

The Jersey Broadcaster

NEWSLETTER OF THE NEW JERSEY ANTIQUE RADIO CLUB

February 2014

Volume 20 Issue 2



MEETING/ ACTIVITY NOTES

Reported by
Marv Beeferman

The ON-LINE Broadcaster

The New Jersey Broadcaster is now on -line. To date, over 120 of your fellow NJARC members have subscribed, saving the club and your editor a significant amount of money and work. Interested? Send your e-mail address to mbeeferman@verizon.net. Be sure to include your full name.

January was an active month for the club with our DX-pedition, Broadcast Band DX Contest and preparations for our celebration of Armstrong Day at InfoAge. The "crew" at our RTM Museum has been working hard to move our storage unit to make way for building upgrades and Ray Chase is starting to inventory items for another InfoAge auction. February appears to be shaping up the same with an interesting program by Dr. Alex Magoun and exciting auction scheduled for our monthly meeting and our Winter Repair Clinic scheduled for February 22nd at InfoAge.

Thanks to all the members who have sent me photos of their rigs for the DX contest. They really added a nice touch to the raw data of this year's entries. Thanks also goes out to Al Klase for "talking up" the contest and offering his great DX tips and Tom Provost for tallying up the results.

We are starting to suffer from a disease which I call "online creep." Over the last six months, we have had a spurt of new memberships, which is a good thing. Unfortunately, many of these individuals are either having their *Broadcaster* sent by regular mail or not stating their preference (which forces me to put them on a mailing list). Hopefully, we'll be able to come up



MEETING NOTICE

The next NJARC meeting will take place on Friday, February 14th at 7:30 PM at Princeton's Bowen Hall (70 Prospect Ave.) Directions may be found at the club's website (<http://www.njarc.org>). This month's program will feature Dr. Alex Magoun, former director of the David Sarnoff library, giving a talk on the history of RCA. We'll also offer an auction of items from the estate of Steve Hetyeis of Randolph, N.J. (see page 3 of the *Broadcaster* for details).



This nice Stromberg Carlson console sold for a meager \$5 at January's meeting auction.



For a second year, the NJARC Radio Technology Museum sponsored a display at the Ocean Township Elementary School Science Fair. As Al Klase noted: "Once again, our hands-on display was warmly welcomed and the tables mobbed by inquisitive urchins."

with a more forceful way to get new members to request their *Broadcaster*. Until then, we're again asking those members who are still receiving their copies by regular mail to reconsider online delivery. You'll get your copy a bit earlier, receive it in living color and

have the capability to save it in color. But most of all, you'll be helping your club in staying in the black by saving on mailing and printing costs. (From a self-serving aspect, you'll save your editor a lot of work in folding newsletters and preparing and stuffing envelopes.)

Finally, try to get your 2014 dues to Marsha Simkin before the March 31st deadline to avoid all the work involved in dropping and then reinstating your membership.

Upcoming Events

February 22nd - Winter Repair Clinic at InfoAge building 9032A

March 14th - Monthly meeting at InfoAge building 9032A; Professor Joe Taylor's Moon Bounce talk (tentative)

March 22nd - Spring swapmeet at Parsippany PAL

April 11th - Monthly meeting at Princeton's Bowen Hall; Al Klase "History of Short Wave"

May 2nd - Monthly meeting at InfoAge building 9032A; homebrew and "basket case" contest judging (Note date change to avoid Kutztown conflict.)

May 8 to 10th - Kutztown radio swapmeet
June 13th - Monthly meeting at Princeton's Bowen Hall; Show & Tell

June 21st - Spring Repair Clinic at InfoAge building 9032A

July 11th - Monthly meeting at Princeton's Bowen Hall (program TBA)

July 26th - Annual tailgate swapmeet at InfoAge

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

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THE "POCKET EAR"

Edited by
Marv Beeferman

Commercial miniaturization began to be seriously considered after WWII but it took some time for radio to catch up with the television industry with regard to studio communications. In an article titled "The Pocket Ear" (RCA Review, March 1947, J. L. Hathaway and William Hotine), the evolution of a simple receiver that was eventually developed in the NBC Laboratory to replace the telephone headset equipment formerly used by television stage directors is described. The article also indirectly forecasts the attempt at miniaturization of post-war, short-range communications equipment...Ed

Consider the following. It's 1946 and our hero, in a scene in a television broadcast, is immediately needed on an adjacent set to create the desired illusion of story continuity. As you can imagine, timing is very important. The camera "pans" in on the heroine for a close-up. As soon as our hero is out of the vision of the camera, he is cued by the studio director to the adjacent set where the next scene is televised 20 seconds later. The exact time of the cue is given to the director by the producer of the show. This is just one simple example when instantaneous direct communication between a TV director and producer would be required. However, even with all the advances in radio technology to date, such communication was still maintained by telephone headsets.

