NEWSLETTER PROMOTING
MORSE CODE
WINTER 2026

WHAT'S HAPPENING IN LICW: WINTER UPDATE

by Howard Bernstein, WB2UZE

Here are the highlights since our Summer/Fall edition:

1) Curriculum: Our program is always improving and being fine-tuned, and here is the latest:

Project OverLearn principles and milestones are now being integrated into all phases of LICW training. Every level of instruction – from the Beginner Carousel through the Advanced Curriculum – is being refined to reflect the latest understanding of how Morse fluency develops.

Our Beginner Carousel now focuses on helping students develop flow skills early, building the foundation for rapid recognition, instant recovery, and real-time comprehension – the same core abilities that drive success in the Intermediate and Advanced levels. This ensures a seamless transition from BC to Intermediate 1, where flow becomes more complex and sustained.

The Intermediate and Advanced classes are also being reengineered to align with OverLearn milestones. The emphasis is shifting toward Time to Recognize (TTR), Instant Flow Recovery (IFR), Character Flow Proficiency (CFP), and ultimately Word Discovery and Fluency. These refinements will create a cohesive, research-based learning path that strengthens each student's progression from day one to full fluency.

Stay tuned for upcoming announcements about new evening Advanced classes and additional Beginner Carousel classes at Europe-friendly times

2) All forums return: Summer break is behind us now and our forums have all returned with exciting and interesting programs. We are pleased to be adding a new one Thursday nights at 9pm: Arduino Programming and Electronics Breadboarding with Steve KC8TVW. Steve was kind enough to come to us with this idea and we put it on the schedule right away. Ideas and suggestions are always welcome and encouraged from the membership.

3) Our membership: We continue to grow with 120-150 new members each month and our re-up to Lifetime status is at 82% so all is well.

4) Participation in nationwide hamfests: Thank you to all the members who have been giving tirelessly in this area. It takes work and dedication to man these tables and attend to the hundreds of hams and youth that stop by for information and encouragement. If any members would like to take tables at their local hamfests, you will have our 100% support and reimbursement of expenses.

5) Our Kids program: This program is growing constantly and it's great to see demand from our youth that ensures our hobby will continue along with CW. We really could use up to 2 more instructors. Teaching the kids is not as demanding as you might think and is very rewarding, so if there are any volunteers out there, please contact me. ★

IN THIS ISSUE...

Help ring in the New Year right! Pound the Brass on Straight Key Night!

Greetings to all, and welcome to the Winter 2026 edition of the Long Island CW Club Newsletter! I hope all of your Holidays are going well!

I can think of no better way for any ham to usher in the New Year, than to participate in the ARRL annual **Straight Key Night.** It is a low-key *(sorry! No I'm not),* no-pressure, *FUN* way to get on the air and sharpen your skills, all at the same time!

As posted on the **ARRL website,** *"Straight Key Night is held every January 1 from 0000 UTC through 2359 UTC… This 24-hour event is not a contest; rather it is a day dedicated to celebrating our CW heritage. Participants are encouraged to get on the air and simply make enjoyable, conversational CW QSOs. The use of straight keys or bugs to send CW is preferred. There are no points scored and all who participate are winners."*

In addition, many Straight-Key Night'ers get even further into The Spirit by liberating their boat-anchor gear from the mothballs in the closet, polishing them up and getting them back on the air during the event. You may even hear a chirpy CW signal or two from really ancient gear with really ancient power supplies to match.

It is important to realize that Straight Key Night is THE PERFECT EVENT for LICW students. Most participants will be using straight keys; this means that the "playing field" will be leveled! With very

few exceptions, all participants *will be sending slowly* and will provide better opportunities for LICW students to understand what is beig sent. Mistakes in both receiving and sending will, and should, be easliy dismissed (remember the fun, no-pressure part?).

Tom VA2NW/AC1PH writes, *"In the National Capital Region of Canada, many of us start SKN at midnight on January 1st on 70cm/2m/6m. It's always a blast working your buddies on uncommon band/mode combinations. Give it a try this year."*

So why not pour a big ol' mug of eggnog for yourself and the XYL, plug in your straight key, dip the plate on your DX-60, and join in the celebratiion!

I wish you all a very Merry Straight Key Night – and a **VERY HAPPY NEW YEAR! CHEERS!**

– Rich Spohn, WB2GXM

THE LICW MORSE PRACTICE PAGE

UPDATES AND ADDED FEATURES

There have been some changes and additions since the last MPP article that I would like to bring you up to date on.

TTR

All of the ICR "PRESETS" have been renamed TTR so as to recognize that there is no such thing as "instant" character recognition. TTR or **T**ime **T**o **R**ecognize refers to time it takes for a student to recognize a character after hearing it. This relates to the effective speed or the rate at which students can comfortably comprehend and process Morse code – not just the speed at which it is sent.

The ICR+ "LESSON" has been renamed TTR+.

LOOP

The next change has to do with the ability to replay the lesson. You will now see "Loop Off" with a circular arrow. The default is "Loop Off". If you click on this box, you will see the next selection is "Loop Shuffle". This selection will replay the exercise but give you a new set of characters or groups each time it is replayed. The last selection is "Loop On". Selecting this option will replay the exercise using the same set of characters or groups each time.

OVERLEARN

I'm sure you have heard about the new OverLearn program including the optional Bootcamp. We have added all the files associated with these programs to the MPP. You can access them by selecting OVERLEARN under the "CLASS" menu then selecting the "LETTER GROUP", "LESSON" and "PRESET"

of your choice. Additional OverLearn style exercises will be coming to many of the other classes in the future.

HYPERLINKS

A very exciting addition is coming. Randy, our programmer, has been able to come up with a way for us to add hyperlinks to our Guides that will direct you to the MPP with everything already set up. This means that when you click on the hyperlink for a particular exercise, it will be set up for the class – letter group – lesson – PRESET and other setting required for that particular exercise. All you will need to do is click on "PLAY".

These hyperlinks are being tested in the Bootcamp and will be rolling out to other classes as time permits. Watch for more announcements about where to find these.

PERSONAL EXERCISES

This isn't really anything new but something many don't know about. There are several ways for a student to configure the MPP to play unique sets of characters/words/phrases etc. The first and easiest is to use the "Custom Group" box for specific characters. First set up the CLASS – LETTER GROUP -LESSON – PRESET that is closest to what you want to do. Type the characters you want to practice into the "Custom Group" box and click on it. You can see what will be played by clicking the "eye" in the input area at the top. The grouping of the characters will change depending on the PRESET used. The main thing to remember is that the last thing you do is clicking on the "Custom Group" box.

Student defined words, phrases, and sentences can be introduced by either typing directly into the input area at the top or making a text file and loading it there. Like above, the first thing to do is select the exercise that is the closest to what you want your

file to do. Once you have that set up, click on the "eye" in the input area so you can see what is happening, then use the "Clear" and the "Insert File" tabs to the right as needed. Each word/phrase/sentence needs to be on its own line with a space at the end. If you don't include the space, the lines will run together.

If you decide to make a file, use a text editor that does not include any formatting. Save the file wherever you want on your system. Click on the "Insert File" tab and navigate to where you saved the file and open it. The text will be inserted into the input area. You can make changes to the "More Settings" area to fine tune it. All you need to do now is click "PLAY".

I hope you find these items helpful as you travel along your CW journey. Have fun and I hope to hear you on the airwaves sometime. ★

– Tom Noller, AB5TN

YL OPEN HOUSE

By Anne Dirkman, KC9YL

Our YL4CW Open House group continues to meet on Mondays in Room C - 8:00 PM Eastern Time. With 8ish regular attendees, we welcome new members or gals who have been around for a while. Have you gone through the BootCamp training? Scored some sweet DX? Made your very first contact, or solo POTA activation? Stop in and let us know what you've been up to.

Our *LICW YL POTA – AND MORE! WhatsApp chat group* is active on a daily basis. If you want an invite, just send your phone # to Anne KC9YL (good on QRZ and listed on groups.io)

See you on the air!!! ★
– 73, Anne KC9YL

LONG ISLAND CW CLUB

Teachers of Morse Code

longislandcwclub.org

WELCOME TO THE LONG ISLAND CW CLUB CHALLENGE!

By Kasey Efaw, KD2YMM

Winter is fast approaching and we have wrapped up the third quarter of 2025 and a 'points reset' of the LICW Challenge. Don't let the cooler weather slow down your on-air time and remember that we have added bonus categories for making LICW Challenge exchanges with a member at a (POTA) Park or (SOTA) Summit! Full details, rules for participation and past scores can be found at **https://licwchallenge.org/**

With the continuation of the weekly GOTA assistance class (Saturdays 16:00 UTC in Zoom C) and lively discussions with self-spotting on Discord, there is never a better time to get on the air, no matter your operating speed.

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**.

– 73's,
de Kasey KD2YMM ★

LICW CHALLENGE AWARDS

At the end of each quarter, points are tallied up and certificates are awarded for total points of 10 and above. New this year we created customized certificates and email them out, so be sure a good email is on file.

Grab your favorite key, get on the air and aim for the top spot! ★
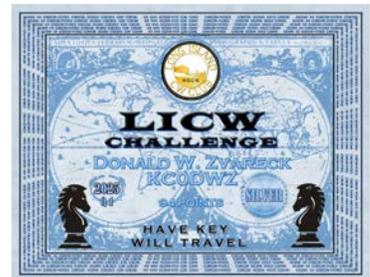
The following is a sample of scores from the third quarter of 2025. Will you rise to the 'Challenge' and be awarded as a top scorer!?

Score Board

LICW CHALLENGE QUARTER 3 (JUL – SEP 2025) TOP 10 SCORERS:

Rank	Callsign	Name	LICW #	QTH	Total Score
1	K2GV	Jerry	41	New York	50
2	N5DCH	Dave	3064 I	New Mexico	42
3	K5ENS	Ken	3562	Texas	41
4	KC0DWZ	Don	3982 I	Minnesota	39
5	F5IJO	Jean-Jacques	5902 I	Europe	39
6	K9VIC	Eric	2404 I	Illinois	36
7	AI5BE	Tim	882 I	Mississippi	24
8	K2MZ	Robb	225 I	Massachusetts	11
9	VE3DRS	Peter	2996 I	Other North America	10
10	K8LG	Grace	K100 K	Michigan	9
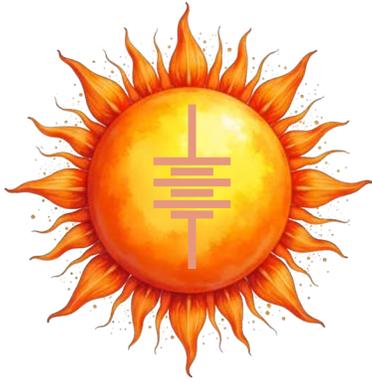
A SOLAR POWERED HAM RADIO STATION

by Tim Sammons, N6CC

Why? Because why not! You need to power your equipment anyway. The following is my approach to solar power at N6CC. This not a "How to do it" but rather "What can be done".

The motivation was to experiment with small scale solar power for my simple station which consisted of a 100 watt multimode transceiver, a VHF radio, some receivers etc. This was in the late 1970's, well before the Interwebs, so it took some digging. Today there are myriad online tools exploring all aspects of this technology, from estimating the solar energy potential at your location, to equipment power budget estimates, panel and controller options, and battery storage. It's easy to get started and it's been a good learning experience with very practical applications.

I started out with a small 2 amp, 20 watt panel ($200 at the time),

a DIY controller based upon an LM-350 voltage regulator and a voltmeter-ammeter combination to monitor the system.

Today's prices now run about $1/watt for 100 watt-class panels and there are plentiful systems available which include an appropriate controller to avoid overcharging the battery. Peripherals like wiring, mounts, terminal blocks, fusing etc. are readily available at the auto parts store and are part of the journey. Or raid the Junk Box!

Next is the all-important battery. In my experience, every power tool or other battery powered device that I have has failed because of the battery, long before the device itself fails. So I consider the battery to be a consumable item (hopefully good for many years) but the rest of the equipment will be reliable long-term.

To that end, I started out with a small 35 amp-hour Gel Cell but ultimately moved up to a 75 amp-hour AGM type sealed lead acid battery. They are relatively cheap, plentiful, hard to damage and safe inside the house. I have deliberately ruled out Lithium based chemistry due to the potential for fire. They are also quite expensive and fussy about charge regimen whereas the SLA types are pretty bullet proof.

As always, safety is a prime consideration during design. For more permanent type installations consult with the National Electrical Code.

Today my system consists of a 5.8 amp, 100 watt Sun Force (Canada) panel, appx 2x3 feet. It was marketed by Coleman (today $130) and it included a simple 8 amp controller which worked great.

I have since upgraded the controller to a West Mountain Radio **Epic H PWR Gate**. It has inputs for the panel, the battery, a 12 volt ACPS of your choice and an output connector, all Anderson Power Pole types which are standard at N6CC. RFI-quiet, it works great ($190 today).

It includes LEDs to indicate panel operation, battery charge status and ACPS readiness. Best of all it includes a solid state switch to silently transfer the load from a normal station 12 volt ACPS to the battery if/when commercial power fails.

In California that is a fairly regular occurrence with an overloaded power

transmission and distribution grid and an aging, vulnerable infrastructure which includes underground transformers and power lines.

Big transformer BOOMS have occurred in our neighborhood; 8-hour outages are fairly common. Good to know the radio gear will not even notice (and can also be isolated from power line surges).

I have since added more equipment to be powered. This includes several additional receivers, LED table lighting and a 12 volt-24 volt converter for my 24 volt military transceivers. Plus a 12 volt, 300 watt sine wave "inverter" if I need 120 VAC for something like a notebook PC after its battery quits.

My 12 volt station power supply is a hacked, RFI-quiet 70 amp ATX12 computer supply, but I have an assortment of Astrons and others available. However, I run the key equipment entirely on solar to exercise it but also to reduce the standby drain from the 12 volt ACPSs just sitting there (some of my equipment usually runs 24/7). Running solar helps you think about not wasting energy in general.

I also added a simple Powerwerx panel mounted DC voltmeter connected to the battery. It includes 3 USB jacks to solar charge the cell phone, LED flashlights, FRS/GMRS radios, desk lamp etc. Handy.

My (easily expandable) system powers my daily operation even after a few days of cloudy weather but understanding your local solar insolation and your realistic power demand is important. I operate low power CW primarily, my transmit duty cycle is relatively low and the receivers sip power so that all helps significantly.

I have since relegated my old 20 watt panel, DIY controller and a small garden tractor battery to my camping kit. I have dependable comms while remote camping which I enjoy – far from pavement, the grid, cell sites, WiFi and repeaters. I love the sound of CW in the mountains!

The evolution of these 2 systems has been a fun learning experience yielding a very satisfying, functional and reliable "off grid" capability. Perfect for casual Hamming or emergency comms with our CERT and public safety involvements from home or while deployed. It is also reassuring to know I can reliably communicate with my licensed family members and friends when most needed. I can even send/receive solar powered Internet Email via HF Winlink to much more remote family and friends if local or regional power or Internet fails.

It's a good system. A similar system today would run under $500 including the battery. It would take a long time to pay for itself in electricity savings but that's not the point.

Search engines are your friend to find all system components.

