mistake one



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for a N3ZN or I2RTF masterpiece, they are lightweight, offer adjustable throw and have good contact action. Four holes in the base allow for a variety of mounting opportunities. I found in my junk box a small L-stock bracket, which I drilled and mounted to the base of the paddle and to the LidoMounts plate that holds the two radio control heads and the speaker. The paddle is mounted upside-down, requiring the keyer in the FT891 to be set for reverse paddle action. I can send reasonably well with the CW Morse at speeds up to around 25 wpm, which was fine for the QSO party.

Logging was done using N1MM running in Wine under Linux. All of my laptops run Linux and Freedos, and I've used the NA logging program in DOS for many years but wanted the features of N1MM. Rig control worked without much difficulty, but I have been unable to get N1MM to see the Winkeyer. Linux reports seeing it and adds it as /dev/ttyUSB2 and I can map it in Wine's dosdevices, but so far, I've been unable to get it recognized by N1MM. More work to be done there. The laptop lacks a hardware serial port that could be used for RTS-line keying (my older laptop has a serial port that works great with NA).



All CW from Ingham was done by hand. I also brought along my Bencher paddle and IdiomPress Super-CMOS4 keyer. I tried lashing that up for keying but found the keyer to be unresponsive. I took it apart and checked the three AAA batteries, finding them somewhat flat (1.3 volts each). Not having any spare AAAs on me, I ran into the Ace hardware store in Charlotte and picked some up. When I got to the Barry location I swapped in the fresh batteries and the keyer came to life with its OK signal. Some quick hot-button programming and I no longer had to manually send CQ or TU NF8M, leaving only the exchange to be sent manually. But this meant I needed to reach over to where the CMOS4 was sitting on the passenger seat, causing a bit of a delay after logging a QSO, a minor inconvenience.

The FT891 performed well, as did the mobile operating position, except that the laptop was up against the steering wheel. In previous solo operations I would use the passenger seat as the operating position, but decided to stay in the driver's seat because of the way the control heads were already positioned. And with the paddles mounted to the control head, sitting on the right would have meant keying with my left hand, which I'm not too good at.

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I plan on tweaking the mobile operation over the summer, testing improvements in the 1900z CWTs, and may take to the road for the Ohio QSO Party in August.

Bob, 2E0OBO: Please accept my apology for causing confusion, disruption and frustration during the 1900z April 28 CWT contest by starting the UK/EI contest one hour early. I am suitably humbled and embarrassed!

Contest University: has announced its [program agenda for May 20](#) and many CWops members are included as either presenters or moderators, including DK6SP, K1AR, K3LR, K5TR, KM3T, NN1C, UA9BA, W3LPL and W9KKN.

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.

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

Volunteer: Stations Worked

AA5CF: KO4OIP, N9FGC

AF8A: OM5NZ, K9UCX

AG4CC: K8VBL, KK5JD, K9IS, KB0PD

DF7TV: DO6AN, G4YTK, HA7LD, IK5OJB, SP2DBN, YL3JI, YU4IPL

G0POT: G4CGU, EA1AT, IZ3HIG, IV3CWI, SA6NAN, DJ1YFK, DL5GBE, IK8JZ, PA7PD, G4XRV

G3WZD: 9A6RHJ, DL1KGT

GM0EUL: ON4AEF, LA9QJA, SM4CUQ, GX1FCW

GW2CWO: R9FDJ, LZ1DB, HB9TSU, DL3GJ, DK4AN, OZ9CQ, I5ECW, SP5CKI, G0DOZ, GW4HDB, M0OM/P, G0STK, HB9AFZ, GW0KRL, PA0RWR, DM4JA, GM3ZLC, EA4DD, DL1TW, SA7EST, IK1NAP, UA3WBC, DL8NFA, EU1AEF, DL7VGU, DL3NAA, TA1UT, EA7CKC/P, SM6EPS

IZ8NXG: IZ1PON, DK6JP, DK4LK, DH7NH, IK8RES, M5ABN, IU3HPY, IK7MIY, IT9ASD, IZ8SFC, LA9BM, DF7ZC, F6HBR, HA8WM, IU8OYW, HA2RQ, F5SIK, I3MBG, EA3AKP, IK1MOP, IU2GDV, F6IFG, PA0RBA, SP9AVA, I1GOE

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JH2HTQ: 7L4VHB, 7N2XZB, JR0KTF

JJ1FXF: JA4IJJ, BH3OQQ, JJ1LMD

JS2AHG: BI3PXX, VK4TT, WA6EWB, W5FOC

K2MZ: AA5D, K5SGE, WA8OJR, KF8DA, KE8AQW, WB9TWJ, K1SAC, K8EHE, W4HXX, DF7TV, KE8RIB, NK8I, KE8QBQ, AD7HI, KE8CYV, W1BQ, N9FGC, K5MP, W2LCQ, AE2TT, AC5XK, K3ZGT, VE2PID, K4MIL, AD4TA, W2ITT, W2EQ, W8KO, W2YE, KD4OS, K1EBY, W1TER, AI2T

K6RB: XE1FKF, AE2TT, W7KB, KG5RXG, KW5KO, K7SS, WB0CJB, KB5ITL, N9SAB, KA8WNA, K9WWT, KA5SGE, K0HNL, AA5LH, WA8Y, VA7STQ, NY2PO, WB4YHJ, WB2KMR, K7TRT, K0AF, KG6HM, KB6VME, K3JN, KI7MJR

K7NJ: NX9Z, NF1A, WF4I, PS7HD, WA9VDW, WA6APN, N3GTG, W0UFO, NA9E, KB9FNN, KW5KO, K5KB, W4HXX, PY2FER, AD7I, ND4K, AA5IC, W2DLY/4, K5QBX/P, WA4MOH, AA7VW, W7QHX, WA4VIP

K8UDH: K4UX, KK5NA, W4VN, KB3SAR, W0HY, N6FGC, KF4TGE

KE7VE: KA2BKG, W5CBP, WA6VWW, K1OV, WC7C, NE7RD, KB9FNN, W5WTH, W7KBW, N0CW, N9ZXL, N6FMF, N9FGC, WB2ZIY, W7JAS, VA7OO, NM5S, K6EE, KK6AL, NJ8D, WA7NCL, WB7A, WS0T, AI6QZ, K4QZB, KA1ZEQ, WA6R, WA7A, XE2ES, AA6IF, G0DWV, K2HZO, WT9Q

KH6LC: NQ6B, F5MAI, W9BDN, PA3FQA, G4DJX

KQ0E: KM4FO, K4OAQ, K1SAC, KX9DX, KD9CK, WB8BIL

M0CDL: G4PPG, M0BMN, G0TUN, G6GTA

KW4WA: N2JJF, K3RWB, K3KYH, K4LJB, AC4BN, WA5KBH

MI0WWB: G4PPG, G0MKJ, MW0BGL, DL2TY, OM3TLG, R3TLF, EA7KHU, 9A5SSS, IU2GDV, DC8ED, LX2KD

N4TMM: KB0HXL, K3JN, W8KM, K1SN

N6HCN: N2GG, WN5Y, K7MOA, KE6ORO, WA6RWI, W2BY, AA7CU

N6IET: W7KB, WZ6T, K5LG, KI6BNL, W2GLN, N7PHI

N8LR: AE4DT, WB9P, PY9MP, N0FGC

SV2BBK: YU4TMB, OE6SGP, IK8RES, I7CCF, I2DMK, IK6DIN, E73AK, SV2HXX, IT9FGY, IK5EKM, Z32LM, UD7R, IK5TTA, OK1LIX

W2LCQ: W2CW, VE3GON, AF4PD, KN4ZMA, KD8ZM, WA0BAG, K1KHU, K7MOA, AI8AI, K8MPH, N1CC, W0KOM, NX3V, KB1FGC, K2MZ

W3IQ: WP4OH, W4SAA, KC1BMD, WB2FUV, CO3JK, K4LJB

W5DT: KD2JAA, N4DT, K0VW, N4SNI, K3FEC, WB0PYF, AE1N, WA4YGN, K3MTR

W6JIM: N5FSN, AC7QC, W1SAV, K6PB, KJ7PXL, K7DKP, KB7CL, K7PKA, AB6A, WB5JMD

W0ITT: KW4WA, AC3GV, WA4IAR, WB4IT, W0CKI, KD8VCB, NM5S

WB2LQF: KN5CQB, AC8RG, WA2AKV, N2ANL, W3BKJ, KN4IXU, WB4ZBI, KF7XY

WE5P: W3TE, KO4IOP, WB2KMR, K9KVS, W4GNT, AI8V, K1ARR, WB1HGA

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 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+3	UTC+2	UTC+1	UTC/BST	UTC-1	UTC-5	UTC-6	UTC-7	UTC-8	UTC-10
Mon	JH2HTQ		ON5CFT		GM0EUL		WA2AKV W2LCQ WB2LQF	K8UDH AG4CC	NS6W KE7VE	N6HCN W6JIM	KH6LC
Tues	JH2HTQ JR1WYW		SV2BBK		GW2CWO G0POT		WE5P W2TE KW4WA	W0ITT	K7NJ K0ES KE7VE	K6RB	
Wed	JH2HTQ JS2AHG		ON5CFT		G0HKC M0CDL	DF7TV	N4TMM W4HXX	K5XU K2MZ	KU7Y K2MZ KE7VE		
Thurs	JH2HTQ		SV2BBK		G0POT		K1KHU K4LRC	KQ0E	KE7VE		
Fri	JH2HTQ JR1WYW		SV2BBK ON5CFT		GW2CWO MI0WWB		VE3FXX	KG5U	KE7VE	K6RB	
Sat	JJ1FXF			LA1IO			VE3FXX	N8LR			
Sun	JS2AHG JJ1FXF			IZ8NXG	G2CWO		W5DT			K6RB	

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.

The Joy and Adventure of First-Time SOTA Activations

[Johannes Stosch, KI6M](#)

As a newbie CWOps member, I am delighted to share my recent experiences and passion for [Summits on the Air \(SOTA\)](#), especially the thrill of activating peaks for the first time. Since the outbreak of the pandemic in spring of 2020, I have been working from home like many in much of the country. I suddenly had time to rebuild my recently acquired 1993 Chevy G20 into a campervan and do several SOTA summits in the nearby Los Angeles Forest. I had always enjoyed camping and hiking but had not thought of combining those activities with my radio.



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Ascent to Devil's Hole Benchmark

I have been licensed since 2015. After upgrading to Extra a year later and exploring the various modes and bands, I settled on CW as my exclusive mode and sold my Yaesu FT-991 and Elecraft KX3 for minimalist gear like the MTR-3B and SW-3B as backup.

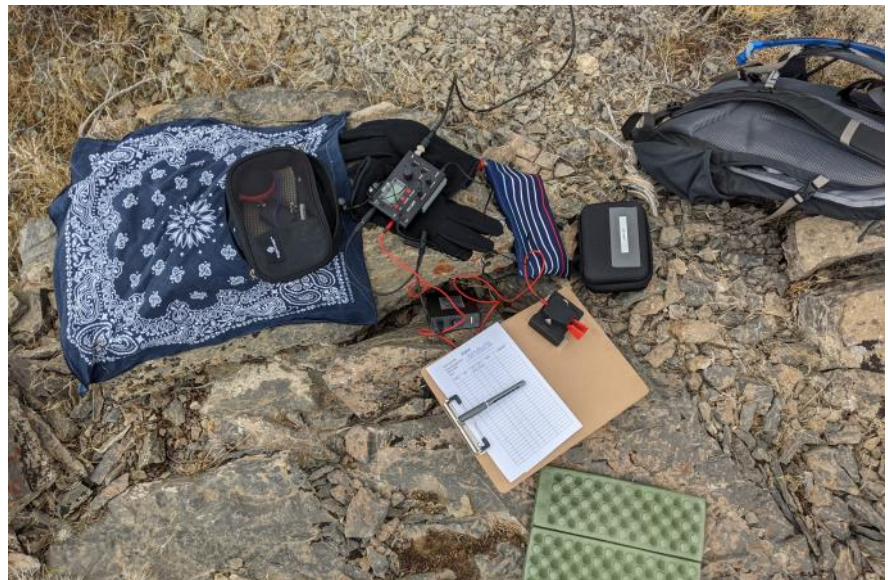
While continuing my hikes near LA late in 2020, I discovered that much of the mountain access was restricted due to the recent fires. The other peaks were now more populated and required battling traffic and hiking among more people requiring constant mask wearing. I began missing my solitary hikes from earlier in the year where I felt truly part of nature while meeting hardly anyone on the trail. I started planning a trip to Nevada to combine van camping with SOTA. Pahrump, NV is a destination for much of the van and nomad community. Relatively isolated but with amenities such as fast LTE and a Walmart, it has become a Mecca for full-time adventurers. I opted for free BLM land camping in my van and started to plan some concentrated activations-four days peaks in four days. I discovered that there were many summits around Pahrump that had never been activated. I started to do the research and realized that without any prior documented activations, I was very much on my own. I found that some hikers had climbed some of these mountains and blogged about it, but didn't leave detailed route information. I did the best I could with printing maps, downloading offline google maps, programmed my HT with nearby repeaters for emergency situations and set GPS coordinates in my mapping software. I looked at

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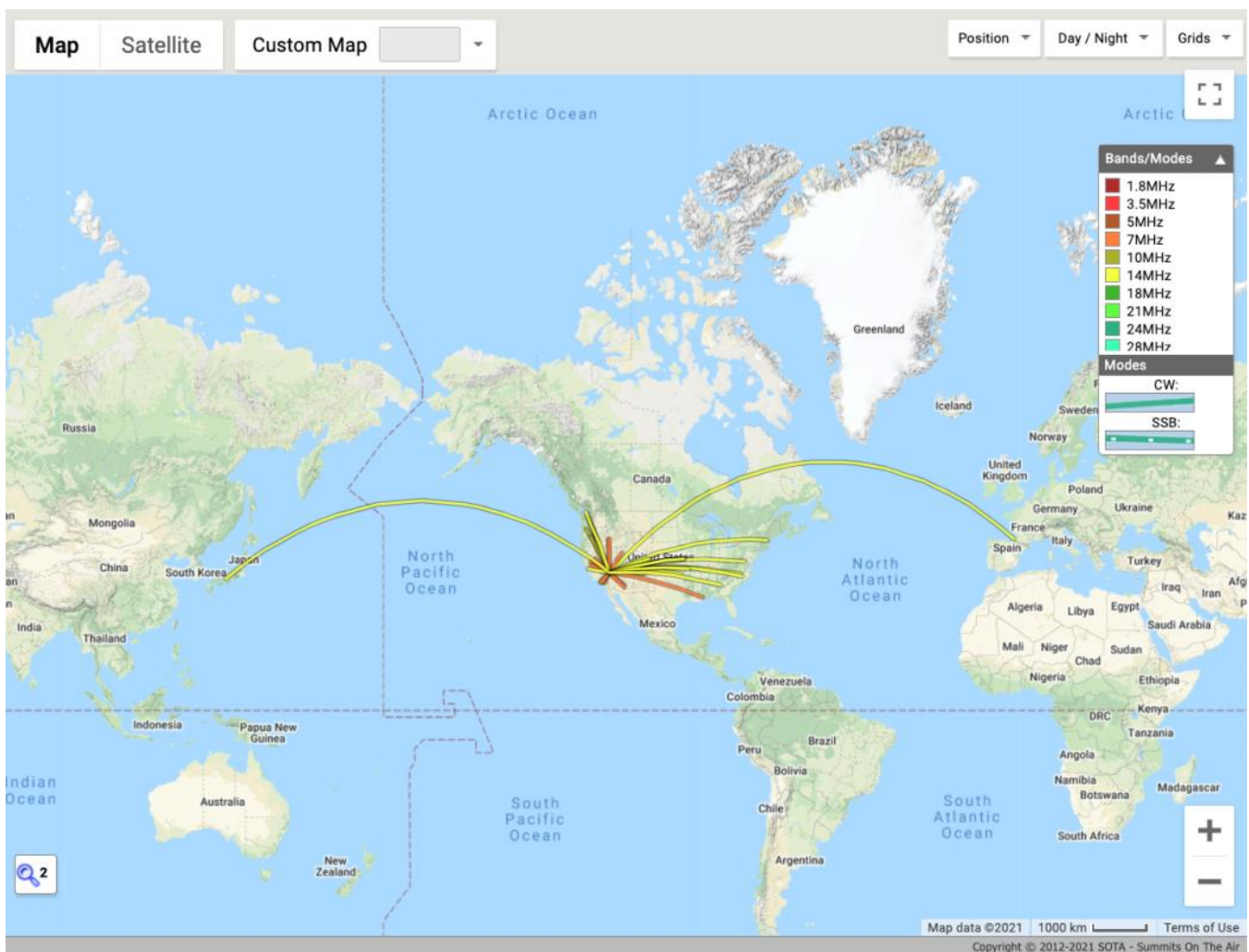
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images on Google Earth and felt reasonably prepared.

The camping was the easy part, and Pahrump is a great place to visit. On my first day in mid-January, I found the weather to be perfect for climbing. I had plenty of water and embarked on my first destination, W7N/NS-226 "High Peak", just south of the town. I parked on a main road and walked toward the chosen peak. Since so many peaks were close together, it helped that I flagged it on my Google Maps to walk towards it



SW3B with paddle and log



QSO map from Horse Benchmark

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much like I would with a compass. Aside from washes full of loose gravel and rocks there were no trails. After 2½ hours of climbing through loose and sharp rock, I questioned the effort for a 1-point summit especially when the descent was not any less dangerous. I ended up using my gloves to hold on to volcanic and very sharp rocks. But the activation worked well with many contacts on 20, 30, and 40 m.

The peak the next day, W7N/NS223 “Little Pupfish” (4112), began with a fun drive on dirt roads that my sedan would not have tolerated. Since my van has better tires and higher ground clearance, it worked out in the end. For long stretches I had to drive carefully and very slowly. The road looked “normal” from the bird’s-eye view of Google Earth but was in fact rather dreadful in-person. I climbed in similar terrain as the “High Peak” and started to fall in love with the isolated landscape with absolutely no other humans anywhere and no cell coverage. This was well worth collecting only 1 point after a successful activation.

During the remaining two days, I activated two more peaks: Mt. Sterling and Shadow Mountains. Both offered more vegetation with incredible views but had similarly terrible roads to my randomly chosen trailheads. Two weeks after this trip, I returned to Pahrump on February 4 for a weekend of four more pre-planned first-time activations. I did not cross paths with any other human-being on my hikes but had close encounters with mountain goats and wild horses that passed trustingly just a few feet from me. That was one of the great highlights of this journey.

If you are interested and adventurous enough to pursue first-time activations, here are my 10 lessons learned that I would like to share with you:

1. **Layer your clothing.** The temperatures in desert Pahrump range from 30°F at night to 70°F during the day. When no wind is present, it can get very hot. When up in higher elevations, I got snowed on. I hiked in just a long-sleeve microfiber shirt and layered up to a sweater plus coat with wool beanie and gloves when I got to the top.



