40m Mobile Loop Antenna

An HF mobile loop designed for motoring in Switzerland. Get the details from HB9CVQ on pg 23.

President's Message

CWops doesn't keep age information of the membership but it's a fair assumption, as I've mentioned before, that our age profile mirrors that of the wider amateur community.

CWops "CWT" 1 hour Tests.
Every Wednesday at 1300z and 1900z
Every Thursday at 0300z and 0700z
Exchange: name/number (members)
               name/SPC (non-members)
Avoid DX Pileups!

CWO Mini-club callsign web site:
http://cwomc.org

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

CWops Officers and Directors
President: Stew Rolfe, GW0ETF
Vice President: Peter Butler, W1UU
Secretary: Jim Talens, N3JT
Treasurer: Craig Thompson, K9CT
Director: Theo Mastakas, SV2BBK
Director: Raoul Coetzee, ZS1C
Director: Matt Frey, CE2LR
Director: Bert Banlier, F6HKA
Director: Barry Simpson, VK2BJ
Director: Riki Kline, K7NJ
Director: Ken Tanuma, JN1THL
WebGeek: Dan Romanchik KB6NU
Newsletter Editor: Dick Strassburger, N9EEE

Table of Contents

This means many of us first experienced CW during the 1950s and 60s with some even earlier than that. The world of amateur radio was very different then and as the years go by those 'of a certain age' usually enjoy remembering those times with fondness. Nostalgia features prominently in CWops with a regular *'How We Were'* column in Solid Copy and often extended threads on our cwops.groups.io listserv. The latest of these reminisced about early keyers and made me wish I still had my touch keyer that I made from some veroboard, a bunch of 74xxx logic chips and a couple of small touch pads. The truth tables drove me nuts. It isn't just talk either; some members regularly fire up early rigs and put them on the air to relive the dream. I still get a kick when someone at the other end of a qso is using some vintage kit. I regret I've never had the space to hang on to old gear but I do have my home brew 80m qrp transmitter (CW naturally) that I made my first contacts with and which is powered up occasionally just for fun.

Young folk don't do real nostalgia but we do have some fine young operators in our membership. I worked some in the YOTA contest toward the end of last month including 15 year old Megan EI5LA on 3 bands. If I ever find out who the 11 year old operating the HG4KID club station was I'd be sorely tempted to suggest we offer him or her 5 or 10 years free membership! We don't boast many but their skill levels at such a tender age shows what can be achieved if we can tempt them into amateur radio and CW in particular. I do hope they bear with us while we reminisce our past radio experiences and even find it interesting; they can be certain that if they stick at it they'll be doing the same in years to come but about what we can only guess. I'd like to assure them they, along with all other members, have a place on cwops.groups.io and the columns of Solid Copy, and we'd love to hear from them.

Nostalgia comes with advancing years. I find myself thinking about the inevitable effects of ageing body and mind in order to keep me on the air well into the future. Keeping antennas in the air is a potential challenge but most of mine are wires. Some of these are supported high up in trees though and occasionally my old climbing harness and slings come out to play and I suffer those *"You did WHAT?!!"* rebukes from my grown up kids. My XYL simply shrugs and carries on – she's used to it and seems long past caring. I do have a Moxon atop a Spiderbeam aluminium telescopic mast which I defy anyone to raise single handed and for which I've adapted a system using a linear actuator; I described it in the June 2019 Solid Copy. You need to be mentally alert to ensure the correct clamps are loosened at the correct moment; undo the wrong one and that section can drop down with a bang. I've done it once and won't want to do it again. So now as I'm possibly getting less attentive, I'm wearing a hard hat and rigging gloves and making doubly sure I really do have the right one – bit like the old engineer's maxim of "Measure twice, cut once!" Incidentally the mast now has a bottom mounted rotator and the Moxon will be replaced soon with a Hexbeam (which weighs the same 12Kg as the Moxon). The shack has also been getting a 'Help the Aged' makeover with an auto switching amp and Microham Station Master for instant automatic band switching. There's now nothing to remember beyond changing bands with the radio or logger and a great advantage in all-band contesting too. My 'Surviving Amateur Radio for the Elderly' project is progressing well.

Last year we lost a friend and fellow member when Dai-san JF2IWL sadly passed away. He was also our Ambassador for Japan and I am now pleased to announce that Hiro-san JJ1FXF has taken over this role. Special thanks must go to JE1TRV and JN1THL for their help. Hiro-san tells me his

first job will be setting up a CWops stand at the JARL Ham Fair on August 20-21 in Tokyo. We look forward to seeing some nice photos from the event.

73, Stew GWØETF
President

From the Editor

Go Out and Play Radio

That's a familiar phrase heard in my home. "Hon...I gotta go out and play radio."

It started when my interest in amateur radio re-emerged after a hiatus, and after we had already moved into an HOA; the kind where the HOA rules govern the exterior of the home and common areas. So with operating POTA (Parks On The Air) emerging as a popular program, it seemed a perfect fit for me to grab my gear and head to a state park to set up a portable field radio operating station. My "ham shack" is comprised of portable gear, whether in the home or out in the field. CW is my preferred mode, though I will make a brief appearance on SSB to help those hunters who are CW-deficient. QRP is my preferred power level. And simple antennas are the rule.

Being located in Wisconsin, my field ops is limited to warm weather months and brief warm-ups in the Winter as I insist on operating true portable, such as on picnic tables, flat rock, or my "step ladder" ops desk, but never inside a mobile. So, when the weather is favorable, "Hon...I gotta go out and play radio" resounds.

Summer is the perfect time to participate in POTA, SOTA, IOTA, (or any other 'OTA), or just find a nice shady spot along the lake and kick back with a lemonade in one hand and a key in the other working a CWT or just cruising the bands. So...

"Go out and play radio."

--73--

Dick Strassburger, N9EEE
Editor

News and Notes

Duncan Fisken, G3WZD

We regret to report that Glen Hinkley, NN6T CWops #781, became a Silent Key on 23rd July 2022. We also regret to note that Jim Davis, AB5XS #2916, became a Silent Key on 10th August 2022.

Phil NE0S, #2723 My friend Glen, NN6T became a SK late on Saturday July 23. I had spoken with him just a few days earlier. He was upbeat, but not happy about hearing that his chemotherapy was no longer working and his doctors at Mayo AZ were discharging him in the morning to home hospice.

Let me tell you a bit about my 2.5-year friendship with Glen. We met where he met most of his friends, on the air. We had a long rag chew and towards the end he told me that he had stage 4 cancer of the colon. I asked if I could give him a call on the landline and he said sure. It turned out he had an uncommon genetic variant of colon cancer called Lynch Syndrome, or multiple colon cancer syndrome . I am a retired general surgeon and I had never seen a case of that syndrome. His brother had been diagnosed earlier that year, refused treatment, and died just a few months ago. In my experience most people with stage 4 colon cancer didn't do well. I wanted to be sure that Glen was well taken care of and to see if I could help him. He said he was good. So, in his usual form, we were just to begin a friendship that continued until the end. Glen never waivered, he wanted to stay with us. He did everything he could to make that happen. I kept in touch during multiple protocols of radiation and chemo. It was treatment with lots of severe side effects. He didn't really care as long as they gave him more time Trust me, when I tell you he went through a lot, he did. I wouldn't have gone through it. It gave Glen time to be with his wife Susan, 42 years at his side and at the bedside for his final breath.. He wanted time to play with his dogs and to meet new folks and old friends on the air. Remarkably he sent a brief note to the July News and Notes section of Solid Copy. He was excited that he "had a wonderful QSO with KV3SPA". It was a first CW QSO for a new ham who had taken a beginner's class in CWA.

Glen wanted to send some positive feedback to CWA advisors for their work. "You guys rock". That tells us a lot about the kind hearted, generous-of-heart man that Glen was.

I will miss him when I sit down to pound a little brass. I know that he knew how much he helped me as 60 year ham. He got me going on Satellites, he helped my confidence, speeds and my over-all ability as a CW operator. He sponsored me as well as many others to become Club Members. So, pardon me for taking a bit too much space and making this a bit longer than the usual announcement. He deserved much more.

Thank you Glen and we will miss you buddy.

Saul, W3WHK #1392 *(Editor's Note; this item reappears as Saul's photos were inadvertently omitted in last month's N&N – sorry, Saul!)* On 8 July, I was very pleased to have lunch with Jim N3JT (#1), who was visiting Philadelphia from his home in northern Virginia, and to meet him for the first time. He and I both attended Central High School here, though at different times, so we got to reminisce about our school's ham radio club, the 807 Society.

We talked of many things, and spent a wonderful afternoon. Here we are eating our Philly cheesesteaks, the iconic Philadelphia delicacy.

Afterwards, as you can see, we got to hang out with the chef!

Didier, F6BCW #2818 I wish to announce my solo DXpedition to Hiva Oa, the Marquesas Islands, next October.

This solo event is mainly motivated by the preparation of a big DXpedition next year (November 2023) with the possibility of up to 12 operators. A web page is under construction here.

The Marquesas Islands are a captivating, mythical archipelago, life goes by quietly and the welcome is extraordinary. Cumulatively, I spent 6 months in the Marquesas Islands.

Pete, W1RM #8 First, FOC announced I had been awarded the Al Slater trophy *(Editor's Note: this was mentioned in the July N&N but I thought is appropriate to include the full citation, as read at the annual dinner)*

"This year's Al Slater award is being presented to someone who has held a ham radio ticket for more than 65 years…and he's piled a lot of hamming into those six and a half decades.

He is a ragchewer and a contester and a DXer. (He tells people that he spends 99% of his time on CW, but I understand he also occasionally uses a mic and he even has dabbled in the digital modes!)

Our awardee spent a number of years working for a major ham radio organization but also spent countless hours volunteering for FOC and CWOps. In fact, he was the first president of CWOps and was one of the driving forces behind the CW Academy. He is also an FOC vice-president and, no doubt, he would have been our president if he only had the good sense to live in the British Isles. Another Slater Award recipient, W1YL, describes him as "a helpful and considerate operator (who) reflects the best in FOC." That, I dare say, is an understatement!

As you all know, the Slater award reflects Al's attitudes and approach to ham radio. G3FXB's standards were exemplary. He promoted friendship among hams and encouraged newcomers to grow in our hobby. The person receiving this year's award meets that description to a "T."

By now you probably realize that the 2022 recipient of the Al Slater Award is Pete Chamalian, W1RM, FOC #1159"

Al was a good friend. We first met him, Maud and 4 of their daughters in 1971 when they were visiting W2HAQ in Long Island. I had been working Al for years but this was a chance of a lifetime. Well, that chance turned into a life-long friendship that endures today. We are in touch with Maud and a few of his daughters.

 Needless to say, when I got the news, I was over the moon and humbled at the same time. When I called Maud she said she had been told of the award and only wished that she could present it herself. Sadly, neither of us travels.

Second, I worked my first JA then a week later, my first KH6 on 6 meters, giving me WAC.

Third, I received my 5BWAZ for all 200 zones.

Martin, OK1RR #87 Congrats to Karen, DL8HK, CWops #2829 for winning the CW section of the "Galicia for the world" competition. There were 24,957 competitors. Good work!

Dan, W8CAR #1220 The Ohio QSO Party will be held August 27/28 from 1600Z to 0400Z (noon to midnight EDT). Rules can be found at www.OHQP.org . Lots of activity is planned and there is a page showing planned activity. We try to get all 88 Ohio counties active. There will be mobiles and rovers active covering many counties, plus many fixed and EOC stations. I (W8CAR #1220) will be out with K8NZ #2119 operating as K8O mobile in at least 28 counties. Other plans are under way. Hope to work many CWops members at the end of August! Any questions or comments can be sent to w8carlog@gmail.com

James, AC0E #2780 I was looking through the June issue of **Solid Copy** (the Dayton/Xenia issue) and on page 12 about 2/3 of the way down is the group photograph of the **CWops** group. If you look to the extreme left-hand side of the photograph the devilish handsome fellow in blue jeans and black jacket standing almost next to Rob, **K6RB**, is myself Jim, **AC0E**, having missed everything except the group photograph! The story of my life..😄

Earlier the same day I ran into Chuck, **WS1L**, of **SST** fame.

How I came to be in the photograph at all is because on Friday (or was it Saturday morning?) I was cruising around the Greene fairgrounds before things got really crowded and there were a bunch of guys standing together between me and where our small group (4) had our tailgate setup. A couple of Hams were walking along in the same direction and mentioned that the group was the CWops bunch lining up for the traditional photograph and they were hurrying to be included. Not to be left out I hastily jogged along to the assembled group and, and as they say, "the rest is history".

My first Dayton Hamvention was in 1982, and I have a Dayton Hamvention 1982 button to prove it. Since then I have missed attending less than a dozen Hamventions.

Glenn, VE1IJ #457 Construction is progressing nicely at my new QTH. The ICF frost wall is complete and we will backfill very soon. By the time this article is printed and passed out, the walls should be up and we will have started the underfloor plumbing preparing to pour the floor. I should have my trailer on site by that time and a temporary structure erected for antennas. I hope to return to the air by late August or early September and with an improved signal due to 100 miles of open ocean. At that time I intend on returning to the generation of welcome messages to new members. I will likely have further updates for the September issue.

Shelby, K4WW #2017 As y'all may remember, on April 13 my tower, Force 12 C3S, Cushcraft XM240, and 80 meter dipole were destroyed by an EF0 (wind speed measured at 87 MPH). The only antenna that survived was a 40 meter dipole. The tower/antennas damaged my roof. KC4WQ removed the tower/antennas from my house. The roof was replaced in May. After that project was finished, KC4WQ and KE4KY dug hole , and poured the concrete for new tower base.

After about a week, they installed a Glen Martin hazer, stacked the tower (50' of new Rohn 25).

CW ops   [Back to Table of Contents](#)

In mid July, KE4KY, KZ6ZZ, and WX4W assembled a new JK Navassa-5 and installed it on the tower. The assembly and installation was able to be done from the ground, using the hazer. On July 29, KC4WQ installed the guy wires and the project is now complete. Without the assistance of the above named friends I would still be off the air. I have yet to find an adjective to express my gratitude to them.

Peter, W2CDO #2526 It is election season for QCWA Directors and Officers and the Nominating Committee is seeking members interested in becoming candidates.

The requirement for running is fairly straightforward. The candidate shall have been a member in good standing continuously for more than two (2) years immediately preceding the nomination date and maintained throughout the subsequent term of office. Family members may not serve as an Officer or Director at the same time. Each member candidate must have e-mail and adequate Internet access for teleconference meeting capability. Pretty simple.

If you are interested, please send an email to me; I'll forward your name and contact information to the Chair of the Nominating Committee.

Marty NR3Z #2322 I have retired and now can spend the entire hour on the CWTs. *(Editor's Note: Way to go, Marty – enjoy your retirement!)*

Craig, K9CT #276 I received this from Bob, K5BG: "I want to thank all the members of the CWops club for the beautiful CQ DX MARATHON 2021 CW NORTH AMERICA plaque. I am thrilled to receive it. The subject matter is somewhat questionable but here is yours truly in the shack and with the much-appreciated award. It will occupy a special spot on the wall in the shack.