As it's been said, Ham radio is the hobby of a thousand hobbies. Exploring and using solar power for this application expanded my list. ★

– 73, Tim N6CC
WWW.N6CC.COM

SILLY POTA ADVENTURES, A LITTLE BIRD AND THE NATURALIST

In June, I was activating CVNP US-0020, and I noted a little grey bird watching me. I was seated at my usual picnic table, and the bird was on the ground behind me, but curiously looking at me. I thought it was cute, but went back to activating. Shortly thereafter, the same bird decided to sit across from me at the picnic table and lingered. I thought it may be attracted to the CW sound. It didn't seem afraid at all. In fact, quite friendly. Then, it flew to my antenna (Chelegance MC-750) and started hugging it. I took some fotos and a short video clip of it. I had no idea what type of bird it was.

This week, I went on a bird walk. I hike a bit and now... watch birds. lol ! Anyways, I told the naturalist my story about the little bird, and showed him the video. He identified it as a grey catbird. He told me that these types of birds are known for mimicking sounds and had I stayed on longer, it may have started mimicking my CW. How cool is that?

According to Google, "The Gray Catbird is a skilled mimic, able to imitate a wide variety of sounds, including other birds, frogs, and even mechanical noises." ★

– Ai, AI8AI

SIMPLE QRP 9:1 UNUN CONSTRUCTION

by Dean Marzocca, N2TNN

One of the thrills of operating QRP is to get out in the field and make contacts. POTA gives you that perfect opportunity to do so every day.

I have been activating POTA for the past year and really enjoy the challenge of having the perfect station set up. The main ingredient to being successful is antenna, antenna and then the well-known antenna. Rigs help but not as much as a portable antenna that is very efficient with low loss. 5 watts needs all the help it can get.

My go to antenna selection was the End Fed Half Wave (EFHW). This was made up with a 49:1 unun and approximately 33 feet of wire. It worked well and was easy to deploy because the wire was so short. The only disadvantage was the limited band selections, not many.

So, belonging to a local Club with many smart members, a discussion started concerning using random length wires. Because a random length wire has a lower impedance than a EFHW a new design was needed for an unun. There are many 9:1 unun designs available with a simple web search which use a round core. T-240s are large and add to the bulk of a portable station so I was looking for something smaller. I found a drawing of a 9:1 unun using a binocular core.

Back to the Club repository of vast knowledge. A BN-61-002 was suggested to be a perfect match for the critical type material criteria. The cores are readily available.

Shown is the hand drawing of the 9:1 unun developed over lunch one day.

Back to the supply box I located the BN-61-002 core and began to wind it. I decided to use two different color
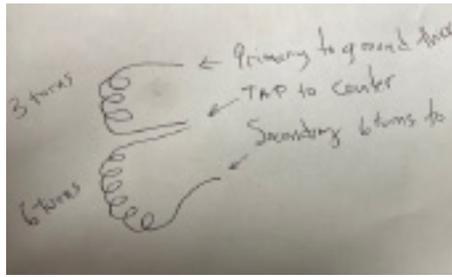
wires to make the identification of the primary and secondary much easier.
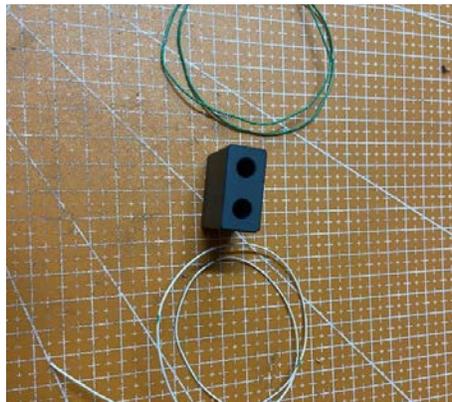
White and green looked like the perfect pair. The winding method I used was to start with the primary, which is 3 turns. A turn is complete
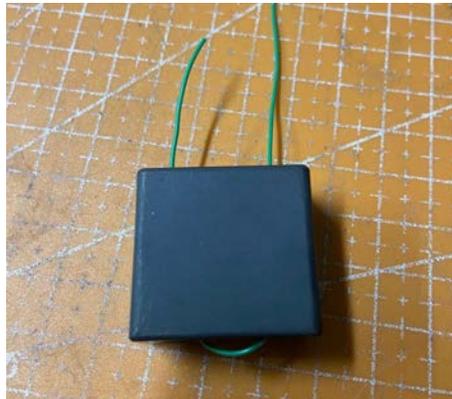
One turn.

Three turns.

when the wire goes through each hole once.

Leave the start wire un-stripped and then strip the end after 3 complete turns. This is how you know where you started. The 9 turns are to be a continuous loop in the same direction. Now start with the secondary and stipe the insulation off and twist it to the first wire.

Start secondary.

Now finish off 6 turns on the secondary and strip the end.

All turns are complete.

The next step is to add the connectors. You will need a bnc connector to accept the coax and two wire connectors which is your choice. I like to use the ones with dual purpose. They twist to allow a solid wire to be tightened down or using a butt connector attached to your radial and long wire. So here we have the test model.

The test model.

Here I found a 467-ohm resistor, close enough..

To simulate your random wire which will be around 450 ohms you need to search the junk box and find a resistor close to 450 ohms.

OK, now let's hook it up. I use the twist method to connect the 467-ohm resistor across the red random wire lead and the ground, counterpoise connector.

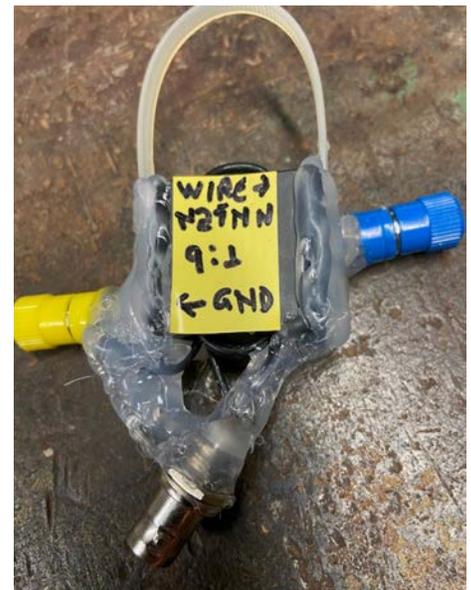Attach an antenna analyzer and do a sweep. This sweep shows a swr of 1.2 across all bands starting at 80 meters on the left and then ending at 10 meters at the right.

Keep all wires short and you will have a winner 9:1 unun for your random wire antenna.

Above is my first attempt at a build. I kept the wires as short as possible and encased the core and connectors with hot glue. The hanging strap is a zip tie. The wire is exactly 85 feet with a loop at the hanging end. One last very important part of the puzzle is the counterpoise system. I started with a 17-foot wire and then added a 34-foot wire. They both attach at the ground connector (black). The random wire connects to the (red) wire connector.

That's all there is to get on the air with minimal equipment. I chose the 85-foot length, but there are so many other lengths to choose from. Just look up random wire antennas and you can choose the wire length for the bands you wish to operate. My 85-footer will load 80 meters through 6 meters with minimal rig tuning effort. Choose wisely and make the magic happen. It does for me, "CQ POTA CQ POTA de N2TNN calling CQ POTA" (and the pile up happens!)

Many thanks to our Engineer Mark N1LO and our Professor Danny KW4LQ. Technical talk might erupt at any given time during our lunch meetings. ★

– 73, Dean, N2TNN

NATIONAL TRAFFIC SYSTEM NET TRAINING

by Ed Conway, N2GSL

How does the National Traffic System relay messages between the Eastern Area, Central Area, and Western Area nets?

NATIONAL TRAFFIC SYSTEM (NTS) OVERVIEW

The local VHF/UHF Traffic Nets are where many formal messages (traffic/radiograms) are initiated. From there, depending on where the addressee is located, the message is relayed to traffic nets that cover larger areas. So, a message may be relayed to a section net, statewide net, region net and then to an area net. There are three area nets. The Eastern Area Net (EAN) covers the eastern United States and Canada. The Central Area Net (CAN) includes the Central United States and Canada. The Western United States, Western Canada, and the Pacific United States make up the Western Area Net (WAN), formally know as the Pacific Area Net (PAN)

(see NTS Area Map). If a message is originated (initiated) by a ham in Baldwin, NY and the addressee is in North Carolina, the message will be relayed up to the 2nd Region net, then the EAN, over to the 4th Region net and then down to a local net so

that the message can be delivered to the addressee. In this case there was no need for the message leave the Eastern Area since the EAN has representatives from the 2nd area and the 4th area nets. If that ham in Baldwin, NY wants to send a message to someone in Los Angeles the message will be passed up to the Eastern Area net. But how does it get to the Western Area Net so that it can be relayed down to a ham local to Los Angeles? That is when the message picked up by a member of the Trans Continental Corps.

THE TRANS CONTINENTAL CORPS

According to the ARRL National Traffic Manual chapter 7, "The purpose of the Transcontinental Corps (TCC) is to relay traffic from one National Traffic System (NTS) area to another, conducting liaison with NTS nets to do so. Each NTS cycle has specific functionaries under the supervision of a TCC director." Ideally each area has two TCC directors. The TCC directors manage the assignments of operators to the functions, coordinate these activities, and provide monthly reports to the ARRL. There are 22 functions that are needed to perform all the interactions between the three areas. The functions are designated Alpha through Victor. The function includes picking up traffic from a particular net or TCC station and then delivering the traffic to a net or TCC station. Each of the functions is performed every day but more than one TCC station is assigned to a function based on their availability so that a single operator is not required to be in service 7 days a week. Many stations are needed to keep it all flowing. Here is an example of a TCC function:

STATION BRAVO

1. Normally located in the Eastern Area, this station reports into Eastern Area Net (EAN) at 0130, receives all traffic for the Western Area.

2. Keeps a schedule with Station HOTEL (located in Western Area) sometime between 0230 and 0430 and sends this traffic to him/her.

Qualifications for a TCC Station include adequate signal power and proper mode capabilities to perform the function, high level of operating ability and understanding of NTS net operations, and operator and equipment capability to keep the required schedules.

Concentrating on the Eastern Area, there are 7 functions required to move the traffic into and out of the area, ALPHA, BRAVO, CHARLIE, DELTA, HOTEL, JULIET, AND KILO. Four of those functions are performed by stations in the Eastern Area, ALPHA, BRAVO, DELTA, AND KILO. ALPHA receives traffic from the EAN and delivers it to the CAN. BRAVO is described above. DELTA keeps a schedule with JULIET to receive traffic from the WAN and delivers it to local, section, region nets or the EAN. KILO keeps a schedule with Station CHARLIE to receive traffic from the CAN and delivers it to local, section, region nets or the EAN.

Marcia Forde KW1U from the Eastern Area reported for the month of August that the combined effort of the EAN TCC Corps relayed 730 individual messages during four skeds per day or a total of 124 skeds, averaging 23.5 individual messages per day. The total relays including messages received and sent totaled 1080 or an average of 34.8 message relays per day. Without these dedicated individuals that make up the TCC Corps messages would not be passed efficiently over these long-haul circuits.

Many of us are familiar with local VHF nets and some of the section and region nets but the workings of the TCC Corps are not so well known. Most of us may not be ready to help with these tasks but it would make a worthy goal to work towards being able to join the ranks of the TCC. ★

– 73, Ed Conway N2GSL

NAVIGATING CW NETS: 2 VIDEOS

by JamesWades, WB8SIW

During National Traffic System training class today, someone asked about information on CW traffic nets that can be shared. These two videos may prove helpful in addition to that which was shared during the training class:

This class is entitled "Navigating CW Nets: https://www.youtube.com/watch?v=4bS1P_bWMG0 This class covers the basics of CW net procedures.

Another useful class is entitled "Introduction to the RRI Traffic System." The opening has some introductory comments about RRI, its management and philosophy, but it very quickly gets into the structure of the National Traffic System and incorporates some very useful information on the radiogram and radiogram-ICS213 formats:

https://www.youtube.com/watch?v=-7CdX9Fj6V4&t=403s

Neither video is a replacement for the Long Island NTS CW Net class, which is quite extensive and very interactive, but these videos may be useful to share with others or for some review to reinforce the basic concepts. ★

– 73, JW (WB8SIW)

THE DOCTOR IS IN

by Greg Algieri, WA1JXR

Hello fellow LICW members! The LICW Club has been active this spring in New England. The LICW Club was represented at the spring session of the New England Amateur Radio Festival (NEAR Fest) held in New Boston, NH.

Check out their website:

Home - NEAR-Fest.com

LICW sponsored a booth/table in the log barn. We manned the table Friday October 3rd and Saturday October 4th.

We had many people stop by the table, ask questions and take away an information pamphlet about the club and maybe a LICW sticker. We also had plenty of help manning the LICW table from members who attended the event.

Below is a picture of the LICW table.

A great time was had by all and I think maybe we were able to get some new members to join LICW.

Looking forward to the 2026 NEAR Fest!

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

The Forum is an Open Forum format. We sometimes have a specific topic or presentation but most of the time it is open format and we discuss your question or topic.

Please come to the Forum with your questions??

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

Please join us on Monday evenings 7PM Zoom B

Looking forward to a fun 2025/26 and thanks for all the support for the forum. ★

73

Greg WA1JXR

LICW # 413

(L to R) Steve N1SG, Greg WA1JXR

POTA/SOTA: WINTER IS HERE

by Jim Stinson, N0IPA

Winter is here. And that's no reason to put your POTA and SOTA adventures on hold. But it is reason to be more careful about those outdoor adventures.

Getting from the QTH to the trailhead or park: 4x4. You figure that out.

Once you step out into the winter wonderland there are many considerations to take to stay safe and get home to enter your logs:

1. Baby it's cold outside. Dress appropriately. It's been said that there is no such thing as bad weather, just poor clothing choices.

Even if you are just sauntering over to the picnic bench, you'll likely be sitting still for a while. Bring a seat pad to separate your tender parts from the cold bench, and wear insulated boots to keep your feet warm. Cold hands and feet are no fun and will end an outing quickly. Think ahead about how to keep your keying fingers warm while diddling the dits.

If you will be hiking any distance, dress in layers of synthetic fabrics or wool. No cotton. Cotton soaks up the sweat and holds it. You will learn about wind chill in no time. Synthetics are designed to wick moisture away from the body and evaporate quickly, keeping you dryer and warmer.

When hiking, start cool-warm up. I know it's frigid when you step out of the truck (consider turning off the heat about 30 minutes from arrival to acclimate), but resist the urge to bundle up unless you are going to be waiting on someone else for a bit. Shedding the snivel gear right before step-off will allow you to trudge through the snow without overheating and getting sweat-soaked right off the bat. You can always add a layer if the body heat generated from hiking isn't enough. Stopping to shed layers because you got too hot is never fun,

and most people resist doing it until it's too late.

2. Plan for the terrain and snow cover. Post holing in thigh-deep snow because you left your snowshoes at home makes for a miserable trip, will get you overheated and sweat-soaked in short order, and may cut your trip short of the park/summit. This will necessitate a stop at the pub on the way home to give you time to think of a good excuse to tell the XYL about why you wasted a day making snow angels. And don't forget the micro-spikes. Even if the snow is not deep, it may be icy underneath or in the shadows of the slope.

Pack some ground cover. The seat pad mentioned earlier and a tarp/picnic blanket will be your best friend sitting in the snow. Separating yourself from cold/wet snow is essential to staying dry, warm and comfortable. And the ground cover gives you someplace to set your gear so it doesn't get lost in the snow. The Norwegians have a saying about setting things down on the ground instead of in your pocket: "The sun will find it in the Spring."

Not only will the Sun be bearing down on you from above, but it will be reflecting back up from the snow. It doesn't feel hot out, but be generous with the sun screen and wear sunglasses with good coverage (snow goggle/glacier glasses) to protect your eyes from exposure.