Use of telephone headsets in TV studio communications required that the studio director move freely through a maze of equipment and personnel to direct effectively and cue actors, technicians and sound effects. Crowded into the studio are sets of scenery, cameras, microphone booms, floor lights, sound equipment, a large double turntable, operating personnel, studio technicians and actors. With the telephone headset and attendant cable, complete freedom of movement was impossible since the telephone cord would constantly tangle with

equipment and personnel.

It became immediately obvious that the telephone headset needed to be replaced with a radio transmitter and receiver that would remove the restrictions of the telephone system, fulfill the requirements of compactness and ease of operation, and be sensitive enough to receive from any location in the studio. In addition, comfort was a prime requirement. (After hours of continued use of a telephone headset, the wearer's ears developed the numbed feeling so familiar to wireless operators.) Supplying the necessary radio signal was the easy part, with a transmitter with less than one-quarter watt radiated power centrally located and suspended from the ceiling of the television studio. Thus, radiation from the transmitter would be restricted almost entirely to within the studio. At the same time, RCA was working on a smaller version of their miniature, pre-war hand-held transmitters (called "Beermugs") that they referred to as the "radio mike."

The receiver turned out to be a different story. First efforts to develop a workable receiver resulted in the "Man from Mars" unit pictured in Figure 1. While not entirely satisfactory, it did demonstrate the feasibility of the plan of employing radio. As can be seen, this unit used an ordinary headset supporting a vertical rod antenna, a tuning circuit and a crystal detector. Besides being uncomfortable and clumsy to wear, the reception was very poor.

In the next unit, the "Happy Hooligan" model (Figure 2), a tuned coil was used as the receiving antenna. Within this coil were the tuning circuit, a crystal detector and an audio amplifier. Batteries, connected to the amplifier by a long flexible cable, were carried in the wearer's pocket. Even though clumsy, lacking in sensitivity and with no provision for volume control,

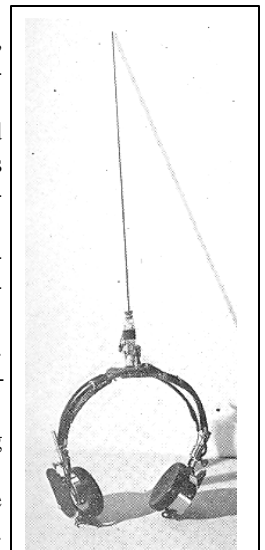


Fig. 1 - The "Man from Mars" pocket ear.

it was such a decided improvement over the telephone system that it was used until a more refined unit was developed.

By early 1947 the Model 3 or "Pocket Ear" (Figure 3 & 4) was developed. The most important improvement over the first two models was the replacement of the headset by a tiny, soft rubber earplug. These plugs were removable for washing or replacing.

Sound was transmitted to the ear from an electro-acoustic transducer in the receiver by a thin-walled, transparent vinylite tube 30 inches long. This provided better fidelity than any of the commercially available earphones and at the same time created no audible sound except to the ear of the wearer. This "sound tube" conveniently carried the unit's antenna.

To obtain sufficient sensitivity and automatic volume control, a tuned radio-frequency amplifier operating into a voltage-doubling detector was employed as shown in the circuit schematic (Figure 5). The receiver required only enough sensitivity for its automatic-volume-control to maintain signals at all locations in the studio. In field tests, using a two-watt transmitter, the reliable range of the receiver was 100 yards on one of the NBC relay broadcast frequencies close to 30 MHz. Out to 200 yards, the reception was spotty and beyond that range very little was heard.

Numerous other applications were proposed for the Model 3 Pocket Ear. But in order to cope with these applications where the sensitivity of the Model 3 would be too low for the required results, it was redesigned to the Model 4 with a 15 % reduction in size and 3.5 times the sensitivity. The main differences were the addition of an additional radio-frequency amplifier stage and the use of smaller batteries.

At the time of their development, it was felt that both the Model 3 and Model 4 Pocket Ears would more than answer the present (1947) requirements in both television and broadcasting as well as certain proposed applications in the theatre and motion picture industry.

