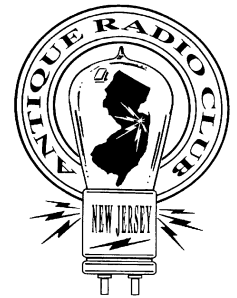


The Jersey Broadcaster

NEWSLETTER OF THE NEW JERSEY ANTIQUE RADIO CLUB

May 2007

Volume 13 Issue 5



MEETING/ ACTIVITY NOTES

Reported by Marv Beeferman

THE ON-LINE BROADCASTER

The New Jersey Broadcaster is now on line. To date, 80 of your fellow NJARC members have subscribed, saving the club some \$1,400 per year. Interested? Send your e-mail address to: mbeeferman@cs.com
Be sure to include your full name!

Last month's meeting was highlighted by a well-received talk by Al Klase on the fundamentals of digital radio. Al also described Digital Radio Mondiale (DRM), a set of digital audio broadcasting technologies designed to work over the bands currently used for AM broadcast, particularly shortwave. Al explained that DRM can fit more channels than AM into a given amount of bandwidth but at higher quality using various MPEG-4 codecs. Of particular interest was Al's demonstration of "Dream," free software that allows implementation of a DRM-receiver on a conventional personal computer using a sound card as the input and output device.

I had a great time at the club's Spring swapmeet in Parsippany; thanks again to vice president Richard Lee for taking the lead. Through the Reflector, we received some nice comments on the event and on the club in general:

"As many of you are aware, I am very much new to all of this. Last weekend was a great opportunity for me to come to one of the meetings and go to the swapmeet. Truly, I had a great time in both places. The meeting was interesting and very informative. Not only the speaker but just about everyone I was able to speak with



MEETING NOTICE

TEMPORARY DATE/LOCATION CHANGE!

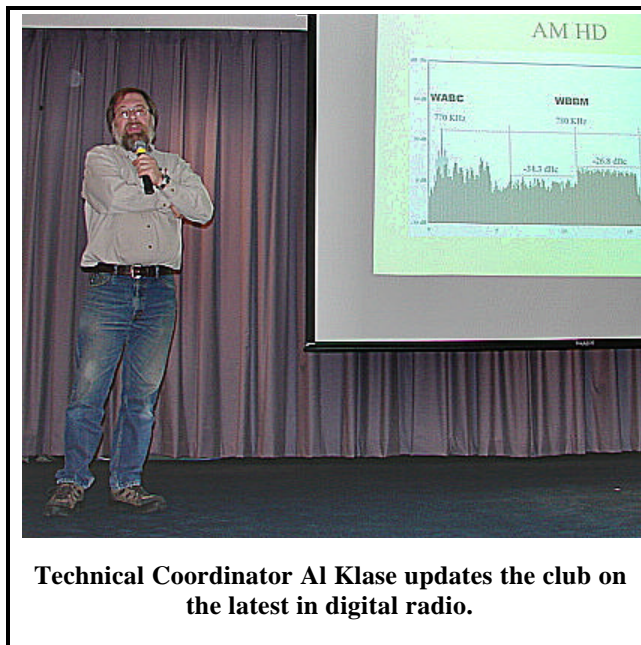
The next meeting of the NJARC will take place on Friday, May 4th, at 7:30 PM at the InfoAge telephone exchange building. Visit us at <http://www.njarc.org> or www.infoage.org for directions. This month's meeting will feature Part I of the Miller auction; a full list and photos of some of the items being offered are included in this month's *Broadcaster*. Remember - this is a "member's only auction" and you must be in good standing (dues paid) to participate.

was knowledgeable.

As for the swapmeet, I did not know what to expect and it was a positive experience. I bought three radios and I swore I just wanted ones that I did not have to work on. Well, that was mostly true but hey, I am a sucker to fix something...I am looking forward to more events. I really like

about the history of American radios. I'm sure that their restoration and probably subsequent sale will help continue our radio history for generations. It might seem silly to think of objects as something almost alive, but I feel almost as if I have had my radios adopted...Everyone was so nice to me, I might just come back next year to say hello to my new friends."

On June 2nd, InfoAge will be holding its annual diner to add the following Camp Evans notables to its Wall of Honor: Dr. Harold Zahl, radar pioneer, Max Adler, electronic warfare pioneer, and Harold & Mary Tate, a team who worked at the Camp. Tickets are \$100 per person and Ray Chase will have more information at the next meeting. Ray reports that the museum is doing well with featured exhibits, displays and publicity bringing us many new visitors.



Technical Coordinator Al Klase updates the club on the latest in digital radio.

