

# The Jersey Broadcaster

NEWSLETTER OF THE NEW JERSEY ANTIQUE RADIO CLUB

June 2014

Volume 20 Issue 6



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

We had another nice turnout of interesting items and their related stories for our May Show & Tell at InfoAge. If you missed it, we tried to capture the high points in this month's *Broadcaster*. For those Old Time Radio (OTR) fans, we were also introduced to SPERDVAC (The Society to Preserve and Encourage Radio Drama, Variety and Comedy) in a talk by member Bob Tevis.

At their conventions and meetings, the group puts on recreations of OTR shows with the cast supplemented by many old time radio personalities. SPERDVAC is also the repository for the Cecil B. DeMille Lux Radio Theatre discs and scripts and many others have lent or given their discs to the collection. Their member lending library has thousands of shows and archives of most of the meetings and conventions over the years. SPERDVAC offers a monthly magazine/newsletter called the *Radiogram* with insightful articles about old time radio programs, news about the hobby in general, book reviews and much more.

SPERDVAC membership is \$25 with a \$15 renewal. The Society may be contacted at (877)-251-5771 or [www.sperdvac.com](http://www.sperdvac.com)

The Spring 2014 edition of *Antique Radio Classified* (ARC) features an article



## MEETING NOTICE

\*\*\*NOTE DATE CHANGE\*\*\*

The next NJARC meeting will take place on Friday, June 13th, 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>). On this month's program is a talk on "Hazeltine and the Neutrodyne" presented by Mike Molnar. We'll also be conducting an auction of assorted tube lots donated by Don Field of Lawrenceville and electronic odds -and-ends from Walt Heskes.

by member Dave Sica which he titled "An e-Embarrassment of Riches." In it, Dave reveals his initial aversion to receiving email versions of monthly newsletters until his feelings were "changed dramatically" by his purchase of an iPad. Dave says that "The difference is like night and day. With that, my PDF copy of our club newsletter now presents nearly the same reading experience as the paper copy." Dave goes on to apply the same kudos to his PDF versions of ARC and talks about how the number of free radio books and magazines available on the Internet has mushroomed over the past few years. "A tablet weighs about the same as a book, yet I have my choice of dozens of magazines, books, and schematic diagrams (along with music and movies) at my fingertips whenever I want." For those of you still obtaining a hard copy of the *Broadcaster*, Dave's points are well worth considering.

However, I have a slight disagreement with Dave's article regarding his calculations showing the high cost of collecting hard copies of vintage radio magazines and books. Although it is definitely cost limiting for the majority of us as opposed to reading a free copy, there's nothing more satisfying than holding an actual copy in your hand and wondering about what thoughts went through the mind of the original reader as he read about those wonderful marvels from close to one hundred years ago.

In an AWA posting, Barry Williams notes that All Electronics (a surplus electronic parts dealer) is offering 48 volt by 0.436 amp switching power supplies for \$5.50 each. He's connected three in se-

ries to get 48, 96 and 144 volts and, with a 150 mA load, regulation is very good. He also bought 22 volt, 5 watt zeners to get outputs of 22, 48, 70, 96, 118 and 144 volts. Switching power supplies offer a lot of noise, and these show about 100 mV on the output but Barry feels capacitor filtering will reduce most of it. The outputs are isolated from ground, the supplies are in totally enclosed plastic cases with IEC connectors and cord.

In consideration of the costs of powering up battery sets at the RTM at InfoAge, I bought a bunch of these to experiment with. If they work well, we'll have the opportunity to actually fire up some of our battery sets at a reasonable cost.

