Sidebands

The Newsletter of the EAST GREENBUSH AMATEUR RADIO ASSOCIATION

W2EGB

Field Day Wrap!

www.egara.club

September 2019

A Day Trip to Radio History

The seeds of radio's history can be found just three or so hours away from Albany. Where you may ask? At the Antique Wireless Association's Museum located just off the Thruway in Bloomfield, New York -- a pleasant drive through the Mohawk Valley. In August, club members Steve VanSickle, WB2HPR and Bryan Jackson, W2RBJ, decided to take a day and check it out. They weren't disappointed.

Occupying some 10,000 square feet of space, the AWA offers an expansive array of artifacts that document nearly two centuries of communications progress. Begun in 1952, the museum is home to everything from a sketch book used by Samuel Morse -- the inventor of the Morse Code, to the original breadboard transmitter designed and built by Major Edwin Armstrong -- the inventor of FM radio.

Steve looks on as our guide explains the workings of an early spark transmitter at the Antique Wireless Association's Museum.

Steve and Bryan's visit started with a warm welcome by the museum's staff, followed by a personally guided tour which lasted some two hours. The exhibits begin with two divergent modes of communications -- a telegraph office which is opposite from a display that chronicles the development of the mobile telephone. Next is a radio "Hall of Fame" that highlights the many people who pioneered both wired and wireless communications. The names here include the familiar and the obscure, ranging from Edison, Westinghouse, Tesla and Sarnoff to lesser known inventors and researchers such as Orsted and Galvani.

As the tour progressed, so did the advancements in communications being displayed. Telegraph keys led on to spark transmitters, Victrolas, crystal radio sets built from cardboard oatmeal containers, crank telephones and early vacuum tubes. Along the way, there is an exact replica of the radio room that was aboard the Titanic. The rest of the exhibit includes rare original pieces of Marconi Wireless Company apparatus discovered in attics and collections around the world.

For Amateur Radio enthusiasts, the AWA's collection includes a working 1914 spark type transmitter, as well as early vacuum tube ham equipment from 1923, when most equipment was home made. Commercial Amateur equipment, which became more readily available in the 1930's and post-war, is represented by rare models from famous manufacturers such as

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Steve sends his calls by "brute force" using the 1914 spark transmitter

In This Issue

Next EGARA Meeting - September 11, 2019

Field 2019 Racks Up 2,142 Points for EGARA

Members of the club's Field Day team racked up a total of 2,142 points during the annual event that was held during the weekend of June 22-23. Despite propagation conditions that were often less than ideal, a total of 464 contacts were made over the 24 hours that Field Day ran. The club scored double points for making 30 digital contacts and one by CW, as well as earning a 2x multiplier for operating on battery power during the entire event.

Setup and cleanup for this year's Field Day also went smoothly thanks to an excellent turnout by club members.

EGARA's Field Day also drew visits from several ARRL dignitaries, including Eastern New York Section Manager John Fritze Jr., K2QY, Hudson Division Director Ria Jairam, N2RJ, and Fred Halley, W2EMS, who serves as the Northern District Emergency Coordinator.

Nick Field, KD2JCR, carries one of the massive batteries used to power the club's Field Day gear

Additional Bonus Points were earned in the following categories:

- 100% emergency power 100
- Media publicity 100
- Public location 100
- Public information table 100
- Site visit by invited elected official 100
- Site visit by invited served agency 100
- Educational activity 100
- Youth participation 40
- Safety officer 100
- Social media activity 100
- Entry submitted via web 50

Total bonus points 1,090

Field Day for 2020 is set for the weekend of June 27-28.

Field Day 2019 Gallery

ARRL's Ria Jairam, N2RJ, and Fred Halley, W2EMS, (R) stopped by say hello and were greeted by club members Steve Marsh, KC2USX and Chris Linck, N2NEH (L)

Walt Synder, N2WJR, operates while a young visitor listens in

Steve VanSickle, WB2HPR scores extra points with CW as Bill Leue, K2WML handles the log.

ENY Section Manager John Fritze Jr., K2QY, checks in with Dave Smith, WA2WAP

A Trip to Radio History...

Collins, Hallicrafters, National, and Hammarlund. The modern era is displayed showing SSB transceivers from Japan.

During wartime, radio has also played an important roll and this is highlighted by the museum's complete, working radio room from a B-17 bomber. Among these artifacts is an American-made military radio that sits side-by-side next to an exact knock-off made by the Russians after it captured a downed U.S. aircraft.

An American-made military rig (L) sits next to an exact Russian knock-off (R).

One of the more fascinating stops on the tour can be found at the exhibit featuring early television receivers. Items here include televisions that relied on mechanical spinning disks to create their images, as well as early console sets that used mirrors to display pictures. These systems include demonstrations by working models.

Another piece of rare radio history can be found sitting in a display case not far away -- the original "breadboard" transmitter used by Major Edwin Armstrong to demonstrate his discovery of wide-band FM radio. The transmitter is the actual one used by Armstrong atop the Empire State Building in 1934 to demonstrate his improved high-fidelity radio system to RCA's David Sarnoff.

Across the hall is a large display of teletype machines of every kind, dating from the turn of the last century to those that were still in use decades later.

The 250KW Collins transmitter once used by the Voice of America to broadcast to the world now sits on display at the AWA museum in Bloomfield

As the tour continues, the next stop is the control room of the largest Collins Radio AM Shortwave transmitter saved from extinction.

Originally part of the Voice of America broadcasting station in Delano California, the AWA was able to acquire the last compete Collins 250,000 watt (1 Megawatt PEP) Model 821A-1 HF Autotune transmitter in the world.

Today, it is on display following months of hard work to dismantle the massive 22 ton unit and relocate it across the country to the museum.

Around the corner is the full replica of a Western Union telegraph office, complete with original equipment. Museum staff regularly demonstrate what it looked like in action when telegrams were the email of their day.

