

The Jersey Broadcaster

NEWSLETTER OF THE NEW JERSEY ANTIQUE RADIO CLUB

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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.

Al Klase's "History of Short Wave" presentation at the April meeting was very well-received. Al took us from 1912 to 1920 and described how improvements in damped-wave reception and modes of radio operation (regenerative, autodyne, etc.) and the advances introduced by Howard Armstrong led to a vibrant short wave communications industry. We also had some very competitive bidding on tubes, books, military items and boat anchors offered at auction.

In commenting on last month's *Broadcaster* article on the SCR-583 mule pack radio, member Rob Flory noted the following:

"I had a ham QSO with a man who was a radio operator with Merrill's Marauders in Burma. He said it was not uncommon for the mule to also haul the operator (holding the mule's tail) up muddy slopes. He also said that his brother artillerymen were very skilled with the 75mm howitzer and 'could drop a bomb in your pocket.'"

"As our forces were 'the visitors' and had to haul everything by ship, logistical considerations plus the natural biological limitation of how fast animal production could be ramped up vs. industrial production, led to our forces being highly mechanized by truck. The 'home teams' used a



MEETING NOTICE

NOTE DATE CHANGE

The next NJARC meeting will take place on Friday, May 2nd, at 7:30 PM at InfoAge in order to avoid a conflict with the Kutztown swapmeet. Directions may be found at the club's website (<http://www.njarc.org>). Dust off those unusual pieces in your collection and show them the light of day during our Radio Show & Tell scheduled for this month. We'll ask you not only to "show" them but "tell" us the story behind your selections. We'll also be accepting nominations for our Executive Board election which will take place in June.

lot of draft animals during the war. The American specialized forces that brought draft animals along were an interesting exception."

Rob is somewhat of an historian on Navy radios. A visit to his website, <http://www.virhistory.com/navy/flory>, is well worth the trip. An article about Rob Flory's donation of a TBX to the Marine Corps Networks and Operations Center may be found in this month's *Broadcaster*.

Long time NJARC member Joe Devonshire has announced that his family will be moving to Maine. He left with the following kind words:

"I will certainly miss being a part of the club. I first joined at the old church hall in Freehold back in 1999. While I wasn't able to contribute as much as I would have liked to, I am grateful that we have members who are able to do more. Thank you for your time - I know from another experience that it can't be as easy as it looks. I have no plans to leave the club as I can attend from away as they say in Maine. I carry with me some great memories of meetings and personalities over the years. Please keep it going."

NJARC Executive Board elections will take place at the June meeting and the May meeting will provide you with the opportunity to nominate a candidate. Positions are listed on page 2 of the *Broadcaster*. If no nominations are received, voting shall be by a show of

hands by all attendees at the June meeting to re-elect the present Board. If nominations are received, a secret ballot will be used.

The Executive Board has voted to make Paul Buresh, host of the *Tubetalk Classic Radio Show*, an honorary member of the club. He is presently a member of the NEARC, DVHRC and ARCI. Paul's program airs on WRCA, AM 1330 out of Boston, Ma. and provides an hour of vintage music, interesting guests from the vintage radio community and an occasional yesteryear radio mystery/crime show. A few members of the NJARC, including president Richard Lee, have already been interviewed by Paul and the club has received great exposure from the show.

The show may be streamed at www.1330wrca.com/streamer with past shows archived at https://archive.org/Tube_Talk maintained by NJARC member Dave Sica.

Upcoming Events

May 8 to 10th - Kutztown radio swapmeet
June 13th - Monthly meeting at Princeton's Bowen Hall; Hazeltine talk by Joe Molnar

June 21st - 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 - 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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MYSTERY RADIO REDISCOVERED

At our last Parsippany swapmeet, NJARC member Joe Bentravato passed around a clock radio that he was trying to research. It was missing its tubes and had a distinctive speaker, and its only identification was a tag which read "Burnet Rubber Co., Newark, NJ." However, its most interesting feature was the tube pin arrangement which seemed much smaller in circumference than that typically seen.

