



# The Jersey Broadcaster

NEWSLETTER OF THE NEW JERSEY ANTIQUE RADIO CLUB

June 2016

Volume 22 Issue 6



## MEETING/ ACTIVITY NOTES

Reported by  
Marv Beeferman

### The ON-LINE Broadcaster

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](mailto:mbeeferman@verizon.net). Be sure to include your full name.

A back problem and my annual, week-long blitz of Broadway shows kept me away from our Spring repair clinic and the Kutztown swapmeet so I won't be reporting on them in this month's *Broadcaster*. However, as reported at the May meeting, the Kutztown meet continues to grow with an additional 20 more vendors in attendance over those who sold at the Fall meet. It was also noted that the auction was excellent with many desirable items hammered down. If you want to drool over some of "the neat stuff to be had" at Kutztown, check out Bob Bennett's "radiowild" tour on You Tube (<https://www.youtube.com/watch?v=McC3EUUs6ZU>).

With regard to the May repair clinic, as usual, some working radios went home with their happy owners. Matt Reynolds, with the help of Nevell Greenough, finally got his Pilot TV up and running (at least for a day). Perhaps Matt can give us an update next month.

Thanks to all members who participated in our Radio Scavenger Hunt. Some really unique pieces were displayed as pictured in this month's *Broadcaster*. As president Richard Lee noted, these type of contests show off the varied and diverse collecting interests of our membership. Thanks also to Richard for picking up and hauling to InfoAge some items that made for another nice auction. A Hallicrafters S-40 and working National NC-183, donated by member Joe Connor sold for \$5



## MEETING NOTICE

The next NJARC meeting will take place on Friday, June 10th at 7:30 PM at Princeton's Bowen Hall (70 Prospect Ave.). Directions may be found at the club's website (<http://njarc.org>). This month's program will include a varied assortment of topics presented by our members including capacitor nomenclature, CRT rebuilding and vintage radio power supplies. We'll also continue our auction of various donated items.

and \$40 respectively. Some very nice meters, relays and assorted vintage radio parts provided by Chief Engineer Dave Amendsen of the Armstrong Tower via member Hugo Picciani were also in the mix. Part of the proceeds from these items will help fund a museum dedicated to Major Armstrong located at the tower.



Sal Brisindi auctions off donations from member Joe Connor.



Some nice vintage meters were part of the auction mix.

NJARC Executive Board elections will take place at the July meeting. Positions are listed on page 2 of the *Broadcaster*. If you desire to run for one of these offices, please be prepared to have

someone place your name in nomination at the June meeting. If no nominations are received or proposed, voting shall be in July by a show of hands by all meeting attendees to re-elect the present Board. If nominations are received, a secret ballot will be used.

Work continues on our new repair shop in a room adjacent to the Radio Technology Museum at InfoAge. Age-appropriate doors have been located, new carpeting has been acquired to fill in some open spaces and the repaired and repainted windows are close to re-installation. We thought it might be a problem to obtain replacements for some missing 1-3/4" x 1/4" battens (some felt they might require special milling because of their age) but one of our members found them at Home Depot. In a few weeks, we should be able to start patching and painting the walls and ceiling...and we could always use help.

For those interested in phonographs and records, member Pete Olin recommends the following site: <https://archive.org/details/CommandP1942#>. Here you will find the procedures involved in the production of shellac records including the making of the original master plate, the mother plate and stampers and the processes involved in pressing records. On a similar subject, if you're looking for phonograph parts, a recommended source is "The Voice of Music" in Michigan ([www.thevoiceofmusic.com](http://www.thevoiceofmusic.com)).

Member Dr. Alex Magoun notes that Danielle Shapiro, author of *John Vassos: Industrial Design for Modern Life*, will speak about Vassos at the NY Public Library's main building on Tuesday, June 14th from 6-8 pm. (Google NY Public Library "events" for more information.) John Vassos was an industrial designer who shaped the look and feel of modern

**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.

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technology as RCA's key consultant designer through the rise of radio and television and into the computer era. He recognized the significance of design to make machines user friendly including RCA's first mass produced television set which had its spectacular premier at the 1939/1940 New York World's Fair. His work included highly functional and visually striking contributions to radios, phonographs and jukeboxes.