The final leg of the tour takes visitors on to a vast collection of antique radios, with several display cases filled to the brim. Each has been beautifully restored by museum staff to look like it just came off the assembly line. The highlight of this display area is the recreation of a radio store from the mid-1920's.

The AWA Museum is located at 6925 Routes 5 & 20 in Bloomfield, New York and is open every Tuesday from 10 am to 3 pm and Saturdays 1 pm to 5 pm. It is not open when New Year, Easter, Fourth of July and Christmas fall on a Tuesday or Saturday. The adult admission fee is $10, seniors, active military and veterans are $9. Kids and teens are free, as are AWA members. More information, can be found at: www.antiquewireless.org.

Steve and Bryan say it's worth the trip!

The Museum's replica of a 1920's radio store

The Internet's Impact on International Radio

Many broadcasters saved money by moving from high-power shortwave transmissions to the web. But at what cost?
By James Careless, Radio World

During the height of the Cold War (1947–1991), the shortwave radio bands were alive with international state-run broadcasters; transmitting their respective views in multiple languages to listeners around the globe.

The western bloc's advocates were led by the BBC World Service, and included Voice of America, Radio Liberty/Radio Free Europe, Radio Canada International and a host of influential European broadcasters. The eastern bloc's de facto team captain was the USSR's Radio Moscow (with its unique hollow, echoing sound), supplemented by broadcasters in Soviet satellite countries (like East Germany's Radio Berlin International) and allies like Fidel Castro's Radio Havana Cuba.

Then 1991 arrived, and the Cold War apparently ended with the fall of the Soviet Union and the destruction of the Berlin Wall.

In the seeming peace that followed, many governments no longer saw the sense in spending millions on multi-megawatt transmitters and vast antenna farms to keep broadcasting their messages globally.

The leader among them, the BBC World Service (BBCWS), trumpeted the web and webcasting as modern, cost-effective alternatives to expensive shortwave broadcasting (along with satellite radio and leasing local FM airtime in the countries they used to broadcast to). This is why the BBCWS ceased shortwave transmissions to North America and Australia in 2001 and Europe in 2008, while retaining SW broadcasts in less-developed parts of the globe.

"It is my understanding that it was the BBC that started to spread the notion that shortwave was dying or already dead," said Bob Zanotti; co-host of Swiss Radio International's popular "Listener Mailbag" show "The Two Bobs" from 1970 to 1994. (He now runs the English-language Swiss information webcaster www.switzerlandinsound.com)
BBC World Service antennas in Akrotiri, Cyprus.

"Swiss Radio International accepted this uncritically and was the first to announce the complete closure of its shortwave operations. Later, others like Radio Netherlands, Radio Sweden, Deutsche Welle and Austrian Radio followed suit." So did Radio Canada International, Radio Australia, Radio Budapest, Radio Portugal, Radio Finland, Radio Denmark and even Radio Moscow. Renamed Voice of Russia in 1993 (and Radio Sputnik in 2014), this Eastern European powerhouse left the shortwave bands for good on April 1, 2014.

BBC World Service antennas in Akrotiri, Cyprus.

Radio Moscow 50th anniversary commemorative stamp.

Now it is 2019, and another Cold War has resumed with the West on one side and Russia, China, Iran, and North Korea on the other. But this time, many of the powerful international voices that brought Western news and views to nondemocratic countries are now only found on the web — where adversarial governments can easily block them.

"In my opinion, the abandonment of shortwave for international broadcasting was a mistake," said Zanotti. "It was based on what many believed to be the end of the Cold War. However, events since then have proved that to have been a false (and even foolish) notion."

"Today, there is very little uncensored information available on shortwave. Classic information and entertainment are also practically nonexistent," he added. "The clever Chinese strategy seems to have been to wait for all the major western shortwave players to leave the scene, and then move in to fill the vacuum, making China Radio International virtually the only shortwave show in town."

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Internet Impact on Shortwave...

Radio Canada International's Sackville, New Brunswick transmission facility. It has since been demolished.

THE SEDUCTION OF THE WEB

The official reason the BBC World Service moved away from shortwave (although not entirely) was because the web was where most 21st century listeners were going.

"Digital technology has undoubtedly come of age. Now the hype over the internet revolution is behind us, the real benefits to businesses and to broadcasters are shining through," declared then BBC World Service Director Mark Byford when he delivered the 2001 Cornwall Lecture.

"For the World Service, it means that people who could never receive our radio transmissions in the 42 languages can now listen to live output, or catch that program they particularly want to hear, at a time when it suits them, anywhere in the world."

SW broadcasters like the Voice of America would send souvenir cards to listeners who reported when they heard identified transmissions, on what frequency, and at what signal strength and quality.

"For media users, the internet unlocks a whole new world of information tailored to you as an individual," Byford continued. "You can listen to a program when you want. You can have your say to a global audience."

The BBC World Service's web-first focus was subsequently adopted by many state-run broadcasters, who also cut back on their shortwave broadcasts (or left the band entirely) in favor of the web.

There was logic to this argument: "Large government broadcasters, have always tried to reach the 'influencers' in a country; those who might eventually help guide a country's policy and international relationships," said Thomas Witherspoon, editor of the shortwave listener website www.SWLingPost.com. "And the great majority of these influencers, according to audience research, have moved to social media and the internet as a source of information."

A 1960s' vintage National Panasonic multiband shortwave radio receiver.

The unofficial reason for so many governments leaving shortwave was to save money. "Shortwave broadcasting is expensive when compared with streaming or 'broadcasting' online," Witherspoon said. "The power requirements of shortwave transmitters pumping out 50, 250, or 500 kW is substantial, and the infrastructure — the large antennas, feedlines, transmitters, power supplies — all require regular maintenance from expert technicians."