3. Have a backup/safety mentality. Are you prepared if a blizzard rolls in, or an injury or pack of wolves causes you to have to spend the night huddled under the picnic bench or on the side of a mountain?

Pack extra layers to keep warm for an extended stay, or to swap for wet clothing in case you got too sweaty, fell in a stream, or survived the grizzly attack but he left you all slobbery.

Have a way to start a fire and stay warm, or grill up those bear steaks. I have had to start a fire on a summit once to prevent frostbite in a partner's feet.

Have a printed map of your area and a compass and know which cardinal direction to go to find a road. Your smartphone battery won't last forever (especially if using it to log on Polo), and you may not be able to rely on it to navigate your way out of this mess.

Let the XYL know where you're going and what time to expect you. Leave a note on your dashboard, so the carjackers at the trailhead will at least feel sorry for you when they drive off in your Subaru Forrester. Forest Rangers often check the parking lots and will note vehicles that should be gone by now. A note on the dash will let them know you're late and where to start looking.

This is by no means a complete guide for winter preparedness, but I hope it will get you thinking about what's in your pack. N1CLC has a blog on staying safe while operating portable (**https://www.n1clc.com**). He is due to present the subject in the Portable Operations Forum in November; look for him in Folder 17 of the Club Dropbox if you miss it.

Just because it's winter doesn't mean you have to stop operating portable. Plan ahead, stay safe and warm, and I'll see you on the air! ★

– 72, Jim N0IPA

IMAGES OF WINTER SOTA/POTA

Jim Stinson, N0IPA

Who says you have to do all your Winter operating inside? Take it from Jim, N0IPA,– it's a great, big, beautiful world out there – at *any* time of year!
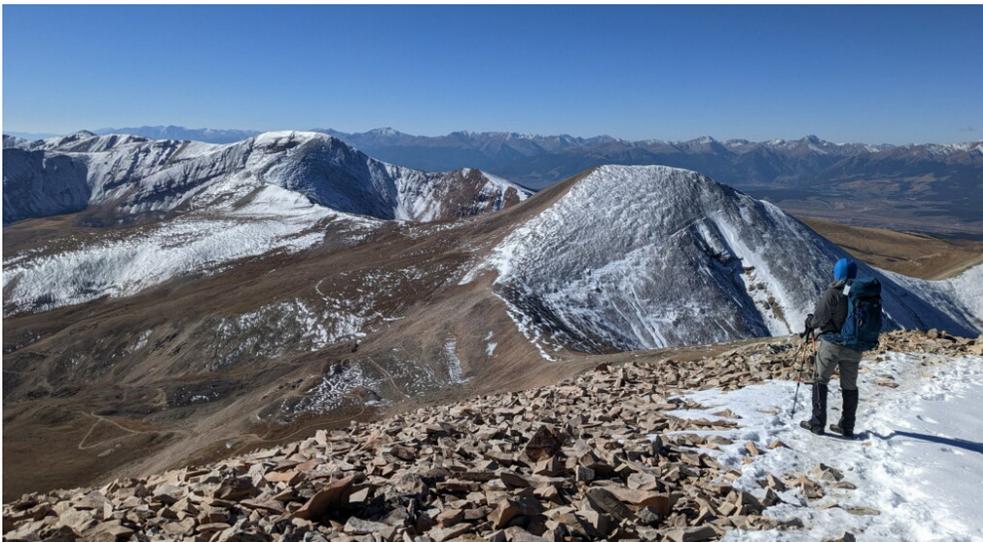
Jim Stinson, N0IPA, operating from Kelso Mountain W0C/PR-036

From my positions on Uneva Peak W0C/SR-045 you can just spot a second operator and his mast to the upper left at 10 o'clock.

OP on Pewabic Mountain W0C/SR-055

Checking the route from Mount Sherman W0C/SR-061 to Mount Sheridan W0C/SR-070

THE BOAT ANCHOR FORUM
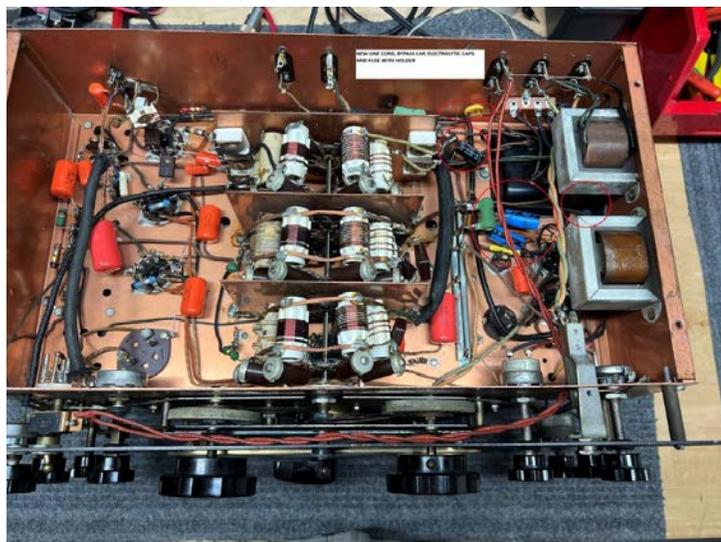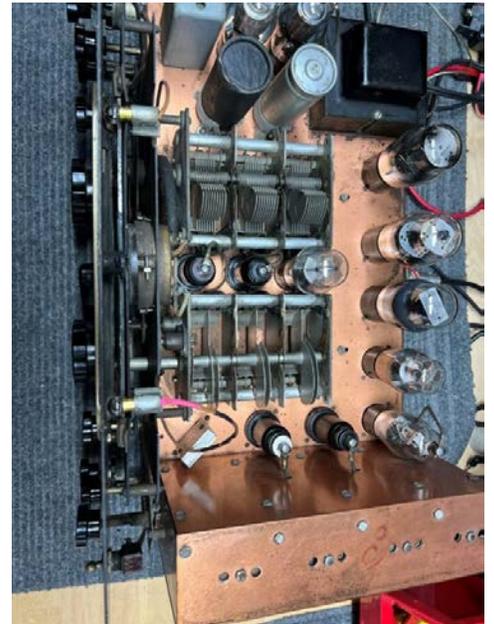
by Howard Bernstein, WB2UZE

HOWARD RADIO MODEL 450A

At the recent HamExpo in the flea market, I saw a Howard Radio model 430 general coverage receiver from the 1930s for the first time. Unfortunately, it was very beat up but it reminded me that my mother once told me she named me after a Howard radio they had in their home back in that same era. It dawned on me that day at Expo I should own a Howard radio before I leave this earth. I remembered seeing a very nice one on the internet a couple of years ago but it was expensive, located near Milwaukee, and I did not know who the vendor was.

I was speaking to member Joe N2OUV, who has restored all my vintage gear, about Howard Radio, and he found that same seller on the internet with that same radio and said he was legit as he had bought some things from him in the past. Well that put me in action and I became the proud owner of a very rare Howard Radio model 450A from 1938. Howard was an interesting company that made consumer radios through the 1950s and even some for Hallicrafters. The model 450A was top of the line and as you can see from the photo, is a very unique art deco design with a complicated dial that looks like a chronograph watch. In fact when my wife saw the radio, she liked it so much she said we could display it in the living room. That was the first time ever she appreciated any of my radios and I was very surprised, which is testimony to how good looking the radio is.

I am sure my mother could not afford this model radio back in the day and its more for SWL general coverage than AM band radio use for the house. But I can say that the prophesy of my namesake has been fulfilled. Joe N2OUV had to spend a number of hours restoring the radio as 6 out of the 12 tubes were bad, some caps needed replacing and the dial mechanism was damaged. But it sounds great on CW and I look forward to using it. Here are 3 photos of the radio. ★

by Howard Bernstein, WB2UZE

LICW had a table at Pacificon again this year which is an ARRL convention for the San Francisco Bay area. I decided to attend, as I heard very enthusiastic reports about last years event. Manning the table this year besides myself were members Bob WO6W, Jim W6JIM and Roland AE6VL. It was great to see these guys again and spend time together.

The venue was the Marriott in San Ramon, a suburb of San Francisco, and to my surprise it was a beautiful resort hotel in a lovely area, convenient to a shopping mall. The weather was perfect and the attendance substantial. I have now been to a number of these conventions across the country, and each one has its own feel. This one was no exception, with very friendly and engaged participants. Our table was always busy and we also had about 40 Cub Scouts stop by. We had them whisper their names to Bob and then Bob would then send their names to me in CW which I head copied. Not knowing their names to begin with and then saying them out loud is a real crowd pleaser to kids and parents. Hopefully this will translate to new ham radio operators one day.

There was a small flea market and we bought a vintage tube type oscillator from 1952 which not surprisingly sounded better and louder than any of

the modern ones we had at the table. Jim brought a giant straight key that was supposed to be used with one's foot as a gag but we kept it for hand use only. This is definitely an event we will continue to attend each year as we were welcomed by the attendees and the organizers. It was also great to meet in person many of our Bay Area members. ★

JAMBOREE ON THE AIR (JOTA)

by Terrence Banks, KO6CGU

SCOUTS TUNE IN FOR JAMBOREE ON THE AIR (JOTA)

Riverside, CA – Saturday, October 18, 2025, The Moreno Valley Amateur Radio Association (MVARA) had the pleasure of hosting Scouts from the Order of the Arrow, Cahuilla Lodge 127, for this year's Jamboree on the Air (JOTA)—a global event that connects Scouts through amateur radio.

During the event, Scouts were introduced to the fundamentals of SSB, CW, and the exciting challenge of Fox Hunting — a radio direction-finding activity that combines technology with outdoor adventure.

In recognition of MVARA's support and dedication, the Order of the Arrow presented club members with a Certificate of Appreciation meaningful gesture that highlights the value of community partnerships in youth development.

It is my sincere hope that this experience has sparked a lasting interest in amateur radio among the next generation of operators. ★

– 73, Terrence KO6CGU
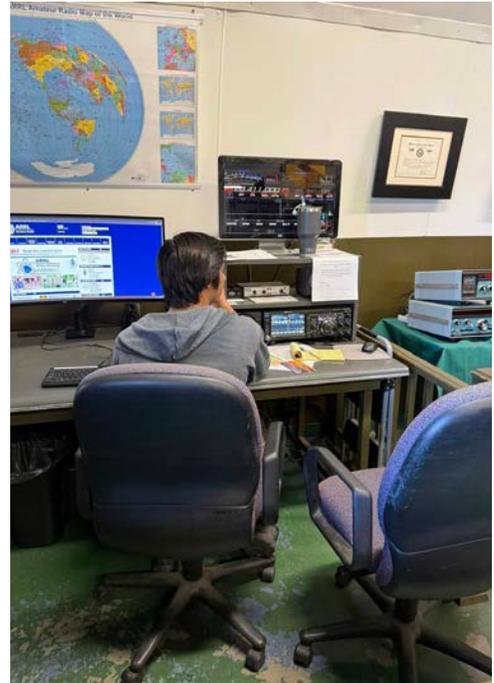
WHY SO MANY ANTENNAS?

by Kimball Williams, N8FNC

Amateur Radio Operators entering the service (*Service,* not *Hobby*) begin thinking in broad, simplistic terms, such as 'Rig', Key, Ground, Antenna, and are often bewildered by all the options and choices and long-term implications that follow with each of those terms.

At the Sunday AM LICW Antenna Forum over the years one of our most consistent observations has been that, just like fingerprints, there are NEVER two antenna installations that perform as ide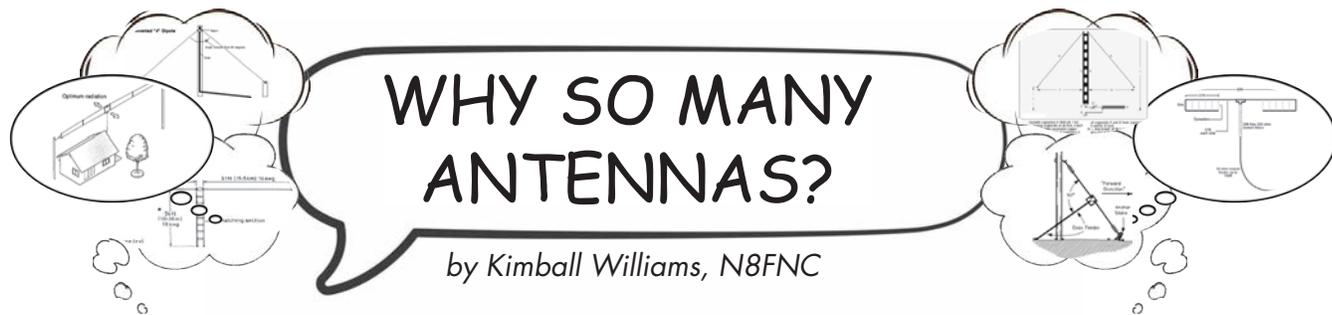ntical twins. The number of variables involved are too numerous, and individual choices of the operator/builder always involve decisions that cause minor physical alterations resulting in unexpected performance changes.

If I were to offer one piece of advice to Hams setting up a first antenna, it would be "don't try to duplicate another Ham's antenna. Choose an antenna that suits your needs and interests. But don't expect your first antenna installation to be either your best, or your last."

A second piece of advice would be to "start simple." Usually, the simplest antenna is often the easiest to install, easiest to modify, and least expensive. Consider your antenna as a learning experience, and a chance to experiment with either subtle, or drastic, changes in configuration and installation that can be relatively easy to implement, and don't require major investments in either time or money.

(Yes, I know that I just said the same thing in different words. But this is important.) The easier it is to make

changes and observe the results, the faster you will learn the lessons that the universe is trying to teach you. Michael Faraday, James Maxwell and Oliver Heavside gave us a foundation on how the electromagnetic fields function. But we each need to go through the experimenting, learning and observation process to really understand what it all means. Books and classes will help. But nothing is so effective as personal experience.

Notice that I said 'observation' as part of the process. But how can we 'observe' the electromagnetic fields that come from our antennas? Of course, the short answer is 'we can't'…directly. If we could see in the frequency ranges below light through selective ranges….what an interesting lead into a SIFY story that might be. What we can do is use our computer, and one of many 'antenna modeling' programs to build a virtual antenna and see what its performance would look like using the computer graphics to show the predicted field pattern.

(At the end of this missive you should find at least two antenna modeling programs available for free. Note: You will need to learn how to use the programs. Get started using the example antenna models included with the software.)

What modeling an antenna before you put it up will do for you is answer a lot of questions, and 'what if' alternatives. "What happens when I change a straight dipole to an inverted 'V'? Did the resonance frequency change? In what direction (up or down)? And how much? Will I need to add or remove

length to the antenna in the new configuration and how much? If I change it to a flat top 'L', what does that do to the antenna pattern?"

The great thing about the computer models is that all these answers came to you without having to build and test your first antenna! When you do finally commit to a first design configuration you will already have a lot of your questions answered without having to cut a single wire or solder a single connection. That will also save you a lot of time and energy.

When making changes to your antenna to improve your signal strength, or perhaps redirect your main lobe, use the **Reverse Beacon Network** to compare before and after changing the antenna. Note some caution needs to be used to ensure that propagation conditions did not change and cause the effect you are seeing in the RBN reports. Changing the antenna back to the original configuration and trying again to duplicate original test results then back again to confirm a change would help ensure factors other than your antenna modifications are not skewing your test results.

TOOLS

Since we can't yet go out and buy those SIFY glasses to allow us to see the electromagnetic fields around our antenna, we need to substitute with measurements of those physical parameters we can measure with instruments. There are a few tools which are both helpful for antenna development as well as for general operation.