73, Bob Gill, K5BG"

(Editor's Note: The CQ DX Marathon, sponsored by CQ Magazine, is designed to promote DXing activity throughout the year rather than only on contest weekends and during DXpeditions. Because activity is not concentrated in specific time periods, credit is given for contacts on all ham bands, including the WARC bands. The Marathon begins at 0000 UTC on January 1 and concludes at 2359 UTC December 31.CWops started sponsoring the North American CW plaque in 2020 and escalated their involvement to include sponsoring the overall CW winner starting in 2016.)

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 -air experience. We all know that when there is activity on the bands, these days, it's usually a DXpedition pileup or a contest. Today's CW aspirants have had little chance to work others who are skilled at CW, operate at moderate speed, and are committed to helping. That's the mission of Giving Back. The GB volunteers get on the air at approximately 7 PM local time and seek out CQers, or call CQ, and engage in routine QSOs including some conversational tidbits. The operators' schedule appears on the next page.

Here are the July results:

AA0YY: KO4KYN, KN4ZQ, K1HYL, N9EE, W8BJO, K8MPH, W5BIB
E25JRP: HS7JEN, E29JCH, HS0GWL, E20MWE, HS2KWO, E24ZST (2), E25FUK, HS3PFB, VU2PHD
G0POT: S51WS, OE8FBF, PD1RMP
GW2CWO: RO5O, DJ1JE (2), R7BW, PA0HTT, ON5CFT, DL3YBR, SM3EMJ, G7KSE, SP3FON, PA0SOM, HA1DMV, OK1DKR, DL2RM/P, G3PQC, G3PCR, M0MZB, DG2GAW, DF2FA, DJ3GS
JH2HTQ: JJ5QLV (3), JH4GUM, JN1FAO, JG1BGT (6), JJ1VNN/6, JE1OFR, JQ2NUD, JO2NZH, JJ0SFV
JJ1FXF: 7L1VET, 8N650JP/6, BA2FO, BG3OJZ, BG6QAL, BH9EAZ, BX2AK, BX4AA, DL9OBM, DS1NSO, EU1DC, HB9ALO, HL2AVK, HS8KGG, JA1FPP, JA2SIS, JA4EEY, JA4GHC, JA4IIJ, JA4MRO, JA4COK, JA6FOF, JA6VI, JA7DOV, JA7TJ, JA9YYI, JE3OUU, JE6VOH, JF2WME, JF6AOI, JG1BGT, JG3UVN, JH4RCT, JH4TXW, JI1CJJ, JJ1VNV/6, JJ5QLV (5), JK1NWY, JK4WKO, JR1DTN, JR1EHL, JS2AHG, K2QOD, KE7LOY, M0AIA, N6CUQ, R0AT, R3PJN, RA4ACX, JA9MCM, VK2DVA
JO1DGE: 6K2HJI, JA4IJJ, JA6YLP(3), JG1BGT(3), JG3HFC, JH3RFT, JH8DWD, JJ0SFV, JJ1VNV/6, JJ5QLV(3), JN1FAO(2), JO2NZH, JQ3FWC, NH2K
JR1WYW: JG1BGT, 6K2HJI, JJ0SFV, JN1FAO
K6RB: N2DGQ, N9EE, LU5BE, W3WW, W6QX, LU8HHB, KO4KP, K5VBA, K0CDJ, N5URL, W8RTJ, AI6O, WA2PCN
K7NJ: AE6IQ, KF5DBJ, KE6YX, KB9RLW, K7XU, KO4JTT
K8UDH: W8BJO, KE2EH
KV8Q: AE3T, AC8N, N4GE
N2GSL: KK8X, W4JL, KD2NFZ, WA3GYW, N9EE, NN2X, KN4YOH
SV2BBK: HB9FLM, HB9BAZ, F8EHJ, HB9BEG
W2XS: KS1L, W2ITT, AA3I, NV3N, KA1WA
W5DT: WX8NN, KI4IO, W8BJO, K4EWG
W8OV: W4SAA(2), KF5OYI, K0MVB, KA4SCV, AG5XU
WB7S: KE0ZUW, KK8X, W4BOS, WB9ICL, W3APA, N3MEG, K2KTC, KB2GKC, KI5IO
WE5P: KD1NFZ, NX3X, W0ITT
7N2XZB: JA3EBL (2), JN1FAO (2), JJ5QLV (3), JO2NZH, JJ1CJJ, JA6YLP (2), JA4IIJ, JG1BGT (2), JG1UQD, JL1EDB

Giving Back Operating Schedule - 7 PM Local											
40 meters 7.035-7.045 MHz and/or 80 meters 3.535-3.545 MHz											
UTC+9	UTC+7	UTC+3	UTC+2	UTC+1	UTC/BST	UTC-1	EDT UTC-4	CDT UTC-5	MDT UTC-6	PDT UTC-7	Hawaii UTC-9
Mon											
JH2HTQ					G2CWO		W2XS	AA0YY		N6HCN	KH6LC
JO1DGE							WK4WC				
TUE											
JH2HTQ	E25JRP		SV2BBK		GW2CWO		N4TMM	W8OV	K7NJ	K6RB	
JR1WYW							WE5P		K0ES		
7N2XZB											
Wed											
JH2HTQ							K3ZGA	W2ITT			
JM4AOA								K8UDH			
Thurs											
JH2HTQ			SV2BBK				KV8Q		K7NJ		
FRI											
JH2HTQ			SV2BBK		GW2CWO		N2GSL	AA0YY	WB7S	K6RB	
JR1WYW											
Sat											
JJ1FXF											
JM4AOA											
Sun											
JJ1FXF					IZ8NXG		W5DT			K6RB	
JM4AOA											

How We Were

Hank Garretson, W6SX

W1WEF, Jack Schuster, CWops # 48

Jack says, "The photo is W1WEF at age 15 in front of my homebrew rig with VFO and a pair of 6146s. I'm wearing my uncomfortable Trimm headphones and I'm using a bug passing traffic from EAN to CAN. I loved traffic handling in those days."

Jack nailed it. Traffic handling back then was great fun and the way many of us gained CW proficiency.

I know there are lots of good pictures and stories out there. Then-and-now pictures particularly welcome. Please folks, send your How We Were picture(s) and story to w6sx@arrl.net. Note: How We Were doesn't have to be ancient history. If you were first licensed five years ago, send me your "Were" picture.

CW Open – Sept 3, 2022

[Bruce Meier](#), N1LN

Get ready for one of the most TIME FLEXIBLE and fun CW contests of the year.   The CW Open contest is managed by the CWOps club with Trophies and Plaques sponsored by ICOM America. The CW Open contest is comprised of three individual sessions, each four hours long. These sessions are all on September 3, and spread across a 24 hour period so as to level the propagation playing field globally. Here is the schedule for the three sessions.

Session 1: Sept 3 (00:00 – 03:59 UTC)

Session 2: Sept 3 (12:00 – 15:59 UTC)

Session 3: Sept 3 (20:00 – 23:59 UTC)

Below are a few of the contest details, but for a complete description go to: https://cwops.org/cwops-tests/cw-open/

Each session is separately logged, checked and awarded. 3 separate contests!

Who: Open to all amateur radio operators, worldwide

Modes: CW only

Operator categories: Single operator

Power categories: HP (more than 100 watts); LP (more than 5 watts up to 100 watts); QRP (5 watts of less)

Use of spotting: No limitations on using clusters, RBN or skimmers, but please, no self-spotting.

Exchange: QSO number + given name (e.g. 12 John).

Scoring: 1 point per QSO per band (each session); 1 multiplier for callsign the first time it is worked (each session). Scores start at 0 for each session. Work someone once per band per session.

Reporting: Separate logs for each session. Logs must be in Cabrillo format and may be submitted via https://cwops.contesting.com/   Paper logs are NOT accepted!

Logging: CW Open is supported by many logging programs. See https://cwops.org/cwops-tests/cw-open/

(Continued from previous page)

Teams: Team competition is supported (see https://cwops.org/cwops-tests/cw-open/#team for signup). No geography limitations.

Awards:

Trophy, high score, each session, each ITU Region (max of 9 trophies)

Trophy, high combined score (all sessions), each ITU region (max of 3 trophies)

Plaque, high score, each of HP, LP and QRP, each session, each ITU region (max of27 plaques)

If the same entrant wins multiple awards, the awards may be combined.

Minimum of 100 QSOs (after log checking) is required to qualify for and win an award in each session
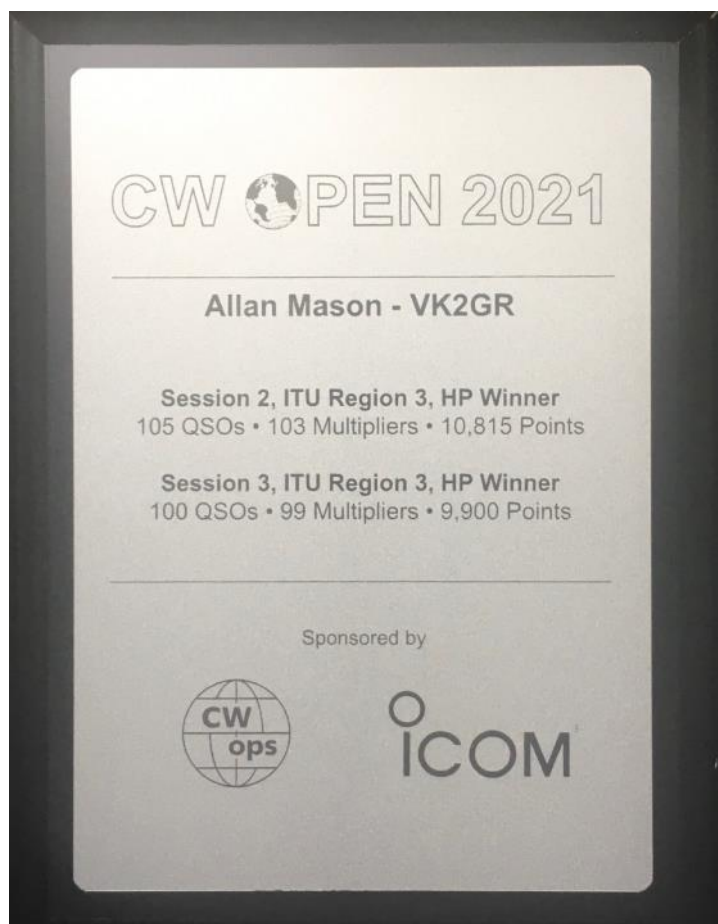
Choosing Your Next Contest Computer

[Bill Salyers](#), AJ8B

Is your IBM AT making grinding sounds when you save files? You have the latest *N1MM Logger+* update, but it doesn't run efficiently under Windows XP? Like it or not, computers (PCs) get old, and they do so at a faster rate each year. New hardware gets faster, smaller, and less expensive with each succeeding generation. It pains me to recycle PCs that have perfectly good mother-boards, RAM, and hard drives but simply can't support memory or processor speed require-ments for current software. So, is it time for you to get a new PC? If so, how do you choose one? What should you look for?

Much of the PC selection process is a "religious" war, not unlike Beta versus VHS in the 1970s. Everybody had an opinion, and this topic is no different. As an IT professional for almost 40 years, I will pass along my thoughts to help you decide what you need for your next contest PC.

I listed the software that I have used on my station PCs over the years to identify the two applica-tions that seemed to require the most resources to run correctly. I narrowed it down to *N1MM Logger+*[1] and *DXLab*[2]. I then contacted the developers to get their input. I simply asked, "If you were going to buy a PC today, what would you recommend."

Tom Wagner, N1MM, responded, "I don't really look at new PCs much. If you are very cheap, buy a refurbished HP or Dell desktop that has come off lease. I don't have recommendations for new PCs. You can check on YouTube for recommendations, but gamers rule there, so everything will be skewed to video performance, which is generally not needed for hams."

I reached out to Dave, AA6YQ, of the *DXLab* Suite. I assumed that since *DXLab* is an entire suite, it would place more demands on a PC than a more typical logging program.

Dave responded, "It does. *SpotCollector* can generate a significant load given the multiple spot sources. (The Remote Beacon Network can forward 2 – 3 spots per second, and there's an option to use *VOACAP* to generate a propagation forecast for each newly discovered active station). With the caveat that I'm not a contester and know little about contesting applications and the load they generate, my latest development and operating PC has an i7-9700 @ 3.0 GHz CPU, 16 GB of RAM, and a 512-GB SSD (solid-state drive) for the C drive. Motherboard graphics (Intel UHD Graphics 63) is fine for my purposes; don't waste money on a high-end display adapter designed for video games unless you plan to play video games!"

Their comments do highlight the challenges you face when trying to scope out a new PC. Here are some attributes to consider.

Price. What are you willing to spend? What can you afford? To take full advantage of the PC you are purchasing, you may need to add one or more monitors. You would hate to blow the budget on a new PC only to find that you have monitors that aren't compatible with your new PC. Just an overall thought about exactly what you want to replace will help you.

Processor. The microprocessor, or CPU, is still the central "engine" of the computer. When

choosing a CPU, there are three factors to consider: word size, speed, and number of cores.

- **Word Size:** 64 bit is state of the art, and I would stay with that. Word Size indicates the amount of data that can be handled at any one time. The old Z80, 8080, 6800, and 6510 CPUs were 8-bit processors. We are light years beyond that now!

  Programs created to run on such 32-bit operating systems as Windows XP or Windows 7 will run on a 64-bit operating system (OS), but programs created specifically to run on a 64-bit OS will not run on a 32-bit version. Expect more 64-bit versions of current applications as new software continues to be released. The advantages to 64-bit versions of your favorite programs include the ability to handle more data at once, have access to more memory, and potentially taking advantage of such CPU features as threading. Go for 64 bits!

- **Processor Speed:** My Commodore 64 had a CPU clock that ran at 1 MHz. Currently, manufacturers are clocking CPUs in excess of 3 GHZ — 3,000 times faster than the C64. Manufacturers have somewhat hit their limit with clock speed. Speeds in excess of approximately 3 GHZ can generate enough heat to damage the chip itself!

- **Number of cores:** As CPUs were getting too hot to run faster, manufacturers started to include multiple CPUs on a single chip. An integrated circuit that had two CPUs on the chip would be a dual core. My favorite CPUs (cost to performance) are quad-core CPUs.

This is where it gets interesting. Which is better, a single-core CPU running at 3 GHZ or a quad-core running at 1 GHZ? Also, to really take advantage of the multi-core CPU, the application needs to be created to use threads. I would recommend a quad core running at 3 GHZ in a 64-bit system.

Disk and RAM: I'm treating these two topics as one, since they are tightly coupled. Below is a basic explanation of the relationship between disk and RAM.

Operating systems are multi-tasking applications that work so quickly you don't realize that every application running gets just a small fraction of the overall time. When you start an application, Windows loads it into memory so that it will run as fast as possible. Imagine a scenario where you have *DXLab*, *N1MM+*, *N1MM Gateway*, *MS-Word*, and an internet browser with DXSummit.fi and gmail up and running. Let's assume that the operating system and all these applications require 12 GB of space. You only have 4 GB in your PC. So, what happens?

