

# The Jersey Broadcaster

NEWSLETTER OF THE NEW JERSEY ANTIQUE RADIO CLUB

January 2018

Volume 24 Issue 1



## MEETING/ ACTIVITY NOTES

Reported by  
Marv Beeferman

### The ON-LINE Broadcaster

The *Jersey Broadcaster* is now on-line. Over 160 of your fellow NJARC members have already subscribed, saving the club a significant amount of money and your editor extra work. Interested? Send your e-mail address to [mbeeferman@verizon.net](mailto:mbeeferman@verizon.net). Be sure to include your full name.

Happy New Year and welcome to the 24th edition of *The Jersey Broadcaster* celebrating the NJARC's 26th year. Perhaps some members have not seen me at the InfoAge vintage radio workshop in a few weeks, but I'm happy to report that there is nothing serious going on. A few personal commitments and a stomach virus have kept me away, but I hope to return to "crack the whip" and keep things squared away on the 10th. Along this line, member Ray Chase reports that a total of 4,173 hours have been logged by NJARC InfoAge volunteers for 2017 - a very impressive number that the club can be proud of.

Our Holiday Party and 25th Anniversary Celebration at the West Lake Golf & Country Club in Jackson was a huge success. Many thanks go out to Bill and Lynn Zukowski and president Richard Lee for arranging the setting, to Dave Sica for providing a montage of historic photos, and Robert Tevis and the NJARC Radio Players for their rendition of "A Holiday Tale." We've captured some snapshots of the event in this month's *Broadcaster*. If you want to view the action of the festivities, including the Mystery Grab Bag gift exchange and the radio play, you can enjoy them courtesy of Bob Bennett and Dave Sica on Bob's Youtube "Radiowild" website. You can also view the radio play at the club's website (<http://www.njarc.org>).



## MEETING NOTICE

The next NJARC meeting will take place on Friday, January 12th, at 7:30 PM at InfoAge. Directions may be found at the club's website (<http://www.njarc.org>). This month will feature a "members-only auction" and a brief presentation on the basics of a DX-pedition that will include some tips for participating in our upcoming DX contest. Also, remember to bring cash or a check to pay your 2018 dues.

### Call For Dues

With the new year comes our call for 2018 dues. Your Board feels that the \$25 annual cost (\$30 for a family membership) still remains quite a bargain in light of the club's benefits:

- Twelve issues of the *Broadcaster*.
- An entertaining and informative web site and *Reflector*.
- Two convenient meeting locations.
- Unique technical presentations and contests.
- Capacitors, tubes, resistors and parts at bargain prices.
- Resources for schematics and technical information.
- A constantly expanding, improving and award-winning radio museum, a library and vintage radio repair facility.
- Meeting auctions, estate auctions, "PAL" swapmeets and InfoAge tailgate.
- Repair clinics.
- Our subsidized Holiday Party...and much, much more

For members receiving the *Broadcaster* by mail, check the code next to your name on the mailing label. Honorary (H) and Lifetime (L) members are exempt from paying dues. If you're receiving your *Broadcaster* via email and you're not sure about your membership status, it will be provided to you when you pay or you can contact our membership secretary, Marsha Simkin, at 609-660-8160 or [mhsimkin@comcast.net](mailto:mhsimkin@comcast.net).

Dues will be collected at monthly meetings and club activities, or you may mail a check made out to the "NJARC" to Marsha at the following address:

Marsha Simkin  
33 Lakeland Drive  
Barnegat, NJ 08005

Payment via PayPal is also available at the club's website but it will cost the club a fee. While you're at it, you might want to consider a lifetime membership. In any case, please renew early and **avoid the membership cutoff date of March 31st!**

We're kicking off the 2018 radio collecting year with a members-only auction. The "members-only" theme implies that you have paid your 2018 dues or will pay them at the January meeting. All proceeds go to the auction item owner and you're requested to offer only quality items...no junk please!