Notebook: Find a good spiral bound notebook that you can use to document the equipment you have, how it is connected, grounding method(s) in use, antennas you have in use and how they and your equipment in general are performing. Careful observation and records can provide a big help if you feel you need to change anything, and directions on how to change back if the change proves not to be as beneficial as you had hoped. Sign and date every entry.

Power Meter: I recommend the 'dual needle' type which indicated both forward and reverse power. These are helpful in normal radio work since if something unexpected happens to your antenna or feedline the reverse power indicator will let you know you should check out your system before continuing to operate.

VSWR Meter: Often this is the first instrument many hams acquire to assist in helping to tune antenna systems to the frequency of interest. These are especially helpful in POTA or SOTA operations to be sure everything you brought along in your backpack got connected correctly and is fully operational.

If there is something needed to be 'tuned' on site, loading coils come to mind, they are helpful.

Transistor AM Radio: If you are bothered by RFI and need to determine if the noise is coming from within your residence, a simple battery powered transistor radio can become a good 'walk around' tool to help identify a local source. Tune to a place on the AM band where there are no local AM stations and wander through the house and notice when the noise gets louder.
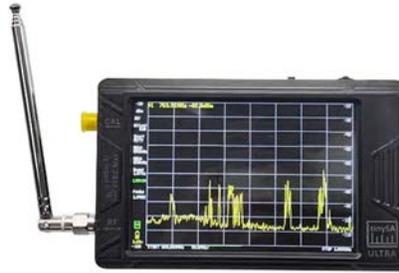
TinySA: If you are concerned about possible spurious emissions a small spectrum analyzer can display your signal and the sidebands and any harmonics. An alternative might be to use a software defined radio dongle and a portable laptop. Perhaps not as easy to carry around but perhaps less expensive.

Antenna Modeling Software:

Here are two antenna modeling software packages in general use in both the USA and Europe:

- EZNEC Antenna Software by W7EL: https://www.eznec.com/
- MMANA-GAL basic: MMANA-GAL basic ver.3.5.3.50

Try both and decide which suits you and your style of computer modeling best.

Once you have set up an antenna and you begin to use it and test it, you will really begin to learn just how those electromagnetic fields really behave, what measurements can tell you and which make a difference.

You are on your way. Good luck! ★

– 73, Kimball N8FNC

KN6EY CODE BUDDY UPDATE WINTER 2025

The code buddy roster keeps growing! Now at 88 members strong, there should be a code buddy for everyone! A new improvement, based on feedback, was to include details about classes besides, just wpm. Not sure about what the code Buddy program is?

"What is the code buddy program? The code buddy program is designed to provide a structured place for LICW students who are learning CW to partner up with like minded students for actual on air practice on a regular basis. The program is self directed and structured by the participants. Code buddy sessions are based on a set of skeds (scheduled QSO's) between two operators with the specific goal of practicing CW and building proficiency."

With Winter in the LICW backyard approaching, there is no better time than now to peruse the code buddy roster, reach out to a few fellow members, and get some "skeds" set up to practice your code and who knows? Maybe make a new friend.

WAYNE KN6EY (SK 2024) was the administrator of the Buddy Program for LICW. He devoted much time and effort into both running the program as well as helping others practice from his shack in AZ. His kindness, dedication and spirit will be greatly missed. ★

– 73, Jay NK2Y

HUNTSVILLE HAMFEST 2025

by Scott Wooten, KW4NJA

The 2025 Huntsville Hamfest was once again host to a record setting gathering of amateur radio enthusiasts from all over the United States, and several countries. Held at the Von Braun Center August 16-17, 2025, this year's show drew over 5500 attendees. The Long Island CW Club was represented by Kris Gibbs (K4NH), Mac Thomas (WT4BT), Scott Wooten (KW4NJA), Jack Gerbs (WB8SCT) and Allen Cutts (N4OZI). The LICW information table attracted over 200 visitors, with 51 of those requesting information about our club. On display were numerous varieties of straight keys, paddles, sideswipers, and bugs. Visitors were educated on the history of LICW, our programs of instruction, and benefits of becoming a member. In addition to the table information, Scott (KW4NJA) spoke at the CW Forum on Saturday, along with Mike (N4FFF) and Becky (N4BKY) the "Ham Radio Duo", who are also members of LICW. Scott spoke about the history of LICW and why it has become one of the premier CW organizations in the world. The Huntsville Hamfest returns to the Von Braun Convention Center in 2026 during the weekend of August 22-23, 2026.★

BEGINNER'S CAROUSEL (BC) CLASSES UPDATE

by Ron Roberts, KC2PSA

The LICW curriculum team have been busy making a few updates to our BC curriculum to incorporate Project OverLearn concepts. One of the principles of Project OverLearn is that character recognition is foundational, but is not sufficient by itself.

In order to help students build character flow proficiency, the ability to copy one character after another without losing forward momentum, we have introduced a Word Copy exercise in BC1 and BC2 giving students a stream of short to longer words.

We have also renamed the Instant Character Recognition (ICR) exercise to Time-To-Recognize (TTR) to emphasize that recognition will not necessarily be instant. With regular productive practice, our Time-to-Recognize characters will decrease, our character flow proficiency will increase, and our overall code fluency will improve.

Stay tuned to our groups.io for more updates to BC curriculum, coming soon.★

OUT OF THE BOX

Use a "Modular Multiple" to Connect all your Keys at Once

There are different ways to keep multiple keys connected simultaneously if you do not want to make a connector box yourself. One way is with a **multiple connector** from Amazon. Another is to borrow a page from the electronic-music world and purchase a "multiple" which is simply a number of 3.5mm jacks wired in parallel. Pictured is one example, available from **Sweetwater Sound** for $12.90.★

NEW LICW CLASS: INTRODUCTION TO ARDUINO PROGRAMMING & BREADBOARDING

by Steve Stalker, KC8TVW

We will be using the Arduino as a method of understanding basic electronics and programming.

Recommended but not required ($36 on Amazon) - **ELEGOO: UNO Project Super Starter Kit** with Tutorial and UNO R3 Board Compatible.

Classes begin November 6 and will run for 6 weeks. Classes will repeat January 8 with the possibility of an intermediate class if the interest warrants it.

Based on my decades of teaching the Tech Classes as well as working with seasoned Hams, most can recite Ohms Law, but most have never used it live. This class will give you that opportunity.

Things Hams have made with the Arduino:

- Arduino CW Keyer
- Arduino as an SDR
- PI4ino - A Generic Arduino Beacon Controller
- Trackuino - Arduino APRS Tracker
- RF PWR and SWR Meter with Arduino
- Arduino Rotator Controller
- Arduino remote antenna switch
- Arduino automatic antenna tuner
- Arduino automated antenna switch

RECORDED, with Steve KC8TVW OH #3255-

Zoom B Thu 9:00 PM ET (Fri at 0100 UTC).★
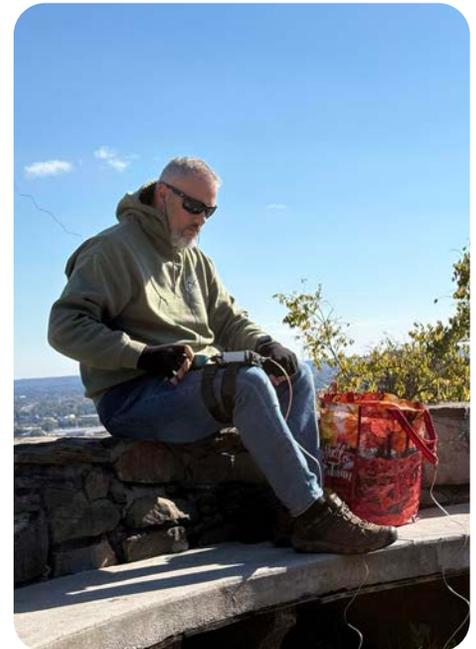
Anthony Coletta, W2UD, activating @ US-6462 and testing out a new carbon fiber knee board design he is working on with his brother for his Elecraft KH1 rig. Here he is activating the park, operating QRP portable with his new KH1 strapped to his leg, and a compromised 18' of wire over a tree branch.

NOTES FROM ESSENTIAL OPERATING SUBJECTS SESSIONS

By Anthony Luscre, K8ZT

WHAT IN THE WORLD ARE ESSENTIAL OPERATING SUBJECTS?

When you review the extensive and sometimes overwhelming schedule of LICW Classes, you may see Cathy's or my sessions listed as *Essential Operating Subjects* and wonder, "What in the world is that?" In this article, I will try to answer that question. Unfortunately, it is not as straightforward as the "Beginners" or "Intermediate" class descriptions, because Cathy and I always cover a wide and varied set of topics. The common thread, though, is just like when your mother said, "Eat your vegetables" or "Take your vitamins": it is good for you and your LICW progress. As a matter of fact, one of Cathy's sayings is, "Time on the air – get your Daily CW Vitamin – one a day!"

Although our approaches vary, we both strive to help you get on the air and be successful Amateur Radio Operators. We constantly strive to provide you with broader goals, tips & tricks, operating aids, and a wide variety of operating opportunities and

Anthony Luscre, K8ZT

activities. These include contesting, POTA & portable operating, award chasing, exploring new bands, and more. We also cover tools to help you maximize your experiences with logging & contesting software, as

Catherine Goodrich, W4CMG

well as QSLing (both traditional and online, including LoTW and eQSL). Additionally, we explore ways to check your own signal and find other potential contacts using DX Clusters, Reverse Beacon Network, and free Online, Tunable SDR Receivers.

We are also there to answer questions on almost any aspect of operating on the air. In addition, we will provide some gentle encouragement, guidance, and goal-setting to help you move forward in your LICW and Ham Radio journeys.

We encourage club members of all levels and experiences to join us on a weekly basis. If the time is inconvenient, you can view recorded sessions via the LICW Dropbox Folders 66. I also maintain a continuing document with upcoming and previous materials from my Tuesday "Joy of Operating" version of Essential Operating Subjects at **tiny.cc/joynotes**. You can also find Cathy's notes on her

sessions in the Recaps Folder in Dropbox 66.

Many of the topics have been suggested by weekly attendees, and I am always open to new ideas. Cathy and I love spending our time online with LICW members and helping them with Essential Operating Subjects. Whether it is a how-to, what did you do recently?, why isn't this working?, can you give me more information?, etc., we will spend time during our Essential Operating sessions to help you and each other.

So even if Essential Operating Subjects classes are challenging to describe, "Try It, You'll Like It!"

And fortunately, unlike the **original commercial**, you will not have to take two Alka-Seltzer tablets afterward!

Cathy and I do tag-team articles for LICW newsletters and would love your feedback. ★

– Anthony, K8ZT (k8zt73@gmail.com)

ESSENTIAL OPERATING SUBJECTS

- 7 PM Tuesdays on Zoom B with Anthony Luscre, K8ZT
- 9 PM Mondays on Zoom A with Catherine Goodrich, W4CMG
- 10 AM Thursdays on Zoom A with Catherine Goodrich, W4CMG

LICW- SKCC CLASSES

By Cathy Goodrich, W4CMG

Long Island CW Club (LICW) and Straight Key Century Club (SKCC) – a perfect community partnership for new and not-so-new CW enthusiasts to learn CW, get on the air, and experience a wealth of support from members of BOTH clubs!

Long Island CW Club has two great opportunities for our members to learn about the tools offered by the Straight Key Century Club (SKCC)

- *LICW-SKCC Forum* on Wednesdays at 12:00 EDT in Zoom B
- *Get-On-The-Air (GOTA) class* on Thursdays at 8 p.m. EDT in Zoom C. Get on the air for guided – or independent – QSOs with other LICW-SKCC members.

These two LICW-SKCC classes are facilitated by SKCC Board members and long-term SKCC members (either in years, experience, or both!) so you get the benefit of working with ops who have been through the experiences of a new CW operator, and who are now regularly on the air.

During the LICW-SKCC Forum on Wednesday at noon (EST) sessions in Zoom B, you can bring specific "how-to" questions about the SKCC activities, awards, support materials, tools (SKED Page, Logger, Skimmer) and member "benefits" such as "The Ragchew" Newsletter, the SKCC Buro, and more! Are you brand new to CW and/or SKCC and don't even know what to ask? That's OK, because we can walk through the process of signing up for free SKCC membership, give some live demonstrations of our tools, as well as some basic tips to make your on the air experience great!

Our Thursday *LICW-SKCC Get-On-The-Air (GOTA) class* provides a high-level overview of the SKCC tools as needed for our SKCC/LICW club members if they are not familiar with them. Then, if propagation cooperates, you will get on the air with someone in the class, or

one if the instructors, to make a guided on-the-air QSO. We will help you get through your initial finger fright to get on the air during our Thursday night Get-On-The-Air (GOTA) class. Not able to hear each other on the air? No problem! There are always "practice" QSOs off-the-air through Zoom if the bands aren't cooperating OR talk through some questions and "basics".

If the LICW session days and times don't work for you, SKCC is offering an *"Introduction to SKCC Forum",* open to all SKCC members, including the many LICW Members who are members of both clubs, and want to know more about SKCC, typically on the first Friday of each month at 1500 UTC (10:00 AM EDT) and the following Sunday at 1800 UTC (2:00 PM EDT). DATES over the November/December months may vary, so check the SKCC groups. io for announcement of the scheduled dates. The content is the same for each session, so you need only attend one. We cover the SKCC Handbook, basic tools, and have additional Bonus Topics that change monthly, so watch on the respective groups.io for info. **NOTE: REGISTRATION IS REQUIRED since virtual seats are limited.** For more details and registration, contact Cathy, W4CMG at w4cmg.skccintro@gmail. com or through her email good on **QRZ.com**.

Winter Bands Your "Local Elmer"

The winter months bring good propagation (as long as the sun behaves) to the "lower bands" – 40M, 80M and at night – 160 M. It's the perfect time to start engaging with a "Local Elmer" – someone in your call area who can communicate with you on the lower bands, even in the middle of the day. Your local Elmer – from your physical call area – not necessarily the number in your callsign – can help you to overcome some of the challenges of being a new operator with a bit of "finger fright" going on. They can answer questions on a call, or ideally, on a Zoom, MS Teams or What's app call, and get on

the air for some guided QSOs. You might even get to meet in person if you live close enough. You can also engage in some live CW practice, work through some stumbling blocks in sending and receiving, and become more comfortable with random chats in addition to the "usual and customary" exchanges one might hear from contests and scheduled events.

Guided QSOs??? Best over Zoom or alternate videoconferencing, both you and your local Elmer (who would be able to hear many of the same stations) can help to close the gap between hearing the stating and knowing what to send – and when. They can help you by serving as a "CW Translator" when you are having trouble copying (was that an "S" or and H"?), remind you of the expected exchange, and especially in the beginning, give you prompts like "OK – send your call now" – no, wait they just picked up someone else. Even CW operators with some experience can benefit from helping newer ops – you will both learn something – and many become friends in the process.

Where does one find an Elmer?

LICW members can take advantage of two different "Elmering" sessions offered by LICW:

- *Elmer 101* on Saturdays at 10 a.m. Eastern Time in Zoom B
- *Elmering Hour* on Sundays at 1 p.m. Eastern Time in Zoom A

SKCC Members can check the SKCC home page, select the tab for "Morse Elmers" and check the "SKCC Elmer list" at: **https://www.skccgroup.com/ member_services/morse_elmers/** . The list is organized in a Call-Region Index for USA Call areas and form several countries. Simply check the list for your call area, find the Elmer who sounds like he/she would be right for you, and send them an email via the email address provided by the Elmer.