Money was a major factor in the death of Radio Netherlands (in Dutch: Radio Nederland Wereldomroep), which was succeeded in other media (including the web) by RNW Media. But it wasn't the only factor; populism also played a part.

"In 2012, public international radio in The Netherlands had to stop broadcasting, said Jennifer Bushee, RNW Media's communication and stakeholder manager. "The Dutch government had decided to cut the subsidy to Radio Nederland Wereldomroep by 70%. The broadcaster was no longer seen as relevant, and there was a real effort to reduce subsidies from conservative or even more right-wing politicians … So we were cut off and had to go off the air."

ASSESSING THE IMPACT

It is true that the web has changed the very nature of international communications. In the past, only the most powerful broadcasters could address the world, simply because it took massively expensive transmission farms to send the signals out. Today, anyone can do it from the convenience of their laptop computer and their local ISP.

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Internet Impact on Shortwave...

General Manager Jeff White in the control room of WRMI Radio Miami International.

This said, moving away from shortwave has plunged many once-distinct international broadcasters into obscurity — and in some cases, into extinction — precisely because they are competing directly with the millions of streaming services the internet has to offer. (This extra choice has certainly cut into the audience for shortwave radio, as has the growing variety of multiple media sources in countries around the world. This said, shortwave audiences were and are not measured by any ratings services, so evidence as to their decline is mainly anecdotal.)

"What really disappoints me are the international broadcasters who have stopped shortwave in favor of internet, usually because it's much less expensive to operate, but ostensibly because the internet is 'new technology,'" said Jeff White, general manager of the commercial United States-based shortwave broadcaster WRMI Radio Miami International. "Then they end up some months later shutting down their internet broadcasts and websites also, leaving the world with no means of hearing official broadcasts from these countries. This is particularly the case in Europe."

The Control Room in the U.S. government's Edward R. Murrow Transmitting Station near Greenville, North Carolina.

THE SHELL OF A TITAN

In its Cold War heyday, Radio Canada International was one of the world's most listened-to international shortwave broadcasters. Popular programs like "The SWL Digest" made RCI announcer/producer Ian McFarland into a bona fide shortwave star. (Even today, airchecks of the SWL Digest are being shared online.) They were broadcast from RCI's Atlantic Ocean transmission farm in Sackville, New Brunswick.

Sackville's North American/European reach was so good that many international broadcasters rented it as a relay site. (Historical note: According to RCI's website, the first Montreal home of the then-named Canadian Broadcasting Corp.'s International Service was "a former brothel and garment factory."

Founded in 1942 during World War II, RCI prospered until the 1991 thaw in the Cold War. Then the cuts made by successive cash-hungry governments began: First the number of broadcast languages were cut back, followed by the replacement of RCI-produced content with domestic programs made by the Canadian Broadcasting Corp.

Eventually some RCI-produced content returned, but the cuts continued: By 2012, an 80% cut in federal funding forced RCI to abandon SW and satellite radio broadcasting entirely and retreat to www.rcinet.ca. The famed Sackville transmission farm was torn down two years later.

"In the wake of the 80% budget cuts, RCI is down to 23 staff members, editor-in chief included and is now part of Radio-Canada's News department," said Soleïman Mellali, RCI's web editor-in-chief. (Radio-Canada is the country's French-language public broadcaster.) "Content is produced on weekdays to cover all seven days."

It took an extensive amount of staff training to get RCI's web content to its current level," said Mellali. "The team had a solid radio background but felt uneasy about RCI's transition to web-only, which has left them a bit off kilter."

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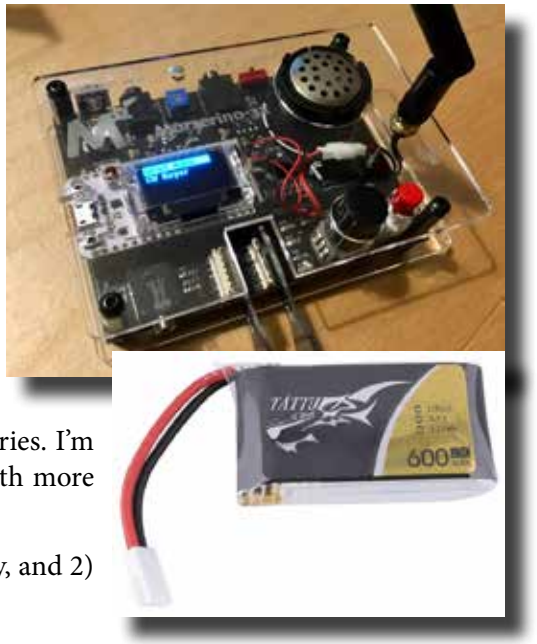
Learning About Batteries

By Dan Romanchik, KB6NU

I often say that getting an amateur radio license is as much getting a license to learn as it is getting a license to operate on the amateur radio bands. Lately, I've been learning about batteries, LiPo batteries to be exact.



It all started when I purchased Morserino unit pictured to the right (http://morserino.info/). The Morserino is a Morse Code learning aid that has a number of unique features. For example, in addition to helping you learn the characters, it's also supposed to help you learn how to copy in your head. It also has a built-in touch keyer function, and a LoRa interface that lets you send and receive code from other Morserino units.