Among the many suggestions offered was one from Ray Chase who immediately identified the missing tubes as miniature Hytron Bantams that he remembers obtaining many years ago. But without any other information, it would still be difficult to trace the radio.

Enter Al Klase who sent an inquiry to honorary NJARC member and Tube Collector Association president Ludwell Sibley. The reply was a little embarrassing. Ludwell pointed Al to an article in the Autumn 1994 issue of the *New Jersey Antique Radio Club News*, the precursor of the *Jersey Broadcaster*. The article, by Alan Douglas, was titled "A Unique New Jersey-Made Radio: Radio Products" and it was primarily based on an article that first appeared in the July 1990 issue of *Radio Age*. There it was - a complete history and description of Joe Bentravato's radio!



Thanks to Ludwell Sibley, Joe's mystery radio was finally tracked down.



An interesting speaker arrangement that sits behind the clock.



Tube sockets that hold the miniature type "27" tubes.

The following is a combination of the Alan Douglas articles. Perhaps they will help Joe bring this unique radio back to life.

Ben Abrams of Emerson liked to think of himself as the originator of compact radios - he even titled his 1943 company promotional profile "Small Radio" - but he was preceded by International's Kadette. But, well before either of them, was a small New Jersey maker, the Radio Products Co. of Newark.

There were two approaches to making radios smaller: using smaller components, or using fewer of them. Simpler circuits with lower parts count existed: regeneration, superregeneration, the reflex, and multi-section vacuum tubes like the Lowe. But most of these had severe drawbacks, and by 1930 radio circuitry was pretty well standardized on one or two stages of TRF amplification, detector, and one or two audio stages to drive a loudspeaker,



Miniature "27's" used in the Radio Products clock radio in comparison to their standard big brothers.

Now that most of the mystery behind Joe's radio has been solved, there's still one minor detail that still remains. Why does the radio have a tag that reads "Burnet Rubber Co., Newark NJ?" Was the radio a prize giveaway or were they actually sold by the company? What exactly was the Burnet Rubber Co.? Ray Chase told me that an internet search turned up a Burnet Rubber Co. on 525 Main St., East Orange NJ in the 1922, vol. 11 issue of *Rubber Age* magazine. Is this the same company?

For all you NJARC radio sleuths out there, here's an opportunity to put the final ending to this article! If you manage to come up with some leads, send them to me at mbeeferman@verizon.net and I'll publish what was found in a future issue.

References:

1. *New Jersey Antique Radio Club News*, Vol. 2, No. 2, Autumn 1994, Alan Douglas, "A Unique New Jersey-Made Radio: "Radio Products"
2. *Radio Age*, Vol. 15, No. 7, July 1990, Alan Douglas, "Radio Products Co."
3. *Radio Craft*, August 1932, J. V. Capicotto, "A Tiny-Tube A.C. Loudspeaker Set"
4. *Radio Craft*, July 1932, C. B. Scott, "The Rochelle-Salt Crystal Reproducer."

SAVE THE DISH!

By
Marv Beeferman

InfoAge has begun a program to raise funds to help restore the original TIROS Dish to operational status and use it as a radio telescope training tool for future astrophysicists. Some work has already begun under the direction of Princeton University personnel. NJARC member Bob Pilcher is one of the contractors taking part in this project. The TIROS Program (Television Infrared Observation Satellite) was America's first experimental step to determine if satellites could be useful in the study of the Earth. Tiro-1 was launched by NASA and partners at 6:40 AM EST on April 1, 1960, from Cape Canaveral, Florida. Mission partners were NASA, the US Army Signal Research and Development Laboratory, RCA, the US Weather Bureau, and the US Naval Photographic Interpretation Center.

The TIROS dish resides on InfoAge's Project Diana site where the Army played a major role in the development of technology to receive cloud cover photos from a satellite orbiting above the ionosphere. Camp Evans received the first weather satellite photographs on April 1st, 1960. These photographs were immediately flown to Washington, DC where the head of NASA presented them to President Eisenhower for public release. On April 13, 2005, the Harris Corporation, the company that manufactured the dish, donated \$15,000 for its cosmetic restoration.