See you in class – AND CU on the Bands! *73 – Cathy W4CMG*★

TWO OF THE BEST EYEBALL QSOS EVER!

by Hal Grant, WA2AKV

During our year-long national parks tour, my wife, Lorraine, and I made a special stop in Arvada, Colorado, for an eyeball QSO with fellow LICW member Bob O'Connell, K0VVV.

Bob and his gracious wife welcomed us into their lovely home, where Bob was eager to show off his impressive ham shack. His station featured a Flex 6600 radio paired with three computer displays, a Kenwood transceiver, and an enviable collection of Morse code keys. Bob generously let me try out his Vibroplex bug, and I was amazed when he effortlessly head-copied everything I sent. Adding to his impressive setup, Bob has two complete, pristine Collins S-line units carefully preserved in his closet.

The visit was a delightful reminder of the warmth and camaraderie that makes our ham radio community so special. Bob proved to be not only an accomplished operator but also a genuinely charming and kind host.

In September, the XYL and I had the great fortune of connecting with Jim Stinson (N0IPA), a fellow amateur radio operator and active member of the LICW Club. After Jim noticed one of my posts on the club's reflector, he reached out via email, and we began coordinating plans for a meetup. Jim graciously dedicated most of September 2nd to drive from Sedalia, Colorado, to join us at our RV campsite in Mueller State Park.

A former Marine, Jim leads the LICW CW Club's weekly Portable Operations session every Saturday. He also serves as the logistical coordinator for "Warriors on the Way," (https://warriorsontheway.org) a transformative pilgrimage along the Camino de Santiago. This journey is specifically designed to help combat veterans heal from PTSD and moral injury. Having guided multiple pilgrimages himself, Jim shared the rich history of this program from its inception to the present day, captivating us with deeply moving stories and personal accounts of how veterans find healing through this spiritual journey.

Under Jim's expert guidance, we successfully activated Mueller State Park, Colorado, completing over 13 CW POTA contacts. The experience proved invaluable as I learned several practical techniques for POTA operations, including real-time logging, effective spotting methods, and how to use the PoLo iPhone application. PoLo is a specialized app that enables amateur radio operators to log contacts and spot POTA stations in real-time, streamlining the entire process. ★

SHORT VERTICALS

Nikos SV3TPS asks, "How do loaded coil / shortened antennas actually radiate? Does the coil actually act as "extra" wire, or does it just add inductance and balance things electrically?"

James Wades, WB8SIW, replies, "One can envision a mobile or short vertical antenna as a series circuit consisting of a capacitor, inductor, a resistor representing I-squared-R losses in the return path, and a resistor representing beneficial radiation resistance.

The inductor does not really add wire, but instead adds inductance to balance the capacitive reactance of the short radiating element. When these are equal and opposite, reactance is at minimum. Electrically short radiators have low radiation resistance and are obviously less efficient for this reason. This falls into the classification of 'you can't change the laws of physics.'

It's important to note that the quality of the inductor has some impact on efficiency as well. Larger conductors offer a decrease in losses. The material on which it is wound is important also.

Current distribution is important as well. For example a center loaded antenna has higher current present along the length of the radiator to the loading coil than a base loaded antenna. A "capacity hat" above the coil can further improve this. There is a reason a "Texas bug catcher" configuration with a capacity hat offers better performance than compact, low profile mobile antennas.

On a final note, a mobile or short vertical antenna is classified as a 'Marconi' antenna in that the return path is through the ground plane. The quality of that counterpoise affects losses. Higher I-squared-R losses means lower performance."

LIGHTNING STRIKE SAFETY FOR ETHERNET CABLES

by By Eric S. Kennard, WS4K 575i

Florida has been my home for sixty years. One of the things I learned about Florida is that it is the Lightning Capital of the World. This is bad news for Amateur Radio Operators. In fact, a ham friend of mine in Orlando lost his entire shack from a lightning strike. Every radio related item in the room was burnt. This is a ham's worst nightmare! As I write this, I have thunderstorms moving in. These storms come daily in the summer here.

The first thing I had installed on the house was a surge arrestor that is right after the power meter. It will allegedly put strikes right to ground before they enter the house. I also have about six of the Tripp Isobar Surge Protectors. These are filtered and should help with a hit. The Isobar comes with a lifetime warranty and guaranteed equipment replacement up to $50,000.

When I bought my Elecraft K4D, I found that it needed to have an ethernet cable attached so that it can update the software. This has been important because Elecraft responds to customers and updates the software regularly. I found that the best ethernet cables are shielded to prevent RF from attacking the cable. I went to Amazon (also known as the 21st Century Radio Shack) and found just such a cable.

Obviously, the best way to isolate the ethernet cable is to unplug it from the K4D. One look behind my radio desk would certainly make one ask, "How is this a Wireless Hobby?" There are a labyrinth of cables behind my radio desk and no, I will not show a photo of it. So, I could get behind the K4D to unplug it but with my luck, I would drop the cable into the abyss. Climbing behind the radio desk is not easy. What does one do? Many folks told me to get a WiFi to ethernet converter. Yes, this might isolate the radio but the converter can slow down the download speed to the K4D, not good.

Well on the Groups.io K4 forum it was mentioned to use fiber optic cable to isolate the radio. That sounds good but when my wife and I built this house ten years ago, there were no home-grown fiber optic systems. So, I have ethernet cables running through the attic, down the inside of the walls, with outlets in many of the rooms in our house... something I thought was high tech at the time. So, it is too late to try to install fiberoptic cables throughout the house. A couple of the K4 members showed me the way.

Ethernet to fiber optic converters are a cure. I didn't know there was such a thing. Available on Amazon these converters are not expensive. The idea is that the ethernet cable coming out of the wall goes into a converter. Then you run a fiberoptic cable to a second converter near your radio. Each converter is powered by a wall wart. I put a toroid on each end of the wall wart wire. Here is a diagram:
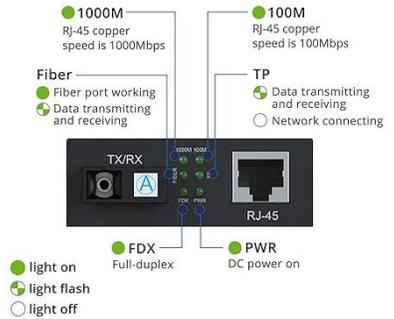
Media Converter Application(SC)

Application
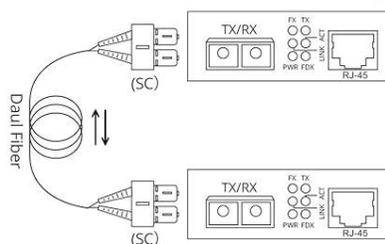
* SC Transceiver is included

Visualized LED Indicator

The correct fiberoptic cable needs to be used between the two. They come in many different lengths, colors, and plugs so you need to make sure you get the correct one.
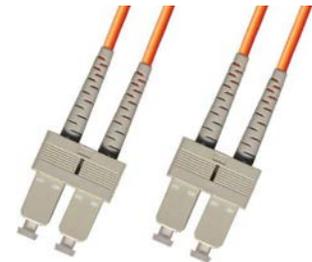
That is it, plug and play isolation. I put one on my radio, a second on my computer, and a third on my router. I have ATT internet. There is no fiber optic in my area yet. Those wonderfully conductive wires run from the pole at the street underground and into my house. Lightning strikes can travel through internet wires faster than in an instant!

Does this system work? Well, a member of the K4 Group who lives in the Midwest, took a direct lightning strike at his house. The Converters saved all of his equipment. Everything he had running through a Tripp Isobar was saved. Everything in his house that wasn't in an Isobar died! ★

EXPLORING THE WORLD OF 3D PRINTING AT THE LONG ISLAND CW CLUB

by Richard Rieben, KE4WLE

Every Wednesday evening at 8 PM Eastern, members gather in Zoom Room B for a creative blend of technology and amateur radio: the Long Island CW Club's 3D printing classes. These sessions are all about helping hams grow and develop their skills in 3D modeling and printing — turning ideas into useful, functional parts that enhance on-air and field activities. Whether it's designing a clever tool, a custom mount, or a case for portable operations, there's always something new to learn and share.

Recent sessions have covered a wide range of topics from some very talented presenters. KF5PFP led *Gridfinity Galore,* exploring modular organization systems for shack and bench projects. VE6LK showed us how to think creatively in *Printing Smarter,* while N6ARA inspired everyone with *Designing and Printing Project Components.* KE4WLE wrapped up the series with *Tinkercad Basics,* making 3D modeling approachable for beginners.

Each week also features a "prints of the week" showcase, where members share and discuss interesting designs that tie directly into portable and field operations. Recent highlights included a KH1 kneeboard, a magnetic leg strap paddle mount, and a folding kneeboard perfect for radios like the KX2, QMX, or CFT1. These practical creations show how the maker spirit and amateur radio naturally complement each other.

If you haven't joined us yet, I invite you to stop by one Wednesday evening and see what we're building together. You don't need to own a 3D printer to take part — just bring your curiosity and your love of radio. You might discover that 3D printing is the perfect next step in your amateur radio journey! ★
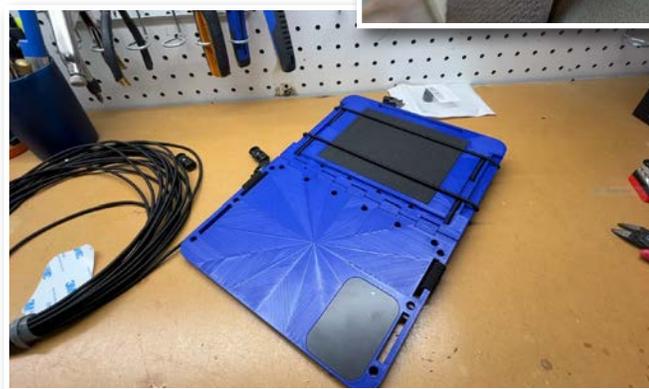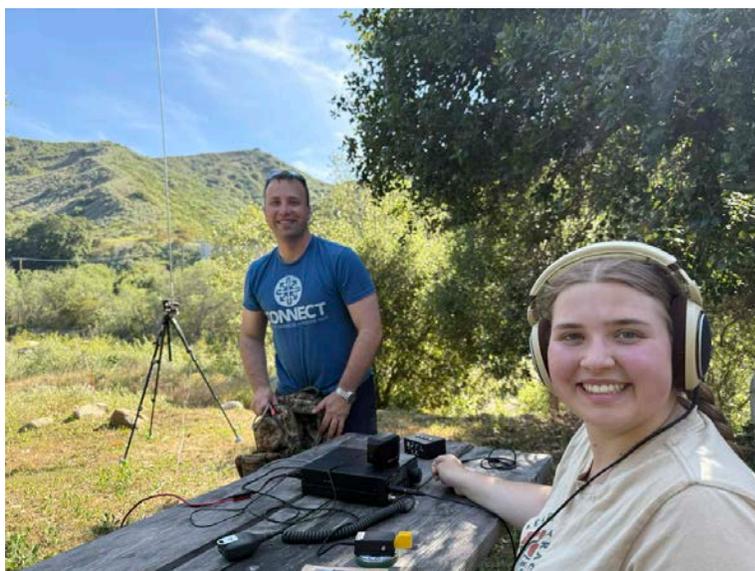
KIDS CW CLASS NOTES

by Bob Cady, W7JNM

Our student Instructor (Eden) creates games and animal naming exercises for beginning students. Example: pick a toping afnd ingredients for a pizza. Each kiddo sends out her/his favorite and the others try to decode the pizza ingredients.

Advanced student use Morse Walker in POTA mode to guess call signs and states. With 12 data points, kids are currently running 15-20 WPM, with an average of 17.5 WPM with 2.5 attempts.

Student instructors teach other students in weekly licensing study classes.

With Tom, W0FN's permission, we are beginning to use some of the Bootcamp exercises with our advanced kids. The progress is slow because kids have busy schedules, but enjoy the challenge. They are beginning to recognize states and other two letter words.

The high school class in upstate NY is in session again and currently has 9 students. 3 of the students are licensed.

We currently have 7 adult instructors and 7 student instructors which allows us to run up to 6 breakout rooms to accommodate adult/student instructors schedules and the schedules and needs of our 35 + active students. Both our instructors and students have busy and continually changing schedules to work around. We have had some of our graduating students return to help instruct. ★

MEMBER SPOTLIGHT: TOM PERERA W1TP
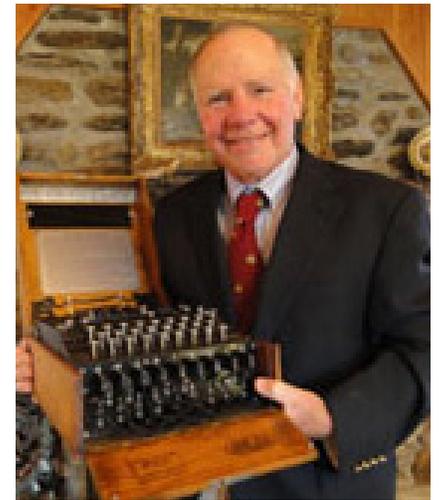
LICW member Tom Perera, W1TP, has been collecting and studying the history of telegraph keys for over 73 years. His online telegraph museum contains over 3000 descriptions and photographs of rare and interesting telegraph keys and is located at **http://W1TP.COM**.

Tom is an authority on historic telegraph keys and German Enigma machines. He has written a book and made some Youtube videos which we can share links to below:

The History and Current Values of Telegraph Keys: **https://youtu.be/oHlUtxy0Nhk**

His book: ***Perera's Telegraph Key Collectors Guide and Price Guide*** is now out of print but most of it's contents are on his w1tp.com website.

Tom has primarily specialized in early and historic keys and bugs from the Civil War through WWII, so the more modern keys are not covered in detail but the historic keys provide a good background to explain the evolution of today's keys. ★

WILD ABOUT BUGS

by Tom Waits, WA9CW

Hello and thanks to all who have made it a great Summer with *Wild About Bugs*. The forum continues to have good participation, and a lot of great information has been presented. I gotta say, if there was an Olympic sport involving bugs, a lot of the folks who participate in Tuesdays *Wild About Bugs* forum would be on team #1.

The *Bug Sending and Copy Class*, also on Tuesday, is also going strong and the bar for sending continues to rise. Thank You to all who participate and make the class so much fun.

There are a few things that can never be overstated when it comes to using bugs or semi-automatic keys. The quality of the setup of the bug is critical to good sending. Another thing that is critical to good sending is imparting enough energy to the paddle to generate the vigor in the main spring necessary to make good quality dits. Many people have problems with "scratchy" or poor quality dits. This is fairly common, especially for beginners in the art of sending. Over the years, remedies for this problem center around the U-shaped dit spring. Foam rubber, thread, dental floss, wire "dit tamers" capacitors and such have traditionally been the fix for such problems. It is true that there are times when these things are helpful. However, the real fix may be to adjust the fist of the sender rather than mechanically altering the key. We will now look at what this means and how to accomplish it.

Remember that the manual straight key came before the manual semi-automatic bug and was then followed by the automatic paddle. With the bug, the dits are automatic and the dahs are manual. While this is true, the dits are not "automatically" good quality unless they are properly produced manually.

The fist of the operator is probably first understood as the sound of the code through the ether. Unfortunately, a bug fist is often associated with fast dits and long dashes with names like Banana Boat or Lake Erie Swing. As romantic as that sounds, taking such liberties with the bug fist has given bugs and bug users a bad rap because it makes copying a bug difficult for many people. However, many of us would rather hear a poor bug fist on the air than no bugs on the air. There is something about beautiful, organic, human sounding bug sending that can literally bring a tear to the eye.