On mount Stirling with telescoping mast and 20 m EFHW

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2. Consider getting a [Garmin InReach](#) and service plan. I managed without it this time around by always setting SOTA alerts, so the [RBNHole](#) could hear and spot me. That, however, required timing and advance planning. Also, the InReach would help with safety and messaging home when no cell service is found.



The trail to Wheeler benchmark

3. **Mind the ROADS!** What you see on Google Earth looks much better than what you see on the ground. A high clearance vehicle with 4 wheel drive may help but not guarantee passage. Like me, you may end up parking and hiking miles ahead of your planned trail. That may result in missing your SOTA spot timeframe allowed by the RBNHole or run out of sunlight on your descent.
4. **Back-up gear.** I carry an extra receiver (the MTR or SW-3B weigh very little) and extra antenna wire. When you spent half a day in rugged terrain climbing a peak that no other human may have been on before, you don't want to find any issues with your gear. Luckily, QRP stuff is lightweight. Just make sure you carry some backup gear that will get you on the air.
5. I always carry a **lightweight telescoping pole**. While the LA Forest offers trees on a lot of peaks, I was not so lucky in the desert. I was able to tie my pole to some bushes or stick it be-

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tween rocks. A pole is a must in terrain such as this.

6. **Start early.** When I was in Pahrump sunset was shortly after 5 PM. I kept that in mind during all my hikes. That dictated how long I would stay and operate. On the "Horse Benchmark" W7N/CK-018 on Feb. 5, I had enough time to make 24 contacts. 20 m allowed me to reach Japan and France within minutes of each other with 5W! Being early allows for activation fun well before any danger of running out of daylight. Remember, if you have to hike part of the way you thought you were going to drive, everything gets a lot longer.

7. **Sunscreen** is an absolute must-have, especially in the desert. Apply and take it with you for reapplications.

8. **Water.** My backpack is a Camel-back Cloud Walker with a built-in bladder. Be sure to fill up before each hike.

9. **Bring a pad** - a cheap foam pad is all you need. It weighs almost nothing and will make your activation on rocks much more pleasant.



Wild horse encounter

10. Be able to operate on **multiple bands**. In the LA mountains I just put up my 20 m EFHW antenna and made all contact that way. A 40 m wire just seemed too long, impractical and yielded far fewer contacts. 20 m would simply work. Near Pahrump, however, 40 m was strong. I made most contacts on that band during the day with a compromise antenna. 20 m offered some incredible long-distance but not nearly the amount of activity.

In closing, I want to thank all the chasers who enable us activators to have so much fun with our low power gear. I now recognize many of the callsigns of dedicated chasers who make contact with me day-in and day-out. I am thankful for their patience for my muddling through the many pileups. If I may offer a tip for some chasers who are just starting out: please do not always zero beat the sending side-tone. Pileups are easier to manage when there is a range of frequencies. I continue to love the magic of CW and am grateful to CWops for promoting the art of this mode. I hope to work with many of you on the air soon.

Meet the Braille Team

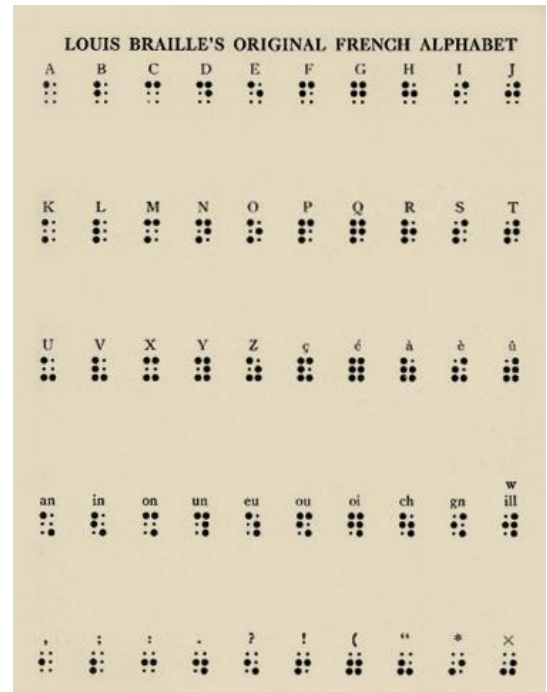
[Mike Duke, K5XU](#)

A few years ago, Lloyd Rasmussen, W3IUU, a very active ham who is also blind, began using Braille as his name for the [North American QSO Party, NAQP](#).

Because several other members of the blind hams email reflector also participate in the NAQP, his use of the alias generated some discussion and additional interest in the contest. It ultimately led to the formation of The Braille Team, which took to the air for the first time in January, 2017, just a few days after the birthday of its namesake, [Louis Braille](#), who was born near Paris on January 4, 1809.

The first Braille Team consisted of Lloyd Rasmussen – W3IUU, Tom Behler – KB8TYJ, Steve Forst – KW3A, Fred Olver – N9BSO, and Mike Duke, K5XU.

Since then, at least one Braille Team has participated in each CW and SSB NAQP. When there are enough operators for a second team, the original corps is divided among the two teams so that both teams have a balance of new and experienced operators.



The first version of braille, composed for the French alphabet. [Source: Wikipedia.](#)

A very gifted and experienced operator, Summer Hartsfeld - VE5SDH, CWops #1413, (SK) also joined the Braille Team for one CW session.

Now, meet a few members of the team that fills the NAQP exchange with extra dots and dashes, and keeps VE2FK busy updating the call history file.

Lloyd Rasmussen, W3IUU

Lloyd, of Kensington, Maryland, earned his Novice license in 1955 at the age of 8 in his home state of Iowa. His first callsign was KN0DDA, and he was known as K0DDA until 1977. Since he was attending the Iowa Braille and Sight-Saving School in Vinton, 150 miles away from his home, his father and brother also decided to become licensed.

Lloyd received an electronics engineering degree from Iowa State University in 1969, and then worked for Collins radio company for a while doing receiver front end design. For the past 45 years he has worked at the National Library Service for the Blind and Print Disabled, a branch of the Library of Congress, developing braille and talking book equipment, software file formats and other things.

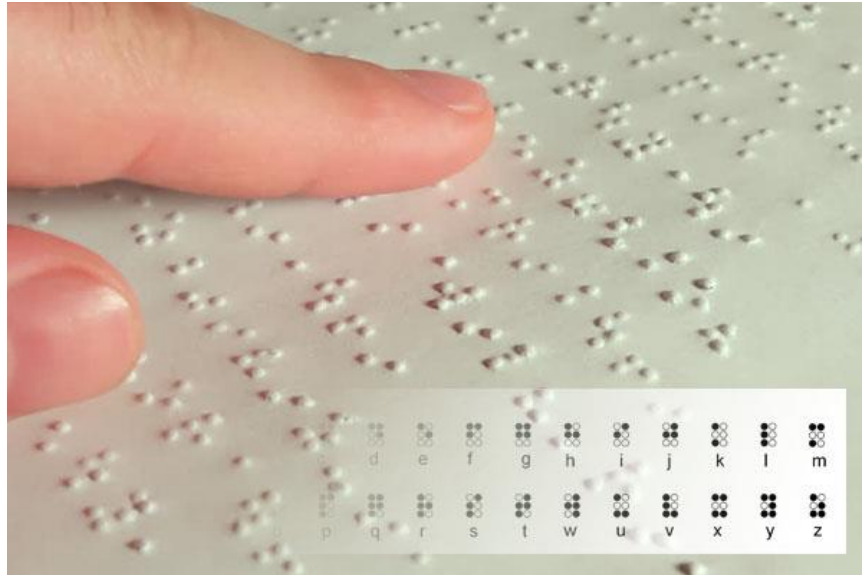
Lloyd said that in 1955 the only ham radio study material he could find in braille was a license manual from about 1940. Later, two ARRL publications, the 1952 edition of *How to Become a Ra-*

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dio Amateur and the *ARRL License Manual*, were produced in braille. Another significant contribution to electronics literacy for blind people was the *Braille Technical Press*, which was published by Bob Gunderson, W2JIO, from 1950 to 1973. These resources were studied for many years by future blind hams, this author included.

When asked about his use of Braille as his name in the NAQP, Lloyd said: "I have always found braille to be very valuable especially in taking my own notes and reading them back accurately and quickly. I figured that if other people could use all sorts of handles in the NAQP, I could use Braille as my name to emphasize that



Hand reading braille. Photo provided by author.

we are blind people who use the medium, and that it is quite important to us.

"Besides," he added, "Braille is a six-dot digital code which you read with your digits."

Lloyd also participates in other contests, is active in his radio club, and conducts The Cross Country Blind Hams Net, which meets most Sundays at 4 PM eastern time on 14.258. For logging, he uses the N1MM software.

Off the air, he participates in his community, church, and the [National Federation of the Blind](#).

Fred Olver, N9BSO

A Retired Rehabilitation Teacher from St. Louis, Fred has been a ham for over 40 years. His first experience with contesting was the Novice Round-up in the mid-1970s. Like anyone else involved in contesting at that time, he quickly discovered the challenges of keeping accurate contest logs.

"When I reviewed my log after that contest, I discovered I had failed to record band changes, he said. "Although I couldn't submit my logs, that first contest taught me a lot."

In the early 2000s, Fred began keeping his logs in text files by using a Braille terminal. "I thought it was cool," he said, "but again, there was no specific way to make sure the information appeared in the proper order. There was also no easy or automatic way to check for dupes."

Fred became an early user of the Amateur Contact Log software that was developed by Scott Davis, N3FJP. "Thanks to this software," he said, "I can participate in most contests including the state QSO parties, and be on a level playing field with the other participants."

Last year he racked up over 400 contacts in the Missouri QSO party, and made 300 contacts as a

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member of The Braille Team in the most recent CW portion of the NAQP.

"Being a blind ham makes participation in the hobby a bit more challenging, but it doesn't keep me or anyone else who wants to participate from doing so, Fred said."

Steve Forst, KW3A

Steve, of Springfield, Pennsylvania, was legally blind when he became licensed in 1987. He has now been totally blind for 20 years.

Steve's main interests in the hobby are DXing and contesting. His station is a Kenwood TS-890S with Elecraft KPA500 amp, along with a Hexbeam and dipoles. For logging, he uses Writelog.

Steve is active in his church and community, and sometimes has to divide his time accordingly during a contest weekend.

"I always enjoy the NAQP," Steve said. "It is competitive, but not as cut throat as some of the big DX contests." He added, "I usually operate all 3 modes of the NAQP and have been using the name Braille across the board for several years, even in RTTY, where there is no Braille team yet."

Tom Behler, PH.D, KB8TYJ

Tom is a retired college Sociology instructor who lives in Grandville, Michigan. He taught for 26 years at Ferris State University in central Michigan before retiring in 2016. In 2009, he took a one-year leave of absence to coordinate a program called Weather And Society Integrated Studies at the National Center for Atmospheric Research in Boulder, Colorado.

Tom obtained his first amateur radio license, WN3MQR, as a teenager living in central Pennsylvania in 1969.



Tom KB8TYJ, in his shack.

"As a Novice, I greatly enjoyed CW and became an incurable CW Op," he said.

After leaving the hobby for over 20 years, Tom returned to it in full force in 1994. He went through the upgrade process and obtained his Amateur Extra Class license (including the 20wpm code certification) in 1997.

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"Through the years, my favorite operating mode has remained CW. This is why activities like the NAQP CW contest are so much fun for me," Tom said. "Being part of the Braille team has added a special significance to the endeavor, and I try to participate whenever the opportunity arises. It is fun to be recognized as part of a well-known operating team when I work the NAQP CW contest, and I look forward to many more Braille team outings."

Tom serves as Net Operations Director and board member for an area-wide repeater association, as the SKYWARN Team Leader for his county, and operates the CW station for his radio club during Field Day.

He now uses his teaching skills to conduct in-person and online classes for the Handihams organization.

Mike Duke, K5XU

I, Mike Duke, K5XU, of Jackson, Mississippi, have been a licensed and active amateur since 1969. A radio announcer and production person professionally, I have been employed at MS Public Broadcasting for 34 years.

During the summer between 7th and 8th grades, when I was 12 years-old, I learned CW by listening to a set of records that I had received the previous Christmas. I would type the practice exercises on a typewriter, and my mother would check my work against the text that was supplied with the records. She would send me back to the typewriter for numerous repeats until I achieved the suggested score for each lesson.

By the end of that summer, I was copying Novice band QSOs in my head. I don't remember who sent it, but I remember the first sentence I copied over the air. It was, "The mosquitos are awful." From then on, I would listen to CW for at least a few minutes every day, even from my dormitory room at the MS School for the Blind.

When I was 14 years-old, I passed the Novice exam and became WN5ADC in October 1969. The General class license came the following summer, and the Advanced license just before enrolling at Mississippi State University two years later. I passed the Amateur Extra Class license during one of the first Volunteer Exam sessions conducted by the Meridian, MS Amateur Radio club in 1986.



Mike K5XU in his shack.

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Larry Anderson - NN5O, (1327) nominated me for CWOps membership in 2015. He was also the person who introduced me to Field Day in 1973.

Since the logs were all on paper back then, someone had to log for me whenever I was operating. Today, thanks to the logging software from N3FJP, I can log for myself or for others at Field Day, and independently participate in contests.

In addition to CW, I enjoy providing public service communications, serving as net control for local nets, and casual operating. I also participate in the [American Council of the Blind](#), and in its affiliate organization, [American Council of Blind Radio Amateurs](#)—W3ACB, and serve as secretary for my local radio club.

The primary thing I enjoy about this hobby is talking with other people. Some of those people I have known since high school, others I eventually met in person after talking with them on the air. But the majority are people I am not likely to meet, such as hams from other countries.

Any member of the Braille team will tell you that Amateur Radio is a great hobby. It allows us to interact with an amazing variety of individuals who we would have never encountered without that common interest. Most of these people do not know we are blind until we meet them in person, or until they become suspicious after working us during the NAQP. By that time the barriers are down and blindness doesn't matter.

Shunt Feeding Multiple Towers in a DA Array for 80 and 160 Meters

[Tom McGinley, K7QA](#)

[In my previous installment](#), we described an easily implemented slant wire feed method on towers of modest height supporting a large Yagi for use as a very effective antenna on 80 and 160 meters. As long as any metal guy wire lengths are insulated from the tower and not close to resonance and an adequate ground system is installed, a properly matched vertical tower will easily outperform any wire antenna at equivalent heights.

I originally installed a 52-foot crank-up tower to support a large tribander with a 20-foot rotatable mast and overall height of 72 feet near the backyard corner of my house. I included two #10 insulated stranded copper wires attached at the top of the tower as a slant wire feeder and installed 70 ground radials to be able to use the tower as an 80 and 160 meter vertical antenna.

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The driving point impedance on 80 meters measured very high, about 1000 ohms. Using a parallel resonant LC tank circuit as the matching network back to 50 ohm coax, this antenna has performed beyond expectations on both bands.

Adding a Second Shunt Fed Tower

Two years ago, I decided to install a second tower, 58 feet overall height about 83 feet to the west of the first tower to support a two element 40 meter Yagi. Realizing I could easily add a slant wire feeder and radial ground system for that tower, I began researching the use of two slant wire fed towers in a directional antenna (DA) array to form a switchable cardioid pattern. Theoretical antenna models showed an achievable forward gain of about three dB with a backside null around -20 dB.



While there are numerous online references and antenna manuals available that describe shunt feeding a tower, nothing was found that contemplated using shunt fed towers in a phased array. Most all of the resources I found dealt with four square switchable arrays or multi-element in line arrays using transmission line phasing and parasitic wire elements using catenary supports from a center tower.

Computer Modeling the Patterns

Armed with an assortment of variable capacitors and old AM broadcast inductors along with a Potomac Instruments FIM-41 field intensity meter, I started testing my two tower shunt fed array. Using my experience building and repairing AM broadcast DA arrays, I initially used a broadcast antenna modeling software program to design a desired pattern and calculate the phase delay of

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the coax lines feeding each tower's base feed point. To produce a cardioid pattern pointed east with a -20 dB null to the west, I would need to excite each tower base with about equal currents with the west tower lagging the east by -280 degrees (+80 degrees).

My initial calculations modeled the actual tower heights plus top loading and correct spacing but as uniform series fed vertical radiators with standard broadcast buried ground radials. The resulting power distributions to achieve that pattern indicated the east tower would get 75% of the power at its base and the west tower would get 25% to produce the 1:1 radiation loop current ratio. It also indicated that a semi-cardioid pattern could be produced using a fully parasitic west tower but with a back null of only about -8 dB.

Tuning a Parasitic Tower

Parasitic radiators in a multi-element array induce all the current they need from the driven towers. The desired operating phase angle can be set with a variable reactance to ground at the base. So I would only need to add a variable capacitor to ground at the end of the west tower slant wire to cancel the large amount of inductive reactance and set it to achieve the deepest null at the target phase value.

The challenge of determining and setting up the correct driving current and phase angle with a high impedance slant wire feeder becomes complicated by the fact there is no easy way to measure the radiation loop current parameters for each tower. We use base current sampling transformers or inductive loops side mounted to the towers that drive a phase monitor to do this in the AM broadcast services. So finding the +80 degree offset for the deepest null had to be done empirically with the FIM-41 portable field intensity meter using very low transmitter power.



Field Strength Meter Options

Most hams will not have easy access to an FIM-41 unless they know a local AM radio station engineer who could assist in such measurements. While a high accuracy frequency selective voltmeter like the Potomac makes the field measurements and tuning easier, I've also had decent results using a Tecsun PL-880 portable all band all mode receiver that features a dBu signal strength indicator with external antenna input port. Wideband field intensity meters marketed for ham radio applications that can accept an external directional loop antenna should also be useful for this exercise. See photos, right.

With a two tower array, you will need to find suitable measuring locations on the front and back tower lines at



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about the same distances away from the towers. For the simple cardioid, you can easily see the level of the back null move quickly at only a 1/4 wavelength distance away, about 65 feet on 80 meters. Moving farther out to several wavelengths or farther is recommended to reduce near field reradiation distortions. Getting a buddy to help with this task using cellphones or 2 meter handhelds makes it easier and faster.

Measuring both the back null and the front major lobe after each change in the variable capacitor position allowed seeing the forward gain readings rise and fall as well as the null. It turned out that with the null set for a minimum, the forward gain did not increase as much as I had hoped comparing it to the original non directional measurements from the east tower at the same location and power level.

Driving Both Towers with Power

I decided to operate the two tower array for a year using switchable parasitic 2nd towers controlled by vacuum relays to flip the patterns on both 80 and 160 meters. This setup performed well enough but after reviewing the various theoretical patterns my two tower array could produce, I realized I would have to drive both towers with power using an adjustable power divider and phase controller to achieve better cardioid patterns.