**An RCA Victor "Special" model N phonograph (1937) designed by John Vassos.**

I thought an item reported in the February *Horn of Plenty* (monthly newsletter of the Puget Sound Antique Radio Association) by Richard Quam would be of interest. (I was personally involved with this problem when working at the Oyster Creek Nuclear Power Plant.) Vintage radio restorers don't experience the problem of "bloated" capacitors. But if you work with newer electronics or have a stash of aluminum electrolytics from 1999 to 2007 that you use on your restoration projects, here's some information that may be relevant.

Aluminum electrolytics with liquid electrolyte and manufactured between the dates mentioned had a higher-than-normal failure rate. Symptoms of failure were bulging of the top vent, and/or bulging of the rubber plug on the bottom. Any electrolytic capacitor with a liquid electrolyte will age over time due to the evaporation of the electrolyte. The life of such a capacitor, when operated below its rated temperature and rated voltage, can be well over ten years. (I have tested such capacitors at work, installed in working equipment with date codes over twenty years old, that still were well within spec. for leakage.) Those with a

defective electrolyte have failed in less than two years.

It has been determined that a major cause of the "plague" of faulty capacitors was industrial espionage. A scientist, working for Rubycon in Japan, left the company with a secret electrolyte formula and began working for a Chinese company. He eventually developed a copy of this electrolyte. Some staff members, who defected from the Chinese company, copied an incomplete version of the formula and began underselling the defective electrolyte to aluminum electrolytic capacitor manufacturers in Taiwan. This electrolyte lacked important proprietary ingredients essential to long-term stability and allowed the unimpeded formation of a hydroxide that produced hydrogen gas.

Finally, make sure you make your reservations for our summer tailgate swapmeet at InfoAge. Details may be found on page 8.

**Upcoming Events**

July 8th: Monthly meeting at Princeton; agenda TBA

July 23rd: Summer tailgate swapmeet at InfoAge

August 17-20: AWA Convention

Sept. 16-17: Kutztown Antique Radio Meet

December 10th: Holiday Party

## **NJARC SCAVENGER HUNT SHOWS OFF SOME UNIQUE ITEMS**

By  
**Marv Beeferman**

The unique and sometimes whimsical entries at our May "Scavenger Hunt" were very much appreciated by the NJARC membership. I didn't know what to expect since participation in such events has slowly waned over the years, but people really came through and two tables were filled with items from the "lighter side" of radio collecting.

Members voted for the one item that best represented the category in which it was entered. Former NJARC president Phil Vourtsis took first place with a pair of shorts with a vintage phonograph, TV and radio theme which he graciously modeled. Jerry Simkin was awarded second place with a cigar display illustrated with an image of Marconi that included a cigar box, matches, tobacco and cigars. Third place went to Marsha Simkin for her Radio Rex display.



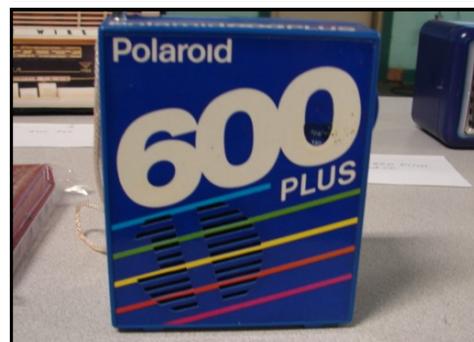
Phil Vourtsis talks about his winning entry while president Lee holds his head in shame.



This radio had a refreshing surprise when its back was opened...a personal bar. (Unfortunately, I couldn't decipher the entrant's name on his card.)



It looks like a radio but it's really a bag. Unfortunately, the owner did not include his name on his entry card.



A Polaroid 600 film radio entered by Phil Vourtsis.



Jerry Simkin's Marconi cigar display took second place.