UPCOMING EVENTS

5/4: Miller auction, Part I, at InfoAge

the idea of bringing my 14-year old to the Crystal Clinic...it will be magic for him." And from another potential member: "Thank you for allowing me to participate in your swapmeet. I was able to sell my three radios to people who really care

6/2: NJARC members-only Repair Clinic at Sarnoff Library
6/8: Miller auction, Part II, at Sarnoff Library
6/23: Crystal Set Workshop, at InfoAge (al@ar88.net)

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 \$20 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.

PRESIDENT:

Phil Vourtsis
(732)-446-2427

VICE PRESIDENT:

Richard Lee
(845)-359-3809

SECRETARY/EDITOR:

Marv Beeferman
(609)-693-9430

TREASURER:

Sal Brisindi
(732)-308-1748

SERGEANT-AT-ARMS (WEST):

Dave Snellman
(215)-345-4248

SERGEANT-AT-ARMS (EAST):

Rick Weingarten
(732)-370-8206

TRUSTEES:

Ray Chase (908)-757-9741
Gary D'Amico (732)-271-0421
John Ruccolo (609)-426-4568

TECHNICAL COORDINATOR:

Al Klase
(908)-782-4829

TUBE PROGRAM:

Gary D'Amico
(732)-271-0421

SCHEMATIC PROGRAM:

Aaron Hunter
(609)-267-3065

CAPACITOR PROGRAM:

John Ruccolo
(609)-426-4568

RESISTOR PROGRAM:

Walt Heskes
(732)-205-9143

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

SARNOFF LIBRARY DISTRESS CALL

The nor'easter that many of us experienced a few weeks ago resulted in an unprecedented 20 inches of water in the Sarnoff Library basement storage areas. Since there has never been more than 5 inches before, never has more than 12 inches anticipated. The result is a large number of waterlogged unique documents from the Princeton Labs, the RCA Lancaster and Broadcast Divisions, Camden and other NJ locations, and Communications in Japan. Some 600 cubic feet of lab notebooks, technical reports, manuals, and some manuscript collections are soaking.

Most of the water has been pumped out and now time is of the essence to recover these unique collections. Freeze-drying specialist Document Reprocessors has begun repacking the collections, tracking them, and transporting the frozen boxes to its facility in Rochester, NY. There, its staff will sublimate the ice and flatten the dried documents through its patented process.

Sarnoff's liability insurance does not cover flooding and recovery has been estimated at \$100 per cubic foot. Document Reprocessors has kindly provided Sarnoff with a 50% professional discount on the freeze-drying and will subtract another 25% of that cost if the invoice can be paid by the time they are ready to return the collections--in 3 to 4 weeks' time.

Sarnoff Corporation will help offset some of this unexpected cost and members of David Sarnoff's family have already sent contributions. These unique collections represent the patrimony of RCA staff creativity in research, development, engineering, and producing the communications and information technologies used around the world. These files were saved in the first place because of their importance in documenting the birth of modern communications, from broadcast microphones to color TV picture tubes, from satellite communications to the microchips that surround us in cars, computers, and cell phones.

Please help the NJARC support this rescue and help restore this world heritage by adopting a report (\$25), a carton (\$100), or a cabinet (\$1000). The NJARC

Board has approved a club donation of \$500. Your individual checks, to the David Sarnoff Library, or Paypal donations (<https://www.paypal.com/>, to donations at davidsarnoff.org) will help not only preserve what must be preserved, but enable Executive Director Alex Magoun move forward with the development of the field trip programming this year, allowing the next generation to appreciate what David Sarnoff and RCA's thousands of employees created.

Donations can also be sent directly to the following address:

Alexander B. Magoun, Ph.D.
Executive Director
David Sarnoff Library
201 Washington Road, CN 5300
Princeton, NJ 08543-5300

AN INTERESTING KIT RADIO

By Nick Senker

In the early days of radio, kits and homebrews were popular because of the high cost of manufactured radios. With mass production and lower prices, 'kits' became less popular except for amateurs and electronics buffs. Then, of course, there were kits offered by Sears, Montgomery Ward, Allied Radio and Lafayette Radio. In recent decades, radio kits have become all but extinct.

I was really surprised to come across a kit from 1946. A customer who got my name from the NJARC brought me a radio to repair. He claims he bought it from a store in the Washington DC area in 1946. It's a nice radio with a bakelite cabinet, AM and short wave bands and a phono input. It was partially disassembled without knobs or a back and a tube was missing.

