

President Emeritus - Tom Scorsone, KC2FCP President - Bryan Jackson, W2RBJ Vice-President - Nick Field, KD2JCR
Secretary - Steve VanSickle, WB2HPR Treasurer, Don Mayotte, KB2CDX
Board Members: David Jaeger, Jr., K2DEJ Russ Greenman, WB2LXC Dave Gillette, KC2RPU

Need a Hand? EGARA Members Can Help

One of the great benefits of being in a club like EGARA is that there are members with a diverse range of experience and expertise that are ready to help when others need it. Examples include fixing a piece of gear, finding elusive parts for a project, or perhaps an extra pair of hands when trying to put up a new antenna. No matter what it may be, there's usually someone in the club that can help. With that in mind, *Sidebands* reached out to collect some stories about members helping each other -- and the examples were plentiful.

Elvin "Rusty" Reed, KD2UFC, found himself at a dead end after picking up a used MJF CW Keyer/Reader. The unit needed an old "AT" style computer keyboard to work, but it didn't come with one. That sent Rusty on a quest to track down the missing piece. But he soon found out that the once common keyboards are rare today -- and expensive. A quick search of Ebay found prices of \$200 and up.

"I was helped by several members of the EGARA in my search for an elusive ancient AT keyboard -- the kind with the five pin DIN plug," Rusty reported. "I had all but given up on finding one when club members Tom Scorsone, Dave Gillette, and Dave Jaeger were successful in locating what I needed. I was ecstatic to say the least! I can now use my Keyer/Reader thanks to great bunch of guys. EGARA can be proud of its members and their willingness to help."



A now rare AT keyboard

-continued on page 2-

In This Issue

Page 1 - Helping Hands / Club Hats
Page 3 - ARRL Field Day Rules
Page 4 - A Key for Beginning CW
Page 5 - On the Beam News & Notes
Page 6 - February Meeting Minutes
Page 7 - Transmission Line Basics
Page 8 - History of Ham Radio
Page 13 - Corona Mass Nightmare
Page 14 - Titanic Wireless Project on Hold
Page 15 - Shack of the Month
Page 16 - Calendar / Buy, Swap, Sell / Pro Tip

Hats Off (or on) to EGARA!

The club has received its supply of custom embroidered EGARA baseball caps! The Hunter green hats include the club's call letters -- W2EGB -- with an adjustable strap to provide a perfect fit.

Ten members pre-ordered the hats, but additional caps were ordered in anticipation that others will want one too. The cost is just \$15, with \$5 of the proceeds going to the club's General Fund.

Club member Joe Ostering, N2CJE, designed the caps and had them made at a discount price.

Members who wish to order a hat should contact club President Bryan Jackson at W2RBJ@outlook.com. Arrangements will be made to deliver hats to those who pre-ordered them.



Help is Just an Ask Away at EGARA

(continued from page 1)

In another example, Club Vice President Nick Field, KD2JCR, explained that his involvement in Ham Radio was because of EGARA in the first place.

“I owe a big thank you to Chris Linck, N2NEH, as he is the one who got me into the hobby,” Nick said. “From giving me study material to getting a VE team together for me to earn my Tech ticket.”

“Once I got my license, he loaned me a discone antenna to get me on VHF/UHF repeaters. I used that antenna for a few years before updating. Chris is responsible for bringing me into this great organization (EGARA) that I enjoy so much. After earning my general class ticket, he gave me my very first balun for an end-fed to help get me on HF. This is still one of my many antennas in my antenna farm that I use on a regular basis for 20 meters.”

Even experienced Hams in the club have found it helpful to tap into the knowledge of other members.

“I won a Wouxon DMR HT for having the highest Field Day score,” said Dave Smith, WA2WAP. “After reading all I could and watching YouTube videos, I was not making any headway programming the HT so I could connect to repeaters or get PI-STAR to connect to Bandmeister. After getting very discouraged Don Mayotte, KB2CDX, came to the rescue! Between the two of us, we were able to figure out the problems and get this old ham into DMR radio! Don is a great ELMER and a great resource for the club.”

Then Dave added, “We even started a mini swap meet. I give him my junk, and he gives me his.”

Club member Dave Gillette, KC2RPU, offered a similar experience. “Steven Marsh, KC2USX, has helped me with my HTs and how to program them.”

Putting up antennas can also be a challenge, especially if you’re trying to do it yourself. When Andy Sullivan, KC2WWJ, was looking to get HF antennas up and running over the years, three members jumped in to help -- including Steve Vansickle, WB2HPR, Tom Scorsone, KC2FCP and Russ Greenman, WB2LXC. Russ even climbed three trees to put up a wire antenna. Some time later, Russ used an “air cannon” he built to launch fishing weights over some trees to haul up another antenna.

For Bryan Jackson, W2RBJ, it was Steve Vansickle who also came to the rescue. After running barefoot with only 100 watts, he came to find that QSOs were sometimes difficult to make, especially if band conditions were less than optimal. Clearly, some extra power was in order.

“I reached out to Steve for some advice on power amps and learned that he had just refurbished an Ameritron AL-811H,” Bryan said. “I asked if it was for sale and Steve offered it to me at a very reasonable price. Problem solved! More importantly, I knew of Steve’s quality work and knew that the amp would be better than if it had just come from the factory.”



Four club VEs teamed up last November to give Gina Pendolino her General license exam

For Gina Pendolino, KC2QJC, the challenge was to upgrade her Technician ticket to a General after the pandemic forced the cancellation of most VE test sessions. She reached out to the club to ask if arranging a test might be possible. Four of the club’s VEs agreed to help: Peggy Donnelly, KD2LMU -- Ridge Macdonald, KB2HWL -- Russ Greenman, WB2LXC -- and Bryan Jackson, W2RBJ. Using social distancing and personal protection gear, the test went off without a problem and Gina passed.

Of course, there’s also satisfaction in helping others, perhaps best summed up by David Jaegar, who helped Rusty with the elusive AT keyboard.

“It was a lot of fun being able to do this since I enjoy helping people” he said. “And since it was a fellow ham, that made it all the better.”