My initial attempts using a variable shunt coil across the input of the east tower matching network to feed the west tower were not promising and presented another challenge. I would need to replace the series variable capacitor used for the west tower parasitic element exercise with a matching network before it would accept positive power. So I added a 15 uH coil and configured a parallel resonant tank network very similar to the matching network at the east tower. Matching that as a single tower back to the 50 ohm feedline as a starting point with my Rig Expert AA-230 pocket analyzer was easy. See photos, right)

An important point to note here is that even with 83 feet between the two towers (107 degrees at 3530 kHz), the mutual coupling between them is significant and affects how the array is tuned. How each tower is terminated to ground will affect the other regarding



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the matching network settings. When adjusting one tower, the other tower's base network needs

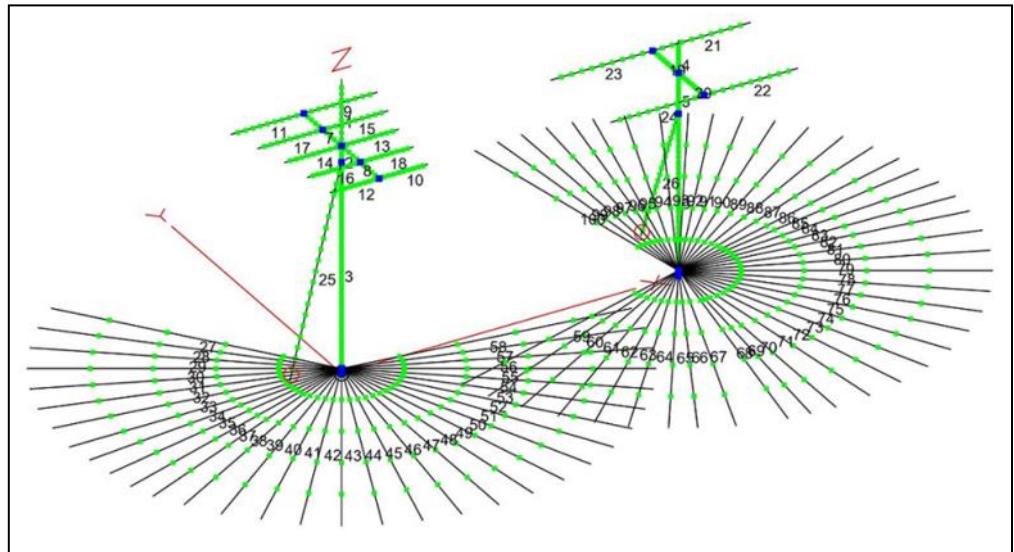
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to be actively connected. You will notice some interaction which decreases as tower spacing increases.

EZNEC PLUS 6.0 Modelling

My AM DA broadcast design and analysis software did not include a slant wire feed option or a method to accurately characterize the large amount of top loading or the as-built radial ground system. So I modeled this array in EZNEC+ 6.0, including the slant wires, top loading and ground radials. See diagram at right.

The first desired pattern result it produced indicated I would need to drive the east tower slant wire with 80% of the power and 20% to the west at a phase angle of -190 or +170 degrees. Since both tower slant wire matching network component values were about equal, I assumed the same phase shift across each one in the EZNEC model.



The 2-tower, 80 m DA EZNEC with radials model

I was hoping the EZNEC model would produce reasonably accurate phasing, power and current distribution data using the slant wire feeders to achieve an optimized cardioid pattern. That would make the design easier to implement and more accurate without having to rely completely on back and forth hardware changes and adjustments using field measurements.

EZNEC PLUS 6.0 Limitations

The EZNEC Plus 6.0 NEC-2 engine does not resolve analysis of ground radial wires at the surface or below real ground. We had to connect all the tower base wires at the first tower segment junction, one foot above ground in the model to be able to generate pattern results. As a result, that model produced significant pattern distortions when compared to a model using only real "very good" ground without the wire radial systems.

I concluded neither model as designed could depict truly accurate ground currents or the real phase shifts across the matching networks and the slant wire feeders. However the real ground EZNEC pattern without radials compared reasonably close to actual field measurements. So I used the "no radial wires" model to depict the polar plots and radiated current distribution graphics shown on the next page.

EZNEC Pro-4 which uses the NEC-4 engine can calculate true ground radial currents and would

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undoubtedly produce more accurate results if you care to buy the rather expensive NEC-4 license. While EZNEC modeling can get you to a good starting point, there is no substitute for actual field intensity measurements to determine the best adjustments in arrays like this to achieve maximized results.

Tuning In the Desired Patterns

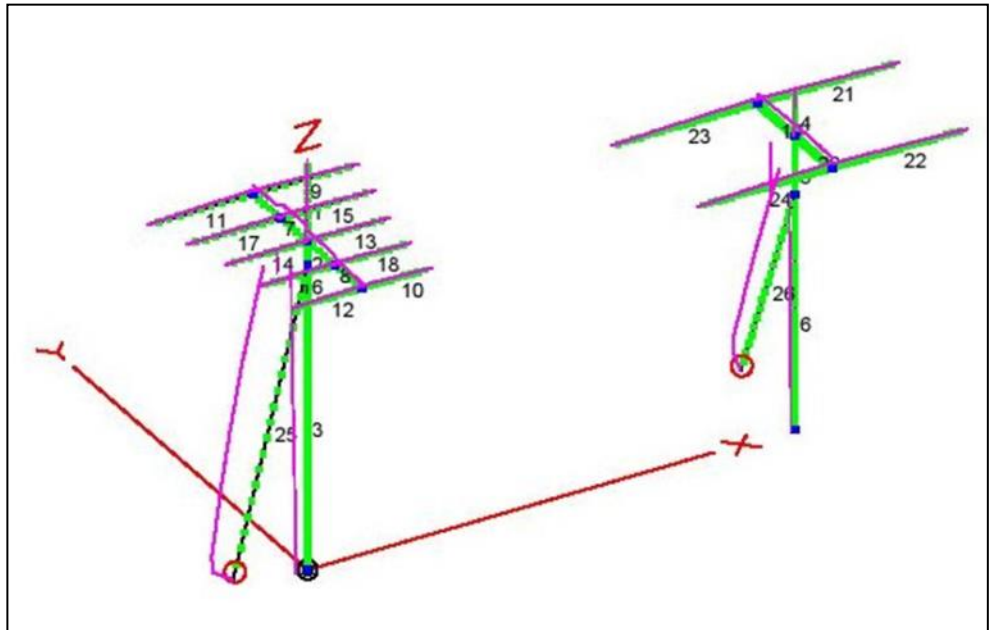
Since measuring actual phase and current distributions for the slant wire fed towers to confirm the modeled predictions was not practically possible, I could only rely on power distributions at the feed points and field intensity measurements as a guide to achieve the desired patterns. In order to determine real power levels fed to each tower, I used a Bird 43 wattmeter with a 100 watt 2-30 MHz slug inserted at the input of each tower's matching network. As long as the matches were kept close with low reflected power, the indicated forward power levels were reasonably accurate.

I initially set up the same variable inductor shunt power divider to the west tower base network. According to EZNEC in order to generate a cardioid with a -20 dB null to the west, I needed to add another 40 degrees of phase delay to the existing -150 degrees of RG-8 line feeding the west tower. That computed to about 20 feet of additional RG-8 poly coax to produce a total feedline phase shift of 190 degrees at the bottom of the west tower slant wire feed point.

Finding and Crashing the Null

Field intensity measurements revealed a null of only -10 dB after this addition, so I started increasing power to the west tower. I moved the tap point to the top of the power divider coil in steps and found I could drive the west tower with about 25% of the total power. I later found I could remove the shunt power divider coil completely and simply use taps on the tank coil to set the target power level needed to feed the west tower.

The null actually filled in as the west tower was driven with more than 15% of the total power so I knew I was at least in the right ballpark of the EZNEC predictions. I installed a 500 pF variable capacitor in series to the west tower to be able to fine tune the phase angle. That filled the null again with any adjustment so I removed the extra 20 feet of line extension coax and replaced the capacitor with a 15 uH variable inductor to be able to swing the phase in the other direction.



The 2-tower, 80 m DA EZNEC no-radial model showing radiated current distributions in purple

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Final Tweaks for Success

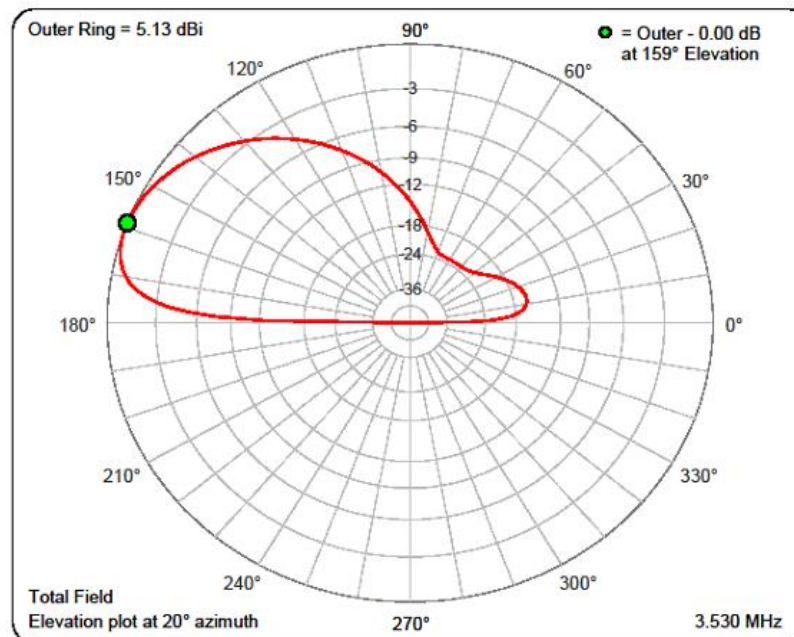
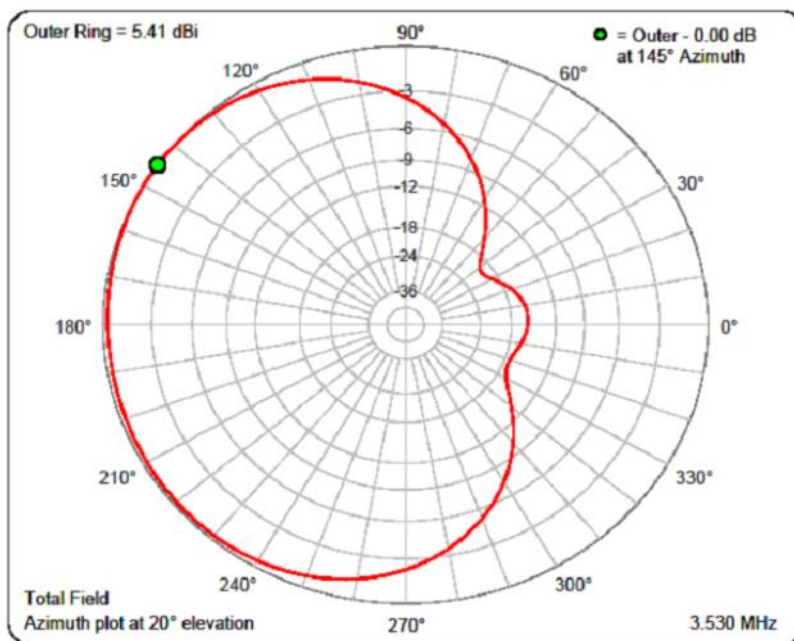
With most of the series variable coil active, I was able to achieve a sharp -24 dB null to the west. However the forward main lobe was not maximized at that setting which had been predicted in the EZNEC model. Moving the series coil tap back to about half active turns filled the null back in to about 15 dB and produced the highest forward main lobe radiation as measured by the FIM-41 at 5 feet above ground. That level was a full three dB higher than the original non directional measurement from the east tower and satisfies my goal for the best DX and contesting performance I can expect from this array. See attached final east pattern plot.

I rematched both tower base networks, reconfirmed the field measurements and then measured the final power distributions to both towers. I discovered the east tower gets 90% of the power and the west only 10%. However because of mutual coupling, the currents radiated by each tower show the west tower field at about 80% of the east tower as shown by the attached EZNEC model plot.

Reversing the Patterns

In order to reverse the cardioid pattern and beam west, the power distributions on 80 meters flipped with the west tower getting 90% of the power. I installed 85 degrees of phasing line extension to the east tower and added a pair of SPDT vacuum relays at each base network to select the line extension and different tap positions on each network to achieve proper matching. See photos next page.

That process required mostly cut and try iterations since the towers and top loading are different physically, but the field results produced are similar.



Top: 2-tower azimuth plot at 20° elevation

Bottom: 2-tower elevation plot at 20° azimuth

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My 160 meter setup for this two tower array still uses the simple parasitic tower arrangement since the mutual coupling is high with tower spacing about 55 degrees at 1820 kHz. The pattern to the east is cardioid and produces a -14 dB back side null and a 1.5 dB enhanced front side simply by tuning the null to a sharp minimum with a 500 pF variable series capacitor from the parasitic west tower slant wire to ground. Losses on 160 meters are greater using short towers and short ground radials.

Like all vertical antennas, shunt fed towers are noisy receiving antennas. But the cardioid patterns are still useful for reducing unwanted interference in the null direction.

Finding the Parts and the Thrill of the Chase

For hams who have several towers at their QTH with favorable locations and spacings and are interested in experimenting with this method, the use of antenna modeling software like EZNEC provides a very good starting point to evaluate possible achievable patterns. EZNEC does present somewhat of a learning curve to be able to generate reasonably accurate antenna models. The program does include a good help section including models of various popular antenna examples. And there are some online tutorials on how to set up a basic model using the XYZ coordinate system and breaking the antenna elements into segments.

Installing the slant wires and ground radial systems to existing towers is relatively easy. The appropriate inductors, capacitors and relays needed for the matching networks and pattern switch-



Top: SPDT vacuum relays at tower base

Bottom: Power divider matching network with tapped coil and tuning cap

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ing can often be acquired by asking other ham friends and using hamfest flea markets and eBay. Maybe your local AM radio station could even be a source.

This project did consume a fair amount of time iterating and evaluating changes to be able to move the results in the desired direction. But the fun of doing it and learning some new tricks along the way was well worth it. For anyone wanting to pursue such an adventure with the towers at their QTH, I'd be happy to assist via phone or email.

CWopsScholarship Fund Established

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

As announced in the April issue of *Solid Copy*, your CWops Board has voted to fund a recurring scholarship with a grant of \$30,000 that will provide an annual scholarship of \$1,000 to a qualifying student at an accredited school. The program will be administered by the ARRL Foundation.

One of the criteria for application is that the applicant must have a working knowledge of and CW operating capability.

The scholarship is available to any qualified applicant regardless of location or nationality.

You can [read more about the application process here](#).



April 21, 2021

The CW Operators' Club
Attn: James Talens, N3JT, Secretary
6017 Woodley Road
McLean, VA 22101

Dear Friends,

On behalf of the ARRL Foundation, thank you so much for your contribution of \$30,000.00 to support the ARRL Foundation to establish The CW Operators' Club Scholarship Fund.

Your generosity will strengthen the ARRL Foundation's ability to provide scholarships to young radio amateurs who are pursuing higher education and grants to organizations that promote Amateur Radio.

Thank you again for your generosity.

73,

Melissa Stemmer, KA7CLO
ARRL Foundation Secretary

The ARRL Foundation is an IRS-designated 501(c)(3) organization holding federal tax identification # 23-7325472. Accordingly, your contribution may be tax deductible to the extent allowed by law. No goods or services have been provided for this contribution.

ARRL Foundation • 225 Main Street • Newington, CT 06111-1494 • 860-594-0200 • foundation@arrl.org • www.arrl.org/arrlf



Guidelines for Operating a Multi-Station Special Event

[Dr. Michael K. Gauthier, K6ICS](#)

It's always fun to work a special event where there is more than one call sign or, the same call sign on several bands, required to receive an award. For the award seeker, this brings out the excitement of the chase. But many times, this excitement turns to frustration and disgust when it is found that all the required contacts are not reasonably available or even worse, they are not even on the air. Having been a ham since 1954, I have participated in many special events as both the award seeker and as the event operator. I have seen these problems too many times. Fighting unexpected mishaps, band conditions, QSB, QRN, and QRM is normal. Not having the special event stations working at their best is tragic.

The Problem

As an example of the problem, there are 5 stations to contact, over a 10-day period. You have worked 3 and realize that the other 2 you have not heard. Checking *DX Summit* and other spotting web sites you find that the 4th station you need has been on 160 meter SSB and 80 meter FT8 for about 4 hours over the past 4-days. When you check out the 5th station, you find no record of them even being on the air.

RATS! That makes you feel good. What a waste of time.

Pre-Event Analysis

- Do you have an event e-mail contact? Review e-mails several times a day, minimum.
- Do you have a website? Does it contain ALL special event information?
- Review the rules and regulations of your event and award(s).
- What is the time period over which the special event will take place? Does it conflict with other events?
- Planning the bands, modes, and times which will be best for the maximum number of contestants.
- When event stations operators can only operate limited times or bands. Add additional station(s) to cover open bands, modes, and times.
- Do you have backup operators?



One of the many QSL cards earned by the operator as a special event award seeker.

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- Emergencies: Power failures, equipment failures, operator illness, and other problems.
- After the event starts you need to *fine tune* your analysis, based on current operating conditions.
- Post-event QSLs and Award Certificates. Logging and reporting contacts. QSLs, Awards processing, and Delivery. ""Not in Log" and other problems.

Recommendations

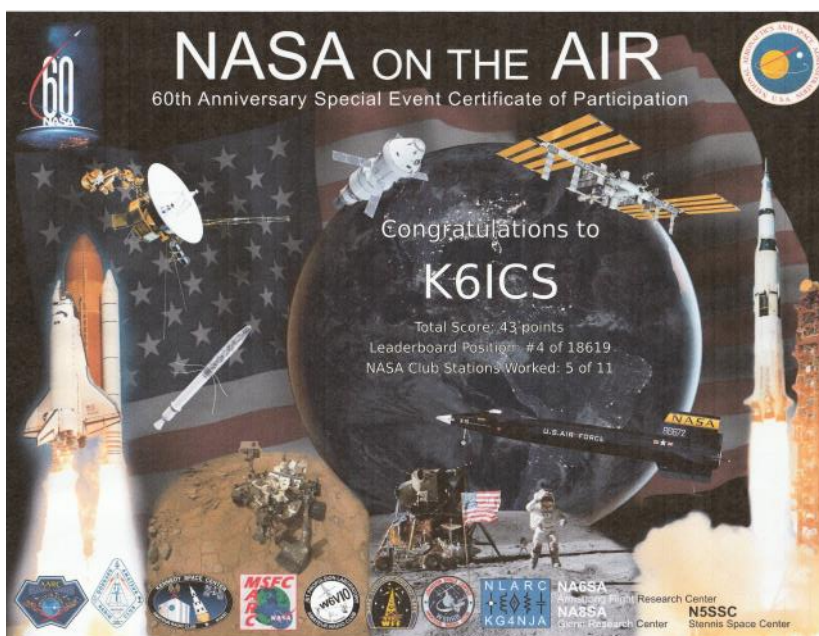
- Use the "most active" bands: 80 Night, 40 Night/Day, 20 Day. Other bands as open.
- Multiple stations using the same call on different bands and modes, at the same time.
- Use all bands/modes, unless it is a single band/mode event.
- Publish typical operating schedule so the stations can be more easily found.
- Suggest award seekers list contacts on DX Summit and other spotting sites.
- Process all QSLs and award certificates rapidly.
- KISS – Keep it Simple Stupid.

