

The Jersey Broadcaster

NEWSLETTER OF THE NEW JERSEY ANTIQUE RADIO CLUB

August 2004

Volume 10 Issue 8



MEETING/ ACTIVITY NOTES

Reported by Mary Beeferman

A combination of vacation, computer problems and a hectic month leads to a hastily created *Broadcaster* for this month. A lightening strike limited my access to the Internet for a few weeks, but if the last nine years hold true to form, I'm sure I wasn't deluged by the contribution of material to **YOUR** monthly newsletter. I wish I could publish promises...there would be no problem keeping eight pages filled each month even in the face of a few setbacks. (For the few of you who have helped out in the past, my deep appreciation.) I was also kept away from the Repair Clinic on the 24th so the usual report and photos will also be missing.

Vice President Richard Lee did a great job taken over the podium for July while Phil Vourtsis was touring Europe. Phil will probably have some good stories regarding radio rummaging in the "Old World" at the August meeting and we expect to see at least one example at the scheduled show-and-tell. Thanks to Al Klase for another great talk which covered the "whys" and "wherefores" of tubes with more than one grid in his presentation "Beyond the Triode." Also appreciated are the "schleppers" and "hawkers" who ran another nice auction at the end of the meeting; these seem to be becoming a standard fixture.

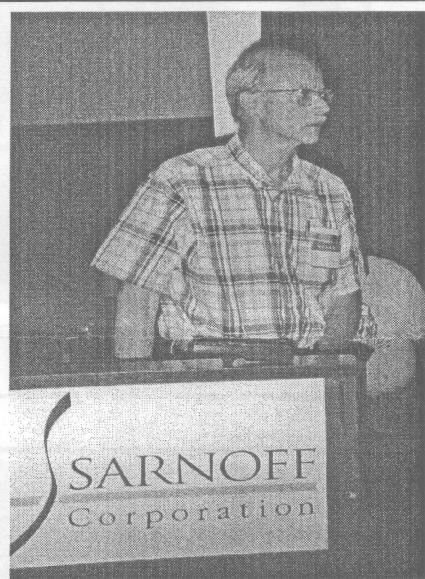
Mid-summer usually brings a lull to collecting activities, and our July 31st Dover swapmeet was no different. The vendor turnout was lighter than usual despite strong promotion by Ray Chase, but "strategic table placement" and allowing a little more elbow room filled the hall. Media coverage was provided by a local newspaper (*The Record*) and a local CableVision television station. Interviews were recorded with a

MEETING NOTICE

The next meeting of the NJARC will take place on Friday, June 13th at 7:30 PM at the David Sarnoff Library in Princeton NJ. See the NJARC web site or contact Phil Vourtsis at 732-446-2427 for directions.

It's time again for our popular show-and-tell session so unearth one of those weird, unique, distinctive, amusing or uncanny items from your collection and let's talk about it. It's not even required that you bring an item; we'll be happy to hear about the one that got away or that once in a lifetime confluence of time, tide and a full moon that led you to your first \$50 AK breadboard.

number of members including Joe Bentrovato, Walt Heskes, Dave Sica and Phil Vourtsis. There was significant footage taken and Phil thinks he talked a very excited TV reporter into becoming a member.



Vice President Richard Lee at the helm of the July meeting.

Thanks to all who showed up at InfoAge on July 17th for a workday at the cottage: Dave Snellman, Nick Senker, Marsha and Jerry Simkin, Bob Pilcher, Ray Chase, Fred Carl and myself. It was a nice day and a lot got done. Extraneous items not needed at this time were moved

across the street so we can start planning a layout. Peeling paint was scrapped from the kitchen and the larger upstairs room so it can be painted and made into a temporary library. Door locks were fixed, the Stromberg Carlson floor radio was disassembled for some minor restoration work and work was begun on cataloging the ex-Sarnoff library books.

Our plan is to set up three rooms using the National Broadcasters Hall of Fame items; one for early radio history and pre-broadcasting, one for "radio enters the home" and one for the "golden age of radio." To accomplish this, the following must be completed:

- The book inventory needs to be completed and moved upstairs.
- Some additional office furniture needs to be removed.
- The floors need refinishing.
- The display cabinets need cleanup and repair.
- Walls need painting and air conditioners need installation.

