

The Jersey Broadcaster

NEWSLETTER OF THE NEW JERSEY ANTIQUE RADIO CLUB

Spring 1996

Volume 2 Issue 5



MEETING/ ACTIVITY NOTES

Reported By Marsha Simkin
and Marv Beeferman

The April meeting of the New Jersey Antique Radio Club was held on the 12th with very active buying and selling going on before the meeting. The tube and capacitor programs were going strong as were book sales. A Guild Tea Kettle radio in great shape and a Just Tone Chalet attracted much interest with the Guild Tea Kettle finding a new home. Everyone seemed to be seeking something new to add to their collections.

It was nice to see Lud Sibley back and on his feet again...he looked great.

We thank and congratulate Marv Beeferman, Richard Brill and their staff for running our recent flea market. It was very successful and netted over \$1100. Suggestions such as badges for vendors and an earlier starting time were brought up and discussed. The date for the summer flea market was set for the third week in June but, since no volunteers offered to chair the meet, it will not be held this year. This is unfortunate, since the popularity of our meets are maintained by their continuity and repeatability. Comments like "Great meet...I'm looking forward to the next one" or, "I'm really upset that I can't make this meet but I'll be sure to catch the next one" are standard and numerous and I'm sure we will be disappointing many collectors. Considering the amount of support a meet chairperson receives from fellow club members, it seems odd that volunteering for this position once every two years or so seems so demanding.

Nominations for new officers will be accepted at the May meeting and may be made in person by any member in good
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MEETING NOTICE

The next meeting of the NJARC will take place on Friday, May 10, 1996 at 7:30 PM at the Grace Lutheran Church, corner of Route 33 and Main Street in Freehold. Contact Marv Beeferman at (609)-693-9430 for directions. The tentative technical topic for this month will be "Solid State Tube Replacements for Battery Radios" by Gary D'Amico.

BITE-SIZED VACUUM TUBES

Reprinted from SCIENCE NEWS, Vol. 149 (April 20, 1996)

Paying homage to the early days of broadcasting, when oak-paneled radios blared out swing tunes, physicists Griff L. Bilbro and Christopher W. Hatfield of North Carolina State University in Raleigh and their colleagues are fashioning tiny vacuum tubes out of diamonds.

"We're revisiting vacuum tubes from the 1940's," says Bilbro. "But now we're taking advantage of new materials and computer design tools to predict their performance at very high frequencies, for use in radar and cellular phones."

Vacuum tubes offer some advantages over semiconductors and computer chips, Bilbro says. They're more durable than other microelectronics materials, outperforming semiconductors at high temperatures, voltages and radiation levels.

The researchers made arrays of vacuum tubes by encasing electrodes in diamond, then evacuating the air from the interiors. These arrays resemble "furrowed fields, with rows of ridges and troughs," Bilbro says. "Each array looks like a glass bead, about the size of a match head."

A big difference between the new diamond vacuum tubes and the large glass bulbs of 50 years ago is heat. The old tubes had to glow red-hot to emit streams of electrons. The new tubes produce current at room temperature.

"There's an interesting irony here," says Hatfield. "Vacuum tubes paved the way for solid-state transistors. Now we're seeing that, for certain applications, the new vacuum tubes offer advantages over solid-state components."

HISTORIC NJ RADIO SITE BOMBED

By Ludwell Sibley

Early in April, the TV news showed the demolition of the old Federal Telecommunication Laboratories tower in Nutley. This 300-foot structure, with its Moderne-styled triple-deck top, had been a landmark visible near U. S. 46 for generations, as well as appearing as an advertising logo in its time. The demolition crew placed its explosive charges so that the cement tower fell into the associated office building for maximum destructive effect, all this part of a redevelopment of the property. (continued on page 2)

(Historic Site Bombed...continued)

There is a lot of symbolism in the destruction of the tower, if one looks into its history. The labs had been formed in New York City in 1942, and moved to Nutley beginning in 1945. The tower, intended for research and development into microwave radio transmission, was finished in 1947.

The labs were owned by ITT (then IT&T), as an international development organization for the Federal Telephone and Radio Corporation (FTR) and IT&T's foreign manufacturing companies. FTR had originated in Palo Alto, California, in 1909, as a maker of transmitters based on the Poulsen arc system. Named the Federal Telegraph Company, it was also a radiotelegraph operating company with arc-equipped stations in Hawaii, San Francisco, Portland, Chicago, Fort Worth, etc. The company sold a large volume of arc transmitters in the 1915-1919 period, from 2-kW shipboard sets to behemoths of one-megawatt size. After arc transmitters became obsolete around 1920, the company got into manufacture of transmitting tubes, Kolster radio direction finders, and tube transmitters. In 1927 it sold its radio stations to the IT&T's "Mackay System" (Postal Telegraph - Commercial Cables), and then in 1928 was acquired outright by IT&T.

