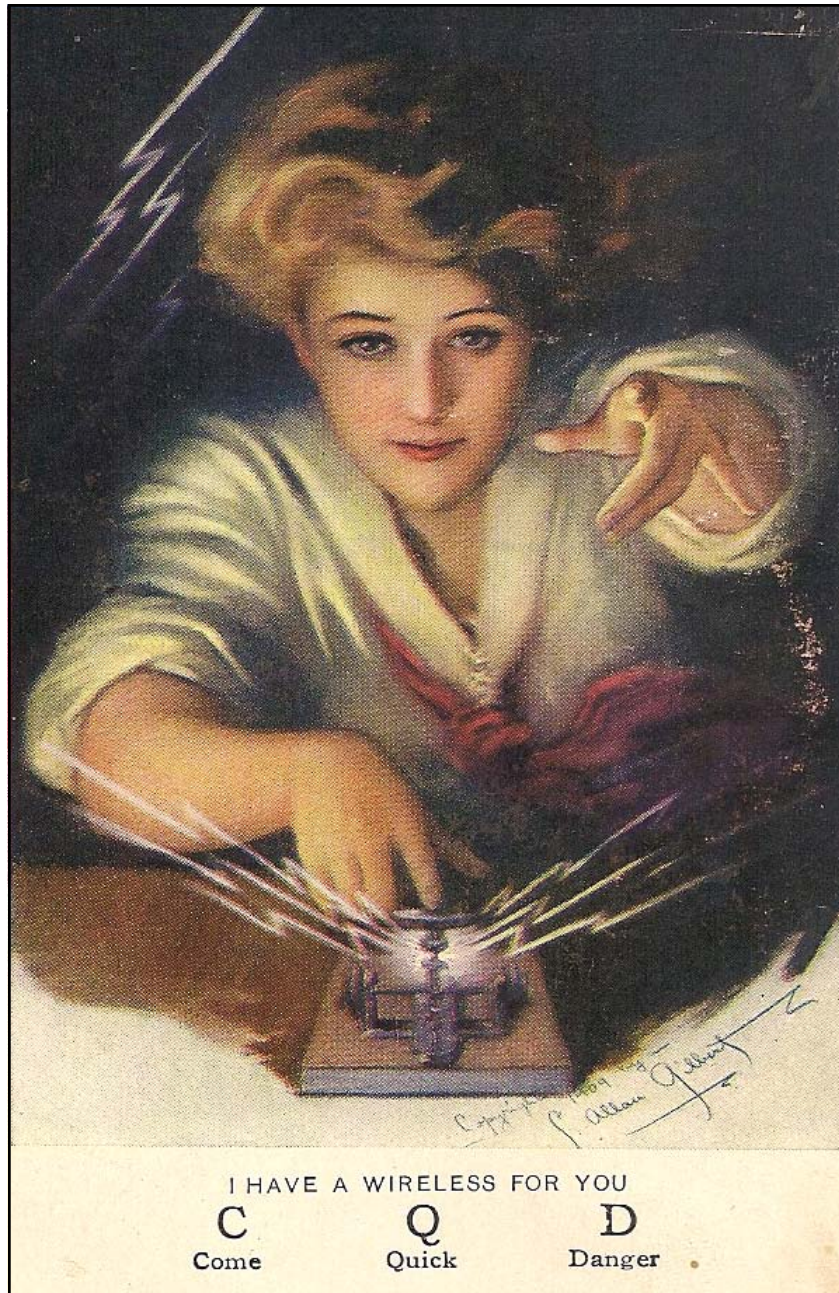


The Grid Leak

Nov.—Dec.
2012

www.hvra.org
(Color GL on web site)



Inside —

- From the President
- Club events/announcements
- Trip Report—David Moore
- Fessenden—Durell Roth
- Mystery Auction Item—Derek Ross
- Club Schedule

HVRA
Christmas/Holiday Party
Saturday—January 5, 2013, 6 pm
Monument Inn
LaPorte TX
(near the Battleship Texas)

From The President.....

