

The Jersey Broadcaster

NEWSLETTER OF THE NEW JERSEY ANTIQUE RADIO CLUB

September 2016

Volume 22 Issue 9

MEETING NOTICE

The next NJARC meeting will take place on Friday, September 9th at 7:30 PM at InfoAge. Directions may be found at the club's website (http://njarc.org). This month, members Charles Blanding and Richard Phoenix will join forces for a presentation on pirate radio. A board meeting will take place an hour



MEETING/ ACTIVITY NOTES

Reported by Marv Beeferman

<u>The ON-LINE Broadcaster</u> The Jersey Broadcaster is now on-line. Over 130 of your fellow NJARC members have already subscribed, saving the club a significant amount of money and your editor extra work. Interested? Send your e-mail address to mbeeferman@verizon.net. Be sure to include your full name.

Thanks to NJARC technical coordinator for last month's talk on Reginald Fessenden. Considering that Fessenden's classical education provided him with only a limited amount of scientific and technical training, his rise from an assistant tester for the Edison Machine Works through a professor of electrical engineering at Purdue and chair of the Electrical Engineering Department at the University of Pittsburgh attested to his keen mind. Al went on to review Fessenden's legacy with a number of notable achievements including the proposition of CW radio telegraphy, the first audio transmission by radio, definition of the heterodyne principle, the first two-way transatlantic radio transmission, development of the radiofrequency alternator and the first radio broadcast of entertainment and music.

The NJARC would like to thank member Bob Haworth for his generosity in allowing members to participate in "thinning out" his collection in a mega cleanout last month. Although it was one of the hottest days of the year, tempers stayed cool and all who attended were on their best behavior. Thanks also to the Barkoff family who were very accommodating, supplying us with drinks and snacks. Everyone seemed to be pleased with what they carried out and I'm sure Bob was happy that many of his unfinished projects went to homes where perhaps some day they can be taken to completion.



before the regular meeting.

Member Bob Haworth invites NJARC members to help thin out some of his collection.

Reports on the Antique Wireless Association (AWA) Convention in Rochester were a little depressing. Flea market attendance was low with only 25 vendors registered, Old Equipment Contest participation was down and one attendee noted some low prices at the auction: "With interest apparently dying in the general public for artifacts historical, I think much of the collectibles will never recover market value." Another attendee commented on the shortened (by one day) conference: "I simply did not have enough time to taken in the combination of events that make it worthwhile for me to drive 700+ miles to attend."

The NJARC was well represented in the Old Equipment Contest. One of the themes was Zenith radio and Frank Feczko won two prizes with an early Zenith AC radio and a Zenith advertising piece. Bob Masterson won for a Zenith "POCKETRADIO." Ray Chase revised and added to the WWII Western Electric tube display that he first showed at the MAARC meet in Maryland (see the August *Broadcaster*) and again won first prize.



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Upcoming Events

Sept. 16-17: Kutztown Antique Radio Meet

October 14: Monthly meeting at Princeton; Mike Molnar talk on Cooley Ray Photo TV kit

October 22: Fall Repair Clinic at InfoAge

November 5th: Fall swapmeet at Parsippany PAL

November 11th: Monthly meeting at InfoAge; Show & Tell

December 10th: Holiday Party, West Lake Country Club, Jackson NJ

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THE JERSEY BROADCASTER is the newsletter of the New Jersey Antique Radio Club (NJARC) which is dedicated to preserving the history and enhancing the knowledge of radio and related disciplines. Dues are \$25 per year and meetings are held the second Friday of each month at InfoAge or Princeton University.

The Editor or NJARC is not liable for any other use of the contents of this publication.

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MUSINGS By

MUSEUM

Ray Chase & Marv Beeferman



If you would like to comment on the contents of this monthly column or any other museum activities or topics, we welcome your input and will be happy to include your remarks in next month's installment. Please send your comments to mbeeferman@verizon net....Ed.