In mid-1931, Federal Telegraph moved from California to 200 Mt. Pleasant Ave. in Newark, sharing headquarters with IT&T's Postal Telegraph Company. It built a group of 60 radio-range transmitters for the Civil Aeronautics Administration, made a group of 50-kW radiotelegraph transmitters for Mackay stations, produced "packaged" shipboard radio stations, and sold high-power transmitting tubes to broadcast stations. The 50-kW 1941 transmitter for WABC (today's WCBS) was a Federal product. The company was merged in 1942 with another IT&T manufacturing arm and the result named Federal Telephone and Radio Corporation.

During WW II the new FTR grew into several factory locations around Newark and Clifton. It made the SCS-51 truck-mounted instrument landing system for equipping tactical airports; likewise the AN/MPN-1C ground-controlled-approach (GCA) radar. The company produced 200-kW transmitters for the Office of War

Information short-wave broadcast stations at Dixon and Delano, California. It served as a second source for the SCR-508 family of FM tank radios originally made by Western Electric and for the BC-339/340 ground transmitters. FTR supplied direction finders to the Army (SCR-291) and Navy. The "telephone" side of FTR made phone sets, switchboards, and repeaters. (All this while IT&T's German and Japanese subsidiaries made equipment for The Other Side.)

FTR had its best years in the '40s. Staple items in its postwar product line, lasting into the late '50s, included a strong market share in selenium rectifiers and "Inelin" coaxial cable. The company made transmitters and receivers for ground-to-air communication, as well as flight navigation systems. It sold RF heaters for industrial use. FTR's transmitter line included AM and FM broadcast units, although AM sales seem to have not penetrated the market well and the market for *anybody's* FM units collapsed in the late '40s. The tube product line included industry-war-horse items like the 857B, big water-cooled types like the 858, 891, and 898, plus several burly Federal-developed items like the 5563, 7C25, 9C23, and 9C30. The telephone part of the company made major sales of its "rotary" dial switching system to the telephone companies in Lexington, KY and Rochester, NY - but essentially nowhere else in the continental U. S. - and must have become redundant when IT&T later bought the Kellogg Switchboard & Supply Company. Federal carried out postwar military projects like the AN/TRC-29 microwave system, which was doubtless tested from the Nutley tower.

FTR briefly entered the domestic radio market in 1946-47 with a line of AC-DC table sets - which, however, did *not* use its selenium rectifiers. One of these is a bit of a star collectible today: the Model 1024TB, a black Catalin-cased set with a picture in Rider's Vol. 17 and a Buni quoted value of \$625. Ed Lyon wrote this one up in his "Catalin Corner" series in the MAARC newsletter, March 1990. As a bit of New Jersey radio nostalgia: a photo of FTR's sales staff in the March 1946 issue of *Communications* includes as

"radio sales director" Norman E. Wunderlich, best known for Arcturus' Wunderlich detector tube of 15 years earlier.

FTR more or less faded in the '50s. Its early products in the FM land-mobile area came up against stiff competition from Motorola et al. As the selenium-rectifier line turned to "obselenium," the company got into manufacture of germanium rectifiers like 1N91s . . . just in time to have *those* obsoleted by silicon diodes. The coaxial-cable business became highly competitive. The market for transmitting tubes was similarly rough. Then in the '60s IT&T (renamed ITT) diversified itself toward today's structure with banking, car rentals, hotels, etc. (Having its telephone operating companies in Cuba and Chile expropriated by the local governments didn't help any.) Divestiture of most of its telecommunications interests meant that there was no longer a need for a central laboratory. So, while FTR and its supporting labs have been gone for some time, the tower demolition marks a final milestone in their history.

