



The Jersey Broadcaster

NEWSLETTER OF THE NEW JERSEY ANTIQUE RADIO CLUB

February 2018

Volume 24 Issue 2



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. Be sure to include your full name.

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



MEETING NOTICE

The next NJARC meeting will take place on Friday, February 9th, at 7:30 PM at Princeton's Bowen Hall (70 Prospect Ave.). Directions may be found at the club's website (<http://www.njarc.org>). This month will feature a talk by Technical Coordinator Al Klase titled "Homebrew Radios in the 21st Century." Also, if you haven't done already, try to remember to bring cash or a check to pay your 2018 dues.

be provided to you when you pay or you can contact our membership secretary, Marsha Simkin, at 609-660-8160 or 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



Membership secretary Marsha Simkin collects annual dues at the January meeting at InfoAge.

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!**

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 or by mailing your check to 2201 Marconi Road, Wall, NJ 07719.

At the January meeting, Technical Coordinator Al Klase provided some setups to peak interest in our BCB (Broadcast Band) DX Contest. This was combined with a members-only auction that brought some nice pieces up for very competitive bidding. This month, I decided to post some photos of the evening's events to capture the participation of a very active membership and to emphasize that annual dues, even if it is paid just to attend our monthly meetings, is money well spent.

SOME AUCTION OFFERINGS



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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Tom Provost and Jerry Dowgin discuss if there's room for another console.



Charles Blanding discusses the selling points of his auction offering.



One-half of a very nice turnout.



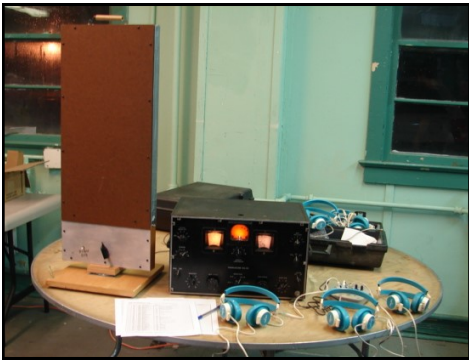
Wonder if I can sneak this one past the wife?



Ray Chase engages a member in a serious technical discussion.



Someone's always unloading free "stuff" at our monthly meetings.



Technical Coordinator Al Klase provided some setups to peak interest in our BCB (Broadcast Band) DX Contest.



What does member Bob Bennett know about this radio that I don't?



Upcoming Events

- 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
REMEMBERS TWO
LONGTIME MEMBERS**

**By
Marv Beeferman**

The NJARC sadly announces the passing of longtime and honorary member Elinor Latham Williams and longtime member Vincent Lobosco.

On January 1, 2018, Elinor passed away at the age of 97 at her home in Orient, Long Island. She lived in China with her first husband, Col. John B. Bristow, USMC Ret., for several years and learned a lot about how to make Chinese food. Her lavish Chinese dinners were famous wherever she lived. Following Bristow's death, Elinor later married famous Atwater Kent historian Ralph O. Williams who passed in 2002 - they were together for 40 years.

Ralph Williams started collecting radios in 1958. When he moved with GE to Pennsylvania in 1965, Williams had eighteen receivers, most of them three-dialers. With his wife Elinor, he started their museum, The Voice of the Twenties, to study and display first-decade broadcast receivers. Together, they filled out the collection of early RCA sets and expanded the three dialers to regeneratives, crystal sets and superheterodynes. They joined the AWA (Antique Wireless Association) and inevitably got involved with local history, particularly Atwater Kent.

Ralph Williams eventually got to know Atwater Kent Jr. which focused the William's effort on the history of the Atwater Kent Manufacturing Company. Researching the "open sets" (breadboards), the first ones that AK made, led to specializing the Voice of the Twenties museum on AK products.

In 1979, Elinor and Ralph purchased the Terry Mulford House, part of Elinor's ancestral home, and moved to Orient. They spent the next ten plus years restoring the house and re-establishing the Voice of the Twenties museum. On display are more than 220 AK receivers and 250 other radios that were contemporary with them.

Elinor was extremely interested and involved in local Orient history and the genealogy of its inhabitants. Two of her greatest loves were gardening and cooking and she was known to excel at breakfast with crumb cake, waffles or blueberry muffins; at lunch with out-of-this-world salads and for dinners that "no words can really do them justice."

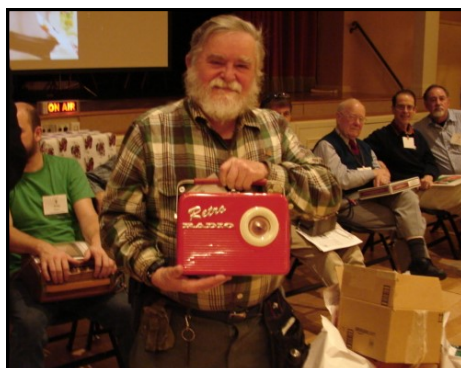


The famous Voice of the Twenties Museum. Notice the numerous AK breadboards in the background.

Vincent Lobosco (KC2IZK), passed away at the age of 74 on January 13, 2018. Vincent worked at Lockheed Martin for many years

Vincent was a member of many groups including the YSCAC church group at Immaculate Heart in Scotch Plains. He was an antique car and local history buff and served as assistant vice president of the Historic Society in Scotch Plains and Fanwood. He was a volunteer with the Fanwood Rescue Squad and volunteered often with the American Legion and VFW when he went to the Lyons Veterans Hospital for ward parties for Veterans.