I have been fortunate to operate as part of a number of Special Event stations with these results:

- W1AW-6 is the thank you award I received from the ARRL for operating one of the W1AW/6 stations. In October 2014 I celebrated 60 years as a Ham Radio operator (K6ICS). During that month the American Radio Relay League (ARRL) celebrated it's Centennial. Part of this special event was the operating the ARRL Call Letters W1AW from each of the 50 states. I was honored to be one of the California stations authorized to use W1AW/6 during the special event. I received the above trophy for my participation. How RAD is that. Thank you ARRL and everyone I contacted during the special event.



- NOTA 2018. During the year 2018, NASA celebrated their 60th birthday. The 12-NASA facility amateur radio clubs operated a year long special event "NASA on the Air" (NOTA). As a member of

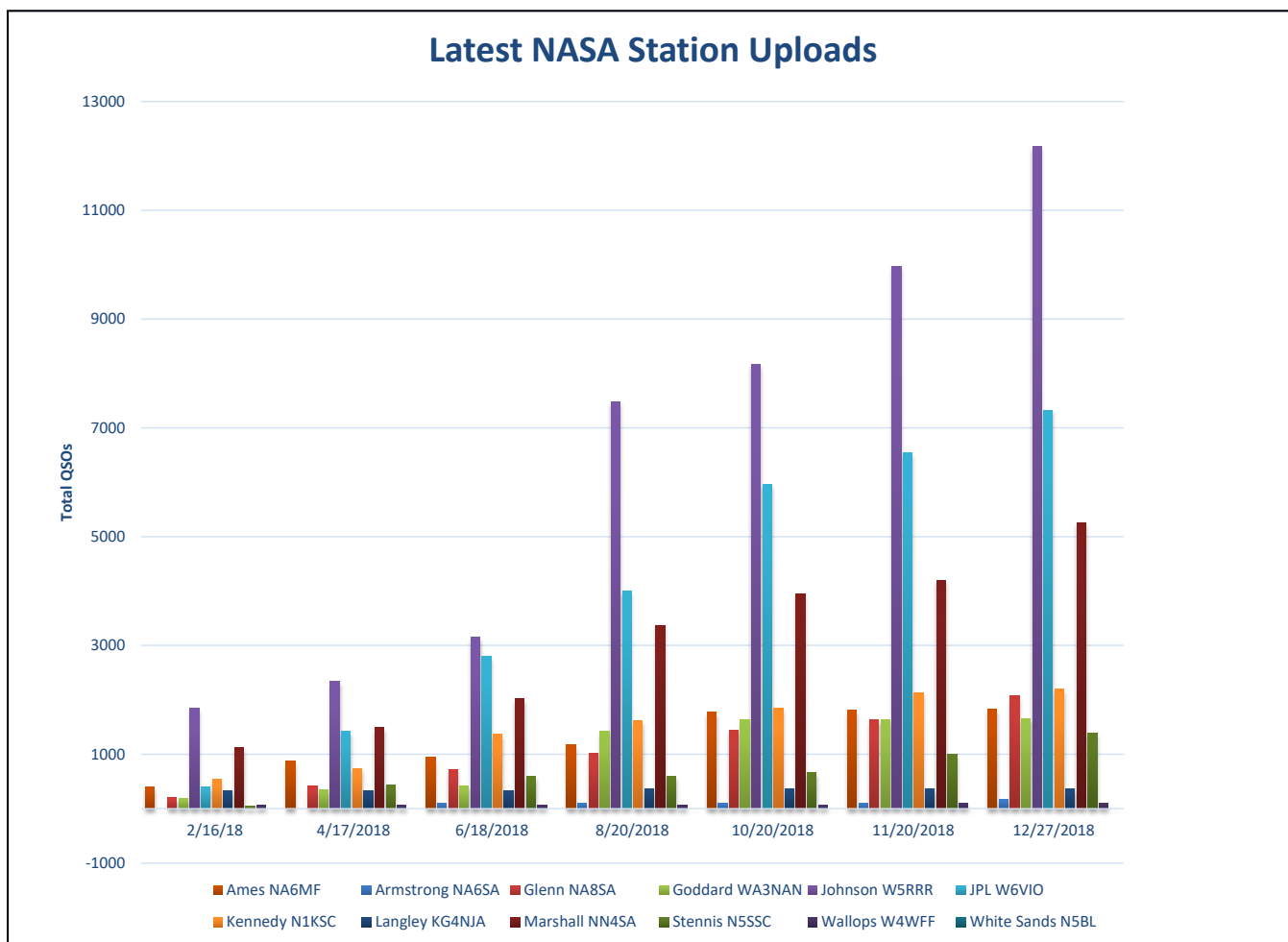


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the Jet Propulsion Laboratory (JPL) Amateur Radio Club, W6VIO, I had the opportunity to operate the event. During 2018, I made over 7200 contacts in all 50 state, most of the Canadian Provinces, and over 100 countries. I was only able to work 5 of the 12 NASA stations.

- NASA Contacts. This graph indicated the contacts made during the year by each NASA Center Radio Club. Each Radio Club was reasonable for their own operation. As you can be seen, some radio clubs were very active and others not so. At JPL, I made about 95% of the contacts.



Notes

Every country has their own band rules. Be aware of band limits for all operators including different license classes. In the US, Novices and Technicians are limited to CW only on a portion of 80, 40, and 15 meters. On 10 meters they do have CW, Digital, and SSB, but only a small portion of the band. General and Advanced classes have their own operating limits.

CW Academy

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

A ham made a comment that he was looking for contacts in a certain area and wondered where they were. Somebody else said that he had made several contacts, all on CW, in that area. The first ham made a classic reply: "Yes, I tried to learn Morse code several times but I just cannot do it."

Probably more than a few students who have taken a CW Academy class have said the same thing as the first ham above. We could substitute things, such as, "... tried to learn the piano", "learn a foreign language", "learn computer skills", "learn to make a certain dessert" and so on. Learning CW is not much different than learning many other things – why are they so hard?

A person might typically find a book or an online resource to learn something and remain diligent about learning the new thing for a couple of weeks but then their daughter has some evenings of school projects to attend to, or contractors show up to rebuild a deck, or a job situation gets

very busy or any number of other things happen. The person misses a few days but fully intends to get back to learning. A couple of days turns into a couple of weeks, then a couple or months then years and the person forgets all about ever starting the learning tasks until something like the scenario outlined earlier comes up.

The CW Academy asks students to make a commitment to practice every day, not every few days, and to join online meetings twice a week. An advisor checks in with them to make sure that they are doing their exercises, help them with any issues they might be having, keep them moving forward and encouraging them to stick with things and not give up. Many students do this and, maybe, think that we performed some kind of magic to get them to do something that they could not previously do despite many attempts.

There was no magic; the student had it in them all along. They just had to try. Many of our students find our programs to be challenging but also fun and a great learning opportunity. They find out that there is a lot of new on-air opportunities for them that they missed out on previously. They feel justifiably proud of themselves for staying with the program and putting in the effort.



Roland K7OJL, one of the CWA Managers, was recently featured on a QSO Today podcast. [You can listen to the podcast here.](#)

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This has been happening for many years and has touched thousands of students. We have a group of enthusiastic advisors who love CW operating and sharing their passion. We would love to get in touch with CW fans who would like to help out more students.

Now is the time to say: "I am going to learn Morse code and make those contacts in the counties/states/provinces/countries I have been dreaming about." We will help you.

73,

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

CWops Tests

[Rich Ferch, VE3KI](#)

I have been looking at statistics from recent CWTs. I collected a month's worth of CWT data, from April 7-29 (after the change to Daylight Saving Time in much of North America and Europe) and also from February 3-25 (before the change) for comparison, and did a bit of data analysis.

In terms of overall numbers, we have been seeing 400-440 scores reported in each 1300Z session. The 1900Z session is our most popular, with 420-480 scores reported. The 0300Z session is quite a bit less popular. In February, we saw 300-330 scores reported per session, dropping to 280-300 in April. It's not too hard to see why: in winter, the 0300Z session starts at 4 am local time in much of Europe, and in summer, it ends at midnight local time in eastern North America, so it's less convenient for many of our members than the other two sessions.

Looking a bit more closely at the geographical distribution of entrants, we find that just under 80% of participants in the 1300Z and 1900Z session were from North America, with the remaining 20% or so predominantly from Europe. We are averaging between 90 and 100 European stations in each of these two sessions. The 0300Z session is dominated even more strongly by North Americans, although we do see 15-20 brave souls from Europe participating in this session despite the inconveniently early hour.

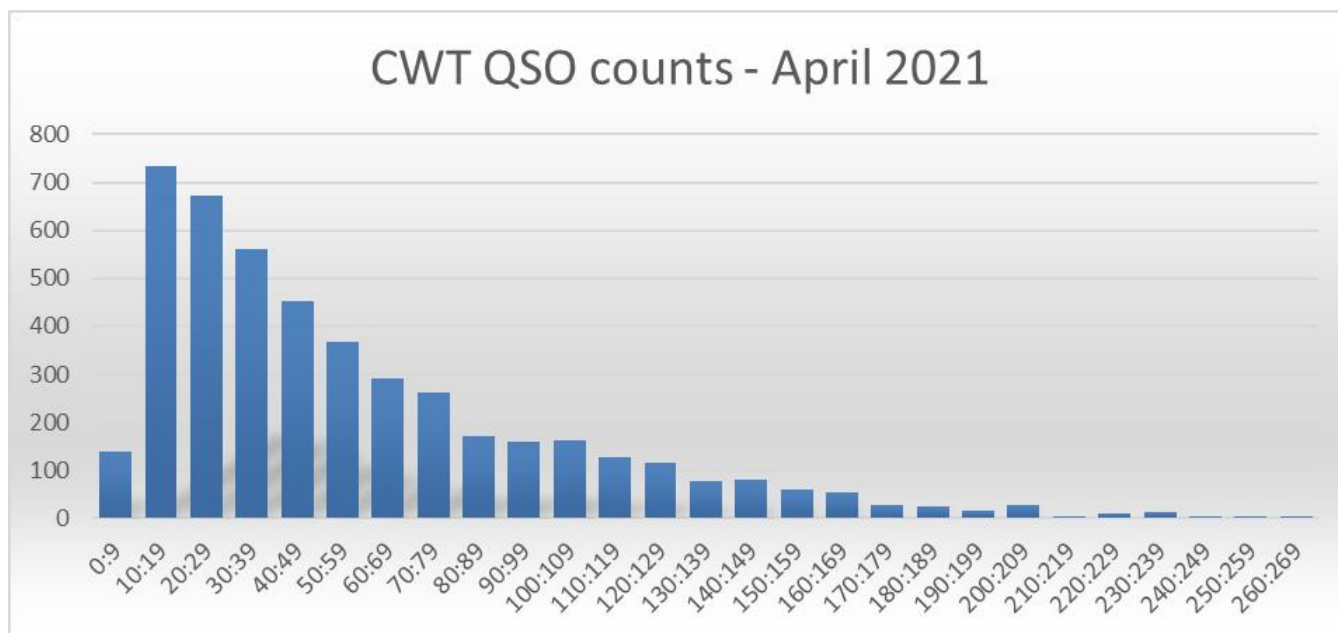


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As for the rest of the world, we typically see three or four stations; actually, three or four individual active members, plus a smattering of others who show up very rarely. Perhaps when the solar cycle starts picking up and we get better propagation, the CWTs will become more interesting for distant DX stations.

The distribution of entries by number of QSOs made is informative as well. Looking at the listings at 3830scores.com, we see the leaders making large numbers of contacts, up to a high of 268 QSOs reported in both February and April, but these high numbers are not representative of the typical CWT participant. As you can see from the graph, the distribution of reported numbers of QSOs made is heavily skewed towards the lower end of the range.



One-quarter of the reported scores in April were for 23 or fewer QSOs, half of the reported QSO counts were below 45, and three-quarters of the participants reported fewer than 80 QSOs per session. Clearly the great majority of CWTers are not in it to try to beat the top guns. They are competing against their own past scores, or against friends in similar circumstances, or simply enjoying the action without much concern for scores.

Indeed, it is not hard to see that the high scores would not be possible if it were not for the large numbers of rank-and-file participants. So don't let those huge scores at the top of the listings intimidate you; if your score seems modest by comparison, you are far from alone. Without all of you, the CWTs would not be a success.

Stay safe, and keep enjoying the CWTs!

73,

Rich, VE3KI

New Members

Trung Nguyen W6TN

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

CWops	Call	Name
2882	K8BB*	Don
2883	KE8AQW*	Mike
2884	W6AYC*	Joe
2885	K7TQ*	Randy
2886	W6JIM*	Jim
2887	SN5J/SP5JXK	Jan
2888	KC0INP*	Tom
2889	HB9DHG	Fulvio

CWops	Call	Name
2890	PA0ABM*	Wino
2891	OK2QA	Ruda
2892	W3BG*	Jim
2893	K7TW*	Fred
2894	W7RIP	Rip
2895	M0XUU*	Pan
2896	GW0KRL/GW7APP/MW9W*	Ian
2897	PA2ST*	Ben

CWops	Call	Name
2898	JJ1FXF*	Hiro
2899	WB8YHD*	Frank
2900	KX3H*	Tony
2901	W9CF*	Kevin
2902	N0HOV*	Joe
2903	WB4SON*	Bob
2904	K9DR	Dan
2905	K5XQ*	Buddy

*Life Member

Current Nominees

As of May 8, 2021: **Need Sponsors:** K7ENH, W0SUZ, K7TRT
Invitations Extended: SM2M/SM2LIY

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.
- Some members have recently been unable to fully access some of the membership pages that display Google Sheets (member roster, etc.) using a variety of web browsers. But for many, the Google Sheet displays correctly if they access the page using the web browser in private browsing mode.

73,

Trung W6TN, Membership Manager



CWops Member Awards

[Bill Gilliland W0TG](#)

The Annual Competition Award (ACA) is based on the number of members worked each calendar year. You get one point per member worked, once per year. It resets to zero at the beginning of each year. The Cumulative Member Award (CMA) is based on how many members you've worked since January 3, 2010 on each band and continues to grow in perpetuity. [Use the new online tool to submit your data.](#) It's easy! (Watch the tutorial if you have not used the online tool before.)

This table is a composite of scores from the old system and the new. Anyone who submitted logs via the new web page will see those submitted scores here. Those who have not adopted the new process will see scores they reported via the old system. Anyone who see errors in their scores should report them to cwopscam@w0tg.com.

Members whose call signs are in **RED** have achieved a milestone: 100 DX entities, 40 WAE entities, 50 states (WAS).

Call	ACA	CMA	Call	DX	Call	WAS	Call	WAE	Call	WAZ
AA3B	1302	10622	W1RM	208	WT9U	50	W1RM	59	UR5MM	39
K3WW	1270	8227	F6HKA	195	WT2P	50	UR5MM	59	W1RM	38
N5RZ	1115	6556	DL6KVA	165	WF7T	50	DL6KVA	58	OK1RR	38
NA8V	1073	6345	W4VQ	157	WA9LEY	50	OH2BN	55	OH2BN	38
K3WJV	1045	5901	UR5MM	154	WA4JUK	50	F6HKA	54	N8BJQ	38
KG9X	977	4312	G4BUE	149	WA2USA	50	VE3KI	50	F6HKA	38
K1VUT	976	4073	OH2BN	148	W9ILY	50	DJ1YFK	50	AA3B	38
VE3KI	952	6389	OK1RR	143	W8XC	50	OK1RR	49	9A1AA	38
N7US	939	4779	VE3KI	135	W7GF	50	9A1AA	49	W4VQ	37
AC6ZM	923	3229	W9ILY	129	W6KY	50	G4BUE	47	VE3KI	37
K3JT	913	4186	K1SM	128	W4WF	50	AA3B	47	G4BUE	37
K7QA	903	3947	N8BJQ	127	W4VQ	50	N8BJQ	46	W9ILY	36
W1RM	894	7277	AA3B	126	W4ER	50	K3WW	46	W0VX	36
WT9U	891	4579	K3WW	125	W1UU	50	GW0ETF	46	N6WM	36
W4WF	869	3273	K1ESE	123	W1RM	50	G4HZV	46	N5RZ	36
K4WW	851	3673	W0VX	119	W0TG	50	W9ILY	45	N5PHT	36
F6HKA	843	6652	9A1AA	119	W0EJ	50	SM0HEV	45	K3WW	36
NA4J	842	2784	AC4CA	118	W0CP	50	PG4I	45	K1SM	36
N1DC	814	3962	N5IR	117	VK7CW	50	K3WJV	45	DL6KVA	36
WT3K	798	2951	N5RZ	115	VE3TM	50	IN3FHE	45	AC4CA	36
W8FN	796	3124	N5PHT	114	VE3KI	50	W4VQ	44	N5RR	35
K3PP	793	4068	N1EN	113	NU7Y	50	NA8V	44	KR2Q	35
K6NR	790	3128	KR2Q	112	NN4K	50	KR2Q	44	K1ESE	35
N8BJQ	788	6771	EA8OM	111	NA8V	50	K3PP	44	GW0ETF	35
AA5JF	786	1802	GW0ETF	109	NA6O	50	K1ESE	44	UT3UZ	34
K8AJS	770	3700	K3WJV	107	N8BJQ	50	IK0YVV	44	ON4CAS	34
N4ZR	758	3857	W1UU	106	N7WY	50	SM7IUN	43	NA8V	34