Each process (program) that is running is given a time slice. For each time slice the operating system moves the current contents of RAM out to a special file on disk called the *page file*. It then takes the next set of instructions from disk and moves them in to RAM. This process is called *swapping*. The program that was swapped into RAM runs until the next time slice. This process occurs so quickly that you don't notice the back-and-forth data transfer going on. On older PCs, you might hear the hard disk "rattling" as pages are swapped back and forth. (We used to call this "thrashing.")

Data access from RAM is fastest, an SSD is next, and "spinning" hard disks are last. The more RAM you have, the less time your CPU will spend transferring the contents of RAM to/from the disk drive. The faster the disk drive, the less time it takes for this read/write cycle. It may not make sense to just put as much RAM in your PC as it can take. Maybe the applications you are running aren't big enough to fill RAM, and relatively little swapping is necessary. There is a balance between RAM and disk. If you really want to understand the tradeoffs and how your PC is executing, I would spend some time learning the Resource Monitor. Digital Citizen has an excellent tutorial on this under-used application.[3]

My recommendation is to have 8 GBs of RAM and at least 250 GB of SSD for Windows with a second hard disk drive (HDD) that can be a standard "spinning" disk to hold programs and data. For both RAM and disk, I would make sure that the PC can be expanded. See "Device Specifications" for instructions on how to obtain system information.

How can you tell what CPU you are using, the operating speed, memory installed, and whether you have a 32- or 64-bit system? If you are using a Windows 10 PC, open the Settings app (Windows Key + I), and then click on System > About.

DVD: DVD (or optical) drives are becoming less of a requirement as software is available on the web, and most data transfer speeds are adequate to pull software down to your PC. However, you probably have legacy programs or data that you stored on CDs tucked away in the shack somewhere. Many PC models you can buy don't have a CD/DVD player installed, but you can always add one via USB. Most models I've reviewed have an internal CD/DVD drive, and I'd recommend that you have one.

Network: Many PCs can access either a wired Ethernet connection via a physical RJ-45 network port, or wireless capability. I would recommend a wired network connection whenever you can. I have encountered strange wireless problems that can quickly become frustrating, so I always use a wired (Ethernet) connection. Most PCs have 1 GB capability on the backplane of the PC.

As your computing needs have grown, I'd assume that your network has grown as well. You have your original network switch that has done a great job over time. Instead of running new network cables, you chose strategically placed switches to accommodate devices. It may surprise you to find out how many hubs/switches you have installed on your network. All of these are potential failure points, and they add latency. Take a minute to review your network. Wouldn't you hate to have a $28 switch fail during a multi-multi effort?

Extra: Here are some additional items to think about.

¨ **USB:** Three types of USB are available USB 2.0, USB 3.0, and USB 3.1. The table below shows the transfer speed differences. Most PCs have at least two USB 3.0 ports and two or more USB 2.0 ports. As with anything else, the faster the better. I would certainly want to have at least one USB 3.0 port available.

Description	Transfer Speed
USB 2.0	480 Mbps
USB 3.0	4,800 Mbps
USB 3.1	10,000 Mbps

DVD: DVD drives are becoming less of a requirement as software is available on the web and most data transfer speeds are adequate to pull software down to your PC. However, you probably have legacy programs or data that you stored on CDs tucked away in the shack

¨ **Expansion cards:** There are several expansion cards you may want to add, including a sound card or a video card. You should ensure that the unit you are looking at has a couple of expansion slots. Most do, but, keep that on your list! The detail to take note of is the type of expansion slot the unit has. Both units I have been using as a reference have PCI – 5 V, PCI Express 2.0, and PCI Express 3.0 slots. When you purchase a card, you must match the slot type to the card you are purchasing.

Summary

Windows 10 will be supported by Microsoft until October 2025[4]. Over time, Windows will continue to get upgrades, features, and patches until about September 2025. I attempted to find a couple of PCs that take all the information discussed into account, listed the details, and arrived at a projected price. This PC would work just fine for my current workload as well as future activity. I searched several sites that offer refurbished PCs. I would not be afraid to purchase a refurbished PC, but only *after* checking out the warranty, return policy, and reviews of the site. I was surprised

to find several vendors who offer refurbished PCs with a 1-year warranty.[5, 6] Many other sources are out there, and I would also recommend checking out amazon.com and ebay.com.

The table below summarizes the attributes with comments.

Item	Comment
Operating System	64-bit Windows 10 Home
Processor Type: Intel i5 or AMD Ryzen 5 1600 or Intel i7 or AMD Ryzen 7	The CPU you choose may come down to what is available and/or the additional price. I have been happy with my i5 in the shack, and my Ryzen 7 at work is great. Quad core or more would be my recommendation.
Processor Speed: 3.0 GHz	If you are building from scratch, you have more flexibility here. If not, it will be a secondary consideration. However, 3 GHz is a standard.
RAM Installed: 8 GB	I would start with 8 GB. Whatever system you buy, make sure you can expand it. A *maximum* of 16 GB is typical.
Hard Drive	The specs above are typical and common. The disk drive configurations vary. Some configurations have a small SSD drive (120GB) for Windows and then a large "spinning" drive (1TB) for programs and data. Others will give you a larger SSD (360GB). In any case, I would always purchase as much SSD as possible and make sure you have at least one expansion bay. 250 GB of SSD and 1 TB of spinning disk will work very well.
Video	I have found that the default video is more than enough. However, when I did move to 2 monitors, I purchased a video card that would support two monitors, moving the graphics load off the CPU a bit.
Card Expansion	You may want to add a sound card, video card, or other hardware card later. You should have at least one PCI slot available for expansion.
USB	The systems that I checked out had at least 2 USB 2.0 and 2 USB 3.0 connections. This will certainly accommodate rig/station interfacing that might be done via USB.
Misc.	Both models that I found had DVD R/W capability and an Ethernet connection on the back. One of them had built in WiFi and one did not.
Price:	I was able to locate both systems at two different websites, so I averaged the price. The average price was $344.

I would not hesitate to purchase a refurbished computer that has a 1-year warranty, is expandable, and meets the specifications discussed. As I mentioned, there are many strong opinions on these topics, and I would suggest that this is just a starting point. At your next contest club meeting, why not have a debate about Windows versus Mac or whether Linux is a solid operating system? Just ask the question and head for the door!

Notes

[1] https://n1mmwp.hamdocs.com/home/program-development/
[2] https://www.dxlabsuite.com/
[3] https://www.digitalcitizen.life/how-use-resource-monitor-windows-7

[4] https://www.pcmag.com/news/how-long-will-microsoft-support-windows-10

[5] https://www.newegg.com/

[6] http://www.tigerdirect.com/

Distributed Contesting

[Tom Taormina](#), K5RC CWops #108

Some of us old geezers feel like technology is fleeting by and leaving us in the dust. New technologies and modes of operation continue to evolve, and older technology becomes legacy equipment. Fortunately, I just had another example of how CW still rules.

We just completed the 2022 7QP contest. As one of the founders, I am pleased that it has grown to be arguably the second largest QSO Party behind CQP. Another source of pride is that, of nearly 2,500 QSO's in 18 hours, 67% of them were on CW. The adage that most casual operating is on SSB has been proven wrong once again.

W5FU (SK) and I began building the [W7RN](#) multi-op contest station in 2007. It has evolved into a world-class contest station with many pieces of lumber on the wall. We've hosted numerous multi-op contests that culminated with more than 40 operators on site over the two weeks of W1AW/7. As my wife, K7AFO, so eloquently stated after that, enough is enough. Since COVID, we only host on-site operations for a few single-op contests. The Pandemic motivated us to dedicate three of the five operating positions to remote hosts. The main SO2R station is intact for single op contests. Curiously, three radios are used for SO5V (Single Op, 5 VFO's) for RTTY contests.

With greatly reduced on-site operating, the three remotes are in use much of the time. Most mornings, W1YL keeps in touch with her worldwide CW following from her retirement residence in FL. AA6AA is catching up on his DXCC after 20+ years off the air, living in a gated community in SoCal. K5XI does 6 Meter EME operations with a 20-element array, also from a gated community in AZ. K5XI and K5VWW represent the station on FT8. As I joke with the CWops and FOC members I rag chew with, sometimes I must wait in line for airtime. No worries, since I still work full time at age 77.

Meantime, I have observed other multi-op stations evolve with the technology and new operating tools. The N1MM logging program has helped this effort with their distributed contesting software. It is now relatively easy to have numerous remote operators and on-site operators for multi-op contests. Since COVID, some of our remote operators have attempted to do multi-remote contests, but with limited success. To that end, I dedicated a computer to host these efforts. It paid off in 7QP.

Since the Pandemic has been receding and the sunspots are increasing, I am once again disposed for us to again becoming competitive in multi-op contesting. I have created a second operating position at the station. It will use Remote 3 to access the network but operate as a local station with butts in chairs in two operating positions. This project is a work-in-progress. It will hopefully be ready for 2023 ARRL DX CW.

Meantime, 7QP 2022 was supposed to be a part-time CW effort by K6DGW, as K7RC, on CW only. By contest time, W9KKN, WX5S and AA6AA got the dedicated computer and VPN system up and running. A screen shot of the logging computer is Figure 1. They and K6DGW kept the three remotes on the air much of the 18 hours of the contest. You can see the elegance of the distributed logging program. There were times I was just watching and wishing I had bid for an operating slot! I am now ready for us to get back in the multi-op game.
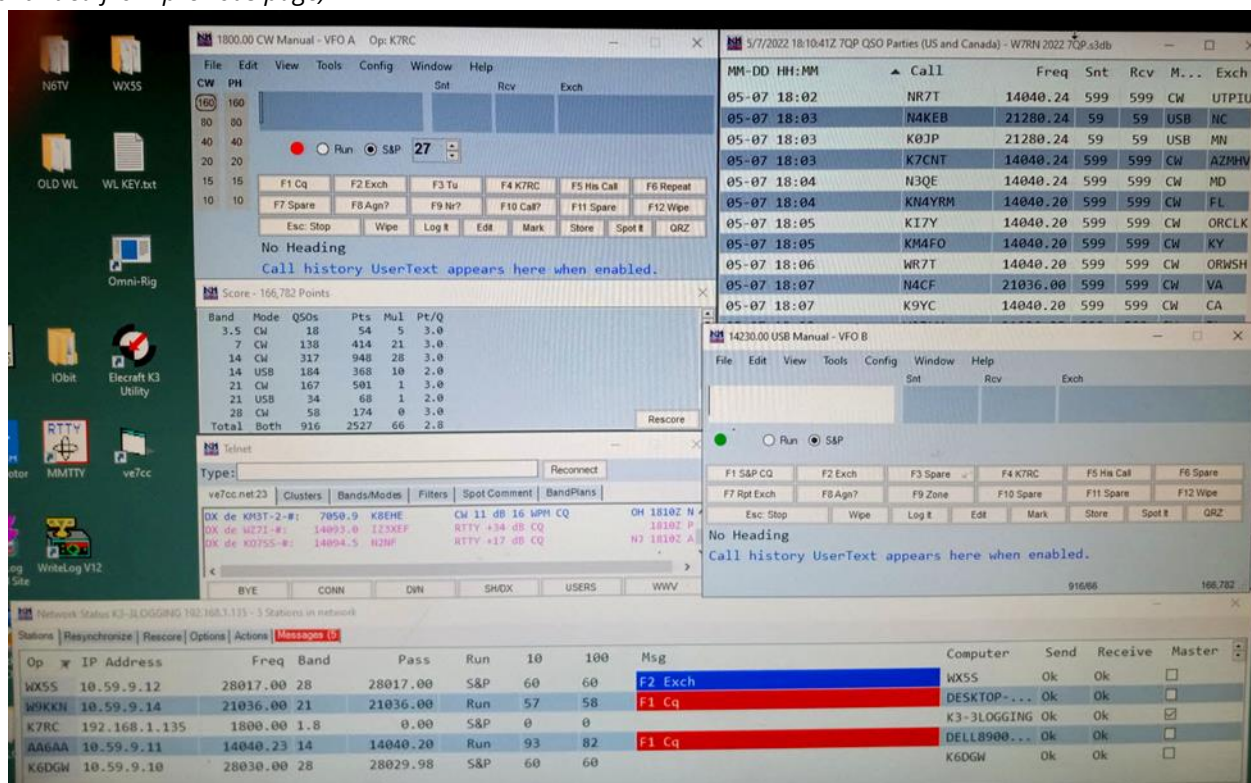
Figure 1. The logging computer

The W7RN station consists of five K3's, two KPA-1500's and three Acom 2000A amps. Remotes 1 and 2 use the Elecraft amps. We employ HamPlus and MicroHam antenna switching, along with Green Heron Rotator controls and software to control the seven rotators on 8 towers and 33 antennas. The amps are controlled by their respective software. The screen that each remote user sees is pictured in Figure 2.

Figure 2. Antenna control computer

The operators access this screen with UltraViewer. RemoteRig interface boxes connect the stations to the Internet. Remotes 1 and 2 are pictured in Figure 3.

Figure 3 – W7RN Remotes 1&2

Those of you who are using or creating remote sites know that this undertaking is no trivial matter. Getting the equipment interfaced and operating seamlessly is an ongoing headache, even if one operator only uses the remote. I can't imagine how those with truly remote transmitter sites deal with security and maintenance. It is nearly a full-time job sometimes with the equipment on-site.

The other major problem we found was internet connectivity. We experimented for two years with hot-spots and local wireless providers. None could support the uptime we needed. As a not-for-profit, we were able to get AT&T to install dedicated fiber for the station. I am reasonably certain that there are no other residences in our County that has this service. Even if you have local cable internet providers, you will likely have connectivity issues. I watched PingPlotter through much of 7QP and never saw a single dropout in connectivity.

The lesson from this is that we old timers can still be relevant in our ever-changing world, as long as CW is our primary mode of operating! W5FU succumbed to COVID in 2020. He would be proud that his contest, operator training, and CW legacy continues to evolve.

Exhibit 3 – New Operator Training

Tom has been active on CW for 63 years. He is on top of the Honor Roll with 374 confirmed. He is a member of the CQ Contest Hall of Fame. Tom is also a member of FOC and A1-Ops. He was twice an Editor of NCJ. He and Midge, K7AFO, live on a ten-acre compound at 6,500' in the mountains of rural Nevada. Tom currently hosts monthly HF Operating Workshops for new hams. He is a Management Consultant, Expert Witness, and prolific author of 12 books.

Small 40m Mobile Loop For On The Move

(First EU CW Performance Tests)

Andy D. Hansen HB9CVQ, DK2VQ, AK4IG

The author has intensively used and scientifically researched HF-mobile antennas for over 6 years. [1] https://www.qrz.com/db/hb9cvq This summed up to over 40 000 km Central EU driving.

Various electrically small, tuned verticals were placed on the roof of an Audi A6 2.4 Avant station wagon.