Also, as we begin the new year, please consider a tax-deductible gift to InfoAge to help support the continuing, all-volunteer work that preserves this National Historic Site in fulfilling its mission to maintain a science history learning center and museum. Remember - a gift to InfoAge is indirectly a gift to the NJARC Radio Technology Museum. Donations may be made online at [www.InfoAge.org](http://www.InfoAge.org) or by mailing your check to 2201 Marconi Road, Wall, NJ 07719.

Technical Coordinator Al Klase has announced the dates for our upcoming 2018 Broadcast Band (BCB) DX Contest - January 19th thru January 28th. Picking out those hard-to-find stations from the ether has always been a lot of fun and is a great way to spend a cold January night or two. Details may be found on page 8 and materials may be found at the website [www.njarc.ar88.net/contest.html](http://www.njarc.ar88.net/contest.html).

Al suggests that you might want to consider categories 1, 2 or 3 to increase your chances of winning since not that many members submit entries for these types of receivers. Also, try to keep a

**THE JERSEY BROADCASTER** is the newsletter of the New Jersey Antique Radio Club (NJARC) which is dedicated to preserving the history and enhancing the knowledge of radio and related disciplines. Dues are \$25 per year and meetings are held the second Friday of each month at InfoAge or Princeton University. The Editor or NJARC is not liable for any other use of the contents of this publication other than information.

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camera at the ready and send a photo of you and the rig(s) your are entering to [mbeeferman@verizon.net](mailto:mbeeferman@verizon.net) for inclusion in our newsletter. Including the specifications of your entries and a few words about your listening experience would also be appreciated.

On Sunday, January 28th, from 2-4 pm, the InfoAge Space Exploration Center (ISEC) at 2300 Marconi Road will present the "Last Flight of the Space Shuttle Columbia." Admission is \$10. Fifteen years ago, the loss of the Columbia was a shock to NASA and the world. Damaged during launch and breaking up on its return home, seven astronauts lost their lives. Decisions and events that caused the accident and the results of the investigation will be presented. Finally, the critical question will be answered...could the crew have been saved? The talk will be presented by Frank O'Brien, a volunteer historian for NASA as part of their history, education and public outreach efforts.

**Upcoming Events**

January 12 - Monthly meeting at InfoAge; members-only auction.

February 9 - Monthly meeting at Princeton; Harry Klancer talks about his visit to the Marconi Signal Hill site in Newfoundland.

February 17 - Repair Clinic at InfoAge

March 9 - Monthly meeting at Princeton; topic TBA

March 17 - NJARC Spring Swapmeet at Parsippany PAL

April 13 - Monthly meeting at InfoAge; Show & Tell/Hints and Kinks

May 5 - Spring Repair Clinic at InfoAge

May 11-12 - Kutztown Antique Radio Meet

May 18 - Monthly meeting at InfoAge; "Alternate Collections."

June 8 - Monthly meeting at Princeton; talk by Alan Wolke (topic TBA).

July 13 - Monthly meeting at Princeton

July 21 - Summer tailgate at InfoAge

September 21-22 - Kutztown Antique Radio Meet.



The NJARC sadly announces the passing of charter member and past club officer Donald W. Cruse, 59, of Eatontown NJ who died suddenly on December 26th.

Don was an ASE certified auto mechanic and worked for major car dealers in the area. Besides the NJARC, Don was also a member of the Mid Atlantic Radio Club and attended many of our meetings in Freehold and at the Sarnoff Library. He was a constant fixture at all major radio swapmeets including Kutztown and those sponsored by the Antique Wireless Association. On many weekends, you could find Don at the Collingswood Auction selling antique radios, trains and slot cars. I remember purchasing my first Catalin radio from Don, a Fada 53X, at one of our Freehold meetings many years ago. He passed away quite unexpectedly since he seemed to be in good spirits at our Holiday Party in Jackson. He will be sadly missed.