Contributions may be made by clicking on the "Save the Dish" link on the InfoAge web site. Not only is it an opportunity to raise money for a great cause, but by raising a certain amount, a bonus will be added by OceanFirst Bank. By reaching one of the top three fundraisers in the OceanFirst Challenge, up to an additional \$10,000 may be realized!

Please consider helping out with this great project; even a donation of \$10 can make a big difference! The goal is \$75,000.



InfoAge's "Space Sentry."



The original antenna control panel.



Restored control panel funded by Princeton University and worked on by NJARC member Bob Pilcher.

A TALE OF TWO RADIOS

By
Ray Chase

Some weeks ago, in a period when nothing in particular was happening, I decided to attack some radios that had been sitting forlorn in my storage area. I like console radios (who doesn't) but they take up so much room. A few years ago, I had acquired a couple of small console radios whose cabinets were in great shape (I do not restore woodwork) and their chassis were nice and clean. One, a 1934 Bosch model 440, had a unique dial with vernier tuning, a short wave band and wooden knobs. The label on the rear of

the chassis identified it as an American Bosch Vibro Power Radio (whatever that means). So I dragged the radio into the workshop and started on it. It uses six, big-pin tubes, with two IF stages. The tube lineup is 6A7, 6D6, 6D6, 75, 42 and 80.

I usually plan the repair attack by reviewing the schematic and making a few simple checks to insure that the power transformer and speaker field have continuity before getting started on something that has major problems. These were OK so I got out the Rider's information and pulled the chassis. The schematic and visual inspection showed four electrolytic caps and 19 paper capacitors, mostly bypass, (my God they bypassed everything - I think they even bypassed the bypass caps). This set needed a session with Madman Muntz of TV fame. (If you do not know who he was, see the end of this article.) Worst of all, most of the paper caps and many of the resistors were located on a crowded vertical terminal board in the center of the underside of the chassis. The caps were black, ugly looking things and Riders did not include a component location diagram. I removed one or two of the caps that were not on this board and discovered that they were not marked with values! The caps were disgusting black, gooey globs and handling them left ones hands yucky. Since the caps were mounted flat on the tightly packed terminal board, the technique of cutting the caps out and tying new caps to the remaining leads could not be used here.

Well the chassis was on the workbench anyway and now it challenged me, so I decided to take the next step. The four electrolytic caps were contained in two of the usual tall cans, so I set about at least restoring B+. The cans were cut out of the circuit and axial caps and a terminal strip were installed to take care of the electrolytics. Having gotten this far I decided to apply power and EUREKA - the set worked and pretty well at that. All this with the original tubes!

But, now what? The leads to the terminal board severely restricted its movement if it was unbolted, and changing all those 19 paper caps in the severely restricted confines of the narrow chassis would mean tracing out the circuitry to identify them. But considering that all those plate and screen bypass and coupling capacitors would not last forever

(and maybe only for a short period) it was back to the bench and a challenging dirty job.

I started at the top of the terminal board with the easiest ones first. As I figured out where they were in the circuit, I made a sketch of their locations. Since I had 19 capacitors to replace over a two week period, I kept copious notes to keep track of where I was and what had been done so far. (Little did I know how this would help in the future).

A dirty job it was - the caps were so gooey with black wax that I had to wash my hands after each removal. The soldering on this set could best be described as "blobular" with everything being oversoldered. I must have removed at least ¼ lb. of solder with the solder sucker.

After the caps were done, the tone control and volume control pots were opened, cleaned and lubricated with De-oxit Fader F5 and I powered up the set. Glory be! No miswires - the set worked fine.

The tone control circuit on this set is an engineering disaster; it controls the volume more than the tone. I cannot believe how this design goof got into production. I tried a few quick fixes on it but in the end left it alone. I did not check or change any of the "dog bone" resistors, since the radio worked OK. I did a quick check on the alignment and it seemed pretty good so I left it alone as well.

I chalked this effort up to a difficult job well done and moved on to get the next console out of storage. This one is a Westinghouse WR 29 of about the same vintage. When I pulled the chassis, I was amazed by the fact that it was **the exact same radio!** The cabinet and the dial are a little different but the chassis is identical, even to the "blobular" soldering. So the mystery is who really made these radios? I will try to address that question in a bit, but first on to fixing this radio.

