



# The Jersey Broadcaster

NEWSLETTER OF THE NEW JERSEY ANTIQUE RADIO CLUB

October 2016

Volume 22 Issue 10



## 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.**

Thanks to Richard Phoenix for his very entertaining and informative talk on pirate radio. Richard opened with a video copy of a film of Les Paul's pirate radio station in Queens in the 30s. The station was wired through the building and would broadcast pick up jazz sessions from the basement. (Federal agents eventually showed up because the broadcasts were driving the pilots nuts with Jazz who were attempting to land at NY airports. In the early 40s, Les almost electrocuted himself by touching the power unit and it took him over a year to recover.)

Richard said that the wonderful thing about pirate radio was that it taught one how to be a broadcaster and put a program together "without worrying about the rules." Richard discussed his own early experiences where his transmitter had such a wide bandwidth that it slipped into the FM band. He also discussed the history of pirate radio in Britain, ultimately leading to Radio Caroline. This included stations being set up on abandoned WWII gun emplacements on the Thames estuary. Record requests were made at smoke shops and somehow reached these offshore stations. Richard noted that most stations used American equipment (Collins, etc.) since it was very sturdy and could hold up against the salt air. Some stations even issued their own currency and postage stamps!

On June 3, 1928, the *Seattle Post-Intelligencer* reported that a local kid,



## MEETING NOTICE

**The next NJARC meeting will take place on Friday, October 14th 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, member Mike Molnar will present a talk on the Cooley Rayphoto TV kit.**

Austin G. Cooley, had invented a device "attachable to any radio set" and "easily assembled" from a kit that can broadcast picture images of "considerable detail and contrast" to a receiver set, which the newspaper suggested would soon become an everyday household item. Using Cooley's Rayfoto system, Newark, New Jersey's station WOR began sending out "radio pictures" during their evening broadcasts in the fall of 1927. Later, the Radiovision Corporation was formed in order to market a \$150, three tube model in kit form. Was the Rayfoto the early precursor to the television? Make sure to attend the October meeting where member Mike Molnar will attempt to answer this question.

As most of you know, the Halloween event at InfoAge, also known as the Camp Evans Base of Terror (CBOT), is the major InfoAge fund raising event. In the past, the NJARC has joined in with scary skits such as the Mad Science Lab. We no longer participate in this manner since the event is now mostly outdoors. But we still have a responsibility to support the program that keeps a roof over our head and heat in our rooms. Volunteers are needed for every Friday and Saturday evening in October for general monitoring duties, crowd control, ticket taking, etc. - no costumes are required. The time is 7:00 PM to 11:00 PM, weather permitting. Please pick dates that you can help and contact Ray Chase at [raydio862@verizon.net](mailto:raydio862@verizon.net) or Gloria at [admsupport@infoage.org](mailto:admsupport@infoage.org). You might have a lot of fun doing it.

As a result of the CBOT event, our October 22nd Repair Clinic may be moved to building 9010D. We'll keep you informed via the Reflector on how to obtain access.

As some of you may know, Ludwell Sibley nominated the NJARC this year for the Antique Wireless Association (AWA) "Preservation" award based on

the efforts of the Radio Technology Museum (RTM) and InfoAge. The proposal was rejected on grounds that the award is restricted to "AWA members." This is despite ample precedent for the award going to non-AWA groups such as the California Radio Society, Radio Club of America, Museum of Radio & Technology (in West Virginia) and the Perham Museum. It appears that 2016 AWA administration is rampant with politics! Thanks to Ludwell for noting this information in the *Tube Collector* which he edits.

Room did not allow your editor to publish photos of the Kutztown swapmeet. However, Bob Bennett, "self-proclaimed maniac of all good things radio," has recorded the event in an 11 minute video accessible at <https://www.youtube.com/watch?v=g3b-XZKKx5I>

Member Ray Chase bets that you did not hear of the big Radio Show in Nashville on Sept. 21-23 where Marconi awards were given out. It's the annual convention put on by the Radio Advertising Bureau (RAB) and the National Association of Broadcasters (NAB). This year, WINS-AM of NYC was given the "Legendary Station of the Year" award. Seems strange to call it a "Marconi" award. While Marconi certainly created the foundation of radio as we know it today his name is not usually associated with the broadcasting/entertainment aspects of modern radio. (Courtesy of "Tom Taylor Now.")