A group of small radio games (British card game, ball puzzle, radio game) entered by Jerry Simkin.



Perugina candy assortment entered by Bill Zukowski.



Third place went to Marsha Simkin and her Radio Rex in original box.



A radiosonde entered by Ray Chase. It is carried by a balloon to transmit temperature, pressure, humidity and wind speed and direction information.



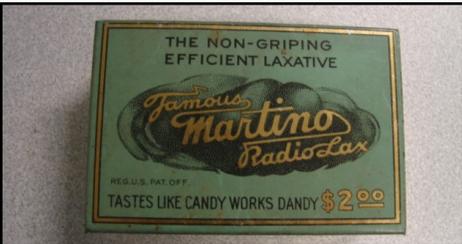
Water closet radio entered by Marv Beeferman. A koala bear sits inside "doing his thing" and reading a newspaper. The radio was handmade in Australia in 1961 and is fitted with a transistor radio.



"RADIO" strop dressing entered by Marv Beeferman.



A "radio" birdhouse entered by Marv Beeferman.



Martino "radio" laxative tin entered by Marsha Simkin.



Fada 1000 radio music box entered by Darren Hoffman.



A TV set clock entered by Charles Blanding. It runs on an "N" battery.



"Radio" shoelace display entered by Marsha Simkin.



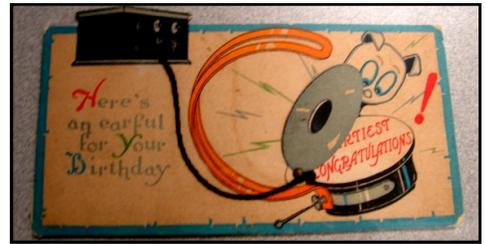
A Hi Fi board game featuring Emerson entertainment products entered by Darren Hoffman.



A woman's radio-themed necklace and bracelet entered by Marsha and Jerry Simkin.



A transistor radio in the form of a golf bag entered by Phil Vourtsis. Note the special "radio" clubs.



One of many greeting cards entered by Marsha and Jerry Simkin.



"Rocket" radio entered by Jerry Simkin using a germanium diode.



Stiktape radio aerial in art deco tin entered by Marsha and Jerry Simkin.



"Radio Girl" cosmetic collection entered by Marsha Simkin.



JVC novelty radio entered by Bob Chis.

## RADIO FROM THE DEEP

Edited by  
Marv Beeferman

*Being a former "bubblehead," historical radio with a submarine theme is a topic I couldn't resist. The following is edited from an article suggested by an NJARC member that appeared in www.lifeboatingworld.com. It was written by Adam M. Groham and titled "Sounds from the Sound."*

The O-8 was a O-class submarine of the United States Navy. Built in 1917 at the Fore River Shipbuilding Company of Quincy Massachusetts, she was launched in December 1917. The boat was operated by the coordinated effort of 33 officers and enlisted personnel with a top surface speed of 14 knots on the surface and 11 underwater.

The O-8's original duty station was Philadelphia, PA and as the war continued to wage in Europe, she operated along the Eastern Seaboard on patrols. On November 2, 1918, she and various sister submarines steamed into the Atlantic Ocean with orders to join her allied counterparts in European waters. With the cessation of hostilities on November 11, 1918, the O-8 was ordered to return home.

The O-8 was transferred to New London, CT and was used for training until 1924 when she served in Panamanian waters. In 1928, the O-8 returned to New London, designated SS-69 and became the testing platform for a unique radio broadcasting program.

It had been a plan two and a half years in the making to issue a live-broadcast from a submarine to the world. The leadership of NBC believed that their listening audience would be captivated by the inner workings of the confined components of the craft. Imagine being able to experience in the comforts of one's own living room the sounds emanating from boats traversing the underwater world...all brought via the miracle of radio!

But the dream was constrained by the technology of the era. How, sound engineers pondered, could they transmit sound from below the surface? As negotiations continued between radio executives and the U.S. Navy, the sound engineers began to bounce their ideas off the sounding board.