A Fisher FM Tuner Donation

On Wednesday, August 10th, member Sal Brisindi was contacted by a woman who said that she had some donations for the museum. Sal transferred the message to Ray Chase and the woman visited the museum one mid-afternoon with her daughter. Roberta Kordoski had lost her husband recently after 62 years of marriage and she wanted a few of his things to go to a good home.

Leo J. Kordoski was bi-lingual and had worked at Fort Monmouth up to its closing preparing technical manuals for NATO. His wife donated some parts, schematics and technical manuals but of particular interest was a Fisher "Gold Cascade Series Ninety" mono FM tuner. Although Mrs. Kordoski was somewhat emotional in going over in detail each donated item, most of her emphasis was placed on the Fisher tuner.

Mrs. Kordoski indicated that her husband bought the tuner as a kit early in their marriage and could not afford to buy its wood cabinet. She related that at some time after her husband finished constructing the kit, she bravely took the train to Cortlandt Street, otherwise known as "radio row" in lower Manhattan, to buy the fancy wood case for him as a Christmas present. Clearly, there was quite a bit of personal nostalgia attached to this donation.

Technical Coordinator Al Klase was also present during the visit and was excited to add this item to the hi-fi display that he largely created at the museum. He brought the Fisher tuner over to the exhibit and placed it on top of his own tuner to show Mrs. Kordoski how it would be displayed after it was checked out for operability.

Pictures were taken with Mrs. Kordoski and her daughter on either side of the tuner. Both mother and daughter left pleased that their husband/father's artifact was in good hands.



<u>A Gates Stereocaster Broadcast</u> <u>Audio Board</u>

In July, Technical Coordinator Al Klase was contacted by Mike Lupica of station WPRB in Princeton asking if the museum would like a 1950's Gates audio board originally owned by John Baker of Lawrenceville, NJ. The following week, Mike and friends brought the board to the museum. Station WPRB is not associated



The Gates Stereocaster broadcast audio board.

with Princeton University but is staffed by volunteers from Princeton under the direction of Mr. Lupica who is the educational advisor. Mr. Baker provided the following information on the board's history and its legacy at WPRB when he donated it for the station's 75 year anniversary celebration:

"This 1959 Gates 'Stereocaster' broadcast board has been in my basement for 30 years since I purchased it from WPRB-Princeton University before they threw it out. When installed, this radio station was both the first stereo FM station in New Jersev and the most powerful FM station going from 80 watts to 17,000 watts in one jump. The station is mounting an exhibit to celebrate 75 years on the air, and the board has been donated to the cause, where it belongs. It is a beast, was used until the early 80's, and, over time, had to be doctored and its wiring altered. Thanks to staff advisor Mike Lupica and student station manager Zena Kesselman for their total enthusiasm at the return of this evidently iconic piece of equipment in which I learned broadcasting technique at the age of 13-14."

The history of station WPRB may be found at <u>http://www.wprbhistory.org</u>. You can sort the content to your liking with the "View By Decade" menu in the top navbar, or by using the category links on the right. We are not sure what we are going to do with this board (perhaps in conjunction with a studio display) - it's an early transistorized device and has been modified many times over the years so it may be very difficult to get it working. Member Steve Rosenfeld has located initial technical information. Whatever we decide to do with it, it is very impressive looking.

<u>Repair Workshop</u> Nears Completion

The new radio repair workshop adjacent to the museum is nearly complete. A second repair bench is awaiting installation along with shelving for projects, test equipment, parts, tools, etc. Thanks go out to members Thomas Sedergran, Don Irish, Steve Rosenfeld, Bruce Ingraham, Jules Bellisio and Marv Beeferman with additional support from Ray Chase and Al Klase for a great job in painting, window upgrade, electrical upgrade and general cleanup in making the room what we hope will be a pleasant environment for working on museum and personal projects. We also intend to duplicate a 1930's workbench as a historical display.

Use of the room is expected to be governed by strict guidelines so it does not become a storage space. There will be a limitation on the time a project remains in repair status. Users will be expected to maintain cleanliness and responsible tool and test equipment utilization.