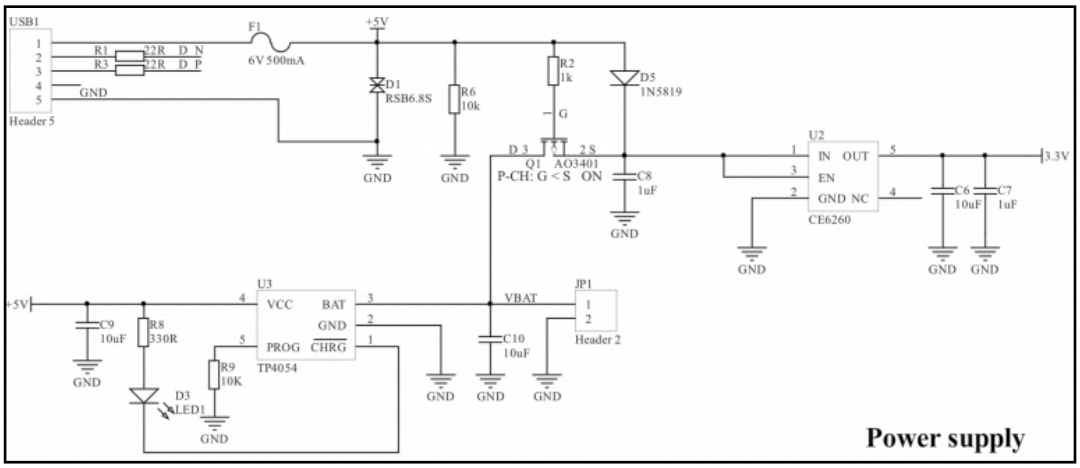
I'll be writing more about the Morserino in a future column, but let's get back to batteries. The kit did not come with a battery. Instead, it was suggested that one purchase a 600 mAh LiPo battery commonly used for powering drones. I found this battery on Amazon, and purchased a six pack of them, thinking that I'd find uses for the other five in some project or another.

Well, sooner than expected, I did find another application for one of the batteries. I'm building a little Arduino project for a client, and I reckon that this, or one with more capacity, will make a great power source for the project.

Now, I have two immediate challenges: 1) Figure out how to charge the battery, and 2) figure out how to connect it to the Arduino.

On the Morserino, the battery plugs directly into a connector on the bottom of the computer board (the white board with the LED display). I knew that connecting the 5V line from the USB connector directly to the battery was a no-no, but I'd lent out the Morserino to a friend, and I didn't have the schematics for the board. So, how they managed to charge the battery from the USB port was a bit of a mystery. I emailed Willi, OE1WKL, the designer of the Morserino, and he sent me a wealth of information. There actually is a battery-management IC, the TP4054, on the board, as seen in the schematic.

He also gave me the part number for the battery's mating connector. He said, "The mating connector for the Molex connector on the battery is a Molex 51006. It is sometimes referred to by vendors as 51005 female, but 51005 is the connector on the battery." You can, of course, buy pre-made cable assemblies on Amazon (https://www.amazon.com/gp/product/B07P54QTR8).



You can also buy lithium battery charging modules (https://www.amazon.com/gp/product/B01LZSC7I8). These modules have a TP4056 on them, which is similar to the TP4054. It's amazing to me that you can purchase ten of these things for less than seven bucks.

So, that's where I'm at right now. Once I get the modules and cables, I'm going to hook it all up and get the Arduino system running from the battery. The next step will be to integrate a small solar panel and run the whole thing from solar power, hopefully.

About the Author: Dan is the author of the "No Nonsense" amateur radio license study guides. You can read his ham radio blog at http://www.kb6nu.com

EGARA June Meeting Minutes

- The June meeting of the EGARA was called to order on June 12th at 7:12 PM by President Tom Scorsone, KC2FCP.
- Tickets for door prizes were drawn, and 6 prizes awarded.
- The Treasurers report was presented by Bryan Jackson, W2RBJ, and approved by the membership. ARRL membership renewals can be made through EGARA – see Bryan Jackson for details.
- New member, Greg Benoit, KB2ROT was introduced and welcomed.
- Preparations for Field Day were discussed. Bryan Jackson has sent press releases with locations for the numerous sites. Russ Greenman, WB2LXC is spearheading the digital effort this year, and a refurbished laptop is dedicated for this mode.
- Dave Smith, WA2WAP donated several PC's for the Field Day logging setup. The need for operators was stressed, especially overnight shifts. Food will be provided by the club. We will operate 2A, with a dedicated VHF station. Field Day pins were distributed complements of EGARA. Operations will commence at 2 PM on June 22nd.
- Also, Hamfest financial results were reviewed, with a recap of what worked and things that may be changed. Reservations for the EGFD facility for 2020 were arranged. Additional inside display and exhibit space is being considered. Also, we will revamp the entry/ticket area, and place traffic cones as needed for better flow. The data base and mailing list is being expanded through the addition of additional information from the entry ticket stubs. At this time, there are no plans for a VE session at the hamfest. A deep fryer for French fries is being considered.
- As customary, coffee, soda, and pizza were provided to all the attendees.
- The meeting was adjourned by 7:58 PM. As customary, refreshments of
- --de Steve VanSickle WB2HPR / Secretary

Save the Dates

- **October 5th - Annual Hudson River Cruise - 10 am**
- **November 9th - Fall VE Exam Session - 10 am**

Former EGARA Member Richard Gross, Jr. Silent Key at 42

Former EGARA member Richard Gross, Jr., K3YT, passed away on August 11th at the age of 42 after he was suddenly stricken at his home in Averill Park. Rick was involved with the club for several years, along with his wife of 14 years, Liz, W7BYK.

Rick held an Amateur Extra license and was an information technology specialist for New York State. He maintained the club's Field Day computer software during the time he was a member. In addition to Amateur Radio, he also enjoyed motorcycling and the art of blacksmithing.

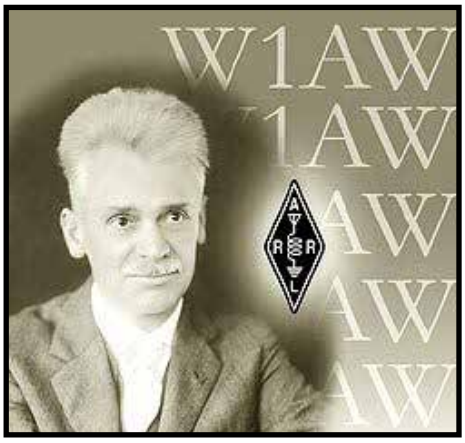
He will be dearly missed by all of his friends and family who could always count on him for advice or anything else he could do to help.