Based in an improvised "studio" aboard the submarine, the broadcasters, along with their U.S. Navy experts, would

transmit their short-wave signals via microphones which were connected by wire to a surface vessel. Aboard the surface ship, the signals would be sent via short-wave transmitters to receiving stations set up along the shore. From the shore-based stations, the signals would be transmitted over land lines to NBC headquarters in New York. From the powerful transmitters in New York, the sounds of the broadcasters and U.S. Navy experts would be transmitted nation-wide. The sound from a submarine below the surface would be silent no more.

As millions sat intently before their radio sets, the crackle of the special broadcast from the waters of Long Island Sound was announced. Switched to the deck of another submarine, the O-4, the half-hour special program began with the voice of Lt. Norman S. Ives. As waves lapped the hull of the boat, he provided a detailed description to the audience of how submarines worked. With the mechanics explained, radio operators switched frequencies to the control compartment of the O-8, where Lt. George C. Hern issued orders to submerge his craft into Long Island Sound.

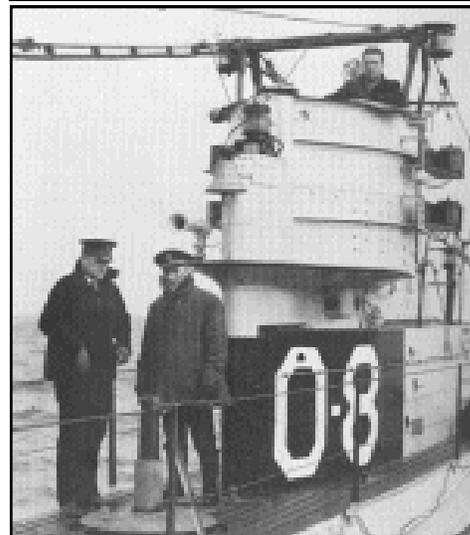
As millions of listeners followed every word emanating from the speakers of their radio sets, the O-8 slid silently below the surface. NBC announcers George Hicks and James Wallington described the operations of the submariners as the O-8 was put through a host of drills. Between the various drills, Lt. Cdr. Raymond A Deming, Lt. J.W. McColl, and Lt. C.B. Momsen (inventor of the submarine escape device known as the Momsen Lung) offered additional insight into the world of U.S. Navy submarines and submarine technology.

For 30 minutes, NBC announcers Hicks and Wallington, along with the officers and crew of the submarine, enthralled the listening audience with the inner workings, and most importantly, the sounds of a submarine. Though the O-8 may not have had the most stellar or spectacular of careers, she did, for those 30 minutes, offer sound to the silent service.

The O-8/SS-69 would remain at New London until 1931, when she was ordered to Philadelphia for decommissioning. Though she had remained idle for nearly ten years, the forecast of global war in 1941 meant that the O-8/SS-69 would once again return to active service with the United States Navy. In April 1941, she was commissioned and returned to New London where she would serve throughout the war as a training platform for the much needed men of the

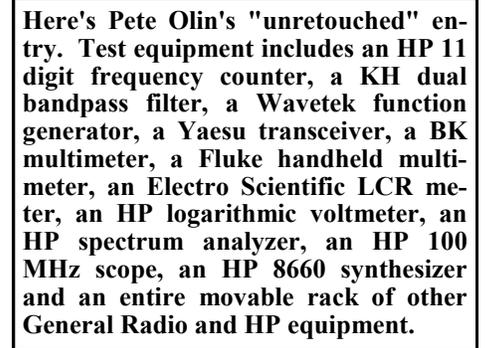
submarine fleet.

Never seeing action despite her years of service, she was sent to Portsmouth, New Hampshire in August 1945, where once again she was decommissioned. Despite her longevity and service, she was struck from the Naval Register of vessels and sold to the John J. Duane Company. Though her career may not have included many laurels for action, the O-8/SS-69 holds an interesting place in the annals of the evolution of submarine technology and radio history which occurred ten miles off New London, Conn. in the waters of Long Island Sound.