Many thanks to Bob Pilcher for completing the alarm system and to Fred Carl for hauling away extraneous items in the cottage. Work at the cottage can be arranged almost any time, since several members now have keys and security access. We're making good progress so let's keep the momentum going. Contact Ray Chase whenever you can offer assistance. (Photos of the picnic at the Bentrovato's following the Dover meet appear on pg.7.)

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.

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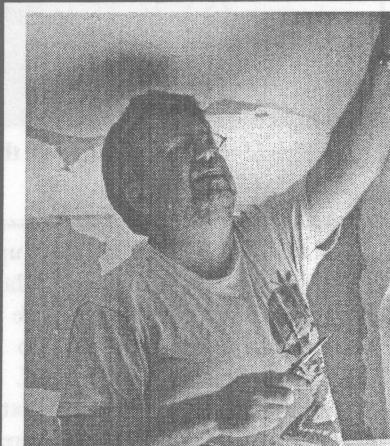
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Theresa Michele Thompson, Associate Chief Counsel for the Goddard Space Flight Center, paid a visit to the BCHF cottage during the July 17th work day. Theresa actually lived at the cottage with her family while her father worked at Camp Evans when it was still run by the Army. She showed us her old room and gave Fred Carl an interview regarding her memories of the years at the base.



Marsha and Jerry Simkin work on the library inventory.



Dave Snellman attacks peeling paint resulting from government neglect. The room is now ready for a new coat of paint and a little better upkeep.

WHAT'S THE BUZZ?

Edited by
Marv Beeferman

Progress in one area sometimes creates problems in another. However, the profit motive sometimes provides a common link between the two. A somewhat overblown case in point from "Sylvania News" for July-Aug. 1938 follows...Ed.

It starts around seven in the morning - this battle of the razors and the radio. Except on Saturdays, Sundays and holidays, the late morning and the afternoon hours are reasonably peaceful; but from 6 P.M. until bed-time, the battle rages, intermittently ruining reception and shattering nerves throughout the neighborhood. No radio listener knows when that unmistakable "Z-z-z-z" will drown out a favorite program. Nobody who earns a living through the sale of servicing of radios knows how much income is being lost because radios are snapped off in disgust, and sometimes remain permanently silent.

Electric razor interference is a problem that is growing more serious every day, as more and more men adopt this convenient method of getting rid of whiskers. As a new industry, making more jobs and providing more income, the electric razor is welcome. As a complication in the already serious problem of man-made static, it is decidedly bad news to the radio industry.

What to do about it? Thirty-one manufacturers of noise filters are listed in the June (1938) issue of *Radio Retailing*, and several new and inexpensive filters designed especially for use with electric razors are announced in the same issue. Does that suggest a possible course of action for dealers and servicemen?

The excuse for failure of previous campaigns to control electrical interference has always been that the owner of the noise-making appliance would not spend money to install filters. The noise usually does not bother him, and he doesn't give a whoop about his neighbors' radio troubles. Control of heavy noise-makers, such as diathermy equipment, may have to wait for

legislation. The razor problem, just because it is more widely distributed and more generally annoying, may prove the opening wedge for better control of other common home noise-makers, such as mixing machines, vacuum cleaners, sewing machines, heating pads, sun lamps, etc.

As the razor is the worst offender, it is also most easily traceable as a source of radio interference. It is an annoyance to the whole family, including the user, and it should be easy to get family cooperation as soon as set owners are informed that such interference can be eliminated with very little trouble and expense. Ownership of an electric razor, which is not an inexpensive piece of equipment, indicates that the family is prosperous enough not to hesitate about a modest expenditure for a razor filter, as well as two or three additional dollars for other appliance filters throughout the house. Once the first family is sold on noise elimination, it will be solidly behind the serviceman to induce the neighbors to cooperate in cleaning up the interference area.