Sometimes I feel the older I get, the faster time goes by. It seems like only yesterday I was sitting here typing, no I mean pecking, out the year end greetings for 2011. Looking back over the year, maybe things have improved at least with my H & P. No, I don't own an HP computer, it's a Sony with a Dell screen used by this "hunt and peck" wannabe typist now going at eight wpm! Well, at least that's an improvement from last year when I clocked myself at six to seven wpm. Maybe we do improve with age in some skills, so if I typed for one hour, that's an increase of an astounding 60 plus words per hour. For a computer / typing hack like me, wow – folks that's a movin' on! Well, at least I did learn wood working, wiring, and welding back in high school, maybe typing would have been a good idea; but my girlfriend in college took care of that for me.

Moving self described attaboys aside, and now down to business, I feel we enjoyed another very happy and successful year as we celebrate our thirty-fourth anniversary November 16. Having just returned from a week's vacation along with two other HVRA members to New England, it's time to focus on what lies ahead.

During our September meeting and fall mega auction the feeling that our Board of Directors are doing the right thing, must have prevailed in that all candidates were re-elected to another two year term. Everyone must have been in a joyous mood as the auction that followed the election grossed over four thousand dollars.

Regarding our New England trip, Dave and Gilbert will have some great pictures to share with us of the Marconi Museum, Rhode Island Steam Up, Battleship Cove, the USS Massachusetts, and other museums we visited up and down Cape Cod.

The October meeting will be our last scheduled general meeting of the year as the Bayland Center will shut down for both Thanksgiving and Christmas weeks. We will continue with monthly Board of Directors meetings the second Tuesday evenings of both November and December. Again, all members



Bill Werzner , HVRA President

and interested parties are welcome to attend these monthly meetings where we discuss club business sometimes with representatives from BTARS and the Battleship Texas too.

Now only a month away – weeks away by the time you receive this "GL" issue, VRPS, will convene their annual convention, two day auction, followed by the Sunday morning swap meet Nov. 16 – 18th. Many of us are members of both clubs and look forward to renewing old acquaintances, participating both in the contest and auction as well.

During this two month plus hiatus between HVRA meetings, you will have ample time to prepare radios and equipment for our annual convention February 8 & 9. If you are interested in HAM radio, prepare for the annual Christmas on the Battleship Texas celebration in December. This will also be a great opportunity for HVRA to show our stuff along with BTARS during this very popular annual event.

In closing I want to thank you all for having supported HVRA throughout the year with your time, donations, and labor, for without your support, we would not exist. Let's do it again next year even bigger and better! Have a safe Halloween, great Thanksgiving, a very Merry Christmas and Happy New Year! Bill Werzner, President, HVRA

Mega Auction

The fall MEGA auction was another buyers paradise. With gross sales of \$4,351 on 264 lots sold. The lots were varied and good deals were in all categories. With only 46 members participating, the word plethora comes to mind. Completed, restored radios, even from the Bob Wood Estate, showed up in multiples and these were from inside his home (not the attic). Tubes and tubes and then more tubes ... more parts, shortwave equipment, hi-fi equipment from the 50's. If you weren't there to say you missed it would be an understatement! Shame on you Tom B.

Cover:

Postcard from the Bob & Cathy Botto library. Postmark 1912.

Last general Meeting of 2012 October 27

With the Thanksgiving and Christmas holidays just over the horizon, please note that our last monthly general meeting will be Saturday, the 27th. Bayland Park Community Center will close on both the Thanksgiving and Christmas weeks so our next general meeting will then be held Saturday, January 26. During the next few months we will be concentrating on plans for our annual convention in early February. The Oct. 27 meeting will begin with an amplifier contest hosted by At Large board member Reid Shipp followed by a short general business meeting and monthly auction.

North East Visit - Steam, Marconi, USS Massachusetts, Old Ironside

Bill Werzner, Gilbert Hedge and David Moore traveled to Providence RI to capture some of fall color and see things that stimulated our senses: – steam – wireless – radios - battleships. All items were covered in the six day trip.

The weather was perfect for first event – steam at the New England Wireless and Steam Museum in East Greenwich located south of Providence. The steam boiler was fired up allowing the steam to flow to the big and the small engines. The yearly event draws many collectors, steam enthusiasts and admirers.