(meeting notes... continued)

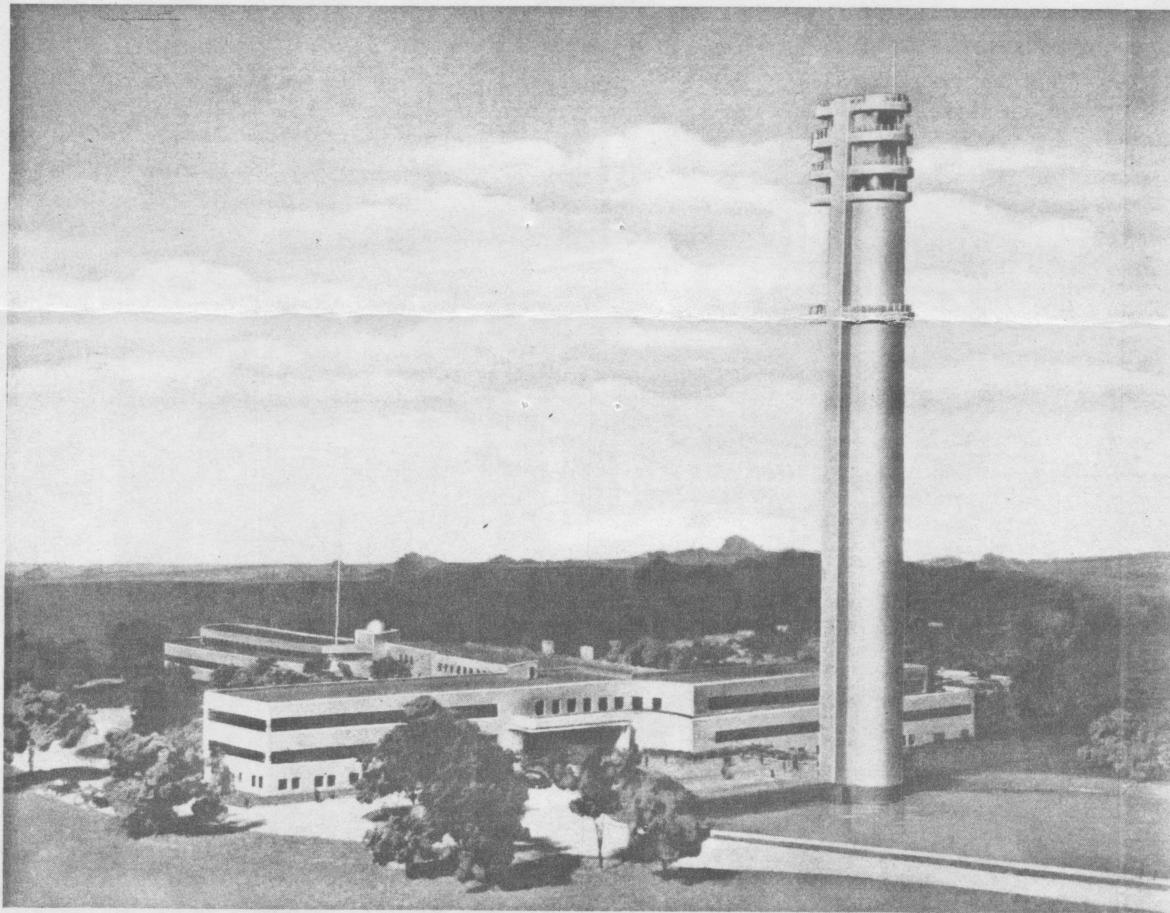
standing (dues paid); a second is required. Elections will be held at the June meeting and proxy ballots will be available via the *Broadcaster*.

Tom Provost gave a very interesting talk on reproducing dials by either restoring what you have or making a replica. With the advent of color photocopying, this is no longer an impossible task. Some of the points Tom made included:

- "Touching up" translucent dials with areas of missing or faint lettering using a Rapidograph drawing pen or Tech. pen.
- Making an enlarged Xerox copy of a loaner dial and, with a few repairs (whiteout, computer generated cut and paste letters and numbers, etc.) using it as a master.
- Allowing a 1/32" border when laminating dials or escutcheons so that a strong bond is established.

For dedicated restorers, Tom has made available a compilation of notes on how he replicated a dial and escutcheon plates for