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Call	ACA	CMA	Call	DX	Call	WAS	Call	WAE	Call	WAZ
KR2Q	758	2804	NA8V	106	N7US	50	N5RZ	43	N1EN	34
DL6KVA	739	4680	N2UU	106	N5RZ	50	N2UU	43	IK0YVV	34
I2WIJ	736	2757	4X6GP	106	N5RR	50	M0RYB	43	4X6GP	34
K2TW	735	2865	VK7CW	105	N5PHT	50	K1SM	43	VK7CW	33
K9WX	719	3777	N5RR	105	N5IR	50	I5EFO	43	N5IR	33
N2UU	713	4697	N7US	104	N4ZR	50	G3LDI	43	K0VBU	33
W9ILY	707	5171	I5EFO	103	N2UU	50	DL5DBY	43	I5EFO	33
WN7S	699	2892	IK0YVV	101	N2RC	50	DK9PY	43	W1UU	32
AC3BU	692	2863	AE1T	101	N1EN	50	4X6GP	43	N7US	32
KC7V	670	4345	K3PP	100	N1DC	50	N5RR	42	N1DG	32
WA4JUK	659	3030	ON4CAS	99	KY7M	50	N5IR	42	KC7V	32
VE3TM	659	1970	K8AJS	99	KU7Y	50	LB6GG	42	I5IYJ	32
K8JQ	649	4170	EA1WX	99	KR2Q	50	K8AJS	42	DK9PY	32
AF4T	646	1682	WT9U	98	KE4S	50	K3JT	42	WA9LEY	31
K1DJ	641	3472	UT3UZ	98	KC7V	50	G3YLA	42	W0CP	31
K3ZA	635	1286	K0VBU	98	K9WX	50	F5SGI	42	RM2D	31
WW3S	603	1114	N6WM	96	K9OZ	50	EA8OM	42	NG7M	31
G3XTT	598	1975	WA9LEY	95	K8JQ	50	EA4OR	42	N2UU	31
EA4OR	598	1507	N4ZR	93	K8AJS	50	AC4CA	42	SM0HEV	30
W1AJT	582	1193	IN3FHE	92	K7QA	50	SQ9S	41	OK1RP	30
K1EBY	579	3168	SM0HEV	91	K6NR	50	OZ3SM	41	NA6O	30
K6KM	575	1694	K1DJ	91	K6KM	50	N1EN	41	N7RD	30
GW0ETF	574	3342	DK9PY	91	K5IX	50	HB9ARF	41	N2RC	30
W2NRA	574	2288	K3JT	90	K5CM	50	G4NVR	41	KR3E	30
W3WHK	573	2457	K1DW	89	K5AX	50	G3XTT	41	K8AJS	30
NJ3K	570	2141	NG7M	88	K4WW	50	DF7TV	41	K3WJV	30
WS1L	569	1798	N7WY	88	K4TZ	50	W0VX	40	WT9U	29
K1SM	567	3395	DJ1YFK	88	K4GM	50	UW7LL	40	WF7T	29
NR3Z	567	1811	N2RC	87	K3WW	50	RT5P	40	OZ3SM	29
K4TZ	555	2047	N1DG	87	K3WJV	50	RM2D	40	N4ZR	29
K1ESE	553	4705	F6JOE	87	K3SEN	50	N4ZR	40	KT5V	29
N4FP	553	1753	N7RD	86	K3JT	50	M10WWB	40	K3JT	29
NF8M	553	1473	KY7M	86	K2QB	50	M0DHP	40	K1DW	29
LB6GG	548	1803	KR3E	86	K1VUT	50	K1DJ	40	IT9VDQ	29
KE8G	547	2892	KC7V	86	K1ESE	50	I2WIJ	40	9A2AJ	29
KV8Q	540	2059	RM2D	85	K1EBY	50	G4ILW	40	W4WF	28
W0VX	535	4690	PG4I	85	K1DW	50	G4DRS	40	N5AW	28
VE3MV	528	2577	CT1DRB	85	K1DJ	50	SP2R	39	K7QA	28
W6LAX	519	1539	N1DC	84	K0VBU	50	SM2CEW	39	K6NR	28
OZ3SM	517	1858	I5IYJ	83	K0MP	50	PA3HEN	39	K5ZD	28

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Call	ACA	CMA	Call	DX	Call	WAS	Call	WAE	Call	WAZ
K0TC	515	2458	G3LDI	83	IK0YVV	50	LA8OM	39	I2WIJ	28
W1UU	513	3584	AD1C	83	I5EFO	50	K5ZD	39	DJ1YFK	28
AF5J	511	1027	K9WX	82	GW0ETF	50	IT9MUO	39	DF7TV	28
N2WK	509	3059	K5ZD	82	G4BUE	50	G3WZD	39	WE5P	27
K2YR	509	1388	OZ3SM	81	F6JOE	50	AE1T	39	N7WY	27
WA2USA	504	1471	K4HQB	81	F6HKA	50	WT9U	38	KJ9C	27
KT5V	498	2684	WA4JUK	80	F5MNK	50	WT3K	38	K4GM	27
9A1AA	471	3417	W0CP	80	EA8OM	50	WA4JUK	38	K3PP	27
KT4XN	465	1697	NA6O	80	DL6KVA	50	UT3UZ	38	IN3FHE	27
KA1YQC	465	816	K5AX	79	DK9PY	50	SP1D	38	G3XTT	27
K4GM	464	3113	DL8PG	79	AF5J	50	PA5KT	38	WT2P	26
W0TG	461	2159	N2WK	78	AE1T	50	N1DC	38	WA4JUK	26
SM0HEV	457	1582	KJ9C	78	AD1C	50	IT9VDQ	38	PG4I	26
KB4DE	447	1338	K1EBY	78	AC4CA	50	EA3FZT	38	N1ZX	26
AG4EA	447	1271	G3XTT	78	AB7MP	50	DM6EE	38	KU7Y	26
DF7TV	443	1244	N1ZX	77	AA8TA	50	DK1WI	38	K9WX	26
W2VM	428	1930	K4GM	77	AA3B	50	CT1DRB	38	K9OZ	26
K5YZW	428	1069	IT9VDQ	77	WT3K	49	AC3BU	38	K5CM	26
M0RYB	426	1469	I2WIJ	77	WN7S	49	SV2BBK	37	K4WW	26
AA8R	415	1283	G4HZV	77	WB5BKL	49	SM5IMO	37	K4HQB	26
W1EQ	403	1281	DL5DBY	77	WA5LXS	49	PA3BFH	37	K2QB	26
PA5KT	402	1636	WT2P	76	WA3GM	49	N1DG	37	K1EBY	26
KM4FO	393	1671	WF7T	76	W8FN	49	KR3E	37	K1DJ	26
W8OV	390	1769	SM7IUN	76	W8DN	49	K3MD	37	G4DRS	26
CO8NMN	385	2553	KE8G	76	W4PM	49	K1VUT	37	CT1DRB	26
UR5MM	384	3155	KE4S	76	W4NBS	49	K1DW	37	V31MA	25
WA5LXS	384	1599	K7QA	76	W3WHK	49	F6JOE	37	UW7LL	25
N5IR	374	4002	K4WW	75	W2VM	49	F5IYJ	37	SM7IUN	25
W4NBS	352	1771	HB9ARF	75	W2NRA	49	EA5IUY	37	SM2CEW	25
F5SGI	352	739	LA8OM	74	W0VX	49	DL4KG	37	PA5KT	25
OK1RR	348	3044	KG9X	73	VE3MV	49	W1UU	36	LA8OM	25
N4CWZ	348	947	K2QB	73	VA7ST	49	PF5X	36	KE8G	25
N4KO	348	718	IT9MUO	73	OK1RR	49	ON4VT	36	IT9MUO	25
HB9ARF	343	1973	G4NVR	73	NJ3K	49	N2WK	36	HB9ARF	25
K3SEN	339	2197	LB6GG	72	NG7M	49	EA1WX	36	G3WZD	25
DK9PY	335	2910	WE5P	71	NA4J	49	9A2AJ	36	G3LDI	25
G3WZD	335	1000	W4WF	71	N7RD	49	PA7RA	35	EA4OR	25
K9OZ	321	2837	VE3MV	71	N6WM	49	ON4CAS	35	DK1WI	25
G4HZV	320	1472	M0RYB	71	N5AW	49	N7WY	35	W0TG	24
G3SZU	320	485	KT5V	71	N2WK	49	N7US	35	SP1D	24

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Call	ACA	CMA	Call	DX	Call	WAS	Call	WAE	Call	WAZ
W4ER	318	1665	K4HR	71	N1ZX	49	K0VBU	35	PY4XX	24
NN4K	316	2311	K1VUT	71	KV8Q	49	G4LPP	35	NA4J	24
G3LDI	312	1853	G3WZD	71	KT5V	49	DD7CW	35	N2WK	24
W2CDO	310	949	DK1WI	71	KM4FO	49	VE3TM	34	N1DC	24
KF8O	305	1176	DF7TV	71	KK0ECT	49	VE3MV	34	KG9X	24
AA8TA	303	2029	W2NRA	70	KJ9C	49	N5AW	34	DL4FDM	24
K9CPO	300	709	N5AW	70	KG9X	49	M0NGN	34	WW3S	23
N5XE	294	1693	G4DRS	70	KE8G	49	KG9X	34	WT3K	23
KB8GAE	294	1444	SQ9S	69	KE4RG	49	KE8G	34	SQ9S	23
G4PIQ	292	479	WT3K	68	KC8J	49	K7QA	34	LB6GG	23
W2XYZ	285	944	SM2CEW	68	KB4DE	49	K4HQB	34	KE4S	23
K5QR	280	1456	F5MKN	68	K6RB	49	K1EBY	34	K8JQ	23
KC8J	276	1320	EA4OR	68	K6DGW	49	IK1YRA	34	K4HR	23
SP1D	276	1147	W3WHK	67	K5ZD	49	IK0NOJ	34	G4NVR	23
W4VQ	274	3165	UW7LL	67	K5QR	49	G4PIQ	34	G4HZV	23
WA5PFJ	265	861	AC3BU	67	K4HR	49	DL4FDM	34	AC3BU	23
W7GF	264	1238	9A2AJ	67	K4EES	49	W4WF	33	AA5JF	23
AI60	262	2012	PA5KT	66	K4AFE	49	W4PM	33	W7GF	22
SQ9S	262	1013	NA4J	66	K3PP	49	W2NRA	33	W2NRA	22
W8XC	260	879	VA7ST	65	K3MD	49	PY4XX	33	VE3TM	22
KE6K	253	1090	V31MA	65	K2TW	49	N6WM	33	M0RYB	22
EA5IUY	252	801	OK1RP	65	K1SM	49	KC7V	33	KO8SCA	22
K4EES	249	919	F5IYJ	65	K0TC	49	K4WW	33	K6KM	22
RT5P	246	533	CO8NMN	65	EA4OR	49	CO8NMN	33	K5QR	22
W8DN	245	1511	SM5IMO	64	AI60	49	NR3Z	32	K1VUT	22
G4NVR	238	1408	K9OZ	64	AF4T	49	NJ3K	32	DL4KG	22
KE4S	237	2450	M0DHP	63	AC6ZM	49	N2RC	32	AF4T	22
DJ1YFK	235	2049	K3SEN	63	AC3BU	49	KY7M	32	AA8R	22
W0CP	234	2163	K3DMG	63	9A1AA	49	KJ9C	32	WN7S	21
PA3HEN	234	556	AA8R	63	WW3S	48	KE4S	32	W4PM	21
EA3FZT	230	921	WN7S	62	WM6Y	48	K5QR	32	W4NBS	21
N7SU	227	677	K8JQ	62	W8OV	48	K4GM	32	VA7ST	21
WU6P	222	449	VE3TM	61	W6LAX	48	I5IYJ	32	PA7RA	21
WB5BKL	216	1528	SP1D	61	W1AJT	48	F5MKN	32	NR3Z	21
PF5X	216	635	ON4VT	61	UR5MM	48	DL1NKB	32	NN4K	21
NU7Y	215	1636	K5CM	61	NR3Z	48	DK3WW	32	M0DHP	21
KE4RG	214	1218	W4PM	60	N5XE	48	AA5JF	32	K6DGW	21
M0NGN	214	398	PY4XX	60	N4FP	48	W3WHK	31	K3SEN	21
SM7IUN	212	991	NR3Z	60	KT4XN	48	W1AJT	31	DM6EE	21
K8RJW	211	771	DM6EE	60	KR3E	48	VK7CW	31	DL5DBY	21

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Call	ACA	CMA	Call	DX	Call	WAS	Call	WAE	Call	WAZ
W6TN	206	1038	DL4FDM	60	KO8SCA	48	V31MA	31	CO8NMN	21
PY4XX	199	940	W4NBS	59	KE6K	48	OK1RP	31	AC6ZM	21
4X6GP	191	1879	KO8SCA	59	KB8GAE	48	N1ZX	31	W4ER	20
N1EN	179	2539	G4ILW	59	KA9BHD	48	KO8SCA	31	W3WHK	20
W6GMT	177	499	PA7RA	58	K4QS	48	K5AX	31	VE3MV	20
NA8Q	174	184	NN4K	58	K4HQK	48	DL8PG	31	K2TW	20
VE6JF	173	994	AA5JF	58	K3ZA	48	DF4ZL	31	JF2IWL	20
AB7MP	172	1362	M0NGN	57	K3DMG	48	AC6ZM	31	F5IYJ	20
F5IYJ	172	814	K6NR	57	IT9VDQ	48	WS1L	30	AI60	20
DL4KG	158	532	K4QS	57	IT9MUO	48	WN7S	30	PF5X	19
M10WWB	155	649	F5SGI	57	I2WIJ	48	WA9LEY	30	NJ3K	19
SV2BBK	154	471	W6KY	56	EA1WX	48	W0CP	30	N5XE	19
VA3DKL	154	183	PF5X	56	DL8PG	48	NG7M	30	M0NGN	19
G4LPP	142	689	K6RB	56	AF3K	48	NA6O	30	KV8Q	19
K1IG	142	363	K2TW	56	AA5JF	48	N5PHT	30	KB8GAE	19
M0DHP	140	673	G3YLA	56	4X6GP	48	K3SEN	30	K0TC	19
N7RD	133	1478	W2VM	55	WT8P	47	K2TW	30	BD6OT	19
W2TT	132	574	W0TG	55	WS1L	47	G3SZU	30	WM6Y	18
K0MP	131	1793	K0TC	55	WE5P	47	G0ELZ	30	WB5BKL	18
NG7M	128	3923	DL4KG	55	W6TN	47	DL5JQ	30	WA3GM	18
KJ4M	117	1265	AC6ZM	55	W2NO	47	AF4T	30	W8OV	18
PG4I	114	884	W8DN	54	W1EQ	47	AA8R	30	W8FN	18
DL1NKB	98	219	NJ3K	54	VE6JF	47	NA4J	29	W8DN	18
N5KB	90	296	K5QR	54	VE1OP	47	N7RD	29	ON4VT	18
M8A	90	127	EA3FZT	54	SM5IMO	47	KA1YQC	29	NU7Y	18
DM6EE	84	855	W8FN	53	PY4XX	47	K9WX	29	KE6K	18
N1DG	80	549	M10WWB	53	ON4CAS	47	K4QS	29	K4AFE	18
K4AFE	79	1922	KT4XN	53	OH2BN	47	K2QB	29	IK0NOJ	18
G4DRS	78	1353	W8XC	52	NF8M	47	WT2P	28	EA3FZT	18
G4BUE	70	3876	IK0NOJ	52	LA8OM	47	WF7T	28	W8XC	17
G0ELZ	70	263	AF4T	52	KY0Q	47	SV9RNG	28	W2VM	17
AJ1DM	67	924	KV8Q	51	KJ4M	47	NN4K	28	SV2BBK	17
OH2BN	58	1334	KU7Y	51	KF8O	47	K8JQ	28	SM5IMO	17
AA0YY	58	62	K4AFE	51	K2YR	47	K4HR	28	N4FP	17
WT8P	52	549	RT5P	50	I5IYJ	47	AD1C	28	M10WWB	17
SP2R	42	555	WS1L	49	HB9ARF	47	WW3S	27	KT4XN	17
WE5P	40	1236	KB8GAE	49	G4HZV	47	WE5P	27	KP4AF	17
BD6OT	25	130	WW3S	48	DK1WI	47	W8FN	27	KK0ECT	17
G4ILW	22	815	SV2BBK	48	CO8NMN	47	W2VM	27	K5YZW	17
W3RZ	16	485	PA3HEN	48	AJ1DM	47	VA7ST	27	K0MP	17

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Call	ACA	CMA	Call	DX	Call	WAS	Call	WAE	Call	WAZ
AA0O	7	487	N3FZ	47	AG4EA	47	SV2BXA	27	G4ILW	17
K4NE	6	90	G4LPP	47	AA8R	47	N4FP	27	F5SGI	17
PG9HF	6	51	EA5IUY	47	WU6P	46	W8DN	26	DK3WW	17
LB2TB	4	4	W8OV	46	WA5PFJ	46	W2CDO	26	AF3K	17
IK1YRA	3	318	W4ER	46	W2XYZ	46	W1EQ	26	WS1L	16
G0DJA	2	31	N5XE	46	W2CDO	46	K3DMG	26	WA5LXS	16
AC4CA	0	4479	DK3WW	46	V31MA	46	GW4MVA	26	WA2USA	16
N5PHT	0	4303	AI60	46	UW7LL	46	G0MGM	26	W6TN	16
K0VBU	0	4266	PA3BFH	45	SP1D	46	PA0INA	25	VE6JF	16
K1DW	0	4250	N4FP	45	SM0HEV	46	M8A	25	NF8M	16
N5RR	0	4223	G0MGM	45	RM2D	46	K6NR	25	N3FZ	16
K6RB	0	4032	AF3K	45	PA5KT	46	N1RM	24	KM4FO	16
KJ9C	0	3968	SP2R	44	OZ3SM	46	KT5V	24	KB4DE	16
K5AX	0	3634	DD7CW	44	N4KO	46	KT4XN	24	AJ1DM	16
WT2P	0	3586	WB5BKL	43	N7SU	46	K6RB	24	AG4EA	16
NA6O	0	3352	WA5LXS	43	N4CWZ	46	BD6OT	24	AF5J	16
N2RC	0	3271	W1AJT	43	N3FZ	46	AF3K	24	W1AJT	15
KY7M	0	3252	KA1YQC	43	N0PP	46	N3FZ	23	RT5P	15
K5ZD	0	3210	KK0ECT	42	KC4WQ	46	KV8Q	23	NG1R	15
AE1T	0	3206	KB4DE	42	KA1YQC	46	KB4DE	23	KJ4M	15
VA7ST	0	3088	WA3GM	41	K8RJW	46	K9OZ	23	KE4RG	15
WF7T	0	3060	W7GF	41	K5YZW	46	K5CM	23	KC8J	15
N7WY	0	3045	K6KM	41	JF2IWL	46	K2YR	23	KA1YQC	15
F6JOE	0	3002	K3MD	41	G4DRS	46	K0TC	23	K9CPO	15
WA9LEY	0	2990	G4PIQ	41	G3XTT	46	EA1DP	23	K2YR	15
IK0YVV	0	2958	IK1YRA	40	G3LDI	46	WA2USA	22	G4LPP	15
K5CM	0	2866	DL5JQ	40	DL5DBY	46	W4NBS	22	EA5IUY	15
EA8OM	0	2758	NG1R	39	CT1DRB	46	W0TG	22	AB7MP	15
N5AW	0	2510	BD6OT	39	AA0O	46	NG1R	22	W6LAX	14
N6WM	0	2273	AA8TA	39	W0PHX	45	N5XE	22	W2XYZ	14
K4HR	0	2212	W1EQ	38	PG4I	45	KB8GAE	22	W2TT	14
K4HQB	0	2193	WA2USA	37	ON4VT	45	DL8BH	22	W2NO	14
W4PM	0	2122	K6DGW	37	NG1R	45	AG4EA	22	W1EQ	14
K6DGW	0	2122	AG4EA	37	N5KB	45	W8XC	21	PG9HF	14
AD1C	0	2101	W0EJ	36	G4NVR	45	K9CPO	21	N7MU	14
W6KY	0	2088	NF8M	36	F5IYJ	45	JF2IWL	21	N0PP	14
K4QS	0	2069	KM4FO	36	DF7TV	45	GD4EIP	21	KF8O	14
K2QB	0	2023	DL1NKB	36	AB7RW	45	F5PBL	21	K8RJW	14
EA1WX	0	1961	W2NO	35	9A2AJ	45	W8OV	20	K4TZ	14
IT9MUO	0	1924	JF2IWL	35	W3RZ	44	K4AFE	20	K4EES	14