## WORKBENCH CONTEST RESULTS

In February, president Richard Lee announced a "most cluttered workbench" and "most organized workbench" challenge with prizes going to the winners. Although the response was not overwhelming, we did receive enough entries from which to make a decision. The most organized workbench honor goes to Dave Dean and the most cluttered workbench honor goes to John Rucolo. Prizes will be awarded at the June meeting. Thanks to everyone who sent in an entry and we're including them in this month's *Broadcaster* as honorary mentions.



Here's Pete Olin's "unretouched" entry. Test equipment includes an HP 11 digit frequency counter, a KH dual bandpass filter, a Wavetek function generator, a Yaesu transceiver, a BK multimeter, a Fluke handheld multimeter, an Electro Scientific LCR meter, an HP logarithmic voltmeter, an HP spectrum analyzer, an HP 100 MHz scope, an HP 8660 synthesizer and an entire movable rack of other General Radio and HP equipment.

Although not official entries, the above benches were submitted as good examples of each category. At the top, president Richard Lee says that his bench should be listed in the "cluttered" category but, compared to others I've seen, I'm not quite sure it's that good of a fit.

Below Richard's photo is an example sent in by member Dave Snellman: "Here is a shot of a rather well-organized workbench. No, it's not mine. A friend from the DVHRC, Dave Balthaser, is the owner of this neat and tidy setup. As you can see, he was working on a Saba transistor set at the time this was taken. And yes, it does always look like this!"



Bill Zukowski's workbench when he was a tech for Sony/Superscope in 1969.

John Ruccolo takes the honors in the "most cluttered" category. Actually, you're looking at the middle of three workbenches - the other two are also in the photo (somewhere).

See them and weep...Dave Dean took top honors in the "most organized" category with the above four entries. Note how replacement parts and tubes are readily accessible (rather than buried in boxes like most of my stuff.) I like the idea that some parts are still in their vintage drawers. Test equipment is right at hand but there's still quite a bit of working space left over. Dave's workshop may serve as a good template for the new workshop we're organizing at InfoAge.



Continued on next page.



The workbench of past NJARC president Phil Vourtsis and assistant. Among Phil's equipment is a Fluke DVM, Jackson audio generator, Heathkit capacitor checker, Eico signal generator, RCA Variac, RCA isolation transformer, Heathkit signal tracer, Leader dual trace scope, Hickok tube tester and Weller soldering station.

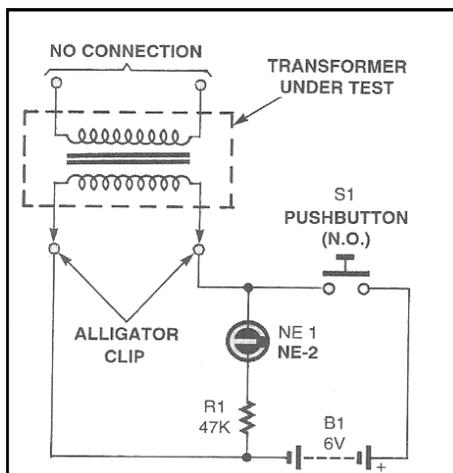
## TIPS AND TECHNIQUES

Edited by  
Marv Beeferman

### Checking Unknown Power and Audio Transformers for Shorted Windings

A transformer winding may be checked with a VOM for continuity and, in some cases, to determine the primary and secondary windings. However, a VOM cannot indicate if the unknown transformer has a shorted winding. A single shorted turn in either the primary or secondary winding can render the transformer useless. The attached test circuit provides a simple but unique method to check out transformers for shorted or defective windings.

This test circuit is both quick and easy to use. Momentarily closing switch S1 applies a DC current to the winding of the transformer. When S1 is released, the transformer's stored energy appears across the winding, briefly lighting the neon lamp. If one of the transformer's windings has a short, most of the stored energy will be dissipated within the shorted section of the transformer and very little will appear across the lamp. The lamp will remain off or just barely flicker.