I could not find any brand or model markings anywhere. The tubes were loctal type with RCA, GE and Sylvania logos and two unmarked brands with no clue as to the manufacturer. Under the chassis, all the caps were striped 'black beauties' which I relate to military types.

(Continued on page 6)

SPRING SWAPMEET – PARSIPPANY, NJ



NJARC MILLER ACTION: PART I (Compiled by Ray Chase)

Item	Description
1	Military code practice oscillator, operates from multiple voltages, no transit case or keys that would be in the cover of the case, poor condition.
2	Magnavox solid-state stereo tuner/amp, chassis only; taken out of a console.
3	RCA 100A mantle speaker, good case w/terminal strip attached and added volume control switch. May have a replaced later type speaker, resistance is lower than normal.
4	Homebrew crystal set, nice dials & parts.
5	Atwater Kent model 19 with 4 good tubes, two are brass base, good condition.
6	RCA RC case & panel, butchered up, no innards.
7	Partial home brew set, a few good parts.
8	Sherwood S1000 II, 36 watt tube amplifier.
9	Trinity battery set panel & chassis only, few parts. Note strange license notice on panel.
10	SAR old wood case volt/ohm meter.
11	Atwater Kent type 46 metal "coffin" set, no tubes, poor.
12	Emerson wood case portable with handle, poor.
13	Emerson S-40273 green plastic set, breaks in case, poor.
14	Executone intercom set, poor.
15	Admiral 5B42 brown plastic clock radio.
16	Peerless wood cathedral style speaker, good driver, no back panel, fair.
17	MCA Minerva brown plastic set.
18	Box of misc. parts, dials, sockets, meters, etc.
19	Thompson large horn speaker, driver has resistance.
20	Western Electric 560AW double cone speaker, good driver, paper cones are totally gone. Fair condition but these are great speakers and are easy to restore using repro cones.
21	Freshman Equaphase battery set, no tubes, poor.
22	Atwater Kent type 46 metal "coffin" set, no tubes, poor.
23	Music Master Ware 250 seven tube battery set with 201A tubes, no front panel. All tubes have good filaments. Large interesting set, may have some home modifications.
24	Johnson Ranger II transmitter, fair.
25	Box of tubes in cartons, mostly late model tubes.
26	Blaupunkt Ballette, brown plastic AM/FM/SW set, fair.
27	Box of headsets, cable, cable decoders, etc.
28	Hallicrafters Sky Buddy receiver, poor.
29	Homebrew small slant front home brew, possibly a crystal set but no crystal.
30	Small box of knobs.
31	Emerson 557 brown plastic set.
32	Silvertone 8050 wood table set, fair.
33	Heathkit SG-7 RF signal generator, dirty.
34	Heathkit condenser checker C-3, has an eye tube.
35	Heathkit V-6 early model VTVM.
36	Radio City Products 665 large VTVM, no case.
37	Truetone D-698 chassis only, interesting set.
38	Unknown make car radio, firewall mount with steering column controls.
39	Military CAY-47151A tuning unit for GP-7 transmitter, 800-1500 khz., good.
40	Military CAY-47150 tuning unit for GP-6 transmitter, 300-850 khz., good in transit case. (Add a power supply and a couple of tubes to items 39 and 40 and you could own the broadcast band.
41	Western Electric 25-B amplifier with 2 type 105D tubes. Unit is rusty outside, clean inside, tubes are good.
42	RCA UZ-1325 horn speaker, may be open or have bad cord, else good.
43	Zenith chassis and loop antenna only; from a late 30's or 40's console, poor, no knobs.
44	Unknown small audio amplifier with PP 6V6 tubes, fair.
45	Western Electric 10-D Loud Speaking Unit (tall horn speaker), coil reads open, repairs done to speaker bell.
46	Variometer in small wood case with terminals. Very nice condition.
47	Telegraph key.
48	RCA Radiola 44 (I think), chassis and panel only, no tubes, pot metal disaster, parts only set, nice panel.