## Upcoming Events

June 28th - Repair Clinic at InfoAge building 9032A

July 11th - Monthly meeting at Princeton's Bowen Hall (program TBA); homebrew equipment contest and basket case restoration contest judging

July 26th - Tailgate swapmeet at InfoAge

August 8th - Monthly meeting at Princeton's Bowen Hall; Dave Sica talks on microphone museum in Milwaukee

Sept. 12th - Monthly meeting at InfoAge

Sept. 13th - Repair Clinic

Sept. 19-20: Kutztown radio swapmeet

Oct. 10th - Monthly meeting at Princeton's Bowen Hall; Marv Beeferman talks on "Capacitors and More"

Nov. 14th - Monthly meeting at InfoAge; Al Klase talks about the history of SW

Nov. 22nd - Fall Swapmeet in Parsippany

Dec. 6th or 13th - Holiday Party

**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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## REID'S RADIO PROJECT

A few weeks ago, Reid Clark and his mom Christine visited the NJARC RTM (Radio Technology Museum) at InfoAge. They came for some guidance on building and using crystal radios to be used as the basis for an upcoming science fair project. Al Klase and the gang "gave them a lesson and sent them home with a decent headset, a multimeter and other odds and ends."

One May 19th, Al received the following note from Reid's mom:

"All of your assistance a few weeks ago paid off! Reid tested his radio and simple circuit in 2 more locations and actually got what we're calling 'signal noise.' His presentation board for the science fair looks great and he is so psyched to present it to the judges. I can't believe what we both learned doing this. I can't thank you (and all the other guys) enough. I understand that it would be a hike but Reid wanted me to invite you to the science fair. It is Thursday evening, 5/22, at the C. Richard Applegate school."

Al couldn't make Reid's presentation but asked if his mom could send some pictures. Along with the photos, Mrs. Clark attached a note that her son did very well. She said he spoke to the judges with a lot of confidence and she was amazed how her son shined through. "All his hard work and your teaching paid off." Perhaps the lesson for the club was best put by member Dave Sica who was reminded of his science fair experience some fifty years ago. "I had no awesome mentors...Lucky kid!"



## ANOTHER PACK RADIO: THE SCR-178/179

By  
Robert Forte

The April issue of the NJARC *Broadcaster* detailed the SCR-583, a radio designed, among other means of transportation, to be carried by mules and horses as an early adjunct to radio communications in WWII. Another pack radio, the SCR-178 (and its variant, the SCR-179) were also used in the late 1930's and into the early 1940's. Since I own one of these sets, I thought it might serve as an interesting comparison to the SCR-583.

The SCR-178 was intended for point-to-point and ground-to-airplane communications between 75 mm and pack artillery units, and for aircraft observation purposes. It was a portable, low power, high frequency transmitter and receiver, with a frequency range of 2400 kHz to 3700 kHz. It had an operational range of 25 miles/cw and 10 miles/voice point-to-point and 100 miles/cw and 30 miles/voice ground-to-airplane.

The SCR-179 was identical to the -178 with the exception that its CH-28 and CH-29 carrying cases were adapted for pack animals. Both the SCR-178 and SCR-179 were packed for transportation in three containers:

1. Chest CH-38 (or CH-28) housed the BC-187 transmitter, the BC-188 modulator, the BC-186 receiver and the BX-4 battery box. Also included was a headset and key for a total weight of 87 lbs.
2. Chest CH-39 (or CH-29) carried the GN-37 hand generator, antenna, guy assembly, counterpoise, tools, spare tubes, batteries for the receiver and a spare headset for a total weight of 103 lbs.
3. The BG-58 roll bag carried the eight antenna sections, generator cranks, generator legs, operating chest CH-38 legs and the antenna stakes for a total weight of 13 lbs.

The SCR-179 packs (CH-28 and CH-29) were fitted with the necessary fittings for pack or saddle mounting on a mule or a horse. Total weight for transportation

on the animal was 225 lbs!

The antenna was composed of eight sections and the counterpoise consisted of 25-foot wires laid out in a radial pattern. The generator, when cranked at 60 RPM, supplied power to the transmitter, 7.5 volt filament voltage and 500 volt plate/screen voltage.

Individual components are as follows:

**BC-186 Receiver:** Four tubes functioning as one stage of RF amplification (VT-54), a regenerative detector (VT-54) and two stages of audio amplification (VT-27) feeding the headphones. Power was provided by batteries in a BX-4 battery box.

**BC-187 Transmitter:** Two tubes functioning as a master oscillator (VT-25) and power amplifier (VT-55) over a range of 2400 to 3700 kHz. (Tuning was not accomplished by the usual plate current dip, but by measuring the output current which ranged between 0.5 and 1.0 amps.) Output was CW (unmodulated), voice or tone.