Rick also loved animals and had several dogs and cats. His family has asked that donations be made in his name to the Mohawk Hudson Humane Society.

On the Beam
News & Notes

Free Hiram Percy Maxim 150th Birthday Event Logging Software Now Available

Scott Davis, N3FJP, perhaps best known for the ARRL Field Day software that bears his call sign, has developed a free logging program for ARRL's Happy 150! Hiram Percy Maxim Birthday Celebration on-the-air event that gets under way on August 31 and runs for 9 days. Davis calls his software Hiram Percy Maxim Contest Log 1.0. Maxim, 1AW, who co-founded ARRL, was born on September 2, 1869.



"I've never created a program for a non-recurring event before, because the coding time required is too large," Davis said in a post to the N3FJP software user group. "I've made this exception because this is a really nice, simple rule set with the very popular field day-style exchange that has the added bonus in schedule flexibility of running for 9 days. The Hiram Percy Maxim celebration sure looks like a well-designed event that will be a lot of fun for us all."

The Happy 150! event will begin at 0000 UTC on August 31 and continue until 2359 UTC on September 8. It is open to all radio amateurs. The goal is straightforward: Contact as many participating stations as possible. W1AW and all ARRL members will append "/150" to their call signs during this event (DX operators who are ARRL members may operate as <call sign>/150, if permitted by their country of license.) Participating stations will exchange a signal report and ARRL/RAC Section. DX stations will send a signal report and "DX." All Amateur Radio bands except 60, 30, 17, and 12 meters are available. Permitted modes are CW, any voice mode, and digital.

Davis said Hiram Percy Maxim Contest Log 1.0 is full featured and "very easy and intuitive to use."

"If the Hiram Percy Maxim celebration is received as strongly as it appears, my hope is that ARRL will decide to make this an annual event," Davis allowed. "After all, birthdays come once a year, and we now have the infrastructure to continue."

The free logging software is available at www.n3fjp.com/hpmaxim.html.

2019 State of Amateur Radio Survey Available

The base of Amateur Radio operators continues to get older has been confirmed once again by this year's "State of the Hobby" survey produced by Dustin Thomas, N8RMA. The annual survey, which began in 2017, included responses from 3,786 hams from around the world. In addition to demographic info, the survey includes a wealth of information on issues and trends involving Amateur Radio.

On the aging Ham population, Dustin says: "This presents a fine opportunity to tap into the wealth of knowledge from these seasoned amateurs, but the drop off of younger operators may indicate no one to pass that knowledge on to. This highlights tremendously the continued need to evolve, promote and grow this hobby to carry on the traditions, make new ones and impart knowledge.

"This diminishing base may bring with it several concerning issues. Radio manufacturers need a client base, and unless more operators are brought up into the ranks (with their wallets) these companies may pivot away from producing amateur radio equipment. Governance bodies may start to reallocate bandwidth, with little to no opposition. These are all things most people reading this report know already - but I encourage you to do something about it. Start a youth program, reach out to universities and connect with scout troops - do anything to help move the needle."

The complete report is available through a link on the club's website at www.EGARA.club or directly online at: ***https://sway.office.com/2yk77tTg6qsyIfIo?ref=email***.

The History of Ham Radio: Transcons

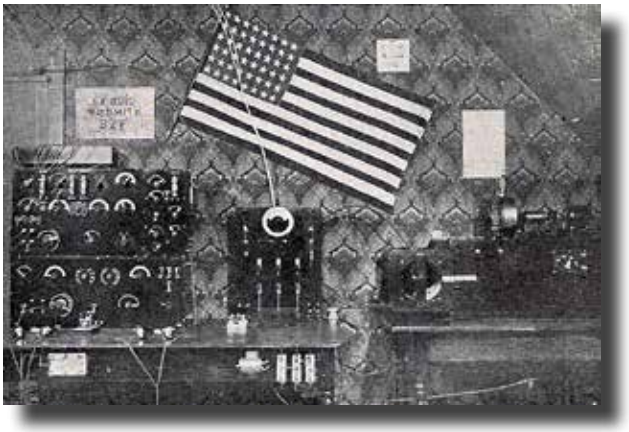
Chris Codella, W2PA, author, John Pelham, W1JA, editor, Phil Johnson, W2SQ, editor

(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)

As 1916 drew to a close, Hiram Maxim made a plea to organize what might be the first round-trip relay across the country. The February Washington's Birthday test had demonstrated relaying a message to the entire country broadcast-style, beginning in the Midwest. This one would be more difficult: a message originated on the East Coast would be relayed across the country, arrive at a West Coast station where a reply would be sent, which would then be relayed back to the origin, twice spanning the continent in a single relaying test—perhaps all in one night. Maxim compared it to the first telephone call and the first coast-to-coast automobile trip. Actually, he was not certain it hadn't already been done, but no record of one had yet surfaced, only rumors. Since reports of successful contacts along many individual parts of the path had become common, he reasoned, it should be possible to stitch them all together.

Noting the rapid progress in radio technology, Maxim wrote, "Things are being done nightly right now, which were impossible this time last year. What is coming by this time next year, no man is bold enough to guess, for in no art being practiced today is advance so rapid as in amateur wireless telegraphy." He had already taken the matter up with the trunk line managers and would be publishing a plan in the next issue of QST.

But an attempt at a transcontinental relay happened before any plan made it into print, "As a record for future generations to smile over, we herewith print," that an attempt was made on January 4 1917, after detailed preparation. Newspapers, in Hartford and Hoquaim, Washington, were set to exchange a previously arranged question and answer that had been kept secret—Hartford would do the asking. Maxim at 1ZM was to start the exchange with Henry W. Blagen, 7DJ, in Washington. Its failure was blamed primarily on excessive QRN combined with an unusual lack of propagation between the Midwest (8NH, 9ZN and others) and the Northeast (2ABG, 2AGJ). Personal accounts attested to horrible conditions and severe weather. Furthermore, 7ZC in Montana reported that the western leg had been in flux anyway, with his critical relay station having been notified of the test only one day in advance, and another, 7ZH, in the middle of a move. They would try again.



