Although I had been offered a ride to the October meeting, a last minute back problem prevented me from attending. But that didn't stop me from thoroughly enjoying member Mike Molnar's presentation "George Westinghouse - Inventor and Industrialist" made available on YouTube by our talented production crew. It can be found at:

https://youtu.be/AvgYoQj8Hyk

Mike's presentation also included a history of Westinghouse's radio and television manufacturing and was based on a two-year effort to document the topic which appeared in the 2017 "Antique Wireless Association Review."

I have in my office for months, and this week he took the plunge. He's in his twenties and originally from India. He never saw a vacuum tube before or even a tube radio. He certainly never heard how they sound."

"I steered him to a Zenith Z316 from what I understand is the last model Zenith produced using tubes from about 1969. He was impressed with the sound of leftovers Zenith wanted to clear out to make way for transistor set production. He wants to learn more and eventually buy more tube radios."

On a recent post, member Phil Vourtsis recommended the following video by Chris Cuff for a method to install an available modern cartridge in a 45 rpm tone-arm:

https://youtu.be/xZ5Vrhns2Y

Finally, another addition to the compendium of broadcast stupidity is a recent report from station WTVO of Menomonie, Wisconsin. The police department was called where a 20-year-old subject had become entangled on the Charter Communications radio tower. He called 911 for assistance after his parachute became caught in the tower's guy wire about 50 feet off the ground after he attempted to base jump off the structure. It took rescue teams about an hour to free him. The parachutist was arrested and charged with criminal trespass to property.

Upcoming Events

November 2 - Fall NJARC Swapmeet/ Hamfest at Parsippany PAL
November 16 - Fall Repair Clinic at InfoAge (building TBA)
December 4 - E-Board meeting
December 14 - Annual Holiday Party at West Lake Golf & Country Club
MEET THE MOSQUITO NETWORK

Part II

By Mark Durenberger

The following article appeared in the September issue of "Radio World." Mark Durenberger is a technology consultant with the Minnesota Twins and has six decades of broadcast and satellite experience.

In Part I, which was carried in the October "Broadcaster," it was noted that G.I.s, sailors and Marines fighting bloody island-hopping battles during World War II had basically no way to receive short-lived information such as news and sports. Eventually, the government's "Morale Service Division" became the "Special Services Division" (SSD) and was tasked with live broadcasting. The broadcasting division of the SSD would become the fabled Armed Forces Radio Service (AFRS). "Stations in a box" were first unpacked in Noumea, New Guinea and Caledonia where the AFRS hatched the first of the "Mosquito Network" stations. Once an antenna was set up as described in Part I, the article goes on to describe the stations themselves...Ed

The typical "Mosquito Network studio" was equipped with a rudimentary mixing console and a Presto Model "Y" disc recorder that doubled as the program-transcription playback turntable. A good shortwave receiver was critical (a favorite receiver was the Hammerlund "Super-Pro"). Some stations actually built diversity-receive systems to improve reception.

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A staff usually consisted of five or six soldiers. The station kept an intermittent schedule based around troop downtime and usually went quiet around 10 p.m. local time. The typical broadcast week was 80 to 90 hours; part of that filled by shortwave programs from the states. Forty to 50 hours per week were taken by transcribed network programs shipped by the AFRS, and the rest of the flexible schedule was "live and local" in the form of "GIs-talking-to-GIs" (a precursor of "Good Morning Vietnam!"). Power for the station came from a shared generator. At night, when the load on the generator often increased, record speed would vary with generator load.

Each island station had its own story to tell; soldiers shinning up palm trees with a wire in their teeth; "Studios" usually in tents (sometimes made more soundproof and weather-impervious by the addition of a second tent above the first). Some listeners may have had the "Buddy Kits" (which included a radio, small PA system and a record player for discs sent by mail) or perhaps a radio sent from home, or maybe something home-built by a tech-savvy soldier. The stations were also rebroadcast on hospital and mess-hall PA systems and on ships within reach. It didn't take long before each station had 100% participation.

State-side programming was usually captured from shortwave stations in California. There was, however, two problems with this arrangement: 1) Shortwave propagation to the Pacific was generally at its best during the period when American radio networks were silent, and 2) the politics behind AFRS and the rules of the International Telecommunications Union (ITU) dictated that programming must be shorn of commercial content. This last was a new task for pre-eminent studios such as Radio Recorders in Hollywood. Such service providers had been recording network shows for delayed West Coast broadcasting. Deleting commercials from these disc-recorded network programs required them to learn "The Three-Turntable Two Step."