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Call	ACA	CMA	Call	DX	Call	WAS	Call	WAE	Call	WAZ
VK7CW	0	1809	G3SZU	35	SM7IUN	44	WB5BKL	19	G3YLA	14
DL8PG	0	1789	AJ1DM	35	SM2CEW	44	W2XYZ	19	AA8TA	14
K3DMG	0	1773	W2CDO	34	N7MU	44	N4KO	19	W3RZ	13
K3MD	0	1734	K2YR	34	N4GL	44	WA5PFJ	18	W2CDO	13
KU7Y	0	1674	G0ELZ	34	M0RYB	44	WA3GM	18	PA3HEN	13
IT9VDQ	0	1618	W6TN	33	LB6GG	44	W6KY	18	PA3BFH	13
KR3E	0	1602	SV9RNG	33	KH6TU	44	W2NO	18	N4KO	13
KO8SCA	0	1556	KP4AF	33	KD2KW	44	VE1OP	18	KH6TU	13
V31MA	0	1520	K9CPO	33	K9CPO	44	NF8M	18	G3SZU	13
I5EFO	0	1447	K5YZW	33	K1IG	44	G4RCG	18	DD7CW	13
DL5DBY	0	1417	K4TZ	33	W6GMT	43	AJ1DM	18	AB7RW	13
SM5IMO	0	1382	WM6Y	32	SQ9S	43	W4ER	17	WT8P	12
LA8OM	0	1370	W2TT	32	N5KW	43	PA0VLD	17	WA5PFJ	12
UW7LL	0	1362	VE1OP	32	N1RM	43	N4GL	17	KA9BHD	12
N1ZX	0	1348	KF8O	32	KI3F	43	KF8O	17	K3ZA	12
RM2D	0	1332	K4EES	32	G3WZD	43	K8RJW	17	K1IG	12
WM6Y	0	1308	DF4ZL	32	DJ1YFK	43	WA5LXS	16	AA0O	12
KK0ECT	0	1275	AF5J	32	UT3UZ	42	W2TT	16	W0PHX	11
IN3FHE	0	1253	NU7Y	31	N7ID	42	K6KM	16	SP2R	11
WA3GM	0	1230	N4KO	31	IN3FHE	42	K5YZW	16	N7SU	11
CT1DRB	0	1146	SV2BXA	30	W2TT	41	K1IG	16	N4GL	11
N3FZ	0	1143	KE4RG	30	G3YLA	41	KU7Y	15	KY0Q	11
ON4CAS	0	1131	KC8J	30	DL4FDM	41	KE4RG	15	KC4WQ	11
SM2CEW	0	1114	WA5PFJ	29	PF5X	40	AF5J	15	IK1YRA	11
F5MNK	0	1111	W2XYZ	29	NA1VT	40	AA8TA	15	G4PIQ	11
UT3UZ	0	1035	K8RJW	29	KR4WI	40	K4TZ	14	WU6P	10
AF3K	0	983	W6LAX	28	F5SGI	40	K4EES	14	SV9RNG	10
W2NO	0	961	N4GL	28	EA3FZT	40	K0MP	14	KI3F	10
DK1WI	0	908	KE6K	28	WA5BDU	39	PG9HF	13	K1OJ	10
K5IX	0	892	KA9BHD	28	DM6EE	39	KM4FO	13	GD4EIP	10
G3YLA	0	884	GW4MVA	28	DL4KG	39	KC8J	13	G0ELZ	10
9A2AJ	0	841	EA1DP	28	W4MDV	38	K3ZA	13	DL8BH	10
I5IYJ	0	837	W3RZ	27	NA8Q	38	WM6Y	12	DL5JQ	10
NG1R	0	828	K0MP	27	K1LHO	38	W6LAX	12	DL1NKB	10
VE1OP	0	768	DL8BH	27	WB4OMM	37	KP4AF	12	W6GMT	9
KA9BHD	0	755	PG9HF	26	W9KM	37	KK0ECT	12	SV2BXA	9
W0EJ	0	754	PA0INA	26	VA3DKL	37	KI3F	12	N7ID	9
KY0Q	0	752	N1RM	26	PA7RA	37	K6DGW	12	N1RM	9
ON4VT	0	719	N0PP	26	NF5KF	37	AA0O	12	KG5VK	9
OK1RP	0	701	M8A	26	KB8PGW	37	ON6PJ	11	F5PBL	9

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Call	ACA	CMA	Call	DX	Call	WAS	Call	WAE	Call	WAZ
KC4WQ	0	694	GD4EIP	26	IK0NOJ	37	KJ4M	11	WX5CW	8
JF2IWL	0	674	F5PBL	26	EA5IUUY	37	KA9BHD	11	WB4OMM	8
DL4FDM	0	646	K1IG	25	DD7CW	37	G0DJA	11	W4MDV	8
N5KW	0	639	K5IX	24	MI0WWB	36	W7GF	10	NA1VT	8
KH6TU	0	631	AB7MP	24	M0DHP	36	W6TN	10	KD2KW	8
N4GL	0	574	VE6JF	23	DK3WW	36	W3RZ	10	G4RCG	8
N0PP	0	550	NF5KF	22	OK1RP	35	W0EJ	10	EA1DP	8
N7MU	0	536	KJ4M	22	GD4EIP	35	NF5KF	10	AA0YY	8
PA7RA	0	518	K3ZA	22	G0MGM	35	NA1VT	10	SM7CIL	7
G0MGM	0	495	G4RCG	22	W8EH	34	N5KW	10	OK4MM	7
DK3WW	0	491	AA0O	21	G4LPP	34	VE6JF	9	N5KW	7
N1RM	0	490	KI3F	18	KI7RS	33	SM7CIL	8	N5KB	7
PA3BFH	0	477	KC4WQ	18	KG5VK	33	N0PP	8	KI7RS	7
DD7CW	0	472	W0PHX	17	G4PIQ	33	KD2KW	8	GW4MVA	7
W0PHX	0	426	PA0VLD	17	G4ILW	33	K5IX	8	VA3DKL	6
KD2KW	0	413	N7MU	16	M0NGN	32	AI60	8	PA0INA	6
DL5JQ	0	381	AB7RW	16	G3SZU	32	NU7Y	7	N4CWZ	6
IK0NOJ	0	366	NA1VT	14	SV2BBK	30	KG5VK	7	KR4WI	6
N7ID	0	311	N7SU	14	PA3HEN	30	OK4MM	6	K4NE	6
KI3F	0	308	N5KW	14	PA3BFH	29	K1LHO	6	G0DJA	6
NA1VT	0	306	G0DJA	14	K8MP	29	N7SU	5	DF4ZL	6
AB7RW	0	302	KY0Q	13	KG5U	28	N4CWZ	5	WA5BDU	5
NF5KF	0	289	KH6TU	13	K4NE	28	KE6K	5	W9KM	5
KB8PGW	0	284	WT8P	12	IK1YRA	28	KC4WQ	5	PA0VLD	5
KR4WI	0	255	ON6PJ	12	G4RCG	28	AB7MP	5	NA8Q	5
WA5BDU	0	243	KD2KW	12	SP2R	27	W6GMT	4	M8A	5
W9KM	0	236	WU6P	11	DL5JQ	27	NA8Q	4	K1LHO	5
W4MDV	0	225	W6GMT	11	AA0YY	27	LB2TB	4	W8EH	4
SV2BXA	0	211	SM7CIL	11	G0ELZ	25	AB7RW	4	ON6PJ	4
GD4EIP	0	199	KG5VK	11	N1DG	24	WT8P	3	KM3A	4
K1LHO	0	192	K1OJ	11	SV9RNG	23	W0PHX	3	LB2TB	3
GW4MVA	0	192	WX5CW	10	AF9W	23	KY0Q	3	KG5U	3
DF4ZL	0	177	WB4OMM	10	KP4AF	22	KR4WI	3	K8MP	3
WB4OMM	0	169	OK4MM	10	DL1NKB	21	VA3DKL	2	DD5KG	3
SV9RNG	0	164	N7ID	9	WX5CW	20	N7MU	2	AF9W	3
KG5VK	0	163	N4CWZ	9	RT5P	19	N7ID	2		
W8EH	0	149	W4MDV	8	GW4MVA	18	N5KB	2		
F5PBL	0	134	K1LHO	8	KM3A	17	KB8PGW	2		
G4RCG	0	131	NA8Q	7	SV2BXA	13	K4NE	2		
EA1DP	0	131	N5KB	7	SM7CIL	13	DD5KG	2		

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Call	ACA	CMA	Call	DX	Call	WAS	Call	WAE	Call	WAZ
DL8BH	0	115	AA0YY	7	OK4MM	13	AA0YY	2		
KI7RS	0	110	VA3DKL	6	F5PBL	13	WX5CW	1		
KG5U	0	93	KR4WI	6	EA1DP	13	WU6P	1		
K8MP	0	89	KI7RS	6	DL8BH	11	WA5BDU	1		
KP4AF	0	88	K4NE	6	PG9HF	10	W9KM	1		
PA0INA	0	86	KB8PGW	5	DD5KG	10	W4MDV	1		
AF9W	0	59	W9KM	4	BD6OT	10	KM3A	1		
WX5CW	0	49	LB2TB	4	G0DJA	7	K1OJ	1		
OK4MM	0	40	DD5KG	4	DF4ZL	7				
PA0VLD	0	37	WA5BDU	3	PA0INA	3				
SM7CIL	0	35	W8EH	3	K1OJ	3				
KM3A	0	33	KM3A	2	PA0VLD	2				
K1OJ	0	29	KG5U	2	ON6PJ	2				
ON6PJ	0	21	K8MP	2	M8A	1				
DD5KG	0	18	AF9W	2						

QTX Report

Enjoying the Art of Conversational CW

Bruce Murdock K8UDH

Many of the comments from our QTX ragchewers have a common thread, like conversational CW with good friends, and how much those experiences add to the thrill and joy of CW. All ragchew QSOs are fun, to be sure, but when you can have a nice long conversation with good friends, it's special, very special. Here are a few highlights. "Rag-chewing with my friends is a wonderful experience," and "Enjoying skeds with 'old' ham buddies, many from college days," and "Ragchew QSOs with good friends are the best." In my case, many of my ragchewing friends are from my Advanced CW Classes.

I received a question recently asking if I had ever heard about a "rag chewer watering hole." It's an interesting idea. My response was "I have not, but I sure would like to know if there is one. It would be great if we could have multiple watering holes, one for each HF band."

An examination of several CW club websites revealed quite a few calling frequencies, but I didn't see anything specifically for ragchew QSOs. Did I miss something? If so, please let me know. K8UDH@arrl.net Thanks.

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We have lots of interesting comments this month. Take a look.

Comments from QTX Submissions

- **MIOWWB:** Thanks to those who rag chewed with me.
- **K6DGW:** More time this month. One of the QTX QSO's was conducted in American Morse [hoping it counts] and was one of the longer ones because neither of us is very good at AM. My QSO partner is not a CWops member.
- **N6HCN:** Enjoyed two 90+ minute QTX with Phil W0OJ, 40m seems to have been kinder this month.
- **AC8RG:** All of my contacts this month were great. My longest QTX was with fellow CWops member and it was for 50 minutes. I spent a total of 8 hours 35 minutes rag chewing this month with folks.
- **W9EBE:** Not a lot of QSOs this month, but I still enjoyed getting on-the-air when I could, and I had some very nice ragchews!
- **KK5NA:** Had a nice, but noisy (with Thunderstorms near) QSO with Bruce K8UDH.
- **N8AI:** It turns out KO5Q Roger in GA knows Tom Frazee very well, who was an active ham in the Royal Omani Amateur Radio Society of Muscat when we lived there in the 1990's. Small World!
- **F5IYJ:** Some nice opening on 10m between Western Europe and South America gave opportunities for unexpected chats.
- **M0MUI:** I have made efforts to arrange ragchewing practice this month and really enjoying it.
- **N0BM:** Always pleasure to learn of the professional and personal diversity of amateurs. This month: retired ship op preparing for MRD; immunology research scientist at NIH; one time town defense attorney and club pro, residing at the club. Fellow members discussing antennas for small yards and testing a new horizontal loop for the next CWT test. Thanks to Bruce for managing this component of CWOPS
- **AA5AD:** Most of my operating time this month was during very poor band condx, so some QSOs were shortened by stations completely dropping out. I really enjoyed a 25 minute rag-chew with Bill, AC3GV, who is a newcomer to CW, he did real well and likes conversational CW.
- **AA0YY:** KA2GSM, Carl, 79 yrs young and rides a Honda 750 around the mountains in NC.
- **AJ1DM:** Rag-chewing with my friends is a wonderful experience. 73 de John AJ1DM

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- **W3WHK:** Hope all's well with you, Bruce.
- **G3WZD:** It's not often I can claim a QTX, but this month I had a most enjoyable (QRM and QSB notwithstanding) 30 minute QSO with Mui, M0MUI
- **VA3DKL:** Not too many ragchews this month, but I had a really nice one (QRP) out in the backyard on a nice sunny afternoon! I hope for more of those as the weather and conditions improve!
- **N2DA:** Enjoying skeds with 'old' ham buddies, many from college days!
- **K8UDH:** Most of my QTX QSOs last month were with friends from my Advanced CW Classes. Ragchew QSOs with good friends are the best. Great fun.
- **KB6NU:** My QTX score fell this month because I did more contesting. :(

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

John K1ESE is leading the pack with 289 QTX QSOs, followed by Joe KC0VKN with 257, Chuck WS1L with 235, and Bruce K9OZ with 204 QTX QSOs. All of them have already qualified for a Bronze Medal after only three months. Nice job.

QTX for April 2021

Call	QTX	Call	QTX	Call	QTX	Call	QTX
WS1L	74	KB6NU	22	KG5IEE	9	GW0ETF	2
K1ESE	50	N6HCN	20	N0BM	7	KK5NA	2
N8AI	48	AA0YY	17	K6DGW	6	M0MUI	2
N5IR	41	N2DA	15	W9EBE	5	G3WZD	1
KC0VKN	38	K8UDH	14	AA5AD	4	MI0WWB	1
K9OZ	34	AJ1DM	13	K5YQF	4	VA3DKL	1
F5IYJ	27	AC8RG	11	N5LB	4	W3WHK	1
WA2USA	24	K4AHO	11	SV2BBK	3		

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MQTX for April 2021

Call	MQTX	Call	MQTX	Call	MQTX	Call	MQTX
N8AI	39	MI0WWB	14	AA5AD	7	N6HCN	2
SV2BBK	25	AC8RG	11	W9EBE	7	VA3DKL	2
WS1L	23	G3WZD	11	K8UDH	4	W3WHK	1
K6DGW	19	K1ESE	11	AJ1DM	2		
AA0YY	18	K4AHO	10	M0MUI	2		
GW0ETF	14	KG5IEE	9	N0BM	2		

2021 Totals for QTX

Call	QTX	Call	QTX	Call	QTX	Call	QTX
K1ESE	289	W9EBE	69	K6DGW	16	N3FZ	4
KC0VKN	257	K4AHO	58	N5LB	13	N5PHT	4
WS1L	235	KG5IEE	56	N0BM	11	VA3DKL	4
K9OZ	204	AJ1DM	44	EA2AJB	10	GW0ETF	3
N8AI	180	K8UDH	44	W3WHK	10	KK5NA	3
N5IR	155	K5YQF	41	W8UA	8	M0MUI	3
F5IYJ	125	N2DA	39	KF9VV	7	W1AJT	3
WA2USA	112	AA0YY	30	SV2BBK	7	K1BZ	2
KB6NU	108	AA5AD	27	GW4VXE	5	MI0WWB	2
N6HCN	76	AC8RG	27	G3WZD	4	W3PNM	2

2021 Totals for MQTX

Call	MQTX	Call	MQTX	Call	MQTX	Call	MQTX
N8AI	227	AA0YY	44	W3WHK	11	VA3DKL	6
SV2BBK	97	KG5IEE	44	K8UDH	8	AJ1DM	4
WS1L	80	K4AHO	41	KF9VV	8	N3FZ	4
K1ESE	59	G3WZD	36	N0BM	8	AB7MP	2
K6DGW	59	MI0WWB	32	K1BZ	7	M0MUI	2
W2USA	55	AC8RG	28	K5YQF	7	N5PHT	2
AA5AD	54	GW0ETF	25	W1AJT	7	W8UA	2
W9EBE	53	N6HCN	18	GW4VXE	6		

Thanks for supporting the CWops QTX Program. I hope you thoroughly enjoy CW. Comment from above -- "CW is the best social media, and no ads".

73,

Bruce K8UDH, QTX Manager



My Story: New Member Biographies

Michael Fluegemann, KE8AQW

I'd like to thank my fellow Long Island CW Members and the CWops members who sponsored my nomination (WB0JRH, N1CC, W6SX, K3ZGA). I earned my license in 2015 while studying at the University of Alabama, W4UAL, and started learning CW on my own in 2016. While studying at UA, I played clarinet in the Million Dollar Marching Band. I then got to study abroad in Sevilla, Spain where I connected with hams in the EA7URS and EA7RCS clubs. In 2017, I first took the CWA level 2 and 3 classes. While visiting the KPH land to ship telegraph station in 2018, I was able to pass the commercial radiotelegraph test. This was very exciting as I then got to key the commercial rig on the SS Jeremiah O'Brian, a liberty ship in the San Francisco Bay the next day.