Much of our time was spent on Cape Cod seashore where Marconi received his noted wireless transatlantic signal in 1903. The old support towers at Wellfleet erected on a 30 foot high bluff (four in all) are gone with two foundations remaining. The other two were captured by nature's erosion forces at a rate of three feet per year. A small pavilion has been erected by the National Park Service to commemorate where wireless began.

Chatham Marconi Maritime Center (lower Cape Cod) located where the Chatham Wireless Communication Center was erected in 1914 by Marconi. The original buildings exist today, one houses the Center where working displays demonstrate the evolution of wireless communication through WWI and WWII. Marconi constructed a 365 foot antenna 1914 and was used until 1956. <http://www.chathammarconi.org/index.html>

A full day was spent at Battleship Cove in Fall River where the USS Massachusetts, USS Joseph P. Kennedy, USS Lion Fish and the Hiddensee (East German Navy) are moored plus two PT boats in dry dock. USS Mass. curator, Chris Nardi, permitted us access to the ship radio rooms, some extensively restored. The large ship had rows of radio receiver operator posts.

The USS Constitution, Old Ironside, was truly a step back in time. The fully operational Navy ship was commissioned in 1797 with 44 guns on two decks.



Tower base remnants from the Marconi 1903 receiving station at Wellfleet Mass.



Chris Nardi, USS Mass. Curator, discusses with Bill Werzner the needs of the USS Texas radio station restoration.



Big and small engines demonstrate the power of steam at the New England Wireless and Steam Museum.



Another Reason to Celebrate Christmas Eve—1906: One Hundred Six Years of Voice via Wireless

By *Durell M. Roth*

A mere one hundred six years ago on Christmas Eve, 1906, a new kind of wireless transmission thundered through the ether. Although previously notified to monitor for a special broadcast, wireless operators on land and sea were stunned! In their headphones, instead of the expected Morse code dots and dashes {state-of-the-art wireless at that time}, they heard a man making a speech, then someone playing violin, and lastly someone singing. Without fanfare and with few in attendance, at least three “firsts” were attained by this broadcast. Initially, although the term “radio” was not used at the time, these operators were the first radio audience; too, they had just heard the first scheduled broadcast of a human voice, Reginald Aubrey Fessenden transmitting a holiday message from his laboratory at Brant Rock, Massachusetts. Finally, these operators had witnessed the birth of an era: the broadcasting era.

It all began in November of 1902 when Reginald Fessenden and his financial backers, Thomas H. Given and Hay Walker, Jr., formed the National Electric Signaling Company (NESCO). In early 1903, the trio began construction of two NESCO wireless stations: one on the southeastern coast of Virginia near the mouth of Chesapeake Bay and another on the island of Bermuda. These stations would function as a common-carrier service and as a testing system for developing new equipment. As work commenced on the Virginia site, Fessenden received word that British government provisions gave telegraph cable-companies in Bermuda a monopoly over all other telegraphic communications and thus prevented NESCO from securing a license to construct and operate a wireless station on the island. Undaunted, but with a restrained yet defiant attitude, Fessenden established new NESCO headquarters in Washington D.C., enlarged his staff, and constructed a wireless station in Washington, in Philadelphia, and in New York. During the winter of 1903, he reported successful communication among all three stations.

The NESCO stations used state-of-the-art spark transmitters, but they were only a small step toward realizing two of Fessenden’s technological goals; reliable communication over greater and greater distances, and the efficient wireless transmission of the human voice. As had been frequently noted by Charles P. Steinmetz and other General Electric (G.E.) officials, Fessenden’s electrical engineering and design prowess often outpaced the technology of the day. Fessenden had long recognized that the damped waveform produced by spark transmitters would never sustain quality voice transmission. His wireless voice transmission theory required a constant amplitude, continuous wave, such as that produced by an alternator. Some time in 1903, Fessenden conducted voice transmission tests using a 1-kilowatt (Kw) 10-kilocycle (Kc) alternator designed and built by Charles Steinmetz at G. E. Satisfied with the results, he placed an order with G. E. for a 1-Kw, 100-Kc, alternator. At the time, a 1-Kw alternator for such a high frequency had not been designed or built. G. E., however, accepted and gave the order to Dr. Ernst F. W. Alexanderson in their a-c engineering department for design and development of a unit that would meet Fessenden’s requirements.