NJARC member Don Irish puts the finishing touches on a door to comply with maintaining the historical requirements of the building.



InfoAge Director Fred Carl tries out one of the repair benches.



One of my favorite flea market finds occurred a number of years ago when I purchased a Crosley Pup. When I first saw the receiver, I did not recognize it it just looked cool with a globe 01A on top of a small, black wrinkle paint metal box. The guy selling it explained to me what it actually was and that the tube was good but the radio needed work. It was offered at a very good price.

I went on line and was able to find some pictures and a schematic from Radiomuseum.org which has a lot of good data on old radios, tubes, etc. The Crosley Pup was originally designed for use with a WX or WD-12 tube with a 1.1 volt filament although it can also be used with the 01A supplied or other tubes. More on this later.

It appeared that the radio was partially dismantled by the previous owner since I found some loose hardware and missing screws. I checked the coils with a DVM and found that the grid circuit winding was open. At first, it looked like a daunting task to unwind and rebuild the spiral spider web coil. However, after carefully examining the windings, I noticed a nick or splice in the wire on a turn in the middle of the coil form. I carefully scraped away some of the cotton-covered enamel wire at the nick with an X-acto knife until I saw shiny copper on both sides of the break. A small bead of solder repaired the break without shorting adjacent turns of the winding and coil continuity was restored.

Many of the connections throughout the set were oxidized with age so I cleaned these areas with a small wire brush, tightened loose hardware and resoldered tickler, plate and headphone connections so they looked bright and shiny. I replaced some missing hardware and cleaned the filament rheostat with Deoxit and a cotton swab. I needed to add filament, plate and common ground connections that were missing to connect the radio to a battery power supply. I purchased a small roll of black, cottoncovered PVC wire from Antique Electronic Supply, soldered tip plugs on the ends and used colored heat shrink tubing and wire markers to denote the ground and B+ and A- connections.

Next, I built a battery box using four "D" cells in series for 6 volts to the 01A filament and three, 9 volt batteries in series for 27 volts to the plate. I color coded the connections to match those of the radio.

Once satisfied with the restoration, I connected a 2000 ohm headphone, long wire antenna, ground and power to the radio from the battery box. I slowly adjusted the filament rheostat until I saw the 01A dimly light, adjusted the tickler (it can be moved in and out via a plunger mechanism) but could only hear crackles in the headphones. I determined that more work was required.

On the back of the radio, two spring clips hold the grid leak resistor; the schematic calls for a value of 2 megohms. The original had a resistance much higher and the reading was very unstable. I carefully pried off one metal end cap and removed the interior that looked like a small piece of cardboard with a coating of India ink. I replaced this with two 1/4-watt, 1.0 megohm resistors in series and was able to fit these back into the grid leak glass tube. I bored a small hole into each of the end caps so the replacement resistor leads could pass through, pressed the end caps back on to the glass cylinder, soldered the end caps and trimmed the leads. The completed assembly looks much like the original.

I re-applied power and noticed some improvement, being able to hear weak audio from some strong AM stations. I then remembered from circuit theory that in order for regeneration to take place, proper phase is essential for feedback. I unsoldered the two wires from the tickler coil to the plate headphone circuit, reversed them and soldered them back in place. This time, the radio came to life. When I adjusted the coupling of the tickler coil in relation to the grid coil, a squeal could be heard and when adjusted to optimum, stations came in so loud that I could lay the headphones on my workbench and hear stations clearly.

As stated previously, the original Pup was built for use with a WX/WD-12 tube which is quite expensive. It draws 250 mA at 1.1 volts. The 01A I used draws approximately 250 mA at 5.0 volts. However, with the right modifications, a #30 can also be substituted. It draws 60 mA at 2.0 volts.

Since the #30 tube does not have a locking pin base, a socket adapter was required. Also, because of the lower filament voltage requirement, a series resistor was required to run it from my 6 volt supply. Since the tube draws very little current, it doesn't have that warm, early radio glow but it does have the advantage of a long operating time. Although it was possible to use one or two "D" cells to power the tube, I decided to adapt it to my battery box to avoid making any changes. With a low voltage supply, the Pup's filament rheostat does not have any useful adjustment range except to operate as an on/off switch.