Unfortunately, the grill cloth on this one was in bad shape, the speaker cone was torn and the coup de grace was an open speaker field coil. I could temporarily use the speaker from the Bosch radio and I have quite a few speakers laying around, so repairs continued.

Again I replaced the can electrolytics, turned the set on and it also played very well. I guess awful looking capacitors can still work fine. Having the benefit of the Bosch radio repairs and the sketch

that identified the location of caps on the terminal board, this job went much faster. Since the tube socket areas were fairly clear, I decided to connect most of the caps directly to the tube sockets rather than replace them on the terminal board. This made for a cleaner and faster job. Again, no mistakes and the radio came right to life after the cap changes.

As for the speaker, I found a same size dynamic speaker that worked and it will be adapted to the cabinet. Fortunately, I had some appropriate grill cloth stashed away so the replacement was made and all is well with the Westinghouse version of this radio.

Now, who made the radio? Well, Robert Bosch started in Germany in 1886 and is still a major corporation in Germany and the U.S., making automotive systems and consumer goods. Bosch set up manufacturing in Springfield, MA early in the 20th century. The company was seized by the U.S. Government in 1918 during WWI and "bosch" became a derisive term for the German enemy. The word had no relation to the family name Bosch - it was derived from the French word bosche, commonly translated as a cabbage head or blockhead.

After WWI, the U.S. parts of the company were renamed American Bosch or United American Bosch as listed in Riders. Their first entry into radio manufacture seems to be 1925 and they made many models. But then they seemed to have disappeared about 1937/38 when some of their best and most desirable radios were made.

But what about Westinghouse? Well, Westinghouse radio manufacturing was in Chicopee Falls, MA, (a suburb of Springfield) and we pretty well know their early history when they and GE made radios for RCA. But then, RCA started their own manufacturing and commandeered a large share of the market. Meanwhile, Westinghouse was supplying practically all the radio transmitter requirements to the Navy. But it was low volume, mainly custom work since military budgets were very limited in the 1930's. Remember this was also the "great depression" era.

From here on, it is primarily speculation on my part since I found no other historical information. Westinghouse was probably not competitive in the 1930's radio market and is busy in the low volume industrial/military field. But the

company wants to have presence in the consumer radio business, so it arranges to put its name on radios manufactured by American Bosch.

There is a final clue involving a third radio. In my living room, I have a large very pretty console radio labeled American Bosch model 670S. It was not on my current to-do list but I took a look for it in Riders. The pages were missing (oh well, maybe I took them out some time ago and forgot to replace them). Serendipitously, a few days later I was arranging some of my piles of radio ephemera and I spied a batch of Westinghouse service notes. On the top was a picture of the radio in my living room. It was a Westinghouse WR-314 and identical to the American Bosch except that the Westinghouse has an eye tube while the Bosch has a meter type tuning indicator. These both appear to be 1937 models.

To conclude this story, Westinghouse relocated their radio plant from Chicopee Falls to Baltimore in 1938, probably anticipating increased Navy and other military business. What happened to Bosch radio? I do not have the answer to that question but the American Bosch business was again seized in 1942 by the U.S. Government. However, it was allowed to continue to make aircraft electrical accessories throughout WWII.

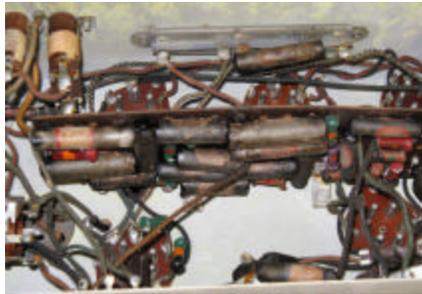
Madman Muntz

Madman Muntz was a very colorful West Coast character in the 60's & 70's who made fortunes selling cars, TV's and stereos. He even created and sold a car called the Muntz Jet. He was noted for taking a working TV and have his engineers remove parts until it stopped working and then replace that last part and tell his engineers build one like that. His TV's were cheap, had a fair picture but were a bear to work on because they used "gimmicks" in the wiring for capacitors. Disturb the wiring layout and they would never work again.