The following year, 1904, was a boom year for NESCO. Fessenden and his financial backers recognized the importance and the growing industry-wide frenzy toward transatlantic wire-



Reginald Fessenden (1886-1932)

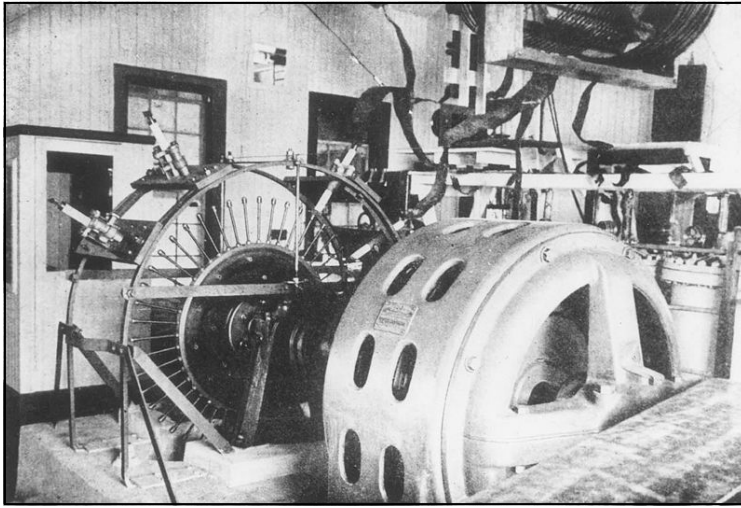
Source: Wikipedia

less communication. Additionally, knowing that even the world’s other wireless hero, Guglielmo Marconi, had not yet established reliable communication over this path, the NESCO trio decided to enter the race and conquer the Atlantic. They selected Brant Rock, Massachusetts, for the U. S. site and Machrihanish (a small town not far from Glasgow, Scotland) as the location for the European station. Both facilities were under construction by early 1905, and in July of that year Fessenden moved his family and technical staff to the nearly complete Brant Rock complex: this now became NESCO’s new headquarters, main transmitting site, and main development laboratory.

The industrial environment during the period surrounding NESCO’s relocation included epidemics of patent infringements [accidental and otherwise], as well as industrial espionage, and Susan Douglas, in her “[Inventing American Broadcasting](#)” notes that, “Walker warned Fessenden: “De Forest and other obnoxious persons should be prevented from seeing what you are doing.”” Douglas further notes that all the work at both the European and U. S. facilities, “. . . . was shrouded in great secrecy. . . .” and that the Brant Rock complex was kept under twenty-four hour guard.

While Fessenden waited for delivery of the alternator, he continued experiments using a rotary-gap spark transmitter, and Douglas notes that “He designed a new type of aerial that was supported by a tower made of steel tubing just wide enough for a person to climb up inside.” The towers and antennas at Brant Rock and Machrihanish were completed on December 28, 1905.

Meanwhile at G. E., Alexanderson completed the design of Fessenden’s alternator which called for the use of a stationary laminated iron armature (core) mounted between two rotating discs. Fessenden rejected the plans. He insisted that the armature be made of wood because he believed that an iron armature used at a power level of 1Kw and a frequency of 100 Kc would melt in the strong magnetic field of the machine. There may have been some basis to this belief in that a major limitation of all such alternators was the intense heat created by the rotating parts of the machine. Fessenden believed that eddy currents produced in the iron could raise the core temperature to unsafe operating levels and cause destruc-



Fessenden rotary spark gap transmitter
Source: Wikipedia

tion of the unit. It is more likely, however, that his insistence stemmed from the fact that the 10 Kc unit (which he borrowed from Steinmetz) used an iron core, and he simply wanted to avoid patent conflicts. Alexanderson disagreed with Fessenden's decision but complied with the request and redesigned the system using a wooden core.

Having settled the alternator design, in December of 1905 Fessenden notified his financial investor, Walker, of a letter he received from the Department of the Navy containing a transcript of an unidentified transmission and requesting possible identification. The transmission had come from Brant Rock and had been received sixteen hundred miles away in Puerto Rico. Additionally, Douglas notes that, "By January of 1906, NESCO's transatlantic stations were exchanging messages. Fessenden had conquered the Atlantic!