I made the socket adapter from an old, four-pin bayonet tube base and four pin socket. I used a 68 ohm, 1/2-watt resistor connected in series with the #30 tube filament to allow safe operation at 6 volts. The adapter was made from a tip plug and jack which is plugged in line between the A- jack on the battery box.

Just for fun, I designed an experimental JFET circuit to replace the tube based on an MPF-102. It is mounted on a 4-pin tube plug and attaches to the socket adapter for the #30 tube. I used a lamp and CDS photocell combination (optocoupler) to permit adjusting the bias over a small range using the Pup's filament rheostat. The device has a lot of gain and it was a little difficult to tame the parasitic oscillations, but it lights up like a tube making it fun to watch while listening to the radio in the dark.



Crosley Pup with battery box and 01A tube.



"Just for fun, I designed an experimental JFET circuit to replace the tube."

WHAT'S IN YOUR COLLECTION? By Aaron Hunter

You've all probably seen the advertisement for the Capitol credit card with the theme "What's in your wallet?" This month begins the first member (Aaron Hunter) submission to a monthly column "What's In Your Collection?" Realizing that there is a vast amount of items out there that have never seen the light of day, we'll be soliciting members to provide a short write-up of an item (or items) in their collection that they feel might strike the interest of the membership. Of course, one or two photos should accompany the article.

We're not limiting the emphasis of the column to just radios. Phonographs,

Radio News for November, 1925

A Real Long Range Crosley Receiving Set, \$9.75

Do not assume from its very interesting price that this very unusual Crosley set is a toy. Its impressive performance alone entitles it to serious consideration.

Heretofore, the \$10 radio was designed only for local reception. Now the Crosley Pup extends the entertainment radius to 1500 miles under ordinary conditions. Place it beside some costly multipletube set and operate the dials. Both tune through local stations sharply. Both get the same programs with equal ease and clarity. Both let you tap the infinite enjoyment coming through the air. There is only one difference—the Pup operates with head phones instead of a loud speaker.

The Pup is the newest Crosley set with a price that reflects the volume-production economies of the world's largest builder of radios. It is substantially constructed and permanent in every regard. Its design is an improvement of the famous Crosley one tube set with which Leonard Weeks of Minot, N. D., heard the MacMillan Polar Expedition while the rest of America listened in vain.

Almost overnight the Pup has become the most popular Crosley set ever offered. It is being bought for youngsters whose curious fingers cannot resist the lure of dials and switches; for the cook, the maid, the old folks back home, and for shut-ins. Traveling men are selecting it because of its casy portability, and radio enthusiasts to have an inexpensive check on their larger sets. Hear it onceand you will own one too!

speakers, test equipment, books, advertising, tubes, accessories, etc. are all welcome. All we're asking for is about 100 to 250 words, stating why you find the item interesting and perhaps some particulars about its history, construction, application or uniqueness.

Many of you have told me that you are a little shy about writing. No problem! Google or the American Radio History website are great sources of background information and I promise to edit your piece, if needed, to make it shine.

Send your articles and photos to mbeeferman@verizon.net. I expect initially to get input from a number of volunteers. However, in the future, expect me to lean on you to do your part. It may be via an email, at our monthly meeting, at a swapmeet or at one of our other events. If you have a collection, I will find you...you can't hide!...Ed

My First Radio

My first (and therefore favorite) radio was given to me by my cousin who was 22 years my senior. Since my cousin served in WWII and the radio was a green portable (not olive drab), I used to think it was a military radio. I've since learned it is not but a Sonora KB-73 from 1939 or thereabouts.

It was given to me some time before the snowstorm of March 1958. Power was out for about a week, and with no batteries, I didn't have a radio. So after the storm was over, I talked my mother into taking me to a radio repair shop to get batteries and spend what little allowance I had saved up. The owner replaced a plug so it would work on batteries he had onhand and I was rewarded with a real, working portable radio. But this wouldn't last long!

