ARASWF Newsletter

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January 2011

In This Issue:

Next Meeting will be held on January 25th 2011 at 7.00pm

From the President's Shack

This is my first chat with the members. This year I would like to get more people involved in the activities of the Club. I am going to have 8 committees. They are Field day, Programs, Contests, Repeater, Keeywaden, Oilwell Park, VE sessions, and Membership. I would like to have 6 members on each. Three Snowbirds and 3 Sun Birds. This way in the summer we still have a working Committee. The Board of directors are going to setup some projects that we hope to get some interest in. You can contact any of the Officers and Board members if you would like to do something that we have not covered. If you would like to be on any of these Committees, please let me know. I would like to have a list of Elmers so that we can help member when needed. I will ask for a list of member for help in antenna projects. This is going to be a big year and we are going to need everybody to step up and help the Club to have a successful year.
Happy New Year to ALL
George AA4GT

Meeting Minutes

None this time around as the Christmas Party was held in lieu of the normal monthly meeting in December.

New Members

None this month

News Items

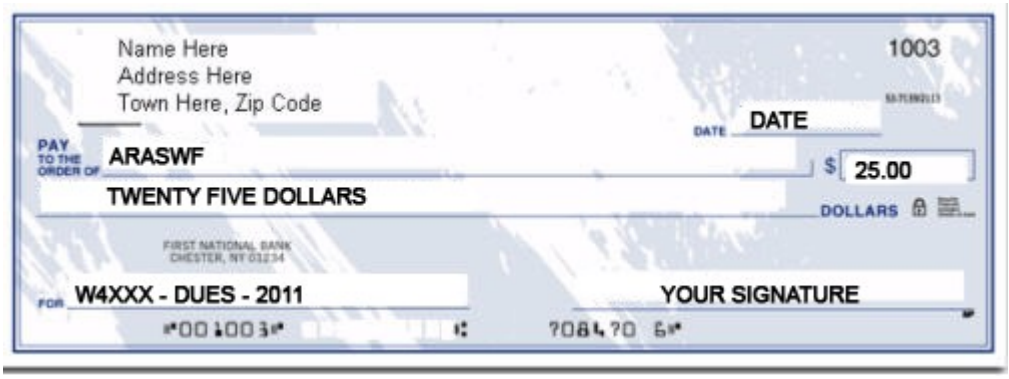
DUES REMINDER

The 2011 dues are payable now. Annual membership dues are $25.00 for Active members, the same as last year. Family members related to paid-up Active members maintain their club membership without payment of additional dues.

Hopefully all members will have their dues paid by January 25th – the next membership meeting, after which the official membership Roster will be prepared and posted on the club web site, www.araswf.org. The Roster is also used to determine the mailing list for the club newsletter.

Please stay current, support your club, and not miss any exciting future issues of the newsletter.

Simply make out your check for $25.00 payable to "ARASWF, as shown below:



Send your check, together with the Membership Information Form sent to you previously by email, to:

ARASWF
P.O. Box 111604
Naples, FL 34108-0127

Many thanks, and we look forward to your participation in 2011.

United States Early Radio History ((c) Thomas H. White) – a series of articles

(Click the hyperlinks for further reading)

Part 1 - ELECTRIC TELEGRAPH DEVELOPMENT AND MORSE CODE

Early communications development included a variety of semaphore telegraph lines, where spotters used visual signals to relay messages from one elevated location to the next. By the early 1800s, these mechanically-operated visual telegraph lines were fairly common in Europe, although only a few simple links were ever built in the United States. However, visual telegraphs were slow, covered limited distances, and were usable only during good visibility, so inventors worked to develop a way to send signals by electrical currents along wires, which promised nearly instantaneous transmissions over great distances in all kinds of weather. But progress was slow, in part because the nature of "electrical fluid", as it was then known, was poorly understood.

William Cooke and Charles Wheatstone developed the first electric telegraph to go into commercial service, which began operation in England in 1838. Like the earlier mechanical telegraphs, this pioneer electrical telegraph used visual signaling -- in its initial configuration, two needles at a time, out of a total of five, rotated on the receiving device to point to letters on a display. Meanwhile, other inventors worked on electric telegraphs based on different principles, the most important being Samuel Morse in the United States, who developed a single-wire system that imprinted dots and dashes on a moving paper tape. (Later, operators would learn to read the dots and dashes directly, by listening to the clicking of the receiver). An early review of Professor Morse's Electro-Magnetic Telegraph, appearing in the April, 1838 issue of *The American Biblical Repository*, lauded his approach as "more simple, less expensive, and more complete and permanent" than the designs of other electric telegraphs, and predicted that "Should its success equal the expectations of most who have examined it, the results of this discovery upon society will be greater than the imagination of the most sanguine can now distinctly conceive." In 1844, the first commercial line using Morse's design went into service between Washington, District of Columbia and Baltimore, Maryland. Its success was followed by the rapid construction of telegraph lines throughout the United States, and eventually Morse's dot-and-dash approach became the worldwide standard. (Although the electric telegraph made most visual telegraphs obsolete, telegraph wires couldn't be run out to sea, so, until the development of radio, a few semaphore links continued to provide ship-to-shore communication.A Semaphore Telegraph Station, from the April 20, 1895 issue of the *Scientific American Supplement*, described a French shoreline installation, which displayed meteorological signals, sent messages to passing ships, and also received commercial telegrams sent from the ships by semaphore flags.)