The serviceman who plans and systematically conducts such a campaign gains in several directions. He gains the good will of many radio-owning families; he gets additional business through the sale and installation of appliance filters; he keeps the road open for future business. Radios not in use require no servicing, and razor interference is eating seriously into radio operating time. The problem must be solved. Eventually "there'll be a law," and filters will be built into razors as they are already built into modern refrigerators and various other appliances. Already, one razor model with built-in filter is on the market. But the aggressive serviceman who takes action now will be doing both himself and the radio industry a service.

MULTIPLE STATION RECEPTION

Edited by
Marv Beeferman



Quiet Your Razor to Quiet Your Radio!

Filternoys Suppressor F01DH is an approved plug-in device to be attached to any electric razor and plugged into the electric fixture. It takes the noise of an electric razor's motor out of your radio programs.

CONTINENTAL Filternoys F01DH, list price \$1.00, offers radio servicemen a handy profitable item to sell on many service calls. Carry a few in your kit. Any **CONTINENTAL CARBON** distributor can supply you.

CONTINENTAL CARBON Inc.

3914 LORAIN AVE., Cleveland, Ohio
1000 Bloor St., Toronto, Canada
Makers of Carbon Resistors, Paper Condensers, and
Noise Suppression Filters
Enclosed find 10¢ in coin or stamps for my copy of Handy
Pocket Data on Radio Interference Elimination.

Name Address
City State

At a recent tech-talk by NJARC technical coordinator Al Klase, the basics of the heterodyne principle were discussed. Here's a practical example taken from the "Science News Letter" for February 27, 1937.

A year-old mystery of multiple station reception on a single dial setting of a radio receiver has at last been solved. It all started when a radio serviceman was called to a home in a certain part of New York where the complaint was, "when I tune in WEAF I also hear WOR and WJZ."

Spinning the dial to 600 kilocycles for WEAF, the serviceman found that the complaint was no myth. Truly, he was puzzled, for the three New York stations are widely separated, with WOR at 710 kilocycles and WJZ at 760. Careful examination revealed no internal trouble in the receiver. Seemingly no explanation was logical. Yet other complaints in the same neighborhood soon lent additional mystery to the happening.

News of this peculiar phenomenon reached the ears of RCA License Engi-

neers. Moreover, they had heard similar reports from other cities, especially Cincinnati, where the engineers of the Crosley Radio Corporation had already started an investigation. Scouts were sent out by both of these groups to obtain all pertinent information about the affected neighborhoods. When they compared notes, the plot thickened. It was apparent that all of the affected vicinities were in areas where there were at least two strong station signals. Yet, only certain houses were troubled. Finally, one night, they struck the clue that put them on the right track.

At one home, it was found that this trouble did not occur when the lights were off. It was thus immediately evident that the house wiring must account for the trouble. Examination of the wiring revealed a faulty contact. When this was repaired, there was no more interference.

Further investigation revealed that faulty grounds or contacts on the power lines often caused the trouble, while in other instances, poor contacts within the house wiring, or even plumbing, were at fault. In every case, however, poor contact between two conductors acted as a rectifier.

On the basis of this, the engineers were able to frame a simple explanation, which the Crosley Corporation presented in report form before a meeting of the Federal Communications Commission. It was brought out that conductors making poor contact and acting like a rectifier in a receiver became small transmitters sending out spurious signals in a definite relationship to the frequencies of the signals that were picked up.

For instance, if the frequency of one received station is designated as "a," and that of a second as "b," then, the transmitting element sends out frequencies of $a+b$, $a-b$, $2a$, $2b$, $2a+b$, $2a-b$, $2b+a$, $2b-a$, $3a$, and $3b$. Some of these are not heard, because they are outside of the broadcast band. Others occur in positions between stations, where they cause no interference. Occasionally, however, one of these spurious frequencies coincides with that of a local station, making trouble. This is exactly what happened when listeners complained of hearing WOR and WJZ on the WEAF frequency. For, if WJZ, with a frequency of 760 kilocycles, is designated as "a," and WOR, with a frequency of 710 is designated as "b," then $2b-a$ is equal to 660, which is exactly the frequency of WEAF.

In order to prevent this happening, radio

engineers suggest improved grounding of power lines and house wiring; installation of radio frequency chokes and bypasses, to prevent the power lines from picking up the radio frequency signals; and, in some cases, a relocation of the receiver antennas in order to diminish pick-up from power lines.