Many of the Pacific island stations were informally part of the "Mosquito Network" or affiliates of the "Jungle Network." Stations in the Central Pacific (often by and for the Navy) were part of "PON" (The Pacific Ocean Network). There were probably 50 or more island stations installed, removed and relocated in 1944 and 1945. Their numbers diminished rapidly as the Allies congregated closer to Japan. And as the war wound down and ended, the AFRS stations came together in the Philippines and Japan as the long-lived "Far East Network."
The following article appeared in the October-December issue of "The InfoAge Marconiograph." Thanks to Gloria C. Kudrick for allowing it to be reprinted in the "Broadcaster."...Ed

On July 20th, Old Glory began flying again at Camp Evans, location of the NJARC Radio Technology Museum. The flagpole lay slowly rusting for years as InfoAge used its minimal resources to restore historic buildings, including the former Marconi Wireless Station and the Army's Signal Corps Research and Development Laboratory at Camp Evans (a National Historic Landmark). The funds were needed elsewhere on the campus and estimates to fix the pole were just too steep.

Earlier this year, InfoAge Board Member, NJARC member, and all-around volunteer Tom Sedergran, and his wife Ethel, donated the funding necessary to restore the flagpole to its original condition. Their donation was made in honor of Mrs. Sedergran's father, Isadore "Izzy" Bernard Oberman, who served in World War II as a soldier in the 27th Armored Infantry Battalion, part of the 9th Armored Division. In December, 1944, "Izzy" Oberman and his fellow troops fought in the Battle of the Bulge at St. Vith, Belgium. He was later awarded the Combat Infantryman's Badge, the Bronze Star and the Purple Heart medals.

"I'm excited that we can do it to honor her father and the other heroes that fought for our freedom," Mr. Sedergran said. "My father was very, very patriotic," Mrs. Sedergran said. "When he moved to Florida, he installed a flagpole and, every day for 22 years, he would raise the flag every morning and lower it every evening."

InfoAge and the NJARC will be forever grateful for the Sedergran's generous donation. To see Old Glory flying again is a wonderful thing.

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InfoAge is preserving historic Camp Evans to honor veterans and give students and groups a place for learning more about science and history. You can become a member for $25.00. For more membership options and additional information, go to InfoAge.org.

"In 1920, there were few radio manufacturers - boys or young men imbued with the challenge of a new technology - built their own. They "homebrewed," a term borrowed from prohibition. When broadcasting boomed in 1922, it was logical to build broadcast-band receivers for themselves or for friends. Some bootlegged (another prohibition term) manufactured radios for illicit sales that violated patent rights."

"Probably a million homebrews were built every year up until 1925 when the manufacturers finally caught up. After all, you could save 75 or 80 percent by building your own. Radio magazines were abundant and contained plans for all the latest circuits: regeneratives, TRFs, neudrodynes, reflexes, even superhets. The plans (sometimes in the form of blueprints) were an extension of the mechanical world and provided exact dimensions and detailed instructions, though it's doubtful that many of the builders understood the electronics involved."

The following article first appeared in the July "Broadcaster." Since the contest has been moved to the November meeting, it is being repeated to refresh member's interest...Ed

"Homebrew" is an amateur radio slang term for home-built, non-commercial radio equipment. In the early years of radio, long before factory-built gear was easily available and affordable, radio enthusiasts built their own receiving and transmitting equipment. Homebrewing differs from kit building in that it describes the process of constructing equipment using parts and designs from varied and often improvised sources.

Constructing one's own equipment using relatively simple designs and easily obtainable or "junk box" electronic components can be very rewarding. Homebrew enthusiasts say that building one's own radio equipment is fun and gives them the satisfaction that comes from mastering electronic knowledge. To help preserve this tradition and have some fun at the same time, we've decided to come up with a slightly different take on past NJARC homebrew contests. The inspiration for this comes from silent key Bill Corkutt (WZ21) who was a homebrew enthusiast and collector and whose articles can be found throughout past issues of Antique Radio Classified (ARC). Perhaps NJARC members can remember the auction of his extensive collection of homebrews some years back and who, like your editor, might still own some of his radios. In his ARC article "The Joy of the Home Brew," Bill summed up his passion quite nicely:

Homebrewing is an amateur radio slang term for home-built, non-commercial radio equipment. In the early years of radio, long before factory-built gear was easily available and affordable, radio enthusiasts built their own receiving and transmitting equipment. Homebrewing
before completion, or suffered considerable modification over the years. Extra panel and baseboard holes, mixed wiring, and sloppy soldering attest to the difficulties involved."