Morse used standardized sequences of dots and dashes to represent individual letters and numbers for transmitting messages, and this became known as the American Morse Code. However, Morse's original code specification included a few oddities, so although American Morse was widely adopted throughout the United States, a more consistent version was

developed in Europe, known as Continental Morse Code. Telegraphic Codes, from the 1912 edition of the Electro-Importing Company's *Wireless Course*, compares the American and Continental Morse Codes with a third, short-lived code used by the U.S. Navy. Radio would also adopt dot-and-dash signaling in its early days, and radio operators generally used the same telegraphic codes as landline telegraphy, so at first most U.S. radio stations used American Morse, while a majority of the rest of the world used Continental Morse. However, radio's use in international communication meant that a single standard telegraphic code was needed in order to avoid confusion. Eventually Continental Morse was universally adopted for radio communication, and, reflecting its expanded status, it became known as International Morse. Meanwhile, the original American Morse largely disappeared from radio use.

TELEGRAPHIC NEWSGATHERING AND TIME SIGNALS

Although the telegraph was mostly used for sending individual messages, other more general applications were also developed. As lines spread throughout the country, the telegraph was recognized as ideal for rapidly gathering and distributing news items. In George B. Prescott's 1860 *History, Theory and Practice of the Electric Telegraph*, The Associated Press of the United States section reviewed the first telegraphic press association, which had been formed in 1848. (The Associated Press would later take seriously the threat that radio newscasts posed to newspaper sales. From 1922 to 1939 AP greatly restricted use of its reports by radio stations -- even those owned by newspapers -- in what became known as the "Press-Radio War"). It also became common to run special telegraph lines to major sporting events, so newspapers could receive up-to-the- minute reports. Banks of operators would be set up in the stands, each clattering away at their keys, such as those shown in Electrical Service at Harvard-Yale Football Game from the December 6, 1913 *The Electrical World*.

An important innovation occurred beginning in the late 1840s, when Great Britain used telegraph lines to establish standardized time throughout the country. The United States was somewhat slower to adopt this practice. The first step was to establish regional "railroad times", based on the solar noon at selected hub cities, which varied by railroad company. On the Allegheny System of Electric Time Signals by Samuel Pierpont Langley, from the 1873 *Journal of the Society of Telegraph Engineers*, reviewed how an astronomical observatory located near Pittsburgh, Pennsylvania had expanded its telegraph time service, originally provided to local jewellers, in order to establish a standard time for use along the Pennsylvania Central Railroad lines. It wouldn't be until 1883 that the various railroad companies agreed on a common standard, using hourly time zones offset from the base time at the Greenwich Royal Observatory in London, England. Eventually the United States Naval Observatory in Washington, D.C. began using telegraph lines to transmit daily time signals nationwide, as reported in Distribution of Time Signals by Waldon Fawcett, from the March, 1905 *The Technical World*.