### Upcoming Events

- October 22: Fall Repair Clinic at InfoAge
- November 5th: Fall swapmeet at Parsippany PAL
- November 11th: Monthly meeting at InfoAge; Show & Tell
- December 10th: Holiday Party, West Lake Country Club, Jackson NJ

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

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

**PRESIDENT:**

Richard Lee  
(914)-589-3751

**VICE PRESIDENT:**

Sal Brisindi  
(732)-308-1748

**SECRETARY/NEWSLETTER EDITOR:**

Marv Beeferman  
(609)-693-9430

**TREASURER:**

Harry Klancer  
(732)-238-1083

**SERGEANT-AT-ARMS (WEST):**

Darren Hoffman  
(732)-928-0594

**SERGEANT-AT-ARMS (EAST):**

Rotating

**TRUSTEES:**

Ray Chase (908)-757-9741  
Phil Vourtsis (732)-446-2427  
Bill Zukowski (nocusr@optonline.net)

**TECHNICAL COORDINATOR:**

Al Klase  
(908)-892-5465

**TUBE PROGRAM CHAIRMAN:**

Al Klase  
tubes@njarc.org

**SCHEMATIC PROGRAM:**

Aaron Hunter  
(609)-267-3065

**CAPACITOR PROGRAM:**

Matt Reynolds  
(567)-204-3850

**RESISTOR PROGRAM:**

(To be announced.)

**WEB COORDINATOR:**

Dave Sica  
(732)-382-0618  
<http://www.njarc.org>

**MEMBERSHIP SECRETARY:**

Marsha Simkin  
33 Lakeland Drive  
Barnegat, N.J. 08005  
(609)-660-8160

## WHAT'S IN YOUR COLLECTION?

Contributed by  
Dave Snellman

*Realizing that there is a huge amount of radio, phono, TV and other related collectables out there that have never seen the light of day, we are soliciting members to provide a short write-up of an item (or items) in their collection that they feel might strike the interest of the membership. Of course, one or two photos should accompany the article. Please send your articles and photos to [mbeeferman@verizon.net](mailto:mbeeferman@verizon.net) or [mbeeferman@cs.com](mailto:mbeeferman@cs.com). Thanks to member Dave Snellman for this month's contribution.*



Member Dave Snellman.

### The Braun T-1000

I usually would find it difficult to pick out one particular radio as a highlight of my collection but in this case it turned out to be a "no-brainer." The Braun T-1000 is a remarkable piece of German design and engineering from the mid-1960's.

I always have liked multi-band transistor radios, especially ones that covered the shortwave bands. My interest in shortwave radio started in junior high school and has never really gone away. Even with the loss of such powerhouses as the BBC, Radio Canada, the VOA and Radio Moscow, there is still some interesting programming available.

The Braun T-1000 was "state of the art" when introduced around 1964. It is a single-conversion, superheterodyne receiver covering 13 ranges that include long wave (LW), broadcast (MW), shortwave (SW) as well of FM. It employs analog tuning along with a BFO (beat frequency oscillator) for CW and SSB reception. It covers from 130 kHz

to 30 MHz and FM from 87 MHz to 108 MHz. It employs a tuned front end along with a highly sensitive FM stage. Nowadays, all these features can be had in a single-chip model from China for about \$50, but not "Braun quality." The cost of the T-100 in 1964 was around \$495! Other German sets with similar coverage could be had for less than \$200. The radio was so well-engineered that the German government made it available to its diplomatic corps stationed outside Germany.

