



# The Jersey Broadcaster

NEWSLETTER OF THE NEW JERSEY ANTIQUE RADIO CLUB

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The *Jersey Broadcaster* is distributed to members of the New Jersey Antique Radio Club via email as a PDF file. Back issues of many of our newsletters are available on the club's website:

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

## Meeting Notice

Our May meeting will take place on Friday, 5/17 at InfoAge. This meeting is scheduled one week later than our usual second-Friday-of-the month due so as to not conflict with the Kutztown Radio Show which will take place on Friday and Saturday, May 10-11. Our guest speaker for the event will be Bill Burns who will make a presentation about the history of the Transatlantic Cable.

We plan to livestream the meeting on our [YouTube channel](#).

## Meeting Review

At our April meeting, guest speaker Chuck Perillo, a former docent at the Thomas Edison Center at Menlo Park gave a presentation about the museum. The Menlo Park Laboratories (known as "The Invention Factory") was where Edison created several of his most famous inventions including the phonograph and the electric light.

Recordings of many of our meetings are on [YouTube](#).

## Calendar of Events

**May 17: NJARC monthly meeting, InfoAge**

May 22: Wall High School Scholarship Awards

May 24: HARPS monthly meeting, Suffern NY

June 11: DVHRC monthly meeting, Telford PA

**June 14: NJARC monthly meeting, Princeton**

June 21: ARRL Field Day, InfoAge

June 21: HARPS monthly meeting, Suffern NY

**July 12: NJARC monthly meeting, Princeton**

July 19: HARPS monthly meeting, Suffern NY

**July 27: NJARC Summer Hamfest/Swapmeet, InfoAge**

**August 9: NJARC monthly meeting, Princeton**

August 16: HARPS monthly meeting, Suffern NY

**August 24: NJARC Summer Repair Clinic, InfoAge**

**September 13: NJARC monthly meeting, InfoAge**

September 20: HARPS monthly meeting, Suffern NY

**September 19-21: Kutztown Radio Show**

October 1-5: AWA Annual Conference, Henrietta NY

**October 11: NJARC monthly meeting, Princeton**

October 18: HARPS monthly meeting, Suffern NY

**October 26: Fall Repair Clinic, InfoAge**

**November 8: NJARC monthly meeting, Princeton**

November 15: HARPS monthly meeting, Suffern NY

**Nov. 16: NJARC Fall Hamfest/Swapmeet, Parsippany**

**December 14: NJARC Holiday Party, Jackson**

December 20: HARPS Holiday Party, Suffern NY

## From the President's Workbench

Greetings Fellow Enthusiasts!

This is a review of our Spring Hamfest Swapmeet Show at the Parsippany PAL building in Parsippany, N.J. Thanks to Emily, our "PAL Opener" on March 16th, we got our setup crew in early at 6:30am. This enabled us time to rearrange vending tables in a way that would suit our sellers and the arriving public.



The APR (All Purpose Room) at the PAL is an expensive venue. Our morning Show costs \$1,230. Plus a \$55 Fire Department Inspection fee! Consequently, we need to run a "tight ship" when it comes to collecting table fees, gate fees and helpers fees.

We have been having our Spring and Fall Shows at the Parsippany PAL Building since 2006. That's 30 events minus the Pandemic years! Our club has investigated other (cheaper) Rental Halls, but the proximity to Routes 46, 287 and 80 make it an inviting commute for vendors and buyers from the quad-state area. We had a Sold Out show; w had a couple of late cancellations but these were quickly filled by sellers who did not make a reservation. The number of buyers at the "gate" was higher than at our Fall Show.

Be sure to check out Radio Wild's YouTube Channel for his review of the Show. The 4 dozen "Radio Bagels" were sold out by the middle of the show, which means, I need to buy 5 Dozen Radio Bagels for our November 16th Fall Show at the Parsippany PAL!

— Richard Lee Pres. NJARC

(Photos on following pages.)

**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 on the second Friday of each month either at InfoAge or at Princeton University. Neither the editor nor NJARC is liable for any other use of the contents of this publication other than for information.

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**President's Workbench**

(Continued)

Gene owner of  
KLJ Electronics



Ari from  
KLJ Electronics



Nice Crowd!