NEWS AND ENTERTAINMENT DISTRIBUTION

The information gathered by press associations was generally made available only to member newspapers. However, the introduction of printing telegraphs -- informally known as "tickers" -- which printed letters and numbers on paper tape, made it possible to also distribute news and information directly to paying customers. At first subscribers received stock and commodity prices, but later news items were added. (A sardonic vignette, The Man and the Ticker from Tom Masson's 1905 book, *A Corner in Women and Other Follies*, tells what happened when "the Ticker didn't tick right".) In 1908, a section in *What Burlingame Did*, a promotional pamphlet written by Robert Cleveland to entice investors into buying stock for the Burlingame "telegraphing typewriter", claimed that within a couple of years ticker services would be nearly universal, and "Commencing early in the morning, and continuing all day long and into the hours of the evening, the news of the world will be sent to these business houses and homes all over the city". Although the Burlingame promotion was guilty of over-enthusiasm, ticker services were set up in a number of cities, serving mainly businesses and clubs, but also a few private homes. The importance of the tickers -- formally known as "stock indicators" -- for smoothing the operations of Wall Street brokers and other financial markets was reviewed in depth in the opening pages of the Tools of Wall Street chapter from Sereno S. Pratt's 1909 book, *The Work of Wall Street*. In its February 13, 1910 issue, *The New York Times* detailed the competitive race between operating ticker services in that city to provide "Fresh News Every Minute", while at the 1912 U.S. Senate *Titanic* hearings, the Testimony of Mr. Maurice L. Farrell provided detailed information about the minute-by-minute reports issued by the Dow Jones ticker service. In the April, 1914 issue of *Technical World Magazine*, C. F. Carter's Within a Tick of the News reviewed a New York City based news distribution service which provided "up-to-the minute knowledge of what the outside world is doing" to customers for whom even hourly newspaper editions were not enough.
The telegraph was also sometimes utilized for group connections, both by businesses and private citizens. In 1860, the A Novel Meeting section of *History, Theory and Practice of the Electric Telegraph* reported how thirty-three offices of the American Telegraph Company were linked together in order to conduct a business meeting. In the February, 1917 *QST* magazine, Irving Vermilya's Amateur Number One (telegraph extract)recalled a private line, begun in 1903, which eventually connected forty-two locations, creating a telegraphic party-line for youths in Mount Vernon, New York to exchange messages with each other 24 hours a day. And in Germany commercial enterprises made use of an innovative printing-telegraph system that provided an early form of electronic mail, as the August 21, 1912 issue of *Electrical Review and Western Electrician*reported in The Teleprinter that "Business offices, large hotels and other establishments in Berlin and Hamburg, are now subscribers to the teleprinter exchange" and "Messages are thus sent and received directly and without any loss of time".

The clicking noise made by telegraph receivers led to audio experimentation, as recounted in Music by Telegraph section of *History, Theory and Practice of the Electric Telegraph*. Dr. G. P. Hachenburg spent many years promoting the use of telegraph lines to remotely operate distant musical instruments --Musical Telegraphy, from the November 14, 1891 *Electrical Review*, was one review of his not-very-practical ideas, although, despite very little progress after more than

thirty years of promotion, Hachenburg extolled his system as "An invention that in the near future will assert its importance as one of the great inventions of the age", and one with great financial potential, "For who would not pay an admission fee to hear this electro-music?" A somewhat more practical device, although not a financial success, was Dr. Thaddeus Cahill's electronic synthesizer, the Telharmonium. Marion Melius'Music By Electricity, from the June, 1906 *The World's Work*, reported that it was now "as easy to create music at the other end of fifty miles [80 kilometers] of wire as to send a telegraph message". A second reviewer, Thomas Commerford Martin, was equally impressed, and in the April, 1906 *Review of Reviews*, The Telharmonium: Electricity's Alliance With Music reported that "In the new art of telharmony we have the latest gift of electricity to civilization". The Telharmonium consisted of a massive assembly of 145 electrical alternators, whose currents could be combined using a musical keyboard to create a full range of notes. Although Cahill looked forward to day when four concurrent services would provide electronic music 24-hours a day to subscribing commercial establishments and private homes, the invention ultimately proved impractical, in part because the high currents produced interfered with adjoining telephone lines. In the March 8, 1907 New York*Times*, Music By Wireless to the Times Tower reviewed Lee DeForest's experimental radio broadcast of a Telharmonium concert, but, given the extremely crude nature of De Forest's arc-transmitter at this stage, it could hardly have impressed Cahill, whose Telharmonium was lauded for its "purity of tone".

EARLY WIRELESS SPECULATION

The earliest experimental telegraphs employed multiple connecting wires -- in some cases a wire for each letter of the alphabet -- but over time simpler setups requiring fewer wires were developed. By 1844, Morse's line between Baltimore and Washington consisted of just two wires, one carrying the electrical current for signaling, and the other acting as a return line, to make a complete circuit. However, it turned out that even that could be simplified, and the return wire eliminated, if the sending line was "grounded", i.e. physically connected to a plate buried in the earth. The ability to eliminate the return wire was something of a mystery at the time, and the phenomenon became known under the misnomer of the "ground return", since it was incorrectly thought that the return electrical current was somehow flowing through the ground all the way back to the sending location. Actually, the earth around the grounding point was acting as a sink, so the "return current" was not traveling any significant distance. However, this mistaken belief that "return" currents were traversing the ground for extended distances suggested the idea of signaling without any connecting wires at all. Investigating this possibility, disappointed experimenters quickly found they were unable to send electrical currents through the ground more than a few meters, which they found perplexing, given their mistaken belief that "ground return" currents were somehow readily traveling hundreds of kilometers. In 1860, the Steinheil's Telegraph section of *History, Theory and Practice of the Electric Telegraph* reviewed what was known about the seemingly contradictory phenomenon, finally concluding that "It must be left to the future to decide whether we shall ever succeed in telegraphing at great distances without any metallic communication at all." In the end, it turned out that there was in fact no way to send standard electrical currents for long distances through the ground. However, in 1895 Guglielmo Marconi would discover the next best thing --

groundwave radio signals -- which were radio waves that used the earth as a waveguide, traveling across land and sea to the "great distances" envisioned by Steinheil.