ARRL to Extend Field Day Rule Waivers from 2020, Add Class D and E Power Limit

The ARRL Field Day rules that were adjusted last year because of the pandemic will continue this June with the addition of a power limit imposed on Class D (Home Stations) and Class E (Home Stations-Emergency Power) participants. The news from the ARRL Board's Programs and Services Committee comes as many clubs and groups are starting preparations for Field Day. Field Day 2021 will take place June 26 – 27.



“This early decision should alleviate any hesitancy that radio clubs and individual Field Day participants may have with their planning for the event,” said ARRL Contest Program Manager Paul Bourque, N1SFE.

For Field Day 2021:

- Class D stations may work all other Field Day stations, including other Class D stations, for points. This year, however, Class D and Class E stations will be limited to 150 W PEP output.
- An aggregate club score will be published — just as it was done last year. The aggregate score will be a sum of all individual entries that attributed their score to that of a specific club.

ARRL Field Day is one of the biggest events on the amateur radio calendar. Last summer, a record 10,213 entries were received.

“With the greater flexibility afforded by the rules waivers, individuals and groups will still be able to participate in Field Day, while still staying within any public health recommendations and/or requirements,” Bourque said.

The preferred method of submitting entries after Field Day is via the web applet. The ARRL Field Day rules include instructions on how to submit entries, which must be submitted or postmarked by Tuesday, July 27, 2021.

The ARRL Field Day web page (<http://www.arrl.org/field-day>) contains complete rules and entry forms, as well as any updated information as it becomes available.

Paying 2021 Club Dues Has Never Been Easier!

Take a moment right now to support EGARA by sending along your annual dues for 2021.

Pay quickly and easily online at: <https://www.egara.club/pay-dues>

or mail your check to: EGARA, P.O. Box 25, East Greenbush, NY 12061.

\$15 / individual - \$25 / family

Multi-year rates also available. Check the website for details.

It's not a Begali, but...

By Dan Romanchik, KB6NU

One of the questions I'm most frequently asked is, "What is a good paddle for a beginner?" My usual answer to this question is to look for a used Bencher BY-1 at a hamfest or on one of the online venues. You used to be able to get them for \$60 or less. Now, however, there are few Hamfests and the price has gone up. Now, used Benchers are close to \$80.

Another option that newcomers might consider is the CW Morse paddle (<https://cwmorse.us/>), shown in photo below. They cost \$60 with a steel base (\$43 without), and are available from 3rd Planet Solar (<https://kc9on.com/product/cw-morse-iambic-paddles/>) and Gigaparts (<https://www.gigaparts.com/cw-morse-orange-morse-code-double-paddle-key-37-820-s.html>). I purchased one recently, and used it for a couple of days. To be honest, I was prepared to hate it, but it actually works pretty well. It's not a Begali, but it's good enough that I'd recommend it as a starter key.

These keys are mostly made from 3D-printed plastic parts. You can tell this from the finish. While not as bad as some 3D-printed parts, they do look a little rough. I wouldn't be surprised if they go to molded parts, though, at some point. In high volumes, it has to be cheaper to mold the parts rather than print them.



The key does have metal parts where it counts, though. The contacts are all brass, the base is made from 1/2-in. cold-rolled steel, and the levers pivot on sealed ball bearings. My key weighed 22.5 oz (1.4 lbs.), and was quite stationary on the silicone mat that I use for my keys. The Begali is, of course, a lot heavier at nearly 60 oz. (3.75 lbs.).

A spring between the levers provides the tension. Two screws allow you to adjust the contact spacing. Unlike the Begali, whose adjustment screws have a very fine thread to give you plenty of adjustability, these screws are standard thread screws. What this means is that it can be a bit tricky to set the contact spacing. The screws are spring-loaded to prevent the adjustment from changing, but the springs don't seem to be very beefy, and I can see where the adjustment might change after a lot of use.

The ball bearings give the key a nice action. During my tests, I had the speed cranked up to 23 wpm, and this key performed well at that speed. One thing I didn't like very much is that the arms tend to flex more than I like, but I actually have the same problem with the plastic Begali finger pieces. That's why I use the aluminum finger pieces on the Begali.

Overall, though, I'm quite happy with this key. And, for sixty bucks, which is about one-fifth of the price of a new Begali Magnetic Pro, I can certainly recommend this key to newcomers getting started in CW.

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Dan Romanchik, KB6NU, is the author of the KB6NU amateur radio blog (KB6NU.Com), the "No Nonsense" amateur radio license study guides (KB6NU.Com/study-guides/), and often appears on the ICQPodcast (icqpodcast.com). When he's not testing new keys, he teaches online ham radio classes and likes to work special event stations and state QSO parties.

On the Beam

News & Notes

In-Person Club Meetings Expected to Resume in April

After more than a year of virtual meetings because of the pandemic, EGARA plans to resume in-person meetings at the Masonic Lodge starting in April. The meetings will be contingent on proper social distancing, use of proper personal protection equipment (PPE), hand sanitizer, and temperature checks of all those attending prior to entry. Many members also expect to have been vaccinated against Covid-19 by that time.

The number of members attending is also expected to be limited to a safe number and will require making a space reservation ahead of time. Complete details and instructions will be announced prior to the April meeting.

“I have been in contact with the leaders of the Masonic Lodge and they have approved our use of the building once again,” said club President Bryan Jackson, W2RBJ. “However, our use of the facility is contingent on meeting all of the requirements and restrictions imposed by health officials. We plan to fully comply for the safety of our members and guests.”

The April meeting is slated to feature a presentation by Don Mayotte, WB2CDX, on Raspberry Pi computers and their various uses in Ham Radio projects.

EGARA Changes Insurance Carrier

After a careful review, the club's officers have taken steps to change carriers for its liability insurance. The new company, Hanover Insurance, provides coverage through an arrangement with ARRL. In addition to providing comprehensive liability coverage, the policy offered was also less expensive than the previous carrier.