There is not much of a frequency band choice here in Central EU, namely in HB9/DL, regarding CW band activity and present propagation during daytime, but 40m. Most trips here are made on Southern Germany (DK2VQ/m) Highways in direction North. The author often travels on business as a self-employed EMC Consultant. Switzerland (HB9CVQ/m), with the many mountains and steep valleys, is even more challenging for successful low band HF mobile.

Long term 40m observations show ionospheric propagation from 1000Z to 1400Z prove to be problematic. This is particularly true for QSOs e.g., using vertical ATAS-120S (1.6m screwdriver, roughly minus 15dBi efficiency). Contacting DL-QRQ-CW stations in less than 400km distance is very hard. From our research however we know such verticals have typical 30 to 40 deg. take-off angle elevation radiation pattern.

This was the motivation to investigate small
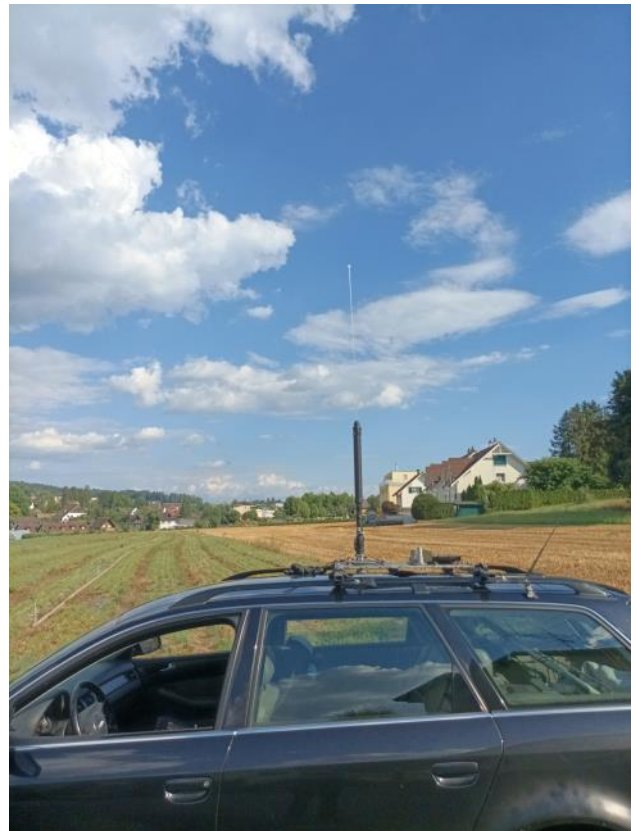
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(magnetic) loops as being used by special government services and military organizations [2] HF230L-OTM.pdf (comrod.com) . NVIS (Near vertical incident skywave) mode should work for HF-HAM-mobile too.

Steep angle radiation mode is supposed to help bridging shorter distances and dead zones. Naturally that calls for locally existing NVIS propagation conditions on the very band [3] WorldIMap0.gif (562×576) (bom.gov.au) .

Real-time ionograms are automatically, frequently updated, [4] Ionogram Information (hamwaves.com). The right choice of the nearest HF Iono-Sounder stations to our preferred mobile routes is Belgium with its radio observatory Doubes. Further important NVIS propagation details are displayed on their website.

Given NVIS mode is listed ok and usable on 7.0 MHz, an additional max. distance, say, x times 100km appears in the lower part of their chart above the MUF frequency. This info is professionally measured with a straight, over the head, radio test-beam into the observatory sky and recording received wave reflections from the ionized layer.

In preparation for our mobile operation, we did 40m NVIS QSO tests, from the Home QTH.

We successfully conducted this using a two element SteppIR DB18E @19m with low take-off and a 2x36m sloping inverted Vee @ 24m with considerable NVIS pattern.

A positive result was often achieved even on slightly higher frequencies than the official Belgium NVIS MUF listing. Signal difference, partly up to 400/500km from the Home QTH, showed sometimes 10 to over 15 dB stronger two-way reports. The good reports were in favor of the inverted Vee. QSB was not the reason. In DX the Yagi wins.

Our mobile performance test used ATAS 120S vs. our new, experimental prototype of a 0.9m diameter, 40m vertical loop.

The loop was mounted in 0.55m minimal distance, vertically (minimum wind load) above the metallic car roof. Testing was done in real 40m daytime mobile CW-QSOs and by reversed beacon network RBN [5] RBN - Reverse Beacon Network.

Installing securing guy-strings on ATAS and tuning takes about 2 minutes. Setting up the guy-string loop and tuning takes over 10 minutes. Testing therefore had to be done in sequence. Surely this all may result in uncertainties by uncontrolled QSB effects. The tests were mostly performed over 20

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minutes intervals to average. RBN was monitored on a G4 mobile phone during driving or in parked positions.

Remember road safety always comes first!

A first critical 40m daytime test drive happened in mid-July 2022 on/along the autobahn from North of Basel- lower part of South-West Germany to Cologne -West Germany-. That is over 600km one way. Some areas are flat, some are a bit hilly.

The following tests were done end of July, stationary-mobile, in Switzerland in two very different locations:

1. Basically, flat countryside, 550m altitude, near the author's Home-QTH.

2. In 360 deg. surrounded steep valley environment in the Swiss Central Alps. Location is North-East of Engelberg, Canton OW, at 1200m with mountains rising here to 2000m and over 3000m.

RBN Hits and Signal-Noise-Ratio (SNR in dB) were evaluated over several afternoon hours. CW QSOs serving as an independent, kind of snapshot method, were made, or at least tried.

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EU lightning activities were simultaneously carefully monitored [6] Lightning & Thunderstorms - Europe (blitzortung.org) . This helps preventing QRN/statics impact/errors in internet back-reported SNR values. RX beacons are geographically, randomly scattered over many EU counties. Be careful not to jump too early to beam heading conclusions. E.g., France has only very few RBN beacon locations.

During our antenna tests 7MHz NVIS propagation was just becoming possible, but not yet very good. Mostly the NVIS MUF was closer to 6MHz. This may presently (Aug. 2022) make 5 MHz a better choice for NVIS. Unfortunately, there are only very few CW stations active during working days, no fun.

Findings/Observations/Future Research and Tests:

1. **ATAS** is not a super **40m** mobile antenna but works ok. It gets "warm" in the upper part already with only 50W antenna input power. Therefore, performance is typically over 2 S-Units down from a Home-QTH standard vertical/dipole @10m up. 50W from the mobile TX result in less than 5W. That is only considering -10dB, not -12dB as for 2 IARU S-Units, -3dB is half the power. Effective radiated power (ERP) from this short antenna is low. Clearly, this is a QRP scenario. One must adjust CW operating accordingly. Long -lonely- CW CQ calling is mostly inefficient unless you get listed on the cluster.

   In locations with many surrounding buildings or other capacitively impacting factors strong QSB, or even VSWR mismatch, happens very quickly. This can easily be observed under or over concrete/metal autobahn bridges. Small mobile verticals are considerably impacted by lossy soil/ground under the car on the low bands. Capacitive car body ground coupling is critical. The car positioned over sandy saltwater beach is boosting performance and minimizing external losses. A nice low DX radiation take-off results that way.

2. Our new **90cm mag. Loop** tunes 40 to 20m with the motor driven 300pF variable air cap. With additional 300pF it tunes down to **60m**. Here efficiency is even lower. Only very few QSOs and beacon hits were recorded on the go. German Autobahn was better than Swiss steep mountain valley.

   On **40m** the loop was typically always down by 6 to 11 dB from the ATAS. Therefore -15dBi and another loss of -11dB results in -26dBi "gain". A -10dB power loss equals 10% efficiency. A -20dB efficiency translates already into only 1%. A -6dB loss is ¼ power etc.

   This leaves us for this loop set-up (ca.-26dBi) only in the range of QRPPP operation. No wonder not many RNB hits or QSOs resulted using the loop.

   One must however understand the ionosphere is principally a very flaky medium, not well suited for "precise" antenna efficiency measurements. An H-field sensor drone tests, in the true far field, high enough, probing the total radiation pattern of the mobile antenna set-up, could most likely take out the unavoidable propagation effect changes and any critical local QSB. Best time for these tests is around noon on 40.

Additional finding: There was no antenna directivity at all on the go or stationary mobile noted. This contrasts an earlier 2000 km distance 40m loop QSO test (LY station). Here we used a 6m fiberglass mast in the Home-QTH.

That Q factor, on the mast, was around 700 and dopped to around half above the car roof.

This corresponds somehow with a Bandwidth (-3dB, SWR 2.7) +/-38 KHz. There are obviously still uncontrolled antenna system losses in the car installation.

Moreover, totally unexpected was the disappointing NVIS efficiency. In the Swiss steep Alps valley, the ATAS still performed on an average 6 to 11 dB better than the loop. The few still established CW loop QSOs on 40m resulted mostly in 339 reports, if any.

In loop defense it needs to be mentioned NVIS propagation these days were suboptimal, however still possible.

In the road tests in Cologne City the loop showed however very interesting NVIS performance.

A nearby station on 40m, in contrast to ATAS, had almost no QSB and practically no radio shadowing effects. H-fields penetrate buildings obviously much better than E-Fields in the HF-frequency range.

This phenomenon should be interesting for antenna deployment in restricted space/stealth.

By the way, the position of the variable cap on top or at the bottom of the loop, like in the commercial applications, showed no immediate performance improvement.

To shine more R&D light into the loop behavior on the car roof we will soon be simulating with a special, professional MOM-Code. That code indeed is much more capable/complex than normal HAM EZNEC/MMANA programs. The car model is already established and tested. The complete antenna system simulation will be performed in cooperation with a German University in NRW.

Depending on the simulation outcome, may be the NVIS tests in the Swiss Alps have to be repeated and hopefully under better 40m NVIS propagation conditions.

Stay tuned, there is more to come. Comments/Questions or own experience reports are highly welcome!

Evolution Of A Simple
Automatic Antenna Switching System

[Jack Schuster](#), W1WEF

I have been enjoying contesting on both CW and phone since my first Sweepstakes in 1952. I have a relatively modest station in Ct. The project I'm about to describe is an attempt to make my station a little more efficient.

These days, I primarily compete with myself. I don't even think of keeping my butt in the chair for 24 hours on end. I'm contesting strictly for the fun. I'll often set a goal for myself...make 1000 contacts, work every section, work every county, beat my last CWT score, pick someone to secretly try to beat, like beat K6RB (hi) etc. I'm not out to win but have to admit it sure is satisfying to find out in the end that I beat bigger stations than mine.

My station is simple, with one tower and a few aluminum and wire antennas. I have an ICOM IC7610 and an Ameritron AL1500 amplifier. My single tower is 108 ft of Rohn 25. On 160 or Top Band as it is called, I have an inverted L with about 90 ft vertical. On 80 I have a high dipole at an average height of 85 ft. On 40 I have a 2 element Cushcraft XM240 Yagi at 116 ft. For 20, 15, and 10 I have downsized to a single TH6 tribander at 108 ft. At one time I actually had 3 TH6s and two 40M beams on the same tower, way overloaded but never a problem! These are my primary antennas, but I have a few more.

My favorite contest these days is the CWT. I often do all three sessions but have to nap before the late one! Since the majority of contacts are from the US, my beams are usually pointing West for the whole hour. On 20M I'll frequently hear Europeans calling me off the back of the beam, often pretty weak. To improve copy , I put up a 20M wire dipole broadside to Europe, and I can flip a switch to parallel the dipole with the tribander. It's absolutely amazing how their signals come up out of the mud.

On 40M, I have an second antenna which I seldom use, an inverted Vee with the top at 75 ft. I can select that antenna if I wish and on rare occasions it's louder on NVIS (close by) signals than the 2 el Yagi at 116 ft.

On 80M, my optional antenna is a wire 4-square supported by trees in the woods behind my house. It consists of four phased quarter wave verticals spaced a quarter wave apart in the corners of a square, oriented so one diagonal is toward Europe. I can select 4 directions on the diagonals NE , SW, NW, SE. Each vertical wire has about 24 ground radials. Under certain conditions when the angles are right, the 4 square does wonders. At other times it is no better that the dipole but because of the front to back it at least gets rid of QRM off the back.

Sometimes in a contest you would like to move a station to another band, so you say something like "14111 now?" You usually do this because it is a needed multiplier that you might not find again. You want to be able to do this fast by just keying in the frequency on N1MM and you're there. It's not quite that easy for me because I have to change the band on my amp, reset the

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plate and loading dials to the premarked spots, and select the right antenna. If I can work him barefoot though, I can just put the amp in standby and I then only have to switch the antenna. If I had one of several solid state amps available today, band changing and tuning would be fully automated, but for reasons I wont get into that doesn't work for me.

The desire to speed up band changes was what led me to my automatic antenna switch project. I think I really just wanted to design and build something again. Although I would not be able to automatically change bands and tune my 1500W tube amp, switching antennas automatically when I change bands on the radio would save a little time In a contest like the CWT where I often work 4 stations a minute, time lost switching antennas can mean dropping a notch in final results (I know, did I say I don't care who wins?). Several years back I had automatic antenna switching in my Yaesu or Kenwood radio days. You could buy a band decoder that took band data from the radio and gave you an output that you could use to control relays. Now that I wanted to automate antenna switching again, I found that I could not find any decoders for ICOM radios.

My buddy here on Cape Cod, WA1NLG, also has ICOM radios . When I was following Norm's progress on his homebrew solid state 1200W amp, he mentioned an ICOM decoder that he bought from W6PQL to use with his ICOM radio. I contacted W6PQL and bought his decoder which was designed for a W6PQL designed solid state amp. That was just what I needed for the project I had in mind. My design is tailored to my station, but others might get ideas to fit their own needs.

Band data coming out of ICOM radios is an analog voltage for each band. The W6PQL decoder uses surface mount comparators on a small 2 in by 3 in board. The circuit provides an output for each band that goes low, so it can drive a relay as it receives band data for each band.

In my CT station, I use an Ameritron RCS10 remote switch box at the bottom of my tower, so co-ax from each antenna just goes to the switch box and one coax runs to the shack 65 ft away. The Ameritron box contains 8 relays for up to 8 antennas. One 4 conductor cable also goes from the RCS10 control box to the shack. Antennas are manually selected with a rotary switch on the RCS10 control box in the shack.

What I wanted to do was replace the manual RCS10 control box with my project box to eliminate the need to manually switch the antennas. Sounds easy...but I ran into one snag after another.

The Ameritron box sends BCD coded data to their remote switch. There are three wires labeled A,B,and C plus ground going to it. To select an antenna it sends bcd coded voltage to A, B, or C or combinations of A, B, and C.

In my circuit, I included a switch to allow me to use the automated or the manual box. I energize a miniature relay for each band, and use diodes to steer 12VDC to the appropriate ABC combination. I have a red LED to indicate the band I selected, but in order to keep the ability to use my optional antennas I have a switch for each of the three alternate antenna options. If I select the alternate antenna, a green light indicates that the alternate is selected.