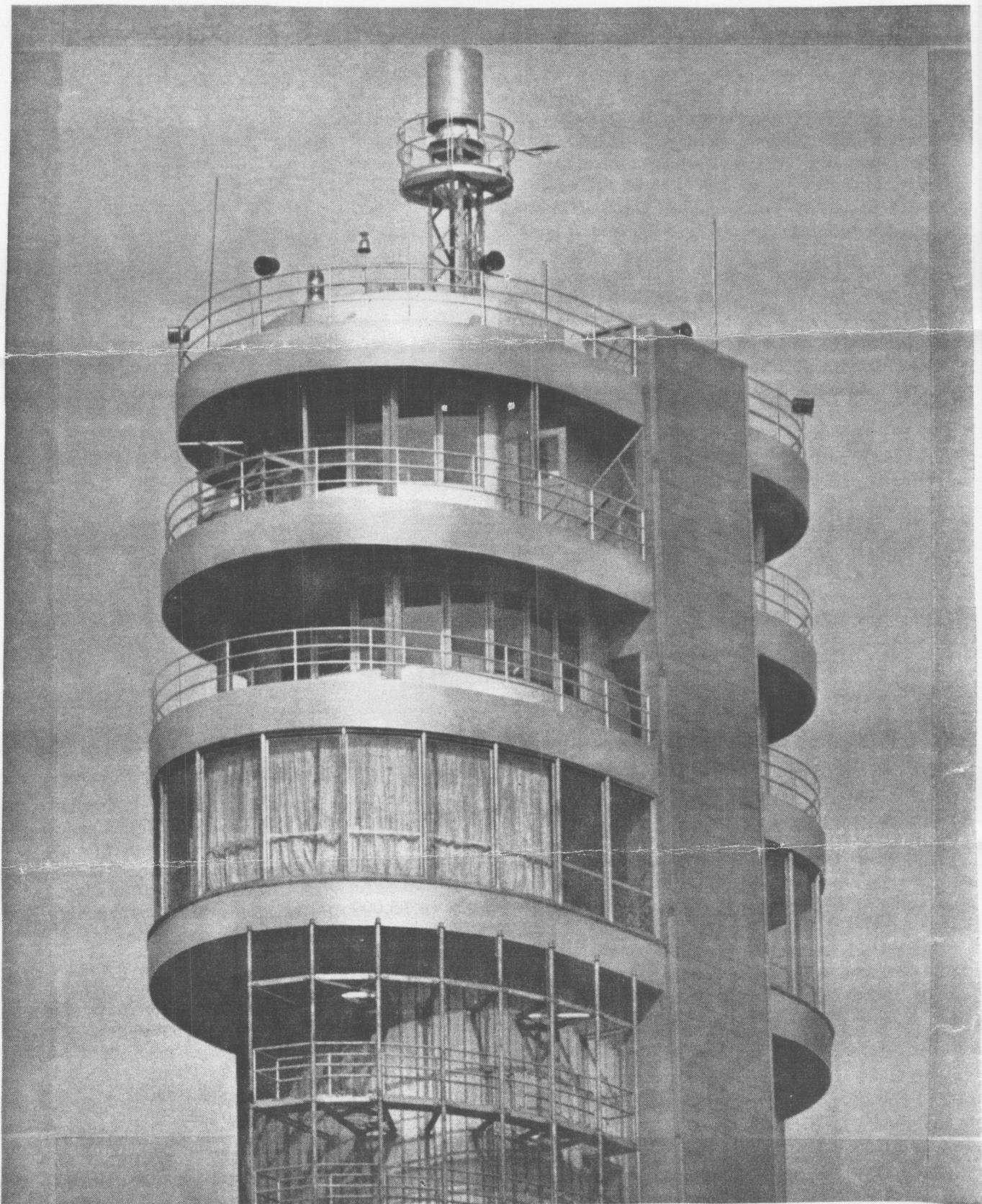
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MICROWAVE TOWER AND LABORATORIES

ARCHITECT'S MODEL SHOWING THE NEW BUILDINGS AND MICROWAVE TOWER BEING CONSTRUCTED AT NUTLEY, NEW JERSEY, FOR FEDERAL TELECOMMUNICATION LABORATORIES. THE FIRST UNIT OF 50,000 SQUARE FEET FLOOR AREA WAS COMPLETED AND DEDICATED IN OCTOBER, 1945. GROUND WAS BROKEN RECENTLY FOR THE SECOND STRUCTURE OF 65,000 SQUARE FEET AND FOR THE MICROWAVE TOWER.

THE 300-FOOT TOWER WILL BE DEVOTED TO ULTRA-HIGH-FREQUENCY RESEARCH ON RADAR, AERIAL NAVIGATION, FREQUENCY MODULATION, PLUSE-TIME MODULATION, TELEVISION, MOBILE RADIO, AND POINT-TO-POINT LONG-DISTANCE TELEPHONY. SPECIAL MOUNTS HAVE BEEN DESIGNED TO SIMPLIFY INSTALLATION AND MODIFICATION OF ANTENNAS FOR EXPERIMENTAL PURPOSES.