The new policy provides an aggregate limit of \$2,000,000 in liability coverage and includes:

- Suits for bodily injury which occur on the premises or as a result of Club activities.
- Suits for damage to property of others resulting from Club activities.
- Suits for personal injury and advertising injury, including libel, slander, defamation of character, false arrest, invasion of privacy, detention and malicious prosecution.
- Suits for liability resulting from the sale of foods and beverages or other products.
- Suits for real or alleged faults in work completed by or for your Club, which result in bodily injury or property damage.
- Suits involving the use of automobiles not owned by the Club but used for official Club activities.
- Suits arising from injury caused by the rendering or failure to render health care services by nonprofessionals.
- Suits arising from fire damage (up to \$100,000) to premises not owned by a Club but used for Club sponsored activity.
- Defense against such suits even though the charges made are groundless, false or fraudulent.

The Club is also insured when named in a covered lawsuit for acts committed by members working for the Club and under its direction. In addition, officers and members are insured when named in a covered lawsuit as a result of Club activities when they are acting on behalf of the Club.

In addition, there are no deductibles associated with the policy. The new coverage will take effect March 24th.

EGARA February Meeting Minutes

- The February meeting of the EGARA was called to order at 7:00 PM by President Bryan Jackson, W2RBJ. Fifteen members checked in via the 147.270 repeater.
- Meeting agenda consisted of 501(c)3 status, 220 repeater install update, sale of EGARA hats, an update on the club's QST article, and Hamfest plans. Also, items for the Buy/Sell/Trade section of the club newsletter *Sidebands* are being sought.
- The 501(c)3 filing is complete and approved by the IRS. Information has been forwarded to the proposed repeater site owner. Echolink will be re-established on the 270 repeater to allow many remote members to participate in club repeater activities.
- There is still time to order your official EGARA cap. Email Bryan W2RBJ@outlook.com for details. The hats are of the finest quality and are in the club's color with an attractive logo embroidered in front.
- VP Nick Field has reserved the pavilion at the fire department for our annual field day. The proposed date is August 28th.
- Liability insurance coverage is due for renewal and a new carrier has been retained.
- The New Ham Kit, as printed in the latest QST, is still attracting attention and has generated additional requests for information. Any members wishing to upgrade their license are invited to contact W2RBJ regarding VE sessions.
- Don, KB2CDX presented the Treasurer's report. Dues for 2021 are being collected, and the sales of hats have generated income for the Echolink fund.
- Old Business: None, clarification of proposed Hamfest date.
- New Business: Fred, AJ4CN is starting a Technician class. Particulars can be had by contacting Fred at: AJ4CN@TWC.COM. Bryan, W2RBJ will add the information to the club website. We will explore the possibility of payment of ARRL dues via the website. Jim, KC2HRO suggested Zinmo in lieu of Paypal.
- Informal traffic revealed that members are busy with a host of activities, including Twister, Raspberry Pies, shack pictures, 10 meter operation, cold weather, wood working, Hamshack Hotline, Winlink, Red Cross, cable labeling, vaccinations, antenna project delays due to weather, and of course, well wishes for continued good health during this troubling pandemic.
- The meeting was concluded at 7:39 and the repeater was returned to normal amateur use.
- --de Steve VanSickle WB2HPR / Secretary

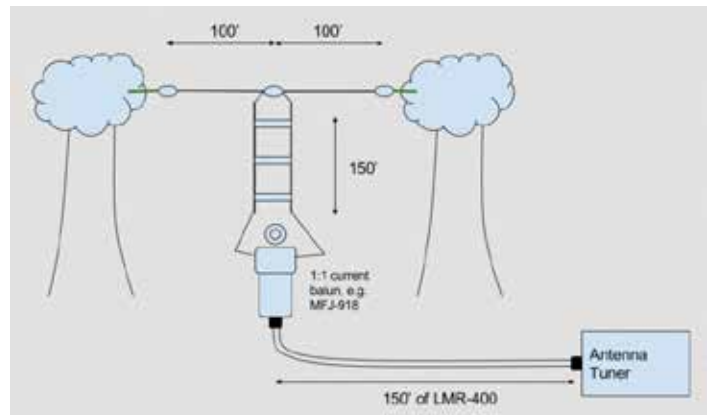
Transmission Line Basics

By Steve VanSickle, WB2HPR

In a previous article, I stressed the need to pay particular attention to the type of materials that we select for our wire antennas. This time, I'd like to focus on the choice of antenna feedline type and materials of construction. The idea is simply to construct (or purchase) antennas and feedlines that will provide the greatest service life and perform the duty of efficiently transferring RF energy to and from our radio equipment.

The type of feedline you employ with a particular antenna type will usually be governed by the overall antenna system design. In the case of a basic HF wire dipole, for instance, it is quite common to use coaxial cable (coax) from the antenna feed point (most often, the center point) directly to the transmitter or antenna tuner. This is about as basic as it gets, with the coax providing a flexible connection, with small surface area and reasonable tensile strength between the antenna and entry point of the station. The advantage is that the cable is shielded, and can be routed to the radio with relative ease.

This type of transmission line is referred to as unbalanced. At the antenna feed point, a balun may be used to ensure that any reflected RF does not find its way back to the station on the outer surface of the shield. The coax is self-shielding, and provided that you have used a balun and the antenna is cut to the frequency in use, the cable will efficiently couple RF signals between the station equipment and the antenna itself. The degree of shielding is dependent on the type of shielding and the manner in which it is constructed. Again, you get what you pay for!



A common set up using ladder line, a balun and coax

Case in point: during the height of the CB radio craze, large quantities of coax were produced – some excellent quality and others – not so good. Often, the shields were loosely woven with a low percentage of coverage. Some of this type of inexpensive coax remains in various supply chains and is something to be mindful of. It usually has contaminating jacket material, and will result in noisy reception and RF interference. It only makes good sense to purchase coaxial cable from reputable suppliers, and get the best that your budget will allow. Buy cheap – buy twice! The same reasoning applies to the connectors that you use on your cable. Get the best that you can obtain, and install them correctly. Not sure how? Get hold of another club member and enlist their help. Their experience will save you time, money and frustration.