Excitement over Fessenden's success, however, was short lived. As the year, 1906, progressed it became a roller-coaster yet banner year for NESCO. The Atlantic had been conquered using spark equipment, and the NESCO stations had established two-way communication, but service was very erratic. Fessenden was experiencing the same phenomenon that plagued Marconi: static. As summer approached, the static became intolerable and completely buried the transatlantic signals. Fessenden increased the power of the U. S. and European station, but the increase did not improve communication. The summer of 1906 was not good for Fessenden: both NESCO stations were temporarily closed due to the static, and at the same time Alexanderson reported that the alternator could only be made to function at a maximum frequency of 50 Kc instead of the desired 100 Kc. Fessenden accepted the limitation, and G. E. delivered the 1Kw alternator to the Brant Rock laboratory in early fall 1906. The alternator sustained shipping damage, but Fessenden and his assistants quickly made repairs and the future began looking brighter for NESCO. During the fall season, the static levels had moderated, NESCO reopened its transatlantic link, and by October Fessenden, using the new alternator, successfully transmitted speech over a distance of ten miles. The exuberance of success, however, was once again short lived. On December 6, 1906, a storm destroyed the antenna at the Machrihanish site, effectively eliminating NESCO from transatlantic communication.

Seemingly undaunted, Fessenden continued testing the alternator voice transmission system: then, three days before Christmas, 1906, apparently using the NESCO spark system, Fessenden alerted ship and shore operators, equipped with NESCO receiving systems, to listen on Christmas Eve for a special transmission.

At the scheduled time, using the 1Kw alternator, Reginald Aubrey Fessenden accompanied by his wife Helen and several NESCO officers presented the first scheduled broadcast of the human voice and music. Fessenden, in a January 29, 1932, letter to S. M. Kintner, then Vice President of Westinghouse Electric & Manufacturing Company, describes the evening:

".... The program on Christmas Eve was as follows: first a short speech by me saying what we were going to do, then some phonograph music. You will find a photograph showing the phonograph used in the article in the Transactions of the American Institute above referred to and also in the American Telephone Journal, the music on the phonograph being Handal's "Largo." Then came a violin solo by me, being a composition by Gounod called "O, Holy Night," and ending up with the words "Adore and be still" which I sang one verse of, in addition to playing the violin, though the singing, of course, was not very good. Then came the Bible text, "Glory to God in the highest and on earth peace to men of good will," and we finally wound up by wishing them a Merry Christmas and then saying that we proposed to broadcast again New Year's Eve.

The Broadcast on New Year's Eve was the same as before, except that the music was changed and I got someone else to sing. I had not picked myself to do the singing, but on Christmas Eve I could not get any of the other to either talk, sing or play and consequently had to do it all myself. On New Year's Eve one man - I think it was Stein - agreed to sing and did sing, but none of the others either sang or talked.

We got word of the reception of the Christmas Eve program as far down as Norfolk, Va. and on the New Year's Eve program we got word from some places down in the West Indies. There should be some record of this broadcast in the logs of the U. S. war vessels and United Fruit vessels for Christmas and New Year's Eve, 1906 and New Year's Day, 1907.

Hoping that this will give you the information you desire, I am, with best wishes.

Yours sincerely,

Reginald A. Fessenden"

Authors note: Happy Holidays to all, and happy listening On The Air: and be sure to join us again after the first of the year for a follow-up article about the 1906 voice broadcast.

Note:

This article, but with different photos, can be seen in the "Air Check" published by the Radio Enthusiasts of Puget Sound(REPS). More information at WWW.repsonline.homestead.com

Mystery Item from MEGA Auction

By Derek Ross

During one of our recent monthly auctions I bid on and won an interesting Bendix radio part. Nobody at the auction could figure out what it was. I took it home to my wife Susan who was fascinated by it and started researching. We both love the Art Deco design and original Bendix logo.

After searching around with no luck, she contacted the Baltimore Museum and then the Bendix Radio Foundation. The BRF wrote back to her with a surprising amount of info.