(meeting notes...continued)

a National NC-100A. Tom, who coordinates our monthly presentations, also suggested that we hold our popular "Show and Tell" sessions on a quarterly basis. With the next one scheduled for June, this should provide plenty of time for members to dust off their favorite pieces and prepare a five minute talk.

Phil Vourtsis is organizing a club-sponsored exhibit to be held at the Headquarters Branch of the Monmouth County Library in Manalapan in August. The topic will be RCA radios and phonographs -- 1920's thru 1940's. If anyone is interested in donating a piece as part of the exhibit or is interested in helping in its preparation, please contact Phil at 908-446-2327. This exhibit will provide a great opportunity to give the club additional exposure and help attract new members while providing a vehicle for fulfilling our charter of dedication "to the preservation and enhancement of radio history and knowledge."

The club received a very complimentary acknowledgment from Alan Douglas regarding the publication of his review of the book *The Zenith Trans-Oceanic, the Royalty of Radio*, noting that "It's worth the trouble and increased blood pressure to publish these articles, to get such intelligent and well-crafted responses." We were also extended "a heartfelt THANK YOU! by the Grace Lutheran Church (we hold meetings in the church's Fellowship Hall) for the sanctuary and nursery speaker system donated and installed by the club.

Club President Tony Flanagan would like to remind members that T-shirts will again be available at the next meeting in addition to the attractively priced offerings of our capacitor and tube programs. Tony would also like to emphasize the club's policy that only one additional reminder will be provided in the *Broadcaster* following a dues renewal notice before a member is dropped from our roles.

THE MOTHER OF ALL RADIOS

By Marv Beeferman

On November 25 1936, Crosley Radio Corporation announced the availability of its WLW model, described as "the colossus of radio." The radio was meant to be symbolic of station WLW, its 500,000 watts making it the most powerful station in the world at that time. Nearly five feet tall and weighing 475 pounds with 37 tubes, six speakers (the largest of which was 18 inches in diameter), four separate chassis and a 12-inch airplane-type dial, the radio was indeed a giant. But in spite of the fact that it had tremendous volume range with a maximum output of the 75 watts, the receiver "could be toned down to arm-chair or living-room levels and still retain all the original expression of the music as rendered in the studios."

The radio had a volume control for each different audio range - bass, mezzo and treble - with the 18-inch speaker handling the bass, two 12-inch speakers carrying the midrange and three small speakers reproducing the higher frequencies. Such exotic devices as the "Auto Expressionator," "Mystic Hand" and a "Six Step Tone Fidelity Control" guaranteed accurate broadcast reproduction within a range of 20 to 20,000 cycles (approximately ten octaves, which is beyond either the capacity of instruments or voices to produce and the human ear to hear). In addition, the model incorporated a public address system (perhaps to announce to your living-room guests that dinner was being served?) with separate controls of its own. GOSH! (See photo on next page).

DE FOREST'S TV ADVENTURES

By Marv Beeferman

Lee de Forest, as self-proclaimed "Father of Radio" in his 1950 auto-autobiography, described his activities as "Director of Research in collaboration with U.A. and John Sanabria" at the Chicago American Television Laboratories:

