



Photo by N6CC



# NEWSLETTER PROMOTING **MORSE CODE** WINTER 2024

## WHAT'S HAPPENING IN LICW: WINTER UPDATE

By Howard WB2UZE

I'm very pleased to report that LICW had a very good year in 2023 and here is a summary of some of the highlights that are going on:

### MEMBERSHIP

We are attracting over 100 new members per month and our re-up rate is running 85%. At this writing we have almost 4700 members and we got some new countries now totaling 56.

### OUR CURRICULUM

Our curriculum has been completely rewritten from Beginners all the way through Advanced, thanks to the hard efforts of many of our instructors and lead by Mike N1CC. Our practice page is very sophisticated and has tremendous value for anybody learn-

ing CW. Countless hours were put into all of this by many members.

### SOCIAL MEDIA

We have an active YouTube channel, quarterly Podcasts and quarterly Newsletters. All of these medias are very interesting ways for members to find out what's going on in the club and to hear personal stories from others.

Our Discord, and WhatsApp channels are very active and members are having fun communicating with themselves and finding each other on the air.

### LICW CHALLENGE

This ongoing event is doing very nicely, and many of our members are participating and making QSOs.

### PROGRAMS FOR DISABLED MEMBERS

Our programs for members with disabilities is always growing, and we

have attracted a number of blind ham radio operators, and our vibrational haptic device is selling nicely.

### F2F

We have started up the Face-to-Face program across the country and are also making plans to attend all major hamfests and conventions, thanks to the great efforts of Bob W06W, Jim W6JM and Roland AE6VL, plus a number of regional coordinators.

### OUR FORUMS

We have weekly forums on a variety of topics and it's not easy to get speakers, but we're still managing to book them out and our three major forums will continue up to summer break.

So things are alive and well and we hope you are enjoying all the club amenities.

# EARLY 20TH CENTURY WIRELESS ON THE GREAT LAKES

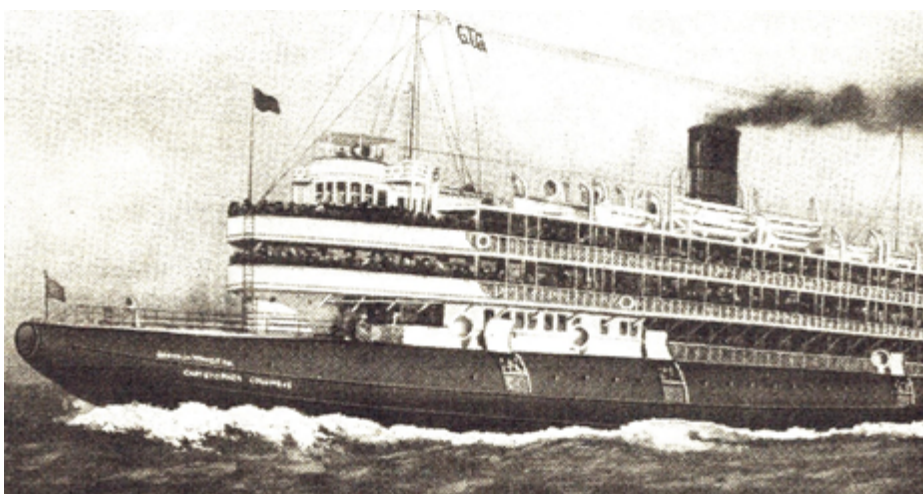
By Harold J. Burhop (SK)

I had the pleasure of operating stations WMX, WDR, NAJ, WMW and WGO, amongst others, plus ships on the Great Lakes from 1916 to 1921.

The station at Duluth (WDM) was located atop a 700' hill upon which Duluth is built and could be reached via an inclined railway which has long since disappeared. Mackinac Island prohibits motor vehicles on the island, but at one time Operator Tellefson ferried his car to the island and ran it up the hill to the station. After the arrest, Tellefson fought the charge but lost out. WMX at Manistique was located in a railroad boxcar alongside the Ann Arbor Railroad station. WMW at Manitowoc had the unusual distinction of being located on top of the Rahr Brothers Brewery. WBL in Buffalo was serviced with 25-cycle AC and so the rotary gap had the 25-cycle purr in it and could be instantly recognized. WGO in Chicago was on top of the Congress Hotel and WME at Milwaukee was on top of the Railway Exchange Building.

There were 16 American and 8 Canadian shore stations on the Great Lakes at that time. Of the 14 American Marconi stations, all but one had the old 2-kW United Wireless "coffin" transformers with the 40,000-volt secondary, condenser consisting of a dozen Leyden jars in series-parallel in a mahogany case, and the Marconi one foot brass disc and rotating stud for the spark gap.

WGO at Chicago had a 500-cycle quenched gap transmitter. The eight Canadian shore stations had identical 240-cycle synchronous rotary spark gap transmitters with "pump handle" keys, and they sounded so similar that you couldn't tell which one you



were hearing until you caught the call letters. "NAJ" had a 5-kW, 500-cycle spark and a 30-kW arc set.

There were almost 100 passenger ships and 400 freighters and railroad car ferries operating on the Great Lakes. Most of these carried operators. WFD, the S.S. Nevada, was a modern ice breaker commissioned in 1915 and was chartered in the Spring by the



Coast Guard to assist in opening a channel through the ice of the "Straits of Mackinac" and Whitefish Bay in Lake Superior.

The S.S. Christopher Columbus was a passenger whaleback, shaped like a huge fat cigar. There were quite a few whaleback freighters then, since completely done away with. Some of the older passenger ships, such as the Sheboygan, City of Detroit, Seeandbee, and others were sidewheelers. WCA, the S.S. Juniata, already old in 1916 had been modernized and converted into the S.S. Milwaukee Clipper, which continued to cross the lake on schedule for many years.

My first 1916 "lake trip" was on WCD, the S.S. Octorara. The ship docked at the Kemp Docks in Sault Ste. Marie. We went to see the sights in the city with Eric Lyons, first operator. We got back just in time to see the Octorara about 100' from the docks. Lyons asked me if I could run. I told him I could, so he said "lets run for it," so we started out....and run we did.....or about a mile and a half to the Soo Locks, just in time to step aboard as the Octorara was locking through. We apparently were not missed.

At the Soo, the U.S. Steel service ship Ojibway would run alongside freighters plying the St. Mary's River connecting Lakes Superior and Huron, and with her own hoists deliver groceries and supplies. At Detroit, a mail boat would operate similarly on the Detroit River connecting Lakes Erie and St. Clair. Iron ore, wheat and coal were principle lake vessel cargoes.

Some of the pre World War One operators were Mr. Dent, Marconi Manager at Chicago WGO; Wilkensen at WME Milwaukee; Biesemeyer at WMN Manitowoc; Tellefson at WHQ Mackinac Island; Judge at WMX Manistique; Mowery at WLD Ludington; Slyfield at WFK Frankfort; Lyons and Burhop on the S.S. Octorara; Piersol on the Nevada, Alabama, Virginia, Georgia, and others; Mathews and Prenzel on the Carolina; Tellefson

on the Christopher Columbus; Dibbell on the S.S. Eastland when it turned over in Chicago Harbor in 1914 with the loss of almost 1,000 lives; O'Keefe on the Yacht Lydonia.

When navigation opened in March, the Coast Guard ice-breakers would open a channel through the ice of Whitefish Bay into Lake Superior, which almost never freezes over completely. Ships were held at the Soo, then escorted through the ice. Watching a convoy of 27 freighters and 2 cutters made for a fascinating sight.

The Soo Locks had 4 locks in parallel on the American side, plus one on the Canadian side. They could also be used simultaneously. An additional lock was built which is 1,200 feet long, 110-feet wide and 31 feet deep. At the time of its construction, it was the largest lock in the world. The Soo locks handled more tonnage than the Panama and Suez canals combined – during peak years, they would average better than 130 ships a day for the entire 9-months of the navigation season.

There are several canals on the Great Lakes waterway. The "Portage" ship canal cut through the Keweenaw Peninsula near Houghton, Michigan. The "Sturgeon Bay" ship canal cut through the Door Peninsula at Sturgeon Bay, Wisconsin, and the "Neebish" Rock Cut in the St. Mary's River provided a separate downbound channel.

Eventually, the wireless telegraphy system and operators were replaced by radiotelephone equipment handled by the skippers and their mates. The ferries at the Straits of Mackinac have been replaced by the great Mackinac Bridge, which is 5-miles long and 155' above the water, with two suspension cables containing 42,000 miles of cable wire over two feet in diameter.

## WILL YOU BE THERE? THE LONG ISLAND CW CLUB WILL BE!

BY Dave Carpenter  
AC3AV "Slow and ugly CW"

The Long Island CW Club will have a booth at 2024 HamCation Orlando FL. February 9-11 in the Commercial Hall. Booth #95.

HamCation® is the 2nd largest gathering of radio amateurs in the world annually. HamCation will kick off on Friday, Saturday, and Sunday, February 9-11, hosted at the Central Florida Fairgrounds and Expo Park in Orlando, an 87-acre lakefront fairground.

HamCation is sponsored by the Orlando Amateur Radio Club, an ARRL-affiliated club, and is supported by volunteers from radio clubs throughout the region. The published gate figure for 2023 was 21,800 (all 3 days). The website <https://www.hamcation.com> includes details on tickets and information about forums, exhibits (including information for vendors and tailgaters), testing, travel, and preferred hotels with special rates.

The Long Island CW club would like all its members attending HamCation to come by our booth (#95). We would also like members to help out at the booth by staying a while and talk to interested visitors about the club, you don't need to be an instructor or experienced CW operator. BC1 and BC2 and members just getting on the air can be particularly helpful to prospective new club members. If you think you can help us email: [licw-ham-cation2024-team@googlegroups.com](mailto:licw-ham-cation2024-team@googlegroups.com) with your name callsign and contact information.

The Long Island CW club are also planning a Friday evening dinner and get together at a local restaurant. February 9th. If you are interested and think you can attend please

email us your [info@licw-hamcacion2024-team@googlegroups.com](mailto:info@licw-hamcacion2024-team@googlegroups.com)

When you attend, the LICW would love you to bring along a CW key to show others. "Show and tell" and a friend to introduce them to our club, as you know we are much more than a CW club.

If you need any more information please email the [HamCationTeam@licw-hamcacion2024-team@googlegroups.com](mailto:HamCationTeam@licw-hamcacion2024-team@googlegroups.com)

## WHY MORSERINO

By Roger N3GE

There are two primary learning curves involved with the mastery of CW. Each are critical to smooth conversation with Morse Code.

First, you must develop instant character recognition (ICR). Not an easy feat, but very rewarding. LICW classes are the key, but having an ICR training device provides 24/7 opportunities. Willi Kraml (Morserino designer/manufacturer) worked with LICW instructors to provide a dynamic LICW Carousel with Koch Trainer. It duplicates class structure and is easy to access.



<https://groups.io/g/LongIslandCW-Club/files/Morserino%20White%20Papers/LICW%20CAROUSEL%20WITH%20KOCH%20TRAINER%2003%202023.PDF>

Second, it is imperative that your "fist" is sharp & accurate. Most operators are convinced that their sending is excellent. Not so. What you think you hear is not always what the recipient hears. Practice sending as much as you do receiving. Both are equally critical.

This is where the Morserino shines. Willi has programmed it such that only properly spaced signals are acceptable. There is no adjustment for errors. The OLED display will quickly show a \* when the character is incorrect. I practice several times each week utilizing the MORSERINO set at a fast speed (WPM). Gradually, I work the speed down to a level where my "fist" is almost 100% correct.

<https://www.youtube.com/watch?v=BUC4fI04XpY>

The above just scratches the surface of what the Morserino can do. In future issues, we will cover kit assembly, WIFI setup, Echo Trainer, LoRa, etc. The objective is to explain how the Morserino can make you a better CW operator.

## RESOURCES:

- MORSERINO WEBSITE: <http://www.morserino.info>
- A wealth of info is located at LICW Drop Box folder 19
- White papers are available in the LICW Groups.io to download or print.
- LICW TRAINING: Sun 10:00 AM ET (1400 UTC): Morserino Users Group, with Roger N3GE - Zoom A

## MY GREATEST ADVENTURE WAS: BEING A NAVY SPOOK

By Tommy Judson CTRC (RET)



I declined the invitation to become an Army Officer by not accepting the contract offered me at the end of my second year at college thinking I would not have to go into the armed services - HA!