What made the Braun T-1000 stand out besides its price? Design and engineering were its major appeal. The set was designed by the well-known German designer Dieter Rams. Part of his design philosophy was "less, but better." Over-the-top engineering can be seen in the T-1000. The turret-tuner, used to switch bands, has all gold contacts. A large window shows the various bands covered by the set. Tuning is accomplished by two weighted, brushed aluminum knobs. The brushed aluminum case exhibits sleek design styling and clean lines. Color coding of some controls simplifies operation. The set runs on either 9 "D" cells, or on 110/220 VAC as well as 12/24 VDC via a built-in power supply.

I acquired my T-1000 about two years ago on eBay. It came complete with the instruction manual and schematic. Also included was some background material on the set, the options available (1965) as well as some information on its designer Dieter Rams.

Today, the T-1000 is more of a collector's item than a first class portable radio but it is still very desirable. Dieter Rams' designs were the inspiration for the design of a number of Apple products. A Google search of the radio will provide much more information on the set. I consider myself very fortunate to have a piece such as this in my collection. It is considered a real "museum piece" as evidenced by the T-1000 being on permanent display in the Museum of Modern Art in New York City!



The Braun T-1000.

**MUSEUM  
MUSINGS**

**By  
Ray Chase**



One of the missions of the NJARC, in coordination with the Radio Technology Museum at InfoAge, is to promote the history of radio technology and its impact on American society. On September 13th, Harry Klancer and myself gave the club's History Of Radio Broadcasting presentation at the Brandywine Senior Residence in Howell, NJ. This senior residence was in competition with about 15 other Brandywine locations in New Jersey based on the theme "The World of Tomorrow" or "Carousel of Progress."

We were requested to set up a static display to supplement the presentation so Harry brought four vintage telephones and four radios and set them up in the entrance area of the residence two weeks prior to the presentation. We modified our talk a bit to fit in with a "world of yesterday" theme.

Unfortunately, the only room suitable for our talk was a TV theatre that could only seat about 25 or thirty people and many of the residents required wheeled assistance of some sort. We set up a Stromberg Carlson console radio along with other smaller radios around the room and wireless transmission of our program worked fine. The program was delayed almost an hour as a preceding program in the dining room went long past its scheduled time and the 4:30 dinner hour was fast approaching but we finally got an audience of about 25 and finished on time.

The program went very well and the audience was attentive and pleased with what they saw and heard. With other Brandywine locations throughout the state, we may be asked to provide additional presentations.

September 27th was Recognition Day for WWII veterans at InfoAge. InfoAge has been recognized as a WWII Living

Memorial and, as such, veterans are honored several times a year. Several WWII veterans were present at the memorial ceremonies and I was fortunate to be on duty at the museum that day when a 91 year old gentleman and his 94 year old wife came through. He served in the Marine Corps as an Amtrak driver (an amphibious tracked vehicle) that ferried soldiers and material from ships to shore at beachheads in the Pacific theatre. He participated in many island assaults in the Pacific and was wounded at Okinawa.

It was a pleasure and honor to talk with him although in the excitement of the meeting, I failed to get his name for which I apologize. In the photo below, note his medals. Semper Fi!



On September 14th, a group of eight senior citizens toured the museum and were ably hosted by Al Klase. On September 28th, we hosted a group of 16 middle school boys and girls along with four teachers from Veterans Middle School. These were 6th, 7th and 8th grade kids with special needs but they were attentive and interested in what they saw. The group also toured the military vehicle, computer and divers museums and the WWII dioramas.

**THE FIRST  
JOHN TERREY  
AUCTION**

**By  
Ray Chase**

Many of you may know John Terrey and perhaps a few of you have seen his extensive collection in his home in Carlisle, MA. John published the magazine *Antique Radio Classified* for over 25 years and was one of the most avid collectors of early radios. About ten years

ago, after his collection just about filled his large house, he decided to build a barn to display his 1,000 radios and accessories which represented nearly 200 manufacturers. The word "barn" is probably inappropriate because it is a magnificent, 2,000 square feet, multi-level building with an interior decorated in knotty pine.

Recently, John decided to downsize a bit and relocate the remainder of his collection to a smaller house a few miles away. John decided to "disperse" the majority of his large collection by way of two no-reserve auctions, the first which took place on September 18th and the second to be held on November 13th. "As a temporary caretaker, I want to host and meet these future caretakers of my sets!" John has attended numerous auctions over the years and this experience taught him how a real auction should be held.