Getting back to our basic wire HF wire dipole, another type of transmission line could be “open wire” feeders – popularly known as window line or ladder line. This could take several forms, and could be home brewed, or factory made. The advantage of using ladder line is that it lends itself to making your basic dipole a “multi-band” antenna. By using an antenna matching network (antenna tuner), your dipole can be used on multiple HF bands. Ladder line is not shielded, and special considerations need to be observed when it is routed between the antenna feed point and the station. However, it is balanced, and is very efficient, with high common-mode noise rejection. Again, you can buy good quality ladder line by dealing with known suppliers, like those you see who advertise in QST. Points to consider: are the individual conductors made of soft copper wire, or hard-drawn solid copper? Also, make sure that the insulating jacket is UV rated. Another advantage of ladder line is that there is no need for a balun at the antenna feed point. However, if your antenna tuner is not designed for use with ladder line, you will need to use a balun between the ladder line and the tuner RF output connector.

Which ever type or transmission line is chosen, you need to weigh price/quality and materials of construction when selecting your coax or ladder line and connectors. And again, carefully consider how you will weather-proof connectors to ensure reliability. The antenna is the biggest and most important part of your station. The time you spend in selection and construction, as well as installation, will pay great dividends in the form of a reliable efficient antenna system for your station.

For further information, I highly recommend resources such as the ARRL Antenna Book, QST, or The ARRL Handbook, as well as other League publications. As always, observe good safety practices and plan your installation carefully.

Next time – coupling your transmission line to your station equipment.

The History of Ham Radio: Crossings II—Ardrossan

Chris Codella, W2PA, author, John Pelham, W1JA, editor, Phil Johnson, W2SQ, editor

(Editor's note: By special arrangement with the authors, Sidebands is pleased to present this multi-part series on the history of ham radio. Subsequent chapters will be published in future monthly editions of the newsletter)

Paul Godley slept well during his six-day Atlantic voyage, catching up on the sleep he lost during the intense organizing activities in the run-up to the transatlantics project. Arriving in England on 21 November 1921, he was unexpectedly met by H. J. Tattersall, Superintendent of the Marconi Company in Southampton, who helped him deal with various customs problems. A recently imposed import duty would have caused his equipment to be held up for weeks. Instead, they negotiated for Godley to leave a \$100 deposit to be returned when the equipment again exited the country.

Moving on to London, he attended meetings of the Wireless Society and the Royal Society of Arts. There, he heard a lecture by Fleming, and met other people prominent in radio including Marconi, who expressed confidence in his ultimate success and asked Godley to pass on his regards to the American amateurs, telling him, "I, too, am but an amateur!"

A group of local hams arranged a dinner in Godley's honor, where he was surprised to meet two "O.W.s" among the attendees. Despite the group's hospitality, he still detected in their demeanor that the British hams were "unable to decide whether I was just a 'nut' or whether I was really confident of our ability to put the thing over."

An article appeared in the London Star on 30 November describing the events leading up to the test. Its author asserted that Americans blamed the failure of the February tests on incompetence of the British hams (as well as QRM from oscillating regenerative receivers), and that was why they had sent over "one of their hardest of 'hard-boiled hams' with a brand-new bag o'tricks and their good wishes. He will show us how it should be done," they wrote. Godley later remarked dryly, "And now you know why I went to Scotland!!"

Godley had the opportunity to have a broad discussion of amateur radio with E. H. Shaughnessy, chief engineer for the wireless section of the General Post Office (GPO)—the main radio authority in Britain and the body responsible for the severe operating restrictions in effect at the time. The official believed that wireless operation such as existed in the US could not work in Britain because of the island's comparatively small size and its proximity to foreign countries—they would have to consider effects on international communications. He was also amazed at the rapid development of radiotelephone broadcasts in the US and dubious of such a possibility in Britain.

Despite Shaughnessy's skepticism, Godley was confident that eventually the restrictions there would be lifted once the British public began to understand the possibilities of radio in public hands. It was something he was certain had not yet been fully grasped in the US, either, even by amateurs, writing,

"I wonder if even here in America we amateurs realize that today the state of the art makes it possible for the President of these United States to speak directly to every citizen in the land? One's imagination cannot help but see the immense value of such an arrangement during times of national peril."

He fully appreciated the impact a successful transatlantic crossing could have.

At the Wembley Park home station of Commander Frank Phillips, one of his English hosts and designer of the grand prize Burndept III receiver, Godley set up some of his equipment to have a listen to the local radio environment. He did not like what he heard. Below about 275 meters, harmonics from high power commercial stations filled the London air waves. On one GPO station in particular he was amazingly able (and "highly amused") to count thirty-nine harmonics. He was also surprised and dismayed to hear the high level of QRN, which was mostly nonexistent during winter in the States.

The harmonic QRM, the intense QRN and five days of foul weather in London all convinced him to move to Ardrossan, a small fishing village twenty miles west of Glasgow in Scotland, a site he had already chosen as an alternate. The Londoners warned him just how miserable Scotland would be at this time of year, including the "ill effects of the Scotch whisky which one would most certainly be unable to dodge." But his mind was made up.

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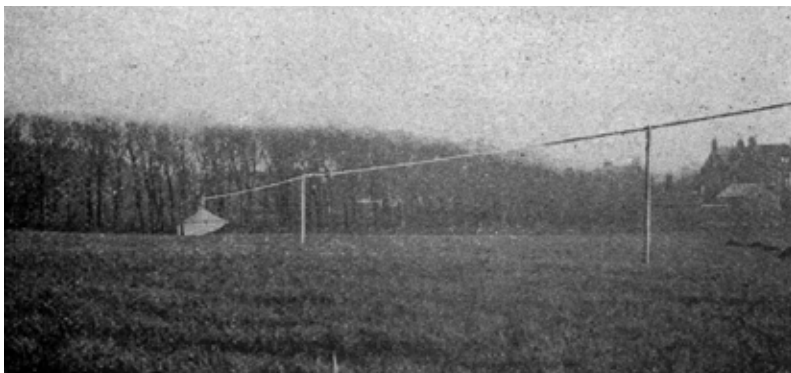
The History of Ham Radio...

He now needed a permit extension to be able to operate a receiver in Scotland. After failed attempts by British test organizer Phillip Coursey and others to get one, Godley decided to go to the GPO himself and managed to see an assistant secretary named J. W. Wissenden who, after intently listening to his story, was able to get the permit issued and arranged for it to reach Glasgow in time for the planned start of operations.