Fast forward a few years and just a couple months after my 23rd birthday my draft notice arrived in the mailbox. Checking around I found the Navy had an active duty program the same length as what an army draftee would spend away from home so signed up. Shortly thereafter packed my bags and left to go on active duty. My first experience was ending up being immersed in studies at a Defense Language Institute manual morse Russian Language school many miles from home. The school lasted six months and after graduation I was sent to Karamursel Turkey near the border between Turkey and Russia. The U.S. Air-force had a manual morse communications facility there to work with the aircraft surveillance program based in Nicosia Cyprus.

U-2s and RB-47s that were launched

at the base in Cyprus used all the distance from south to north across Turkey to reach a very high operational altitude. They had a planned preflight route that incorporated a complex set of turns forming different shapes in the sky. The Air Forces's reason for us to monitor the Russian communications was to determine when the Russians first spotted planes approaching their airspace to find out just how good their early warning system was working as well as determine the system's blind spots. It was also very important to learn the ability of the Russian radar system to accurately track the overflights after sensing them in their airspace.

US Navy manual morse intercept operators would copy the Russian manual morse circuits so the aircraft's flight paths could be plotted just the same as the Russians were doing. We did this to see how close it came to the diagram we had already plotted using information from the Air Force. This was done on a clear glass wall separating those of us plotting the aircraft's flight patterns determined by the intercepted position reports from the analysts drawing whatever intelligence they could from the communications.

Sometimes the flight paths actually penetrated into Russian territory however complete U-2 overflights from Nicosia, Cyprus to Keflavik, Iceland and back again had been discontinued shortly after Gary Francis Powers was shot down. When our intercept showed that Russian fighters were being scrambled we would immediately flash a message to designated U.S. area commanders. All this required the ability of several intercept operators with back-ups to monitor multiple frequencies used by Russian tactical and early warning systems. These were at bases located around the perimeter of the country. We always watched subsequent flights closely because they usually had a predeter-

mined flight path that took the aircraft directly toward any observation site that seemed weak because of previous flights. We would compare that to all other military ground movement communications to see if any new equipment or troops had been moved there enhancing their early warning and defense capability.

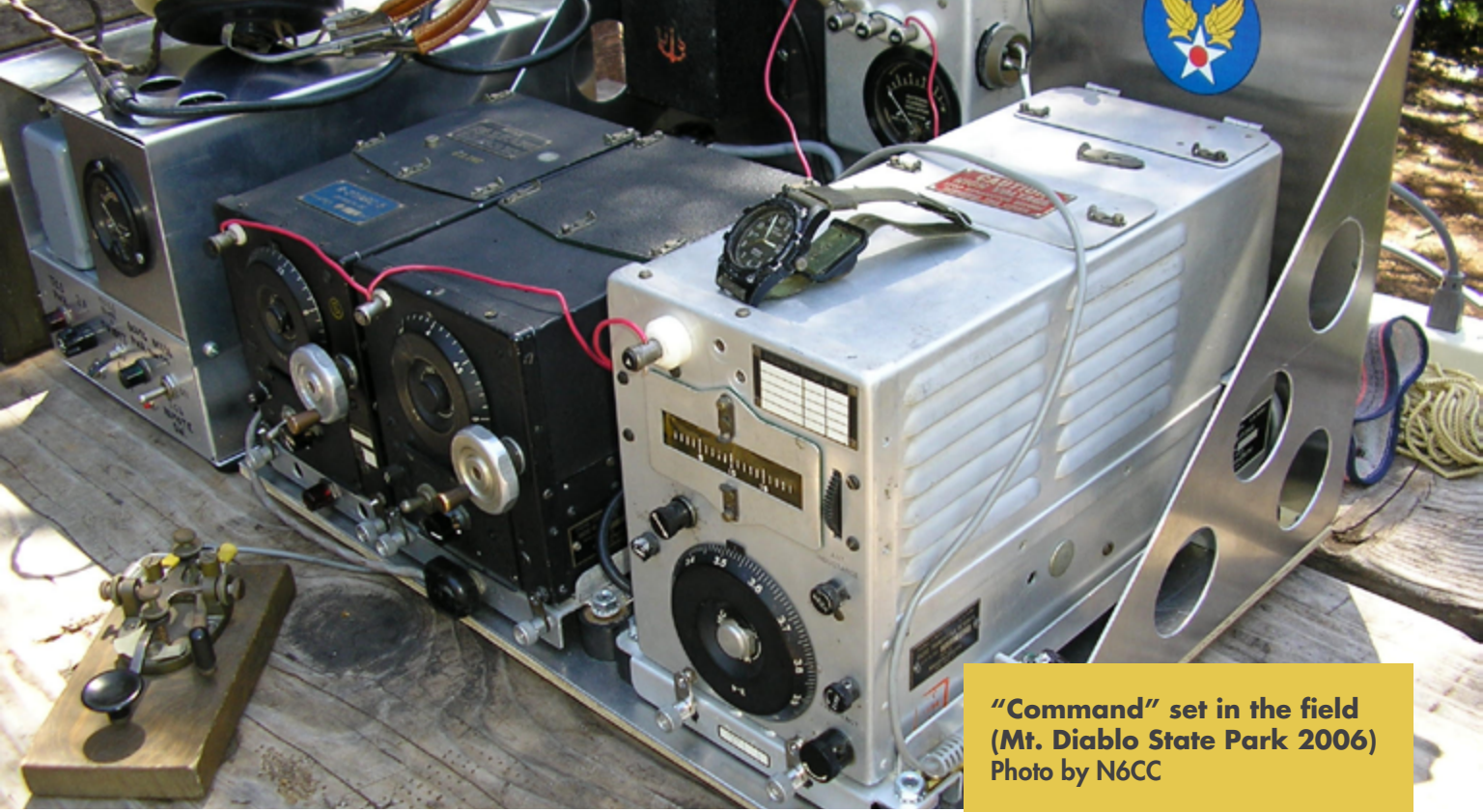
However my official Navy job was to work with intercepted submarine traffic to ID Russian submarines. One reason was to determine how they were being sent overland to the Black Sea from the main sub base located at Murmansk on the north sea. We found there was a system of canals linking several lakes and the Volga River allowing the subs to sail overland all the way to the Black Sea. This was a crucial move by the country because all their other sea ports were iced in most of the year even though they had a massive ice breaking fleet. The Bosphorus Strait leading out of the Black Sea into the Mediterranean Sea was their only route to deploy their subs worldwide most of the year. (See notes below for more information on that route.)

About 3 months into my tour in Turkey orders came for me to go to a new base opening in Edzell Scotland. I remember being called into the division officer's office and being told there was something wrong and they would try to work it out. They told me that no way in hell an E-3 "R" brancher would be sent to a new state of the art intercept facility and be placed into the Processing and Reporting division as the orders outlined. (I had no idea what they were talking about but they still blamed me for requesting the transfer through my congressman.) The Division Officer and Division Chief said they both had been trying to get sent there for the couple years that the the big state of the art Wullenweber system was under construction.

That "dinosaur cage" antenna was being built to be part of a world wide system of intercept sites to allow superior listening capability of Russian military communications by the National Security Agency. Canada and Great Britain were partners in this world wide endeavor. Anyway they couldn't stop me from getting that new billet so I packed my seabag, hopped a flight in Istanbul and left Turkey, neither wished me well.

My specific job once in Edzell was to develop and maintain a logging system of all callsigns used by everyone in the Russian Navy in the Baltic and North Sea areas. The purpose was to specifically determine their communications network design and their ship deployment system along with their chain of command. As the file developed, all Russian sites on land and at sea were connected on a large diagram to help us determine how the Russia navy worked and what it was doing at any given minute. (Had been issued my own personal "GUHOR" stick - a circuit diagramming tool.)

My one person office was a very popular place and when the other analysts came to gather info from my files they would take a break and talk a while. I learned about their jobs, their families and plans after retirement. I was privileged to know more about work being done at the work stations they represented than nearly any other individual besides themselves. I usually remembered what each had told me about their jobs and would look for any info in the reams of data I was going through I thought they might be interested in and send it to them. That way my extra set of eyes would help catch pertinent intelligence data, make their jobs easier and sometimes more comprehensive. Most were very senior E-8's and E-9's along with a couple junior 1615 crypto officers. Keeping up with the Russian Navy was made especially difficult because of Gary Francis Pow-



**"Command" set in the field  
(Mt. Diablo State Park 2006)  
Photo by N6CC**

ers being shot down. The Russians changed their communication encryption system shortly thereafter. However we were slowly breaking the codes but had a long way to go.

**Note:** To this date I do not play word games at all after reading through all the gibberish copied by the collection department and attempting to understand it. It was a game to see who of the connected U.S. stations could first fill in the one time code pad blanks that were changed every morning at 0300 UTC. This is where being a ham paid off - we could usually remember an operator's quirks from before the pad changed to after and at the very least recover callsigns and sometimes the names of their superiors almost immediately. This would give us good info to fill in a handful of squares on the new blank matrix.

Therefore we (hams - only two of us were there) could usually follow commanders as they traveled through the military commands and ships - they took their own Manual Morse opera-

tors with them and we could readily pick them out.

All of the above is typical military - my school training was all about Russian submarines and their part in the cold war chain rattling. Did have to pick out any sub traffic from the volumes of paper sent back to us in the Processing and Reporting department from Collection and send activity reports every four hours to NSA, GCHQ (British Intelligence Agency) and CBNRC (Canadian Intelligence Agency).

I did many different jobs while working for the Naval Security Group and the time spent there flew by. Upon returning home I was contacted, because of having a Top Secret Codeword security clearance, by the Air Force Security Service out at Kelly field on the outskirts of San Antonio, my home town. I went to see about working there and found out I would have to travel quite extensively to different sites around the globe to check the accuracy of their equipment and

adjust it if necessary - no thanks. Had been away from home long enough and wanted to get back to my chosen profession - structural engineering, a job I enjoyed and retired from after collecting 35 years longevity toward a great lifelong retirement pension.

**Note:** About ten years ago my spouse and I took a boat ride from St. Petersburg Russia to Moscow through some of those same linked lakes and the Volga where I had so closely monitored the subs traveling to and from the black sea. I took my Garmin handheld GPS loaded with their latest international mapping software along to check out the sub route I had previously watched while in the Navy. Sure enough the route we were taking was quite a distance from the route shown on the Garmin map. It showed our boat was traveling overland quite a distance from the canals and lakes on some occasions. We went through many of the locks associated with the channels linking the North Sea sub base with the Black Sea. This misinformation had been provided world

mapping systems on purpose in an attempt to provide security for this very vital submarine route to a warm water port. It was interesting to me that when we had concluded the trip and were being taken to the airport in Moscow to fly home I was sitting in the back of the bus away from others trying to organize my photos.

Our tour guide sat down next to me then moved closer and looked me directly in the eyes then in a whisper asked just how come I knew so much about her country. I froze, caught my breath and gave a cover story about taking classes in school about the history of the Second World War. No way in hell was I going to tell her I was a Russian language qualified communications cryptologist for the U. S. National Security Agency. She explained she asked because she figured I must be able to at least read Russian because I never asked directions especially where the bathrooms were located.

I don't know why but I was really shaken but calmed down as the plane lifted off the runway headed home.

Tommy Judson

CTRC (RET)

March 23, 2022

<https://theintercept.com/2016/09/06/nsa-men-with-hill-targeted-killing-surveillance/>

## NATIONAL TRAFFIC SYSTEM NET TRAINING

By Ed Conway N2GSL

### THE PUBLIC SERVICE HONOR ROLL

You may have noticed that every month the Public Service column in QST features the Public Service Honor Roll. Listed there are the qualifying call signs sorted by the Public Service

## LICW MAKERS RESET DE AC1MN

Neil Goldstein, lead maker, has taken time off to pursue higher learning. The Makers Group did a reset as of 1/17/24. If you have visited before and wondered how to get started with kit building, come by again as we do a review of kits suitable for beginners, tools you will need, and basic soldering techniques.