John wanted to hold his auction at his "barn" so he employed a professional local auctioneer, asked his friend Bob Dobrush to manage the sale, set it up for internet and phone bidding and produced a slick, full-color catalog that pictured all of the 338 pieces being offered. The catalog also listed estimated minimum and maximum values. To top it off, on the Saturday viewing prior to the sale, John provided a catered barbecue for all who showed up plus, on the day of the auction, pizza and drinks were offered for lunch. What great hospitality - all radio auctions should be so good!

In addition to the main auction on Sunday, on Saturday, ten tables of less expensive items were marked with very reasonable prices and set aside for a 5:00 PM "tag" sale. Numbers were placed in a hat and attendees were offered the chance to pick a number. Then they were allowed to go up to the barn loft in numerical sequence and buy one item at the tagged price. Surprisingly, about eight items were not purchased. Another ten tables in the loft held about 50 box lots of items of lesser value or parts of radios. These were sold on Sunday, some before the main auction, some during the lunch break and the remainder at the end of the auction. Some interesting collectable items were in these box lots and good bargains were had by a few buyers.

On Sunday, some rain was predicted but it mostly held off until late in the evening so the day was pleasant. The auction was held in a large tent just outside the barn with the each item up for auction projected on a screen. The radios never left their shelves in the barn until picked up by the buyers at the end of the auction. About 50 bidders were registered in the tent but internet bidding was very

active. I estimate that between 20% to 30% of the bids were hammered down on the internet.

The 338 cataloged items sold for a total of \$185,575 not including the 10% or 15% buyers premium or 6.25% MA sales tax. While this yields an average sale price of \$549 per radio or accessory, there were bargains to be had. The lowest sale price was \$20 (there were several of these) and the highest sale price was \$14,000 for a Chicago Radio Labs AGN2 receiver. Generally, the really rare items sold well over their estimate (a Magnovox type AC#-P 6-tube audio amplifier with an Edison Institute tag with a maximum estimate of \$3000 sold for \$9000) while more common items (like an RCA Radiola V at \$170) sold below their minimum estimates. Large items such as consoles or radios built into furniture sold very low. For example, a very nice Radiola IX/Sonora phono combination estimated between \$400 to \$1500 was a real buy at \$50. If it took up too much room at home or couldn't be hauled away, it didn't entice more than one buyer.

This was perhaps a "once in a lifetime" opportunity to revisit this outstanding collection amassed over 55 years that was dispersed to new owners while perhaps setting a new benchmark on many rare

pieces. Personally, I only purchased one box lot, a set of 10 doll house radios for my wife Edith. The fun for me was visiting with the many radio collectors that I have known for years.

Since thousands of photographs have been taken for his auction catalog, John plans to find the time and commitment to complete a book on his collection. "Actually, it is the book that helps me part with my old radios, for as a book, the collection will live on."

I look forward to the November sale which will feature sets by Grebe, DeForest, Federal, Jones, Kennedy, Kodol, Chelsea, Crosley, Miraco, Ozarka, Sleeper and others. More information may be found at [www.terreyauction.com](http://www.terreyauction.com) including a slide show of the auction as well as a list of prices realized.

*Editors Note: Since I wasn't able to attend this auction, I gave Ray a list of 12 "wants" that he kindly said he would bid on for me. I was quite happy to wind up with five of these and was also happy that he and Edith didn't take a side vacation to the Bahamas with my blank check. On the unfortunate side, Ray said that prices were so good in some cases that I would have spent a lot more!*

**THE RADIART JR.  
"ONE-TUBE WONDER?"**

**By  
Marv Beeferman**

One-tube radios have always caught my eye and I have often been impressed by their performance. For example, I was able to log 7,169 miles with a DeForest Crosley during last year's NJARC DX contest. That's why a Radiart Jr. one-tube set was one of my purchases at last month's Kutztown swapmeet.