The migration of the Pocket Ear to the legitimate stage, movie sets and for use in remote TV and radio broadcasting (as "cue" receivers) would take additional investigation and research on my part. But it wouldn't take long before FM and other forms of local radio communication took its place.

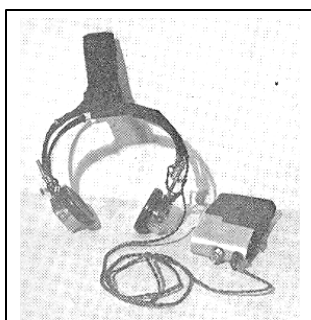


Fig. 2 - The "Happy Hooligan" pocket ear.

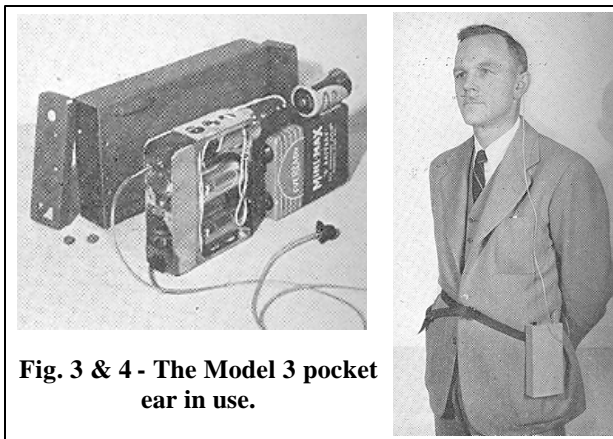


Fig. 3 & 4 - The Model 3 pocket ear in use.

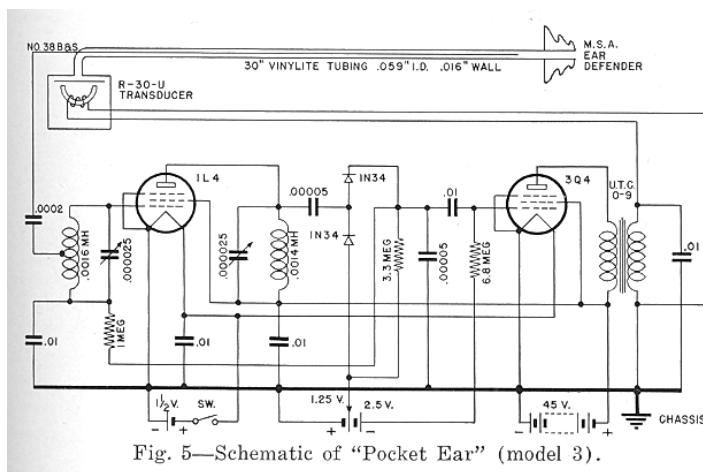


Fig. 5—Schematic of "Pocket Ear" (model 3).

HETYEIS AUCTION AT FEBRUARY MEETING

President Richard Lee has announced the auction of items from the collection of deceased Steve Hetyeis (E.E.PhD) of Randolph, N.J. Included in the auction, but not shown, is a TV-10A/U tube tester, Tektronix 465M scope, assorted table-top radios, tubes and books.



JDR Instruments model 3500 oscilloscope.



Lodestar model AG-2601A audio generator.



HP model 310A wave analyzer.



Military model DY-94/GRC-10 dynamotor power supply.



HP 6405A vector voltmeter.



Model R-392 military receiver.



AN/USM-425 Tektronix scope.



Stewart Warner R-390A receiver.

A TOAST TO THE "SPIRIT" OF ARMSTRONG

**Reported By
Marv Beeferman**

As previously reported in the *Broadcaster*, Thursday, January 30th marks the 100th anniversary of the historic Howard Armstrong - David Sarnoff meeting at Marconi's Belmar station. The official observation of this event will take place on February 8th and 9th at InfoAge. (For information see http://www.rtm.ar88.net/Armstrong_Days_at_InfoAge.html) However, on the evening of January 30th, a small group of "true believers" braved the cold and snow (supposedly close to the same conditions of 100 years ago) to raise a glass to the spirit of two of the most important figures in the history of radio.

As reported by NJARC member Al Klase:

"Basically we hung out, ate, drank and listened to regenerative radios in memory of Armstrong and Sarnoff. We had visited the operations building in the afternoon to identify the location of the construction shack shown in the picture published in *Wireless Age* in 1914. We returned shortly before midnight for a champagne toast."