**1/17/24** Survey of radio related kits suitable for beginners. There are numerous kits available that will help many get started building.

**1/24/24** What do I need to build my first Kit? We will look at the tools needed to start building. Soldering tools will be the focus with a lot of show and tell.

**1/31/24** Basic Soldering for Hams. Different types of soldering techniques and tips to help the first-time builder succeed. Short video clips will be used to demonstrate the skills required. Experienced builders will offer their ideas and tricks.

**2/7/24** T41 Sessions Begin. The T41k is a desktop SDR radio kit with features found on high end radios. This kit comes from 4SQR group. This is not an unbox and build series. Greg Algieri WA1JXR will help us understand the many circuits in the kit.

Points they reported for the month. Let's remind ourselves that we can utilize the parts of the very public and very limited radio spectrum for experimentation, training, technical advancement and yes fun because the Amateur Radio Service is authorized by CFR Part 97. The Public Service Honor Roll is one the many ways that we can show our commitment as amateur radio operators to serve the public using the knowledge, training and spectrum afforded to us. Everyday radio operators across the county participate in ARES, RACES, SKYWARN and National Traffic nets. Additionally, we support walkathons, marathons, bicycle races and other public events with the communications required for a safe and organized event. Then there are emergencies where hams provide resources that are needed to fill the communication gaps. The points reported in QST are earned by participating in these activities.

There are six categories of activities that apply to the Public Service Honor Roll (PSHR).

- Participation in public service net
- Handling formal messages (radiograms)
- Serving in an ARRL-sponsored volunteer position
- Participation in scheduled, short-term public service events
- Participation in an unplanned emergency response
- Providing and maintaining an automated digital system that handles ARRL radiogram-formatted messages or Web page or e-mail list server orientated toward Amateur Radio public service

Details for each of these categories and how to submit your monthly point totals can be found at:

<https://www.arrl.org/public-service-honor-roll>

# Field Organization Reports

October 2023

## Public Service Honor Roll

This listing recognizes radio amateurs whose public service performance during the month indicated 70 or more points in six categories. Details on the program can be found at [www.arrl.org/public-service-honor-roll](http://www.arrl.org/public-service-honor-roll).

665 AD8CM	208 KC1OIP	142 WB8YYS	N2TSO W8GSR KF5OMH KB2QO K1UAF W1FEA W1INC N1IQI W1RVY	K8KRA KB8HJJ N8OD KA1G W4EDN W4KX N3GE
	205 AC8NP N1PZP	140 AC0KQ K9LGU A19F WB9QPM K7OED		89 AA3N K4DH
		135 WVWKO	108 K5OB	80

The first two categories are relevant to our National Traffic System (NTS) Net Training. On Tuesday evenings at 7pm (eastern time) in Zoom A, we endeavor to explain the National Traffic System, radiograms and how a CW net functions. On Friday evenings at 9pm (eastern time) in Zoom B following the V-Band forum a simulated traffic net is run using V-Band.

### PARTICIPATION IN PUBLIC SERVICE NET

For every NTS affiliated net you check into you can claim a PSHR point (up to 40 per month). This includes local VHF/UHF traffic nets, section nets, area nets and NTS affiliated wide area nets. So, yes when you check into your slow speed CW training net this counts. No, you do not have to handle or pass radiograms (formal messages, traffic) just check in, listen to the net, and check out when directed by the net control station. Of course, other public service nets also count including ARES, RACES, and SYWARN nets.

### HANDLING FORMAL MESSAGES (RADIOGRAMS)

When you do start relaying formal messages (radiograms, traffic) then you can claim additional points. Creating a radiogram for a third party (originating a formal message) counts as a point. Sending or relaying that formal message or any other formal message to another station to move it on its way to the addressee is worth another point. When you receive a formal message, this is also a point. After you receive a formal message, you will need to send it on (if you were not the addressee) or deliver it to the addressee. Delivering a formal message also counts for a point. You can accumulate up to 40 points per month in this manner.

How do the reports from individual hams of their PSHR participation get to ARRL Headquarters? Any month you accumulate more than 70 points you send your point total and call sign to your ARRL Section Manager or Section Traffic Manager. The section lead-

ers then forward the reports to ARRL Headquarters. Headquarter staff then prepare the listing found in QST in the Field Organization Reports segment. A good way to report your PSHR total is to send a radiogram to your ARRL Section Traffic Manager (yes, you get a point when you send the radiogram on its way). As a traffic handler there is another report that you should send to the traffic manager. This would be your Station Activity Report. This report only contains the number of formal messages originated, received, sent, and/or delivered and the total. The Station Activity Report should be sent in whatever your PSHR point total is as this indicates your activity in the NTS. This total number of formal messages handled is a piece of the points you claim towards your PSHR total. Remember your PSHR includes the points for messages plus the number of all the different public service nets you check into during the month. You also add 5 points for each hour you participated in short term public service events and/or emergency nets. For more details check out the link above.

The Public Service Honor Role is something to think about if you are already involved with public service. It is worthwhile to report your activities as we all know that if it is not reported it did not happen. This program is a way to show that we as a community are living up to the task set before us by the very provisions that afford us the radio spectrum we use every day. Please consider becoming involved with NTS nets in any of the various modes, CW, voice and digital. Handling formal messages is a very rewarding experience. Our classes on Tuesday evenings can get you started.



## SPRING NEWS

By Tom Langer, KD9FPC

This short overview begins with a HUGE shout out to the instructors and volunteers that make LICW possible. As LICW #471, I have been around a while. There was Saturday morning with Rich, Fridays and other days with Supoj. And many more. It was 2016 and all was working.

There really are two parts to this journey. In the earlier part I became somewhat proficient, at least in my humble opinion. OK, at least at 15 wpm or less. It was right after joining LICW and attending what were then the Koch method classes. Two or three characters each week. I took the trip around a few times. Took a lot of practice to sort the dits. Seemed my brain wasn't nearly fast enough.

Then came along some new concepts. They are as valid today as they were then. First, whatever happens in a QSO, and if you have an issue, forget it and move on to asking for a correction. Second, unless you are in military service or something, no one is going to die because one makes a mistake. And three, it's OK to be slow, everyone is at first and maybe forever. Avoid my mistake. Do not launch out into a serious CW contest. The machine gunners are out in force. You don't want to be asking for their call sign 3 times! It'll just get them mad. As one of my amazing mentors told me, wait for the last two hours or so then jump in when they've all talked and be a new entry in the log.

All the while I was learning and having fun, the world was changing around me. One of the big changes was that I had been so blessed with some other guys who were all "on our way up". We practiced together then, and the group remains together to this day. Twice a week the group meets and practices together. It is a

lot of learning and a lot of fun. For those just getting rolling, do look for others in your classes like you, at about the same level, and ask if they want to meet up. Maybe at first use one of the LICW open practice times. Take it from there.

Part two of the journey began in 2021. Due to an immune illness that had started in 2007, my ability to learn and operate was slipping. In that year I had an organ transplant along with a number of other hospitalizations. Following the transplant, there were a number of complications immediately involving the heart and lungs that later in 2022 led to lung surgeries and others. Happy to say the good Lord, an amazing family and medical team helped me make it through. But, five weeks in ICU and some brain stem injury led to me forgetting all of my CW. I only knew S and O.

I digress at this moment. Whether it is something like I had, or a stroke, traumatic brain injury and more, fellow hams need to be aware of the challenges faced by other hams. I have learned that assuming someone is "losing it" or "ham handed" may well mean that there is a challenge going on in the background. Just a plea that we cut each other some slack since we don't know what the other end of the contact may be dealing with today. Just saying.

So, for the past two years, I am relearning CW. My brain and hand coordination aren't what they used to be, but are very slowly improving. Very slowly. My practice team members are still here for me. LICW is still here for me. As this is written I am up to 19 characters. Along the way I have been able to learn a lot about learning and memory. And it has all helped. Through speech therapy I learned to speak and eat again. And, how to work with my memory as it is now.

Ending where I started. This hobby of ours isn't about equipment, it's about the people. Very special people such as Supoj, Howard, Rich and so many more in LICW, SKCC and on. The people in my small practice group who have each learned and gone miles with their operating while helping me do the same. And the many people that support and care for all of us in one way or another to make it possible. And God who gives me and us the strength to go onward. I wish all of you blessings, health, safety and peace in what appears to be a crazy 2024 ahead.

## EASY COPY - AN OPINION PIECE

By Quentin K7DRQ

One of the best compliments you can give a CW op is that they have a great fist. Sometimes, you're chewing the rag with someone, and their code just flows – you don't even hear the dots and dashes, you just hear conversation. It's an effortless, automatic, easy copy. To me, contacts like this feel like magic.

It all starts with a great first. Your conversational partner has great character formation (you can BARELY tell they're on a bug), and the spacing between characters in a word is uniform and predictable. Their words are generously spaced out. There's no stuttery starting and stopping, there's no ambiguity to the words being sent. In short, like a great piece of music, their code has rhythm, and you're in the swing of it.

Of course, there's a lot more to easy copy than fist and keying technique on the part of the sender. Some of it is outside your control, such as band conditions and the DX station running the frequency just next to you. However, perhaps surprisingly, many of the factors involved in easy copy are on



your side of the airwaves. The brain is a phenomenal piece of gear, and treating it well is conducive to better results. If you're tired and grumpy, you're going to have a harder time copying anyone's code. If you're distracted or, conversely, grasping at the code that comes into your headphones like it's the last Begali in the store, you're going to struggle to decode it. Your level of attention should be like a leaf on a pond : resting lightly, still, but flexible. An alert indifference that allows you to go with the flow.

A conversation is a two-way street and, even if we think of CW as one person sending and the other receiving at any one time, the truth is that both parties are involved in making copy effortless. Even when the sender is slinging beautiful code and you're perfectly loopy-goopy in your attention, there's more you can both do. The topic of the conversation is where you meet in the middle : the thread of the topic at hand, the context of what's being discussed. Your sender can choose their words carefully, making sure there are no unexpected turns or surprises; meanwhile, you leverage the context of the conversation to best use your anticipation. Have you ever had a QSO where you knew exactly

what the other person was about to send? There it is.

Easy copy is a team sport. There's a whole lot more to being a good communicator than well-formed characters and just a touch of Farnsworth. Being a good conversationalist is a multifaceted thing well worth striving for – and the easiest way to get there is simply to practice. It's a road filled with misspellings and plenty of "PSE AGN"... but at the end of the day, CW is just another way to speak, and it will come naturally with time.

## FIRST CW QSO: DALE MATLOCK KN4YGC 21 OCT 2023

By Rob W2ITT

I chose to learn CW because of the history and challenge behind it. When I got my General license I was always annoyed when I heard HAMs rag chewing on the Extra frequencies. That motivated me to get my Extra license. I started messing around with every little niche I could find (SSTV, satellites, FT8, APRS, RTTY, and POTA...love POTA). But I always avoided CW.

Well, I started tune to the lower edges of the bands and listening to CW operations. I started thinking about all the contacts I am missing, and missed opportunities to communicate yet another way. Another tool in the tool belt, if you will.

My CW journey started out with simply doing some Googling and stumbled across the Kurt Zoglmann YouTube series and just started listening to CW every opportunity I could. Mowing the lawn, road trips, lying in bed, I would just listen. I downloaded some apps on my iPhone (Morse mania) which was great. I then stumbled across a YouTube video from Josh Nass, KI6NAZ, at Ham Radio Crash Course and him discussing the Long Island CW club.

I went to the LICW website and just start soaking in all of the content and videos. I thought it was great and bought a lifetime membership right out of the gate. I just started out with the Beginner Carousel but found that I already had a good grasp of the basic letters. What I found the most useful was the frequency of the classes, and the variety. I think it's fantastic that I could jump in anywhere and I was never left hunting for the right class.

I am absolutely amazed by the instructors and the dedication, patience, and passion for teaching those that want to learn the code. I enjoyed every class I was in. In the BC courses, I found the instruction how to set up the practice page to be of great use so I could practice on my own. I loved the sending classes because it really helped me bring everything together. I liked history classes and just the let's hang out and talk classes. I printed out the protocol sheets and just started getting familiar with a standard QSO. I would have never gotten on the air without LICW. Or, I would have delayed it forever.