Crystal radio enthusiasts enjoy the challenge of coming up with that "perfect" circuit that stretches a crystal's abilities to maximum in order to obtain that sweet compromise of sensitivity and selectivity that makes their creation "a real performer" - all done without a power source other than the airwaves. Except for the required battery or AC power, one-tube radios can provide a similar sense of satisfaction. A Google search will provide a huge selection of possible combinations of a single vacuum tube and supporting circuits to provide enough such projects to keep the avid builder, collector and DX'er far from being bored.

The Kutztown vendor of the Radiart Jr. said he knew little about the radio except that it used a single 12A7 tube and that he (and every potential buyer that had looked at it) had never seen one before. Neither did I, and its somewhat art deco styling and its unblemished, black, wrinkle-finished small steel case made it quite appealing.

**The Radiart Corporation**

The first thing I do when researching any radio is to start with the manufacturer so I can find any links to date, price, construction and schematics. Unfortunately, I could find very little information regarding the early years of the Radiart Corporation of Cleveland, Ohio. The company was incorporated in 1924 by K.C. Burcaw and L.K. Wildberg, possibly as an appliance manufacturer and later as a radio parts manufacturer. In 1926, the company's "magnaformer" coil formed the basis of a nine-tube "Magnaformer 9-8" super-heterodyne radio kit.

In 1931, the company offered an "Amplitrope," an amplifier with a self-contained phonograph that provided room-filling sound from a radio or microphone connected to the device via an externally-connected speaker. Also offered was a "tone control" that, when connected to a



**John Terrey speaks to a few of the hundreds of visitors that have seen his collection since the 1990s.**



**Including tax and premium, your author paid \$130 for an Adams Morgan (Paragon) two-tube receiver. A Chicago Radio Labs AGN2 sold for \$14,000.**

radio, was supposed to "increase the brilliance of the treble as well as deepen the bass" and act as a "static muffler, interference reducer, acoustic compensator and speech clarifier." *Radio Retailing* for 1932 advertises two Radiart sets; a four-tube model 41-A and five-tube model 52-A.

Unfortunately, after an extensive search, no advertising could be located for the Radiart Jr. itself. However, based on a published question about the radio's circuit found in the September 1935 issue of *Radio Craft*, a 1936 "date sold" tag on the radio's 12A7 tube, and a "9-34" date on the "Guarantee and Service Policy" tag on the bottom of the radio's case, 1934 or 1935 seem like reasonable manufacture dates.

Between 1938 and 1955, the Radiart Corporation went on to produce a diversity of products including a 6 volt and 32 volt power pack for electric shavers, auto antennas, record players, automobile radio vibrators, vibrator power supplies and checkers, TV antennas, antenna rotors, etc. The company was purchased by Maguire Industries in 1946. In 1948, the company was then acquired by Cornell-Dublier with L.K. Wildberg as president. By 1950, the company had five plants devoted to the television and automotive aerial field. In 1957, Cornell-Dublier moved Radiart Products to Fuquay, NC and entered the relay market as a major supplier to General Motors Corporation. At this point, information about the history of the company seems to fade with no responses to inquiries made to the Fuquay, NC chamber of commerce.

### The Radiart Jr.

The Radiart Jr. measures 6 1/4" tall by 4" wide by 3 1/4" deep. As already stated, it has somewhat of an art-deco styling and is enclosed in a black, wrinkle-finished steel case (Figure 1A). A small plate in the back of the set that covers the phone connections appears to be missing. A paper "Guarantee and Service Policy" tag on the bottom of the set identifies it as serial # 1145 (Figure 2). The tag also offers a 90-day guarantee with a cost of \$1.00 for repairs or \$2.00 for a replacement tube and 25 cents for shipping.

Basically, the radio is a simple form of a regenerative detector with coils wound for both the shortwave and broadcast bands and a rotating tickler coil providing regeneration. Unfortunately, no schematic could be located. But luckily, a response to the 1935 *Radio Craft* inquiry previously referenced to provide circuit information for repair of this set did pro-

vide a pictorial diagram (Figure 3). Except for not including one additional component that is part of my radio and some differences in component values, the pictorial does accurately represent the Radiart Jr. that I had purchased.