ARRL's Logbook of the World (LoTW) now supports VUCC

(This just in from ARRL as of January 14 2011 – again, hyperlinks remain intact so that you can click through for more information)

ARRL's Logbook of the World (LoTW) -- an online system for amateurs to confirm two-way contacts that can be used for various ARRL awards -- has been upgraded to support awards based on Maidenhead grid squares, such as VUCC and the Fred Fish Memorial Award.
To take advantage of the new features, you need to log in to your LoTW account. (Don't have an LoTW account? It's easy to sign up.) VUCC is an open-ended award in that hams can work on throughout their lifetime, just like DXCC. But, like the Worked All States (WAS) award, the VUCC rules require all the contacts to be made from a defined area. For VHF and UHF QSOs on 1296 MHz and below, this distance must be within 200 km on 1296 MHz and below. For SHF awards, contacts must be made from a single location, defined as within a 300 meter diameter circle. As such, the VUCC support in LoTW allows you to make the rule -- or rules -- necessary to find the QSLs in LoTW that satisfy the VUCC rules.
Getting Started with VUCC on LoTW

When you log in to LoTW, click on the "Awards" tab. Besides finding the buttons for DXCC and WAS, you will also find a VUCC button. If you wish to use LoTW for VUCC, click on "Create New VUCC Award Account." When you do, you'll see a box where you can name your account. You also have the opportunity to make this your default VUCC account. Click "Save account changes."
At this point, you can manually add QSOs by clicking on "Add a QSO Set to this VUCC account." If you click on "Add rule to QSO Set," this will add a rule that will select current and future QSOs to this VUCC LoTW account.
You do not need to create separate accounts for each band which was used from any geographic location; LoTW will manage your band awards in each account for you. For example, your "home" location is grid square FN31, but you also operated portable from EL97. You will have to create two separate VUCC accounts so that the QSOs you made from EL97 are not credited to FN31. For detailed, step-by-step instructions, click here.
Beyond these set-up procedures, the VUCC support functions operate much like the way the WAS support in LoTW works: You are allowed to have multiple VUCCs, as long as they are from areas too far apart to be counted as one area. Most people will likely have one "home" or "primary" VUCC area.
What is Different?

- *No "hybrid" awards*: You can make as many LoTW applications as you want and you can make separate applications with paper QSLs. We will keep track. It is not necessary to have 100 grids confirmed in order to make an application, but of course, it is necessary

to have 100 grids confirmed and applied in order to be awarded a certificate for 6 or 2 meters.

- *Payment rate structure*: Paper applications will cost more than LoTW applications. There are lower prices for ARRL members, but US stations must be ARRL members. There is no "range of prices" for LoTW credits (what you pay to use a QSL inside LoTW). The LoTW per-QSO fee is 16 cents for members and 20 cents for non-members. You will see all the prices when you go to apply for an award.

Credit for adjoining grid squares: It is possible to give credit for up to four different grids using LoTW. This option is available for those who operate from "grid lines" and follow the rules for this set forth in VUCC and the Fred Fish Award (see VUCC Rules # 4.E).
It is possible to "link" your ARRL-affirmed list of grids -- those grids that have already been accredited to your VUCC award. This means that you have already received a VUCC award and want that data to appear in LoTW. This is very similar to what you can do with DXCC in LoTW. Unfortunately, some of the older VUCC applications exist only on paper and will need to be entered into the system by ARRL staff. If you have not made a VUCC application since 2000, you may be in that group; please have patience as staff will not be able to enter that data for a while.
Additional guidance about VUCC support is currently being prepared and will be announced on the LoTW home screen shortly. Daily automated listings of VUCC standings by band -- similar to the DXCC standings -- will also be online soon.
We invite you to take your time and enjoy the new tools. If you see matched QSOs and they are showing grids that you do not believe are correct, please let us know. We do check submitted grid data for accuracy, but there may be errors. You have final control over which of your confirmations you apply to your VUCC. If you believe someone has submitted QSO data with an incorrect grid square, please let both us and that station know. The originating station can fix his geographic data and resubmit the logs. Please have patience with our rollout of VUCC support. There is no hurry -- it is going to be here for a long time. Questions can always be sent via e-mail to lotw-help@arrl.org.

Trading Post

Nothing this month.

Club Information

Meeting Time: 4th Tuesday 7:00pm at (the restaurant),

Joe's Crab Shack
1355 5th Ave. South
Naples FL

Club Repeater: WB2QLP
146.670 (-600) PL 136.5
EOC Repeater:WB2WPA
147.030 (+600)

Club Web Site:
http://www.araswf.org

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