A Safety Addition

Lately, when I repair a radio and especially a console, I add a three-wire cord and a small box with a low current fuse in it. I want all potentially exposed metal surfaces to be securely grounded in case of a failure inside the radio. Also, parts can fail catastrophically that could start a

fire but by the time your 15 or 20 amp house circuit breaker responds, the radio could be a flaming bonfire. Therefore, I add a fuse rated just over the normal current flow of the radio (usually an amp or less). We learned that lesson at the museum when a TV set literally caught fire. The only change to the set is the short, three-wire cord to the box and the box can be easily removed if a purist wants the set to be original.



The underside of the Westinghouse showing a very crowded terminal board



The underside of the Bosch following capacitor replacement.



The completed Bosch console.



The completed Westinghouse console.



For safety's sake - a three-wire cord and fuse box installed in a Stromberg Carlson 63 console radio.

CAPACITOR PROGRAM EXPANDED

By Matt Reynolds

As mentioned at the April meeting, the NJARC Capacitor Program will now start carrying a limited stock of low voltage electrolytic capacitors to supplement the supply of high voltage capacitors we currently carry. As time marches on, more and more electronic devices are in need of recapping and our club membership has diverse interests across the electronics industry. This new selection should help those with a love for "hollow state" electronics.

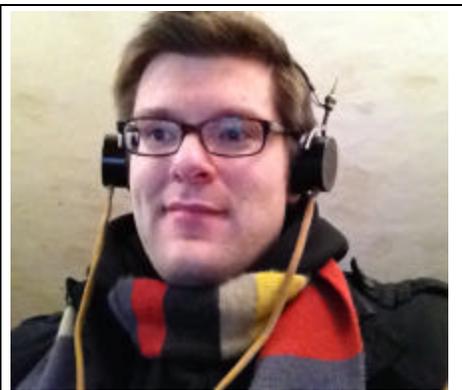
The majority of the capacitors are rated at 50 volts and are Nichicon branded. Any capacitors valued between 1 and 100 mfd should be small enough to fit in transistor radios and the larger val-

ues are useful for other projects where capacitors rated 50 volts or lower are required.

At present we'll be stocking the following values (in mfd): 1, 4.7, 10, 22, 47, 68, 100, 220, 330, 470, 680, 1000, 2200 and 4700. All capacitors are radial with prices ranging from \$0.10 to \$1.75.

Capacitors are available at most NJARC meetings and events. If you can't purchase them in person, I can also ship to those members willing to pay postage. All proceeds made through the sale of capacitors directly benefits the club.

Any questions? I may be reached at Chairpersoncapacitors@njarc.org or 567-204-3850.



**Capacitor program chairman
Matt Reynolds.**

MOVING DAY AT THE RTM

By
Ray Chase

As many of you know, the NJARC RTM (Radio Technology Museum) at InfoAge has a storage area for many radio related artifacts (just "stuff" to many of us) being held for our future museum expansion, for sale at auction or for use in future radio club projects. The large "H" building complexes allow us to have free storage space that most other clubs do not have. However, renovations are constantly being carried out at InfoAge and storage space is sometimes given over to other priorities.

The club originally had several rooms in the 9010A section of the first wing of

the "H" building across the street from the museum. In 2012, as a result of receiving grants to renovate this section, we had to relocate our storage to the 9010C section, about 100 feet over in the same wing. It took us a couple of months to construct a new caged area and move all our items.

Then, along came Super Storm Sandy. This created the opportunity to use part of the facility to house Sandy volunteers and provide much needed income to InfoAge. Unfortunately, this forced us to move again. We were given a new area in the 9036D section, two wings further away but with a leaking roof! The town promised to replace the roof but the wheels of government grind slowly. Since the renovation of the 901C section was bearing down on us, we had to settle for a "semi-temporary" relocation in building 9084, just next to our promised 9036D. Section 9084 is a small, dry building and we just may stay there for a while.