- 49 Box lot, Harding YT-113 FM tuner, Bogen amplifier, Zenith Transoceanic chassis only, no 1L6 tube.
- 50 Lafayette 200 Multiple x adaptor.
- 51 Emerson brown plastic set, good.
- 52 Box lot, Polaroid plastic desk lamp, Emerson pocket portable, poor; Sylvania portable, fair
- 53 Supreme 89-S old wood case tube tester.
- 54 Box lot, RCA plastic, poor; Zenith clock radio, poor; small Trutest stereo.
- 55 Zenith green plastic set, good.
- 56 General Electric 404 brown plastic set, fair.
- 57 Zenith L622G green plastic clock radio.
- 58 Home Brew battery radio with Silver Marshall 112 khz. 4 tube 3 stage amplifier, probably a time signal receiver, has 5 good 201A's.
- 59 Box lot, Elex ECR-23 clock radio, Invicta transistor, Westinghouse transistor BC/SW, Bulova transistor, Midland VHF Monitor Converter.
- 60 Box lot, MC Jones power monitor indicator, reed type 60 hz. frequency indicator, wall wart and unknown AM/FM chassis.
- 61 Box of 45 big-pin tubes, most ST, some globe, some 45's, no eye tubes/ 2A3's/201's, untested but look fresh.
- 62 Box of 100 big-pin tubes, most ST, some globe, some 45's, no eye tubes/2A3's/201's, untested but look fresh.
- 63 Mounted tube display, 13 tubes, WE-216, WE 239 plus other desirable tubes along with some common varieties. See page 6 for photo and filament condition.



Item 45



Item 41



Item 5



Item 58: Tag on Silver Marshall 440 amplifier unit reads: "112 KC three stage long wave amplifier and detector designed for use in time signal receivers intended for reception of standard time signals transmitted by Arlington station (NAA) on 2677 meters (112 KC)"



Left to Right:
Items 55, 29 and 40



Item 63: 50, WE 216A, 326, 199 and WE 239 all have good filaments. Brass-based, tipped tube in center rear has markings "polished" off and open filament.



Item 62



Item 3



Item 53

(Kit Radio - continued)

As I began checking the wiring to try to figure out the correct tube locations, I realized the wiring did not seem to be a factory job and I really began to suspect a kit - possibly something I had seen at radio club meetings as training kits for military radiomen.

I checked with member Aaron Hunter for help and sent him photos and a description of what I found out. I was really surprised when he came back with a Riders listing of 'Radio Kits Inc' (see Riders 21-7 mod 120). It matched exactly and revealed a really interesting radio. As seen in the attached photo, there is an empty octal socket which I thought was from a missing tube (strange since the other tubes were all loctal) It turns out this socket is for an octal ballast tube but not used in this set as the loctal tubes add up to 120 V. The ballast tube is used when the radio is used in other countries when the voltage is 220 V or some other line voltage. In these cases, jumpers are

removed from the socket to accommodate the various ballast tubes.

When all the tubes were checked and put in their proper sockets, power was applied and a loud buzzing sound typical of bad filter caps was heard. After replacing the electrolytics, the output was quiet but the performance was poor with only a few weak stations received. Voltages seemed about normal and I decided to tweak the alignment, especially since one of the IF transformers had been previously replaced. The set responded to my alignment until I got to the remaining original IF transformer. I found that the alignment tool (plastic for the slug alignment) would cause the sensitivity to get better or worse as I wiggled it. Also, just wiggling the wires to the IF can would do the same thing. Finally I saw and heard sparking in the base of the can.

I removed the IF can and inspected the wiring as I suspected a short of some sort. The wiring was fine but I realized the caps in the base were shorting. These appear to be the silver-mica type I had heard

a lot about but never encountered before. Replacing the transformer with one from a 50's AA5 chassis worked out fine and restored the performance.

The set really works fine! A final point of interest was the lack of a loop antenna which was almost standard by 1946. Apparently, the main attraction of this set was its short wave capabilities for foreign use, so a loop would be of little value and a short piece of wire to the antenna lead produced good reception on both AM and shortwave bands.

I am assuming that in 1946 commercial radios were in short supply. Major manufacturers were just retooling from wartime production so a kit of this type filled the void for a while. It was probably built by someone with some electronics experience and placed in a retail store on consignment, but this is just a guess on my part. The caps may have been military surplus.

(Photos on page 7)

**WHATEVER
HAPPENED TO
THE ELECTRONICS
HOBBYIST?**

PART I

**Edited by
Marv Beeferman**

When I came across this article by Louis E. Frenzel from the Electronic Design archives, it immediately struck a nerve. It really hit home coming to the realization that what we enjoy so much has faded into the sunset and how few of us remain of what really was a unique breed of hobbyists. I hope you find the article as insightful if not as nostalgic as I did....Ed

