

# The Jersey Broadcaster

NEWSLETTER OF THE NEW JERSEY ANTIQUE RADIO CLUB

December 2011

Volume 17 Issue 12



## MEETING/ ACTIVITY NOTES

Reported by  
Marv Beeferman

### The ON-LINE Broadcaster

The New Jersey Broadcaster is now on-line. To date, over 100 of your fellow NJARC members have subscribed, saving the club nearly \$2000 a year and a significant amount of work for your editor. Interested? To subscribe, send your e-mail address to [mbeeferman@verizon.net](mailto:mbeeferman@verizon.net). Be sure to include your full name.

The November meeting featured a members-only auction and some really nice items showed up. A definite increase of quality was noticed compared to past years and President Lee's request for "please, no junk" seems to have been heeded. I was very happy to come away with a nice Philco table radio and an almost pristine AK-32 at reasonable prices. For photos, see this month's *Broadcaster*. President Lee also announced that because John Tyminski's present job conflicts with our meeting dates, Matt Reynolds has volunteered to take over the duties of our capacitor program. Good luck Matt in your new job.

Thanks to all our volunteers who contributed to making our recent Parsippany swapmeet a success. We came out in the black (and even made a few bucks off the food) and I saw some nice pieces change hands. During our walk-around-auction, some youngsters came away with a few low-priced items and from the smile on their faces, they seemed totally delighted. Hopefully, the seed has been planted for some future NJARC members.

Technical Coordinator Al Klase has scheduled Our Broadcast Band (BCB) DX contest for the period from January 20th



## NO MEETING THIS MONTH!

HOLIDAY PARTY AT INFOAGE  
FRIDAY, DEC. 9th

Hope you made reservations for our annual Holiday Party. The fun begins at our InfoAge museum at 5:00 PM with a social hour and continues with a delicious Italian buffet in the Marconi Hotel dining room at 6:15. If you changed your mind at the last minute, we might have some openings left; e-mail me at [mbeeferman@verizon.net](mailto:mbeeferman@verizon.net) and we'll see if we can fit you in. Dress is casual and please don't forget your Mystery Grab Bag gift.

through the 29th. Full details have been published in this month's *Broadcaster*. We had a very good showing for last year's contest; let's see if we can top it this year.

Al would also like to remind members about our DXpedition that will take place in January as part of our monthly meeting. The basic concept is to gather together a collection of working radios representing the various eras of receiver design in an environment that will allow members the opportunity to operate a variety of receivers. Al noted that we will try to stress battery sets this year. Hopefully, the DXpedition will provide inspiration for greater participation in the BCB DX Contest. More details will follow in January.

Al has also asked me to remind members that our Homebrew Contest will be judged in March. This would be a good time to start researching and formulating some ideas that you might want to consider for your project. The details of the contest will be published at a later date, but most members find that scurrying around for materials the same month of the contest usually does not result in a competitive entry.

Walt Heskies reports that member Bill Pritchett brought his car radio to the last repair clinic at InfoAge; it was totally dead with no audio output. Walt determined that the output power transistor was bad and a 1000 mfd electrolytic was leaking. Bob found a proper replacement for the Delco DS-501 transistor and after

replacement, including two defective resistors and three other leaky electrolytics, Walt got the radio to work like new. Chalk up another success for our repair clinic and Walt's follow-up.

Last month, President Richard Lee was interviewed by Paul Buresh on his "Tube Talk" classic radio show. The show features an hour of vintage music and talk about tube radios on WRCA, Boston (1330 AM) at 11:00 PM on Friday nights. The interview is now posted on the club's web site about halfway down the home page.

### Upcoming Events

Jan. 13th: Meeting and DXpedition at InfoAge ("A" section).

Feb. 4th: Repair Clinic at InfoAge

Feb. 10th: Meeting at Princeton (Tentative: Talk by Charles Blanding, chief engineer at Ch. 12 news.)

March 9th: Meeting at InfoAge; homebrew contest judging.