**BC-188 Modulator:** Two tubes (VT-27) in parallel to give screen modulation to the VT-55 final amplifier.

**BX-4 Battery Box:** Held the batteries for the receiver only.

My copy of the unit's training manual

(TM 11-231) is dated Dec. 15, 1941 with an update stamp of Feb. 2, 1942 and it surprised me, just as it did the author of the SCR-583 *Broadcaster* article, that pack radios and their associated technology was still in use into the 1940's. My set is virtually complete except for the GN-37 generator (impossible to find), the LM-18 panel lamp and the CH-38 chest cover diagrams and schematics.

I bought my set from Robert Downs of Houston, Texas. Robert is the contact (as long as you are patient) for all military radios and parts and advertises in *Electric Radio* and on eBay. He is also a great resource for manuals and advice.



The SCR-179 mounted for transport.



The author's SCR-178.



BC-186 receiver.



BC-187 transmitter.



BC-188 modulator.

**Editor's Note:** The SCR-178 was one of four sets that the Signal Corps introduced to support a group of existing sets that were based on continuous wave, short-range loop antennas. Mostly used at the regimental level, the SCR-131 was used by the infantry and cavalry. The SCR-161 found service with the field artillery and the much heavier SCR-171 ended up with the ground-to-air control people and occasionally with division level headquarters. The SCR-177-78-79 and 188 series, employing superheterodyne receivers (something new to the military) were primarily meant for mobile point-to-point ground use but ended up also being used for stationary ground use. Their benefit over the 131, 161 and 171 was their longer range. Their detriment was that moving them from one place to another required a Jeep or 3/4 ton truck or, as with the 179, "a horse would do in a pinch." The SCR-179 was originally specifically designed for early use by the cavalry and thus was horse transportable.



SHOW AND TELL



Tom Kittredge showed a 1947, model 1U-309-1, AA-5 Sentinel radio that he obtained at last year's Spring swapmeet and recently restored. Tom warned to mind your "B's and C's" - replacing a 50B5 with a 50C5 will surely draw smoke.



This radio frequency electronic display sign (Model 30-3C) shown by Ray Chase was manufactured by the J. Allen McDonald & Assoc. company of Pittsburg, PA. It uses two 50L6 tubes to form an oscillator that transmits a 40 kHz RF output (a "miniature tesla coil") to gas-filled character tubes that are arranged on the sign face. A box of gas filled letters from Electronic Displays of Newark, NJ comes with the sign. The original owner said that there was a short in the unit but he supplied an extra face. Ray said that he has not energized the unit and "does not intend to."



Bill Zukowski described the details of his Timex magnetic disc recorder which he bought off eBay some 10 years ago. His dad had bought one in the 50's (at \$60 in 1957 dollars) but while trying to find out "where the feet grow" (a term my own dad used many times in the past), he managed to end its life. The recorder uses floppy discs, runs at 16 and 33 rpm and will even play 45's with an optional phono cartridge. The microphone was originally defective but Bill wasn't about to spend \$200 for the sought after Shure control reluctance types available on eBay and installed an acceptable substitute. The discs (originally \$1.49 for six) are easily erased by swiping with a common permanent magnet; "very high tech" as Bill noted.



Joe Divito told us that this Zenith radio originally belonged to his grandmother who liked to emphasize that she owned a "transistor radio" which she considered a modern marvel. Joe rescued the radio from his sister's attic and said, except for a scratchy volume control, that it fired right up. He likes to use it to listen in to the Casey Kasem show on 98.1 out of Philadelphia on Saturday nights.



John Acacia brings back his novelty FM "talk radio" about every five years. The radio's animated mouth moves in sync with whatever is playing.

Ten years ago, John won a bottle of Jameson Irish whiskey at our Holiday Party "Mystery Grab Bag" contest. Most people didn't recognize the connection, but Guglielmo Marconi's mother was the granddaughter of John Jameson, founder of whiskey distillers Jameson & Sons. John plans to keep the bottle unopened for at least another ten years to ensure it "ages" properly. Or perhaps he'll break it out in honor of Princess Electra Marconi's visit to InfoAge in June (see page 6).