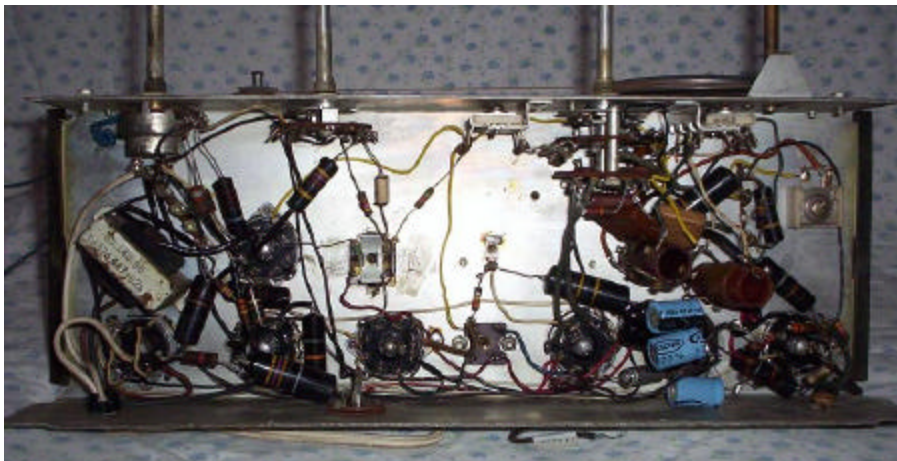
Electronics used to be one of the greatest hobbies ever. There were literally hundreds of thousands, maybe even millions, of people who used to play around with electronics as an avocation or part-time interest and activity. There were at least a dozen magazines supporting this group and plenty of parts and kits suppliers to keep them happy. Kids learned electricity in school. As a result, when they ended up getting the bug, they ended up not only adopting electronics as a hobby, but also made it into a career. You don't see too much of that going on anymore. So what the devil happened to the electronic hobbyist?

Most of us started playing around with old radios in junior high and eventually got interested in ham radio. We built the classic crystal radio and was able to hear a couple of local AM stations. Perhaps we got hooked on an old Hallicrafters S-38 shortwave radio. We learned code and basic electronics and eventually got our novice ham license. Perhaps we built a tube transmitter to go with our receivers and had a ball on CW. And some of us went on and learned electronics in college, got a degree and became first a technician and then an engineer.

But the path from hobbyist to technician or engineer is disappearing, if it hasn't already dissolved entirely. The hobby aspect of electronics seems to have gone away and thereby virtually eliminated one of the best sources of new technicians and



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"Under the chassis, all the caps were striped 'black beauties'."



"There was an empty octal socket which I thought was from a missing tube."

engineers. But why has this happened?

But first let's clarify what an electronics hobbyist is. He could be defined as someone who enjoys learning more about electronics by building, and in some cases designing, electronic devices. In the days of tubes and discrete transistors and components, you could easily build a radio receiver, transmitter or some other gadget for a few dollars. If you couldn't design it yourself, you could go to one of the many monthly magazines like Popular Electronics, Radio-Electronics, Elementary Electronics, Electronics World, QST or Nuts & Volts and find a project of interest.

For those who didn't want to venture out too far on their own, there were always the kit manufacturers. The king of kits was Heathkit, of course, but there were a bunch of others like Eico and Allied (Knight kits) and a whole slew of smaller ones.

Typical hobbyist projects ranged from a few simple parts to really elaborate complete pieces of equipment like power supplies, amplifiers, receivers or photo timers. When IC's came along in the 1970s, experimenters went wild. A ton of projects were based on the 555 IC timer. A whole

new wave of experimenting was set off with the microprocessor and personal computer kit. Another batch of magazines like Byte, Interface Age, Kilobaud, Creative Computing and a few others offered lots of projects to build and ushered in a whole new dimension...software and programming. Many electronic hobbyists also became computer hobbyists - what were called hackers back then.

There were all sorts of electronic hobbyists. Hams probably dominated the category as they were a serious bunch simply because you had to get an FCC license to play in that arena. They built their own transmitters, receivers, antennas, keyers, test equipment and lots of other accessories. There were also audio hobbyists who dabbled in hi-fi and stereo equipment. Radio-controlled airplanes and boats were also popular. And one unique category of electronic hobbyists was that bunch who could fix not only their own TV sets, but their neighbor's as well. Take the tubes down to the drug store, test them, buy new ones and away you go. And you could probably put "C'bers" into this category also...the

breaker, breaker...10-4 good buddy crowd.

In short, electronic hobbyists built things either from scratch, from plans or from a kit. They made accessories, gadgets, toys, and all sorts of other entertaining things. It was a very satisfying process to see what you made (or restored) actually work or solve some useful problem. An you learned a little more each time you did it.

So what happened to the electronic hobbyist? We'll discuss that in Part II.



**ANTIQUÉ RADIO
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For Radio Tech Questions contact:

Lewie - 610-262-3255

E-mail: Lewallie@aol.com

Local motels: Days Inn 610-395-3731

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