## President's Workbench (Continued)



Set up time



Jon Kummer vending



Dave, recurring non-club member vendor



Paul Gelbman and Judith Shaw at the Gate

## President's Workbench (Continued)



Tony & Sal, capacitors



Susan, recurring non-club member vendor



Set up time



Set up time

## President's Workbench (Continued)



Howard from KLJ Electronics



El Jefe, advertising Radio bagels,  
Radio Coffee and Radio Buns



Matt Reynolds and Paul Gelbman working the raffle



The Sherrys, first time non-club member vendors from Long Island

## Resurrecting Fair Radio's Computerized Cardmatic Tube Tester, Part 1

By Matt Reynolds

As mentioned in my previous article on their impending closing, I grew up in close proximity to [Fair Radio Sales](#) of Lima, Ohio. They were very instrumental in growing my knowledge, interest, and collection of Antique Radio, test equipment, and all ancillaries related to the hobby. Before I was fully set up with my own test equipment, I would go to Fair Radio Sales to test my tubes, or to buy replacements as needed. When I first started going (early-mid 2000s), I was very impressed to see that they had a computer-based tube tester. I knew little about it, other than it had an old green text-based screen and was attached to a vintage tube tester via a custom-made interface box. At some point later on, I noticed that they were no longer using the tester, but either using a military TV-7 tester, or (for a brief period), would point you to a drug store style self-tester. On one occasion I had asked them why they weren't using the computer one, and the former house technician said that the interface box had relays inside of it that weren't working. They had sent it back for repair on a couple of occasions, but they couldn't get it to work again, and they just never got back around to fixing it. There it sat on their counter, idle, for well over 10 years.

After it was circulated throughout the various electronics hobbyist threads that Fair Radio Sales would soon close, I made it a point to make sure I made a visit while I was home for the winter holiday season. Assuming "everything must go" I inquired if they were willing to sell the computerized tube tester, acknowledging that I was aware that it is "as-is." A price was given, and a transaction was made! I packed up the various pieces of the system (the tube tester, the interface box, an ancient desktop PC, the software disks, and a hard copy of the manual). I also bought a set of Cardmatic cards to go with it, in case that the interface was not possible to fix. It was very tempting to mess around with it while I was home for the holidays but I managed to show enough self-control to wait until I was back in NJ.



Back in NJ, I started setting up the various components of the system, trying to see if I could get it to work. I figured it would be best to test the computer separate from the tester/interface box. I set up the ancient computer on my bench with the Cardmatic tube tester and crossed my fingers that it still worked. This machine was not in great shape. It had no cover on the tower, had rust on the inside with most of the various jumpers (for speakers, activity lights, etc.) unhooked. I did not have a lot of faith that it would work, but lo and behold, the old machine came to life! It turned out that the software was written in DOS, and that the computer was set up to boot directly into DOS first and auto-launch the app (via autoexec.bat). If one exited the app, it would boot up the computer further into Windows 95.

Knowing the computer was alive, I then focused on the tester itself. The tester itself is a KS-15874-L2 Cardmatic, made by Hickok for the Bell Sys-

tem. It has the same card reader as other Hickok Cardmatics like the 123A or the URM-118. The modifications to the tube tester to make it computerized did not take away the original functionality of the system, so the reader could still be used. I tested a few tubes with the cards I bought and saw that the tester was working fine. Another good sign!



Sorting and cataloging Cardmatic Cards on my living room floor.

## Resurrecting Fair Radio's Computerized Cardmatic Tube Tester, Part 1 (Continued)

At this point, I hooked up the tester's interface box to the computer and tester, and tried to assess what the status was. I was not able to communicate with the tester, despite troubleshooting steps as indicated in the manual that came with it. It was at this point that I contacted the company that made the interface box to see if they would be able to help me out. The interface box, the software, and the modifications to the tube tester were all done by Phil Frakes, who owns <http://tubesontheweb.com>. Not only is Phil's business still around, but he also still sells these solutions today! I mentioned to him that I took ownership of Fair Radio's machine, but I was having issues with communication and wanted to see if he could help tell me where Fair Radio left off with troubleshooting. The first problem, not being able to talk to the interface box, was MY mistake. The interface cable that connects to the computer is a DB-25 parallel cable. It never occurred to me that this computer was so old that it had two DB-25 ports, and the one I hooked into was for Serial... whoops!



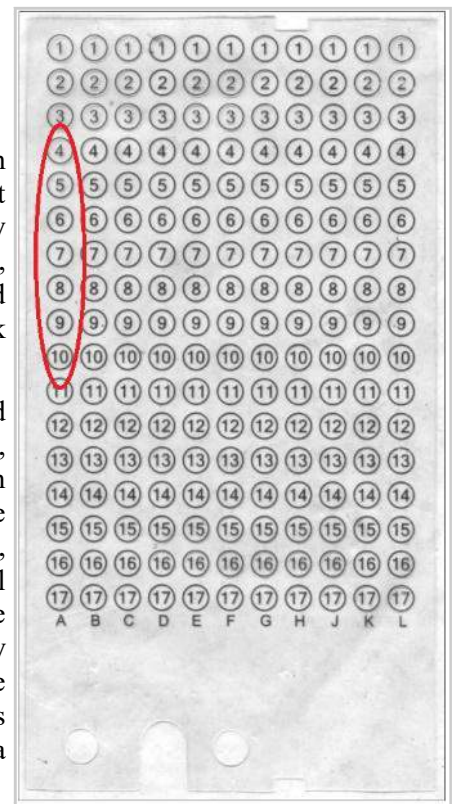
**KS-15874-L2 modified for computerization.**

**Note the large gray interface box and the twist-lock connectors. Additional sockets are on top the interface box to expand testing capabilities.**

I shared this finding with Phil, and he offered to have the unit repaired for an hourly fee if I mailed it into him. I asked him if the relays were socketed, and if it was something I could troubleshoot further before sending it in. He said that they were not socketed, but also that it was unlikely that the fault was an actual relay, because the failure was a row of subsequent relays not working. He mentioned that it was more likely that a ribbon cable had come loose, and that I could check for that, so I did.