TECH TALK

WHAT IS HETERODYNING?

Heterodyning is more commonly known as "mixing," "conversion" or "modulation." If you combine two frequencies in a device known as a "mixer," "converter" or "modulator," you get two new frequencies. For example, if you combine 5 Mhz and 6 Mhz in a mixer, you get the two original frequencies in addition to 1 Mhz and 11 Mhz.

A mixer is any non-linear device. A non-linear device is anything that has a graph that isn't a straight line. A diode, either vacuum tube or semiconductor, makes an excellent mixer.

In a Superhet radio, a frequency produced in a "local oscillator" combines with the incoming station frequency in the mixer to produce a frequency of 455 KHz. This "Intermediate Frequency" (or IF for short) contains the same radio frequency "information" as the incoming signal that was tuned to.

The "strange" phenomenon described in the previous article was more for general public consumption and is commonly referred to as "image frequencies." Suppose you live in an area with a strong local station on 1530 KHz and you like to listen to an out of town station at 620 KHz. You tune your local oscillator to $620 + 455 = 1075$ KHz. What do you hear? Well, 1530 is also there and combines with your local oscillator on 1075 KHz to produce a difference frequency of $1530 - 1075 = 455$ KHz.

OOPS! That's the main drawback to a Superhet receiver. It receives two frequencies simultaneously at the same time. It's up to the antenna coil which is tuned to 620 KHz to reject the strong signal on 1530 KHz so you can listen to the station you want to hear. A really good AM radio (as compared to the ones in the previous article) will have an amplifier stage before the mixer called the "RF Amplifier" with two well-tuned circuits to make sure you are only listening to one station at a time.

**LEE DE FOREST
SAYS
"STICK IT IN YOUR
EAR"**

Edited by Marv Beeferman

Following the introduction of any new technology, inventive eyes always seem, sooner or later, to turn to making things smaller. Designs for miniature radios started showing up quite early in radio history. In 1918, Lee De Forest describe a "radio pen" in the June 1918 issue of "Electrical Experimenter," an early Gernsback publication. The following is a condensation of this article which later appeared in the June, 1946 issue of "Radio-Craft."

To Dr. Lee De Forest must be given the credit for developing a receiver which is only slightly larger than an ordinary fountain pen. With it, a secret service man has but to walk in the vicinity where a "spy radio station" is suspected, the chance that he may locate the informer at his instrument.

With this "fountain pen" radio receiver, it has been possible to hear stations eight to ten miles away, with little difficulty and only a small aerial. In the sectional view shown here, it may be seen how it is hooked up. This sensitive receiver depends entirely upon the Audion for its efficiency, and it is only this extremely sensitive detector that has made possible a truly practical receiver of this small type.

It has been found that by using what is known as a "soft" Audion, a fair degree of sensitiveness is achieved with a battery of only four volts, whereas a standard Audion requires a potential many times that amount.

The tuning of the set is accomplished by means of a small coil, wound with No. 40 magnet wire. Taps are taken off from the coil and led to a number of points over which slides a contact mounted on the movable cap at the end of the receiver. By moving the cap one way or another, the wave-length is altered to conform with the in-coming wave. The tuning coil answers satisfactorily for short wave-lengths, and the Audion is connected directly to it, hav-

ing an untuned secondary. The battery is placed in the middle of the receiver and at the end is placed the telephone receiver consisting of a special magnet, bobbin, diaphragm and earpiece. The antenna and ground connections are instantly made by a special double contact plug.

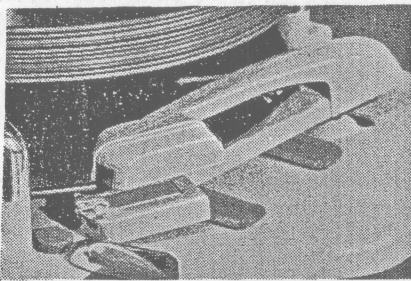


To operate the instrument, the person using it has a metal plate attached to the heel of one shoe, to which is attached the ground wire leading to the set, the wire being passed through the trouser leg so as not to be seen. The wire to the antenna is run down through the coat sleeve and into a hollow cane which may contain a spiral aerial or a similar arrangement.