For the past year or so, I have been studying the writings of T.R. McElroy concerning bug sending. There is not a lot of information on the topic with most of it from the 1920's and 1930's. If it wasn't put out by Ted McElroy, he was often referenced in the text somehow. For that reason, I consider his instruction on bug sending to be the classic style of bug sending. His advice was offered to the radio amateur rather than to the professional. Apparently, that was where he saw the greatest need for improvement and he said so. After much experimenting, I will offer what I believe to be what McElroy described as the proper bug fist.

The first thing to understand is that a classic bug fist is NOT a paddle fist. Many operators who are good paddle senders will get a bug and use the same sending style to manipulate it. While this can work for some, it can be the cause of problems for others.

Often, I compare a bug fist and a paddle fist to computer typing opposed to manual typing on an old time typewriter. One takes energy to strike a key and the other requires only a touch to produce the same quality result. To this point, the paddle only requires enough space between the contacts, so they are not shorted and only enough of a touch

to close them to generate dots and dashes. The bug on the other hand, needs more space between the dit contacts and enough swing in the pendulum to overcome the inertia and develop the steady vibration needed to create good dits. To this end, the arm and hand interact with the paddle and knob of the bug in a way that Goldilocks would describe as "just right".

McElroy used the word "slap" to tell us how to manipulate the bug. While this may get the point across, it can also confuse the term *slap* with the idea of a snappy strike to impart energy into the mainspring and vigor in the pendulum. There is no need to slap the bug around the desk to get good dits out of it. (As a matter of fact, one of the things we talk about in sending classes is having the key, any key, secured in such a way that it absolutely does not move around on the table when in use.) The idea of slapping the paddle gets the point across that it takes more energy than just a slight touch to create good dits and develop a good bug fist. Often times, when poor sounding dits are sent, the culprit is touch that is good enough to actuate a paddle but too light to impart the energy required for vigor in the pendulum. The problem dits come from the operator rather than the instrument.

Let's take a look at what I have called the *Classic Bug Fist*. Most of us have seen someone playing a guitar in what would be called the Classical style. In this style, there is a particular position of the body and the hands in relation to the instrument. The strings are plucked or strummed in a certain way and chords are formed on the frets with the arm and hand in a particular position relative to the instrument. This is also true with other instruments and activities as well. Now, it is true that there are other ways to hold and play a guitar. There are some great rock guitarists who can play incredibly well with the instrument slung down around their

knees while jumping wildly around the stage. Now, let's contrast this to the art of bug sending. It is possible to send well without following McElroy's advice just like it is possible to play guitar in a style other than Classical.

One thing that I always suggest to beginners is to keep it simple and don't make things harder or more complicated than necessary. Another is to start out with the best form possible so it is not necessary to have to fix a muscle memory problem later.

Now to the nitty gritty of classic bug sending. McElroy says to position the bug on the desk is the same position as you would place a sheet of paper if you were writing a letter. The forearm is rested on the edge of the desk and no other part of the arm, wrist or hand is in contact with the desk top. The thumb is held on the paddle side of the key and the index and middle fingers are touching the knob. This is very similar to the position on a straight key while sending. When sending with a straight key, a typical grip would be to place the thumb and ring finger on the sides of the knob and the tips of the index and middle fingers on the top of the knob. We are talking here about a flat knob like the one on a J-38 and not a Navy knob. If you turn the straight key up on its side and move your thumb around to the bottom (now the other side) of the key, you will have what McElroy considers the ideal hold for sending with the bug. He actually called it "the Grip", and illustrations can be found in some old radio handbooks.

While sending, the thumb and fingers are held very quietly with as little movement as possible. The thumb is brought into contact with the paddle to make dits with a rolling movement of the arm. Dashes are made with a rolling movement also and the impact is somewhat over and down into the knob. When more than one dash is made, the fingers stay in contact with the knob. Repetitive dashes, with proper inter element spacing, are

more easily created when the fingers are not moving away from the paddle. An O won't sound like TTT. The time it takes to bring those wandering fingers back in contact with the knob requires more energy and time with the result being poor inter-element spacing and possibly knocking the bug around as speed increases. That may not seem like a big deal, but remember to keep the time between dashes the same as the time between dits. That little bit of space produced by taking the fingers off the knob requires more hand speed to keep the timing right. More speed means more velocity and more energy imparted to the bug. This does not give the operator a very relaxed feel on the key and can result in the bug being knocked around the operating position.

McElroy illuminates the point about no part of the wrist or hand being in contact with the table by asking to "Call back to your mind the school days of 'free arm movement writing that tells it all'". The method of writing he is referring to is the Palmer Method of Writing. The key elements are quiet fingers and letters formed by moving the arm. This can be contrasted to finger writing which is more common these days. During the time when bugs were king, jobs as clerks who had to write all day were common and writing with the large muscles groups and quiet fingers was far less stressful than finger writing. With practice, it is possible to write cursive letters as small as one sixteenth high using only free arm movement. There are a lot of similarities between handwriting and bug sending. If you are interested, just do an online search of Free Arm Movement Handwriting and check it out. That is what I did while studying McElroy's writings. Advancements in code sending and handwriting followed very closely the same path for very much the same reasons.

OK, I know that I probably lost some of you when I said no part of the wrist or hand should touch the desk top. It is probably true that many

more good bug ops rest their hand on the table to anchor their hand and rock back and forth on the sole of the hand while sending. I call that "Modified Classic Bug Sending" or perhaps "Practical Classic Bug Sending". It is a perfectly fine option to the Classic method. However, after much experimentation, I feel that it limits the potential to achieve lightness and finesse in sending. Perfecting free arm movement sending takes much longer to feel natural. Having no reference or anchor for where the hand is in relation to the paddle and knob makes it easy to make errors at first. The sending hand is actually anchored only a little further up with the forearm resting on the desk. With some practice, I have come to be a big fan of this style sending. I feel that the description I have presented here is as close to what McElroy was trying to convey to his audience as I can understand from his writings.

Hearing Morse code sent by a faraway operator using a bug is almost magical, especially when it is sent cleanly and clearly. Ultimately, to bring tears to the eyes of the receiving op is a lofty goal, but the sheer beauty of organic, handmade Morse code can do that.

Thank you for your time, and I hope you will consider these thoughts and give this method a try. Join us on Tuesdays at noon Eastern time for *The Art of Bug Sending and Copy* and then later at 5pm Eastern for *Wild About Bugs.* You are also welcome to send questions to my email address. I am good in the book as the old timers used to say, so my email can be found on QRZ.com. There is plenty to learn and lots to share. It is a great honor to do it with such a fine group as found with LICW.

73 for now and cu down the log. ★

– Tom WA9CW

RADIO ADVENTURES IN THE HIGHLANDS OF SCOTLAND GANG AFT A-GLEY

by Bob Conder, K4RLC
& MM/K4RLC   (LICW # 119M)

"But Mousie, thou art no thy lane,
 In proving *foresight* may be vain:
 The best-laid schemes o' *mice* an' *men*,
 Gang aft a-gley,
 An' lea'e us nought but grief an' pain,
 For promis'd joy."

– Robbie Burns,
National Bard of Scotland
"To a Mousie" 1785

Thanks to my friend Vince, VE6LK, I learned the value of hyperlinks for adding additional content, if the reader is interested. For this, you will need to Control+Click. Hope you enjoy more content about Scotland.

Visiting the Scottish Highlands has been a bucket list trip for many years. My YL Alanna K4AAC has family in Scotland, and it's dear to her heart. Our other out-of-the US trips have been small groups or some we planned on own own, but this was with a larger group in a very heavily scheduled trip with luggage restrictions, so I was worried about being more efficacious with equipment choices. This trip is not one we could've done on our own: it was called "the Country Roads of Scotland" and truly took us through tiny one lane back roads, maybe a cart path or two, and staying in small, old hotels in mostly out of the way towns. I'm not sure how Johnny, our driver, drove the bus so fearless, but he was a local.

Nevertheless, as the famous Scottish poet and national hero Robbie Burns says, "the best laid plans of mice and men gang aft a-gley".

Per recommendations of friends, I had fully kitted out the Elecraft KX2 with accessories for portable and field operations. This included a tripod for a small vertical; a clamp mount; a SOTA Beams push up pole with the AD8HK random wire antenna; and I

Scotland Tour Map-Courtesy Insight Vacations

Livans Tactical Molle Pouch 7 X 5 X 4.5" – Entire kit with all accessories weighs just 2.0 Lbs

even condescended to carrying a microphone. Just as a backup, I took the Elecraft KH1, which I'd kitted out in a small Molle Utility Pouch, added a neck strap from an old duffle bag, and carried it like my camera around my neck, always and immediately accessible. As it turned out, due to the craziness of trip logistics, the KX2 was never unpacked but the KH1 was with
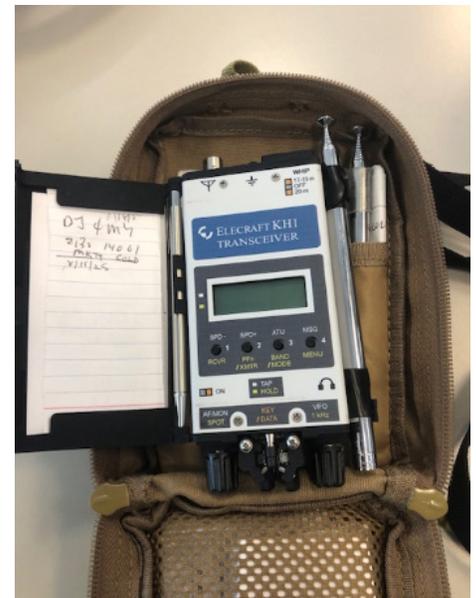
me continuously, ready for immediate activation!

We arrived in **Edinburgh**, the ancient capital city of Scotland, early Saturday morning their time, sleep deprived but ready to go. The formal trip did not start until late that afternoon, so we left most of our luggage at our hotel in the **Leith** section and took the wonderful
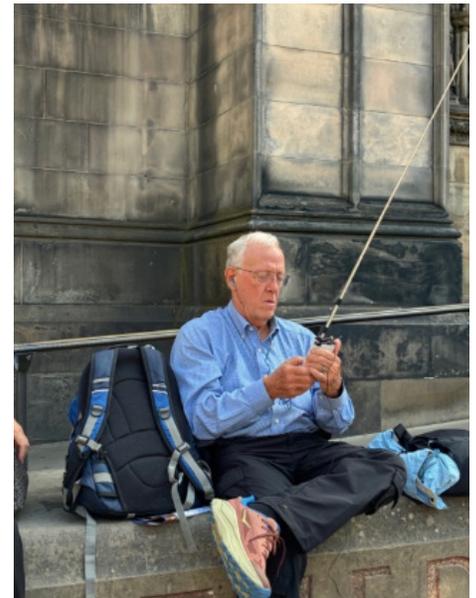
St. Giles Cathedral on the Royal Mile

KH1 on St Giles steps

nearby tram to Princess Street in downtown Edinburgh. We had been in Edinburgh before and sort of knew our way around. It's a wee uphill walk to the **Royal Mile**, but well worth it. As some know, Edinburgh Castle was built on the top of a very ancient volcano, a wonderful place for a medieval fortress. At one end of the Royal Mile is **Edinburgh Castle** and a "Scottish Mile" down the alluvial trail is **Holyrood Palace**. These are in the Old Town Section, with some parts over 1,000 years old, and now a UNESCO World Heritage designation and a POTA site.
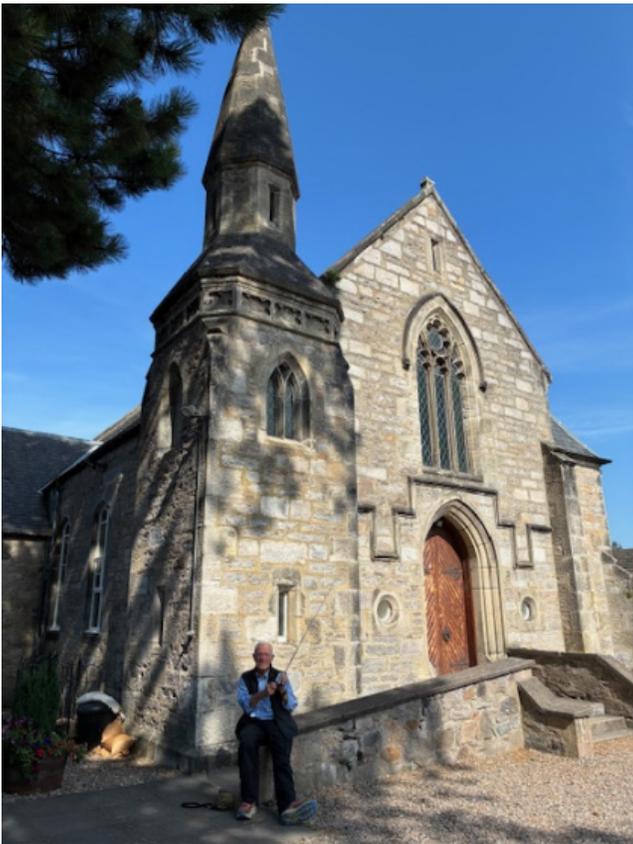

Edinburgh Castle

August is a wonderful time weather-wise to visit Edinburgh, but due to the International Fringe and Art festivals held then, an extra half million people visit Edinburg during August! However, August is the only month that the **Royal Edinburgh Military Tattoo** is presented, a once-in-a-lifetime event and well worth the crowds. The first day, Alanna and I could barely walk on the Royal Mile due its being so crowded. We found a space on the wall in front of **St. Giles Cathedral**, the Royal Cathedral of Scotland, built in 1124. I pulled out the KH1, extended the whip and carefully placed the

counterpoise, and started sending CQ. Unfortunately, that location was extremely noisy, both electrically and due to all the crowds. Nevertheless, on 20 CW, I lit up several German stations on the Reverse Beacon. After a while of trying to make contacts, and fending off curious tourists, we packed up and wandered around looking at the various street performers and entertainers, including musicians, magicians, axe jugglers and sword swallowers :-) That night, our group went to see the Royal Edinburg Military Tattoo at Edinburg Palace, a wonderful exhibition of military bagpipers and drummers in Highland clan tartans from throughout Scotland. The Tattoo also features other military performers from around the world including Poland, the Ukraine and the US Air Force Drill Team with fixed bayonets.

The next day our group had tickets for the formal Edinburgh Castle visit. We enjoyed the beauty, history and majesty of this iconic Castle. I had the KH1 and again tried to set up, this time in front of **Mons Meg**, the huge medieval canon that was the doomsday weapon of its time. Built in 1447, Mons Meg is 14 ft long, weighs over 15,000 lbs, and shoots cannon balls that weigh 386 lbs; as

Pitlochry Baptist Church

such, it makes an excellent antenna counterpoise. The Cannoneer in medieval dress was initially curious, then became not happy with me so I packed up and moved on. I found out quickly that the only time and the only way to get radio time was to

defer from some of the planned or optional activities of the tour group, or to operate before or after these activities. However, some days our tour started very early and did not end til Midnight or so.

The tour headed north with a brief visit to the Royal and Ancient Golf Course at St. Andrews, then through incredibly beautiful Midland countryside. Along the way we stopped for a lovely High Tea at Atholl Palace, then visited the quaint village of **Pitlochry**. The tour director trashed the little town and said we should instead pay to go tour **Blair Castle**. This Castle did not seem very interesting to us, would have cost more money, and I really wanted some more radio time. I'm really glad we chose Pitlochry, as Alanna and I enjoyed exploring the quaint town, and I found an ideal location to set up the KH1 at an old stone Baptist church at the edge of town. In addition to a Russian, the German stations came through. It was like there was a pipeline from the Scottish Highlands into Germany. I really appreciated their kindness and patience in working a weak signal station such as mine.