Station 9ZF

Less than two weeks later on 17 January—success! The first trans-continental one-way message relay occurred; three of them in fact, all originated from the Seefred brothers sent to ARRL Headquarters. The messages traveled via five hops: Seefred Brothers, 6EA, Los Angeles, California; E. A. Smith, 9ZF, Denver, Colorado; W. P. Corwin, 9ABD, Jefferson City, Missouri; K. Hewett, 2AGJ, Albany, New York; H. P. Maxim, 1ZM, Hartford, Connecticut—the longest hop being 1040 miles from Jefferson City to Albany. But 9ZF was acknowledged as having been pivotal since his station was the only link along his segment; the others all had parallel routes available. The relays continued through early February—in all, 21 messages were passed, every one of which went through 9ZF. This was not along an already established trunk line but, no matter: It now was designated as such and assigned to Mathews and his northern line.

Then, a couple of weeks later in the early morning of February 6, a round trip relay was completed all in one night. "The job was done by 2PM, Faraon & Grinan in New York City, 8JZ, Alfred J. Manning, Cleveland Ohio; 9ABD, Willis P. Corwin, Jefferson City, Mo., 9ZF, W. H. Smith, Denver, Col., and 6EA, Seefred Bros., Los Angeles, Cal." The QST editorial proclaimed, "They are the big bugs of Amateur wireless."

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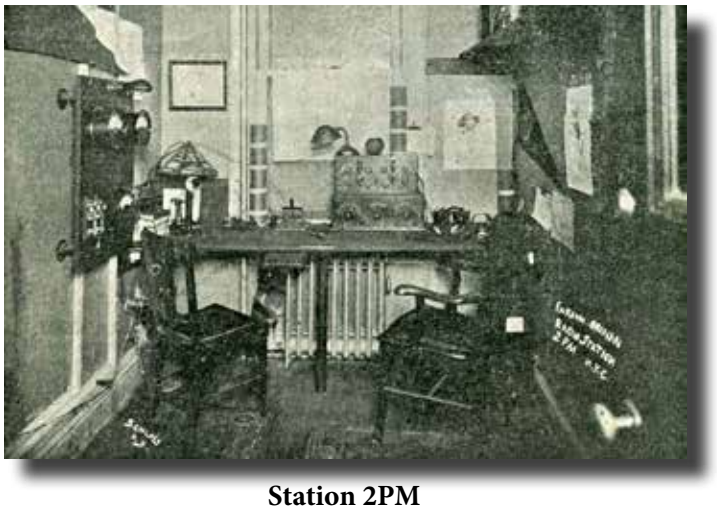
History of Amateur Radio... Transcon

Station 2PM was highlighted later that year as the "Star of the Second District." The "most efficient" station in the east, they claimed to be the only one in the heart of New York City engaged in long distance work.6 Urban QRM and QRN normally drowned out weak signals.

Previously, eastern-originated messages had reached the West Coast in three days. Even earlier, they had gotten across on "QST signals," that is, ones that were neither pre-arranged nor in some cases even acknowledged.

This round trip message left 2PM (the call sign, not the time) at 1:40 a.m. and the response came back at 3:00 a.m., making the round trip in 1 hour, 20 minutes. ARRL HQ knew of fifty additional messages that had traveled along the trunk lines across the country. The editor correctly predicted that this new record would not last long.



Station 2PM

Maxim sent a radiogram to the New York Times on March 6, announcing that the League was now handling round-trip coast-to-coast messages in less than two hours.7 A reporter interviewed J. O. Smith, who was quoted emphasizing the volunteer nature of amateur radio, saying, "They are all amateurs, just 'bugs' on wireless telegraphy who gave up their spare hours and their money to the hobby."

Smith, the new manager of trunk lines C and D (Hebert having recently become ARRL general manager) commented, "This great stride forward in amateur relay work over one year ago, undoubtedly due to the regenerative receiving sets now in use and the greater efficiency obtaining in amateur transmitting sets in general, tells its own story."

The story would soon be rudely interrupted.

Resources for Young Hams

One of the biggest challenges facing Amateur Radio is the recruitment of young hams. Today, the average age of most hams is well above 50. A recent survey of licensed hams found only around 11 percent were under the age of 35. Yet, Amateur Radio goes hand-in-hand with the current emphasis on STEM education -- Science, Technology, Engineering and Math.

Here are some great Amateur Radio resources available online that are especially for kids! They're designed and maintained by Anthony Luscre, K8ZT, the Ohio Section Youth Coordinator & Education Outreach. Each features specialized links for young people, scouts and teachers.

- **Kids Radio Zone**: **http://www.ztlearn.com/radio-kids**
- **Ham Radio Resources for Youth, Students, Teachers: http://www.ztlearn.com/radio-teachers**
- **Ham Radio Youth Resources Handout: tiny.cc/hry**
- **"Ham Radio- The Original Maker Movement": tiny.cc/hr-makers**
- **Scouting & Amateur Radio: tiny.cc/ar-scout**
- **Ham Radio Quick Start Guide: tiny.cc/new-ham**

Internet Impact on Shortwave...

Some of the antennas arrays at the Edward R. Murrow Transmitting Station.

The effort has paid off. According to Mellali, RCI's number of monthly visitors has tripled since its web was made more user-friendly. "Social media participation has (also) increased," he said. "On Facebook, for instance, we've shot up from 1,200 fans to over 18 000." Nevertheless, RCI's transformation into a web-only service has substantially narrowed its scope, said McFarland, and the service's ability to reach listeners worldwide.