## CHARTER MEMBER DON CRUSE PASSES

By  
Marv Beeferman



## A BACKWARD LOOK AT THE NJARC MEMBERS-ONLY AUCTION

By  
Marv Beeferman

With another members-only auction scheduled for the January meeting, and recently celebrating the nostalgia of our 25th anniversary, I decided to look back at our first auction back in mid-2000. I was quite surprised to find that the guidance published in the *Broadcaster* for that month took up a full page! Some of the early rules of note included:

- The seller was charged a 10% commission, with a maximum of \$10 per item, payable to the club.
- Ten to fifteen items per seller was considered a reasonable maximum.
- The seller was provided with a form to list all the items in his lot and to indicate a reserve price, if any.
- Buyers were provided with numbered bid cards and were required to register.

If you have attended any of our recent members-only auctions, the above rules seem quite formal. Also, if I remember correctly, such auctions in the past brought in many more items than those held over the last few years. I'm not quite sure about the reason for this change since meeting attendance and club membership has held pretty steady during this time. Are members holding on to items in their collections for longer periods or has eBay and swapmeets made it more rewarding to sell at these venues? Whatever the case, our members-only auction does provide the opportunity for NJARC members who don't ordinarily participate in eBay and swapmeet buying and selling to get into a little of the "action."

Although the club no longer follows the major rules set up when we first offered our members-only auctions, some of the suggestions from that time still hold true, especially for new members who are unfamiliar with the process. Below are a few that you might want to consider:

### Sellers

- Bring your items early so that prospective buyers will have plenty of time to inspect them.
- Consider this a good time to reduce

your collection of radios that are duplicates or that you have lost interest in

- You may put a reserve price on any item; that is, a minimum price below which you do not wish to sell the item.
- Parts and lower value items should be grouped into box lots; each auction item should be worth at least a \$5.00 opening bid.
- The club reserves the right to limit the number of items offered if member response is overwhelming.
- Bring your own list of all items in your lot so you can keep track of the selling price and the buyer as the auction proceeds.
- Bring small bills so that you can make change with buyers.
- Group your items together in the display area so they are not commingled with other seller's items.
- Remain in the area of your items while they are being auctioned so that questions of reserve amounts can be clarified if necessary.
- At the end of the auction, you must remove any of your unsold items. Anything left unclaimed will be candidates for the dumpster.
- Bring good stuff!

### Buyers

- Inspect the auction items carefully; all items are sold "as-is, where is."
- Search out the seller if you want to discuss the condition of any item before the auction commences. Once underway, there may not be time to discuss the merits of an item.
- Raise your hand high to get the auctioneer's attention; we cannot rely on eye-winks or nose twitches to signal your intention to bid. Try not to keep your hand continuously raised; this will give away your intentions to other bidders and is confusing to the auctioneer. There will be ample time to outbid the next highest bidder.
- If bidding has stalled below a reserve price, the auctioneer will announce the reserve price and ask the high bidder if he is willing to pay the reserve price. If not, the seller will be asked if he is willing to reduce the reserve. If not, the item is not sold.
- Once the item is sold, it is your possession and you are responsible for it. Try to move it to your area so that it does not get mixed with other items.
- You are responsible to make payment to the seller.

- Bring money (smaller bills are nice); you may be able to pick up some bargains that you've been looking for.

### Auction Etiquette

Although an auction can get a little energetic, it can progress quite swiftly and smoothly with the cooperation of everyone. If you do not plan to actively participate, keep sideline conversations to a minimum and at low volume. Respect the bidders, but most of all...have fun!

## JIM WHARTENBY DONATES HISTORIC VACUUM TUBES

By  
Ray Chase

*This article will also be published in the InfoAge "Marconigraph"...Ed*

Jim Whartenby, a former president of the New Jersey Antique Radio Club, moved to Arkansas some years ago. However, he always makes an annual trip north to select items from his personal collection to donate to InfoAge. Jim has collected a wide variety of electronic equipment over the years and some of it fits in nicely with InfoAge displays of military radar, electronic warfare and communications. Last year, Jim and his wife Ruth visited us at our November club meeting and delivered some very important vacuum tubes for future display.