### PARTS LIST

NE1 - NE-2 neon lamp or equivalent  
R1 - 47,000-ohm, 1/4-watt, 5% resistor  
S1 - SPST momentary pushbutton switch, normally open  
B1 - 6-volt battery  
Alligator clips

### Measuring the Internal Resistance of a Meter

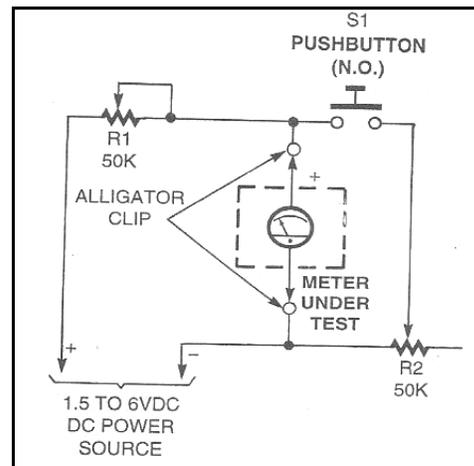
Many times, bargain analog DC meters can be obtained at flea markets or hamfests. I obtained a good selection at last month's NJARC meeting auction. These meters can find many uses in your future projects provided that you place an external shunt resistance across the meter's terminals. (Calculating shunt values will not be discussed here.) In order to calculate this shunt resistor value, you must know the internal resistance of the meter movement. The attached circuit provides a simple and safe method to determine this resistance.

You might ask why not use an ohmmeter and be done with it? Digital ohmmeters might be safe to use, but even some of these can produce several milliamperes of current in the low ohm scale. (I came across the same problem when calibrating certain transmitters when working at the Oyster Creek power plant.) Such a current could cause the meter's sensitive needle to peg full scale, leaving a permanent kink in the needle.

A somewhat safer way to use an ohmmeter is to connect the negative probe of the VOM to the positive meter terminal and the positive probe to the negative meter terminal. This method will peg the needle on the low end, and, in most cases, the needle will not sustain any damage. But why take a chance on messing up a good, expensive meter?

The attached circuit shows how to do it the safe way. Set both potentiometers,

R1 and R2, to their maximum resistance rotation and connect the meter under test to this circuit. Adjust control R1 for a full-scale reading on the meter. Press momentary switch S1 and then adjust R2 for a half-scale reading on the meter. Release switch S1 and measure the resistance of R2. This value will be the same resistance as the internal movement of the meter.



### PARTS LIST

R1, R2 - 50,000-ohm, 1/4 watt, 5% potentiometer  
S1- SPST momentary pushbutton switch, normally open  
Alligator clips

### Soldering in Close Spaces

Sometimes it is quite difficult to solder components in areas where numerous other components are closely installed without causing damage to wire insulation or adjacent components. However, there are a few tips for accomplishing this task that you might want to consider.

The tip of a soldering gun can be bent at any angle to reach an area that would otherwise be inaccessible. Bending can be accomplished without injury to the gun tip by heating the gun to its normal working temperature (about 15 seconds) and then bending the tip to the desired angle with pliers. The tip can then be straightened by reheating the gun and bending the tip back to its normal shape with pliers.

To reach those tight spaces, the range of a standard pencil soldering iron can be extended by wrapping a length of No. 14 or so single-strand copper wire around the iron's tip, leaving a straight section of the desired length beyond the tip to fit into the small space. Also, curved soldering iron tips are available that allow getting into those hard-to-reach areas where a standard tip just doesn't work.



**New Jersey Antique Radio Club and  
Ocean Monmouth Amateur Radio Club  
— Summer Tailgate Swap Meet —  
NJARC and OMARC Joint Venture**



**InfoAge Science History  
Learning Center and Museum  
2201 Marconi Road  
Wall, New Jersey 07719**



**Saturday July 23rd, 2016**



**40 spaces available  
\$25.00 for members  
\$30.00 for non-members  
Bring your own tables  
Refreshments Available**

**Open to the Public**

**8am to 12 noon**

**Vendor setup at 7:15 AM**

**\$5.00 ENTRANCE FEE**

**CLUB DONATION**



**Vendors Make Your Reservations Now!**

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