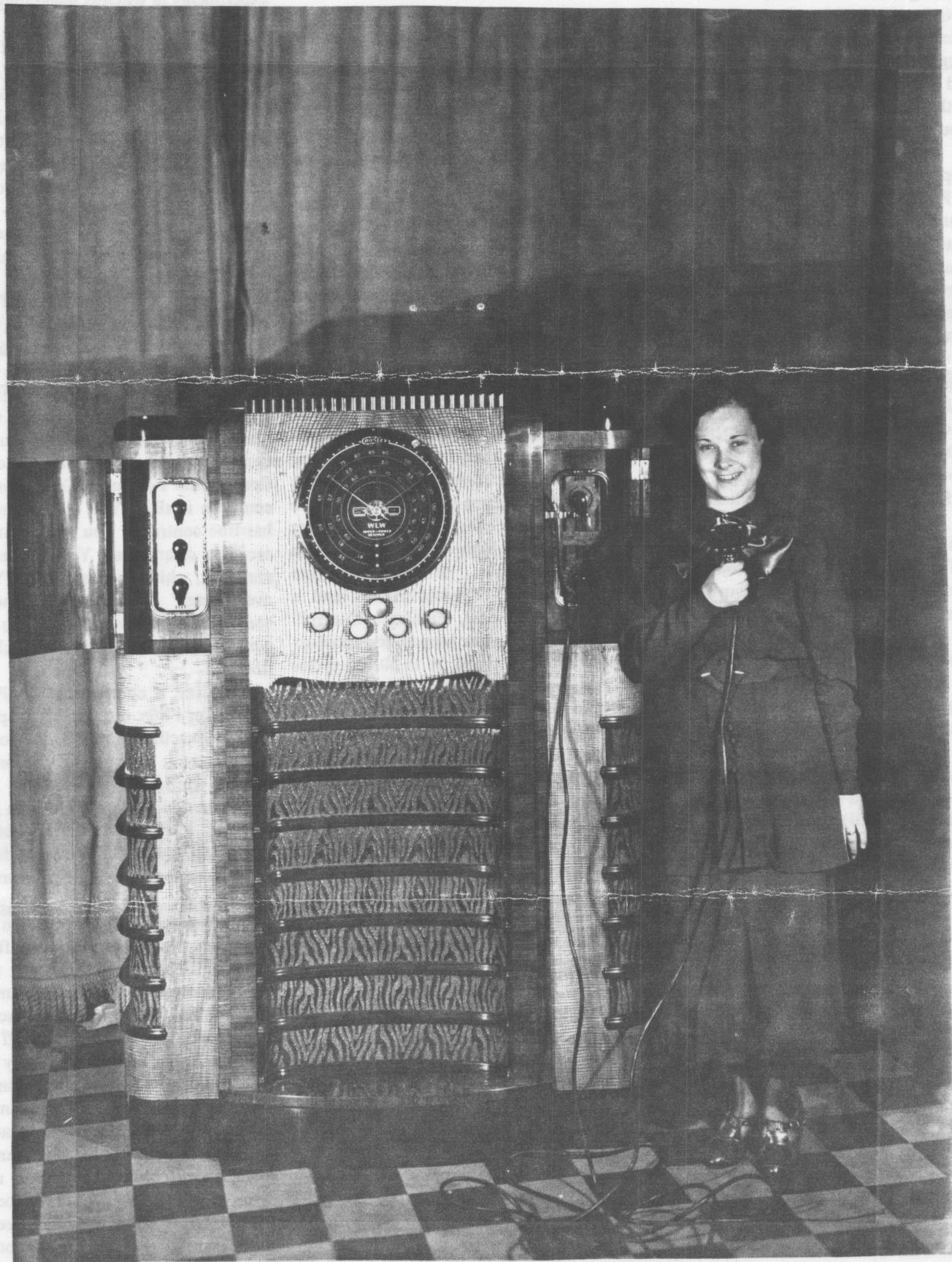
"And here I am actively engaged in my experiments on color television and other projects....finding therein that eager zest in life which has kept me happily at work from the time, 50 years ago, also in Chicago, when I began my primitive

experiments in wireless telegraphy."

Despite some questionable patents (1935 - Television Reception and Projection, 1936 - Television-Receiving Method and Apparatus, Synchronizing Televised Images, Television Sign, Television Apparatus, 1938 - Television System and Method, 1939 - Radial-Scanning Television System, 1941 - Radial Scanning with Cathode Beam, 1948 - Color Television), the testimonial value of the de Forest name was probably his most valuable asset.