April 13th: Meeting at InfoAge (Tentative: Military radio talk by member Robert Forte.)

April 21st: Spring swapmeet at Parsippany.

May 4th (avoids conflict with Kutztown): Meeting at InfoAge; Show and Tell

June 8th: Meeting at Princeton (Tentative: Phonograph Basics).

July 13th: Meeting at Princeton

July 21st: Tailgate swapmeet at InfoAge

**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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## WHAT WERE THEY THINKING?

By  
Marv Beeferman

Throughout the history of electronic development, thousands of nice ideas never made it to the drawing boards. In most cases, a unique or unconventional way of doing something, or a time-saving method, at first seemed that it was worth developing. But after closer and more in-depth consideration, too many drawbacks put the idea to rest. However, occasionally, a few products may have slipped through the cracks. During this last month, I came across two such products that reinforce the premise that "unique," on the surface, might appear that it could have consumer appeal, but, for good reason, the idea turned out to be just a flash in the pan.

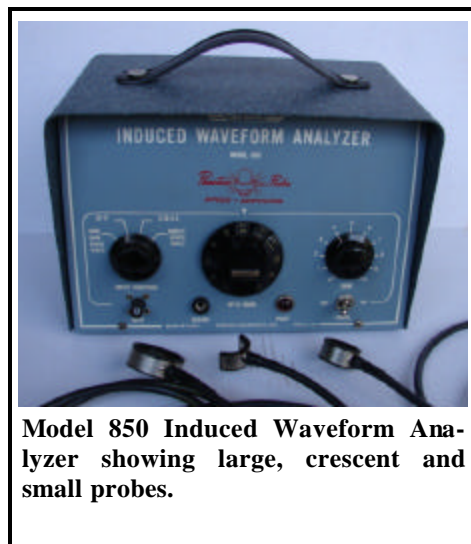
My first example is something called an "Induced Waveform Analyzer" manufactured by Winston Electronics of Philadelphia in 1957. I picked this item up unused and "in the box" at the last NJARC swapmeet in Parsippany. The analyzer was designed for "speed servicing" of black and white and color TV's, radio receivers, audio amplifiers and industrial and laboratory electronic equipment.

Basically, the analyzer uses capacity pickup loops called "Phantom Probes." These probes are placed over the tubes of the unit under test, one by one, to pick up the signal from tube elements. The output of the analyzer is displayed on an oscilloscope. In effect, every tube becomes a convenient test point that permits circuits to be analyzed and defective stages located in the short time it takes to move the probe from tube to tube. Winston Electronics describes this technique as providing "the greatest advance in fast troubleshooting methods in many years."

The manufacturer states that the advantage of the analyzer is to allow above-the-chassis servicing without requiring any direct connection to the circuit of the unit under test: "Consider the manner in which the instrument, with its

PHANTOM PROBES, can test and trace from tube to tube in seconds, and compare this with the tedious and time-consuming method of searching through a maze of wiring under the chassis in order to apply conventional tests."

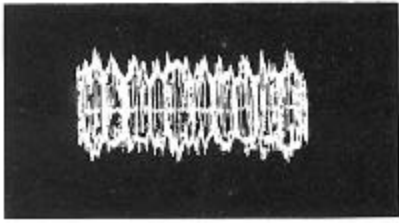
The analyzer is supplied with three probes. A large, circular one is used on Loctal or Octal "GT" tubes. (Tubes larger than the "GT" type radiate sufficiently strong signals that they do not require a probe which actually slips over them. Signal pickup can be obtained by placing a probe against the side of a tube near its base or even a few inches away.)



**Model 850 Induced Waveform Analyzer showing large, crescent and small probes.**

A small circular probe is used for 7 and 9 pin miniature tubes and a crescent-shaped probe is used for selective pickup from an individual section of multiple tubes or from a signal wire. The manufacturer notes that, in most cases, best pickup is obtained when a probe is slid down near the base of a tube. The analyzer's manual also provides directions for the construction of a low capacity isolation probe for direct connection to circuit components.