Jim had told me several months in advance of what he was saving for us and I was literally salivating waiting for him to show up. When he unpacked his vehicle, I was thrilled with what he brought. The batch included four early radar magnetrons with an unknown separate magnet, three radar CRT's, two early large Western Electric transmitting tubes, two Westinghouse early radar high power tubes, an historic RCA patent sample of the second laboratory made pentagrid converter tube, and the "front end" receiver assembly from a SCR-520, our first airborne radar intercept radar set. Jim, knowledgeable of Camp Evans history in radar development and my interest in radar history, tailors his donations to support our preservation of that history. But, let us explore some of the pieces in more detail.

The most amazing piece to me is a Type 3C magnetron from Research Enterprises Ltd. Canada and produced by Northern Electric in Canada. Jim ob-



tained this item at a New Jersey ham flea market many years ago for \$10.00. It is "new old stock" (NOS) and is a production piece made shortly after the Tizard Mission (Note 1) arrived in North America in 1940. This magnetron was made from drawings and samples originated by Randall and Boot in Birmingham England, the inventors of the multi-cavity magnetron that revolutionized radar and changed the course of WWII.

Coincidentally with Jim's visit, I spotted another magnetron of the same type being offered on e-Bay from New Zealand and I was able to procure it for \$17.00. It is a CV 56B made under the same circumstances as the one Jim brought us. It is damaged with a broken vacuum seal but is only intended for display. Both magnetrons operated in the S band region (3000 MHz) and were used for airborne intercept and Naval search radar applications early in WWII. They are extremely important historic artifacts for our future microwave tube displays.

Also included were two NOS Westinghouse WL-530 tubes that were specifically designed in 1938 for use as the transmitter pair in the SCR-270/271 radar; the Army's first long range search radar and the one that was in operation at Pearl Harbor on December 7<sup>th</sup>, 1941. These tubes are water cooled, and are about 8 inches tall and 6.6 inches in diameter. In use, the pair produce a peak power of 100 Kilowatts at 110 MHz. InfoAge already had one of these tubes on display in the radar room at the hotel but it has a broken filament. The two new tubes will greatly enhance our displays that tell the story of the SCR-270 series of radars.

Jim also provided two Western Electric transmitting tubes, a 219D power rectifier and a 241B triode transmitter; the same types of tubes used at the ATT Lawrenceville, NJ transatlantic radio telephone station in 1929. These tubes are 13 to 14 inches tall and came with test data indicating that they are fully functional. They provide more additions to our future displays that will tell the long and important history of the 75-year reign of the vacuum tube in electronics.

RCA's development of the pentagrid converter tube helped reduce the cost of superhet home radios in the early 1930's, further expanding the availability of radio broadcasting reception to the public. Jim managed to rescue the # 1 and #2 patent samples when he worked at RCA. He kept the #1 sample and we are overjoyed at now having the #2 sample of this important radio artifact.

The non-descript electronic assembly shown at "A" in the photo is the heart of



**Jim Whartenby's generous contributions.**

the radar receiver for the SCR-520 airborne intercept radar. This set, designed by Western Electric in 1942, was used on the P-61 Black Widow and P-70 Nighthawk, our first fighter aircraft designed to be able to intercept and attack enemy aircraft at night and under all weather conditions. This module uses three unique Western Electric vacuum tubes and very few samples of this receiver exist today.

The remaining items that Jim brought are "bread and butter" examples of radar vacuum tube technology that will help enhance future displays and may even contribute to bring some of our equipment to a working condition.

We are again in Jim's debt for his contribution to InfoAge and the Radio Technology Museum and for helping to support its premier status as part of the history of Camp Evans and the history of radar development that led to its National Landmark designation.