I also felt at home in Pitlochry, as there were two backpacking stores there as well as a John Muir Trust. John Muir was born in Scotland in 1838 but spent most of his adult life in the US, where he founded the Sierra Club and helped found the National Park System. I spent time talking with the volunteer at the John Muir Trust,

Misty Op at Inverness Gardens


Children's Playground at Blair Castle

Mons Meg Canon makes an excellent counterpoise!

who explained that there were national cycling trails (Scotland has over 2,000 miles of **bicycling trails** crisscrossing the country) and **hiking trails** like the **Rob Roy Trail** (following the trail of Scotland's most famous outlaw) that came through there, as well as an entryway to the huge **Cairngorms National Park**. The backpacker in me really wanted to stay and spend time in the park, but that was not possible. Eventually, the tour bus came and got us and took us to the parking area on the grounds of Blair Castle. I was happy that they had a children's playground where I could go to set up the KH1 and work the Germans again. It seemed fitting to be by the kid's swing set playing radio.

The next day we went to **Inverness**, the capital of the Highlands with wonderful history and habitation dating back to 5800 BC. We stayed at the Kingsmill, an elegant, historic hotel with excellent golf courses. Our room had an outside patio where I set up the KH1 while sipping coffee. Wayne of Elecraft had recommended keeping the radials elevated, so I draped them over the shrubs and again had contact with the Germans on 20CW. The next morning before leaving, I tried the 40 m coil for the AX-1 antenna, but no joy.
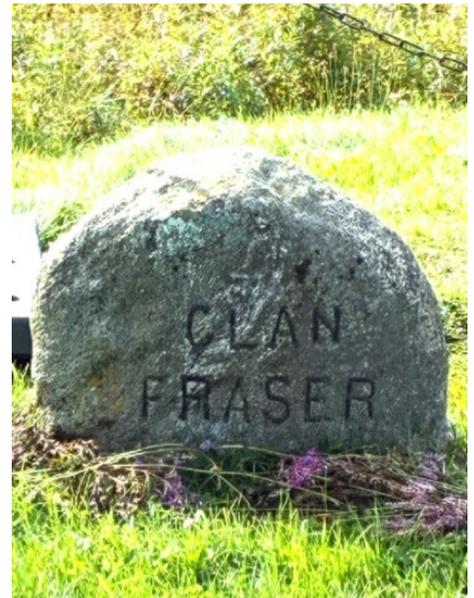
Culloden Moor Battlefield with Clan Stones –vv Clan MacIntosh on the left & Clan Fraser on the right

Several of the places we visited were POTA sites, but some were also historical sites for the Scots where I did not feel comfortable playing radio. This included **Culloden Battlefield** near Inverness, where the Brits defeated the Jacobite Highlanders fighting for Scottish independence in 1746 in a brutal battle. It is a sacred site much like our Arlington Cemetery. Stones are placed on the battlefield marking mass graves of the Scottish Clans who died on the moor there. One stone is so famous it had to be roped off – it is for the Fraser Clan who fought and

died at Culloden and whose history was made famous in the quasi-historical Netflix series **Outlander**.

I was really looking forward to our trip to **Thurso**, the most northern city in Scotland, because from there we were to take the ferry to the **Orkney Islands** about an hour and a half north across the Pentland Firth. Several sites on the Orkney's were POTA sites that had never been activated, and I had hoped to be the first. They also were designated UNESCO World Heritage Sites, much like the Royal Mile. Orkney has an incredible history, with

Ring of Brodgar Standing Stones & KH1

Skara Brae dwellings connected by tunnels

Orkney Wireless Museum; Bottom Right: St. Magnus Cathedral in Kirkwall circa 1137

Neolithic civilization going back to 4000 BC. We first went to the [Ring of Brodgar](#), the third largest stone circle in the UK, and erected over 4,000 years ago. Its original purpose is still unknown, whether it was for sacrifices, solstice ceremonies, or burial rituals. Nevertheless, it was incredible to be there in this 300 meter diameter circle of stones, each standing about 15 ft tall and weighing 20-30 tons apiece. The archaeologists who have access to the inside of the circle have performed experiments on the resonant audio frequency with strange acoustics within the circle. I walked as close as I could to the stones, and began sending CQ on

20 CW. It is hard to explain, but the received audio from the radio was the strangest sound I had ever heard, resonating in a very eerie tone as was the audio of the side tone while sending. So there seems to be a Radio Frequency (RF) anomaly in addition to Audio Frequency (AF) anomaly. Truthfully, I got a little spooked from this RF/AF experience. Then, while I was working a Spaniard doing POTA in Poland, a fellow tour member somehow stepped on the counterpoise that I had thrown off the trail surrounding the Stones. This poor lady's previous two husbands were Ham radio operators, but she was still interested in my radio. The Gerber tool I had was TSA friendly and was excellent for everything except it was not a good wire stripper, so I couldn't immediately repair the counterpoise. While I was trying to strip the wire with my teeth, our tour director said it was time to leave for Scara Brae, a Neolithic community also dating from around 3000 BC built on the west side of the island on the beach. Built from flat stones, **Scara Brae** has incredible architecture still being studied today, with a group of around 10 subterranean houses having complete stone furniture, stone beds and storage shelves, and a fire pit as well as possibly indoor toilets!

WW2 Commando Memorial

There was a sacred quality to Skara Brae, and after the Ring of Brodgar experience, I was a little spooked so did not try the radio.

After our brief stays at the Ring of Brodgar and Skara Brae, the bus brought us back to downtown Kirkwall, the largest city in Orkney, and parked in front of the **St. Magnus Cathedral**, whose construction was begun by the Vikings in 1137. As nice as the church was, I told the local guide I wanted to visit the world famous **Orkney Wireless Museum**. He looked puzzled and said it was a bit of a walk, but gave Alanna and me directions. A magical place for a radio enthusiast, the walk to the Radio Musuem was well worth it. Behind its gray stone façade, is a wonderful collection of radios, from the original crystal sets to military sets used by the Royal Air Force and Navy, as Orkney was a strategic military facility in both World Wars. I felt like a kid in a candy shop. The ham radio station there is episodically activated, but unfortunately not that day. Alanna and I bought souvenirs for us and radio friends back home. Thankfully for Alanna, extra time allowed us to explore St. Magnus Cathedral when we were done at the Wireless Museum.

After the trip went as far north in Scotland as possible, we came down

Ben Nevis, the highest peak in the UK

the west side going to the **Isle of Skye** in the Inner Hebrides. Unfortunately, no radio but Alanna and I enjoyed the mountains and glens on Skye, as well as the seaport town of Ullapool, where they have great homemade ice cream and jewelry with a local theme and even bits of heather. **The Old Man of Storr**, another geologic wonder made from millions of years of natural erosion of a volcano leaving an evocative basalt column, was another well worth it wee walk.

The rest of the Highlands trip was a long ride through Glencoe that ended in Glasgow. However, there were brief stops to visit the **World War II Commando Memorial** at the foot of **Ben Nevis**, the highest mountain in the UK. There was also a stop at Glen Coe National Nature Preserve, home of miles of hiking trails and 8 Munros (name given to mountains above 3,000 ft, including SOTA peaks, named by Sir Hugh Munro in 1891). Again, I really wanted to take time to climb the mountains and activate, but no extra time. Before the bus pushed on to Glasgow, we were able to take an amazing boat ride, treated with coffee and whiskey, on the Bonnie bonnie banks of Loch Lomond, the longest loch (lake) in Scotland.

Downtown **Glasgow** without festivals is like an industrial Edinburg without the charm. It's super crowded with lots

Brother & Sister Bagpipers at Old Smiddy Inn in Thrumster; Right: Tennent, Scotland's finest beer

of tourists but no real place for radio. In fact, part of the City Centre was blocked off, as they were filming the latest Spiderman movie. Alanna still has family in Scotland and we had a lovely dinner with three generations of her family near Glasgow Royal Concert Hall. The next day was the time to fly out to Iceland. The bus dropped us off early at the Glasgow Airport. With time to kill before our flight to **Reykjavik Iceland**, I walked out in a courtyard and set up the KH1 hoping I would not violate any of the airport rules. Unfortunately, it was super electrically noisy there and I was unable to make any contacts.

All in all, Alanna and I felt super at home in the **Scottish Highlands**, a wonderfully beautiful place where everything looks like a storybook or movie (cf James Bond "Skyfall"). The Highlands are also a geologist's playground. Of interest from a geologic perspective, the same geologic strata and mountain range – the Caledonia Orogeny - that forms the Scottish Highlands runs to Cape Breton Nova Scotia and then to the Appalachian mountains of Western North Carolina! This commonality can help explain the migration patterns of Scots to Cape Breton and Western NC. The topic of vast Scottish

migration came up at a **Ceilidh** (a family-style gathering with bagpipes, singing, story-telling and whiskey) we attended at Old Smiddy Inn, an 1832 blacksmith shop converted to a small pub in Thrumster. The proprietor, Dave, was happy to hear I was from North Carolina. We talked about how the largest gathering of the Scots outside of Scotland is at the **Highland Games** held on Grandfather Mountain, NC in July of every year (both a POTA & SOTA site). I fondly recall attending the Games a few years ago, as McCrae Meadows on Grandfather Mountain, site of the Games, has a quarter-mile track that is the finish line for those of us who ran the Grandfather Mountain Marathon.

We don't mean to be overly critical of the Country Roads tour, as we now know the places we want

to return to and spend more time in the Highlands, especially the Orkney Islands. We could not have learned of these wonderful out-of-the-way places without Insight Vacations; Taib, our nice Tour Director; and Johnny, our fearless driver. In fact, Taib was very positive about amateur radio, recalling that as a child in a remote village in Croatia, the only way he and his Mom could talk to their soldier Dad was through amateur radio. Unfortunately, his Dad was killed fighting for their freedom against Yugoslavia. We understand that
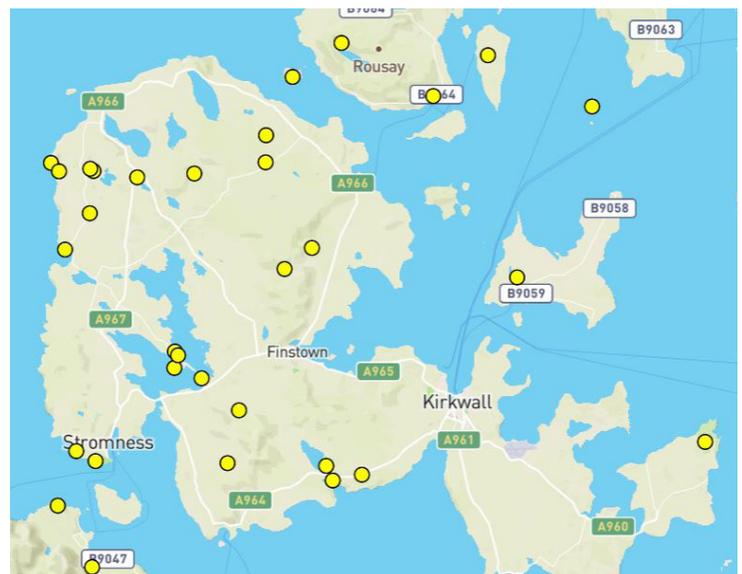

Figure 12: Orkney Islands new POTA sites waiting to be activated

Alanna enjoying local ice cream in Ullapool; Right: Great Scottish breakfast of eggs & Haggis

Taib had to keep the tour on a strict timeline. Like most of us, I have more hobbies than radio, so radio had to share time for me with **geology**, photography and **archeology**.

Next adventure on the Bucket List is to fly back to Edinburgh, take the Caledonia Sleeper from Waverly Station to Inverness, and enjoy a monthly rental of a cottage in northeast Scotland, overlooking the North Sea and having a medieval castle within walking distance. It will be easy to activate the many POTA sites (and some SOTA sites) in the area, as well as feeling at home in the Highlands. Plus, from there, we can easily return to the Orkney Islands where I can conduct HF & UHF Radio Frequency experiments at the Neolithic Ring of Brodgar. The ancient standing stones altered the RF and I want to know more about this. I hope to obtain permission from the archaeologists to stand inside the circle and transmit CW HF. In retrospect, why wouldn't standing inside a 4,000 year old ring of huge standing stones, used for mystical purposes, alter RF?

Thanks again very much to all who weighed in on the equipment choices. I also want to thank my YL

Alanna K4AAC, a wee lass and also a LICW member, as she was able to run interference for me with the tour director to get radio time. Alanna also had a great eye for places to operate the KH1 and helped with setup quickly during the limited time we had in each place.

The KX2 is still my favorite portable radio. But, on this trip, the KH1 excelled in its flexibility, portability, and immediate availability. All I can say in retrospect is that it is good to have lots of backup plans and equipment redundancy, as you never know what really will happen, whether near or far from home, because the best laid plans "…Gang aft a-gley".

Equipment List:

- Elecraft KX2 Shack in a Box
- Elecraft AX1 antenna with 40 meter extender coil
- Elecraft KH1 Edgewood Package
- **N6ARA Tiny Paddle (with KH1 adaptor)**
- K6ARK Capacitance Touch Paddle
- **Tuftein KH1 Right angle antenna adaptor with stand**

- **Tuftein KH-1 Antenna Angle Adaptor**
- **JVC Sport Earbuds**
- **Gerber utility tool**
- **LIVANS Tactical Molle Utility Pouch** (with additional neck strap)
- **Pro Audio KX33 Power Supply**
- **AD8HK 40-10 4:1 Random Wire**

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BOOT CAMP AND THE BOOT CAMP STUDENT GUIDE

by Tom L Weaver, W0FN

Boot Camp is an optional month-long course developed within the Long Island CW Club curriculum development team and endorsed by them.

It will start up again in January so you'll have plenty of time to sign up. Meanwhile, much of Project OverLearn's concepts are being incorporated throughout LICW's curriculum.

You're welcome to review the Boot Camp Student Guide:

https://longislandcwclub.org/wp-content/uploads/2025/10/BOOTCAMP-STUDENT-GUIDE-VERSION-3.6.pdf

and challenge yourself to adopt the essential attitude of "Try But Don't Care' as you experience the Boot Camp's speedy flow rate exercises while suppressing your desire to maximize recognition success.

Boot Camp is all about learning the foundational concepts and skills involved in achieving Morse code fluency. The concepts are something you can learn as you go through the guide fairly quickly, but putting them into practice and achieving the skills involved take many months of dedicated daily practice with the right mindset.

Boot Camp is just what it sounds like - an intense month of immersion intended to provide a quick start to the journey towards fluency for those who attend. Much of its value is in the concepts, discussions, and explanations that take place during the eight classes over four weeks.

Reading the Guide and working with the exercises provides some benefit but won't expose you to those important Boot Camp discussions. You'll have to enroll in the January (or later) Boot Camp to participate in the discussions and reap the benefits.

Good luck - have fun! ★

– Cheers,
73... de Tom W0FN

CLUBMEMBER NOTES

I was out camping, had a 71-foot endfed not more than 10 feet off the ground, did not expect much but at least I did have a wire out. Using the Xiegu 6100 with the wobbly tuning knob that I bought on the cheap from a friend of mine, I was ready to hunt for Parks and check into CW Traffic Nets.