The radio uses a single 12A7 tube which serves as a combined rectifier and detector. This tube is sometimes also found in one-tube portable phonographs. It consists of a screen-grid pentode and three-element rectifier fed by a single filament. Filament voltage is 12.6 volts AC or DC and plate voltage is 135 V max. for the pentode and 125 max. for the rectifier. A 3-35 mmf variable antenna capacitor is used for tuning. Two 8 mfd electrolytic capacitors (in a single envelope) in parallel with a 13.8 Kohm resistor (measured) are used between the pentode screen and rectifier cathode. A 1.65 megohm resistor (measured) in parallel with a 0.00025 mfd capacitor connects a coil composed of four adjacent windings to the pentode grid. A .001mfd, 600 WVDC wax capacitor isolates the phones. To save space and cost, the radio is a true "curtain burner" with power supplied by a 350-ohm, resistive power cord. There is no power switch; you just plug it in and it's ready to go. The radio is somewhat "less dangerous" than typical AC/DC sets since one side of the line cord is not grounded to the chassis.

Based on the turn information provided in Figure 3, it appears that this little radio covers both the broadcast and 80 meter SW bands. A switch below the regeneration control is used to select either band by connecting to the desired coil combination.

### First Look

Although the line cord was very supple and not suffering from that crackling sound of deteriorated insulation and the interior looked extremely clean with no exterior indication of failed components, I decided to do a little testing before I powered my Radiart Jr. up. I was lucky I did!

First, I found the line cord open (mostly probably in its resistive element). Second, the 12A7 filament was open. Third, the 8 mfd electrolytics were leaky and out of spec. (although, after some reforming, they did come back to a reasonable condition). One might speculate on the cause of these problems. It's possible that the radio was removed from service still in working condition after being powered by a 110 volt source. When "rediscovered" years later and

giving the electrolytics some time to deteriorate, the resulting excessive current from connection to a 120 volt source could have blown the filament and taken out the resistive line cord. Just a thought! Anyway, electronic restoration was in order.

### Restoration

It took me longer than expected to acquire the parts I needed for restoration so the results of my efforts will have to wait until next month. However, I thought it would be useful to go over my plans.

First, let's deal with the resistance line cord. The obvious solution would be to replace the cord with a vintage 2-wire cord and install an appropriate resistor to supply 12.6 volts at a 120 Vac line input to the tube filament. But unfortunately, you're talking about a large resistor installed in a limited space and lots of heat generation. The modern day answer is a series capacitor and surge limiter. (Others have suggested a diode/series resistor combination but you can research for yourself the possible drawbacks of this method.)

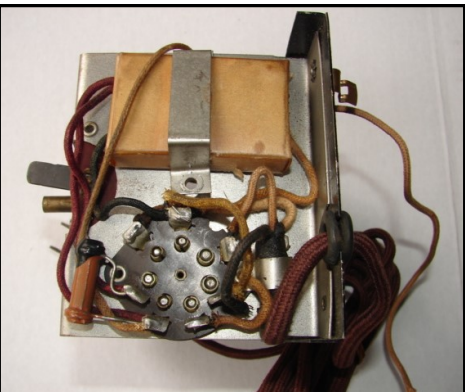
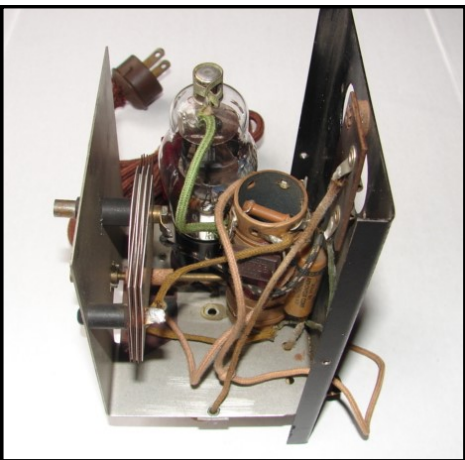
The capacitor replacement method takes advantage of the fact that a capacitor behaves like a resistor when passing AC and can be used to reduce the line voltage. As AC current passes through tube filaments, it charges the capacitor, first in one direction then in the other. The rate of this charge, and the average value of the resulting current flow, is in direct relationship to the tube filament resistance and the capacitor current flow. Thus, a 6.7 mfd capacitor is capable of replacing a 30 watt resistor. The only energy consumed by the capacitor goes into dielectric heating which is negligible in modern capacitors rated for AC service (mylar or polypropylene). Electrolytics cannot be used - they get hot when carrying AC current.