You can watch a video of the salute at <http://www.ustream.tv/channel/armstrong-anniversary>. Taking part are NJARC members Al Klase, Steve Goulart, Matt Reynolds, John Tyminski and some of John's friends.



Raising a glass to Armstrong and Sarnoff.



"Basically we hung out, ate, drank and listened to regenerative radios in memory of Armstrong and Sarnoff."



Somewhat difficult to make out from a 1914 *Wireless Age* photo, the construction shack where tests were conducted.

NJARC DXers SHOW THEIR STUFF

**Reported by
Marv Beeferman**

I'm sure most of us didn't welcome the blustery, cold days between January 17th and 26th, but NJARC Technical Coordinator Al Klase certainly couldn't have picked a better time for the club's annual DX contest. According to Tom Provost, after crunching the numbers to determine the winners, we had a nice turnout. Before reading the results, you can view some photos of the rigs and contestants that participated.

I was both pleased and disappointed by the results I obtained. In response to Al's new category of "any radio of your choosing," I entered a Tecsun PL-360 DSP receiver. DSP technology uses micro-chips to digitize the analog AM/FM bands which "can highly improve on the radio's sensitivity, selectivity, S/N ratio and anti-interference." After about 10 minutes, I

was hooked. A few nice features of the display is frequency, signal strength and signal-to-noise ratio. Tuning was a charm in either a slow tuning mode (1 kHz steps) or fast tuning mode (9/10 kHz steps). The radio also included an external, rotating antenna which, when used in conjunction with a Terk tunable loop, made it easy to separate stations using the same frequency.

I planned to use my AK 20 "big box" for a category C entry since it proved to be such a great performer two years ago. Although it pulled in a few stations with my 30-foot long wire, it just couldn't pick up those typical stations needed to put me in the running. It was beyond me what had changed, and my stubbornness resulted in wasting 3 days trying to figure it out, but to no avail. I finally gave up and decided to go with the Tecsun alone.



Your editor with his Tecsun PL-360 DSP receiver and Terk loop.



Marty Drift decided to go with his restored Zenith G500 Transoceanic and a 500-foot long wire antenna.



Pete Olin notes the following with regard to his two entries shown above:

"The crystal set uses a pair of coils in the 1000 Q range which gives excellent tuning with no station overlap. Since I had to use sound-powered, hi-Z phones, I couldn't use my hearing aids. Even so, stations were strong and clear."

"The 1925 Grebe MU-1 is one of the best 5-tube battery sets made for DX and plays nicely into an Atwater Kent speaker. Yes, I did burn the midnight oil quite literally during the contest. It's a very pleasant light and puts out lots of heat during those frigid nights."



Scott Wynn entered a Grundig S450DLX, hoping that the god of DX to the left might improve his chances.



If neatness counts, Owen Gerboth's Zenith G-500 with a Palomar loop should be a real winner.



Phil Vourtsis' "secret weapon" Braun TS2; he sure looks intense while logging in those stations.



Tom Provost remarked "It was hard to get both the radio (Hammarlund HQ150) and my newly re-strung loop with the snazzy green wire in the shot." It still looks pretty snazzy to me!



Richard Lee entered this homebrew regenerative receiver.



Ed Suhaka summarized his DX experience as follows:

"I am entering the "Light-Weight" category. My receiver is a second-hand, digital readout Sony IVF-M410V. With no batteries in it, my diet scale says it weighs 15 ounces so I'm guess I'm good. I spent a rather short time working the contest but I did get a number of the stations on the DX Target List. I very much wanted to log YVKS on 850 but WSB was too strong. I did hear a weak Spanish station underneath WSB but had no chance of identifying it. I was also discouraged that I could not receive WHO on 1040 because of WCHR in Trenton, also on 1040 and very strong at this location at all times.

I am also attaching a picture of my favorite DX coffee mug. When put to proper use, it does indeed facilitate late-night AM DXing."



Cup Update: "I Googled around a little and found that my beloved DX mug is a fake! No such AM station as KBHR and no such city as Cicely, Alaska exists. But in this case, fiction may be more interesting than fact. The clue is on the side of the mug that says Northern Exposure, Roslyn Wash. Those two items are fact."

"There was a TV show, Northern Exposure, from 1990 to 1995 taped in Roslyn, Wash. Roslyn was the setting

for the fictitious city of Cicely, Alaska where the action of Northern Exposure took place. (Although KBHR 57 AM is fictitious, there is a real KBHR FM in Big Bear City, California.)"