Dave Sica described a WWII iconoscope camera used in various drone applications. In Operation Aphrodite, (Continued on next page)

(Sica continued)

B-17's were converted into radio-controlled flying bombs. They were packed with up to 9 tons of explosives with television cameras monitoring the main instrument panel and a view of the ground below. It was planned that a volunteer two-man crew would get the ship off the ground to an altitude of 2,000 feet, point the aircraft in the general direction of the target, arm the explosives, hand over control to a director aircraft at 20,000 feet and then parachute to safety while still over England. After mostly failures (including the death of Joe Kennedy), the concept was abandoned as being unfeasible.



Dave holds an iconoscope used in the camera.

Dave also displayed a 15HP22 color TV tube which he described as "scarce as hen's teeth." The 15HP22, with its phosphors applied directly to the glass, replaced the more complicated 15GP22 with its shadow mask, plates and metal ultror ring. Dave said that RCA paid dearly in royalties and licensing fees for the 15HP22 technology.



Dave talks about his 15HP22 valued at over \$2,000.



The coherer is a primitive form of a radio signal detector used in the first radio receivers during the wireless telegraphy era. Basically, it consisted of a tube or capsule containing two electrodes spaced a small distance apart with metal filings in the space between them. When a radio frequency signal is applied to the device, the initial high resistance of the filings is reduced (the filings "cohere") allowing an electric current to flow. To receive the next "dot" or "dash", a decoherer mechanism disturbs the particles to reset the high resistance state.

John Dilks described the history of his Massie Coherer in his December 2013 QST *Vintage Radio* column "Earl Abbott's Massie Coherer" and it makes an excellent read. (<http://www.newsm.org/Wireless/Massie/massie.html>) John's coherer dates to 1905 and is the earliest piece of radio gear he owns. "I didn't always know it was a Massie coherer - in fact, I first thought it was just a signal bell for a telegraph with its bell missing."



Above: Close-up of Massie coherer courtesy of John Dilks. Note the deco-

herer actuated by a sensitive relay. Also note the coherer container which was actually fabricated from a French perfume bottle. Bob Merriam of the New England Wireless and Steam Museum (NEWSM) provided John with a duplicate bottle that was missing from his example. But John said he didn't have the nerve to cut the bottle and re-install it on such a vintage piece.



Al Klase described his presentation as a "work in progress." Many people like to demonstrate that their radios really work but without an AC source (usually not provided at swapmeets) an inverter is the logical choice. Unfortunately, lower cost inverters (mostly Chinese imports) tend to have less built in filtering and EMR/RFI reduction equipment and are very likely to cause significant interference. AM or HAM radios are most susceptible to RFI because they rely on weak and variable signals with large antennas.

A major source of RFI (especially noticeable in the 500-1600 kHz AM radio band) can be traced to inverters using IGBTs (Insulated Gate Bipolar Transistors). Fast switching in these devices generate sharp-edged waveforms with high frequency components that generate more RFI.

Al explained that among the golden rules of RFI suppression - shielding, cancellation, filtering and suppression - a solid earth ground and shielding seemed to be the best choices. Al demonstrated how he added a good safety ground to the inverter enclosure to reduce the noise on an AM radio. Member Darren Hoffman offered another choice; a vibrator-based inverter which he happened to have on hand that also significantly reduced the RFI noise on a radio powered from this source.





Bob Bennett talked about his copy of Eugene Lyons book *David Sarnoff - A Biography* (Harper & Row, 1966). Lyons was Sarnoff's first cousin but unfortunately his book drew "few accolades for accuracy and impartiality." Enclosed in the book was a copy of a letter from RCA's executive of public affairs requesting an approval from Sarnoff. Sarnoff writes back that the book included people he never met, distorted information and quotes taken out of context. (Member John Tyminski noted that this letter was in all copies owned by the Sarnoff Library.) In *Empire of the Air* published in 1991, it is claimed that the photograph included in the Lyons biography showing Sarnoff at the Wanamaker station during the Titanic disaster is a "crudely air-brushed" fake.