In November 2019, I joined the Long Island CW Club, and volunteered to run some of their classes including a contesting class to prep for Field Day, and a technical assistance class to help our members who own a Morserino with the setup, especially having QSOs over Wi-Fi.

Besides CW I have other radio interests. This past year I finished serving as the president of the University of Michigan club, W8UM, where I completed my MSE in Electrical Engineering. I currently serve as the president of the Ford Amateur Radio League, K8UTT. In the summers I enjoy fox hunts and Field Day with my local clubs. I also enjoy participating in contests like the Michigan QSO Party, November Sweepstakes (SSB & CW), and the North America QSO Party. I have also built a few kits including the QCX, NorCal 40, and El Hisspalis designed by EA7JGZ. I also volunteer as a VE for ARRL and have assisted with over 60 online sessions with the Greater Los Angeles Amateur Radio Group (GLAARG). I highly suggest them for all your remote testing needs.

Although I am very passionate about ham radio, I have other passions as well. I volunteer as a radio merit badge instructor for the boy scouts and participate with JOTA events. I earned my Eagle Scout in 2010 and enjoy giving back. This summer I will be volunteering as an adult leader for a trip to Philmont Scout Ranch, a high adventure trip in the mountains of New Mexico. I hope to activate a couple of summits while we are there. I am also an avid sailor. This will be my 5th summer racing with some great friends in Lake Erie. Lastly, I am honored to have been selected as a 2021 Ford Thirty under 30 fellow. Through this philanthropic leadership program championed by Bill Ford, my team and I will be using the principals of design thinking to partner with a local non-profit, SER-Metro Detroit, to help better our community.

I look forward to working many of you on the air. Roll Tide!



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Jim Crites, W6JIM

I was licensed as a “No-Code Tech” In 1996 while serving in the USAF. I was granted the call KF6FCV. I did not get to use that call for a few years, because I had orders to report to Misawa Air Base in Japan.

Gordon West WB6NOA taught me all the Morse characters. I listened to his cassette tapes 24/7! As soon as I passed my 13 WPM test for my General license, I was on the air making CW QSOs as 7J7ACM.

I learned the code from Gordo, but I learned CW QSO protocol by primarily working JA stations for my first 3-years as a CW operator. That was a great CW education and the foundation of my CW journey.

In 2015, I retired from the Air Force and moved to my present QTH here in California. While in the Air Force, I was stationed at 14 different bases over 30 years. With all that moving around, I’m still working on my WAS award. That darn Delaware!

I have been a CW instructor with the Long Island CW Club for about 2-years. Over that time I have taught several hundred students basic CW characters as well CW QSO protocol.

So, why CW? The simple answer...I have more fun making CW QSOs than any other mode in ham radio. In fact, my last SSB QSO was in 2006. Maybe it was watching all those WWII movies when I was a kid. Seeing the Morse op passing crucial info to leadership. Maybe it’s the fact that it just makes sense that if I want to get the most out of my equipment, CW wins. But, as I said earlier, the simple reason is that CW is just more fun!

Interesting thing about me. When I learned CW I didn’t know to wire my paddle for dits/dahs. I made a guess. I guessed wrong. So now I work a paddle “backwards”. I’m right-handed and my thumb makes the Dahs and my forefinger makes the dits. Only disadvantage I have found so far is that I must use a left-handed bug, and those are scarce!

I am very humbled and honored to have been nominated and sponsored to become a new member of CWops. Thank you for your confidence. I look forward to contributing to this great organization!

Fulvio Galli, HB9DHG

First off, I would like to thank all my CWops sponsors, especially Chris HB9BJL and Fritz HB9CSA/DL4FDM, the HB9ON Radio Club (HB9PUE Mauro, HB9FBM Fabio, HB9FBS Goran and other mem-

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bers) for helping me along this road to better CW. Without their motivation I would never be where I am.

Morse code has opened my borders, it has allowed me to travel to new countries, to improve myself and to be one of you!

I was born in 1966, and I've been an OM since 1985. I love to take in ham competitions and I have [participated in several contests with my personal call](#), as well as gaining experience outside my country (TM0HQ / LY4A / DD1A / IR1Y / 5I0DX / YU5R / A44A and more). I am a member of the Swiss HST Team. [My HST History is detailed here](#).



I like to improve my skills and compete with what we have at our disposal, considering that our location is not ideal for very important contest results. However, I am proud to say that I have managed to set several records and came in 1st place in many contests. These results are not obtained with big antennas, but rather with a lot of effort and hard work, especially if compared against some of the bigger stations. I do work mainly on CW / RTTY and, of course, SSB.

For over a decade, I served as the president of our local Swiss club and I've been on the committee for more than 25 years.

In the past two years I've been part of an international DXpedition Team lead by the MDXC: [2015](#) and [2016](#).

Last but not least, I was invited for the CQWW CW 2019 contest in Oman (photo, right) as A44A with a big international Team! [More pictures about my adventure here](#).

Languages: Italian (mother tongue), English / German (second language), French

Professional : IT Director, TASIS The American School In Switzerland, Montagnola (15years)

Hobby : Bike riding, Table-Tennis, Triathlon, Cooking



For the rest of my life: My lovely girlfriend Vero BOND (SPA Kitchen on Youtube)

Some of my more important achievements:

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Selected as one of the referees at the 2018 World Radiosport Team Championship (WRTC) in Germany

Honor Roll Mix, A1OP by ARRL, 8BDXCC, DXCC Challenge, 5BWAZ, WAS, 160m DXCC, 2nd Place World Championships in Kazakhstan High Speed Telegraphy 2018 (Morse Runner), 3rd Place World Championships in Montenegro High Speed Telegraphy 2014 (RufzXP) as well as several Championships certificates. 2015/2106 Balkan 3rd place HST. 2016 DTP HST Champion, Numerous 1st place contesting in Switzerland different categories (CW/SSB/RTTY). 3 big DXpeditions (5I0DX, 3W3MD, XU7MDC). HST Swiss Team

Feel free to join and subscribe to my [new 2021 YouTube Channel](#). Everything around CW, High Speed Telegraphy and now .. CWops. Or check out my web pages [here](#) and [here](#).

Rudolf Klvana, OK2QA

First of all I have to thank Adam, SQ9S, for nominating me, as well as all the sponsors (SQ9S, OK2PAY, SM5IMO, OK1RR, PA3AAV, K1DJ and N4ZR). It was a pleasant surprise to find seven sponsors listed within 24 hours after the nomination.

I was born in 1946 in a little town Hranice in the northeastern part of Czechia where I still live. Out of my four children, only one son is a ham (Tom, OK2BB).

My earliest encounter with ham radio was when I was a child. My parents used an old two tube radio and I sometimes I heard strange voices interfering with the broadcast. Only much later I found out that the voices came from OK2KLF, a radio club located half mile from our house.

Being interested in electronics, first I started building the crystal radio and later tube superhets from the commercial kits. I read the Czech Amateur Radio magazine and learned of hams. The column I always read first was the DX News.

I became a member of the Czech ham organization and got the SWL registration number. My SWL log was soon pretty full as well as the QSL cards collection. Indeed, my affection of collecting paper QSL cards is still there. While attending high school I was a member of the local club OK2KLF. I have fond memories of my Elmers OK2BBP (SK) and OK2LN (SK).



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When I was studying electrical engineering at the technical university in Brno, an "OL" Novice class (10 W, 160 m only) was introduced for the 15 to 18 years old. Being 17 at that time, I got one of the first licenses issued and became OL7ABS. At the age of 18, I became OK2BJU and gradually went through the license classes C, B and finally A, sort of Extra. I devoted a substantial part of my study time to activities at the university radio club OK2KOJ. I also started a lifetime friendship with Bob, N4OL (SK). We used to have long CW QSOs every week.

I built a simple 100 W CW transmitter from scratch and hooked together an old all-wave receiver with an WWII German surplus receiver tapping signal from its if-stage. With the W3DZZ antenna hanged high across the street I started to hunt DX and take part in contests.

My professional carrier made me travel extensively all over Europe. Therefore I was active from many CEPT countries. While being at Siemens company in Germany I met Klaus-Dieter, DL4NN, and our families became close friends until his death two years ago. DL4NN had convinced me to join DIG (Award Hunters Club).

In course of time I used Yaesu FT-101B (yes, the "legend"), Drake TR7 and Ten-Tec Orion II. My current antenna farm consists of the inverted V (160 m), dipole (80 m) and set of Yagis (30 m to 6 m) located on my home made free standing tower.

My current DXCC score is 337 entities confirmed (missing – you guessed it - Bouvet, Crozet and N.Korea), 9 band DXCC and decent Challenge status. Among other wallpapers there are 5BWAZ, WAS, IOTA, USA-CA and others.

I am proud of reaching a couple of Czechia wins in various contests, IARU World Championship 1917 single op mixed mode won with country record.

When I was looking in WA7BNM calendar to see what contests were ahead, I stumbled upon CWT and started searching what sort of animal it was. I took part in a number of CWT sessions and liked it. When I saw the callsigns of CWops OK members who I really respect, the decision to become a member came easy.

Besides ham radio I like outdoor sports together with my dear wife: mountaineering, cross country skiing, bike tours, orienteering and occasional canoeing. After two hip joints replacements, a heart surgery and 75 years of active life, the time of demanding alpine undertakings is over, but I still like to ascend a mountain and activate SOTA. After twelve years of SOTA efforts, I am a five-fold Mountain Goat now.

When not operating radio, I like listening to country music and playing guitar for my friends.

Oops, I am now well over the requested 500 words, so I should better stop boasting.

CU on the air.

Jim Samuels, W3BG

Growing up in the suburbs of Philadelphia, I was first licensed as a novice, Wn3BGA, in 1955. The

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local Civil Defense (CD) had an associated radio club. Several of us young chaps joined and these old timers taught us the code, theory and gave us our novice tests. We became FCC licensed ham radio operators - what a thrill. I will always be indebted to those men. Getting my code speed up to 13 WPM, this 15 year old nervously made his way to the FCC office in the US Customs House in Philadelphia and passed the General exam. A number of years later, back to the Customs House for the Extra ticket. During the 70s, as part of the FCC incentive licensing program, I was able to pick up my current call, W3BG.

As a young ham. I remember the excitement of my first DX contact. It was with an OK. I was running an ARC-5 on 40m. Today, I have 337 current and need ZS8, ZL9 and FT5Z for #1 Honor Roll. My first confirmation of that OK QSO was a card I received from an Official Observer (OO) sighting my chirpy sigs???

US Navy

- On board USS Chukawan AO100. Operated / MM during off duty hours.
- Ordered to be OINC of a Navy Radio Station in Arlington, VA. on site of original NAA. Trustee of K4NAA. Duties involved Reserve Communications, Navy MARS, and amateur radio liaison. Great duty!
- Highlight - Attended the ARRL 50th Anniversary National Convention at the New York Hilton where presidential candidate Sen. Barry Goldwater, K7UGA, was the main banquet speaker. Sen. Goldwater brought down the house when he said, "If elected, there will be a 20 meter beam on top of the White House." Sat at dinner with Bill Halligan, founder of Hallicrafters Company.

During subsequent years, level of activity depended on life and career, I became a member of the Frankford Radio Contest Club. (FRC). What a terrific group of hams and all top notch operators. Five years ago, I remarried and moved to my current QTH in Western Pennsylvania into a PUD restricted community. Fortunately, my property abuts a 25 acre woods and enabled me put up wire antennas that are difficult to see from the road. I had forgotten how well wire performs.

Having found myself topped out at 20-25 wpm, I joined a CW Academy Advanced class with instructor Joe Spenser, KK4NA - a great guy. What a wonderful program and contribution to Ama-

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teur Radio. The CWTs have been fun and a great help. I was surprised and honored when Les Brown, VE3NNT, nominated me for CWops. I am indebted to Les and to Bill, K3HW; Tony, K3ZA; Steve, K3SW; Dave, N3RD; Bud, AA3B; and Grant, WA3AAN for their sponsorship. It is an honor to be a member of CWops.

Amateur radio has been an important part of my life for 66 years. Most importantly, God has gratefully provided me with many wonderful ham radio buddies over those years.

Rip Rippy, W7RIP

In 1979 I received my first amateur radio license as a Novice operator and operated briefly with a Ten Tec Century 21 while on a sailboat using the 50+ foot mast as a way to hoist up an inverted V wire. I passed the General license exam at the FCC office just in time to operate maritime mobile on a sailing passage with my family, from Texas to North Carolina.



My family and I moved around with some regularity during my career in the Marine Corps. I was fairly active in ham radio during my career with the Marines and always found a way to get on the air. When I retired from the Marine Corps, we took the family and went cruising on a sailboat again; once again we were /MM and made a lot of friends on the Maritime Mobile Service Network and the Waterway Radio And Cruising Club as well as the Seven Seas Cruising Association. Then out of the clear blue, we decided to give the sailing life a rest and moved to Montana, where I was fortunate to work for and retire from Montana State University. Somewhere along the way, my wife and I both decided to get vanity call signs and that is how I became W7RIP which was easy to send in code but sometimes confusing when using my nickname of Rip.

My station consists of an Elecraft K3 and K1; a TenTec Omni 6; an Alinco DX70; and an assortment of keys including my new Begali simplex mono. I am currently running barefoot into a Hex-Beam and I also have a Force 12 Sigma 40XK, and a wire dipole. My CWA advisor Mike (N5KB) and our academy group of hams have really created a sense of both camaraderie and enjoyment that have added a new dimension to CW operating. I thank them all. The journey started a long time ago with building a catswisker crystal radio in the Scouts, and today I am continuing the trip with the CWops. See you on the bands.

Wino Paas, PA0ABM

My SWL career started in 1960, and a year later, a schoolteacher brought me in contact with an-

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other SWL. That SWL became my best friend, and his sister became my girlfriend. A few years later we both got our licenses, my friend Frans did choose the call PA0INA and I became PA0ABM, the initials of my girlfriend Annie. A few months later we got married. The birth of our two kids, a girl and a boy reduced phone QSOs dramatically, and CW became the main mode of operation.

After my study as electronic engineer, I spent four years in the Royal Dutch Airforce, operating PI1RRS and teaching electronics. The next job, also the last one, was working in different departments of a chemical factory for almost 40 years. From 1967 to 1997 computers played a big role in my work.

DX hunting was not the main target for my ham operation. Most QSOs were made with hams from the United States. I wrote letters to the highway departments in every US State, to get their road maps. And with every QSO with a US ham, the right state map was on my desk, and I could note the county and sometimes even found the street where my QSO companion was living.

In 1981, I became a member of FOC and a year later I made my first USA trip to W7 land and enjoyed the extreme beauty of the Grand Canyon, and the colors of Utah. K7NHV, Al from Idaho was our guide in Yellowstone and the Grand Tetons. Al arranged a little get together with K7ABV, W7YB (W7LR) and some other hams in Bozeman/Montana. An eyeball QSO with my friend Walt, W7SE from Laramie/Wyoming was not possible because he was at that time operating HZ1AB.

In 1968 I got my DXCC. In 1969, I started working for the new 5BDXCC, concentrating on the lowest band I could work, 40 meters. In 1988 we moved to a new QTH where I started real DX hunting on the high bands. I became QRV on the WARC bands and my favorite band became 30 Meters. To be QRV on 80 meters for the PACC contest I used a long wire mounted on private ground. After the contest heavy rainfall caused a partly removing of this long wire. The piece of wire what was on private ground was thrown into my own small garden. Next day this strange wire construction did have an SWR of 1:1 on 80 meters and to my surprise I could work DX on 80 meters. A few months later I reached 8 Band DXCC CW. All contacts were made without using an amplifier.

In 1996 I started to write DX news for ELECTRON, the magazine of the VERON. (Dutch Amateur Radio Club). In 2005 I became the VERON DX Honor Roll manager, and helped to get this job done via the Internet. Last year I retired from this job.



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In the nineties I became an Elmer of a couple of young guys who used my low power station in Phone contests. Those guys needed more than my station and became operators of PI4DEC, one of the leading Dutch Contest stations. Later they helped to set up the PI4DX contest station. I joined the PI4DX group as a CW operator. The station PI4DX is now in a rebuilding mode.

In 2002 my working career ended when the company I worked for ended their activities. We moved to my today QTH, the small village of Huijbergen, to get closer to the rest of our family. This move made it possible to use 160 meters, and I finished 9BDXCC (only CW). P5 is the only missing Entity (in any mode).

End 2017, my XYL died because of cancer. On March 24, 2018, (birthday of my ABM), I started to hike from the very north of the Netherlands to Santiago de Compostela in Northwest Spain. My companion was a Belgian woman, ham radio reduced to activate PG30EUDXC, PF80FOC, and PA530ROT outside contests, and PE75W and PF6W in contests. Rag Chew QSOs reduced to almost zero which caused losing membership of the FOC.

On April 6, 2019, after hiking in several intervals, my companion and I finished our hike to Santiago de Compostela successfully. Later that year, a lifetime wish, hiking the Grand Canyon with my grandson, became reality.

This year, I became back again on the bands, doing some DX-hunting and making Rag Chew QSOs. I made my first QSOs on 60 Meters and I the first QSOs ever on 50 Mc. If you miss me on the bands then probably, I am hiking. Alone in the nearby national park, or somewhere else, together with my best friend Rick, PA0RRS. Or I am QRV as OV2T or 5Q7DX, together with my Elmer group on the IOTA location EU-171.

Angel L. Andres Fernandez, M8A

First, many thanks to Jose EA2KV for his nomination and to all my sponsors - G3WZD, OK1RR, PF5X, PA3AAV, WW3S. I feel honored to have joined CWOPS.

I got my first ham license as EB2GOQ in Zaragoza, Spain in 1997 whilst doing my Industrial Engineering degree. I did not get much into radio apart from some portable with a VHF talkie whilst mountaineering in the Pyrenees. Through the journey of life, I have also lived in Delft, The Netherlands and Michigan, USA.

Currently, I live in Birmingham, UK and I work at Jaguar Land Rover as a Sr. Manager in Product Engineering developing some great and very capable vehicles. Outside of work, I love sports, outdoors and I am a passionate skier. I have two young sons that keep us busy all the time.



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My interest in radio was 're-ignited' in 2012. I renewed my license as EA2ECG and got my UK license as M0HDF. At that time, my supporting wife Eva also got her callsign M0HJV. Shortly after, we built our first kit, a GenesisRadio G11 SDR transceiver and got into HF. In 2013, I started learning CW on my own following the Koch method, after 9 months I did my first SOTA activation using a small CW portable rig and gradually got more involved in HF contesting. In late 2016, I got SCC callsign M8A for a debut in CQ WW CW from the Vulture Squadron Contest Group site. As of today, I am still trying to talk Eva into learning CW.

Main radio interests are CW contesting & DXing, SOTA, ARDF, homebrewing kits & antennas as well as the technical side of the hobby.