Standing against an iron fixture which connects with the ground, the operator places the metal electrode on the heel in contact with the same. The cane containing the antenna is held over the shoulder or in any position not likely to cause attraction. The earpiece is placed against the ear and the other end adjusted till the signals are heard loudest.

The secret service man is advised not to attract attention when seeking out "spy" radio stations...Ed

PLAYS RECORDS ON BOTH SIDES WITHOUT TURNING THEM OVER

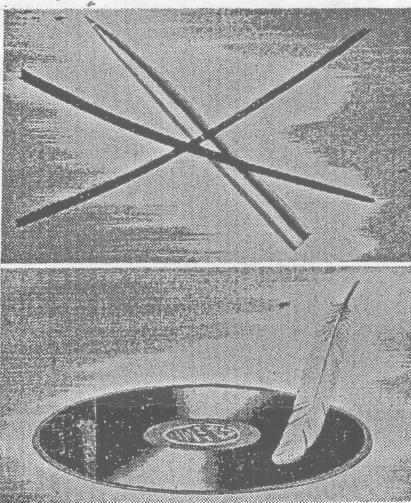
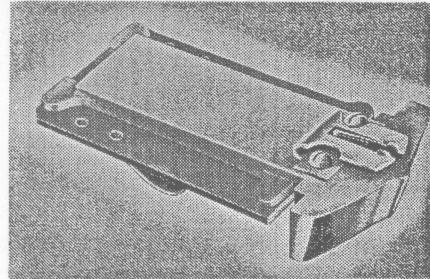


TANDEM TONE ARM

The Tandem Tone Arm plays both sides of double-faced records without turning them over. The upper tone arm plays the upper side of the record; then the lower tone arm completes the under side. Another record is automatically set and the operation continues until all the records are played.

MAGIC TONE CELL

Incorporates the Jewel-Lite Scanner in the exclusive FLEXIBLE TONE BRIDGE. The Scanner is a tiny, scientifically shaped sapphire attached to the end of the Flexible Tone Bridge. Their combined moving parts weigh less than a postage stamp... eliminating all objectionable mechanical noise at its source, providing unparalleled purity of tone!



NO NEEDLES TO CHANGE

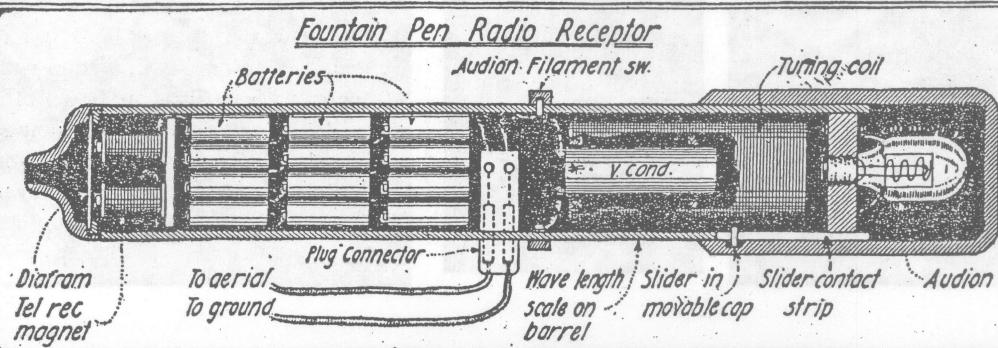
No longer is it necessary to put up with the nuisance of needle-changing or the loss of favorite records through scratching! Magic Brain RCA Victrola with Jewel-Lite Scanner eliminates entirely the use of needles.

LONGER RECORD LIFE

Less than one ounce pressure is exerted on the record surface. This enables records to last indefinitely.