Well, one night, I was tuning around on 20M, and heard a guy calling CQ on 14.059. It was nice and slow. The spacing was perfect for me to copy mostly everything. I said the heck with it, took a deep breath, turned on the break-in of my Yaesu 991A and answered with the standard reply. Next thing I know, I am writing down what he was sending and I quickly realized, he was following the LICW standard protocol! That immediately built my confidence, eliminated the worry, and then it happened. I calmed down. It was amazing that once I relaxed how much clearer I heard everything.

I was shaking with excited when I sent my final 73 with a dit dit. I did it! I made my first QSO with KN6EY, Wayne out of AZ. It was truly a confidence building experience and I had so much fun! Since then, I have doubled down on my practice, and continue to have fun learning and am looking forward to my next QSO. I have also joined the Straight Key Century Club (SKCC) and have found it to compliment my LICW adventures.

To me, CW is just raw communications, in its purest form, and that is why I have fallen in love with this part of my HAM radio journey! Another huge thanks to LICW for getting me to my first milestone. I still attend classes, and utilize all the resources I can get my hands on to improve.



# 2006 **K3Y** 2024

SKCC 18th Anniversary & Straight Key Month

## STRAIGHT KEY MONTH K3Y 2024 18TH ANNIVERSARY OF SKCC

By SKM/K3Y Planning Group...The Rag Chew

Is there a better start to the ham radio new year than a month of manual keyed CW? Straight Key Month begins on Tuesday Jan. 2nd following the traditional ARRL Straight Key Night event on New Year's Day. It marks the 18th Anniversary of SKCC's founding in 2006. Last year more than 230 SKCC members signed up as Straight Key Month operators. They reserved several thousand hours of operating time and logged over 50,000 contacts— all using straight keys, bugs and side swipers. SKCC members in ten US call areas, plus KH6, KL7 and KP4, will operate with the K3Y special event call sign. DX member stations in a number of Canadian provinces and six IARU continental regions will also be participating with their own call signs. Please help keep all of them busy with plenty of QSOs!



You can track your progress throughout the month by referring to the "stats" section of the SKM web pages. Check for frequent updates on the Areas, Bands, SKM Operators, DX Entities, Canadian Provinces & US States that you have worked.

K3Y QSL cards and Sweep Certificates will be available to document your achievements. You can get a QSL card whether you work a single SKM operator or complete the worldwide 19-region "Grand Sweep". Special K3Y WAS cards will also be provided for those who are logged by K3Y station operators in all 50 States.

This is an ideal opportunity for SKCC members to make progress toward various club awards. Contacts with SKM operators are valid for SKCC awards purposes. And if you choose to sign up as a SKM Operator you can readily log dozens or even hundreds of award-eligible QSOs with other members.

Be sure to check the Straight Key Month web page at [www.skccgroup.com/k3y](http://www.skccgroup.com/k3y) It contains links for user & operator guides, schedules, QSL cards, sweep certificates, stats, operator location map, and the 2024 SKCC print calendar.

## CODE BUDDY SKED ROSTER HIGHLIGHTS

### ABOUT CODE BUDDY:

Currently we have 58 Members on the Code Buddy Sked Roster. We have 4 members in Europe, 1 member in Australia, and 53 in North America. The cw skill level varies from members just starting to learn the letters at BC1 level to members with years of experience who can send & receive cw at wpm that will knock your socks off. The aim of the Code Buddy Sked Roster is to have a place in LICW where you can find someone with similar cw skills & work regularly together to improve your cw skills. You can have more than one Code Buddy depending on your personal schedule.

### BILL N2FZ

I originally signed up for the code buddy system because I wanted to help others with the code. I never went and contacted anyone on the list because I thought it better if someone was interested, they would contact me. Well, it turned out that I never got anyone contacting me. Then one day I got an email from a ham on the west coast, Kat KK6CN, who asked me if I would be a code buddy for her. I said sure and that is how a wonderful friendship has developed. We have been meeting once a week for four months now on Zoom. Zoom seems to work best for both of us but we have made two CW QSOs during that time. Between propagation and time differences it doesn't seem to work out for over the air. We are both about the same in our CW abilities although I think my buddy is a little better. Our sessions started out at about 1 hour in length but now have lengthened to sometimes over 1 1/2 hour.

The format that seemed to have just developed is that we chat for a bit then one person starts to send something and the other one head copies

## LICW - YL4CW OPEN HOUSE

By Anne KC9YL

Our Month night gathering is one I look forward to every week. We have a group of 'regulars' but also have others who stop by from time to time as their schedules allow. Topics vary from week to week and range from the amateur radio news of the week, troubleshooting, general advice and cheerleading!

If you are a YL and haven't been receiving the weekly recap/reminders, please let me know.

then says back what was sent and then we switch to the other person sending. During the whole time of the session, we are chit chatting about whatever we think of. It has covered many topics during our time together. Family, hobbies, gardening, interests, what we have read, interesting ham websites, special event stations and new DX we have worked. Having a ham license for more than 50 years gives me a lot more of a history of ham radio and it has been fun to relate that information and experience to her.

Some are going to say we are not really practicing enough the way we are conducting our sessions and should do it over the air or V Band or something. I'll just say it works for us. We have a lot of fun and we would not have learned as much about each other and our lives and developed the friendship if we did it over the air. Improving at CW and learning to head copy is real drudge work but doing it our way has made it really fun. I know I should get on the air more but in the short time we have been code buddies I think I have improved a bit at head copy and it has also made me find time to practice some.

### JOHN AF4PD

I have two code buddies. Before they agreed to be code buddies with me, I alerted them that I would likely be very irregular and undependable. This has proven true because I

have activities not under my control. Nevertheless, we schedule meetings dynamically, about twice a week with each buddy separately, and we just have conversations at about 20 wpm. We use Zoom because I do not have an antenna (long story). Zoom doesn't always work perfectly but we accept this as a simulation of QRN. I find our sessions to be fun, challenging, and useful. My buddies are Kat KK6CN and Gary K3WK.

If you think the LICW Code Buddy Sked Roster would be beneficial to you on your CW Journey please go to Dropbox 80 & find the Information Document. Submit the requested information & be added to the Roster.

## ANTENNAS GALORE

By Kimball Williams N8FNC

While hosting the Antenna Forum over the last years, one thing that has become apparent to me is that every antenna installation is unique. Even when several Hams buy the identical antenna, the circumstances of their QTH force interesting changes in the actual installation. Seeing all the small (and sometimes not so small) changes is a constant wonder to me, and to many others who gather on Sunday mornings.

It is also a wonder to me how ingenious some of our fellow Hams have

become at overcoming what at first glance might have been considered a liability to an antenna installation and turned it into an advantage! "Wow! I would have never thought of that." Is often my reaction to seeing another successful antenna that has gone up and done the job.

A constant delight is following the adventure of LICW Hams who live in 'challenging situations' and their ingenuity and persistence is both encouraging and exciting. I am especially happy to learn of another way one of our members has managed to erect an HF antenna 'in plane sight' in the middle of an HOA and the 'HOA Nazis' have looked right at it and not seen it at all.

Tonight, we had the first big, 'wet snow' of this season here in lower Michigan. My experimental long loop antenna, which I had closed the loop by simply twisting the wires together, came down when all that wet snow landed on the wire. The young man who takes care of our lawn and sidewalks was shoveling the snow and rang my doorbell and let me know 'Your antenna came down.' My reaction was not 'Oh No!' but rather, 'Yes! Now to try another variation on the configuration!'..... Of course, I am going to wait for the snow to melt and have a dry day. I am enthusiastic but, I am not stupid...usually.

The other thing about snowy weather is that it gives me time to play in the workshop building yet another antenna to try out when the snow melts and I can get back outside with another POTA or SOTA antenna to try. Every Sunday I learn something about someone else's experiences with their antennas and it makes me want to try another. (If this were drugs or alcohol, I would probably be dead by now.) What I am is excited and anxious to see what the next experiment will produce. And since most of my

antennas are nothing more than wire and plastic insulators, it doesn't break the bank.

An interesting and amazing collection of dedicated LICW members assemble each Sunday morning to keep us informed and involved in lively discussions, and occasionally fascinating diversions and humor. Greg WA1JXR leads the discussions as our primary host, and we can always count on the internet navigation skills of Grant KG4SDR as a technical search artist to find unique and interesting links to technical support of online documents and sites. Gary N8OI is always ready to offer encouragement and assistance and we all want to hear how Tommy N5CTC in Texas is taking the next step to creating new and unique ways to get a working HF antenna on the balcony of his high floor apartment building. No mater where the discussion leads, it is always a lively time.

By the way, if you are as crazy about antennas as I am, you should also tune into the LICW 'Portable Operations Forum' at 11AM on Saturday mornings. While not specifically directed at antennas, antennas are a big part of the portable experience, and many new and interesting ideas about antennas are discussed there. Check it out. I think you will be happy you did.

## WINTER IS COMING

By Jim NOIPA

For SOTA Operations that means Winter Bonus Season!

In Colorado, from 1 Dec to 31 Mar, 3 bonus points are added to summits ranking 4pts and above. This makes those lowly four-point summits worth seven points and worth the trip. For those brave enough to go high in the winter, 10-point summits now add 13

points to your coffer. Of course, the reason for the bonus, is the increased difficulty and risk taken during winter in the mountains. I think the Southeastern states get mosquito bonus points in the summer.

Extreme cold temperatures and high winds make you think twice about going after those 8-10-point summits. Many operators will forgo the high summits in the winter and claim the lower elevation summits until Spring comes. Those Winter Bonus points certainly make this strategy pay off.

Staying low and in the trees usually means the snow is much deeper, though, as the sun doesn't get in to melt it off, and the wind doesn't blow it away. Up high, the windswept summits usually have shallower snow with a good crust that helps you stay on top of it. But the wind that removes the snow will be targeting you, as well. Going after those winter points is not impossible. But here are some of the considerations:

You'll need some good winter gear. That means dressing in layers so you can cool down and avoid sweating, and layer up to preserve heat and cut the wind. Check out the recording of my Winter SOTA Portable Ops presentation for more info:

[https://www.dropbox.com/sh/j63lkeqnuq19wr5/AACco2HZko\\_CGaAWXNf7QCla/17%20%20Portable%20Operations/SOTA?dl=0&preview=High+Altitude+SOTA+with+Jim+NOIPA+++3-25-2023.mp4&subfolder\\_nav\\_tracking=1](https://www.dropbox.com/sh/j63lkeqnuq19wr5/AACco2HZko_CGaAWXNf7QCla/17%20%20Portable%20Operations/SOTA?dl=0&preview=High+Altitude+SOTA+with+Jim+NOIPA+++3-25-2023.mp4&subfolder_nav_tracking=1)

Toting all that winter gear means a bigger, and heavier pack. That 22l daypack isn't going to cut it. My typical summer pack of 30l and 23lbs becomes a 50l, 30+lb pack. Add to that a set of snow shoes and some micro-spikes. You can often decide whether or not to take the snow shoes at the trailhead. I would rather carry

them and not need them, than be post holing and cussing without them. You may be facing a longer hike in the winter, as many trailheads are moved back during winter months. Be sure to double check with your forest service and park management, as adding a few miles of trail breaking may be a show stopper.

An absolute game changer/force multiplier in the winter is the Bothy Bag (<https://www.adventure.com/features/what-is-a-bothy-bag>). The Bothy is a compact (smaller than a 6 pack) emergency shelter that can turn a gale on a glacier into a day at the beach. One can comfortably operate gloveless at 13,000' in 20 mph winds at 20°F, by nestling into the Bothy. Just don't let go of it until it's packed back up!

Now why would you go through all that? 'Cause that's what we do. Bonus points account for almost 13% of my total SOTA points. That's a pretty good acceleration toward Mountain Goat. The views are breathtaking. Winter landscapes are absolutely beautiful. And the quiet of snow-covered forests and slopes is so peaceful. Oh, yeah, hot chocolate! Be sure to check with your association manager to see if your area activates a winter bonus program. It may be different depending on where you operate.