On his way north, Godley took a side trip to Aberdeen at the request of the R.C.A. committee investigating the 2QR reception report. His visit partly contributed to their eventual findings. There he met the Miller brothers at their electrical shop, then drove into the countryside to meet Benzie at his station. Impressed with Benzie's antennas and enthusiasm, in spite of being handicapped by a lack of sophisticated equipment, Godley later wrote, "He had the bug badly, and would come nearer to feeling at home were he to be suddenly dropped into the thick of amateur activities on this side than any other whom I met." He complemented Miller and Benzie for their "sportsmanlike spirit," as well as that of the Robinsons in the US. The British amateurs' consensus view seemed to be that the two had very likely only heard a British amateur station.

Arriving in Glasgow on Saturday evening, 3 December 1921, Godley slept late into Sunday morning in an attempt to shake off an oncoming head cold. The temperature was near freezing there and his hotel room at the Central Station Hotel was unheated. Sick, tired, and cold, he now had three days to get ready.

The next morning he met his local contacts, picked up new supplies including a tent, and boarded a train for Ardrossan in late afternoon. Arriving, he checked into the Eglinton Arms Hotel. The awful weather, which had been a constant, cold rain, eased somewhat toward evening. With only thirty hours to go until the tests were to begin, Godley went out that night to scout beach locations that looked promising on the map as ideal ones for putting up his Beverage receiving antenna. To his dismay, he discovered both local beaches were at high tide and flooded. Using them would be impossible.



Operating tent and Beverage wire feed point

In a driving downpour the following day, and with the help of some local officials, he at last found an empty field that looked usable. After a brief respite at the hotel to warm up, they set off again to talk with the land owner. "I had been congratulating myself all along on the good fortune of having two interpreters with me," he wrote, "because I must admit I found considerable difficulty in understanding English as spoken in Scotland." The land owner, Mr. Hugh Hunter, was excited by the project and eagerly allowed them the use of his field.

The Marconi Company's Inspector D. E. Pearson, who would act as "checking operator" with Godley during the operation, joined him in Ardrossan to help get set up for the test.

Hunter's field was slippery with seaweed used for fertilizer and walking was difficult as they began assembling the receiving station. A horse-drawn wagon carrying the supplies had trouble reaching the set-up location and had to be partly unloaded some distance away. They put down floor boards over the mud and raised the tent which promptly blew down. Pre-built two-by-four beverage poles they had bought in Glasgow were spread out into the field. They had prepared enough poles and wire for a 1300-foot Beverage wire, 12 feet up, along a line oriented 26 degrees north of west—"directly towards 9ZN."

By 4:00 p.m. it was dark and still raining but they continued to work until 6:30. Later that evening, back at the hotel, Godley connected a receiver to a 60-foot antenna wire and heard many 600-meter stations and far less noise than in London. Exhausted and disappointed at not getting operational as originally planned, he retired for the night, at least reassured that the improved on-air conditions had justified his move.

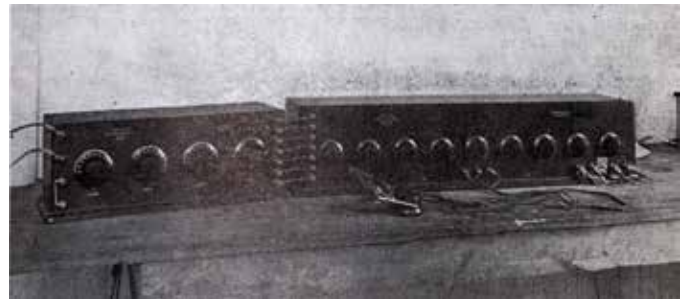
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The History of Ham Radio...

They were back out at dawn on 7 December, and with additional local help worked all day setting up the receiving station. By nightfall at 4:00 all the poles were up and the Beverage wire had been strung. They continued to bury ground plates and connected a variable, non-inductive resistor to complete the antenna. After a quick dinner at the hotel, they returned to hook up the receiving equipment. Everything was working so far, and just before midnight they were receiving signals from European stations including FL in Paris, POZ in Nauen, Germany and many more on 600 meters.

The receiving equipment included a Paragon regenerative receiver with a DA-2 detector-amplifier and a 10-tube superheterodyne receiver with external beat oscillator for CW. A 60-foot wire was put up in a tree and the incoming 600-meter signals were used to tune it up for maximum sensitivity on shortwaves. Around 1:00 a.m. they began listening on the Beverage, hearing a few commercial harmonics as expected, but far fewer than in London. The Paragon connected to the Beverage mirrored the unplanned handshake between the two inventors aboard the Aquitania.

Only a half hour into listening they already began to hear signals unmistakably coming from the US, possibly identifying 1AEP and definitely 1AAW on 270 meters. The signals were fluctuating between too weak to read and booming in loudly, but Godley and Pearson were elated, having achieved their primary goal on the very first night! They took a break around 2:30 to inspect the antenna and repair a wire break and a downed pole caused by the high winds. Hearing no further signals from the US and rising QRN, they quit, tired but happy, at 6:00 a.m. after 21 hours of continuous work in the cold wind and rain.



Godley's superheterodyne receiver

Although the weather finally cleared the following evening, 8 December, they heard no amateur signals at all. Some 600-meter signals were noticeably weaker than on the previous night indicating that conditions were probably worse overall. CW reception was particularly hindered by harmonics of high power stations, especially the one at Clifden in Ireland.

As the clear weather chilled further, Godley's head cold worsened. "Pearson being a Scotchman seems to be immune," he wrote, "and no doubt would suggest that I don't drink enough of Scotland's Honeydew." They closed down at 6:00 a.m. after a futile night of noise-filled listening.

The rain returned on 9 December, and after listening for free-for-all spark signals, they switched to CW and immediately heard 1BCG very steadily around 12:50 a.m. on 230 to 235 meters plowing right through the QRM from Clifden. His signals improved even more after adjusting the Beverage. "He is calling 'PF test' and signing. Sweetest song I have ever heard," wrote Godley excitedly in his log, "He fades out for 30 seconds every 3 or 4 minutes but always comes back strong and steady."

Godley had chosen the Beverage antenna after hearing the high QRN in London, and abandoned plans to also erect a vertical. They tuned the Beverage by running back and forth from the operating tent to the far end where the variable resistor was located. He later speculated that, since on the ninth they had optimized it on the signal from 1BCG and then left it there, this was the only wavelength for which it was ever properly adjusted.