My station is made of an IC-7300, TS-590s, Acom 1000 & Begali Magnetic key. Antennas are very modest, wires in Spiderbeam fiberglass poles and a LZ1AQ RX loop in a small urban QTH. For /P work, I use a MTR 3-bander, QCX 40m and FT-817ND.

Lately, I have taken on SO2R and I am trying to learn this. The station build is still a work in progress, as I yet need to add auto band switching. The CWT mini tests have proven a good practice ground for it and I am much enjoying them.

I am also a member of the following associations/clubs: RSGB, CDXC, DMUARS, G-QRP, G9V.

Ian Capon – GW0KRL / GW7APP / MW9W

First, I would like to say a big "thank you" to Bob I2WIJ for nominating me, and also to those who sponsored my membership. I am indeed proud to be new CWops member 2896.

I have been a radio ham since 1988 age 26, when I got my VHF and up licence G7APP in February and passed my 12 wpm CW test to get G0KRL in the November of that year. I then spent my first year predominantly operating CW. In 1990 I was one of the GB2CW operators for the RSGB, sending slow Morse transmissions to help beginners prepare for their 12 wpm test and I'm proud to say I helped a number of friends from my then local club to gain their full licence.



I was very active on the bands up until 2001 when I moved home and changed job which gave me little time or space for radio. However, since taking early retirement in 2015 at the age of 53

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from the National Health Service where I was a Transport Co-ordinator for the Blood Service, and relocating to the island of Anglesey in North Wales with my XYL, I have once again become active on the radio waves.

One of the reasons for moving was to have some land and we are now in the lucky position of having 3 acres of "garden" to play antennas in. Unfortunately, the downside of this is I seem to spend more time on the lawn tractor than I do in the shack! My other hobby is my motorcycles which currently are a Harley Davidson FXR and a Triumph Trident these also vie for my attention hi!

Most of my operating is split equally between CW and RTTY using my Yaesu FT1000D and Elecraft K3, I do have a Yaesu FL7000 amplifier but have not used it since moving here as the "GW" prefix seems to be worth at least 3db. Currently the antenna farm is mostly wire dipoles and verticals. But my son has just bought me a 40ft mast and I am in the process of putting up a 3 element Ya-gi so hopefully folks will hear me a bit better when the sunspots return. I rarely operate more than 100 W and quite often QRP. I usually save GW0KRL for general working, GW7APP for QRPing and MW9W is my special contest call.

I discovered CWops when I saw Stew GW0ETF mention about them on my local radio clubs Facebook page and I was intrigued. So, after looking at the website and reading some newsletters I thought I'd start playing in the CWTs and what fun it's been so far, but now I'm really looking forward to giving out my new members number rather than just "GW".

I am not a great ragchewer on any mode but I'm hoping to improve my skills and maybe get a few more QTX in my log.

Anne Kring, N1YL

I want to thank Jim/N3JT for nominating me to CWops. Thank you to my sponsors K1RV, AA3B, KB8GAE, and WT9U. Thanks to Hank/W6SX, Serge/VA3SB, and Van/N5TOO who also volunteered to nominate me. Thank you to the advisors who allowed me to become a CWA groupie Bill/AJ8B, Mac/NN4K, Al/K0AD, Dennis/K2SX, Mark/K5RG, Van/N5TOO, and Kurt/AD0WE. Most importantly I am thankful for the support of my best friend/OM/Elmer/Keith/KU1N who has been very patient with my goal to learn CW even as it led me to take over his radio, "borrow" his paddle, and steal all the contest time. How many students are lucky enough to have two Morserinos on the breakfast table to practice CW QSOs and plan the day over coffee or tea?



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I am a retired physical therapist. In the Spring of 2014 I helped my grandson who was 14 study for his amateur radio license. That summer I went to the ARRL's 100th anniversary where I heard talks about DX adventures and went on a trip to headquarters where I saw hundreds of QSL cards. That was all I needed to decide to get my own license. I was licensed in October 2014 as KC1CRS and by March 2015 I had my Extra Class license. My amateur radio interests grew from QSL cards to providing communication for community events (foot and bike events), going after awards (DXCC, WAS, and Triple Play), running GOTA stations, Field Day, and supporting YLs interests in amateur radio. Busy taking care of family, I don't have the opportunity to travel except in my dreams but I let amateur radio take me to meet the people and learn about all the places I can't visit. In addition to amateur radio I enjoy photography, cross country skiing, hiking, and gardening.

Finally, as the bands became more challenging I decided to learn CW taking CWA classes and practicing every day. Unfortunately I went outside to take photos of snow on trees, fell, and sustained a minor head injury several weeks before my first intermediate class began. Al/K0AD was patient and kind with a good sense of humor and I stuck with the class. My speech pathologist, Peter, saw my frustration with working on memory tasks that had been easy for me in the past and helped me use my desire to learn CW to recover from my head injury. Peter would make lists of the abbreviations and look up stories of DX adventures to keep me engaged. I completed my first intermediate class and graduated speech therapy at the same time. After my head injury I no longer thought the "Can't Remember Stuff" part of my call sign KC1CRS was funny and I was then lucky enough to get N1YL as a call sign.

Since November 2019 I have continued my CW journey with the Long Island CW club where I have made many friends and been able to find the flexibility I have needed due to my caregiving responsibilities. The tools gathered from CWA and LICW as well as the friendships I have made have sustained me through a head injury, caregiving challenges, and the year of COVID isolation. Finally on April 24, 2021, I achieved another milestone and joined CWops....Thank you all! C U AGN soon on the air.

Joe Gershon, N0HOV

First let me say how honored I am to become a member of CW Operators club and how helpful participation in CW Academy has been toward motivating me in the area of contesting and advancing my skills using Morse. A huge thanks goes out to Mike Ihry, N5KB for his teaching ability and the patience to impart his wisdom and experience as part of the CWA training process.

Originally licensed, with the help of Elmer Bill Cooey, K4QRJ (SK), in 1965, as Novice WN4ZCT then upgraded to General WA4ZCT. It was a big adventure for a 15 year old to ride the Greyhound bus from my home in Florida to Mobile, Alabama where the closest FAA field office was available for General/ CW testing. Unfortunately, because of 13 WPM CW hurdle, I



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had to make the trip twice! Second time was the charm and with the new General class ticket, I operated homebrew/borrowed and later, with the help of a paper route income, upgraded to a Johnson Viking Invader transmitter and RME 4300 receiver.

I became inactive after getting married in 1970, raised a family and spent 30+ years in the Navy. My Navy career included carrier aviation squadrons, training, USMC amphibious shipboard operations and several staff positions.

Relicensed in 2005 as KC0TZE, I upgraded to Extra in 2013 and obtained vanity call N0HOV. "NHOV" is significant (to me) because it was the four letter identifier for Navy Amphibious Assault Ship, USS SAIPAN (LHA-2, now decommissioned) upon which I spent three excitement filled years and had the privilege of working with many selfless patriots.

But now with the 'life of a sailor' behind me, my QTH is Papillion, NE (about 10 miles south of Omaha) and it's about as far from an ocean as one can get in the CONUS. I work mostly CW, but have dabbled into the computer/digital environment due to interest in building software defined radio kits. But I prefer CW and hang out on 20/30/40 Meters CW segments.

I hold membership in ARRL, FISTS, SKCC and now CWops. Equipment includes; ICOM 706 MKII G into a Vertical Buddistick at 12 feet. I also have a Heathkit HK-101 in retired reserve, just in case.

In closing, ham radio and CW has been a tremendous part of my life, keeping me occupied, employed and out of trouble (most of the time). Once vaccinated with the ham radio bug, in the mid-1960s, its effects remained. I am very proud to say; I have passed the ham radio hobby along to my son who holds General call WH6FSQ.

I look forward to getting more involved in CW Operators Club activities and meeting its members on the air!

Bob Beatty, WB4SON

My wife and I have lived in Rhode Island for the past 40+ years, having remained here after retiring from running a small business designing energy saving hardware & software systems for commercial and industrial buildings. We are empty nesters, with our youngest, Sarah (in my photo along with faithful companion, Jaclyn, on the floor), graduating from North-eastern this month.

I have been radio-active for 51 years, having started with my Novice license back in Huntsville Alabama. The hobby stuck with me through high school, college, marriage, working and raising kids, and now into retirement. Code was required way back then, and I did a bunch of traffic handling with Army MARS,



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so upgrading my license was not as scary as it might have been for the CW adverse.

There are very few parts of the hobby that haven't caught my interest at one point or another. I'm active from 160m to 23cm, all modes, and on satellites (well, I suppose EME is still waiting to try). I credit the Parks on the Air program with getting me outside and keeping me from going stir crazy during the pandemic.

I am eternally grateful to all my teachers (including Joe, KK5NA, my CW Academy Advisor) as well as the hobby itself. I've been giving back for the past decade. Somewhere between 10 and 15% of all licensed hams in Rhode Island have obtained their license after taking one of my license classes (the pandemic has made them wildly popular too; 40 to 60 students not being uncommon). I share my love of Morse code with as many new hams as I can.

In addition to now being a life member of CWops, I am a life member of AMSAT and the ARRL

Preston "Buddy" Irving, K5XQ

I grew up in Kosciusko, MS. When I was 10 years old my Dad gave me an AM crystal radio kit. I put it together on Christmas Day and I've been hooked since. When Dad gave me my first real shortwave receiver for Christmas when I was 13, I was really hooked.

Fast forward to 1990. I had been a Civil Air Patrol member for 5 years and held a FAA Private Pilot Certificate. We ordered Azden 2 meter mobile radios and modified them to CAP frequencies. Several of us then obtained our no code Technician Class Amateur License, I became KB5ZBN and the rest is history. After deer hunting season ended in 1991 I buckled down and passed my written General Class and passed my 13 wpm Code Test. I went on the air on HF and started to increase my code proficiency. A few months later I passed my Advanced Class written and the 20 wpm Code Test. In October 1991 at the Memphis Hamfest I passed the written Extra Exam and since then I've been K5XQ.



I served 25 long years with the Tupelo Police Dept in northeast Mississippi, a city of 38,000 people and a very professional police department of 120 sworn officers. I had a 2 meter mobile rig in my issued patrol car which really passed the time on long 12-hour night shifts and during severe weather. I also was one of the four Level III advanced accident reconstructionists who investigated all the fatality accidents. I retired from the Tupelo PD at the rank of Sgt after 25 years of service in 2003 at the right old age of 47 and became a part time Licensed Local United Methodist Pastor for 17 years, retiring from the ministry in June 2020. My wife and I are now very active members of 1st United Methodist Church in Columbus, MS, where I assist on communion Sundays and other occasions when asked by the lead pastor.

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I have a grown daughter, Anna Irving who still lives in works in Tupelo. I left Tupelo when I re married in 2011 and since have lived in Vernon, in northwest Alabama, a small town of only 2000 people where I enjoy a very quiet low profile total retirement. My wife Carol is an Amateur Tech Class, KM4BTS. She works as a comptroller/accountant at Homestead Barndominiums in Northport Alabama. She plans to fully retire in 2 years.

I deer hunt every day of the November-January hunting season if it is not raining here in Lamar County Alabama and on my dad's property outside Kosciusko in Attala County Mississippi. I'm also an avid golfer and am a member of Elm Lake Golf Course outside Columbus, MS. I'm also a Life Member of The Sons Of The American Revolution where I do Color Guard in Mississippi and Alabama, a Life Member of The Society Of The War Of 1812, A Life Member of The Sons Of Confederate Veterans, and a Life Member of The Military Order Of Stars And Bars, where I serve as the National Chaplain General, so I stay very busy. I have fully documented ancestors who served in the above three wars.

As far as my amateur radio station, I operate a Kenwood TS590SG, a 1KW Ameritron amplifier, 2 dipole antennas 30 ft up. I also have a Kenwood TM-V71A for local communications, and a Icom ID 880H for DSTAR, but I only do DSTAR when the HF bands are dead. Be advised I'm not a big DSTAR fan as I consider that "internet radio." I am a ARRL Life Member and hold the ARRL Worked All States CW Certificate and the ARRL DXCC CW Certificate. I'm of course a very avid CW operator and 99.9% contacts are by CW. I also love 6 meter CW when it is open. I was a USAF MARS operator for 20 years, retiring in 2016, and also served as a ARRL Official Observer for 20 years, also retiring from that in 2016. Now I just as they say quietly enjoy the hobby.

I look forward to being a CWops operator and I'll be hopefully working all of you in the future.

Tony Casciato, KX3H

First per tradition I would like to thank Mark K5GQ and Serge KK7RR, my Intermediate and Advanced CWA Instructors, along with Ken KD2KW, Jim WT9U and Mike K5UV for my sponsorship in CWops.

I was introduced to ham radio after a visit to a third cousin and couldn't get over hearing voices from across the ocean! Tinkering with old AM broadcast tube sets led to many visits to the local library, Radio Shack and



learning about electronics and science. Somehow I found the local Novice class and became KA3GQR at the age of 12, then learning from hams in the local club I quickly advanced to General and Advanced (in front of the FCC Examiner) before getting my Extra in 1986 when the VEC pro-

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gram first started.

After high school I joined the US Air Force and served stateside before returning home where I started school at Penn State-Beaver for Electronics Technology. I started working part-time for a two-way radio shop and our county as an E911 Dispatcher. Besides HF with modest antennas and no plan I became very active in the local 2 meter, 220 and 440 repeater scene as well as enjoying the Motorola commercial and Public Safety gear I got to work with.

My XYL's sister lived in Wisconsin and after a visit here we fell in love with the Midwest. Given our home area was still in economic decline from the steel mill collapse, we decided to relocate. I was accepted to a local college to work on my Bachelor degree and found work in the cellular retail field which was hot at the time. In 1996 I started at Motorola working in cellular manufacturing, which led to crossing into information technology, which I still do today for a different company.

I discovered the Society of Midwest Contesters after we bought our house and installed some antennas to participate from our small lot. I really like the fellowship and encouragement of SMC and continue to improve my contesting skills. Reading about CWops on the reflector I was curious what it was about and tuning in one Wednesday evening my first reaction was "nope, can't copy anything this fast." Well that didn't last and I signed up for Intermediate class last January and had a blast. I'm currently finishing Advanced class with my CW comfortably at 30 wpm and on for every Wednesday CWT.

This year I'm upgrading to a roof-tower and Yagi to better my signal in the contests. My goal from CWops is to someday be invited to a multi-operator station and to become more comfortable with running.

Gopan (Pan), M0XUU (VU3HPF, A25GR)

I am delighted to be part of CWops. Thanks to CWA and the wonderful group of advisors who are helping many of us like me to enjoy the art of CW.

Thanks to Roberto IK1HGE, Keith G0HKC, Chris G0JPS & Tony VE2KM for their guidance, patience and advice. What started off as a lock-down activity, has now helped me better my CW skills.

I got interested in electronics when in school in the early 1990s, soon this interest turned into something special and I got hooked onto Amateur Radio. A Morse test was mandatory to get a licence in India and I started learning CW (yes, counting dits and dahs). It was enough for the need at that point.

First licensed in 1996 as VU3HPF, I was mostly active on 40 meters with my homemade QRP, CMOS Keyer and a paddle made of old relay contacts. I had to make a 100 CW QSOs before getting phone privileges, so most of the activities were on CW and I was enjoying the CW contacts, even though



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it was slow and were only exchanging a report, name, QTH and occasional WX.

I moved to the UK in 2006, cleared my foundation license in 2007 and Advance licence in 2010. Being in Europe, I realised there was much more activity on CW than in VU. While I continued to work on CW QSOs and on contests, I was not comfortable with long conversational QSOs.

To improve my CW skills, I started trying out various learning software. Although it helped in increasing my speed, it was mostly typing as I hear. My real experience of a CW pile-up was when I operated A25GR in 2015, it was fun but difficult. After that in 2017, I was part of the VU7T DX-pedition. It gave me a completely different experience with handling pileups and working long hours. I enjoyed every bit of it.

After all these years, I decided to finally push myself to improve head coping skills. It was early 2020, when a friend of mine and fellow ham Ram (VU3RDD) who had signed up to CWA recommended it to me and the journey started.

I started in April 2020 just when the lockdown started, I am glad I did. Lots of exercises, someone to keep pushing me every week and a great group of students. It was during the Intermediate course that I really started a lot more head copy and enjoying longer QSOs. Hours of learning "Words", "Numbers" & "Sentences" are now paying off.

Without the continued support and encouragement from Adam SQ5VCO, Ben PA2ST, Toby DL5TM and the occasional "GL" during CWT (when I sent CWA), this would not have been possible.

While I can now enjoy CW chats more than before, my quest to improve CW skills is ongoing (and I hope to get to QRQ speeds some day).

I wish all the best to everyone and Hope to work you on air.

Ben Stienstra , PA2ST

Hello Morse friends! How cool that I was admitted to the CW Operators Club. A real surprise. Many thanks to my advisors, class mates, friends, sponsors and my wife for letting me spend much time training Morse code. I've met really great people in the classes, on air and CW!

Radio was of interest to me since I was a kid. I played with 3 meter FM, and had a packet radio BBS on 27 MHz. We even had made up callsigns with the prefix NL. Mine was NL1BSM. The internet never forgets... It was until much later that I learned about the real radio amateur prefixes, and NL was not that of The Netherlands. I got my license in 2002. By the way, I met my wife while fox (transmitter) hunting with friends. Still married and we have two great sons.



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As for other hobbies, I've had my private pilot license. Flown a Cessna 152 and Piper Archer III from EHRD. Have been engaged in analog and digital photography. And I've always worked in IT, so we've had all sorts of computers and networks at home. I have the tendency to start a hobby and learn everything about it. But out of all hobbies, the radio one stayed! There is still a lot to learn.

I like to build antenna's and kits (mostly transceivers) and have an assortment of QCX's. In the last couple of years I collected a number of Morse keys, CW-only radio's, Morse training devices and a few failed attempts to learn Morse code. That is when I found CWops and took all courses. I'm now in the Advanced class. My latest addition to the shack are up- and down converters and a dish for working with the QO-100 transponder in the Es'hail-2 geostationary satellite. I've had some nice CW QSO's via the satellite. It's like a repeater (transponder) in the sky, there is no QSB there, only some drifting stations.

Becoming member of CWops was my goal. With the help of you all, that goal is achieved! My next goal is improving head copy, accuracy and giving back.

I hope to meet you on the air for a chat or in a contest!

Hiro Sugisaka, JJ1FXF

My name is HIRO, de JJ1FXF.

I just have become a member of CWops, for which thank you very much. Now I really feel honored to be a member of your club.

I have been licensed in 1976. But work, marriage and parenting pulled me apart from radios for a few decades, and then I have come back to HAM with my original call sign which I had before.

I am a fan of classic style. I run TRIO TS-520 and YAESU FL-2100Z amp and straight & bug keys. The TS-520 I'm using now is the one my dad bought for me when I was 13 years old. So please forgive me if some QRH.

Looking forward to QSO soon.