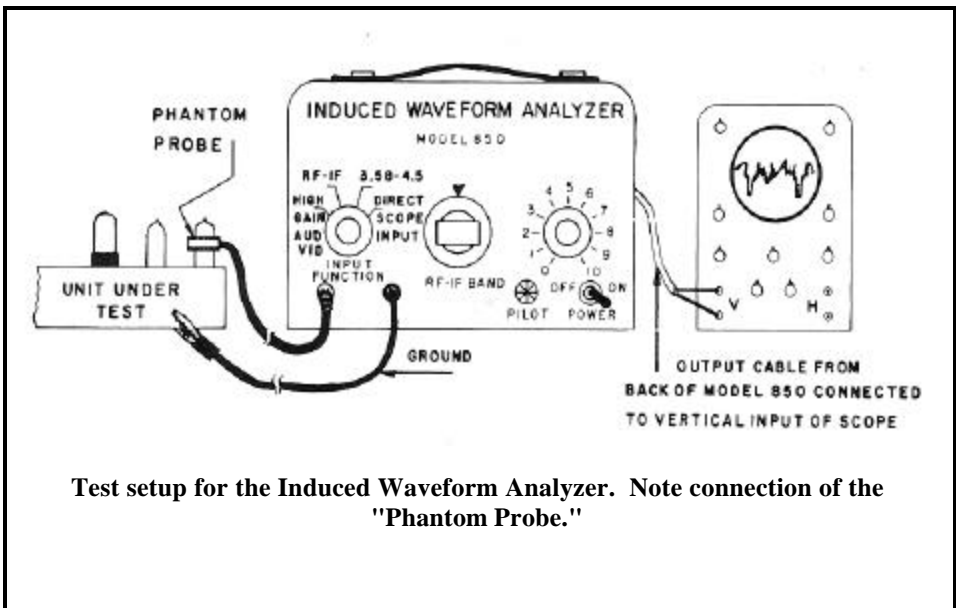
The analyzer itself incorporates a sensitive tuner with special coils for selective pickup of TV channels and I.F. amplifier signals, a built-in R.F. detector and high gain amplifiers. Direct connection to an oscilloscope, bypassing the analyzer circuit, is also available to allow pickup of high level signals (vertical oscillator, horizontal oscillator, etc.) without pulse clipping and overloading. The analyzer is also provided with a phone jack isolated from the oscilloscope output for audio monitoring.



Expected analyzer output obtained when a probe is positioned over a radio receiver's R.F. or I.F. amplifier tubes. The waveform is the modulated R.F. envelope and will vary with sound modulation. A signal is traced through the R.F. and I.F. tubes to locate a radio's defective stage without under-the-chassis troubleshooting.

At first, the ability to quickly troubleshoot equipment without having to get under the chassis seems like a pretty good idea. Better selectivity and gain of this instrument via its tuner and amplifier are also a plus. But since this is the first time I've ever seen one of these units and there's not one on-line hit describing it, it probably wasn't a big seller. After some thought, I could see why:

1. You could probably do just as well, if not better, with above-the-chassis tube adapters that give you access to all of a tube's pins and read signals and true voltage at the same time. It's a little slower process, requiring to pull each tube and let it warm up again, but it certainly is a cheaper way to go.
2. You still will need a scope to observe waveforms, and, with the correct technique, a good scope alone could do the same job alone.
3. After isolating a defective stage, you'll still need to get under the chassis for some point-to-point troubleshooting to isolate and replace defective components.
4. When R.F. and I.F. signals are at a high level, it takes a little coordination between the unit's gain control and oscilloscope attenuator to get an observable signal.
5. Placing probes to close to high voltage sources (horizontal output tube, flyback transformer, etc.) may result in arc-over and damage to the instrument.
6. With weak signals, you have to play with the position of the probe for the best position for signal pickup.
7. Stray pickup from the horizontal high voltage circuits in TV receivers and stand-



ing waves may cause problems.