Calculating the value of the required capacitor is a difficult process because it involves vector quantities. However, a spreadsheet is available that calculates the value for you including the required surge limiter resistor. Go to [www.vintage-radio.com](http://www.vintage-radio.com) and click through the following selection headings: Repair and Restoration Information/More Detailed Valve Radio Information/Dropper Calculations Spreadsheet.

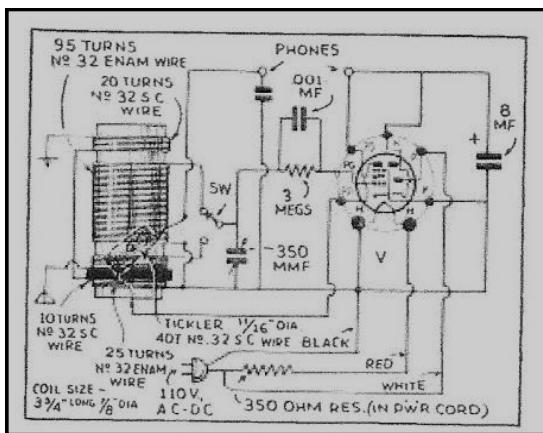
You can see the results of my input in Figure 5 (I opted for a 12 volt instead of 12.6 heater voltage for a safety margin.) The results were a capacitor of 6.75 mfd and a surge limiter of 33 ohms @ 3 watts. Since variations are possible, I plan to use a temporary hook up and use a Variac to slowly increase my line voltage and

monitor the filament voltage drop. Thus, if required, I can adjust capacitor and surge limiter resistor values to obtain the results I need. The remainder of the restoration will be straightforward with replacement of the two 8 mfd electrolytics and .001 mfd phone capacitor.

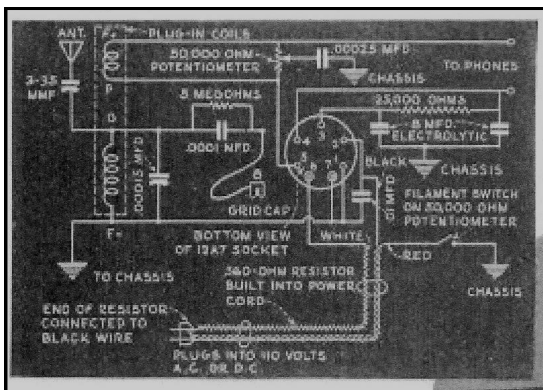
Hopefully, by next month, my Radiart Jr. will be back together and I'll be able to report some interesting DX results.



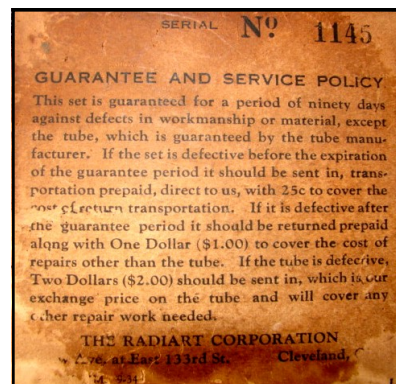
**Figure 1A-C:** The Radiart Jr. Note the band select switch below the center regeneration control. The two 8 mfd electrolytic capacitors are contained in a single case under the chassis.



**Figure 3**



**Figure 4**



**Figure 2**

**Figure 2:** "Guarantee and Service Policy" label at bottom of chassis.

**Figure 3:** Pictorial from Sept. 1935 *Radio Craft*.

**Figure 4:** Diagram for building "World's Simplest All-Electric Set" from Oct. 1934 *Radio Craft* using a 12A7. Except for a potentiometer for regeneration, note the similarity to the Radiart Jr. circuit of Figure 3.