The first packaging step was to figure out what size standard box I needed to fit the decoder, the relays, the switches and the LEDs.. I initially was going to use a plastic project box available from

ALL Electronics, and I even started drilling one before I decided that a metal box might be better because I didn't know how susceptible the decoder board might be to RF floating around the shack.

Once I decided on the box, I laid it out on paper and was ready to roll. The first thing I did was to cover the box with blue painters tape. Next I got my label maker out to see what would fit across the width of the box for band labels. On my first try I did "T 80 40 20 15 10" and it fit perfectly. I then eyeballed the centers for LEDs and switches centered under each band label and I measured where to locate each LED and switch. I prick punched before drilling, but decided I owe myself a new set of drill bits rather than use any of the old drill bits I already had. Home Depot had a wide selection and I bought a unique set that has a hexagonal shank of the same size for every bit. In order to be able to prick punch and drill I had to rig up some blocks of wood in a vise to support the box. I managed to get all the "front panel" holes drilled without any slipping. Next I drilled for the barrier strips on the back and two holes in the top for standoffs to mount the decoder board. Unfortunately I was distracted when drilling the last two holes and wound up filling them with epoxy and repainting the top half of the box. I used the same fast drying Gorilla epoxy to mount the relays and terminal strips inside the box.

After the decoder and other components were all mounted, I was ready to start wiring. I planned to color code wires and WA1NLG gave me a good idea. Buy ten feet of 10 conductor cable from ALL Electronics where I bought my other components, and strip it for ten different colored 26 ga stranded hookup wires. Unfortunately I forgot the cable on of my order and had to use other wire I had in fewer colors.

Before I could start wiring however, I had to do something about my lighting. My eyes aren't what they once were and even wearing magnifying lenses, I need a lot of light. I already had LED shop lights over my workbenches, but not in the shack where I was wiring this, so down to Ocean State Job Lot I went and added a very bright shop light to my shack. I was ready! Or was I?

I decided I needed a better pair of small pliers and dikes, even though I had several older pairs. To my surprise, I found a great pair of Crescent needle nose and close cutters that I really like in Home Depot. I wound up doing a lot of point to point wiring with bare 22 ga wire because I needed the stiffness in some places, for example to hold an LED in place so it wouldn't easily be pushed back in it's hole.

I used 26ga stranded insulated wire to the decoder board, using my pointy solder station iron tip. The 160 output from the decoder went to the Top band relay. 80 to the 80 relay. 40 to the 40 relay. 20 ??? What's this?? 20 and 15 are on the same output! 10 is separate. Turns out that since the board was designed for W6PQL's amplifier where it switched B/P filters, he used the same filter for 20 and 15! He didn't design it or advertise it as a general purpose band decoder.

All was not lost. Since I had a tribander I didnt need a separate 15M output, because 10,15 and 20 all went to the same antenna. Had I known this earlier, I would have designed my circuit with one LED labeled "TH6" instead of the three bands. I probably should have done that anyway, but as it is now if the radio is on 20 or 15, both the 20 and 15 red LEDs come on, and if its on 10, the 10 LED lights..

OK...now I had everything wired including the cable with the DIN plug to the radio. I thought I'd check it out to see that the correct LEDs come on before I wired the steering diodes. I powered it up. The 160 light came on when I selected 160 on the radio. I changed bands to 80...no light. 40 nothing. 20/15/10 are OK. Checking everything out, I concluded the decoder was defective. I emailed W6PQL and told him my project came to a screeching halt because of an encoder problem. I was really disappointed because I was finally building an electronics project again. Jim, W6PQL couldn't understand it because he tests all the boards, but he nicely let me return it and he sent me a new one.

I never heard from Jim as to what he found, but it dawned on me that I might have blown it. I was switching small relays and there might have been a back emf spike from switching the inductive load. The tiny SMT driver transistors on the board were probably not very robust. When I got the new board I checked it out without switching any load and all of the outputs were perfect. I added diodes across the relay coils to snub any spikes.

The next task was to install the steering diodes. When that was done. I was checking something with it powered up and accidentally shorted something in the nest of bare wire, and I blew the 40 meter output from the decoder board! The miniscule output smt transistor was blown. Thanks to Norm (WA1NLG) once again, he swapped the unused 6M transistor from the board to replace the 40 and all is saved!

It's been fun building something again. I have to wait until I can check it out in my Ct station and see if it adds a few contacts to my CWT scores, but thought I'd share my story. In my working days I did quite a bit of analog and op amp circuit design. I could have designed my own decoder

with op amp comparators, but not as tiny as the W6PQL surface mount design. In my day (wow...that was over 50 years ago) we used a lot of Burr Brown op amp modules. Each module with one op amp was bigger than the W6PQL decoder!

A Review and Comparison of the TN07 SFP-102 Stealth Flagpole Antenna

[Carl Davis](), W8WZ

In the world of portable ham radio operations, finding an antenna that performs well and is also easy to transport and easy to put up and take down is rare.   I am happy to report that I have found the TN07 SFP-102 vertical antenna to be just such a product.

After more than 25 years as a ham radio operator, I recently became interested in portable operating. This started because during the pandemic my friend John, KG4AKV and I were asked to be a bonus station for the North Carolina QSO Party. John is a great phone operator and I stick with CW. So together, we make a good team for a bonus station that could work both code and phone stations. However, because this was in the middle of the pandemic, we wanted to figure out a way to do this as safely as possible. So, we decided to set up an outdoor station for this purpose. It was like a mini-field day. We had so much fun with that project that we decided we would start doing POTA activations together too. Thus, the quest for a good portable antenna began. We wanted a multiband antenna that was easy to put up and take down and that worked well on the air.
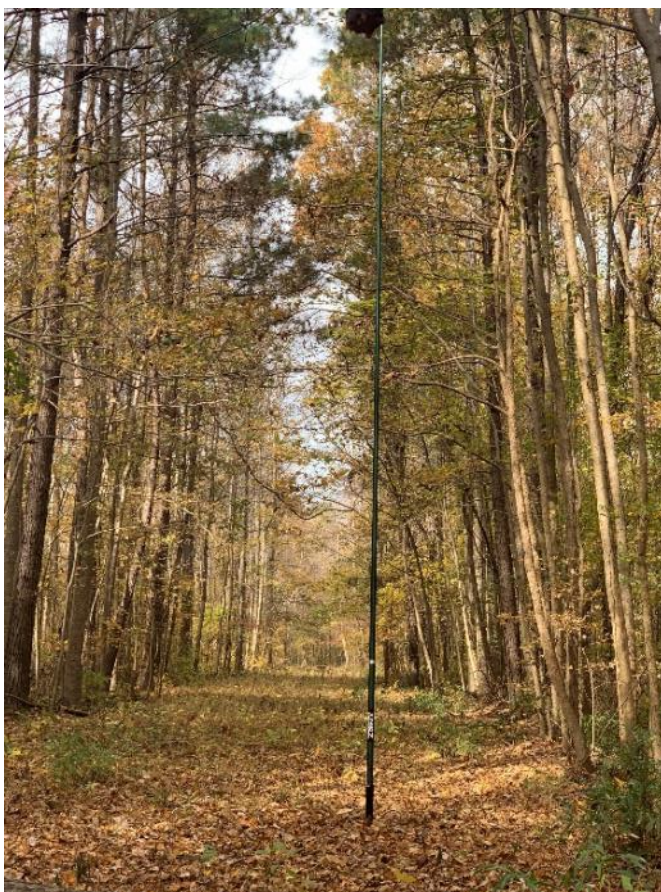
We used the TN07 SFP-102 vertical antenna to activate the Swift Creek Bluffs State Na-

ture Preserve in Wake County, North Carolina on November 20, 2021. We used a 100 watt radio and used both CW and SSB. Over the course of a few hours we made 26 CW contacts and 84 SSB contacts using the antenna. This was the most contacts made by any POTA activation at this park. We found this antenna to be exactly what we were looking for, in addition to working well, as shown by the QSO count, it was extremely easy to transport, install, use and take down.

Here is a picture of the antenna as we installed it in that activation and pictures of John and I using it.

We considered this POTA activation a great success, thanks to this antenna. Sometimes the antenna is even easier to install than it was on this outing. For instance, when I am operating near my parked car, which we couldn't do from this park, I simply use the drive over mount from TN07 and support the antenna using that mount. The antenna seems to work equally well when using the car as a support, or simply leaning against a tree branch in the woods as we did during this POTA activation.

Even though the antenna clearly worked well, I wondered exactly how this antenna would compare to a textbook, half wave dipole up half a wave length high. So, I decided to do a side by side test to find out. On April 2, 2022, I put up a 40 meter dipole at 60 feet and set up the vertical antenna, too. I connected both antennas to my radio using 100 feet of RG8 coax, so each antenna had the same length of the same type of feedline. I then used an A/B switch to switch between them. To my ear, and the S-meter, the dipole was about 2 S units louder than the vertical.

I then transmitted CQ using CW and looked myself up on the Reverse Beacon Network (RBN). RBN is a system of receivers connected in real time to the internet. When the online receivers in this network hear you call CQ they spot you on the network and give their signal to noise ratio for your signal. You can then view this data on the RBN webpage. The higher the SNR number is, the better your signal. I did this for both antennas and found that the average signal to noise ratio number for the vertical was 16 and the average signal to noise ratio number for the dipole was 28.5.

I then decided to get some on the air reports. I had a nice QSO with a station in West Virginia. He was unable to tell the difference when I switched between antennas, giving me a 599 signal report on each one. I then used the dipole to answer a POTA station calling CQ and he gave me a 599 report. I then switched to the vertical and he told me I was then 569. When we used this antenna for our POTA activation we often found that we gave the other station a 59 report and they gave us a report between 55 and 58. This afternoon of operating gave me enough data to make some conclusions.

To me, the most important lesson was that the vertical antenna works. It may not result in as good of a signal report as a textbook, half wave dipole up half a wavelength in the air does, but it still gets me in the logbook many times. When activating a park, it doesn't matter if my signal report is 559 or 599. As long as the contact gets made, the activation is a success. The less time I spend putting up an antenna, the more time I spend on the air. Also, in many POTA locations, a dipole isn't even possible to install due to the physical limitations of the location. The vertical can be installed quickly and easily almost anywhere.

Next, my experiment showed that the vertical is much easier to install than a dipole. It took me 45 minutes to install the dipole. This involved shooting a rope over a tree with an arborist sling shot, then hoisting the antenna up, with lots of walking between the trees. I had to carry rope, sling shot, fishing line, weight to shoot over the tree, and antenna. I also had to find a place with tall trees spaced at the correct distance. Take down was also time consuming as care had to be taken not to tangle the rope and wire antenna. The vertical, on the other hand, was erected in 10 minutes with no difficulty at all and no well-spaced tall trees, rope or sling shot were needed. Additionally, the vertical is multi band. The dipole is only monoband. Take down was much easier with the vertical

as well. There were no ropes to tangle, no tree branches to snag. The vertical worked on all HF bands with no tuner needed.

My conclusion is that when I have the space and time and only want to work one band, the dipole is the better choice as it will give better on the air performance. This would be the case at my home station, for instance, where I don't mind taking time to erect the best antenna possible and have room to do so, or at an event like Field Day where I have lots of time to set up and am at a location that has been especially selected for being antenna friendly. However, if I don't have the time to spend, or the location for, a dipole or other such full size antenna, then the TN07 vertical wins out. Also, if I want to be able to use more than one band without putting up more than one antenna, the TN07 vertical wins.   Most POTA activations are situations where the TN07 vertical is the better choice. So are most quick ham radio demonstrations and special event stations operating from public locations.

The TN07 antenna is a good temporary antenna for portable use. But as they say, the proof of the pudding is in the eating. So here is a short video of the antenna in use to show you how well it works and how much fun can be had with this well built, easy to use, good performing product from TN07.

https://www.youtube.com/watch?v=RgMjwIrPdb8

Murphy Visits Field Day

[Mike Koralewski](), K8VA

I haven't been on FD with the MCRC in several years, last time was 2019 and the OP sked was a very short time.

This year I requested as many slots as possible, but ended up with an hour of CW between 1900 and 2000 UTC, and a two hour slot of CW between 0300 and 0500 UTC due to the many Ops that wanted to sit in the chair..

I waited diligently for my 1900Z slot to arrive and wanted to bring in my own rig, a FT-991a which I was of course familiar with, and had the macros preset for the club call and reports and also my own key, a BEGALI magnetic classic, but the CW chairman was not in agreement and kinda "requested" me to use the older Icom rig and his delicate Bencher paddles, coupled to a MFJ Programmable keyer... (not using the rig built in keyer). Right out of the gate, the macros on the MFJ were dead, so the owner and chairman spent about 20 minutes reprogramming the Macros, cutting my OP time to about 40 minutes.

I was anxious to get on the air, so I quickly plugged in the Heil Pro 7 headset into the headphone distribution block and, went to work.

I couldn't figure out why the audio was so low in the rig, I figured it was inherent to the rig, so I cranked up the AF gain on the Icom as far as it would go until I could at least hear something. I hit the CQ macro and proceeded to work as many as I could hear, and managed to work 35 in the 40 minutes that I was allotted. I got a tap in the shoulder to relinquish my seat to the next operator just about 2000Z.

After pulling off my headset, the logger told me, "good job... But you plugged your earphones into the INPUT of the distribution block, instead of the output. Needless to say, everyone on the site heard the rig on Full Blast" Oh my God! I must have been listening through bone conduction!!! With my earphones on my ears!!!

What a Gaff!!!. Geez, did I ever get the the laughs from the other guys. One guy said it was amazing, he never saw anyone do that before. Interesting filtering technique..

My logger told me he didn't have the heart to tell me, because I was working 1 to 2 per minute and didn't want to "disturb" my runs...

At the second slot at 0300Z, the chairman was asleep so I snuck in my own rig and keyer... quickly setting up with my adjustable switching power supply, rig and BEGALI... and went to work…. another GAFF! I could not get much more than 30-40 watts out of the FT991a, and had a heck of a time trying to "run," but managed somehow to get 55 contacts into the log. I had a new logger and he was pretty good at deciphering my notes. I was running about 25 wpm, and he was not a CW operator so I would hand him the note to log the contact.

Later as I was packing up my gear, I discovered that the power supply voltages adjustment had been bumped, and I was only putting 10-11 volts DC to the rig…. No wonder the rig would not output 100 watts!!!

What a memorable FD!

What God Hath Wrought

[Gary Dixon](#), K4MQG

(as told to K4ZA)

I had to go to Reno, NV, back in the early 1970s, on a business trip, while working for Celanese, here in Charlotte. In talking with old friend Rubin, WA6AHF, he suggested I figure out a way to spend the weekend, and come over to California, where he'd introduce me to some of the local DXers there. It sounded like a good idea, so I made the arrangements, and flew to Nevada.

Saturday morning I headed West, and Rubin and I met up for lunch, when he suggested we visit with Lloyd and Iris. Of course that sounded like a great idea, having worked the Colvins literally dozens of times over the years, from various countries on their many DX-peditions. In short order, we were at their home. Iris met us and pointed out that Lloyd was on the radio, and indeed, he was visible through a doorway in the kitchen, at the rig, pounding away, headphones on, etc.