Good luck and hope to see you on the spots!

## ESSENTIAL OPERATING SUBJECTS

By Cathy W4CMG

- Tuesdays with Anthony Luscre, K8ZT [tiny.cc/k8zt-p](http://tiny.cc/k8zt-p)
- Thursdays with Catherine Goodrich, W4CMG <http://tiny.cc/c8l4wz>

You're just getting started with CW or

know your characters and feel ready to get on the air. Or, you might have been "around" for a while but need a little boost to get your confidence to get on the air! A great number of our Long Island CW Club classes focus on sending and receiving. Essential Operating Subjects is a bit different because we DON'T Send or Receive in these sessions.

There are two sessions per week, with two different instructors, and two different styles for covering the topics. What this means is that you get the best of both worlds!

Anthony Kuscre, K8ZT, takes you through the "Joy of Operating" with presentations and notes from each session, and some detailed documentation that will guide you through your CW Journey. Everything from Beginners topics, Station Setup, Operating and QSL-ing, through to more advanced topics and specialty tracks (Portable Operations, QRP, Youth, etc.) are covered in his Tuesday Night Classes. Anthony has an amazing website, and a "library" of resources ([tiny.cc/k8zt-p](http://tiny.cc/k8zt-p)) that can be accessed to review the materials he has created or referenced in his classes.

Cathy Goodrich, W4CMG began teaching the "Reaching Your CW Goals" class in August 2021. The class has since become one of the Essential Operating Subjects class series. Interactive at the beginning of each session then we dive into the topic for the week. (Don't worry, we don't make you send or copy- so stop by even if you are just getting started.) Topics are posted in the Long Island CW Club groups.io before the weekly session, so you will know if it is something you are interested in learning more.

Not sure of what to send when you get on the air for your first (or 1000th) QSO, wondering what tools will help with sending and receiving CW, or

figuring out how to find other ops on the air with similar interests, or just plain trying to find a frequency that is NOT occupied during a contest? Essential Operating Subjects will help you to navigate through some of the processes, tools and websites to pull it all together!

The classes start with the question: "What have you done over the past week (or longer) toward your goals, fun radio stuff, cool QSOs, etc.?" THEN we dive into the topic for the week. The topics covered generally involve live demos of a tool (e.g. Morse Code Ninja, Getting on the Air- the 5Ws, CW Protocols, N1MM Logger, CW Club RBN Spotter, SKCC tools...). Weekly recordings start when we dive into the topic of the week.

**CAUTION:** Many of our topics come from our students who asked questions about them, and the class often dives into a topic, which leads to a very interactive discussion about the experiences of those in the class. We may move some of the content to the following session. The pace is driven by the questions and comments from the participants, with the thought that if someone asked a question, there are probably a couple others in the "room" with the same questions. Recordings and notes from the sessions are posted in the Long Island CW Club Dropbox in Folder 54a.

### THOUGHT FOR THE DAY – EVERY DAY "GET YOUR DAILY CW VITAMIN"!

Anthony K8ZT and Cathy W4CMG will be doing tag-team articles and welcome your feedback. Remember – your request on a topic may be included in one (or both) of our sessions, so be sure to check the groups.io to see when it will be covered!



# 1ST GULF COAST LICW F2F

By Mike Mitchell W6DFM/P

AE4JC sneaking a contact in at the last minute before the satellite slipped over the horizon

On a brisk Sunday morning January 14th 2024 ham radio operators and others met up at Meaher State park (K-1047) in Spanish Fort Alabama for what I believe was the first LICW F2F for the Gulf Coast region.

W6DFM, Mike LICW #3886 operated his KX2 with an EFHW 40m inverted V setup using a Begali Camelback SK. After a year of membership with LICW he finally built up the courage to activate a park and deal with the pile up. Several foreign stations were a challenge to get the callsigns right for but overall about 20 contacts on 30m and 15m made the activation a success.

AE4JC, Matt (future member?) operated his Yeasu FT 891 with an interesting mobile antenna setup of a Wolf River coil and vertical antenna. Turns out the tailgate needs to be down for optimal ground plane performance and a 1:1 SWR. On 10m Matt was able to pick up a dozen or so European stations and a couple in South America too.

Matt also broke out his satellite setup when TEVEL 2 came for a pass. His log periodic, tracking system, and duplexing radio combine for him to hear several callers and confirm a contact with a Costa Rica station on VHF/UHF, quite an impressive feat.

Overall despite a failed jet boil that made coffee a challenge the meet up went well. We even attracted a visiting French radio enthusiast from the nearby campground who was fascinated by the satellite setup. I look forward to more LICW/POTA meetups in person as this has been such a patient group to help learn morse code and keep it fun.



W6DFM Mike, AE4JC Matt, Future Ham Ben



W6DFM working 15m into Sweden

## PROFILE OF A LONG ISLAND CW CLUB OPERATOR

By Terry Jackson, WBOJRH

"I am one of a limited number of LICW Club operators that made a living copying and sending Morse Code." - Denis Obrien, N2JJF

Obrien was a radio officer aboard Merchant Marine ships for fourteen years, from 1970 to 1984. His tenure with the Merchant Marine sent him to sea on twenty-one ships carrying passengers, general cargo, car carriers, oil tankers, and refrigeration. He began his career as a junior radio operator in 1970 at eighteen years old.

### THE EARLY YEARS

Obrien was born in 1951 and raised on the banks of the River Nore in Kilkenny, Ireland, population 26,500. His mother, Margaret, and father, Michael, raised him. Obrien's wife, Denise, retired from AT&T, where she worked as a system analyst. They had twin girls, now thirty-five years old. One daughter is a certified public accountant (CPA), and the other is an assisted living administrator.

"Witnessing the birth of my twin girls was an unbelievable event," said Obrien, "something I will always treasure and never forget."

Physics was Obrien's favorite class in high school. He particularly liked his teacher. "He was a Christian brother who always pushed us to explore more," said Obrien.

Participating in sports was a passion for Obrien. He played the two national sporting events in Ireland. One is Hurling, considered to combine the skills of baseball, hockey, lacrosse, rugby, and soccer. The other is Gaelic Football, which differs from Hurling and is played with a round



ball, slightly smaller and heavier than a soccer ball.

### INSPIRATION TO SERVE ABOARD SHIP AS A RADIO OFFICER

Obrien lights up when he talks about his dad, who had the most significant influence on his life. His dad was an auto mechanic specializing in forklift trucks. "He was always tinkering with stuff in the back shed but would save time to help us with our school projects."

Without financial help from his dad, Obrien would not have been able to complete radio school training, leading to a job with the Merchant Marine. "He worked a lot of overtime to give me that opportunity," says Obrien, and I am eternally grateful." His dad was very proud of Obrien for this accomplishment.

"I was brought up listening to my dad's short-wave receiver in the shed," said Obrien. The Merchant

Marine was a perfect fit for Obrien's desire to travel. He also loved listening to all the foreign stations that would eventually play a big part in his ham radio journey.

### REQUIREMENTS FOR BECOMING A RADIO OFFICER IN THE MERCHANT MARINE

Becoming a radio officer required completing a two-year training study at a recognized radio school. Obrien said, "There were three in Ireland at that time, and I chose to attend Tivoli School of Electronics in Cork City."

There were two classes of radio licenses at the time: first and second class. Proficiency in sending and copying CW at 20 WPM was needed to pass the second-class license and 25 WPM for the first class. The second-class license required two years of schooling, although Obrien completed the curriculum in only 18 months. He added, "I am happy this saved my dad some money." Obrien returned to school for four months



in 1973 to obtain his radar maintenance certificate. The first-class license was required to work on luxury passenger liners like Queen Elizabeth II.

### **OBRIEN RECEIVES RANK AS A RADIO OFFICER**

Obrien's rank as a radio officer was between chief and second officer. His assignments were always aboard ship, never ashore.

### **LIVING THE DREAM – FIRST ASSIGNMENT AT SEA**

Obrien immediately received a call from Marconi Company after he obtained his radio license in 1970, offering him a job aboard ship. Marconi paid for his ferry ticket from Dublin to Holyhead in Wales and a train to London for his interview. His first ship, MV Bencruachan, was scheduled for a three-month trip to the Far East via the Panama Canal.

### **FOURTEEN YEARS AS A RADIO OPERATOR AT SEA**

After working for Marconi Company for eighteen months, Obrien became somewhat of a mercenary, working for companies that paid the most. Obrien remembers the 1970s when there was a shortage of radio officers. "There was a lot of competition among companies to hire radio operators," said Obrien.

The downside of being a freelance radio operator is that you never know what kind of ship you will be assigned to. Obrien covered his tracks by always having an American Express credit card in case he needed to leave a ship in a foreign country. Thankfully, he never needed to use the credit card for that purpose.

One cargo ship Obrien worked on for eighteen months made three trips worldwide. He spent twelve years freelancing, with the last six years working for the Sanko Marine Company out of Japan. They were an excellent company that always took

the ship's safety seriously.

In the early 1980s, the writing was on the wall for ship's radio officers. Satellite communications eventually eliminated the radio officer positions. "I swallowed the anchor" in 1984 and moved to the USA, stated Obrien. Obrien would choose no other career if he had to do it all over again, and he believes being a radio officer is the best job on the ship. "When in port, the radio room was shut down, so there was plenty of time to go ashore." Most sailors had work to do when in port.

### **500 KHZ WAS KEPT UNDER CONTINUOUS WATCH**

500 KHZ was the international calling and distress frequency on medium wave. The auto alarm was always turned on when Obrien was off watch. A ship in distress sends twelve four-second dashes prior to SOS. If the auto alarm detected four consecutive four-second dashes, it rang alarm bells on the ship's bridge and radio officer's cabin to alert radio officers of impending distress calls.

Another level of safety was to cease all transmissions on 500 KHZ worldwide at fifteen to eighteen minutes and forty-five to forty-eight minutes past each hour. This enabled radio officers to receive weak distress signals.

### **A SCARY MOMENT ON THE HIGH SEAS**

Obrien will never forget a level-ten storm he encountered on a cargo ship that was empty and in ballast in the Bay of Biscay in the North Atlantic

during the winter. The waves were thirty to forty feet high. Obrien was thrown out of his bunk and onto the deck. He made his way to the bridge with difficulty. After all these years, Obrien's memory of this event still brings out emotions. "The ship had lost its main engine and turned broadside to the for-



ty-foot waves as it began to roll," said Obrien, "and the inclinometer on the bridge was off the scale. "It was a scary moment, and I do not know how we survived," said Obrien. Somehow, the ship rolled back the other way and continued rolling back and forth until it could head into the waves. Obrien added, "Since it was wintertime, if we had rolled over, we would have had no chance of survival, and I would never have been able to send out SOS."

### **MOST UNUSUAL PLACE VISITED**

The year was 1975 when Obrien was on a ship chartered by the French Government to bring supplies from France to Mororoa Atoll, located

southeast of Tahiti. This is where the French conducted their nuclear testing.

“As we approached the island, one of the Green Peace ships tried to block our entry, but French naval boats escorted us into port,” says O'Brien. No shipmates were allowed to go to shore, and security was everywhere.

## JOURNEY INTO CW COMMUNICATIONS

When asked who (dead or alive) O'Brien would want to sit down with, he responded, “It would be the man who began radio communications, Marconi himself. His love of marine communications inspired me, and I worked for his company.”

The transition into ham radio CW was smooth after being a radio officer in the Merchant Marine for fourteen years. O'Brien has been a ham radio operator since 1987. He found LICW Club while surfing the net and joined the club in 2021. He joined Howard's head copy class and appreciated Howard's old CW marine recordings, which is right down his alley.

O'Brien's most interesting CW contact happened ten years ago while operating QRP in a local park. He

contacted mv James Ross Clark, a British research vessel on its way to Antarctica. “There was a ham radio operator aboard the vessel operating as G4OHCQ/MM,” said O'Brien, “and I received a QSL card a few months later.”

It is no wonder O'Brien made this contact while operating QRP in the park. His favorite aspect of ham radio is working outdoors using different antennae. Field Day is his favorite event; he can be heard operating CW continuously for twenty-four hours.