We recently received the word that the town was ready to start work on the roof over 9036D, but time had run out and we could not delay our move any longer. So, an "all hands" call was put out for assistance on Wednesday, March 26th, to help with the relocation to 9084. Fortunately, enough willing hands (and feet) answered the call to accomplish in just five and a half hours what took us more than a month to do in 2012.

The distance from the old area to the new location was a tenth of a mile, fortunately all indoors. We used every available cart or contrivance that had wheels as we unloaded shelves, moved material, stacked it temporarily on nearby desks, move the empty storage shelves to the new location and filled them again. In the process, I think we dropped only one radio.

I have no idea how many trips were made but each trip, at two-tenths of a mile and back, expended a lot of shoe leather. Kudos goes out to a job well done and under a lot of pressure. Those participating included Jules Bellisio, Rick Cordasco, Steve Goulart, Paul Hart, Harry Klancer, Al Klase, Richard Lee, Vince Lobosco, Rob Reinfenheiser, Steve Rosenfeld, Dave Sica, and yours truly. Non-club members included Pat Flanagan and Bob Jorganson. Unfortunately, we were so busy that I failed to corral everyone for a group photo.



President Richard Lee takes on more than he can handle.



Harry Klancer attempts a heavy lift.



Nearby desks were used for temporary stacking.



The crew takes a well-deserved pizza break.



A successful move.



A week after the move, the boys took on pulling down the security cage for use at the new location.

ROB FLORY DEMONSTRATES TBX DONATION

By
Marv Beeferman

NJARC member Rob Flory recently donated a working TBX radio to the Marine Corps to be used for display purposes. It was recently demonstrated at a building rededication ceremony at Quantico, Va.

Used by the Navajo Code Talkers of WWII, the TBX was a truly portable HF transmitter/receiver. The receiver could be powered by batteries, dynamotor, or rectifier, and the transmitter can be operated by a hand-cranked generator, a gasoline engine generator, motor-generator, or a dynamotor. It put out 9 watts on CW or 3 watts on AM from a one tube transmitter based on an 837 pentode, crystal or

master-oscillator controlled.

As a field portable set, it was carried by four men. One carried the radio, one the battery and accessory box, one the generator and one the antenna. The battery and accessory box carried the receiver batteries, headset, microphone, key, receiver cable and spare tubes. The antenna is a 24-foot guyed whip. A portion of the whip could be used with a wire extension as a "long antenna."



Rob Flory's TBX set up in his home.

I'll let Rob tell us the rest of the story:

"Maybe this is the last time I'll demonstrate the TBX set, as it is now on display at the Marine Corps Networks and Operations Center. If I had just sold the set in a commercial transaction and forgotten about it, I would be regretting it by now as it was one of my favorites. It was really rewarding to work with the group that was putting the display together. My son Martin and I stopped through Quantico on our summer vacation to show them how to run the set, but after a short period of functionality, there was a receiver casualty. I was able to diagnose it on the spot as a failed screen resistor, but had no parts on hand. I mailed a resistor to a young lieutenant who could solder and he got it going again."

"The building rededication was the ultimate. I enjoyed talking radio with the enlisted instructors who teach communications at the Basic School, which is the entry level training for USMC officers. Code Talker Chester Nez got an amazing rock star reception and Martin and I were lucky enough to get to tag along on his tour of the facility where the Marines manage and secure their communications network."



U.S. Marine Corps Cpl. Chester Nez makes a radio call over a World War II radio at Code Talker Hall, Marine Corps Base Quantico, Va., April 4, 2014. Cpl. Nez helped develop the only unbroken code in modern warfare, and is the last of the original 29 Navajo Code Talkers of World War II. Rob Flory (far left) donated the TBX radio.

THE "BEEFERTRON" TUBE

It's nice to get "gifts" from fellow NJARC members who notice that certain antique radio items relate to your name. Ray Chase has provided me with a "Marvin" tube and "Marvodyne" radio. Recently, I came across an item presented to me by honorary NJARC member and *Tube Collector Association* president Ludwell Sibley. Ludwell has a tremendous sense of humor and the below tube carton speaks for itself.