They shut down at 6:00 a.m. after hearing no other stations, but started up again briefly just to copy MUU. Upon hearing it sending "Godley's message," he was struck by the reality that they were indeed making history. Suddenly feeling held back, he wrote, "I would give a year of my life for a 1-KW tube transmitter ... aerial .. license... To be forced to listen to a Yankee ham and only listen is a hard blow."

The New York Times reported the news on 10 December without detail, saying that "between 15,000 and 20,000 amateur radio stations in the United States are taking part."

Godley wired Coursey with the report of hearing 1BCG. Greatly impressed by the quality of its signal, he and Pearson speculated about what equipment that station could possibly be using, with Pearson unable to believe it was less than 1 kW.

-continued on page 11-

The History of Ham Radio...

The signals had been so “unusually steady” (in frequency) that he was able to take advantage of resonance in the headphones to boost its readability—not knowing that was exactly what its designers had hoped for. So good was the signal that Godley was able to detect an operator change, presumably by changes in fist, the particular style with which each operator sends Morse code.

He decided to wire Armstrong directly to suggest he try sending a message the following night. But Godley’s message was mishandled and came through as “send MGES.” So the following night with signals coming in very well, instead of sending actual messages 1BCG comically kept sending “MGES” over and over all night long through fading and static (and reflected in Godley’s running log annotated with time stamps).

They heard and identified several other stations on both CW and spark that night, including many who were calling other stations. 9ZG was recognized by fist though he was not heard to sign his call. After a productive night of listening and logging, they closed down at 6:50 a.m. to copy MUU.

Godley cabled 1BCG with a copy of his note to Coursey. He imagined the gang there rejoicing at their success as he and Pearson marveled at the performance of 1BCG, the highlight of the test and steadily the strongest, most constantly copyable signal.

Many other stations were heard that night but not identified, sometimes simply because they failed to sign their calls while making local contacts, a practice Godley made a point of condemning. Between 4:30 and 6:00 a.m. there were sometimes so many stations coming through at Ardrossan that the QRM made copying difficult. It reminded him of familiar conditions around New York, but with much weaker signals.

The next night, Monday, 12 December, they again heard lots of weak stations and identified many from the first and second district, on spark, CW or ICW. Everything faded out completely by around 4:00 a.m. On Tuesday, Signals had been coming through in London as well, and Coursey radioed ARRL headquarters with, “Many your stations heard by British amateurs. Details later.”

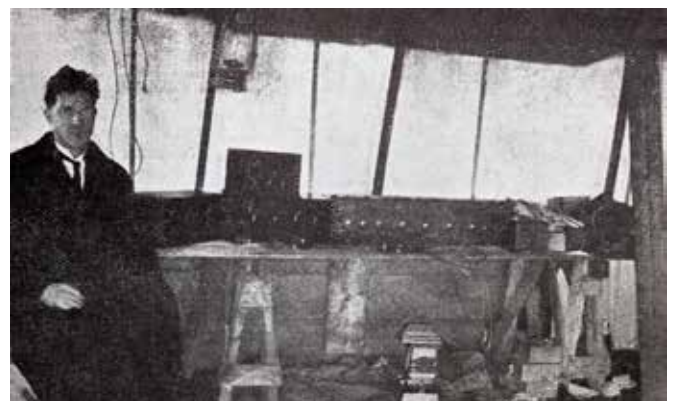
Godley and Pearson, having been awake for 24 hours, overslept and did not begin operating until 1:30 a.m. that night. Although the weather was clear, on-air conditions were poor and they heard no identifiable signals from the US.

On 13 December into the fourteenth, they slept late again. According to a letter from Coursey, US stations had been heard in London in the early morning on modest equipment, but mostly hearing QRM from harmonics and commercial stations.

It was overcast, and still quite cold and windy. The oil heater was not working well so they moved it under the operating table. They then arranged the equipment to permit them to crouch down near the heater with their heads just above the table, so that “the greatest possible portion of our bodies was exposed to what little heat was radiated by the stove.” At one point, they both fell asleep against the desk. As they slept, the stove began to smoke. Godley awoke suddenly, startling Pearson who gave him a strange look. Some of the papers along with the underside of the table had turned black, and so had the portion of Godley’s face that had

lain across a crack in the table. After another disappointing night of hearing no signals, they quit at 3:10 a.m. “very tired and sleepy... both greatly in need of rest.”

At times they were so tired it was difficult to go outside to check the antenna. The static, the harmonic QRM, the cold and wet were hard to endure. Godley was also battling a worsening head cold that taxed his energy. Fearing pneumonia, he considered quitting but was inspired to continue by Pearson’s operating ability and enthusiasm. And, of course, the signals coming through kept them both excited and interested.



D. E. Pearson, in the operating tent at Ardrossan

-continued on page 12-

The History of Ham Radio...

Wednesday, 14 December into Thursday, the weather was finally beginning to warm just a bit. But light static, commercial stations and harmonics were all that they heard, with very few signals of any kind coming through. They quit early again at 4:30 a.m.

The following day they were “up all day getting photos of set-up; also had several visitors,” one of whom voiced incredulous disbelief upon being told where the various signals were coming in from—“I know a bit o’American swank when I see it,” he said. With much worse static that night they shut down at 4:40 on Friday morning after another session without hearing any US signals at all.

Godley originally intended to return home by Christmas to spend it with his family. But once he decided to operate from Scotland he realized that it would not be possible. He could not get back to Southampton in time to catch the Aquitania on 17 December due to the schedule they had set up and the extra travel involved. So, before going north he had booked himself on the Olympic, scheduled to sail on the twenty-first. Now he could use the extra time to “pay proper respects to various men who had been of great assistance,” get his equipment through customs, and retrieve his deposit.

He’d have to make it to London by Monday the nineteenth in order for this new schedule to work out. So, on Friday afternoon he and Pearson decided to forego another night of listening in favor of dismantling the station. That way Godley could return the equipment he had borrowed in Glasgow before everything closed down there, as it normally did at noon on Saturdays. By early Friday evening everything had been packed up and later that night they were back in Ardrossan, ready to board the train to Glasgow in the morning.