O'Brien attributes his CW proficiency to handling traffic aboard a ship at 20 WPM. “We had a motto,” says O'Brien: ‘Accuracy transcends speed.’ His goal is to send and receive 50 WPM. This may be an ambitious goal, but he believes his goal will be achieved with the help of Terry's QRQ class and Morse Code Ninja.

When O'Brien cannot be found surfing the bands for CW, he more than likely is teaching a class for LICW Club. Currently, he teaches Intermediate 2 and sees this as a way he can give back to a significant hobby. Next to becoming a radio officer, he dreamed about becoming a teacher.

The classes he teaches, in a way, fill that void.

O'Brien is encouraged by the number of people joining the LICW Club, now more than 5,000 members, although he has concerns about why his club only has four CW operators with an average age of 60. Young operators need to be recruited. When asked what is on his bucket list, O'Brien responded, “to fly in the Good Year Blimp and participate in a rare DXpedition.

Founder of LICW Club, Howard Bernstein, had this to say about O'Brien: “It is our pleasure to have an experienced CW operator such as Denis on our teaching staff. He has vast experience from his Maritime Marine days that can show students how to copy a variety of fists that were prevalent when he was a radio officer. On behalf of all of our members, we thank you and wish you all the best as you move forward in your CW journey.”

I will look up in the sky for the Good Year Blimp and look down to the ground to see you operating CW in a rare DXpedition. Best wishes, my friend, in meeting these goals. – Terry Jackson, WB0JRH

## HAMSCI POTA ACTIVATION *By Elisabeth KJ7MEB*

So I thought... why not 1) do a little HamSci (<https://hamsci.org/>) for the annular eclipse and 2) add a new state to my POTA Activations? NM and NV were two logical places. I was surprised to find a room relatively last minute near the Great Basin National Park. I headed out at 0'dark:30 to stake out a spot for the eclipse and to activate K-0032. I hiked to a great spot above gorgeous Stella lake and several of my beloved repeat hunters found me! On the way down I spotted pull-outs that might work. The day of the eclipse, it would have been an early very cold hike above Stella so I used one of the isolated pull-outs where I hiked a few hundred feet to be hidden. Attached is a silly picture of my small table that I hauled. Normally I use what's available like a log or a rock, or if I'm lucky a picnic table or bench. After I made the minimum QSOs to activate that day I received a text from friends about an SSB QSO on 40m during the time of the annular eclipse, so I chatted with James and Linda at that time.



## ACADEMIC UPDATE

LICW Curriculum Development Team

We recently launched a new Intermediate and Advanced curriculum. Our objectives for the new curriculum were very ambitious. We endeavored to create a comprehensive and structured approach to conversational head copy and high-speed telegraphy (QRQ) proficiency. Unlike the development of the Beginners Carousel (BC) there were no applicable historical documents for reference. Fortunately, the underlying skills required to achieve our objectives were taught in three highly successful LICW classes: (1) Tom WOFN's ICR class developed effective character familiarity, instant character recognition, and instant error recovery teaching methods, (2) Quentin K7DRQ's NV1U class increased awareness of the benefits of establishing a relaxed state of mind and developed effective head copy teaching methods, and (3) Terry WBOJRH's QRQ class developed effective teaching methods to increase copy and sending speeds into the realm of high speed telegraphy.

The curriculum development team conducted many group discussions and employed traditional instructional design to leverage the collective experience of those three classes. We hope you will read version 4.0 of the Student and Instructor Guide for a more detailed description. It may be downloaded from our Club website: <https://longislandcwclub.org/academic-downloads/>

Conversational head copy is the

level of proficiency that enables an operator to engage in conversations with others. It goes beyond basic CW skills and involves the ability to understand and respond effectively without reference to a script or any written material. Some students do not wish to learn head copy. Writing on paper what is copied in intermediate classes is perfectly acceptable but becomes more and more impractical as speed is increased. Writing what is copied and head copy are not mutually exclusive. They complement each other and are often used

desired level of proficiency.

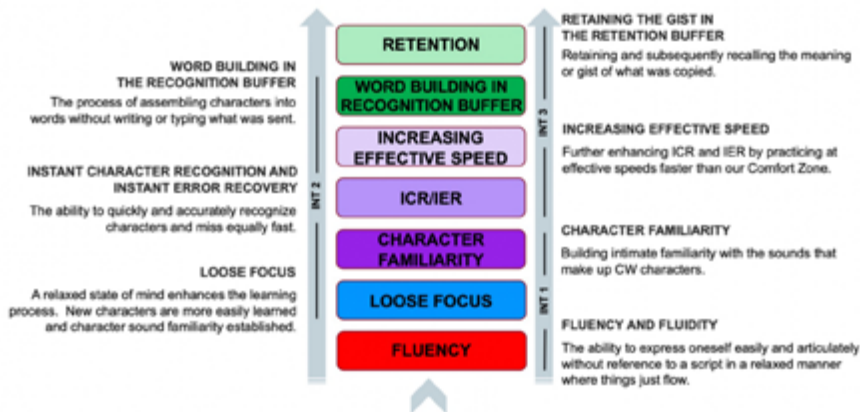
In the early part of the Intermediate Curriculum the primary objectives are to develop fluency and fluidity in students, and thereby push from formulaic, templated QSOs to freeform, conversational communication in CW without reference to a script. We focus strongly on these goals at the entry speed of around 12/12 WPM.

Throughout the Intermediate Curriculum we focus on high-quality sending. Part of this is encouraging students to both provide and accept constructive feedback from the instructor and, importantly, from their peers, in any difficulties in copying their fist. Part of this is a critical analysis of incoming code, identifying the intricacies (or "accent") of the fist in a way that sets us up to better sync up with the sender.

Once fluency and fluidity are achieved, we increase effective speed in increments toward our goal of 20/20 WPM. We begin by increasing awareness of our mental state and assuming a more relaxed posture, which enhances the learning process. We then turn our attention to the foundational skills of Character Familiarization, Instant Character Recognition (ICR) and Instant Error Recovery (IER). The objectives are to quickly, accurately, and effortlessly recognize characters, and to miss a character and move on without negatively affecting subsequent copy.

Once effective speed has been increased sufficiently, the slow ramp up to head copy begins. We start with word building in the Recognition Buffer, which is the process of assembling characters into words without writing or typing what was sent.

We



concurrently. Writing is ideally suited when there is little, or no context and accuracy is the primary goal, such as traffic handling or callsign and signal reports. An experienced operator will annotate a few critical things and head copy the rest.

We call our approach to achieving proficiency in conversational head copy the LICW Method.

Typically, students entering Intermediate 1 know their characters at about 12 WPM from BC1 and BC2, know some abbreviations and general QSO protocol, and have made basic exchanges on the air via BC3. The curriculum is also well suited for students that learned the code years ago and wish to relearn it, or students that tried learning the code elsewhere and were not able to progress to their



Photo by WBOUVD

continue to increase effective speed and then turn our focus to the parallel mental dynamics of retaining and subsequently recalling the meaning (gist) of what was copied in the Retention Buffer.

Once students are fluent at 18 to 20 WPM and foundational head copy skills have been developed, a seamless progression to Advanced classes is made. Teaching methods and student practice exercises are carried forward making for a very familiar and comfortable learning environment.

The Advanced curriculum continues the pursuit of conversational head copy at incrementally increasing speeds from 20 to 45+ WPM and alternate means of word building, and recognition are explored such as Phonic Copy and Instant Word Recognition (IWR).

A final note about the new schedule. Each level of Intermediate classes will have at least one set of classes scheduled at the same time Monday through Friday. We seek to promote a cohort dynamic among students similar to our Advanced NV1U class which provides a supportive learning environment and a sense of community. These elements contribute to a more enriching and effective educational experience.

## THE DR. IS IN FORUM *By Greg WA1JXR*

Hello fellow LICW members. The Doctor Is In forum is held Monday Evenings 7PM EST in Zoom B. Videos of the forum can be found in Drop Box # 35. Here is a re-cap of what we have discussed on the Doctor Is In forum in 2023.

- #23 Phase
- #24 Electrical Engineering and Math
- #25 Ohms Law
- #26 Electro-Mechanical and Control Systems
- #27 Kirchoffs Current Law (KCL) and Kirchoffs Voltage Law (KVL)
- #28 Circuit Analysis
- #29 Maximum Power Transfer Theorem
- #30 Angular Frequency
- #31 Almost AC
- #32 Reactance
- #33 Resonance
- #34 Parallel Circuits
- #35 Quality Factor Q
- #36 Filters
- #37 Phase Angle
- #38 Transmission Lines and Wave Theory
- #39 Introduction to Nano VNA
- #40 Magnetic Loop Antennas
- #41 Pentek TR-45L Review and Circuit Analysis
- #42 Pentek TR-45L Review and Circuit Analysis Part 2

If any of these topics are of interest videos are in Drop Box #35

If you have suggestions for topics you would like to see covered and discussed please send me an e-mail at [wa1jxr@comcast.net](mailto:wa1jxr@comcast.net) with your ideas.

Please join us on Monday evenings 7PM Zoom B  
Looking forward to a fun 2024 and thanks for all the support for the forum.

## WILD ABOUT BUGS

By Tom, WA9CW

First, thank you to all who helped make Wild About Bugs a success last year. Input from you has made the class both fun and educational for me and I hope for all of you as well.

It is my intention to continue with the building and repair content and to continue to find old junkers that I can rejuvenate using the methods from W.R. Smith's book, "How to Repair Telegraph Keys." So far, we have documented many of the processes that he discusses in his book that includes Nickel Plating, Japan Finishing, spring making and pen stripping the bases of the earlier keys. Currently, I am in the process of replacing a main spring in a 1956 Vibroplex Original that will be part of the content of the upcoming meeting.

Hopefully, you will find this content interesting, but I don't expect that a lot of you will follow suit. But, if you do, please bring the rest of us along with you by sharing your work. There is one thing that I hope we will all do this year and that is working towards becoming really good bug operators and getting our bugs on the air. I would love to work all of you in bug-to-bug QSOs this year. It would be great if you would set up schedules with others in the class and get on the air for bug-to-bug contacts. They can be brief QSOs following the various protocols, exchanging SKCC numbers and such or full-blown rag chews. The main thing is bugs on the air and remember to tell each other what bug you are operating with. And, of course, tell us about your bug activities when we get together or WAB. Many of you are just learning or working on your bug fists, there is nothing like putting that bug on the air to stimulate you to improve. That is one of the things that I hope to do a lot more of this year.

Along with these other topics, we will be talking more about what good bug sending sounds like and elements make the sending coherent and copyable. We have talked many times about setting up a bug for good sending, but I don't think we have spent much time on just what good bug sending is and what it should sound like. We will be setting aside some time for that so stand by for it.

Thank you for your time and I look forward to seeing you on Tuesday afternoons on Zoom A at 5 pm Eastern time for Wild About Bugs.

## WHAT IS THE SIMPLEST TRANSMITTER?

By Neil Goldstein, W2NDG

First of all, I want to thank everyone for the support and attendance in the Makers Forum these last three years. I am taking a break to spend some needed time with my grandkids and return to school to get my master's degree. I'll pop in occasionally and show you what I'm working on.

Last weekend I ran a forum for Ham Radio University entitled New SDR Based Transceivers. This was specifically about a topic I covered in my last newsletter article: Microcontrollers in Amateur Radio. What we're talking about specifically here is using them for more than control and input-output but creating SDR functions within the MCs.

To start the conversation, I felt I needed to define SDR again, and at its most basic level, the first part of SDR: RADIO What is a radio? For a receiver, I boiled it down to three components:

1. RF Source
2. Signal Processing
3. User Interface (optional)

Given a Crystal Radio as an example, what are the three parts? The antenna is the RF source (possibly along with the loopstick), The diode and the crystal earphone are the signal processing components, and the tuning knob is the user interface. In the simplest implementation of a Crystal Radio, the user interface is optional, and the radio will receive the strongest signal in the passband.