"On the plus side, homebrews are inexpensive to buy and easy to work on (big parts and open breadboard layouts). In addition, you don't have to worry about altering an expensive manufactured radio."

"Over the years I've acquired a few dozen home brews. Some I junked and stripped for parts; most I restored to operation. Some I consider as true works of art. The simple 1-tube home brews show a high degree of conformity, but the larger sets are often unique."

We've decided to make this year's activity, scheduled for the November meeting at InfoAge, more of a combination show-and-tell and contest. Recently, except for the early years of the club when competition was quite stiff, the number of entries has deteriorated to a disappointing level. It seemed that members "never got around" to building their homebrews even though we allowed up to six months for the project. This year, we have set aside a non-contest portion of the meeting for members to bring in interesting homebrews in their collection and describe special features of their radio or transmitter - circuit details, unique construction features, history, etc. Along with the radios themselves, a few slides or drawings would be appropriate. Regenerative receivers are fine but it would nice to see some Reinartz's, early superhets (LR4, Tropadyne, etc.), early "dyne" radios and crystal sets. Sets that you may have built many years back are also welcome.

For the "contest" portion of the meeting, we'll be judging any recently built (within the last few years) homebrew radio receiver or transmitter. If you are new to homebrewing, there are hundreds of examples and significant guidance on the internet. For starters, you might want to try "Dave's Homemade Crystal and Tube Radios" at makearadio.com. Entries are limited to "scratch-built" radios as opposed to kits or modified production sets. Receivers must be capable of receiving at least one station. Contestants should be prepared to demonstrate their creation and say a few words about the design and construction of the entry. The membership in attendance will vote for the three best entries (perhaps via an "applause meter") and first, second and third place prizes will be awarded.

Let's make this a true celebration of the homebrew...I'm sure that you can build or find something in your collection that will entertain and inform our NJARC audience.

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After a century of use, hundreds of Q codes were developed but amateurs usually only used about 50. Although telegraphy has pretty much ended up in the dust bin of history, many HAMS still use it. Tweeters and "texters" may think they originated such shorthand as LOL, etc. but such usage goes all the way back to Civil War days of landline telegraphy. Most HAM Q codes relate to signal conditions, weather, operating instructions and the like. QSL cards are also used as proof of meeting certain goals such as WAS, "worked all states" or WAC, "worked all continents" and are often framed as prized accomplishments. They are often thumb-tacked to the walls of the "Ham Shack" or room where the equipment is used. QSL cards are the HAMS, SWL'ers or CB'ers calling card and are often an expression of the person's individuality, personality or creativity.

Let's start this discourse with CB cards. The citizens band was created shortly after WWII to provide a two-way radio service for average people without significant licensing requirements but at a UHF frequency that was not technically ready for it. In 1958, it was changed to 23 preset channels at about 27 MHz in the HF band. Transmitter power was limited to 5 watts.

While HAMS are required to pass strict technical and regulation-related licensing tests, there is no cost or licensing requirements to operate a CB station. Communication was strictly by voice so address exchanges had to be part of the conversation in order to exchange cards. Major users are truck drivers in order to maintain contact with each other about road conditions, location of speed traps and weigh stations. There was a high interest in CB for several decades following 1960 but I do not know how active it is today. Certainly, the introduction of cell phones has taken over much of the need. Still on the CB band, one can broadcast to the world" or troll for friendships. The format of a CB call sign is simple; it always starts with a K and ends with four numbers. However, when on the air, CB'ers do not use their call sign but rather their own quirky personal "handle". Cards are exchanged by postcard mail but increased postal cost and the advent of cell phones may have contributed to their decline. In my opinion, they have little collecting value and are often crude or racy.

Now on to SWL cards. While amateur radio operators were active in the 1900's, technology developments during WWI made HAM radio more accessible in the 1920's coincident with the birth of radio
broadcasting. Along with this came home radio builders who would listen in on HAM contacts and send them reports and request a QSL card. HAMS appreciated the reports as to how their signals were getting out and often complied. My earliest SWL cards are from 1921/22 but activity grew into the 30’s when even better receivers could be made or bought. During the depression, SWL listening seemed to be an inexpensive pastime even with the penny postage cost.