Richard Hurff, using Shakespeare and Greek mythology as references, described his double wing, 1914, "Hudson filament" spherical audion (early triode) purchased at an AWA meet. To make up for the tendency for tantalum filaments to warp, McCandless took Walter G. Hudson's advice to wrap fine tantalum wire around a tungsten filament to form a cathode in which the heating current would be carried by the tungsten while emission would come from the indirectly heated tantalum.

## PRINCESS ELETTRA MARCONI GIOVANNELLI TO VISIT INFOAGE

**Reported by  
Marv Beeferman**

In 1924, Guglielmo Marconi divorced his first wife Beatrice. In 1927, he married Maria Cristina Bezzi-Scali; fascist dictator Benito Mussolini was Marconi's best man at the wedding. They had one daughter, Maria Elettra Elena Anna, born in 1930, and named after Marconi's famous yacht. With the relationship between Marconi and his former family steadily deteriorating (perhaps due to poor health but mostly for unexplained reasons), in 1934, Marconi wrote a new will and left his entire fortune to his second wife and their only child, Elettra, and nothing to the children of his first marriage.

Princess Elettra Marconi is the co-author (with her mother, Contessa Maria Cristina Marconi) and editor of *Marconi, My Beloved* (English translation 1999) which contains eye witness accounts of her father's work - including his development of Vatican Radio and his scientific experiments on board the steam yacht *Elettra*.

In June, 2014, Princess Elettra will tour North America which will include a stop at Rutgers University on the 28th and InfoAge on the 30th. The New Jersey Antique Radio Club is listed as a collaborating sponsor of this event.

Princess Elettra will be the featured speaker at Rutgers' "New Jersey: State of Invention" conference at the Alexander Library. The conference will run from 1:00 - 6:00 pm and conclude with a reception and include noted speakers and a variety of perspectives on the continued inventiveness in the Garden State. Included is our own Dr. Alex Magoun, former director of the Sarnoff Library, who will talk about research and innovation at RCA Labs. Princess Elettra will speak about her father, his legacy, and his floating laboratory - the yacht *Elettra*. (Guglielmo Marconi established branches of his wireless telegraph com-

pany in Wall Township and Franklin Township in the early 1900's and conducted experiments in 1899 in the Navesink Highlands.)

The reception will feature many NJ food inventions including pizza from the first pizza restaurant in America, Papa's Tomato Pies of Robbinsville, NJ, a luscious dessert made possible by the state's domestication of the wild blueberry, and many other jersey culinary first.

The conference is free and open to the public. For information and to register, see: <http://www.libraries.rutgers.edu/njinvents>

The visit to InfoAge is scheduled for June 30th. Exact details have not been finalized but we assume the visit will be a public event. Ray Chase will try to keep you posted on latest updates via the NJARC Reflector and the NJARC website.



**Princess Elettra Marconi**

## KUTZTOWN JOURNAL

**By  
Marv Beeferman**

You probably would appreciate a more devoted attendee than myself to report on the Spring Kutztown swapmeet. With Steve Rosenfeld as driver, we arrived at about 11:00 AM on Friday. Steve doesn't believe in GPS or maps and sometime about 45 minutes into the trip, on a route that I didn't recognize as the way to our destination, Steve shouted "where the hell am I going!" After "recalculating" our

route, we found that things turned out better than expected after finding a less-travelled road to our destination.