"Susan - Nice photos of a unit that I don't personally know anything about. However, here's a few observations based on your photos:

The logo, the size and type of the switch and green indicator light would place it in the time frame of late WWII or shortly thereafter, say 1944-1950.

The simple, solid construction indicates it is a mobile radio control unit for single channel push-to-talk operation using a telephone handset having a push-to-talk button or lever switch. These type handsets were standard with the Bendix Radio railroad radio equipment.

The slot on back (opposite switch and light) and the hollow bolt and nut allow the unit to be mounted to a vehicle dash and the tilt adjusted so the handset stays in the cradle. The handset and control wires then feed through the hollow bolt.

The unit end plates (or caps) must have use bolts that run through the length of the cylinder as there don't seem to be any other mounting provisions.

The MS-140"A" designation usually means that it has had a production revision from the original MS-140 original design.

The serial number 1-XXXX is unusual, normally it is a simple number of four or five digits.

The fact that the switch and light has no engraved or printed labels is odd but since they could have been on the unavailable end caps, one can't obtain clues as to their exact function. However, ON/OFF for the switch and the green lamp being lit as confirmation of ON and vice versa is certainly likely.

There could have been additional switches on the end caps. One could have been to switch from the earphone in the handset to a speaker in the unit. The latter would justify the rounded slots on the front with the internally mounted red mesh material. There is no need for electronics and resulting heat in the unit so a speaker being involved seems likely.

This is the type of control box that could have been used with the SCR-522 VHF radio equipment that was pressed into demo service at the end of the war. It would have fit the bill nicely for early mobile units.

On the other hand, it could have been a prototype for a mobile radio unit that was never built in production because:

Commercial units always have nameplates that include the manufacturer's name and address along with the type number.

Production serial numbers are either engraved or stamped, or sometimes printed, but never lettered using an ink pen (to easy to damage or modify). Prototypes are hand lettered...

I'm relatively sure it's an early mobile radio control unit for taxis or police cars. Bendix Radio developed railroad two-way radios from about 1944 when war production began to taper off and planning for peacetime operation started in earnest. Mobile (taxi/police) radio came at the end of the war and remained in production until around 1960 when the product line was sold (to Motorola(?) who was known to have a better kickback program). This would be a very early unit as all the mobile radio equipment on which we have records use the later script "Bendix" logo with a large leading serif at the top of the "B."

Still not certain...and then this:

Today when discussing some graphic ideas for the new display I was handed an old ad as a potential graphic layout. In that review process I suddenly noticed a recent image that Susan had sent. I've attached a scan of that old Mobile Radio ad. That piece looks like a telephone cradle/switch used in cabs etc.

Mystery solved! You never know what you are going to find at the HVRA monthly auctions!




Photo of Bendix Radio item from Sept MEGA.

New Bendix Radio-Telephones
FOR LAND..SEA..AIR - SAVE YOU TIME AND MONEY

Fire & Personal **Airports**
Buses & Trucks **Railroads**
Police **Home**
Ship & Shore

Bendix -- foremost producer of aircraft and railroad radio -- now brings the automotive and marine fields equally outstanding two-way radio. Because it combines Bendix unparalleled experience in both communications and transportation, it is the most advanced equipment of its kind. The new Bendix Taxicab Radio, is lower in price, more compact and easier to install than any comparable equipment. Because it is VHF Radio, it assures freedom from atmospheric static anywhere in any weather. And it is easier to use than your telephone! Just lift the handset and you're there -- no dialing, no delay, no busy signal. Illustrated above are some of the many fields -- aloft, afloat, ashore, afloat -- where Bendix Mobile Radio will rapidly pay for itself, and show a profit in time and money saved. Inquiries on this remarkable new instant communications equipment may be addressed direct to Bendix Radio Division, Bendix Aviation Corp., Baltimore 4, Maryland.