"When RCI deserted the shortwave bands in favor of the web, the service's philosophy also changed," McFarland told RWI. "It went from appealing to basically anyone who was interested in Canada, in what was happening here and our relationship with the rest of the world, in favor of broadcasting to people who might be interested in immigrating to Canada."

"Meanwhile, the computer was now the only way to hear broadcasts from Canada: Listeners in African, Asian and European countries who tuned to Canada on cheap shortwave receivers were no longer a segment of the worldwide listening audience that RCI was interested in reaching," he added. "This change in target audiences was a great slap in the face for RCI's long time and very loyal listeners around the world who held Canada in very high esteem for many decades of successful broadcasting on shortwave."

Other international broadcasters who have abandoned shortwave for the web have likely experienced this loss. The reason: Access to "high-speed Internet is not a universal thing," said Colin Newell, a shortwave enthusiast since 1972 and operator of the shortwave listener site www.DXer.ca. ("DX" is an old Morse Code abbreviation standing for "long distance.") "It is surely widespread and available in the oddest of places, but it is not universal or universally reliable."

VULNERABILITY TO CENSORSHIP

When it comes to the fallout from international broadcasting moving to the web, there is one fact that everyone agrees on; namely the internet's vulnerability to censorship by hostile powers. Back when international programming was delivered via multiple high-powered shortwave transmitters using many locations and shortwave frequencies, "jamming of broadcasts was an expensive and often ineffective method of blocking 'the message,'" said Newell. Today, "jamming is as simple as a few clicks of a mouse on a national Internet service. Full scale censorship is a significantly easier technological exercise."

The bottom line: Today's international broadcasters are nowhere near as capable as their Cold War predecessors were in getting messages through to the "other side" — and those who rely solely on the web can't guarantee content delivery at all.

This is a textbook case of irony. By eschewing shortwave for the web, many international broadcasters have lessened their ability to serve their target audiences at all times; and in some cases, eliminated this capability entirely.

Take RCI: During the Cold War, its shortwave signals managed to reach listeners in the Soviet bloc. But today? Should he ever want to, Vladimir Putin could cut RCI off from Russian audiences in seconds.

Now it is theoretically possible that RCI could return to shortwave broadcasting. But this would require building a new transmission farm. The demolished Sackville site isn't available. Several New Brunswick Mi'kmaq indigenous communities purchased its cleared 90-hectares in 2017 to add to the Fort Folly First Nation reserve. But even if it were, the Canadian government would be unlikely to spend the money required to build a replacement shortwave facility. This is likely true in other countries that have demolished their shortwave transmission sites as well.

The inescapable conclusion: Moving to the web has fundamentally compromised international broadcasting's ability to do its job, compared to what it could do back in shortwave's glory days. And unless something happens to motivate governments to reinvest in expensive shortwave broadcasting, this will remain the case from now on.

Securing Your Antenna with Proper Guying

Basic Tips to Guying with Synthetic Ropes
By Martin Huml, OL5Y - Mastrant Guying Systems

When planning an "anchoring system" (guy-ropes with end termination, couplers and anchorage) there are a number of factors that have to be taken into account:

1) The stability of the system is determined by its weakest link. That is why it is no use combining a rope of 1,000 lbs of strength with a turnbuckle 100 lbs strong.

2) Even the most excellent synthetic rope is elastic – when guyed it elongates. In the layout of the tower and its anchorage (even when fixing elements of the antennas) you have to deal with this characteristic and always consider how the elongation of the anchoring system will affect the overall construction. In certain cases it will be necessary to use a stronger rope (with a smaller absolute extensibility), than for other constructions that are not negatively affected by the elongation of the anchors. A problem occurs especially in such a case, when the ground anchor point is situated too close to the tower base, or when dealing with a lattice tower with low flexibility.

3) The rope must be protected against all kind of sharp edges. For this reason it is necessary to fix the rope with a thimble or tie it to a coupler with a very smooth surface. Be aware of the fact that inappropriate metallic materials corrode and therefore their surface roughens. Never tie a rope to a concrete slope or to a stone! If you do want to use a stone, a rock or a concrete slope as ground anchor point, we recommend using a loop from steel rope, which you can connect to the guy rope with the help of a smooth coupler.

4) A danger for any synthetic rope lies in friction against any object on its path. This can cause the rope to be seriously damaged or cut through, and has to be avoided at all cost. Even a guy rope on a tower can move enough to suffer friction damage if it touches anything along its length, so locate your guy lines carefully. Particularly to be avoided are trees and tree branches. If you are using a tree support for a wire antenna you must ensure that no part of the synthetic rope can get close enough to the tree to risk damage by rubbing. Always use steel rope near or in a tree. You could use a pulley on the end of a steel rope to keep the synthetic rope well clear.

5) The lower part of the anchoring system should consist of steel rope that is 7 to 14 feet of length. This ensures that the synthetic rope isn't "chewed up" by an animal or gets damaged by some human activity (intentionally or unintentionally).

A key element of safety is the end termination of the rope:

1) Guy ropes can be terminated with a thimble (permanent installation) or they can be tied to a smooth object.

2) When fastening a rope by tying, we recommend making sure the rope does not move on the object it is tied to (even though we are talking about smooth fastening points). This can be achieved by tying the rope to a coupler – chain quick-acting coupler, spring hook or shackle – and only then fix it to the fastening point.

-continued on page 15-

Antenna Guying Tips...

Each thimble must be followed by a clip or swaged fitting. We recommend duplex wire rope clips or first-grips. Behind the main clip (the one that follows the thimble) the loose end of the rope must be fixed by a safety element – another clip or several loops, similar to the so-called anchor-hitch. Further, the end of the loose rope is insured against uncurling for example with a cable tie.