**Figure 5:** The results of my "dropper capacitor" and surge limiter calculation. I used a heater voltage of 12 volts as a safety margin.

### Valve Heater Dropper Resistor and Capacitor Calculations

Values	Results
Supply voltage <input type="text" value="120"/> Volts	Dropper resistor 360 Ohms at 32.4 Watts
Supply frequency <input type="text" value="60"/> Hertz	
Heater voltage <input type="text" value="12"/> Volts	Dropper resistor with diode 243 Ohms at 21.9 Watts
Heater current <input type="text" value="0.30"/> Amps	
Surge limiter drop <input type="text" value="10"/> Volts	Dropper capacitor 6.75 uF with surge limiter resistor of 33 Ohms at 3.0 Watts

**Instructions**

Enter the supply voltage, supply frequency, total heater chain voltage and heater current in the Values section on the left. Note that heater current is in Amps. Surge limiter voltage drop applies to capacitive dropper only, default is 10 Volts.

The results will be shown on the right:  
 The first set of results assume a simple dropper resistor only.  
 The second set of results are for a resistor with a series rectifier diode.  
 The third set of results are for a capacitive dropper.

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 This spreadsheet is offered as-is and no liability can be accepted for any errors

**Figure 5**

# NJARC Holiday Party

**Date:** Saturday, December 10th, 2016  
**Time:** 5:00 PM – Cocktail Hour  
 6:15 PM – Dinner  
**Place:** West Lake Golf & Country Club  
 1 Pine Lake Circle  
 Jackson, NJ 08527

<b>Members:</b>	<b>\$25 each</b>
<b>Non-Member Adults and Children over 12:</b>	<b>\$25 each</b>
<b>Children under 12:</b>	<b>\$5 each</b>

**Cocktail Hour, Dinner Buffet, Mystery Grab Bag, Surprises**  
 A wonderful evening of fun, good food and fellowship with a radio theme.

\*\*\*\*\***RESERVATIONS REQUIRED**\*\*\*\*\*

If you plan to attend, please fill out the attached coupon, detach it and mail it with a check to:

**Marvin Beferman**  
 2265 Emerald Park Drive  
 Forked River, NJ 08731  
 609-693-9430/[mbeferman@verizon.net](mailto:mbeferman@verizon.net)

by December 7<sup>th</sup>. **Everyone who plans to attend must send back a response form with the name(s) of attendees.** Reservations must be made via the form below; **please refrain from telephone or email reservations unless absolutely necessary!** Payment must accompany the form.

-----Cut here -----

Name(s): \_\_\_\_\_

\_\_\_\_\_

Telephone or email: \_\_\_\_\_

Number of <b>Members</b> :	_____	X \$25	= \$	_____
Number of <b>Children</b> under 12:	_____	X \$5	= \$	_____
Number of <b>Non-Members</b> :	_____	X \$25	= \$	_____

**TOTAL:**     \$ \_\_\_\_\_

Make checks out to **NJARC**, enclose with this form and **mail before 12/05/16.**  
**(Note:** The cost of this party is supplemented by the NJARC.)



# New Jersey Antique Radio Club's

## Fall Swap Meet

Parsippany PAL Building

33 Baldwin Road

Parsippany, NJ 07054

Just off Route 46,

Adjacent to Smith Field



### Saturday November 5th, 2016



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](http://www.njarc.org)

or Mapquest

33 Baldwin Rd Parsippany NJ 07054

### Vendors Make Your Reservations Now!

#### Contacts:

President

Richard Lee

(914) 589-3751

[radiatorich@prodigy.net](mailto:radiatorich@prodigy.net)

Vice President

Sal Brisindi

(732) 857-7250

[salb203@aol.com](mailto:salb203@aol.com)

Secretary

Mary Beeferman

(609) 693-9430

[mbeeferman@cs.com](mailto:mbeeferman@cs.com)