Besides the schedule advantages, they later were glad they had quit when they did because the tail end of a cyclone hit Scotland that night bringing higher winds than at any time during the operation. The same storm had flooded London and battered the Olympic on her way in, causing two deaths aboard and damaging equipment. Godley speculated that the storm might have actually played a part in the success of the tests. It had originated in the Gulf of Mexico, proceeded up the east coast of North America, crossed the Atlantic and brushed by the British Isles before going on to Norway. That meant the storm had been located between their receiving station and the US East Coast during the time when they had heard the largest number of signals.

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The editor of the popular British science magazine “Conquest” sent Paul Godley a poem during the test that neatly summarized his various trials:

If our climate is un-Godley,
 If the weather seem to Paul,
 If our static strikes you oddly,
 If you hear no sigs at all,
 If you get harmonics down the scale,
 As far as tuners go,
 If the dialect in Scotland,
 Doesn't sound like Ohio,
 If twenty thousand hard boiled hams
 Are waiting on your word,
 If but the thought of hearing them
 Seems very near absurd,
 If, – in the chilly morning hours, –
 The faintest sigs come thru,
 We'd like to hear about it,
 If it's all the same to you!!

A “Perfect Coronal Mass Ejection” Could Be a Nightmare



A new study in the research journal *Space Weather* considers what might happen if a worst-case coronal mass ejection (CME) hit Earth — a “perfect solar storm” -- if you will.

In 2014, Bruce Tsurutani of Jet Propulsion Laboratory (JPL) and Gurbax Lakhina of the Indian Institute of Geomagnetism introduced the “perfect CME.” It could create a magnetic storm with intensity up to the saturation limit, a value greater than the Carrington Event of 1859, the researchers said. Many other spaceweather effects would not be limited by saturation effects, however. The interplanetary

shock would arrive at Earth within about 12 hours, the shock impingement onto the magnetosphere would create a sudden impulse of around 234 nanoteslas (nT), and the magnetic pulse duration in the magnetosphere would be about 22 seconds. Orbiting satellites would be exposed to “extreme levels of flare and interplanetary CME (ICME) shock-accelerated particle radiation,” they said. The event would follow an initial CME that would “clear the path in front of it, allowing the storm cloud to hit Earth with maximum force.”

The Solar and Heliospheric Observatory (SOHO) has observed CMEs leaving the sun at speeds of up to 3,000 kilometers per second, and many instances of one CME clearing the way for another have been recorded.

The CME’s 12-hour travel time would allow little margin for preparation. The CME would hit Earth’s magnetosphere at 45 times the local speed of sound, and the resulting geomagnetic storm could be as much as twice as strong as the Carrington Event. Power grids, GPS, and other services could experience significant outages.

More recent research led by physicist Dan Welling of the University of Texas at Arlington took a fresh look at Tsurutani and Lakhina’s “perfect CME,” and given improvements in spaceweather modeling, he was able to reach new conclusions.

Welling’s team found that geomagnetic disturbances in response to a perfect CME could be 10 times stronger than Tsurutani and Lakhina had calculated, especially at latitudes above 45 to 50 °. “[Our results] exceed values observed during many past extreme events, including the March 1989 storm that brought down the Hydro-Québec power grid in eastern Canada, the May 1921 railroad storm, and the Carrington Event itself,” Welling summarized.

A key result of the new study is how the CME would distort and compress Earth’s magnetosphere. The strike would push the magnetopause down until it’s only 2 Earth-radii above Earth’s surface. Satellites in Earth orbit would suddenly find themselves exposed to a hail of energetic, and potentially damaging, charged particles.

Other research has indicated that phenomena such as the Carrington Event may not be as rare as once thought. A much weaker magnetic storm brought down the Canadian Hydro-Québec system in 1989.

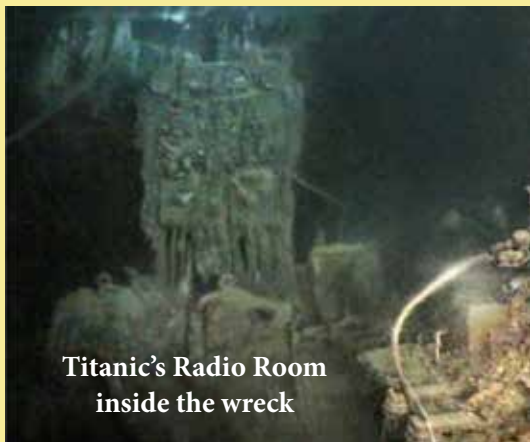
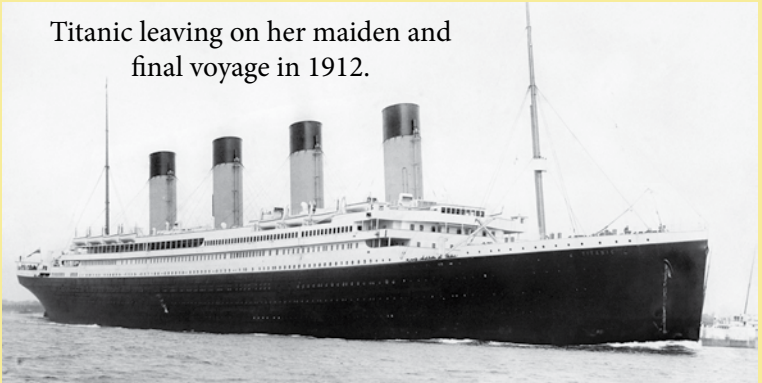
Scientists believe a perfect CME will happen someday. As Welling et al conclude, “Further exploring and preparing for such extreme activity is important to mitigate spaceweather-related catastrophes.”

In July 2012, NASA and European spacecraft watched an extreme solar storm erupt from the sun and narrowly miss Earth. “If it had hit, we would still be picking up the pieces,” said Daniel Baker of the University of Colorado at a NOAA Space Weather Workshop two years later. “It might have been stronger than the Carrington Event itself.”