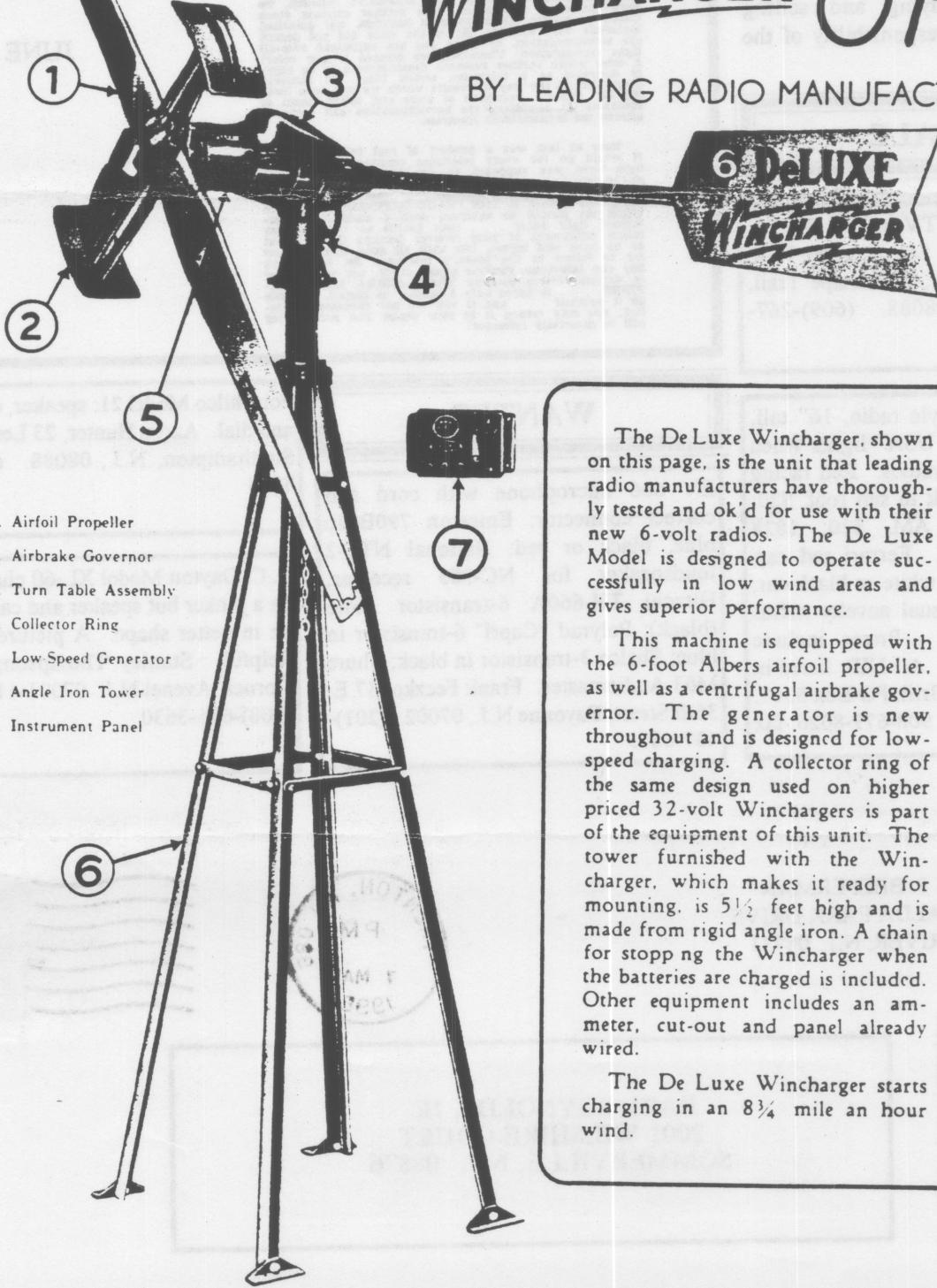
As with the early days of radio, television gimmicks abounded in the late 40's and early 50's and competition was fierce (see page 8). The "television filter," a device which mounted over the screen, guaranteed the user "contrast without glare and clearer, sharper pictures that don't tire your eyes!" Pioneer Scientific Corporation's Polaroid Television Filter could do it all. "You see pictures with hairline contrast. You see pictures that are crisp, clean, clear. You see blacks that are black, whites that are white. You see everything!" Everything? And what concerned parent would deny their child's young eyes the protection of a television filter.

However, it appears that the Polaroid Television Filter did not meet up to the same exacting standards of the Transmirra Products Corporation's "Image Definer." Described in the American Optometric Association Journal of Nov. 1948, it was described as a specially pigmented plastic filter designed to selectively alter the spectrum to produce a clearer television picture and to reduce eyestrain on the part of the viewer caused by the flicker and other flaws in the television picture "resulting from a weaker secondary signal." In contrast to the Polaroid filter, which reduced the amount of over-all light given off by the tube, the Image Definer selectively altered the viewing spectrum by eliminating most of the yellow and leaving a blue tint to the picture. As de Forest's tests at CAT Laboratories concluded: "The Transmirra Image Definer, in my estimation, reduces disturbing eye glare, and it is my belief, of the numerous filters I have seen, the Transmirra Image Definer by far produces the best results." So much for the scientific method.



The One and Only Genuine **WINCHARGER** OK'd

BY LEADING RADIO MANUFACTURERS



1. Airfoil Propeller
2. Airbrake Governor
3. Turn Table Assembly
4. Collector Ring
5. Low Speed Generator
6. Angle Iron Tower
7. Instrument Panel

The De Luxe Wincharger, shown on this page, is the unit that leading radio manufacturers have thoroughly tested and ok'd for use with their new 6-volt radios. The De Luxe Model is designed to operate successfully in low wind areas and gives superior performance.