EVERY FORM OF RADIO IS BETTER BECAUSE OF 
Bendix
AVIATION CORPORATION
FIRST IN CREATIVE ENGINEERING

Thanks to Bendix Radio Foundation -
<http://www.bendixradiofoundation.com/index.htm>



Sunrise over USS Texas with the San Jacinto Monument in the background.
(Photo: Courtesy of Louis Vest, Ship Pilot Houston, TX & TPWD)

Yule Time On The Battleship Texas

Hey guys and gals, on Saturday, December 8 join BTARS (Battleship Texas Amateur Radio Station) and HVRA (I'm sure you know who we are by now!) for a fun day penetrating the airwaves from the second deck HAM shack. BTARS will be on the air at 20 meters, around 14.250 MHz SSB, and possibly 40 meters CW. Perhaps others will also be aboard with their rigs on 2 meters.

You don't have to be a licensed HAM operator to join in the fun. When BTARS goes on the air, the place comes alive big time as everyone treasures a QSL card from the USS Texas, the only remaining dreadnought on earth now one hundred years old.

HVRA plans to set up an exhibit nearby showing how we restore vintage radios, so there will be plenty for us to do. If you want to participate, plan to arrive around 9 AM for set up. The ship opens to the public at 10 AM.

Here is our chance to show our stuff to the public and maybe gain some new members. E Mail Bill Werzner if you would like to assist with our demo setup <werz1943@gmail.com>.

HVRA Event Schedule:

Location for all events: Bayland Park Community Center, 6400 Bissonnet, Houston, TX Coffee & snacks available at regular meetings.

Saturday, Oct 27, 2012 Monthly meeting 9:30 AM, auction, program, & class #3 cont., Golden Ears Amplifier Contest

Tuesday, Nov 13, 2012 Monthly Board of Directors Meeting 6:30 PM,

NO MEETINGS IN NOVEMBER OR DECEMBER

Saturday & Sunday, Dec. 8, 2012 Christmas on the Battleship Texas. San Jacinto Battleground State Park, La Porte, TX

Tuesday, December 11, 2012 Monthly Board of Directors Meeting 6:30pm

Saturday Evening, Jan. 5, 2013 Annual HVRA Holiday Party, Monument Inn, 6 PM located next to the Lynchburg Ferry (south side) on Independence Parkway.

Tuesday, January 8, 2013 Monthly Board of Directors Meeting 6:30 PM

Saturday, January 26, 2013 Monthly meeting at Bayland Park Community Center, 6400 Bissonnet 9:30 AM, Program, auction, class IV. Coffee, juice, and snacks.

Friday & Saturday, February 8 & 9, 2013 HVRA Annual Convention, contest, and auctions. **Greenspoint Marriott Hotel, Houston, TX**
Banquet Speaker: Wayne Dolcefino, KTRK, Investigative reporter.

Vintage Radio & Phonograph Society

Annual Convention
November 16-18, 2012

Hampton Inn & Suites
Mesquite TX

HVRA Convention 2013

February 8-9, 2013

Featured Manufacturer—**Collins Radio**

Theme— Art Deco

In addition to the ribbons, a CASH will be awarded for

Best of Show—\$125

Peoples Choice—\$75

Best Restoration—\$50

HVRA Officers

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Grid Leak Editor — vacant (David Moore—temporary post)

SHORTWAVE RECEPTION—THE EASY WAY



The Grid Leak

November—December, 2012

Christmas-Holiday Party —Jan. 5, 2013
Monument Inn, LaPorte TX

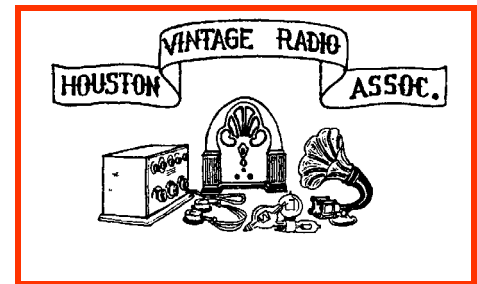
Monthly Meeting— Jan. 26, 2013
Bayland Park 8:30 AM

HVRA Convention—Feb. 8-9, 2013
Greenspoint Marriott Hotel

www.hvra.org *(Check out the fresh new look)*

Notice on renewing your membership!

Please check the expiration date by your name in the address of this newsletter. It should show your membership expiration date.



HVRA
Christmas / Holiday
Party
Saturday,
January 5, 2013