I had a very successful run of catching parks only using about 7 watts. It was a nice cool day and I only dropped the hot dogs off the tripod grill into the fire once! As the afternoon progressed into evening, I moved the rig into my tent and was ready for more CW fun. The skies were clouding up and other campers were warning of inclement weather on the way.

Nice and snug inside my tent, the little QRP Rig and its colorful display with a plethora of information was mostly lighting up my tent except for a small LED light I had for logging. Using my trusty Putikeeg straight key, I was ready for some in-tent CW. I checked into the Wisconsin Slow Speed Net and the Early WIN traffic nets... I had some left over brats and a beer and was queued up for the 10pm Late WIN net (for the Hat Trick, all three Wisconsin Traffic Nets). Net control N9VC was calling QNI and I was waiting for the 9RN reps and SSB reps to finish checking in when I felt something on my back. It had started raining hard and the wind had picked up, and my tent was belching water all over me – and more critically, the water was heading towards my radio!! I did a mad scramble to move everything towards a dry corner of my tent and still make an attempt to check into the last net of the night for the trifecta of WI Traffic Nets.

I realized my pants as well as my shirt were becoming soaked. Admitting defeat as the leak appeared to be terminal, I got the Xiegu and its accoutrements back into their (waterproof) case. We all (the radio equipment and I) had to retreat to the car. The tent now rests at the bottom of the campground dumpster.

– Dale L. Jirschele, KK9D

Do you have a short story or anecdote about ham radio and operating CW? We welcome your submissions!

CW MAKER'S FORUM

by Roy Thaller, VA7RTL

IN 2025 we took a look at the various kits available at an overview level. We had a presentation on a project that involved designing and making a PCB board and coding. We took a look at how radios work and electronics. We reviewed weekly highlights about amateur radio. We took a look at propagation using WSPR and compared various antennas. We did a review of several books going through them chapter by chapter, explaining the contents and answering any questions.

Things have changed so much over last several years and just recently. There is so much to do and so many different topics/projects that it is hard to keep up. Electronics was a hobby of mine back in the 1970s and 1980s. I only got involved in it again when I retired in 2016. Through-hole PCBs were disappearing and the components were getting smaller and smaller. Software and microprocessors replaced much of the hardware. I decided to get involved in ham (amateur) radio in 2019 because I could still build and experiment with antennas.

I bring this up as it is unclear in what direction the CW Maker's Forum should be going. Some people are still interested in simple projects, while others like to build more complex projects such as the QMX and the T-41 transceivers, while others are interested in the coding. There has been explosion of interest in digital modes such FT-8. It allows people to communicate in situations (HOAs) where antenna space does not exist and brings younger people into the hobby too (involves computers). Other people say that digital modes are not ham radio.

Until recently it was relatively inexpensive to design and build various transceivers, some were even offered as kits by some amateur radio operators. With the increase cost of shipping and manufacturing this is now a very limited viable option.

People tend to follow into one or more of the following groups:

- *Operator* – Just give me something I can use
- *Teacher* – I like to explain things to other people
- *Youtuber* – Can make videos
- *Kit Builder* – If I can learn how it works, that's great
- *Tinkerer* – Can I make it work better?
- *Coder* – Can I make the software better?
- *Designer* – I can build something better?
- *All of the above* – It depends on what it is.

With so many options available, where would you like to see the CW Maker's Forum over the next few years? Are you ok with a little of everything? Remember, anyone can present their projects or interests on the CW Maker's Forum! ★

– Roy, VA7RTL
VA7RTL@gmail.com

NANOVNA BOOKS

There are two books available from Amazon that may be of benefit to all the NanoVNA users among us. The first is "NanoVNAs Explained: A practical guide to Nano Vector Network Analysers" and the second is "A Guide to the NanoVNA." Both are sold as Kindle editions. ★

PROJECT OVERLEARN

The question was asked recently on Groups.io: "I've heard about project Overlearn and I see the curriculum download, but I don't see anything about the class itself or how to join it. How would I go about that?"

Mike Padron, N1CC, replies, "Project OverLearn isn't a separate class you can join - it's an evolution of how we teach Morse code throughout the entire LICW curriculum. The goal is to achieve fluency by building over-familiarity with characters and character flow, encouraging tolerance for misses, and gradually shifting from individual character recognition and word building to word discovery.

"Rather than being a standalone course, the OverLearn principles and milestones are now being integrated into every level - from the Beginner Carousel through Intermediate and Advanced classes. You'll encounter these methods across all stages of your training.

"We do, however, offer an *OverLearn Bootcamp*, which is a focused, 4-week, 8-lesson program designed to accelerate the path to fluency. Bootcamp combines high-intensity listening and flow-based drills. It's open to members after they have achieved the learning objectives in INT1 who want a deeper dive into the OverLearn methodology. The next Bootcamp will be held in January.

"So in short - there's no separate "Project OverLearn class." It's now the foundation of how we teach, while the Bootcamp provides an optional, concentrated experience for those who want to push their CW skills even further." ★

CW QSO PROTOCOL

Prepared by W6JIM

PROTOCOL-1

(their call) DE (your call)
1. GM/GA/GE ES TNX FER (CALL/RPRT)
2. UR RST 599
3. QTH FRESNO, CA ⎫
4. NAME JIM   ⎬ x2
5. OK HW? $\overline{AR}$
(their call) DE (your call) K

Key-Words:

RST - QTH - NAME

PROTOCOL-2

(their call) DE (your call)
1. OK (John) FB ES TNX FER (INFO/RPRT)
2. RIG IC 7300 ES PWR 50W
3. ANT DIPOLE UP 45 FT
4. WX Rain ES TEMP 50F
5. OK (John) HW? $\overline{AR}$
(their call) DE (your call) K

Notes:

PROTOCOL-3

(their call) DE (your call)
1. OK (John) SOLID CPY
2. AGE 55 YRS
3. BEEN HAM FER 25 YRS
4. MY KEY J38
5. OK (John) HW? $\overline{AR}$
(their call) DE (your call) K

Notes:

ENDING

(their call) DE (your call)
1. OK (John) TNX FER FB QSO
2. ES HP CUAGN 73 $\overline{AR}$
(their call) DE (your call) TU $\overline{SK}$

Notes:

(Send closing "Dits" as described on next page)

CW QSO PROTOCOL

Additional Info

1. QRL? - Before calling CQ. Call **QRL?** at least twice to ensure the frequency is not in use
2. Calling CQ - A typical CQ call is in a 2 x 2 format: **CQ CQ DE (your call) (your call) K**
    a. Wait then repeat, if necessary, again 2 x 2. No need to call lengthy CQs
    b. Stations most typically respond with **(your call) DE (their call) (their call) K**
    c. When a station answers your CQ begin protocol P1 using the **TNX FER CALL** option
3. Answering a CQ - Answer a CQ by sending **(their call) DE (your call) (your call) K**
    a. The calling station will go through protocol-1 then hand it back to you
    b. Now you start protocol-1 using the **TNX FER RPRT** option
4. Ending - <u>other station starts</u> the ending sequence:
    a. Come back after the $\overline{SK}$ like you normally would for a K
    b. Answer any open questions, say anything else you want to share, then initiate Ending
    c. After sending your $\overline{SK}$ send **2-dits**. The other station will send 2-dits back & your QSO is done!
5. Ending - <u>you start</u> the ending sequence:
    a. Wait for the other station to finish their turn after you $\overline{SK}$
    b. Send **2-dits** after the other station sends theirs and your QSO is done!
6. Repeat important information (RST, QTH, Name) twice
    a. RST, QTH, and Name and anything else that you feel is important (like club numbers)
7. **BK** – is used in <u>quick QSOs</u> in place of the Callsign Exchange. When you're handed the QSO with a **BK** you acknowledge by starting with a **BK**. BK is <u>not</u> a pro-sign. There is space between the B and the K
    a. Example:
        i. (other station) OK JIM, UR RIG AGN? **BK**
        ii. (W6JIM) **BK** RIG HR IS TEN TEC EAGLE, TEN TEC EAGLE **BK**
        iii. (other station) **BK** OK JIM FB ON UR TEN TEC EAGLE….
8. R R - stands for Roger-Roger.
    a. It is sometimes (not required) sent before you start your portion of the exchange
    b. Only do this if you fully understood the other stations message
    c. Example: **R R** (their call) DE (your call) FB CPY JOHN ES TNX FER NICE RPRT
9. $\overline{BT}$ **is** used to separate topics or to fill dead air like a verbal pause
10. The Callsign Exchange: **(their Call) DE (your call)**
    a. In a Standard QSO, each turn starts and ends with **(their Call) DE (your call)**
11. For extended Rag-Chews
    a. Write down some info to share in case you draw a blank
    b. You may start with the callsign exchange and roll into abbreviated "BK" in a long QSO
    c. Don't forget to identify your station with a callsign exchange every 10 minutes (minimum)
12. The examples in this reference sheet are just that, examples
    a. Feel free to tailor your content as you become more comfortable and hear more QSOs
    b. Abbreviations may differ (Name vs OP, CUAGN vs CUL, CPY vs CPI) , etc.…
    c. **Please edit this document to make it work for you!**

DOWNLOAD DOCUMENT

S(LOW) S(PEED CON)T(EST) EXCHANGE

RUNNER: **CQ SST (RUNNER CALL SIGN)**

SEARCH & POUNCE PERSON: **(YOUR CALL SIGN)**

RUNNER: **(S&P CALL SIGN) (RUNNER NAME) (RUNNER STATE)**

S&P: **GE (RUNNER NAME) (YOUR NAME) (YOUR STATE)**

RUNNER: **GL (S&P NAME) TU (YOUR CALL SIGN) SST**

WINTER FIELD DAY IS JANUARY 24 & 25, 2026

Shown are N6CC and a friend on a 3-day, solar powered camping trip with Coffee 'N Code. We were operating two PRC-174 man packs and a GRC-109 Special Forces set on 80/40 meters CW with a Racal VHF FM set along for 6 meters. We were operating Winter Field Day 2025 on the "summit" of Brannan Island State Park CA, technically a SOTA, IOTA and POTA deployment – simultaneously! HiHi. ★

– Tim Sammons, N6CC

Table of Contents

OUT OF THE BOX

Keep you key in place!

Are you sick and tired of chasing your key around your desk? Steve, N1SG, solves this problem by inserting a small quantity of **QuakeHOLD! Museum Putty** underneath his key. This non-staining, easily removable putty is used by museums to keep their precious artifacts in place, no matter how much the Earth shakes beneath them. Besides **Home Depot**, you can find QuakeHold! on **Amazon**, **Ace Hardware**, **Walmart** and in **Lowes**. Before using, be sure to confirm QuakeHOLD!'s non-staining quality by testing it in an inconspicuous area. QuakeHOLD! is sold in Neutral/Cream and White, and is available as low as $4.99 per package.★
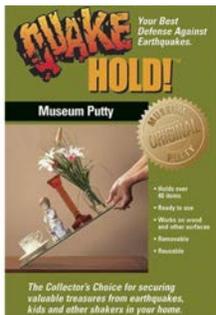
CALL FOR SUBMISSIONS

For the LICW Newsletter, Spring Edition

We need your articles and pictures for the Spring Edition of the LICW Newsletter! Do you have any good stories or original articles you would like to share? What are your plans for POTA when the weather gets warmer? Are you planning any new antennas or projects for the shack? Share your plans and photos with us! There is also, of course, the thrill of seeing your name and call in print!

Are you working on any home-brew projects this Spring? Tell us the details! Do you have any "hints and/ or tips" to make operating easier and more fun? To make kit building more efficient? Support your Club with submissions for the Spring edition!

When you submit your articles and/or photos, please include your full name and callsign. Send all submissions to: wb2gxm@arrl.net. We accept most file formats including Microsoft Word, Notepad, Textedit, and PDF files, as well as most image file formats.★

– The Editor

OUT OF THE BOX

Organize your cables!

Put used toilet paper tubes to work making frequently used cables easier to find and readily accessible. No more searching through hundreds of black or white cables, looking at both ends for the type needed, then unwinding the twist-tie (only to put it back on again for the umpteenth time).

Cables are ID'd on the tube and slip in and out in a blink. White tubes are a little easier to label but any will do. I attached a photo as an example.★

– Paul Tanzer, W4PDT
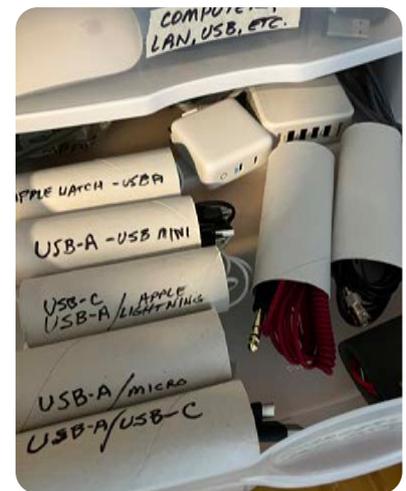
THE LAST WORD

Thank you for reading The LICW Newsletter! We strive for quality and accuracy. If you notice an error, or a link that is incorrect or broken, please do tell us via groups.io, and we will correct it or print a notice about it in the next issue.

The Winter is a great time to get out the soldering iron and work on all those projects you never had time to get to while the weather was nice! Be careful, take your time, "measure three times and cut once," and be sure to ventilate your space when using solder! Respect all high voltages. Be smart, we want to see you in the Spring!

Speaking of which, take heart, all you LICW'ers: the days are getting longer even as you are reading this, and Spring will be here again before you know it.

Wishing you all successful kit and DIY building, great QSOs, and a warm and cozy Winter!

73 – The Editor

RESOURCES ONLINE

Clubs and Organizations
American Radio Relay League
Ham Radio University
Long Island CW Club

Online Stores
DX Engineering
Gigaparts
Ham Radio Outlet
Martin Lynch & Sons (UK)
Powerwerx
Radioddity
Waters & Stanton (UK)

Keys
CW Morse
Vibroplex

Kits
3rd Planet Solar
Circuit Specialists
Dan's Small Parts and Kits
Electronics DIY
Four State QRP Group
HF Signals
Kanga (Phoenix) Kits
Midway
NM0S
Pololu
QRP Guys
QRP Kits
QRP Labs

Parts
Abra

Adafruit
Antique Electronic Supply
Aretronics
Arrow
Digikey
Digikey
Digiparts
Electronics Goldmine
Electronic Surplus
Futurlec
Jameco
Kits and Parts
LCSC
Mike's Electronic Parts
Mouser
(MPJA is closed) Skycraft
PJRC (Arduino)
QRPme
RF Parts
ROWaves
Sparkfun
Surplus Sales
Tayda

Antennas
Alpha Antennas
Balun Designs (Balunsetc)
Chameleon
Greyline
Pacific Antenna
Palomar Engineers
Vibroplex

PCBs
Far Circuits

Wire, Cable and Connectors
Davis RF
RF Microwave
Tech Fixx
The Wireman
True Ladderline

Online Tools
Best EF Random Wire Lengths 1
Best EF Random Wire Lengths 2
Coil Inductance Calculator
Coil Placment Calculator
EFHW Antenna Calculator
EFHW Antenna Designer
Falstad Circuit Simulator
IanJohnston_Online_Tools
LC Resonance Calculator
LC Filter Design Tool
MagLoop Calculator
Morse Code World Trainer
Practical Antennas
RF Z-Matching Calculator
Toroid Inductance Calculator
VSWR to Return Loss Calculator
Ugly Balun Calculator
Vband (Ham Radio Solutions)
VOACAP Coverage Analysis

– with assistance from Grant Porter, KG4SDR