**Note 1:** The Tizard Mission, officially the British Technical and Scientific Mission, was a British delegation that visited the United States during WW II in order to obtain the industrial resources to exploit the military potential of the R&D work completed by the UK up to the beginning of WW II, but that Britain itself could not exploit due to the immediate requirements of war-related production...Ed



**Canadian and New Zealand magnetrons used for airborne intercept and Naval search radar applications early in WWII.**



**Western Electric transmitting tubes, a 219D power rectifier and a 241B triode transmitter.**



**SCR-270 transmitting tubes used in the Army's first long range search radar and the one that was in operation at Pearl Harbor on December 7<sup>th</sup>, 1941.**



**HAPPY 25th ANNIVERSARY NJARC**

Al Klase receives the NJARC 2017 Tony Flanagan Memorial award.



Past NJARC president Phil Vourtsis was the lucky winner of the door prize radio.



The NJARC Radio Players.







Thanks to Bill Zukowski for additional photos that he supplied for these pages. Find them at:  
<https://www.dropbox.com/sh/1xv9q1dhr5jueq0/AABxrXjsH7BwEXdK1AWyTxx4a?dl=0>



## THE BICYCLE RADIO

By  
Marv Beeferman

As soon as radios and their battery cases became small enough to mount on a bicycle, many attempts were made to do just that. First attempts at adding a radio to a bicycle were quite elaborate and time consuming. Finding space and ways to mount a large tube radio along with its long antenna and heavy battery pack was quite a task in the early days of radio.

Although attempts were made to mount standard home radios of the time on bicycles, it wouldn't be until just before WWII that radios designed specifically for bicycles would appear in radio stores and bicycle shops. In the late 1930s, Motorola was building radios that could be mounted on a policeman's bicycle. These were tuned for picking up broadcasts on a single, predetermined police frequency. Due to the success of their police band radio, Motorola expanded on the design and in 1939 introduced the B-150 bicycle radio. The B-150 could tune the entire broadcast band and was aimed at consumers. Most were sold through bicycle shops.

The Motorola B-150 was a standard superheterodyne except for the tube lineup. It featured iron-core r-f transformers, a permeability-tuned antenna and oscillator circuits and a 4-inch p-m speaker. The following tubes were used: 1A7GT oscillator-converter; 3A8GT triple-purpose tube functioning as an i-f pentode, second-detector-avc diode and high-mu first a-f triode; and 1Q5GT power output. A separate battery pack powered the radio.

The radio itself was mounted on the bicycle's handlebars. The radio's battery pack was designed to clamp to the down tube of the bicycle and the radio's whip antenna could be bent forward from the radio and clipped to the front fender. The B-150 was bright red with blue trim.

Today, an original B-150 is popular with radio and bicycle collectors and ranges in price from \$100 to well over \$400 depending on condition. In 2015, a B-150 with no volume control and tuning knob and no battery sold on eBay for \$432.77.

The Tom Thumb bicycle radio (A) was manufactured in 1949 by the Automatic Radio Manufacturing Co. It was a 4-tube AM radio powered by two 1.5 volt and one 67.5 volt battery. The batteries were internal in the Tom Thumb and no exter-

nal battery pack was required. Today, prices range from \$150 to \$550. One is seldom found with its original mounting brackets and the original paint has a tendency to flake off.

The mid-1950 Darb bicycle radio (B) used four vacuum tubes mounted upside down and came with a detachable battery pack that clipped to the bottom of the radio, or, as an option, used a set of wired brackets to mount the radio on the handlebars and the battery pack on the rear carrier. There was also an AC power supply available to replace the battery pack when the radio was used indoors.

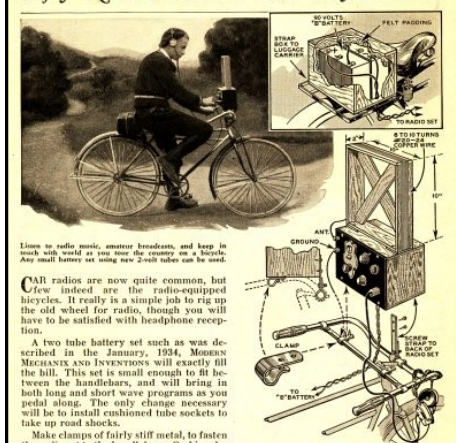
The Darb radio only picked up three stations at a time. It was equipped with a three-position station selector and two sets of three tuning screws on the side of the radio. Using a small screwdriver, you tuned in a station on the left row and then tuned the antenna for maximum volume using the tuning screw to the right.