In the mid-1930’s, home entertainment radios often came equipped with short wave bands and, with increased interest in political developments in Europe, short wave listening became even more popular. All that was required was a good receiver attached to a better-than-average antenna and time to search the bands for signals. Since no licensing was needed, SWL’ers often made up their own call signs but usually just put a large “S W L” on the front of their card. The SWL listener had to purchase Call Books that were regularly published linking call signs to the name and address of all radio amateurs worldwide. These reception reports helped HAMS gain a better understanding of how short-wave signals were affected by sunspots, time of day, weather, frequency and other atmospherics which added to the general knowledge of radio propagation and the ability to predict best operating parameters.

The hobby was interrupted by WWII when all HAMS were silenced, but carried on into the 1940’s and 50’s. It then seemed to diminish with added postage costs and the draw of network TV, etc. Since most of my postcard collecting interests are in pre-WWII cards, I am not aware if SWL listening is still active.

My main subject is amateur radio or HAM QSL cards as these are the majority that one will run across. Amateur radio started in the 1900’s as soon as it was apparent that Marconi and others were successful in communicating with wireless, by radio telegraphy. Hams along with Marconi were interested in establishing distant radio communication and exchanging reports via QSL contacts was essential to proving and recording their operations. Federal and international regulations were soon established to control the initial chaos of interference from competing groups. HAMS then could operate only within certain frequency bands, with limitations on transmitter power and prohibitions on anything other than amateur/educational operation (i.e., no commercial or entertainment activities). HAMS were moved to “short wave” bands that were considered useless by commercial operators. It did not take long for HAMS to work out ways of using these “useless” frequencies to obtain long distance contacts with limited power. I won’t go into the technical reasons for this, but HAMS have always contributed to the advance of knowledge in radio communication. Of course, rapid technical improvements in vacuum tubes and other aspects of electronic technology helped as well.

Ham activity greatly increased in the 1920’s and 30’s along with the advent of national radio broadcasting. Amateurs during these periods largely constructed their own equipment from purchased or surplus government parts or equipment and most HAMS were home constructors or “tinkerers” and mainly self-educated. They were obviously proud of their accomplishments, and much of their radio conversations, whether by voice or Morse code, involved the interchange of technical ideas and operating methods. Their QSL cards often were real photos of their gear and themselves as the hobby created a fellowship of friends, albeit not next door, but often many states or countries away.

HAMS always used their call signs as their signature, not a “handle” as CB’ers do. Of course, being regulated by the FCC, HAMS are required to use their call signs regularly during communications. HAM communications are not simultaneous two-way discussions like a telephone call. One person transmits while the other listens then the operation is reversed back and forth. If a SWL is listening in, the SWL may only be able to hear one side of the communication depending on how far away they are from either of the HAM’s location. Sometimes, rearranged “nets” are set up when multiple amateurs get on the air at a prescribed frequency and time to have a group “rag chew”.

A HAM call sign is distinct as compared with a Commercial or CB call sign. For U.S. HAMS, the call sign always starts with a W, K, N or A as these are international designations for U.S. stations. It is followed by a number 1 to 0 that designates the 10 assigned zones of the U.S.A. It always ends with 2 or 3 letters that are assigned to the individual amateur. Early on, if a HAM moved from one zone to another, he or she had to apply for a new call sign, but as state-side mobility increased, this was abandoned so now the number designation may be meaningless.

QSL cards fell right into the existing postcard system and started on Government postal cards. Quickly enterprising HAMS began creating cards for others or local photo shops would take the HAMS photo and create a card for them. The QSL card is the HAMS calling card. Since it often is initiating a long-distance acquaintance or friendship, a personal or family photo is often included. The card will also convey details of their contact, information about the equipment and antenna used along with operating conditions such as static, fading, interference, etc. This is usual done by “Q” abbreviations as previously mentioned.

In the early days of HAM radio, all communication was only possible by radio telegraphy and many amateur radio operators came from the ranks of landline telegraphers. Others learned code from scratch and of course David Sarnoff, president of RCA, became famous as a wireless telegrapher who previously was employed by the American Marconi Co. In the 1930’s, voice communication became more prevalent, but many HAMS still use telegraphy. In fact, amateur radio is the only place left where Morse code is still actively used. In the short-wave bands, when atmospheric conditions are poor, telegraphy will often get through when voice communication would not. Of course, modern digital communication also has an edge, but telegraphy is an early form of digital communication.

Sending of QSL cards originally was done by post, but as postage costs increased, especially to foreign countries, HAMS set up bureaus to bulk handle cards. HAMS could send their cards in batches to a central bureau where they would be sorted and re-sent in bulk to individual recipients. This is why many QSL cards are found with a plain back and no evidence of address or postage. This obviously would delay receipt but was accepted. Sometimes a small QSL stamp is found on a plain back card. These were sold to HAMS as a means of helping defray the cost to operate the bureaus. Other times the card would be sent in an envelope to prevent postmark damage to the card.