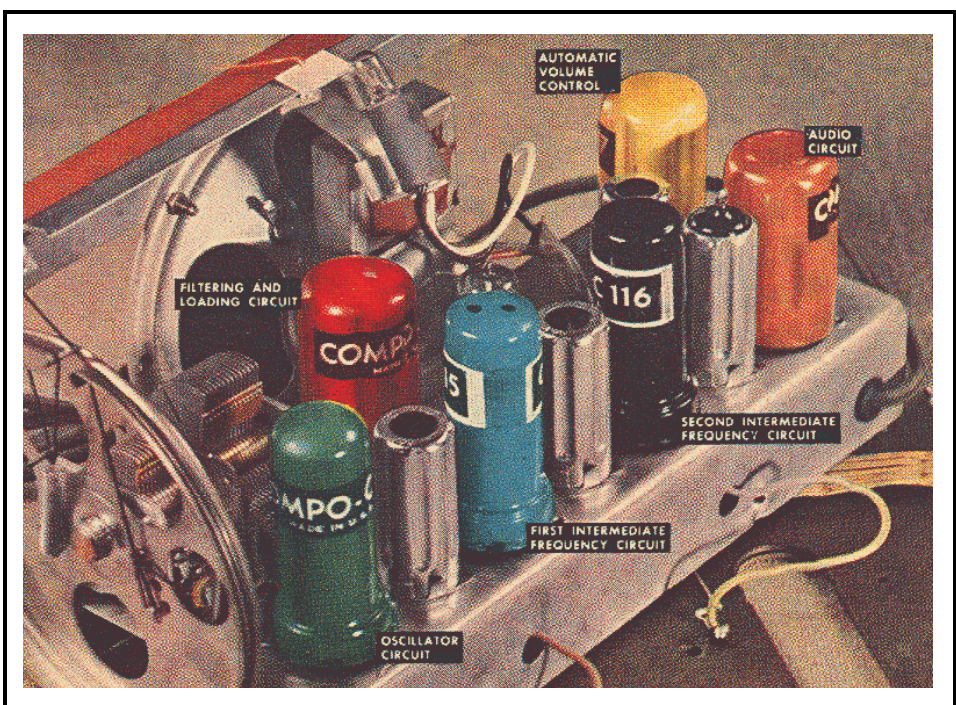
8. The analyzer probes are not effective when placed over metal tubes.

A second example was suggested by NJARC member Richard Lee. It is based on a January 1948 *Popular Science* article titled "Mother Could Fix this Radio." The article describes a radio whose major circuits are stuffed into color-coded "cans" with pronged bases similar to those of vacuum tubes. The idea was to transfer condensers, resistors and other radio parts susceptible to failure to packaged units which could be changed just like the tubes themselves. Also, as a result, a maze of circuits beneath a conven-

tional set was considerably reduced.

The chassis, removed from its cabinet, is shown below with its six "canned" circuits in throw-away units. (Members receiving the *Broadcaster* on-line can see the actual colors.) The concept was simple. If a radio stopped working but the tubes remained lit, a trouble in one of these canned units was indicated. Taking the radio to the nearest store, the owner could find by experiment which replacement to buy. Or, if he preferred, he could buy a complete set of spares (at \$1.85 each) to have them on hand.

Parts may be asked for simply by color without the need for remembering names or numbers. This also was supposed to



make it easy to insert new parts in the right place. A green can contained the oscillator circuit, a brown one the audio circuit; blue, black, red and yellow identified, respectively, the first and second intermediate frequency circuits, filtering and loading circuit, and automatic volume control. The canned units were provided in boxes of the same color to further ensure getting the right part.

The first production model, a five-tube superheterodyne table-top, was introduced

by the Cosmo Electronics Corp., New York City. They also planned an automobile radio for which any service station would supply the replaceable parts.