This machine is equipped with the 6-foot Albers airfoil propeller, as well as a centrifugal airbrake governor. The generator is new throughout and is designed for low-speed charging. A collector ring of the same design used on higher priced 32-volt Winchargers is part of the equipment of this unit. The tower furnished with the Wincharger, which makes it ready for mounting, is 5½ feet high and is made from rigid angle iron. A chain for stopping the Wincharger when the batteries are charged is included. Other equipment includes an ammeter, cut-out and panel already wired.

The De Luxe Wincharger starts charging in an 8¾ mile an hour wind.

CONNECTIONS

Free exposure for buyers and sellers! Unless requested otherwise, each ad will run for two months in both the *Jersey Broadcaster* and the *Delaware Valley Oscillator*. All buying and selling transactions are the responsibility of the parties involved.

FOR SALE

8" RCA table model TV, model 8T241; good cabinet, listed in Sam's folder 74-8, \$40.00. Aaron Hunter, 23 Lenape Trail, Southampton, N.J., 08088. (609)-267-3065.

"Radio USA" mike style radio, 16" tall, AM/FM, \$35 ("Radio USA" lights when mike is on). Novelty radios: Red racing car, AM/FM with clock in sun roof, \$20; Simplex 1912 car, AM, \$20; 1828 locomotive, AM, \$20; Ferrari red car, AM/FM, \$25; Ferrari white or black car, \$20. Many other unusual novelty radios from 50's, 60's, etc. Prices include postage and insurance! All NIB, listed in Bunis/Breed. Richard Brill, PO Box 5367, Old Bridge, NJ, 08857. 908-679-8026; fax

A FRANK STATEMENT

To: Owners of Television Receivers.

From: —the creators of

the original light filter, . . . especially pigmented and designed for television receivers. Since we first marketed our product, THE TRANS-MIRRA IMAGE DEFINER, several stock color plastic sheets, and a polarized unit have been offered for sale as television filters. We, too, could have offered one of the many stock plastics or similar ordinary materials as a television receiver screen filter. Instead, however, we made long and careful investigation to determine the value of these available materials. From this exhaustive research, we were compelled to conclude that neither existing stock colors in plastic glass, metallic coatings, nor polarized materials were suitable. Either the colors did not permit eye accommodation, or there was not sufficient over-all light transmission. Therefore, we created a new color! A color which further research demonstrated to be highly desirable as a television screen filter. It achieved everything in the way of results which we had been looking for. Namely, reduction of glare and improvement of contrasts. It permitted eye accommodation and correctly altered the transmission spectrum.

Here at last was a product of real intrinsic merit. It would do for every television receiver what a true light filter was supposed to do—reduce glaring, insure image reception and eye strain, and help provide sharp, clear contrasting pictures. Here at last was the real thing! We named it THE IMAGE DEFINER! Every television set should be equipped with a scientifically developed light filter . . . your health as well as your fullest enjoyment of your receiver demand it. . . . but as we have said before, like with all good things, many try to follow in the leader's footsteps. So, before you buy any television receiver light filter, be sure to demonstrate a genuine TRANS-MIRRA IMAGE DEFINER. It takes only a minute to install; you can do it yourself . . . and if you are not supremely satisfied, you may return it to your dealer and your money will be cheerfully refunded!

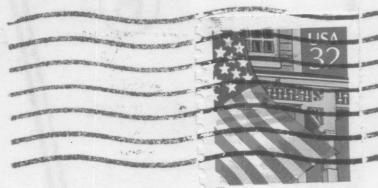
WANTED

EV 666 microphone with cord and correct connector; Emerson 790B in blue, black or red; National NTS-2 loudspeaker for NC-303 receiver; Hitachi TH-660A 6-transistor radio (black); Polyrad "Capri" 6-transistor in blue; Shalco 3-transistor in black; Shure M63 Audiomaster. Frank Feczko, 37 E. 36th Street, Bayonne N.J., 07002. (201)-437-6895

For Philco Model 21: speaker, escutcheon and dial. Aaron Hunter, 23 Lenape Trail, Southampton, N.J., 08088. (609)-267-3065

A.C. Dayton Model XL-60 chassis. Can be a junker but speaker and cabinet must be in better shape. A picture would be helpful. Stanley Thompson, 43 Cozy Corner, Avenel N.J. 07001-1122. (908)-636-3630

MARVIN P. BEEFERMAN
2265 EMERALDA PARK DRIVE
FORKED RIVER, N.J. 08731



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