National or local HAM groups organize contests of various sorts, and awards to winners are also displayed in the ham shack alone with their FCC operating credentials. In addition to the thumbback holes, I have also found them having been glued into albums.

The NJARC Radio Technology Museum at InfoAge recently set up a HAM station which was used to participate in an International Marconi Day event. Participants had to be operating from a location that has historical significance to Marconi. Our museum is part of an original Marco-
ni transatlantic wireless site built in 1914 near Belmar.

Most countries have national groups to organize HAM activities. In America, it is the ARRL, American Radio Relay League. This or like symbols may appear on QSL cards.

Despite the proliferation of smartphones, HAM activity is still very popular. However, technology has brought a lot of changes. Many HAMs are not as technically savvy as in the past as few, if any, build any equipment.

A desktop rig no bigger than a bread-box can perform much better than anything made a few decades prior and with full legal power output. Such gear is all computer controlled, comes from the Orient and is extremely reliable. Operating and making contacts is still the motivation and while some QSL activity has gone digital to the internet, there continues to be actual postal exchange of cards. I might add that the amateur radio fraternity provides a vital national backup communications network available in case of emergency.

My collection of QSL cards has been many years in the making. I particularly appreciate the real photo cards of the 20’s through 50’s, especially when the homemade equipment is shown. HAMs through their ingenuity and self-invention have supplied a good bit to our base of national technical knowledge, especially when they are called upon to serve in our national defense. QSL cards are often the only written record that they leave. My wife and I were fortunate during the years that we managed the Metropolitan Postcard Club in New York City to have many contacts with national and foreign postcard dealers who helped me build my QSL and radio postcard collection.

It gives me pleasure to share some of it with you. 73’s!

The format of a CB call sign starts with a "K" and ends with four numbers. Cards were exchanged via postcards and increased postal cost and the advent of cell phones may have contributed to their decline. "In my opinion, they have little collecting value."

A personal or family photo is often included in QSL cards.

Since no licensing was required, short wave listeners often made up their own call signs but usually put a large "SWL" on the front of their card.

QSL cards often showed photos of the senders and their gear as the hobby created a fellowship of friends, often many states or countries away.

"My collection of QSL cards has been many years in the making."
NJARC Annual Holiday Party

Date: Saturday, December 14th, 2019
Time: 5:00 PM – Cocktail Hour/6:15 PM - Dinner
Place: West Lake Golf & Country Club
1 Pine Lake Circle, Jackson NJ 08527

Members $25 each
Non-Member Adults and Children over 12: $25 each
Children under 12: $5 each

Cocktail Hour, Dinner Buffet, Mystery Grab Bag, Surprises
*****RESERVATIONS REQUIRED *****

If you plan to attend, please fill out the attached coupon, detach it and mail it with a check to:

Marvin Beeferman
2265 Emerald Park Drive
Forked River, NJ 08731
609-693-9430/mbeeferman@verizon.net

by December 7th. Everyone who plans to attend must send back a response form with the full name(s) of attendees. Reservations must be made via the form below; please refrain from telephone or email reservations unless absolutely necessary! Payment must accompany the form. Please indicate member (M), non-member (NM) or child (C).

Name(s): ___________________________   _________________________________
______________________________________   _______________________________________________
______________________________________   _______________________________________________

Telephone or email: _____________________________________________________
Number of Members: ______ X $25 = $_________
Number of Children under 12: ______ X $5 = $_________
Number of Non-Members: ______ X $25 = $_________

TOTAL: $_________

Make checks out to NJARC, enclose with this form and mail before 12/07/19.
New Jersey Antique Radio Club's
Fall Swap Meet and Hamfest

Parsippany PAL Building
33 Baldwin Road
Parsippany, NJ 07054
Just off Route 46,
Adjacent to Smith Field

Saturday November 2nd, 2019

Refreshments Available

(70) 8 Foot Tables
$25.00 for members
$30.00 for non-members
Reserve Additional Tables $20.00
At the Door $25.00

Open to the Public
8am to 12 noon
Vendor setup at 7:15 AM
$5.00 ENTRANCE FEE
CLUB DONATION

For Directions
Visit our website: www.njarc.org
or Mapquest
33 Baldwin Rd Parsippany NJ 07054

Vendors Make Your Reservations Now!
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