As we stood there in the kitchen talking to Iris, a Dalmatian dog walked in. He looked us over, sniffed, and then sat down and looked up at Iris. She asked, "Would you like to see him *(I have forgotten the dog's name, unfortunately)* call CQ?"

I was somewhat surprised, thinking this might be the lead-in to a joke or an elaborate little hoax. But she retrieved a board from a cupboard, with a key and small oscillator mounted on it. The key had a rather large washer-like attachment under the knob. The dog eagerly sat up, watching Iris carefully, as she placed it on the floor. She simply said, "Call CQ," and I stood there in stunned silence, as he reached out his paw and tapped out some Morse. In fact, I was so shocked I realized I had no idea what he'd just sent. Iris gave him a dog biscuit. "Call CQ," she said. And once again, his paw tapped out the familiar litany. Slow but steady—good code, in other words. Again, as she gave him another biscuit, I stood there in shock.

At that point, Lloyd came out of the radio room and the conversation shifted to some of our memorable QSOs. We went into the ham shack. I was once again surprised, as one entire wall of the room was covered by file drawers. "Nearly 750,000 QSLs," Iris explained.

"The largest collection in the world," Lloyd added.

"You think I'm in there?" I asked.

"Of course," she answered. "Let's look you up," she said, moving across the room. "Tell me one of our expeditions you worked."

Again, I was surprised, knowing I would have to recall a callsign from over 100 DXCC locations. "I know I worked you in Liberia," I said.

"5L2KG," she said, moving to the far left series of cabinets, taking careful note of the printed information on the drawer fronts. In a matter of minutes, with the drawer open, she pulled up a K4MQG QSL card. "Here you are," she said. "20 meter phone."

We spent several more minutes looking through the collection; I continued to be impressed. Their hospitality was as smooth and facile as their pileup capabilities.

PART TWO

Many of us in the Carolina DX Association referred to Frank Dowd, K4BVQ, as a "captain of industry," as he was an executive officer of Charlotte Pipe and Foundry. The company was founded in 1901, by his grandfather, W. Frank Dowd, literally the first foundry in the South after the Civil War. The family continues to run it today, as the only foundry making both cast iron and PVC drain and waste products.

K4BVQ was one of the kindest and most down-to-earth men you could ever meet. He passed

away at age 92, on November 1st, 2019.

On October 30th, Joe Simpkins, K4MD, and I went to visit Frank in the hospital. Frank was very weak during our visit. He was resting in bed, under a light cover. While alert, he was unable to speak, so we did most of the talking.

We talked about old times. It was clear he understood what was being said, because in a few instances, his eyes betrayed the emotions he was feeling. The moisture at his eyes indicated some fond memories were being replayed for him. After a suitable time, we felt Frank was tiring, and we thought it wise to allow him some rest.

After reliving a few more memories, I looked at Frank, and asked, "I think you've understood everything we've said, haven't you, Frank?" But he was unable to answer. I noticed his arm was above the bed covers. I said, "Joe is going to put his arm under your hand. If you know who we are and understood what we've said here today, you can still talk to us using Morse Code. Just tap out two Rs to signify "Roger"" on Joe's hand." Without hesitation, Frank's index finger tapped out in perfect rhythm: *dit dah dit…*followed by…*dit dah dit*. Joe and I looked at each other with lumps in our throats, realizing that there was a perfectly active mind inside that failing body.

Recovering our composure and deciding that we'd done our best this day, I then said to Frank, "You know what we hams do at the end of a QSO, Frank, don't you? We send *73*, meaning "best regards." So, *73* to you, Frank." In perfectly formed cadence on Joe's wrist, Frank tapped: dah dah dit dit dit…dit dit dit dah dah. Then he tapped it again in perfect cadence.

So, we left our friend for the last time there in the Charlotte hospital. Once outside, Joe and I were simply speechless. And our eyes were wet, too. The most meaningful end to a QSO I've ever had.

A Rose By Any Other Name…Takes Too Long To Send

[Doug Zweibel](#), KR2Q

Starting on July 13, 2022 there was a brief discussion of "names" used in CWTs. Specifically, it started with one member declaring that from this point forward, he would use a new name during CWTs. Basically, he went from a four-letter name to a two-letter name (actually, his initials). Some further discussion ensued, at least into the next day.

I got curious about the potential impact of such a change. And I also became curious as to what is the most common name of CWops members. The latter seemed like a good starting point.

I used the online member roster file from July 14, 2022, time-stamped as 1827 UTC. A prompt is available to download the member file as an excel file, so that is what I did. Adding up the num-

ber of times a name appeared in the list was easy. But that doesn't really work. It does not work because some members have many calls; hence, their "name" is counted multiple times. Gerry owns 11 different calls on the CWops roster. Close behind is Yuri with 9 callsigns. You get the idea. The solution is to count names by CWops member *ID number*, which is what I did: one member ID is one name. I created a table by Member Name and the number of members who shared that name, and then sorted and each from most to least.

The most common name is John (100 members with that name) followed by Mike (85). There were 490 unique names. But 20 of those are CWO callsigns (not a name), so I removed those. That leaves 470 different names, none of which are in common with any other member. 209 names are shared by at least 2 members. That was interesting, but didn't seem very satisfying. What next?

Since the posted discussion on the Groups.io email was with respect to CWT, for me, the next logical step was to simply count the number of letters per name. That made a nice table, now with three columns: name, how many members shared that name, and the letter count. The shortest "shared" name is two letters (e.g. Ed and Al). Just two letters each...I am thinking FAST to send. But intuitively, Ed is faster to send compared with Al. So total letter count isn't enough.

The next step (another column in the table!) is the relative length in morse code time. This metric has been well defined.

The *dit* duration is the basic unit of time measurement in Morse code transmission. The duration of a *dah* is three times the duration of a *dit*. Each *dit* or *dah* within an encoded character is followed by a period of signal absence, called a *space*, equal to the *dit* duration (1).

<div style="border:1px solid black; padding:10px;">

Dit = 1 unit

Dah = 3 units

Intra-letter spacing = 1 unit (1 dit)

Inter-letter spacing = 3 units (3 dits)

</div>

To determine the "morse code length" in *dit* duration time, I began by doing this manually. It was a pain. So I contacted one of my longtime friends, José, CT1BOH, to see if he had already put something together that would do the calculation. He is so intense with everything contesting, I "just knew" he must have done this already. And he had. Thank you, José, for sharing your interactive cheat sheet with me.

An example of letter count vs dit length can be seen in my own name: Doug. It has 2x the number of letters compared to Ed. But Ed is just a dit length of 11, while Doug is a dit length of 43. Remember that each inter-letter spacing is 3 dits. So more letters also adds more inter-letter spacing. Think about the name Charlie! If I change my name to Dug, I not only lose a substantial dit length letter, but I lose one unit of inter-letter spacing. A big, overall improvement. Should I do

it? What about using my initials instead? Let me know!

To make the table of reasonable size, I arbitrarily decided to use only names which are shared by 10 or more members. And for fun, I included a ranking by how often the name is in common with other members. A tie gets the same numeric rank.

Name	Count	Rank	Letter length	Dit length	Name	Count	Rank	Letter length	Dit length
John	100	1	4	45	Peter	18	28	5	35
Mike	85	2	4	29	Tim	18	28	3	19
Jim	83	3	3	29	Greg	17	32	4	35
Bob	80	4	3	35	Bruce	16	33	5	47
Dave	69	5	4	31	Dick	16	33	4	39
Bill	65	6	4	39	Larry	16	33	5	53
Steve	65	6	5	31	Phil	16	33	4	39
Tom	53	8	3	27	Jeff	15	37	4	41
Mark	34	9	4	37	Pete	15	37	4	25
Chris	32	10	5	45	Alan	14	39	4	33
Ron	32	10	3	29	Carl	14	39	4	41
Andy	31	12	4	39	Eric	14	39	4	31
Joe	31	12	3	31	Rich	14	39	4	37
Dan	30	14	3	23	Terry	14	39	5	43
Ken	28	15	3	21	Chuck	13	44	5	57
Paul	28	15	4	41	Frank	13	44	5	47
Don	26	17	3	29	Rob	13	44	3	33
Gary	26	17	4	43	Roger	13	44	5	47
Ed	25	19	2	11	Charlie	12	48	7	61
Fred	23	20	4	33	Art	11	49	3	21
Al	21	21	2	17	Kevin	11	49	5	39
Doug	21	21	4	43	Lee	11	49	3	17
Rick	21	21	4	39	Vic	11	49	3	29
Scott	21	21	5	45	Hans	10	53	4	31
Tony	20	25	4	41	Jay	10	53	3	37
David	19	26	5	43	Jerry	10	53	5	53
George	19	26	6	53	Randy	10	53	5	49
Brian	18	28	5	41	Stan	10	53	4	27
Jack	18	28	4	47					

Here is the same table, sorted and ranked by total dit length.

Name	Count	Letter length	Rank	Dit length
Ed	25	2	1	11
Al	21	2	2	17
Lee	11	3	2	17
Tim	18	3	4	19
Ken	28	3	5	21
Art	11	3	5	21
Dan	30	3	7	23
Pete	15	4	8	25
Tom	53	3	9	27
Stan	10	4	9	27
Mike	85	4	11	29
Jim	83	3	11	29
Ron	32	3	11	29
Don	26	3	11	29
Vic	11	3	11	29
Dave	69	4	16	31
Steve	65	5	16	31
Joe	31	3	16	31
Eric	14	4	16	31
Hans	10	4	16	31
Fred	23	4	21	33
Alan	14	4	21	33
Rob	13	3	21	33
Bob	80	3	24	35
Peter	18	5	24	35
Greg	17	4	24	35
Mark	34	4	27	37
Rich	14	4	27	37
Jay	10	3	27	37

Name	Count	Letter length	Rank	Dit length
Bill	65	4	30	39
Andy	31	4	30	39
Rick	21	4	30	39
Dick	16	4	30	39
Phil	16	4	30	39
Kevin	11	5	30	39
Paul	28	4	36	41
Tony	20	4	36	41
Brian	18	5	36	41
Jeff	15	4	36	41
Carl	14	4	36	41
Gary	26	4	41	43
Doug	21	4	41	43
David	19	5	41	43
Terry	14	5	41	43
John	100	4	45	45
Chris	32	5	45	45
Scott	21	5	45	45
Jack	18	4	48	47
Bruce	16	5	48	47
Frank	13	5	48	47
Roger	13	5	48	47
Randy	10	5	52	49
George	19	6	53	53
Larry	16	5	53	53
Jerry	10	5	53	53
Chuck	13	5	56	57
Charlie	12	7	57	61

Is anybody going to change their name?

I did not explore your call's dit duration, because you're stuck with it.

And remember…you also have to send your member ID; something else you are stuck with. I have noticed more and more members using cut numbers more and more often…including A and E. Nice! And yes, I have empathy for those with a Zero call and I am envious of those with a 5 call. And today (7/27) I was called by SP1/UX1HW/M. A dit length of 147. O M G !!!

Ref: https://en.wikipedia.org/wiki/Morse_code

Did your **CALL SIGN** change recently?

Did you move to a **NEW ADDRESS** or change your **NAME** ?

Congratulations!

Help us keep our **DATABASE UP-TO-DATE**

Click HERE to update your contact information.

CW Academy

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

A couple of years ago, the CW Academy introduced a new class that went by a few names before we settled on the basic class. This was intended to help students who had completed a beginner class to ready themselves for an intermediate class. Back then, the beginner class was called Level 1, the intermediate class was Level 2 and the advanced class was Level 3. With the introduction of the new class, all of the levels were renamed and the new curriculum was put into place.

Instead of thinking of a "bridge" class between beginner and intermediate, the emphasis was on instant character recognition. It was also recognized that some students' first exposure to the CW Academy would be through the basic class where they would develop the skills to quickly recognize Morse code characters.

Recently, the CW Academy had to make some changes and the existing basic class curriculum was replaced by a new curriculum and the name of the class was changed to fundamental. The focus is still on instant character recognition and also includes many exercises on practical CW exchanges that one would hear on the air. Students are expected to send a lot and class exercises are tailored for students to send and receive the exercises in the curriculum while they are in class.

Along with this, many new practice files were added. A new practice tool was also introduced that uses Learn CW Online, which is a web-based program. Since more students use computers that run operating systems other than Microsoft Windows, for example Apple Macs, this should help those students.

The student signup process now has additional ways that a potential student can determine which class might be best suited for them. These evaluations are presented early in the signup process. This helps to let the student know that it is not required to start with the beginner class then follow that with the fundamental class, then intermediate, then advanced. Students might start somewhere else or skip one of these depending on their skills.

The CW Academy continues to encourage students to take charge of their learning experience and make a commitment to daily practice and follow the guidance of our advisors. Thousands of students have done so and have met with much success and enjoyment.

We hope that anybody who is interested in learning Morse code or improving their Morse code skills will give us a try. An hour a day of practice and a sincere desire to learn is what is needed. While these classes can be challenging at times, they can also be very rewarding.

73, Joe, AA8TA, Bob WR7Q, Roland, K7OJL, CWA Managers

CWops Tests

[Rich Ferch](#), VE3KI

As of the end of July, there have been 120 CWT sessions so far this year. It is now theoretically possible for members in North America and Europe to have reached the gold medal/certificate participation level. For sure this will have happened by the time you read this. As of July 31, the leading CWT participants were N4BP (119), PA2TA (118) and G3LDI (117).

Anyone with more than 90 CWTS under their belt as of the end of July must have participated in at least one of the new 0700Z sessions, and in fact there were 34 people who had reported more than 90 CWT scores for this year by then. All of these folks must have shown up for the 0700Z session at least once, if not more often.

The gold medal/certificate criterion for members in "DX" continents (i.e. other than North America and Europe) is 60, in recognition of the relative paucity of members and participants there, and we have three DX members who have already reached the gold level: AH6KO, PY4XX and VK2GR. Now that we have passed the 120-session mark, we will start to see many more members joining the gold medal club for 2022. There are already 110 who have surpassed the silver medal level (80 CWTs in NA and EU, 40 in other continents), and by the end of the year it is likely that all of them will have moved up to the gold medal list. We have 195 more members who are guaranteed at least a bronze medal or certificate. Most of them will no doubt reach the silver level by the end of the year, and I expect that a sizeable percentage will make the gold level.

In 2021 there were 157 CWops members who qualified for gold medals, 171 for silver, and 150 for bronze. With the addition of the 0700Z session, the ranks of gold, silver and bronze medal/certificate winners will likely exceed last year's totals by a substantial margin.

If you want to see where you stand in terms of CWT participation points, check out the topslist.txt file in the Files area for the CWops group at groups.io: <https://cwops.groups.io/g/main/files/topslist.txt>. Note that this list is not completely up to date: it is always at least a week behind, to allow time for compiling and error-checking the results.

Enjoy the CWTs and keep those reported scores coming!