I would often fall asleep listening to the radio and my mother would come in to shut it off. However, she never knew which knob to turn and she kept turning anything until the pilot light would go out. Unfortunately, she inadvertently switched it to battery power and that was the last time it had working batteries in it.

I only replaced one coupling capacitor over the years and put a piece of fabric in front of the wire mesh for the speaker cutout since the flocking was mostly gone. It now sits in the garage on top of a cabinet where I had set up a radio workshop some 30+ years ago. But that area got filled up with storage and the radio hadn't been turned on until I recently tried to play it. It took forever to warm up, way beyond the 11 seconds expected. The pilot lamp slowly lit up and all I heard was a low hum.

Considering the radio's history, perhaps it might be a good idea to clean up the area and get it working again.



A MYSTERY NJ RADIO STATION?

By **Ray Chase**

A month or so ago, I was contacted by a gentleman from Franklin Lakes, NJ about a mystery Army radio station in Milford Township, Passaic County. He is an amateur historian who came across a copy of a lease agreement between the Army Signal Corps and a property owner that was dated July, 1942. The property owner's address was in Jersey City but the 60' by 100' property on the lease was described as follows: "A one story frame bungalow of three rooms situated on Magnolia Rd. directly opposite the club grounds and designated as lots 287, 288. 289 on the map of Upper Greenwood Lake, Hewett, Township of Milford, Passaic County."

The reason I was contacted was based on the description of the purpose of the lease - "Radio Station or any other purpose deemed necessary by the United States Government." The term of the lease was until June 30, 1943 but could be renewed annually provided that the "unlimited National Emergency as declared by the President of the United States on May 27th, 1941, was still in effect." Annual rent was \$360.

The political divisions of the area have changed a bit since 1942 and apparently the area is now part of West Milford but I still can find the road and a place called Hewett on Google or a New Jersey Map.

My contact could not elicit any further information from government sources so he is reaching out to radio groups to see if they could turn up anything. Unfortunately, we used to have a couple of great Signal Corps history people at Fort Monmouth but they are now gone. Deep in the depths of my aged memory, I seem to recall reading something about an elaborate HAM station in Northern NJ that was requisitioned by the military as a HF listening post when things were getting hot just after WWII was declared but I cannot shake any details loose from the attic of my brain.

Perhaps someone in the club can ferret out any other details? It will not solve any world problems, but amateur historians are often the ones who recover historical information that is quickly discarded by the government or corporations who are too quick to trash it. Thanking you in advance, I'll pass on anything you come up with to my contact.



Air conditioning was at full blast to take the bite out of some hot soldering irons at our August 6th Repair Clinic at InfoAge. As usual, we had some interesting problem radios turn up with some going home in full voice and other stumpers awaiting another day. • Ray Chase worked on a Crosley 10-135 white "dashboard" radio owned by Eric Wolfarth. It had no output and the problem was traced to a bad IF can, probably suffering from silver migration. The radio was handed off to Bob Bennett for repair and recapping.

• Your editor worked on a Freed Eisemann NR-5 neutrodyne from 1923 owned by member Bill Inderrieden. Luckily, president Richard Lee knew it was being brought to the clinic so he provided his ARBE-II power supply so the radio could be powered up. Troubleshooting located a bad 01A tube, a bad power switch and a bad 1.0 mfd capacitor. Following repair, the radio pulled in a few local strong stations including WINS 660. It's possible that this radio was sitting in a barn for some 85 years and it was great to get it up and running again.

• Bob Bennett worked on a Philco 38-4 owned by member Matt Reynolds. He found an open antenna coil; future repairs are to be determined. Matt continued work on his Pilot TV-37 television with support from Al Klase. Bob also recapped and aligned Joe Dibito's Crosley 66TA.