Plans to Retrieve Titanic Wireless Equipment Put on Indefinite Hold

RMS Titanic, Inc., (RMST) the company that owns salvage rights to the Titanic shipwreck, has indefinitely put off its plans to retrieve the vessel's radio equipment for exhibit. The company cited the coronavirus pandemic for the delay, according to a court filing the company made on January 29. The Atlanta-based company said its plans have faced "increasing difficulty associated with international travel and logistics, and the associated health risks to the expedition team." RMST's primary source of revenue comes from its exhibits of its vast collection of Titanic relics, which have been closed or seen only limited attendance due to virus-related restrictions.

Titanic leaving on her maiden and final voyage in 1912.



Titanic's Radio Room inside the wreck

RMST — a subsidiary of Premier Exhibitions and the "salvor-in-possession" of the Titanic wreck site — said its planned expedition to recover the ship's wireless station equipment remains a top priority, however, and will "take place as soon as reasonably practicable." The Marconi-equipped station transmitted the distress calls after the Titanic (on its maiden voyage) struck an iceberg some 370 miles off the coast of Newfoundland in 1912 and began sinking. The transmissions, heard by some nearby vessels, have been credited with helping rescue some 700 passengers in lifeboats deployed from the Titanic, but about 1,500 passengers were lost in the disaster. RMST has said the radio transmitter could unlock some of the secrets about a missed warning message and distress calls sent from the ship.

The coronavirus pandemic aside, RMST has been in an ongoing legal battle with the US government over whether the recovery operation would be legal. In May of 2020, a US federal judge in Virginia gave permission to retrieve the ill-fated ship's wireless gear. The judge ruled that the radio gear has "significant historical, educational, scientific, and cultural value" and could soon be lost within the rapidly decaying wreck, and said the company would be permitted "minimally to cut into the wreck" to access the radio room.

RMST has said it would try to avoid cutting into the ship, noting that the radio room may be reachable via an already-open skylight. But, the National Oceanic and Atmospheric Administration (NOAA) has contended that the retrieval expedition is still prohibited under US law and under an international agreement between the US and the UK. NOAA has argued that any benefit to be realized from cutting into the vessel to recover the Marconi equipment would not be "worth the cost to the resource and not in the public interest."

RMST sought permission to carry out what it called a "surgical removal and retrieval" of the Marconi radio equipment, which is in poor shape after more than a century under water. The undersea retrieval would mark the first time an artifact was collected from within the Titanic, which many believe should remain undisturbed as the final resting place of the victims of the maritime disaster.

The wreck sits on the ocean floor some 2 1/2 miles beneath the surface and remained undiscovered until 1985.

RMST plans to use a manned submarine to reach the wreck and would then deploy a remotely controlled submarine to retrieve the radio equipment.

Shack of the Month - KC2FCP Tom Scorsone



Tom's main rig is a Kenwood TS990, with an ICOM 7600 serving as his backup.

In addition, he has two power amps -- an Alpha 8410 and a Heathkit SB220.

He uses an Electro Voice RE 320 microphone to ensure quality audio.

Tom also maintains a full AM station.

His antenna for HF work is a fan dipole.

Let Sidebands Feature Your Shack!
Send photos and a brief description to W2RBJ@outlook.com

CALENDAR

March 10, 2021 - 7 pm - Monthly club meeting over 147.270 club repeater.

March 24, 2020 - 7 pm - EGARA Roundtable on 147.270 repeater

April 14, 2021 - 7 pm - Monthly club meeting, in-person, Masonic Temple. PPE and social distancing required. Details to be emailed prior to meeting date. Members must make a reservation to attend, as space will be limited.

Pro Tip: Going Digital? - Turn Off ALC!



When using an SSB transceiver for digital modes like PSK, RTTY, or one of the WSJT family, the ALC (automatic level control) system, including speech processing, should be turned off.

If you can't turn ALC completely off, set your audio level so that the ALC meter shows no activity during transmissions.

ALC changes the signal level, and can distort the modulation and making it harder to decode.



For Sale

- **FREE Steel Shelving:** Four (4) Steel shelves, never used, size approx.. 16 x 36 in. About 3/4 in thick. Removed from a new office storage cabinet. Powder coated – black Matte finish. Also – several sheets of pegboard. Can easily be cut for easy transport – in good shape, brown color, unfinished. Use 'em to hand stuff in your workshop or shed. All for FREE!
- **Arrow Model 52-S4** - 4-Element 6 Meter Yagi antenna in good condition. \$75.00

For above contact Steve at: svansick@nycap.rr.com

- **IFR-1100S Service Monitor.** With Spectrum Analyzer and Oscilloscope. Tested and Calibrated last year. AM - FM, CTCSS Generator, VGC. \$875.00
- **Military Watt Meter AN/URM-120 B/U 2** to 1000 MHZ Complete with Carrying Case. In EC. \$90.00
- **Yaesu FT-2900 Programing Software** by RT Systems Cable included. Registered, includes password. \$29.00
- **UHF RX Amp**, 1 input 3 outputs. 12V. SO-239s \$10
- **HF 440 Mhz Fast Scan TV Transceiver** including B&W Camera. \$65
- **Several old desktop and mini notebook computers** good for projects. Good deals!

For above, contact John at: radiowizz@aol.com

- **Ameritron 811 Amplifier** with latest updates. Worn parts replaced. Does not include tubes. Asking \$450.

Contact: wo2h@nycap.rr.com or phone 518-860-4971

- **ICOM 7100**, 100w HF/50mhz, 50w 144mhz, 35w 430/440mhz. \$475.
- **Yaesu 891**, Mobile HF / 6 meters. \$425.

For above contact Tom, KC2FCP, at 518-272-1494

- **Linksys Router EA6300**, \$25.00
- **Eagle One 31ft Vertical with tripod mount.** 40M – 6M (80M with radials) Need 4 to 1 Balun to use it. \$75.00

For above contact Fred, AJ4CN at: aj4cn@twc.com

Got stuff to sell, swap, or looking to buy?

List it here for FREE!

Email W2RBJ@outlook.com

The East Greenbush Amateur Radio Association

Organized in 1998, by Bert Bruins, N2FPJ, (SK) and Chris Linck, N2NEH, the East Greenbush Amateur Radio Association, an ARRL affiliate, is committed to providing emergency services, educational programs, and operating resources to amateur radio operators and residents of the Capital Region of New York State. The club station is W2EGB. The club also has several VHF and UHF repeaters open to club members and the public.