73, Rich VE3KI, CWT Manager

New Members

[Trung Nguyen](#), W6TN

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

CWops	Call	Name	CWops	Call	Name	CWops	Call	Name
3213	F8DGY	Chris	3218	WE8L*	Jason	3223	KH6NO*	Willie
3214	KC1BMD*	Norm	3219	KB2PIZ*	Mark	3224	EI4BZ*	Dave
3215	WE4AUB*	John	3220	W0NP*	Dave	3225	EI8KW*	Ryan
3216	N7KT*	Rob	3221	AA5WZ*	Wayne			
3217	AK0A*	Ken	3222	KJ7NYZ*	Anna			

* = Life Member

Current Nominees

As of August 6, 2022

Need Sponsors: WB9VPG, K5VG

Invitations Extended:

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

Note: 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. Thank you.

73, Trung W6TN, Membership Manager

CWops Member Awards

Bill Gilliland, WØTG

Monthly Update

During July, additional members submitted logs and the number of active participants in the awards program increased to 239 participants. The scores and rankings for the first week of August 2022 have the same familiar calls in the top five positions with **KR2Q** remaining in first place and leading second place **AA3B** by 120 points. There's some shuffling of other positions with **DK9PY** entering the top ten in sixth place and **N5ZO** moving into the top ten in ninth place. The top ten this month are **KR2Q, AA3B, K3WW, N5RZ, NA8V, DK9PY, K3WJV, KG9X, N5ZO** and **DL6KVA.**

With the addition of **DK9PY** and **N5ZO** this month, fifty-four members have now contacted CWops members in 100 or more DXCC entities. The number of participants who have accomplished CWops WAS grew to 139 this month with the addition of **N5ZO.** You can see complete rankings for all award categories at https://cwops.telegraphy.de/scores.

CWops Award Tools Participation

The Top 100 ACA scores reported in Solid Copy represent **active** participants only, meaning you must have submitted a log in the current year. Since ACA scores reset to zero at the beginning of each year, active participants are those shown with a non-zero ACA score.

At the end of 2021 we had 257 active participants in the Member Awards Program. As of August 4, 2022, we have 239 active participants. If you haven't yet submitted any logs for 2022, please do so soon, and we can include your score among the participants.

Inactive participants previously achieved scores in categories other than ACA that are not shown in the Searchable and Sortable Scores Table. To see rankings and scores for both active and inactive participants please use the Score Overview Table where inactive participants are listed with ACA scores of zero, but their scores in other categories are listed at the highest level that was previously submitted.

You can see the final 2021 scores or final scores for any other year by going to the Score Overview Table and selecting the desired year from the "Final scores:" list at the top of the page. All scores categories on the page will then show the final scores and standings for the end of the selected year.

The Searchable and Sortable Table can graph your current year's ACA scores by date and allows you to compare your progression to that of others. Check the Plot button for the calls you wish to see plotted and they will all appear on the same graph.

The CWops Award Tools website main page provides a means of printing your CWT Participation Certificate. You may request a downloadable certificate by clicking the "CWT certificate download" selection at the top of the page. For more information about CWT Participation Awards, please go to https://cwops.org/cwops-tests/ .

About the CWops Member Awards Program

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

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

Please Join Us!

Fabian, DJ5CW, who created the website and the tools, made it extremely easy to participate in the awards program. If you are not among the CWops members who are currently participating, please join us! It adds a lot of friendly competition and fun to your operating.

More Information

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

Current ACA Top 100

Here are the Top 100 ACA scores for the first week of August 2022:

Rank	Call	ACA	CMA	DX	WAS	WAE	WAZ	Rank	Call	ACA	CMA	DX	WAS	WAE	WAZ
1	KR2Q	1701	6322	155	50	54	37	14	VE3KI	1139	7140	139	50	53	37
2	AA3B	1581	12160	129	50	48	38	15	W1RM	1120	8300	214	50	61	38
3	K3WW	1463	9472	132	50	50	38	16	K3JT	1104	5305	101	50	45	30
4	N5RZ	1381	8079	122	50	44	36	17	KC7V	1054	5099	90	50	36	32
5	NA8V	1285	7541	112	50	47	35	18	K1VUT	1041	4955	76	50	40	23
6	DK9PY	1238	4219	102	50	45	32	19	K6NR	993	4276	64	50	31	28
7	K3WJV	1236	6923	114	50	49	31	20	W8FN	988	3896	70	50	34	22
8	KG9X	1216	5503	85	50	37	27	21	CO8NMN	985	3779	71	50	35	23
9	N5ZO	1207	8043	109	50	46	35	22	K9WX	982	4886	96	50	37	30
10	DL6KVA	1196	6557	178	50	61	37	23	K4WW	976	4590	83	50	37	29
11	K7QA	1175	5352	84	50	39	29	24	WT9U	975	5314	103	50	41	30
12	N5AW	1161	5445	97	50	45	33	25	NJ3K	970	3324	66	50	38	21
13	N7US	1153	5829	112	50	42	33	26	N3QE	966	7346	128	50	48	35

Rank	Call	ACA	CMA	DX	WAS	WAE	WAZ	Rank	Call	ACA	CMA	DX	WAS	WAE	WAZ
27	AA5JF	965	3350	79	50	38	27	65	K2TW	718	3442	59	50	31	21
28	VE3TM	944	3279	86	50	42	25	66	N4FP	711	2505	57	49	31	19
29	W9ILY	942	6051	133	50	45	36	67	KM4FO	708	2652	45	50	17	16
30	W0UO	938	3476	61	50	34	21	68	WS7L	707	1954	47	50	20	20
31	N4CWZ	932	2816	54	50	30	20	69	KE8G	706	3300	78	50	35	25
32	N5KD	922	2299	85	49	40	33	70	AE1T	698	4367	111	50	49	33
33	K3PP	913	5026	103	50	45	28	71	OZ3SM	695	2609	103	49	48	35
34	NA4J	912	3589	74	50	34	24	72	KC4WQ	689	2889	54	50	27	23
35	K1DJ	911	4312	98	50	42	28	73	AC6ZM	685	3877	66	50	36	22
36	N1DC	903	4717	86	50	40	24	74	W0NF	681	1219	23	49	9	13
37	VK2GR	889	1485	64	49	35	26	75	EA4OR	670	2454	78	50	46	27
38	WN7S	883	3941	73	49	34	25	76	K8AJS	668	4157	104	50	44	31
39	K1EBY	873	3835	92	50	39	31	77	NR3Z	650	2702	77	50	37	26
40	K3ZA	846	2335	47	50	31	18	78	F5SGI	649	1875	90	49	47	30
41	WA4JUK	838	3673	84	50	41	26	79	I2WIJ	648	3679	90	49	44	31
42	KV8Q	831	2716	64	50	30	23	80	G4LPP	645	1850	82	49	45	28
43	9A1AA	828	4102	124	49	52	38	81	NN4K	641	2751	61	50	30	22
44	N8BJQ	827	7356	133	50	48	39	82	SM6CUK	638	4406	156	50	56	38
45	K3QP	825	2761	75	50	36	24	83	K3ZGA	624	1949	52	50	27	18
46	VE3MV	811	3338	81	50	41	20	84	EA3FZT	621	1910	75	47	43	24
47	W0VX	808	5519	127	49	45	36	85	W4CMG	610	1369	40	49	19	16
48	AF4T	803	2744	71	50	36	26	86	N3CKI	608	1303	41	47	24	14
49	EA1X	791	2570	76	48	42	28	87	W3WHK	606	2984	73	50	34	21
50	KT5V	785	3260	79	50	29	29	88	EA6BF	598	1475	66	44	41	23
51	K4TZ	779	2690	42	50	19	16	88	WX8C	598	935	21	47	14	9
51	N2UU	779	5220	112	50	46	31	89	4X6GP	597	2549	115	48	46	34
51	WT3K	779	3842	80	50	42	25	90	WT2P	593	4285	84	50	31	27
52	W4WF	770	4235	87	50	40	30	91	K0TC	587	2884	60	50	25	21
53	W0GAS	762	1988	44	50	18	20	91	W7GF	587	1955	48	50	14	21
54	DF7TV	757	2572	100	50	48	34	92	OK1RR	584	3633	147	50	52	38
55	K1SM	755	3986	131	49	46	36	92	VE3KIU	584	1152	35	46	24	13
56	W6LAX	746	2179	39	49	17	20	93	W1AJT	578	1678	61	49	34	22
57	K8JQ	742	4699	65	50	31	23	94	W0TG	576	2781	63	50	26	25
58	W1UU	740	4224	113	50	41	32	95	KB4DE	574	1713	52	50	28	17
59	AF5J	735	2232	54	50	22	22	96	G4PVM	563	2177	94	50	47	31
60	KA1YQC	730	1865	61	50	33	20	97	N1EN	557	3251	124	50	47	34
61	KK0U	726	1352	38	49	21	17	98	W2CDO	544	2364	62	50	36	21
62	K4EU	725	1258	42	48	22	17	99	M0RYB	543	2037	77	46	43	24
63	N5XE	721	2933	75	50	35	26	100	K4FN	532	764	17	44	10	10
64	K4GM	719	3736	85	50	37	27	100	SM0HEV	532	2202	104	50	48	33

QTX Report: Enjoying the Art of Conversational CW

Bruce Murdock, K8UDH

Many of the emails and comments I receive from our CW Ragchewers are very inspiring, like this one from Megan EI5LA:

> Ragchewing was lot of fun this month, both with people I've never had a QSO with before and skeds with friends. Had some great QSOs with my good friend Rafal (EI6LA) this month too. Thank you Rafal and everyone else who took the time to have a CW ragchew with me.

Megan is thanking everyone who **took the time** to have a CW ragchew. Think about that for a moment. When we take the time and get on-the-air for some conversational CW it's not only fun for us, but it often means even more to the person we're talking to. We don't know anything about who we're working unless we really talk with them. If we talked to EI5L, we would learn that Megan is only 15 years old.

On a personal note, my family activities affected the QTX Report this month. The first part of August was a busy time. Our daughter's wedding was August 6, and we were traveling for the wedding and involved with family activities from August 3 -8. Since the deadline for submitting my QTX Report for Solid Copy is no later than the 6th, I submitted it on the 2nd. The September Solid Copy will have the QTX and Mini QTX QSOs for both July and August, the Yearly Totals, and all the comments for our QTXers for both months.

Many people think CW is the best part of ham radio. I do. It's just plain fun.

73, Bruce, K8UDH, QTX Manager

My Story: New Member Biographies

Compiled by [Tim Gennett,](#) K9WX

Chris Vigli, F8DGY

I'm born in 1972 in Paris. I discover the radio in the 80s when I was going on holidays with grand-oncle that was F6TOM. And when I see his shack with a beautiful ft7b Somerkamp and hé switch on it and talk with other people in the world, I was really happy and sure very interesting in doing that.

When I go back home he give me à little 8 channel AM with changing quartz and à mobile antenna.

I heard some Morse code in end of CB band (start Ham band, 28 MHz) and sûre wanted to know

this music ... And many years later I décidé to become à ham radio operator and for HF band access needed to learn CW. I found à few stations that give a course on VHF FM .. They send CW and make correction after. I take 8 months before ready for exam.

So now it's my favourite pastime and do 99.9 % in CW.

I have other hobby, I love rugby and practice it again today!

I live in à house near Paris and with my wife and have two daughters, 18 and 20 years old.

So in the past years a few have asked me to become à CWops member but was not at first interested, but finally after à good rag chew QSO with Martin OK1RR, when he ask me if I was interested in CWops I finally accept it, because it's very good to continue to keep CW activities. And continue to try to give interest in this art that need only ears, à brain and à pen for logging.

Hope to heard you soon on air with bug or other paddles.

Alex Hill, G7KSE

Like many introductions I want to start with some thanks. Firstly to Keith, G0HKC and Kit, G0JPS as advisors and to my fellow CWA cohort of Kat, KK6CN David, M0WDD and Enzo, M0KTZ who made the last few weeks so enjoyable. I never expected to be nominated and it has been a very nice surprise, also thanks again for the nomination and the sponsors. Mrs G7KSE gets an honourable mention for putting up with this geekery.

My radio journey started in the late 80s as an SWL with an Eddystone 730/4. I drilled holes in my parent's walls and window frames for a coax and climbed onto the roof whilst they were out. They weren't entirely happy when they came back but they still talk to me, I think it's mainly so I fix things in their house though. I got a licence in the early 90s and promptly shelved the hobby in favour of stuff students do when pubs are nearby. Fast forward to 2004 where I saw a TS50 in the back room of the vicar's house who was going to conduct our wedding service. We started talking about radio and everything restarted from there. A family came along soon afterwards and that inevitably slowed radio things down for a bit, but never really stopped me listening. In the following years operations were limited to a handful of contacts each year but I enjoyed building stuff, every now and again something would actually work. But it wasn't until a local ham donated a key and keyer as part of a shack clearance that I looked towards CW and getting more active.

That gift started a journey with CW that will no doubt continue for many years to come. My QTH isn't ideal for operating so /P is the norm for me. Like many others I'm into SOTA and activate the

(Continued from previous page)

local Lake District summits when it's not horizontal rain (which any visitor to the lakes will testify that that happens even when its sunny). I did complain about this to a local when I first moved here but he just said, 'You can't have lakes without rain lad'. He was of course right. I'm active on HF through to 13 cm (the little grey box in the photo is my SOTA 13cm Xverter), mainly on summits but am still missing that transatlantic SOTA CW QSO. I suspect that most chasers across the pond aren't quite out of bed when I'm on air but I'm hoping one will have insomnia one day. A QSO from my home QTH should be seen as either rare DX or that you're doing the heavy lifting. I doubt I will ever worry those at the top of the CWT tables with my station, but I value every contact and enjoy using my new found skills I learnt with CWA.

Away from radio I have a teacher wife, Hannah and 2 teenage kids, all have no interest in radio, despite my encouragement. They will follow me up a fell if there is suitable bribery and tap their watches when activation time is over. I coach a youth rugby team, row on the beautiful Derwent Water and am a keen runner and cyclist. For work I am a mechanical engineer and spent many years in the D part of R&D, developing remote equipment to decommission hazardous nuclear facilities. Now I provide strategic guidance on carbon reduction within the nuclear industry.

Mark Finkelstein, KB2PIZ

Thank you to all that helped me along in this journey! Mac (who got me started), Mark/GQ (who opened my eyes to a whole new world of Windows and how to really learn Morse code), Joe (showing me what is possible), John/KHZ (sitting up with me figuring out how Windows works), John Burgess (having fun on our Zoom sessions) and Chris (a good friend pushing me forward), Pat, and all the others too numerous to mention. Thank You!

A special thank you to John (AJ1DM) for taking the time every week to ragchew with me and nominating me. I look forward to getting better and better at that. I appreciate the time you spend with me.

My journey in radio started when I was a little boy. My father was a WW2 First Class Radioman and we would build radios, tinker with TV's, and fix just about anything electronic. I learned to read schematics and solder. To this day I still inspect all joints I solder and put a dab of red nail polish on it! My father could head copy 30+ WPM and that always amazed me.

The funny thing though was that we never went to get a license.