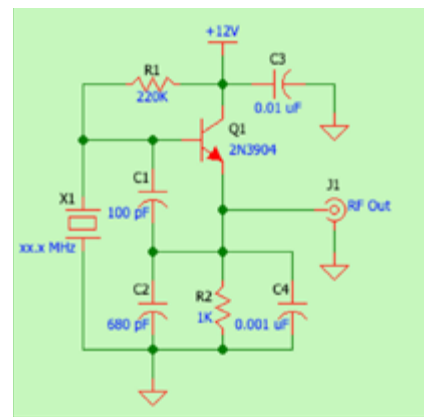
This led to a thought the other day. What is the simplest implementation of a Ham Transmitter?

This could be debated because there is more than one answer. What is the version of the list above in this case?

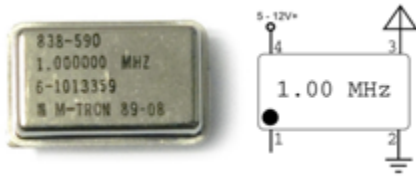
1. Signal Source
2. Signal Processing
3. RF Output
4. User Interface (optional again)

The signal source in the following example is an oscillator, or specifically a crystal-controlled oscillator. Signal processing is the transistor and components of the oscillator, and the RF output would be a simple antenna. User interface could be a key, and possibly a knob again for tuning if you added that.

Here is an example of a basic transmitter. (Images are from Martin E. Meserve, K7MEM and his excellent web site)



This is a Colpitts oscillator with a crystal for frequency control. There is no low-pass filter here, so this is technically not legal to operate, but an example of how basic this can be. Can we get simpler? Yes!



This would put out very little power but would work. Simple from the number of components obviously, but the internal circuitry of this TCXO is not any simpler than the Colpitts Oscillator above. It would still need some sort of filtering.

I think I'll plan on building a transmitter in stages as a lesson for the Makers Forum upon my return. Starting with a very basic circuit, and slowly refining and enhancing it. I'd love to hear your comments and we can start a discussion that could define the project. I'll keep an eye on groups.io

If you want to play around with basic transmitters, I recommend the website mentioned above: K7MEM's Transmitter Building Blocks [https://k7mem.com/Misc Transmitter Building Blocks.html](https://k7mem.com/Misc_Transmitter_Building_Blocks.html)



Photo by K6JTH

# LONG ISLAND CW CLUB

## Teachers of Morse Code

[longislandcwclub.org](http://longislandcwclub.org)

## WELCOME TO THE LONG ISLAND CW CODE CHALLENGE!

By Kasey, KD2YMM

The new year brings both the start of our second year of running the 'LICW Challenge' and marks the beginning a new quarter, where your point count resets. And with the monthly Slow Speed Challenge there is never a better time to get on the air no matter your operating speed!

Full details, rules for participation and past scores can be found at <https://licwchallenge.org/>

Submitting and tracking your scores has never been easier thanks to the online Logger App located at <https://licw-apps-h96ku.ondigitalocean.app/logger/>

Any operator wishing to be listed as a Special station, including the coveted opportunity to use the LICW Club Call, may email [kd2ymm@gmail.com](mailto:kd2ymm@gmail.com).

### LICW CHALLENGE QUARTER 4 (OCT - DEC 2023) SCORES AND AWARDS



Name	Call Sign	LICW#	Score	Award
Lisa	AC3IX	3428	2	
Marilyn	AD3DX	4997	20	Bronze
Charles	AD4CH	3738	9	
Russ	K1RWT	0134	3	
Evan	K2EJT	3740 I	109	Silver
Jerry	K2GV	0004 I	324	Gold
LICW	K2LCW	2CW A	56	Bronze
Marc	K4CTF	1093	2	
Ken	K5ENS	3562	21	Bronze
KC	K6KWV	3708	4	
Ken	K7BXI	0533 I	5	
Quentin	K7DRQ	0849 I	8	
John	K7ESQ	4657	5	
Andrew	K7H5H	4456	12	Bronze
Marcos	K8ARE	4282 I	116	Silver
Matt	K9EI	2467	9	
Steve	K9NUJ	3918	23	Bronze
Eric	K9VIC	2404 I	136	Silver
Kelly	KA7IMA	4748	176	Gold
Randy	KB4QQJ	1086 I	258	Gold
Don	KC0DWZ	3982 I	333	Gold
Ron	KC2PSA	4110 I	57	Bronze
David	KC3VYK	4576	17	Bronze
Kasey	KD2YMM	3405 I	24	Bronze

## MORSE CODE TRAINING CLASS IN A TENT - OPERATION DESERT STORM

By Tim N6CC

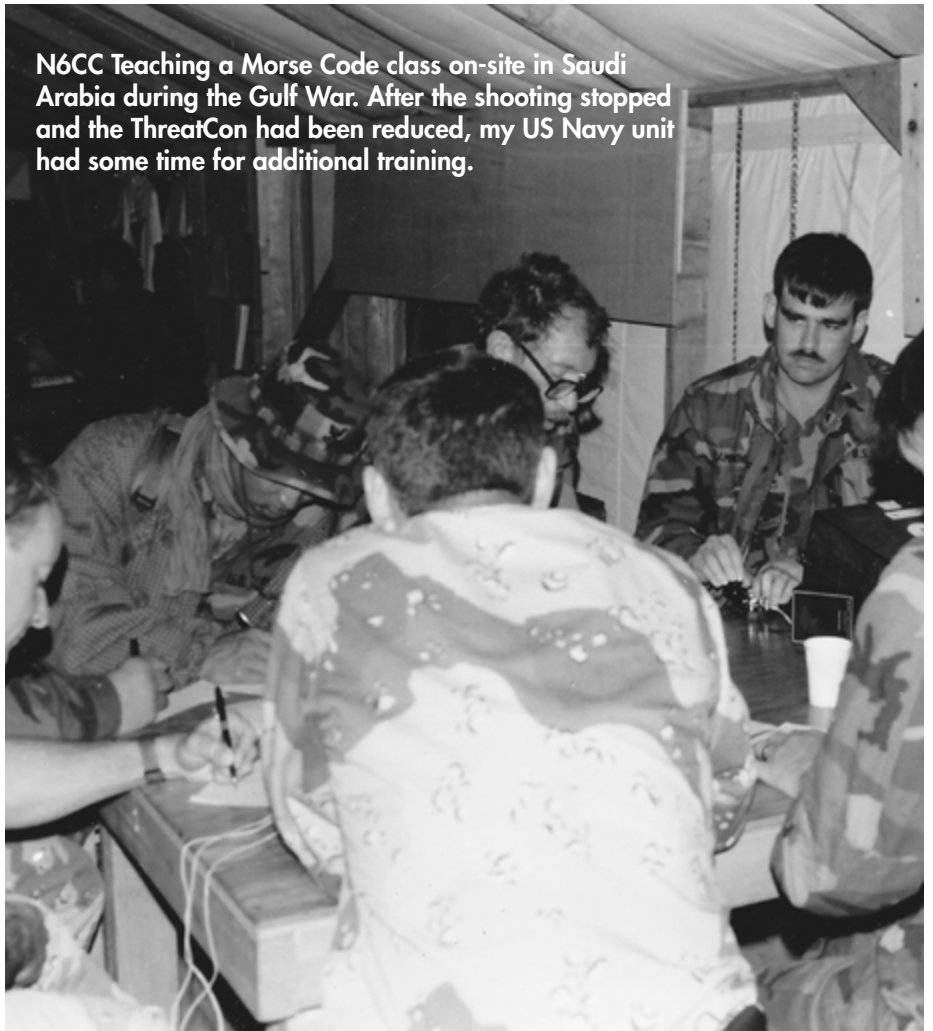
Here, conducting a class for several guys using an audio oscillator from our test equipment set, a CW key from our AN/URC-119 HF radios and speaker to generate code. A couple of these guys went on to get their Ham radio licenses, utilizing this fundamental military skill.

During the earlier combat operations, we had run CW communications tests from our surveillance site back to Bahrain on assigned USN high frequency circuits in an effort to build as much communications redundancy as possible. Fortunately there were also Morse-qualified operators (who were also Hams) at that site to enable this. It worked well.

### Yes Virginia, Morse Code was used During Operation Desert Storm.

(Was that the last time the US Navy used CW on a tactical circuit during combat operations?)

N6CC Teaching a Morse Code class on-site in Saudi Arabia during the Gulf War. After the shooting stopped and the ThreatCon had been reduced, my US Navy unit had some time for additional training.



## THE LICW MORSE PRACTICE PAGE

### How it changed over time

By Tom AB5TN

In the first article we found out how the Morse Practice Page (MPP) was developed. In this article, we will explore how it has changed over time to keep up with the changing curriculum.

As we said in the first article, the MPP originally only supported the basic needs of the Beginner's Carousel (BC). The focus was to provide the instructors with a way to introduce the 3 new characters for the week and review the previous 2 week's char-

acters. It also provided the students with a way to practice anything from just these first new characters to all 18 characters covered during the 6 week cycle of BC1 or all 44 characters included in BC2.

It wasn't long before the Curriculum Development Team started requesting additional functionality. The first request was for a way to practice Instant Character Recognition, or ICR as it's known. To accomplish this, our programmer, Randy KN4YRM, added a voice option to the MPP with a way to change the amount of time between when the code was sent, and the character name was voiced. About this same time, we also started to add

additional content for the students to practice such as states, QSO abbreviations, and the QSO protocol.

With the BC looking good the Curriculum Development Team started looking at the Intermediate Curriculum. This added three additional class levels to the MPP with a much greater content requirement. Now it wasn't just letters, numbers, and punctuation. We now had to deal with words, phrases, and sentences of variable length and 6 different class levels. There was also a request to add variable speed training. This required the instructor to manually change the effective speed during the exercise.

The club was bringing on new instructors to cover all these new classes and it became evident that it was taking too long for them to set up the different exercises during class, so Randy came up with a way to add what we call Presets to the MPP. Once all the coding was done, all an instructor needed to do was select the content to be used and then click on one of the Presets and all the settings would be made for them. He also added functionality that automatically changed the effective speed at set times. Since then, content has been added to the various class levels along with adding the Advanced Curriculum. Additional Presets have been added for instant word recognition, sending practice, number training, and familiarity training.

With all these changes being made, there was a need for a better way to train both the instructors and students on how to navigate and use the MPP. Fortunately for us, Michael, GOPOT, recognized the need and started writing his own user's guide. Of course, once we found out about it, we requested that he collaborate with the Development Team to come up with a document that could be placed in our web site.

<https://longislandcwclub.org/academic-downloads/>

This is an excellent document but there was something still lacking. Some students were still having difficulty understanding exactly how to go about setting up the exercises, so we asked Ed, W4EMB, to make some training videos. These are short YouTube videos that go through exactly how to set up various exercises step by step and can be found here.

<https://www.youtube.com/playlist?list=PLt-EzLx2AKFY8NVxxPVBB-PzR6s-Kz7t>

As you can see, the MPP has changed quite a lot from its introduction and we see it continuing to change as the

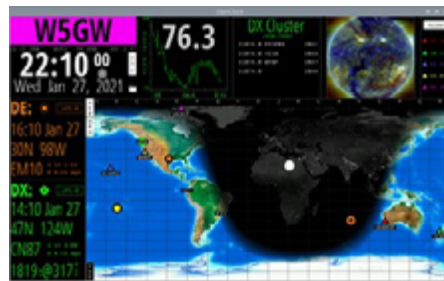
Curriculum changes and new exercises are introduced.

The next article will address how it was modified to meet the needs of the visually impaired. See you then.

## HAM CLOCK

By Gary W5GW

**Introduction:** One of the more useful accessories around the shack is a clock. The HamClock by Elwood Downey, WBOOEW fulfills that need and much more. With it you have a updated map display that shows UTC/Local time; day/night; pending and active satellite passes; propagation information; beam heading; DX Clusters; and several other features. For information go to Elwood's web site at: <https://www.clearskyinstitute.com/ham/HamClock/>



I built mine on a Raspberry Pi 4B, but there are other platforms that can be used if desired. This makes a wonderful entry project exploring all of the many capabilities that a Raspberry Pi can bring into the ham shack.

There is a commercial version of the HamClock, but I find building my own equipment to be more satisfying and less expensive. For most of us, we may already have many of the items on hand to quickly assemble and test the ham clock. Here is a description of essential items.