4) Other possibility is using crimped terminals (swaged “clips”). Those are only practical on one end of the rope – otherwise it is not possible to adjust the length. We sell them as “Ready-made" or “Terminated” guy ropes on our website at: www.mastrant.com

5) When guyed, a rope’s diameter decreases and therefore it loosens inside the clip. For this reason, clips must be drawn up while the rope is guyed, that is “under pressure”.

6) Beware of classic bull-dog grips! These rope clips are constructed specially for steel ropes and when under high tension they can “snip off” synthetic ropes. In no case do we recommend using them as main clips for the end termination of ropes – they may be used as “safety clips” behind the main clip, however.

7) We suggest considering wedge sockets. Although they are relatively expensive they have several exceptional rope protecting properties, thanks to the "self-locking" system they tighten when stretching and allow convenient changes in the length of the anchoring system.

Most common guying mistakes and causes of accidents:

- The anchor point is situated too near to the tower base and that is why the angle between the guy rope and the tower equals much less than 45 degrees.
- The clips weren’t re-tightened while the rope was under tension.
- Behind the clips there is no safety element (second clip, knot).
- The end of the rope is not terminated with a thimble, but tied directly to the construction anchor.
- The rope was chewed through by an animal or cut through.
- Improper rope with high elongation (stretching).
- Guying with wrong rope.

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EGARA's Monthly Quid Pro Quo

Noun: a favor or advantage granted or expected in return for something.

For several years, EGARA's home has been at the East Greenbush Masonic Lodge Hall. The club holds its monthly meetings there, as well as special events such as Field Day. In the basement of the building, the club is fortunate to have space to store its equipment and gear, including antennas, coax, radios, computers and Hamfest supplies.

But, there is a Quid Pro Quo.

Board member Russ Greenman makes a clean sweep of things

Each month, club officers meet at the Lodge to throughly clean the building and perform basic maintenance duties. And, during the summer months, they care for the grounds. This includes mowing the lawn, weed removal and clean up of leaves, branches and other debris. In return, EGARA is provided with the opportunity to use the Lodge's building and facilities.

Given the benefits both the club and the Lodge receive, it's clearly a win-win. But it's also a lot of work -- so all club members are encouraged to lend a hand and share the responsibility with the officers.

The monthly clean-up generally takes place at 7 pm on the second Monday of the month -- the same week as the regular club meeting (held on the following Wednesday). Once everything is done, the Board usually has a brief meeting to discuss the agenda for the regular monthly membership meeting.

Club Secretary Steve VanSickle replenishes the paper towel dispenser in the rest room

As the saying goes, many hands make light work, so the clean-up usually takes less than an hour.

So, if you have an hour or so to spare once a month, you'll be welcome with open arms!

Plus, you'll gain a point towards the club's annual reward program.

Vice President Nick Field and President Tom Scorsone prepare to mop the Lodge hall's main floor

Board member David Jaegar, Jr. does some final touch up work with the vacuum

CALENDAR

September 11, 2019 - Monthly Club Meeting at 7 pm, East Greenbush Masonic Lodge. Field Day planning.

September 28 - October 2, 2019 - WWV Special Event Station. Visit ***http://wwv100.com/*** for more info.

October 5, 2019 - Annual Hudson River Cruise, 10 am, Port of Albany Commission Dock.

November 9, 2019 - Fall VE Exam session, East Greenbush Library, 10 am.

Pro Tip: Easy Radial Burial

Vertical antennas work best with radials, but burying them in the ground is almost always a pain. So, to help eliminate most if not all of that manual labor and time -- and get on the air much faster -- try a simple electric or gas powered lawn edger!

There are many inexpensive models and brands on the market that will do the "work" of getting those shallow trenches dug for your radials in no time at all. Usually less than a minute for each radial depending on the length of your longest radial.

An electric powered lawn edger will zip across the ground at a slow walking speed and cut you a fine trench into the grass and the ground below it up to about a couple of inches which is more than enough to bury the radials. The grass will grow back over the trenches in no time at all.

The only "worry" with using this method is the requirement of a long extension cord for the edger (If it is an electric model). Or you may be able to find a battery powered rechargeable edger, so do your research.

If you don't want to bother with an extension cord, there are also edgers out there that are gas powered -- or gas powered weed eater trimmers that offer an add-on edger attachment.

Radials as easy as 1, 2, 3!

For Sale

TYT MD-UV380, purchased in April comes with charger, speaker mic, antenna. Asking $100.00 or reasonable offer.
Contact: stephen.lohnes@gmail.com

Kenwood TS-690 - 100 watt HF/6meter transceiver. With two mics and complete operating manual. Perfect working condition. $450.00.
Contact Bryan at W2RBJ@outlook.com

Johnson Valiant Transmitter AM & CW - $ 600.00
DX 60 Transmitter AM & CC With VFO - $ 125.00
DX 35 Transmitter AM & CW With VFO - $ 125.00
Eldico R124 Receiver - $300.00
MFJ Model 1995 Portable Antenna, 40 To 10 Meter - $75.00
For items above, contact Tom at: KC2FCP@nycap.rr.com

Arrow Model 52-S4 - 4-Element 6 Meter Yagi antenna in good condition. $75.00
2 Meter Yagi - 3 element, rugged - used - only $10!
MFJ Model 989C Antenna Tuner - legal limit, very little use, in immaculate condition. $225.00 -- (new was $359.00). See: https://www.universal-radio.com/catalog/hamtune/1332c.html
For above, contact Steve at: svansick@nycap.rr.com

Military Watt Meter AN/URM-120 B/U 2 to 1000 MHZ. Complete and with Carrying Case. In excellent condition. Never abused or used on the road. Great Shack / Bench Watt Meter. Picture available. $125.00

Yaesu FT-2900 Programing Software by RT Systems Inc, on CD, Version 5, Windows XP, 7,8,and 10. Cable included. Used once. Registered and includes password. $35.00
For above, contact John at: Radiowizzz@aol.com

Got gear to sell or swap? Looking to buy?
Sent your items to: 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.