The Darb used some common hardware in its construction. The case was made from standard project boxes available through most electronic suppliers of the time. The handle was a standard cabinet handle available at most hardware stores and you might see the Darb speaker grill covering the drain in your tub. Today, prices range from \$150 to \$200.

The 1955-56 Huffy Radio Bike (C) had a radio built into the tank with a battery pack on the rear carrier. The three-tube radio built into the tank was designed and manufactured by the Yellow Springs Instrument Co. of Ohio. The antenna was clamped to the down tube of the bike. The Radio Bike was the ultimate gift for any boy in 1955 and today, one in good condition, is worth thousands.

By the late 1950s, transistors had replaced vacuum tubes in bicycle radios. A typical example was the Triumph that contained a radio, horn and light.

### Enjoy Radio Music on Your Bicycle Tours



**NEW Motorola BIKE RADIO**

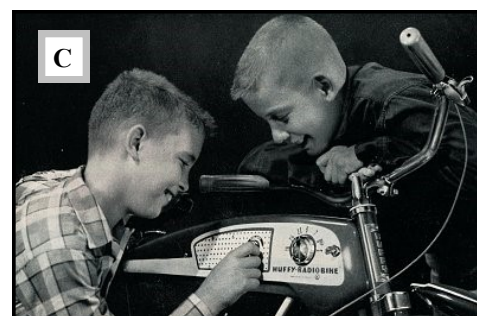
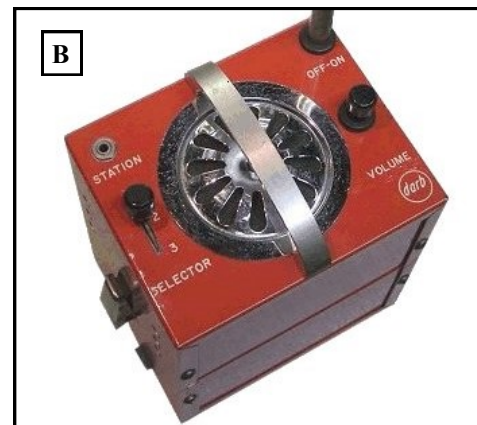
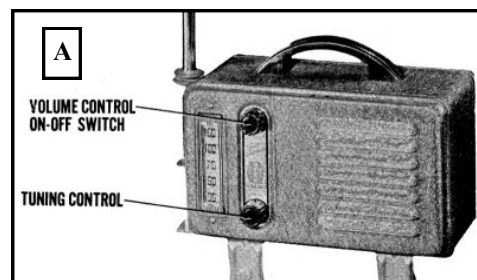
**MUSIC • FUN • SPORTS AS YOU RIDE**

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At All Motorola Dealers or Your Bicycle Shop

**GALVIN MFG. CORP'N** 4545 Augusta Blvd. Chicago, Ill.



## **The 2018 NJARC BCB DX Contest - 19-28 Jan 2018**

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 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 (BCB) 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 19, 2018 through 12:00 Noon, Sunday, January 28, 2018.

**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 - Any radio of your choosing.
- 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, e-mail address if applicable, 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 1030KHz, then go ahead and log WBZ. However, just because you heard a signal on 1160KHz 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 (and additional information) is available at [www.njarc.ar88.net/contest.html](http://www.njarc.ar88.net/contest.html). You may reproduce the log or generate a similar one of your own.

Logs must be postmarked not later than midnight Monday, February 5, 2018.

Logs may be submitted as email 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](mailto:tprovost@pppl.gov)

Questions: Al Klase - 908-892-5465 - [ark@ar88.net](mailto:ark@ar88.net), Tom Provost - 609-243-2508