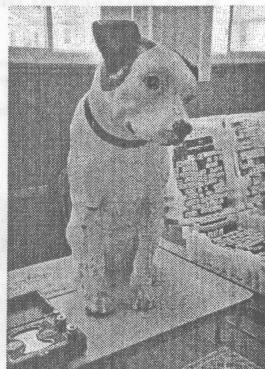
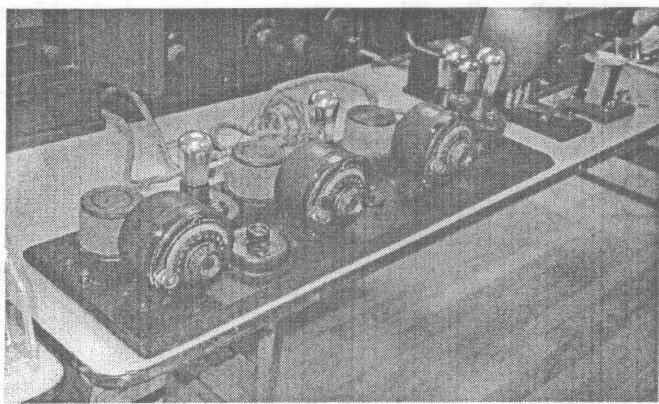
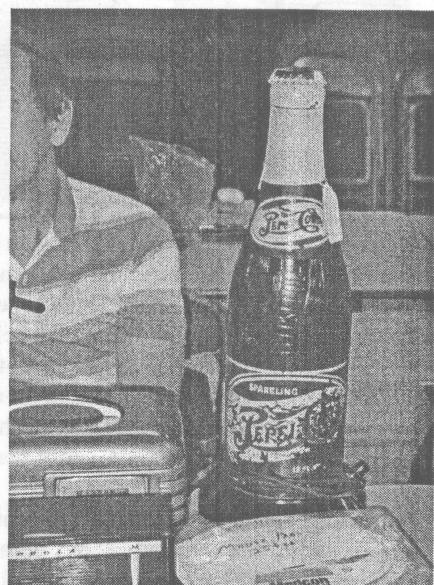
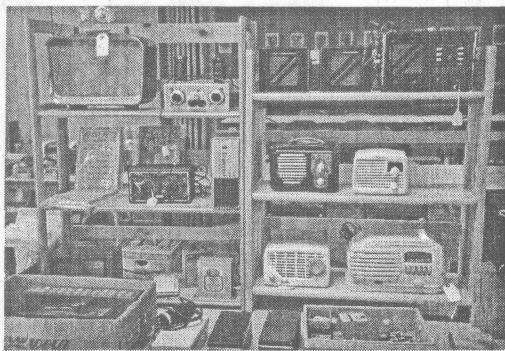
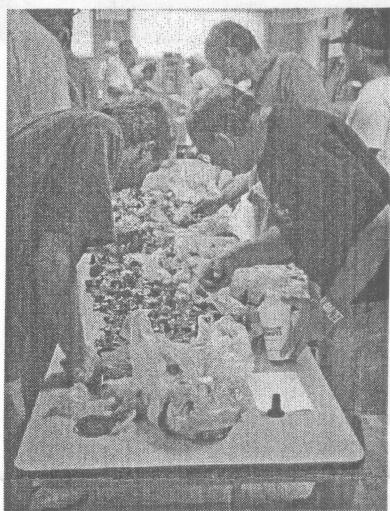
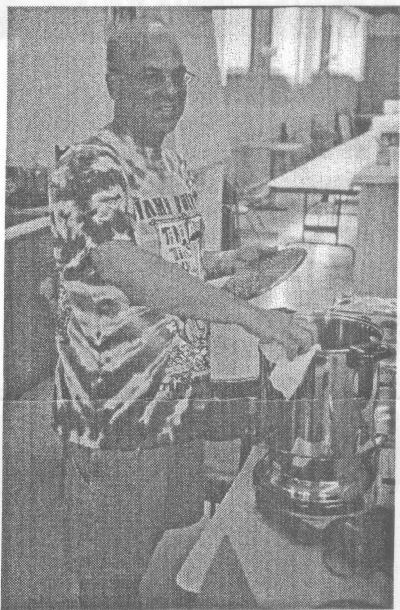
Protect your cherished records by playing them on an RCA Victrola with Magic Tone Cell.

RCA introduced their "Magic Brain" as "the greatest name's greatest achievement in the phonograph-radio field."