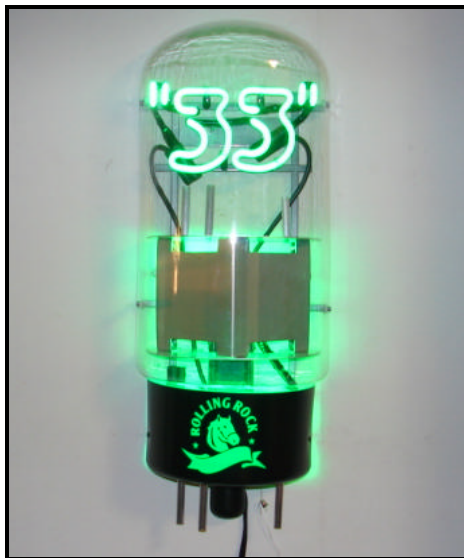
Most of the good and interesting deals take place on Thursday night and early Friday so we weren't expecting much. We scheduled a 2:00 PM get-away time, hoping that our newly discovered route would cut down on most of truck traffic that flows out of Kutztown. When I went back to close a deal on one of my "buys", I came across a previously missed Camp Alfred Vail receiver (precursor to Fort Monmouth) that I think was a BC-144 but, without my camera, it was left unrecorded. Although I'm beginning to get attached to such items, the price tag, over \$2000, seemed a little high and was not even within my bargaining range.

However, I did come home with a few items. I enjoy collecting and thumbing through early radio sales catalogs and found two in excellent condition for only \$5 each. They provide a great reference for the prices and items that were offered during the year the catalog was published.



Ever since Sal Brisindi showed one at one of our Show & Tells a few years back, I've been lusting for a *Rolling Rock* neon tube sign. Why in the shape of a vacuum tube? No one seems to know. Why a '33'? Every bottle of *Rolling Rock* comes with a '33' on its back and since the very beginning, there has been speculation about what it means. Is it some kind of secret code? Is it a simple mistake? Again, nobody seems to know. Considering that I've seen some on-line prices at

over \$400, the one offered was new and "in-the-box," and I wouldn't have to travel to find a bargain price, a reasonable price and opportunity won out.

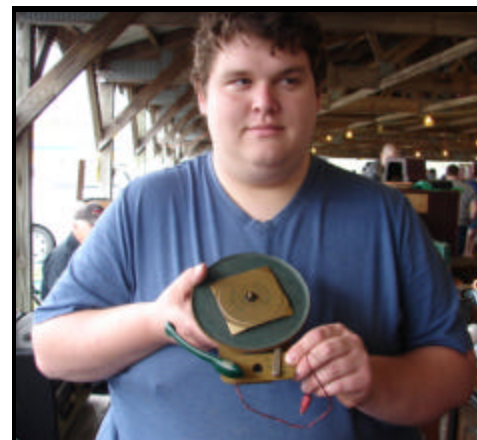


I dropped by member Norm Hertz's table and he showed me a unique find that everyone seemed to pass by. As a crystal set collector, Norm immediately identified the following Shamrock crystal set by the "shamrock" design of the dial position indicators.



I also met member John Tyminski who was very pleased with his purchase of a Zenith Cobra-Matic micro adapter. This unit was designed to allow the playing of 33 and 45 RPM records on a Zenith 78 RPM Cobra-Matic record player. You placed the adapter over the spindle on a single speed 78 RPM Cobra-Matic record player using the hole by the tone arm. A rubber wheel underneath rode on top of the 78 RPM platter and drove the adapter at either 33 or 45 RPM. The

lever moved the rubber wheel further out on the 78 platter for 45 RPM or toward the center for 33 RPM. You removed the cartridge on the 78 RPM Cobra-Matic tone arm and the tiny Cobra-Matic tone arm connector plugged into the cartridge holder of the larger 78 RPM arm



Steve and I did meet our scheduled getaway time of 2:00 PM and were very happy to find that our newly discovered exit route cut about 20 minutes off our trip. Although we didn't come home with a boatload of goods, we were very happy to spend a few hours on a beautiful day with those fortunate collectors and friends who had the time to stay all three days.









# RADIO



## New Jersey Antique Radio Club's

### Summer Tailgate Swap Meet



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



## Saturday July 26th, 2014



**Open to the Public**  
8am to 12 noon  
Vendor setup at 7:15 AM  
**\$5.00 ENTRANCE FEE**  
**CLUB DONATION**

Refreshments Available

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

**For Directions**  
Visit our website: [www.njarc.org](http://www.njarc.org)  
or Mapquest  
2201 Marconi Road, Wall NJ 07719

**Vendors Make Your Reservations Now!**  
**Contacts:**

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