**Raspberry Pi** Almost any Pi will work but check with the Clear Sky Institute web site. Be sure to have a good

quality micro-SD Card to load the Pi's operating system that is compatible with your Pi and a Power Supply. A good Raspberry Pi starter kit containing all this plus a case, cooling fan, and a mini HDMI cable is in this [package](#). This hyper link (Ctrl-Click) should take you to Amazon's ad for the CanaKit Raspberry Pi 4B kit. As of this writing the 4B is the latest version and it comes in several random-access memory (RAM) sizes (2, 4, and 8 GB). The 4GB RAM size is overkill for this project but that is the size I chose as I wanted some growth potential for other projects.

**Computer** with internet access, either a Mac or a PC. This will allow you to download the Pi's operating system and the HamClock software. You can also, as one interface option, use it to pass commands (via ssh a secure shell) to the Raspberry Pi during the initial setup and testing. We will discuss how to use the ssh feature later. Monitor You may have one around and there are many types. Just be sure it has an HDMI interface. Even a TV set with a HDMI connection will work. There are even touch screens specific to the Pi, but for now, any monitor with an HDMI connection is fine.

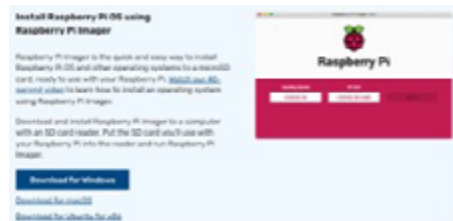
**Keyboard and Mouse** I used a USB keyboard and mouse. The Pi 4B has 4 USB ports. You can also use a wireless keyboard/mouse or even go without and just do all of the interfacing to the Pi thru your local network. Personally, having a keyboard and a mouse connected to the Pi during setup and initial testing is more convenient than using ssh.

We will construct the HamClock in two steps, our first step will build the operating system.



## Step One — Building the OS

There are several ways to build the operating system (Raspian) on a Raspberry Pi. Just like MS Windows and Mac have different versions of operating systems and releases, so does the Pi. The easiest way to build the operating system is to use the official Raspberry Pi imager tool.



Here is the page where you have the imager tool. Note there is a short video that explains the process. Watch the video.

**A word of caution. You will be mounting, formatting, and writing to your micro SD on your computer. Double check that you have selected the correct device letter or name. If you have a solid state hard drive or another thumb drive plugged in it is extremely easy to lose your data by selecting the wrong device.**

Be sure to select Raspian, which is the first selection in the imager tool. After the imager tool finishes writing the OS to the SD card, remove it from your PC or MAC and insert it into your unpowered Raspberry Pi. If you are using the latest Pi 4 or 4B it requires a USB-C connector. This is a symmetrical power connector and do not try to fit any asymmetrical USB connector to your Raspberry Pi.

## Bringing your Pi Alive!

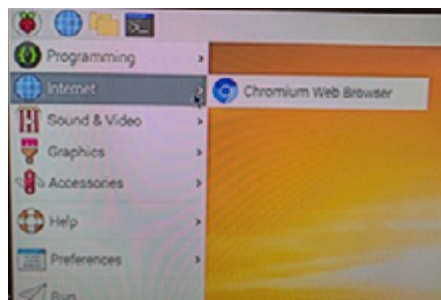
Now is the time to test the operating system you just put on the SD card and your Raspberry Pi. Plug in a mouse and keyboard to the USB ports, a HDMI cable from your monitor or a TV set into the HDMI connector just to the right of the power cable (in the case of the Pi 4B there are two HDMI connections that will support a

dual screen configuration—be sure to get the one next to the power cable) and plug in the power. After a few minutes you should have a welcome screen that looks like the screen at the top of the next column.



Before you hit Next there is one more optional connection. If you have an internet ethernet cable and want to wire the Pi into your network connect it now to the ethernet port just to the right of the USB ports on the Pi. If you typically use wireless internet (most do) you can disregard this connection.

After you hit Next, the Raspberry Pi will lead you through the largely self-explanatory steps to: 1) select your language and country; 2) establish a password (the username is by default pi); 3) setup the screen; 4) select and set up the internet; and finally 5) checks and updates your Raspian OS. If all is okay, you should now have a working Raspberry Pi computer with a screen image similar to the following graphic.



**Congratulations!** You now have a fully functional Raspberry Pi computer. Before we go into the next step of installing the HamClock software it's highly recommended you spend a few hours getting used to the workings and capabilities of your new Pi

computer. There are several tutorials and YouTube videos available on the internet. Here is an excellent one. Our next step will load HamClock into your Pi computer and run it as an application. This can be easily done by pasting and copying a few Linux commands from the HamClock website. **(Note: The HamClock application has undergone several iterations and upgrades since this article was written and it is constantly evolving with new features so the screens you have in their current web site may differ.)**

## Step Two — Installing HamClock

In this step we will go to the HamClock website, download the software, and install it as an application on the Pi computer you just built. All this work will be done on your new Pi while it is connected to the internet. Open the HamClock website using your browser on your new Pi, go to the Desktop tab about halfway down the page until you come to these two selections in the following graphic.



Click on the first selection and you should see some instructional steps with some code snippets like this:



Next, open up a terminal window on your Pi by clicking on the terminal icon at the top right of the menu bar. You will copy **one line at a time** from the browser window and paste it into the terminal window. Likely you will get errors after the make command (fifth line of step 2.) . If you do, just go to step 3., copy and paste the two sudo command lines one at a time and then go back to the make command in step 2. and continue.

Note, we are making a small to medium sized fixed window application of 800x480. If you are using a larger monitor, say one about 21 inches or larger, you might want to change the commands to build a window that is 1600x960.

That is about as simple as it can be. You should end up with the startup screen that is discussed in the User Guide on the HamCLOCK website. The User Guide will give you more detailed information about how to configure and use your HamCLOCK. I've included two Appendices that will help you: 1.) Understand the commands we used to build the HamCLOCK application, and 2.) How to interface with your Raspberry Pi from another computer.

### Conclusion

Building a Raspberry Pi and Installing the HamCLOCK is a great way to explore how to use a small, inexpensive, yet powerful microcomputer.

The Pi has many features that lend itself to other amateur radio projects. I'm currently using one to operate DMR using PiStar software and have plans to connect one to my SDRplay RSPdx software defined radio (SDR) (Note, since this article was written I have also done this).



The best part is the Raspian OS and other application software is it is free-ware and gives you an opportunity to learn rudimentary Linux as well as build useful tools for the ham shack.

### Appendix A — Linux Commands Described

You can install the HamCLOCK without really understanding what you are

doing. This appendix is designed to introduce some of the commands you copied and pasted to get the HamCLOCK application working.

But first, a word or two about Raspian which is built on the Debian/GNU Linux operating system and Linux in general.

GNU stands for 'GNU Not Unix' and is sponsored by the Free Software Foundation (FSF). FSF is a 501c entity. What this means to you is over 1,000 dedicated volunteer software developers are constantly working on this free, non-proprietary, Linux operating system. There are many variants of Linux. Raspian is just one of them.

Many times, that slow old PC that has become bogged down by the proprietary MS Windows can be given a new life by installing a Linux OS such as the Ubuntu Desktop. The bottom line is Linux is a powerful, but rather complex software development language, yet even mastering a few dozen commands can unlock a whole aspect of software processing that can add so much capability to your ham shack. And, as Joe Namath says; 'Its Free!'

So let's explore some of the Linux commands. BTW, I am not a Linux expert. So, if you find that I've described any of these commands incorrectly or have failed to emphasize a salient point I would appreciate hearing from you.

### cd [change directory]

The cd command is used two times. The first time we used it with no argument it simply pointed us to the home or root directory of our Raspberry Pi. After we downloaded and unzipped the HamCLOCK code into our root directory a file folder by the name of HamCLOCK was placed in the home directory. Please note that Linux commands and arguments are case sensitive.

### curl [command line tool for downloading]

Here we are using curl to download a file that is out on the web in the second argument, to our root directory and giving it a name that is in the first argument. Here is the basic curl syntax: curl [option] [arg 1] [ arg2]. The -o option tells us to name our downloaded file based on whatever we place in argument 1.

### unzip and zip [compression utility]

Because the file was in a compressed form on the HamCLOCK website we now need to un-compress the file. The unzip command simply decompresses the folder into the current (in this case home or root) directory.

### make [compiles the source code into an executable file]

In this case the -j 4 is an option. This tells the compiler that it can operate on up to four jobs simultaneously. At the completion of the compilation process the executable code is placed into a file named hamclock-800x480. During the execution of the compilation process considerable diagnostics will be created. Likely your latest copy of Raspian does not have all of the necessary library packages. That is why you needed to run the two sudo commands enumerated in step 3.

### sudo [Super User Do]

This command tells the terminal shell you are a super user and operating out of the root directory. In a MS Windows analogy you are going to execute a command as an administrator. The argument following the sudo command is the name of the executable we created in the compile. The '.' says look for this file in root, and the '/' is just a separator.

### apt-get [package command line tool]

the apt-get command must be run as a super user. In our first instance of use it is called with the update option. This is used to synchronize the package index files from their sources

again. The second time we use this command we call it with the install option. The `-y` option says answer yes to any questions as we install the `libx11` library updates as well as `g++` and make updates. This is a complicated command and while it works, there are probably better ways to do this in a simpler manner. I'm still trying to learn all the nuances of the `apt-get` command.

### Appendix B — Interfacing via Secure Shell (SSH) and VNC

After you begin using the HamClock or other applications, you may want to access your Raspberry Pi for some simple maintenance without digging up a USB keyboard or a mouse. If your Pi is on a local network, this is easy via the SSH protocol. Using SSH can be accomplished using a free-ware program called PuTTY.

PuTTY is a application that can be put on a Windows machine and allows access to your Raspberry Pi terminal's window. There is a method for using PuTTY on a Mac, but since your Mac has a built in SSH terminal application I don't really see any value describing that method.

When your Raspberry Pi doesn't have a means of local communication via a keyboard or a mouse this is called a 'headless' configuration. Here are the steps to do this.

#### Step One — Configure Your Pi to Enable SSH

This will require the use of a keyboard and a mouse since Raspian comes with SSH disabled.

- Launch Raspberry Pi Configuration from the Preferences menu
- Navigate to the Interfaces tab
- Select Enabled to SSH
- Click

#### Step Two — Install the PuTTY Client

Download and install a PuTTY application from the internet. You will

need to determine if you have a 32 bit or 64 bit machine. If you don't know, you can install the 32 bit version as it will work on a 64 bit machine.

#### Step Three — Determine the Pi's IP Address

Because its likely your Pi's IP address will change from time to time, it's usually best to confirm it just before you begin any remote interfacing. I use an application called `ping` on my iPhone to identify the IP address of my Raspberry Pis, or any other devices for that matter, connected to my local network. `ping` will work on both Android and iPhones. Look for your Pi in the right column and then write down the IP address from the left column, it will likely be something like `192.168.1.xx` if you are on a wireless network.

#### Step Four — Configure and Start PuTTY

In the PuTTY screen type in the IP address of your Pi and be sure the SSH option is selected. After you click Open the first time you use PuTTY you will receive a warning message asking if you want to trust your Pi. Answer Yes.

A Terminal Window will open asking for a Username. It is just `pi`. Remember the Password you gave your Pi when it went through the setup? Yep. You need it now and remember both the username and it are case sensitive.

#### Limitations of SSH

Unfortunately, PuTTY/SSH can't open a Windows interface. Thus you can't start your HamClock application. There are methods by using a protocol called X11 with SSH that should allow you to do this, but I've never had much success employing the X11 tool. Instead, I use a tool called Virtual Network Computing, or VNC for short.

The VNC Server comes with the latest

Raspian load, but it must be enabled under Preferences — Raspberry Pi Configuration — Interfaces. You will need to get a VNC viewer for the computer you want to open a VNC portal into. I obtained mine from RealVNC.

Here is a graphic of the VNC tool on my MS Windows 10 PC just before I tunneled into my Raspberry Pi. A nice little feature is it remembers previous tunnels and saves a graphic with the IP address. If the DHCP protocol hasn't changed your IP address all you need to do is click on the icon and you are instantly tunneled into your Pi.