Nothing suggests that this system went into full production (unless you have a rare example in your collection) and one can readily see why:

1. It was assumed that if a tube was still "lit," the trouble was in a canned unit... not necessarily true.
2. Keeping a set of six spare canned units at a cost \$11.00 seemed a bit steep

in 1948, especially when table model radios ran about \$25.00.

3. For a standard radio, you could pull just the tubes for drugstore testing instead of bringing in the entire radio to determine the defective canned unit.

4. Your model choices were very limited.

5. In 1948, radio shop repairs were relatively inexpensive and convenient. It seems that only a limited number of consumers would opt to become troubleshooters just to try out a new gimmick.

### NJARC AUTUMN SWAPMEET - NOVEMBER 2011



AUTUMN SWAPMEET (CON'T)



## The 2012 NJARC Broadcast Band (BCB) DX Contest - Jan. 20 - 29

In the 1920's and 1930's, some radio listeners would compete with each other for the reception of the most distant stations using the same receivers that that we now restore and cherish. We can recapture some of the excitement that the early DX'ers experienced in our own contest.

### Official Contest Rules

**THE OBJECT:** To use vintage radios receivers to receive broadcast-band signals from the greatest possible distance. Performance will be judged by the total mileage for your ten best loggings during a 24-hour session. You will be competing against competitors using similar receivers.

**ELIGIBILITY:** The contest is open only to members in good standing of the New Jersey Antique Radio Club.

**CONTEST PERIOD:** The contest period will be from 12:00 Noon, local time at the receiving location, Friday, January 20, 2012 through 12:00 Noon, Sunday, January 29, 2012.

**SESSIONS:** Contestants may submit logs for any two 24-consecutive-hour sessions (noon to noon) during the contest period. You may use only one receiver during a session. That means you may not "bird dog" the simple radio with a more complex radio. You may submit logs for two different receivers. They need not be in the same category.

**FREQUENCIES :** The Broadcast Band, as defined for the contest, will be from 530 to 1600 kilocycles. No stations on the new extended band, 1610 to 1710 kilocycles, will be counted since many early radios did not cover those frequencies.

### RECEIVER CATEGORIES:

- A - Crystal radios
- B - Primitive tube or transistor receivers (homebrew also) - 1 to 2 tubes or transistors, plus power supply.
- C - 1920's Battery sets (homebrew also) -batteries or modern power supply are OK.
- D - Other tube radios sold for home entertainment.
- E - Amateur, commercial, and military tube-type communications receivers.
- F - Transistor radios introduced before 1970.
- G - "Light-Weight": Any radio weighing less than one pound (454 grams).

**SPECIAL AWARDS** will be given for the best performances by first-time contestants.

**ANTENNAS:** Anything you like.

**LOGS :** Submit a log for each of your contest sessions (maximum of two). Each log header should include contestant's name, address, phone number, category, and description of receiver and antenna. Please include your listening address if it is different from your mailing address.

Make a log entry for each station you claim to have heard. Stations must be positively identified. (This is being done on the honor system, and is a somewhat variable concept. If you hear Boston weather on what you know is 1030KC, then go ahead and log WBZ. However, just because you heard a signal on 1160 KHz doesn't mean you heard KSL in Salt Lake City.) The contest committee reserves the right to disallow what it feels are outrageous claims. Each entry should include time, frequency, call letters, location, and optional comments. Although we're only judging your ten most distant loggings, submit as complete a log as possible. The committee may make special awards for most stations, most interesting log, etc. as it sees fit.

A log sheet is available from Al Klase. You may reproduce it or generate a similar one of your own.

Logs must be postmarked not later than midnight, February 6, 2012.

Logs may be submitted as e-mail attachments.

**SCORING:** Distances to stations will be calculated by the committee and will be based on great circle distances from Freehold, New Jersey for listening posts within a 100-mile radius of Freehold. We will calculate mileage for other entries based on actual listening location. In all cases, please indicate your ten best loggings to make our job easier.