"I found this mug at a rummage sale and thought it was the real deal. Maybe this discovery will necessitate a new DX category for next year's contest: longest distance station coffee mug."

NJARC 2014 DX CONTEST RESULTS

Category A - Crystal Radios

*Winner

Pete Olin 5,003 pts. Homebrew Crystal Set, two stage, using 80 ft. long wire, MDS 1120 kHz KMOX, St. Louis, MO 860 miles

Joseph Sarafin 360 pts. Homebrew Crystal Set using 100 ft wire ant. MDS 660 kHz WFAN, New York, NY 36 miles

Category B - Primitive Tube Receivers- 1 or 2 tube

*No entries

Category C - 1920's Battery Sets

*Winner

Pete Olin 4,916 pts. Grebe MU 1 using long wire, MDS 890 kHz WLS, Chicago, IL, 708 miles

Category D - Tube Radios for Home Entertainment

*Winner

Rich Mueller 8,146 pts. Delco 1227 table radio (1947) with internal loop ant., MDS 850 kHz Radio Reloj, Havana, Cuba, 1279 miles

Owen Gerboth 7,381 pts. Zenith G500 using Palomar loop, MDS 850 kHz Radio Reloj, Havana, Cuba, 1279 miles

Phil Vourtsis 7,073 pts. Braun Model TS2 w/rotatable loop, MDS 1490 kHz WFAD Middlebury, VT 777 miles

Marty Drift 3,418 pts. Zenith G500 with loop and long wire, MDS 650 WSM Nashville, TN 736 miles

Category E - Amateur, Commercial and Military Tube Type Radios

*Winner

Tom Provost 9,732 pts. Hammarlund HQ 150 w/HB loop, MDS 600 kHz CMKA, San German, Cuba 1347 miles

Category F - Any Radio of Your Choosing

***Winner**

Marv Beeferman 9,519 pts. Tecsun PL360 DSP using high sensitivity AM ant. provided w/ radio and Terk adjustable loop, MDS 600 kHz CMKA, San German, Cuba, 1347 miles

Joseph Serafin 9,065 pts. Radio Shack DX 390 w/Terk Advantage loop and 100 foot long wire, MDS 950 kHz CMBD Arroyo Arenas, Cuba 1278 miles

Al Klase 9,054 pts. Drake R-8B using shielded untuned loop, MDS 600 kHz CMKA San German, CU, 1347 miles

Henry Sonntag 8,201 pts. Icom 718 transceiver w/loop, MDS 730 kHz XEX, Mexico City, MEX 2,055 miles

Scott Wynn 6,454 pts. Grundig S450DLX w/wire ant. MDS 1120 kHz KMOX, St. Louis, MO 860 miles

Joseph Devonshire 5,239 pts. Grundig Satellite International 650 w/ internal loop and Gap Challenger vertical ant., MDS 1540 kHz KXEL, Waterloo, Iowa, 1,130 miles

Category G - Light Weight - Any Radio Weighing Less Than 1 Pound.

***Winner**

Dave Snellman 12,204 pts. Sony SFR-M37W w/Terk Advantage 1814GM loop, MDS Radio Caracas Radio (RCR), 750 kHz Caracas, VZ 2,097 miles

Edward Suhaka 8,045 pts. Sony ICF M410V with internal ant. MDS 870 kHz Radio Reloj, Havana, Cuba 1,271 miles

Compiled by Tom Provost 02/05/14



**DX-PEDITION
2014**

In preparation and support for this year's BCB DX Contest, Technical Coordinator Al Klase hosted a DX-pedition at InfoAge as part of the monthly meeting. Some of the radios that members had a chance to play with included a "Sky-waves" high performance crystal set, an R-24/ARC-5, a Zenith 3000 Transoceanic and a 1920s 4-dialer. Member Dave Snellman offered a large selection of more "modern sets" including a Tecsun PL-380, PL-696, and PL-880 and a Sony ICF-SW07, SW77 and SW100.

Members also had the opportunity to try out a few loop antennas and a computer-based, software-generated radio. What follows are a few photos that captured the evening's activities.





New Jersey Antique Radio Club's Spring Swap Meet



**Parsippany PAL Building
Smith Field
Route 46 @ 33 Baldwin Road
Parsippany, NJ 07054**



Saturday March 22nd, 2014



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 Road, Parsippany NJ, 07054

Vendors Make Your Reservations Now!

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