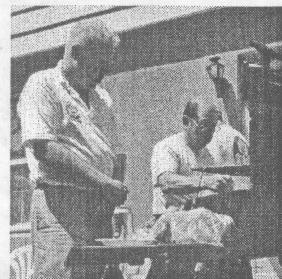
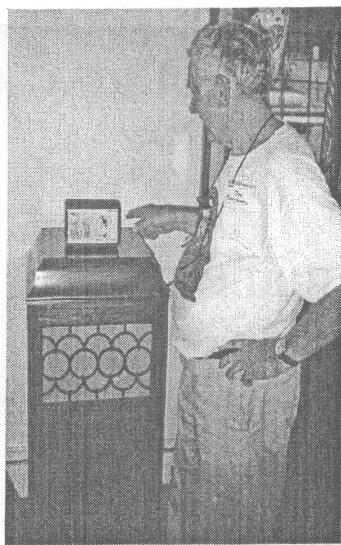
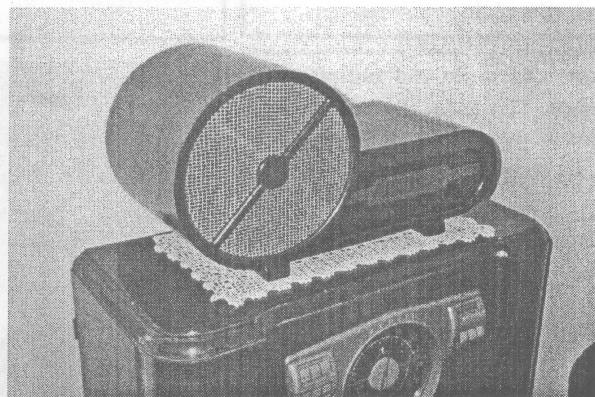
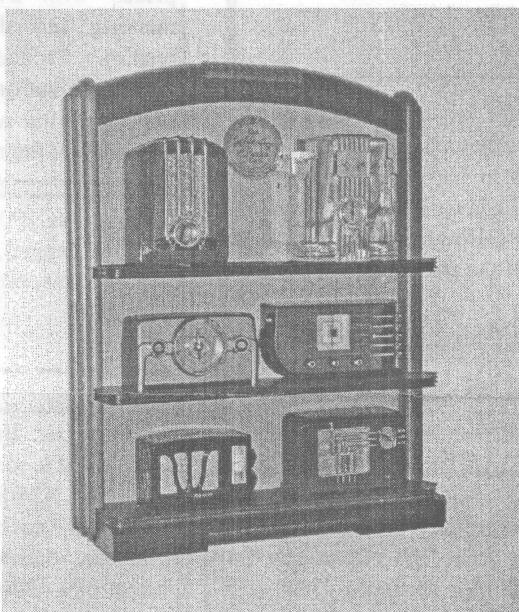
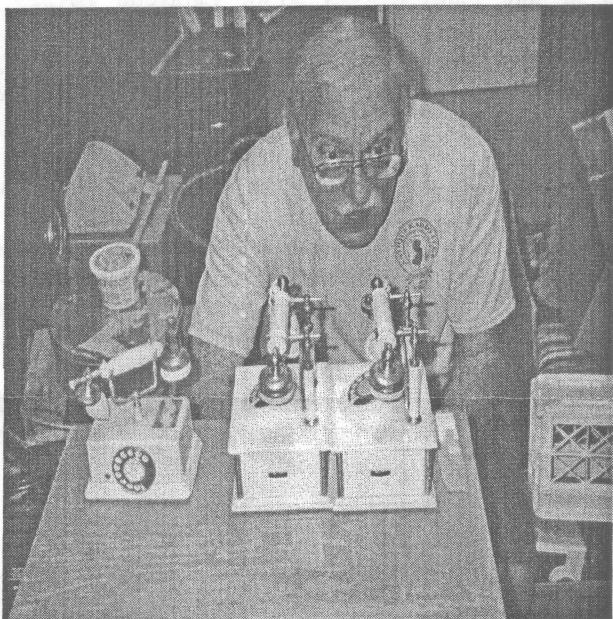


Another De Forest "original."

DOVER SWAPMEET



A DAY AT THE BENTROVATO'S



A DAY AT THE BENTROVATO'S