**Special Rule #1:** A contestant may claim only one of the Cuban time stations, Radio Reloj, regardless of how many are actually heard. All will be scored as 1279 miles (Havana).

Submit logs to: Tom Provost, 19 Ivanhoe Dr., Robbinsville, NJ 08691, tprovost@pppl.gov

Questions: Al Klase - 908-892-5465 al@ar88.net, Tom Provost - 609-243-2508

## TIROS MILESTONE PLAQUE DEDICATED AT INFOAGE

By  
**Marv Beeferman**

On November 13th, I attended an IEEE Milestone event at InfoAge commemorating the 50th anniversary of the TIROS weather satellite and the role that Camp Evans (then part of Fort Monmouth) played in the development of the satellite and the reception of the first weather photos from the satellite. TIROS (Television Infra Red Observation Satellite) was a se-

ries of satellites launched to observe the earth and its atmosphere. It was the first satellite launched with the specific intent of observing weather from space and its launch in 1960 marked the beginning of space based meteorology.

The first satellite, which used the Infra Red band to penetrate cloud cover and observe the earth without obstructions, was built by RCA under the supervision of the US Army Signal Research and Development at Fort Monmouth. TIROS I was made of aluminum alloy and stainless steel which was then covered by 9200 solar cells. Three pairs of solid-propellant spin rockets were mounted on the its base plate. Two television cameras were housed in the craft and a magnetic tape recorder for each camera stored photographs while the satellite was out of

range of the ground station network. TIROS I was operational for only 78 days but proved that satellites could be a useful tool for surveying global weather conditions from space.

Twenty minutes after its launch, the first signals from TIROS I were received by equipment at the ground control center at Camp Evans (building 9162) and developed into photos. A few hours later, the photos were flown by helicopter and jet to Washington and presented to President Eisenhower.

Following the plaque presentation, IEEE members were treated to slide shows and movies tracing the history of TIROS and enjoyed lunch at the Marconi Hotel. Some took the time to tour our Museum of Radio Technology and were quite impressed.



The historic TIROS TLM-18 dish. The Harris Corporation donated funds to InfoAge for its repainting and preservation



IEEE members attend the plaque presentation at building 9162, the ground control center for the TLM-18 dish. Some attendees were very active in the TIROS program.



NJARC member Dave Sica recorded the day's events. Attendees were later treated to a movie about the TIROS I pioneers filmed by Sica Productions.



InfoAge Director Fred Carl noted that before TIROS technology, tens of thousands of persons could be killed in a single storm. He asked the IEEE to work with InfoAge to improve the public's knowledge of engineering contributions.



Among the honored guests and IEEE officers was Wall Township Mayor Ms. Anne Marie Conte



The IEEE milestone plaque in recognition of Camp Evan's contribution to the TIROS program. It is a copy of the bronze plaque presented to the Sarnoff Corporation last year.

## MEMBER'S - ONLY AUCTION AT INFOAGE



This nice Hammerlund HQ-180 receiver sold for \$160.



Hallicrafters S41-G: \$22



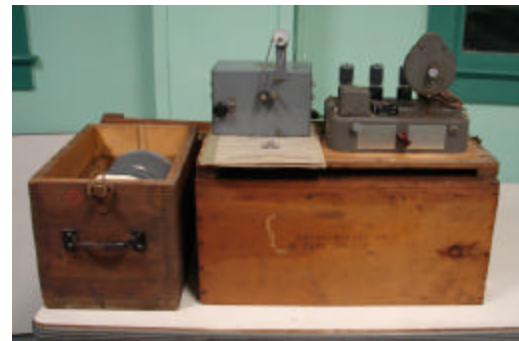
This Ameco 2 and 6 meter transceiver with BFO was hammered down at only \$30.



AK-46 with speaker: \$35



Your editor purchased this Philco table radio for \$25.



This McElroy electronic keyer sold for only \$5.



An \$80 Philco tombstone.



Your editor also bid on this AK-32 in great condition offered by Pete Olin; it sold for \$40 without tubes.