I joined the US Navy in 1971 (to avoid being drafted), and wound up as a Communications

(Continued on next page)

Officer with the 7th Fleet. I really liked the Navy and wound up staying for 21 years, retiring in 1992. I served on 5 ships and spent most of my career at sea (USS Oklahoma City, USS Gurke, USS Virginia, USS Peoria, and USS Fort Fisher).

When I retired I came home to New York City and took my father to Barry's Electronics on Broadway where we both sat down and took the Technician Plus test. We both passed the first time! He was KB2PIY (SK) and I was KB2PIZ.

We built a small QRP transmitter, strung a 28 foot wire around the inside of the attic in Queens, NY. The counterpoise ran down the stairs to my mother's dismay! My father would go up to the attic all the time to copy "skeds"! He would paper copy all the high speed code he could find, yet rarely transmitted. I guess he was still afraid submarines would find him!

I bought a SGC 2020 and home brewed a 20 meter dipole on the roof. I worked mostly CW as I always saw Voice Comms as something "too easy". However, I never felt comfortable with higher speeds in Morse Code and always wanted to get to the point where I could copy and rag chew easily.

After I retired from the Navy, I started a business teaching people how to play pool. Pool has always been a passion of mine and since my wife didn't want me working in the military/industrial world, I figured at least I could work at something I really loved.

At about the same time, my brother opened a Burn Unit at a Hospital in New York and asked me to help him administer the Burn Unit for a few days every week. I did that for 12 years, until he died and the hospital wanted me to become full time. I declined and worked at my pool business full time.

About this time I discovered CWops and thought it was finally time to really learn Morse code. I am thankful I did and am thrilled at my progress!

I still make things, have a collection of QRP rigs (Elecraft KX1 (3), Mission RGO 1, Lab599 TX-500, and a new FX-4C. I pretty much only use CW, but with the FX-4C I may try to set up some of the digital modes.

I am thankful for all the support I received along the way to become a CWops member.

Looking forward I am interested in starting some sort of program to bring high school kids into the world of Morse code. I am a mentor to a high school billiards club and would like to bring that approach to the Morse code world. When I look around and only see old people, it scares me!

Jason Warren, WE8L

First, I have to thank Stan (AH6KO) for his nomination and mentoring through the process of joining CWops. And Mike (KT5C), George (NE5A), and Doug (KR2Q) for their sponsorship. Thank you, gentlemen, very much.

I grew up in Kentucky but currently live in the suburbs just north of Cincinnati, Ohio. I had two separate careers, one in law enforcement and one in academia. After some great adventures in both, I am happy to say that I am now the full-time handyman and chief BBQ chef at home with my beautiful wife, Kathy, and a cat who sleeps a solid 20 hours each day.

I was first licensed as a Technician in 2015 when I was at the University of Kentucky and taught my-self enough code to be able to ID repeaters when they would send their call at the top of the hour. When the pandemic began, I decided to upgrade to Extra and to become proficient at CW so that I could chase some of those rare DX that always seemed to be just out of reach. I'm fortunate to have some wonderful Elmers in local clubs (W8GEX, W8KJ, and KC8RP) and I have them mostly to thank for being completely and hopelessly hooked on CW as well as DXing.

Outside of radio, I love to BBQ and very few people leave our house hungry. I've also played guitar most of my life and I have recently taken up paint-ing. My wife and I both enjoy traveling so Parks on the Air has been a logical addition to all of our ad-ventures. I always check the POTA map whenever we plan a trip.

Thank you all for the warm welcomes as well as the QSOs. I only hope that I can be as good a steward of the hobby as so many have been to me along the way.

Ken Kopp, AKØA

I first became interested in "radio" at a young age, having grown up near an AM broadcast sta-tion that shared its frequency with the former legendary border blaster, XERF. I found the night time long distance radio propagation to be nothing short of magic. A central Plains ice-storm in the early spring of 1984, which left me and my family with only a battery-powered transistor ra-dio as our sole form of technology for nearly two weeks, made my radio-affliction even worse. Parents enabled my interests with radios and electronic project kits. Grandmothers gave me Part 15 (49 MHz) walkie-talkies. Family friends loaned me antique tube shortwave receivers. Eventual-ly, I stumbled upon two hams having a conversation on 40 meters - AM. I clearly recall an engi-neer for WGN in Chicago causally chatting with another ham in California. I've been hooked ever since.

With the help of my hometown radio club, the Marshall County (Kansas) Amateur Radio Club, I obtained my Novice License (Originally licensed in 1985 as KAØVSZ). With the help of my dad, I obtained my novice rig, a very used Kenwood TS-520. I quickly followed with upgrades to Techni-cian and General in early 1986. But despite the phone privileges afforded by those upgrades, I

always had an affection for Morse code and found myself in the CW sub-bands. High school and college took priority for a few years, but I finally progressed to Amateur Advanced in February 1991, and then Amateur Extra prior to the Y2K amateur radio license restructuring. My current interests include DXing (with CW DXCC #10,766 and individual awards on 7 bands, so far), contesting, traffic handling, emergency preparedness/communications, Raspberry Pi and Linux on the ham radio desktop. I am a member of the Society of Midwest Contesters. I am currently serving my third term as Secretary of the Douglas County Amateur Radio Club, in Lawrence, Kansas. And I was recently appointed ARRL Assistant Section Manager for Kansas.

Outside of ham radio, I am a Professional Geologist and have spent my entire career working in the world of water resource management. I spent 23 years with the Kansas Department of Agriculture's Division of Water Resources. I am currently Assistant Manager of the Kansas Rural Water Association, where I have been employed for the last 7 years. My areas of interest and expertise are in water rights and source water protection for communities and rural water districts.

Thank you to my sponsors and I'm very happy to be part of CWops. My only regret is that it took me so long to participate. The demands of home and work life have distracted me from CW contesting in recent years, but the CWTs have been an EXCELLENT way to get back into the groove and I look forward to working you with my Elecraft K3 SN #4583.

Mike Tortorella, W2IY

I was first licensed in 1961 as WV2TGL (Novice) and WA2TGL (Technician) while attending the Bronx High School of Science. Many of the guys I hung out with were licensed so it was easy for me to catch the bug. We had a school station, W2MQQ, with a Collins S/Line and a 3-element triband Yagi on the roof. My home station was much more modest, a Johnson Challenger transmitter, a Hallicrafters SX-140 receiver, and a Mosley trap vertical on the roof of our home. I spent a lot of time on 6-meter AM yakking with my friends, but TVI was a constant headache. I passed my General in 1962 and Extra in 1964 (anyone remember drawing schematics of Hartley oscillators on the exam?).

But the CW bug soon bit, and bit hard. My friend Tom, WA2UXZ, designed a keyer using a pair of 12AU7s. I built one and put it on the air, and by 1964 I was chasing DX on the CW bands (first DX contact was DL3JJ, and he still owes me a QSL). After W2MQQ (now gone, sad to say) I attended Fordham University (K2FO, also now gone) and then Purdue for graduate school. College days were busy and did cut into my operating time, but W9YB at Purdue offered other opportunities for building, FD, and other HR activities. I had no home station during grad school, so operating was limited during those years. After grad school, I ended up at Bell Labs in Holmdel, NJ, where I landed among a group of enthusiastic hams who encouraged me to get back on the air. My new home station was now a Johnson Navigator (40-watt CW-only transmitter) and a Collins 75S-3B, with an OCFD constructed from an article in *Ham Radio* magazine. At around this time, the FCC was reissuing callsigns from deceased amateurs, so I successfully claimed W2IY. I think of Ed Dugan, 2IY from 1912, as my ham radio "granddad" and I hope he feels I am doing his old callsign proud.

The Bell Labs days were busy-busy with career and family so I was off the air for some time. The bug bit again when XYL and I were vacationing in Maine, on Mt. Desert Island, so I set up a temporary station there at the house we were renting. Mt. Desert is NA-055 in the IOTA program so I operated the IOTA contest for several years from there, happy to provide what I have since learned is a fairly rare IOTA counter to a lot of IOTA participants. Then back home in NJ I continued operating (CW, of course) with a Yaesu FT-920 and the same OCFD design I first used in 1975.

Three years ago, after retirement, XYL and I moved to 6 acres of high desert near Santa Fe, NM, where I set up my station now consisting of a TenTec Orion and Hercules II amp and a Butternut HF2V vertical. A tower with an Optibeam 9-5 is under construction. I was fortunate to have landed in the midst of a group of very enthusiastic CW operators whose friendship and support I value highly. Needless to say, I am still a CW-only operator, and happy to be a member of CWops. I also belong to the True Blue DXers Club (tbdxc.org). I hope you have enjoyed reading this brief bio and I'm looking forward to meeting more of you on the air. CW forever!

Amanda Plexico, KY4GS

On April 14, 2021, I passed all the written exams to become an Amateur Extra. In the Fall, I wanted to operate CW mode, so I studied Morse code and was on the air in less than 2 months. I joined a contest club and believe that contesting from the very beginning facilitated my progress by listening to higher speeds. I regularly participate in SSTs, MSTs, CWTs, state QSO parties and other contests. I had a wonderful time operating as K2L for SC in the 2022 annual 13 Colonies special event in CW mode. More recently, I discovered that I thoroughly enjoy ragchews, so outside of contests you may hear my CQ (or I might answer yours).

I am honored to be a member of CWops; I am grateful to those who nominated me and sponsored my membership; and I feel fortunate to be mentored by many experienced CW operators (too many to list). For me, becoming a member of CWops is a privilege and symbol of progress that I made. CW has become a passion for me, and I am thrilled by each QSO. I now try to share this thrill by guiding others as they learn Morse code, so that they too can operate in CW mode one day. I hope to make a difference for others and will never forget those who have patiently assisted me along my journey.

Other memberships include South East Contest Club, Long Island CW Club, Straight Key Century Club and ARRL. I am a member of two local clubs and regularly check into their weekly nets.

I grew up in a small rural farming town in SC surrounded by relatives, crops and cattle. Upon returning from school, I came to reside a few miles from my childhood home. My formal education

is in mathematics, computers and philosophy. I have programmed, freelanced as a technical consultant, worked in IT (troubleshooting networks, software and hardware) and worked as a legal assistant. In my spare time outside of amateur radio, I like to cook, garden, enjoy nature and spend time with family/friends. Other hobbies include knitting, baking sourdough bread, dabbling in art and home-improvement projects.

Rob Crews, N7KT

N7KT, left and XYL NO7U, right.

My former calls: KN6LKD, K6LKD, K6JN, KB1K, K1VA, and KO7W. A month after I entered high school in 1957, the Russians launched the first Earth satellite, Sputnik 1. A family friend loaned me a Hallicrafters S38D receiver to try and find its 1 watt beacon signal. Tuning just above (20.005 MHz) 20 MHz WWV, I don't remember if I really ever heard the signal.

After 3 weeks Sputnik 1 stopped sending. I started tuning around the bands and came across the 40 m amateur band. I guess somewhere around this point I was getting hooked. I got an ARRL License Manual. Started practicing CW by sending code to myself. Then Charlie, W6UQF, gave me the exam and I passed! Was issued call KN6LKD on January 28, 1958.

Spent many hours as a Novice operating and met many new friends. On December 17, 1958, passed General Class exam-- first try! Thought I'd fail miserably -- but not because of Morse code.

The year 1959 would prove to be monumental for me. I got exposed to contests after operating Field Day and Sweepstakes. Got introduced to traffic handling after being talked into listening to several NTS nets. Both contesting and traffic handling were CW only. My fate was sealed!

One night in 1960 the manager of the So Cal Net showed up with a brand new W9TO keyer. It sounded pretty good keying his Collins 32V3 -- which already had beautiful keying. In my book CW was here to stay! I never owned a 'TO keyer but I built my share of keyers -- some sounded great; some not so much. The one with a single 6AQ5 and no voltage regulation was a classic.

Life went forward: College; work; marriage; move; change jobs; periods off the air; move; change callsigns; change jobs; etc, etc. Radio went in spurts and dormant periods. Where has all the time gone? Finally in May of 2019 I bowed out of CW traffic handling after some 30+ years off-and-on. Only thing left was contesting. I'm too old to sit in a chair for 24 straight hours. One night earlier this year (2022) I was tuning around the CW bands and came across a Wednesday night CWops test. Really caught my interest. These guys are really good and some are really fast. Why not? It's the fastest 60 minutes in radio. I want to thank Jim McDonald, N7US, for nominating me. Also thanks to Sponsors Hank W6SX, Jim WT9U, Max VE6RST, Doug KR2Q, and Rob K6RB.

John Hathcock, WE4AUB

I must admit that I was shocked when I received a nomination to CWops from N7US in mid-July. I had aspired to receive an invitation one day. Frankly, I did not expect an invitation this soon in my CW journey. Many thanks to Jim (N7US) for the nomination, along with the sponsorship from Hank (W6SX), Steve (KO4VW) and Phil (K4PQC). Also special thanks to Steve and Phil, along with Richard (N1RBD) for getting me started with CW just a few months ago. I have been fortunate to have exceptional local CW Elmers to introduce me to the world of CW.

I was first licensed a year ago this month in August 2021. In December I passed my Extra exam and made my first CW contacts in the same weekend. The journey since that time has been a blur, but also enjoyable.

My father taught high school electronics for a few years while I was growing up. Couple that with an engineering background and amateur radio was a natural fit for me. After his passing in late 2020, I was looking for something to distract me from everything. Many had suggested I get my license, and I finally did. I never thought I would be learning CW, getting picky about keys, or trying to drag a portable radio station up one of the mountains here in North Georgia, yet here in the middle of 2022 I am doing just that.

I'm appreciative of the opportunity to be in the company of a group with the high standards of the CW Operators Club, and hope that I can live up to the faith many of you have shown in me to get this far. I still think I have a long way to go. I look forward to making that journey with all of you.

Norm Kaplan, KC1BMD

I was originally licensed on Long Island, NY (Novice '67, General '68) and operated using my Heathkit DX-60B and HG-10B VFO that I built plus a Hammarlund HQ-110A and dipole. I only operated a couple of years before going off to college. Life got in the way and unfortunately, I let my license expire. I had thought about getting back into the hobby a couple of times after that but just couldn't seem to make it happen.

Fast forward to 2014: I started to think about what I would like to do in retirement. Ham radio was an obvious choice, so I jumped in with

both feet and got my General Class license back. It didn't matter to me that they removed the code test requirement, as I felt obliged to get to at least 13 wpm, (the requirement back in '68 when I had taken my General exam in the big old FCC building in NYC).

When I upgraded to Amateur Extra Class a couple of years later, of course I again felt obliged to get to at least 20 wpm or I wouldn't feel worthy, which I eventually was able to do.

After that, I set my goal higher and that's where CW Academy really helped. I'd like to thank my instructor (Joe, KK5NA) and my classmates who encouraged me to get better. I feel a real sense of accomplishment being a CWops member as I continually try to become a better CW op.

I have a modest station now with a couple of Icom rigs and simple wire antennas (dipole, delta loop, EFHW). If you hear me on the air, please give me a shout!