 Chuck Paci took on a number of projects brought in by member Bob Masterson. The missing power cord on an Air Castle was replaced but an open power transformer was discovered which stopped the repair in its tracks. The same scenario applied to an Admiral 398 FM radio that was completely "dead" and had to put off to a future date. A Cadet Model K came back to life after it was discovered that it had a bad antenna connection. The radio "worked great" even though it had several paper capacitors that needed eventual replacement. In the same category was a "Pla-Pal" radio that required replacement of the rectifier tube and repair of the RF coil. Again, this radio left "sounding good with lots of volume."

• Charles Blanding worked on a Crosley 10-137 owned by member Rob Reifenheiser. It was found with a loud hum, static and it could not receive any stations. Problems included a faulty 3-section electrolytic, a faulty loop antenna and a weak tube. A second Crosley was found to have a bad 12AV6 and the antenna trimmer needed adjustment.

• Bill Zukowski and Al Klase worked on a Coca-Cola "Cooler" radio which the owner, Kevin McDermott, had previously recapped. The radio was found "dead" with the IF alignment way off. Following alignment, the radio still did not function. Then, a broken wire that went to the loop antenna was found but the connection point was not obvious. A schematic on

Radiomuseum.org was located and the radio returned to working condition.

• Al Klase and Kevin McDermott worked on an RCA SHF-7 phono with distorted sound. The amplifier was found to be good and the possibility of a bad cartridge is being investigated. The team also worked on a Voice of Music portable record player from 1955 owned by member Kasia Sadowsky.

Thanks to all those who contributed to a very enjoyable day.

















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A GERMAN HAMFEST By Robert Forte

I had the pleasure of attending the International Amateur Radio Exhibition, or Ham Radio Convention, that is a yearly event in Friedrichshafen, Germany held from June 24th to June 26th. This is the premier and largest amateur radio meet in Europe, draws people from all six continents and is held in a series of large halls called the "Messe." Two large halls comprise the flea market part of the meet while the remaining areas are for commercial use.

About a third of the vendors sell antique radios or parts, a third sell military surplus and the remainder sell computers, computer parts, and non-radio-related supplies. One table was full of microscopes and cameras that can show the insides of a wrist watch on a 24" screen.

One large hall encloses all the commercial vendors and is about the size of the commercial area at the Dayton Hamfest. Also contained in this area are amateur radio club tables from all over the world including our own ARRL. New products abound, including vans from Mercedes and others that are dedicated solely to amateur radio. A bank of tables held tutors teaching young people the art of radio construction, soldering and Morse code. I noticed a trend toward QRP construction and usage and much

less associated with the higher power gear.

For me, the main interest was in old radios and parts, obviously in a different category than here in the U.S. but all the same varied and beautiful. Outside, in the courtyard between the halls, are static displays of current radar sets and communication trucks with friendly military personnel to explain their usage. Also in the courtyard are setups for beer gardens huge spaces with picnic tables with vendors selling all types of wursts, one liter mugs of beer (the normal size), wiener schnitzel and pretzels the size of huge pancakes. This is definitely not food for the kale and sushi crowd.

Tom Perera, the Enigma guru, was spread over four tables with his European buddies. The movie "Imitation Game" has raised the price of Enigma Machines from \$35-\$40,000 to over \$200,000 each! Tom has one special rotor with an asking price of \$20,000!

Friedrichshafen is both very beautiful and very unique. It is situated on Lake Constance, or the "Bodensee" in the southern part of Germany. The lake is bounded by Switzerland, Austria and Germany. It's a resort town today, but was once the site where Hitler tested the engines for his V2 rockets. It is also the home of ZF transmissions which started out as a company building tank transmissions for the German army. Because of this, the town was leveled by the allies and had to be entirely rebuilt. Today, ZF has two huge plants near the airport, employs 60,000 people and builds the transmissions for many foreign cars like the Audi and Mercedes.

The town is also where the dirigibles were invented and produced. The Zeppelin Museum is a major attraction with a full size mockup of the Hindenburg airship. The town is situated lakeside with a huge park along the waterfront, with good restaurants along the shore where you can enjoy a good meal while looking across the lake at the snowcapped mountains of Switzerland and Austria.

Ham radio, good food and great views...what could be better?