The interface box has removable side panels, but even so, it's quite cramped inside. The inside of the case consists of multiple custom-made circuit boards, stacked together with hex standoffs. The boards are connected via gray ribbon cables, similar to the type used to connect computer peripherals internally in the past. There are multiple boards with almost nothing but IC-sized DIP relays, along with boards filled with IC DIPs. It's very impressive, considering it's all custom made. I did my best to keep the boards all together as one to not cause any further problems. Sure enough, one of the ribbon cables was not fully seated! I pushed the ribbon cable down to fully seat it and hoped that this was the cause of the fault, and not a new issue from me opening the case. I put the covers back on, hooked the box back up to the computer and tester, and gave it a try. Success!

After moving the cable to the parallel port, I was able to establish communications with the interface box. From there, I was able to run the diagnostics built into Phil's software. The computer controls the tube tester by controlling MANY individual relays. It's a very simple test, you just listen for the click of the "on off" of a relay. The program allows you to test each one individually, so I set off doing just that. It was at this point that I finally found the fault that caused Fair Radio to ultimately give up using the tester. The test for relays A4-A10 failed. These relays are responsible for pins in column A of the test matrix.



## Resurrecting Fair Radio's Computerized Cardmatic Tube Tester, Part 1 (Continued)



**Main Menu of Bitmatic Tube Tester Software**

Be on the look out for the next installment of this article. In the next installment I will cover what I did to replace the ancient dying PC, as well as go into some of the software screens and some of my initial findings with the tester.

## A New Addition to the Second St. Displays at InfoAge

By Ray Chase

Thanks to friends at the Tobyhanna, PA Army Depot and others, InfoAge has obtained a display example of the Army's AN/TPQ-36 Radar otherwise known as Firefinder. The AN/TPQ-36 is a weapon locating radar developed in the 1970's by Hughes Aircraft and manufactured by several companies such as Northrop Grumman and Raytheon. It achieved operational capability in 1982. Camp Evans was the procurement and contract management office so it has now returned to its initial home.



**TPQ-36 Ready for Transport**

As a weapons locating radar, it detects and tracks incoming mortar, artillery and rocket projectiles to determine their point of origin in order to initiate counter fire. The TPQ-36 is an electronically steered radar that does not use a rotating or moving antenna as in prior radars. The "billboard" shape of radar antennas is now the norm. The system is also used to track return fire or to register the point of impact of defensive fire. The system operates in the X Band (8 to 12 GHz or



## A New Addition to the Second St. Displays at InfoAge

(Continued)

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The TPQ-36 is now considered obsolete for our forces, having been replaced by more advanced systems. Our unit as a display item is devoid of most of its electronics. It was picked up from Tobyhanna, PA on Tuesday April 2<sup>nd</sup> during a visit by John Cervini and the author. A NJ local heavy duty towing company in Howell handled its transport very easily. It will need some work to make it more presentable with traditional olive drab paint. The only models available were painted “sand” color for desert environments.



TPQ-36 erected on display across the street from RTM

Lest there be any confusion, there are two models of Army radar under the heading of “Firefinder.” There is a larger and more powerful version denoted AN/TPQ-37 that is used to detect and track longer range heavy artillery .

At this point, it is appropriate to look back at some of Camp Evans WWII history. In the 1942 pacific battlefield General McArthur’s troops were being deviled by Japanese “knee mortars” that were causing many casualties. The General asked Camp Evens if anything could be done. The staff here stepped up to the emergency and under the guidance of Dr. Zahl took a lightweight air search radar, the TPS-3, made modifications to it converting it to the Army’s first Counter Mortar radar, the TPQ-3. After many 24-hour days of work, 30 days later a TPQ-3 counter mortar radar was on its way to the Pacific theater with more to follow. So, Camp Evans was truly the birthplace of this type of defensive weapon.

###



# RADIO



## New Jersey Antique Radio Club's

Summer Tailgate Swap Meet and Ham Fest



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



## Saturday, July 27, 2024



### Refreshments Available

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

### 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  
2201 Marconi Road, Wall NJ 07719

### Vendors Make Your Reservations Now!

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