Vincent was a member of a number of radio clubs including the New Providence Amateur Radio Club where he was an active member, taking part in club meetings and various activities. As an NJARC member, Vince could be found at the majority of our monthly meetings and flea markets and always made himself available to help out at club functions. Whether it was a "radio cleanup," museum workday, auction, swapmeet or any other NJARC activity, Vince could always be relied on to lend a helping hand. His contagious smile and humorous commentary on the pleasantries of everyday conversation will be missed.



Vince at our December holiday party.



In a lighter moment, Vince (pirate on left) was one of the "mad scientists" when the club participated in the In-foAge Halloween celebration.



Vince was proud of his "club gear" and was always a great help in caring for the swapmeet "canteen."

**BROADCASTING DX -
THEN AND NOW**

**By
Ludwell Sibley**

The following article is modernized from a story that appeared in the AWA "Old Timer's Bulletin" from August, 1987.

A major appeal of radio has always been the ability to pull in stations from far away, even on primitive equipment, as if by magic. A lot of us present-day equipment restorers like to DX-test our new acquisitions, both for technical purposes and to establish a sort of spiritual communion with some long-departed owner. The writer personally liked to verify that an old set could receive KDKA in Pittsburgh from New Jersey. Such performance sets no world's record. But, given the pioneer history of that particular station, it just seems fitting and natural.

Collector bulletins have run articles dealing with tryouts of old receivers. In

them, a recurring theme is "because the restored Blooperdyne gets a lot of DX stations today, it must have been a 'hot' set back when it was new."

But today's DXing is a lot easier than in earlier times. The writer's father, located near Detroit in the mid-Twenties, "picked up" KDKA on a crystal set and heard KFI from Los Angeles on a kit-built Neutrodyne. Those were much bigger achievements than most of today's broadcast DX. The major difference is in the performance of the stations themselves.

First is the matter of transmitter power. While the early broadcasters quickly learned the value of high power, it took a while for truly powerful stations to emerge. In 1926, there was only one 40-kW station in North America (WJZ); two 20-kilowatts (KOA and KGO), four 10-kW installations (WBAP, KDKA, WLIB, WWAE), and 26 more at five kW. The rest ran lower power: of the 657 total stations, about half (330) used 100 watts or less.

By contrast, 50-kW transmitters are routine stuff today. Further, if one is favorably located with respect to a 50-kW directional station, the effective radiated power is more like 100 kW. The median transmitter power for nighttime operation is now much higher. Apart from the six "local" channels on which night operation is at only 250 watts, and neglecting post-sunset authorizations held by former daytime-only stations, the median power today is nearly 1000 watts. This is about ten decibels higher than the 100 watts that pertained in 1926.

Second, the stations' antennas are much better. In 1926, a typical big-time installation involved a pair of towers atop a downtown hotel. The towers held a fiat-top ("T") antenna in which the vertical wire did most of the radiating, while the horizontal wires just provided top-loading. This antenna worked against "counterpoise" wires placed near the roof. Unfortunately, a lot of the transmitter output went into warming the roof and the walls of buildings nearby. Today's typical station uses an isolated transmitter site, an antenna high enough to radiate efficiently, and a ground system of 120 buried radials. Tall towers are required; for example, for a Class I (50-kW) station on, say, 1020 kHz, the FCC's rules specify a minimum tower of 470 feet. Compared to a Twenties station, the resulting improvement in radiation is roughly five decibels: about 2-1/2 dB for the better radiator, and another 2-1/2 dB or so for the improved ground. The actual improvement is probably higher because of the avoidance of shielding by buildings.

Third, average modulation levels are higher. The usual transmitter in the Twenties used a Class A "Heising" modulation system capable of no more than 50% modulation on audio peaks.

Today's FCC rules allow up to 125% modulation on positive peaks, and the transmitter can handle such levels. At the same time, audio levels are controlled tightly now. No longer is the degree of modulation set solely by a studio operator "riding gain" with variable attentiveness, hour after hour. Today we have elaborate multiband digital audio processors to squeeze every half-decibel of loudness into the air signal. The resulting total improvement in DX "reach" is hard to estimate: 10 decibels... 15... maybe more.

There has also been an improvement in DX intelligibility from the reduction of audio distortion in the chain from microphone to antenna. When Western Electric introduced a new line of transmitters in 1929, a proud claim was made that distortion had been reduced to five percent, a figure that would indeed meet modern FCC standards. But earlier studios and transmitters were much worse. Carbon microphones weren't much for quality. Before crystal control, transmitters suffered up to two kHz of incidental frequency modulation with program material, a sure source of distortion. Oscilloscopes, modulation monitors, and other aids to maintaining audio performance were laboratory curiosities at the time. We can only guess at how much DX intelligibility was lost to "mushy" modulation.

Today's DXer is spared the chorus of heterodyne howls that used to plague reception. Some of these came from the neighbor down the block with an oscillating regenerative receiver. More serious were the built-in heterodynes from stations assigned to the same nominal frequency. As of the late Twenties, the frequency tolerance for transmitters had been tightened to plus or minus 500 Hz. Transmitters had frequency controls. How one could adjust one to even "near" the assigned channel, using the primitive wavemeters of the time, is a mystery. Even meeting the 500-Hz tolerance let stations unwittingly jam each other. One can only imagine the effect of trying to catch some rare DX station in the presence of three or four heterodyne tones, each fading in and out, each wobbling up and down in frequency with modulation. The universal use of crystal control, ca. 1932, finally removed this misery, but today's 20-Hz frequency tolerance wasn't in full effect until 1944. On the East

Coast, we can sometimes detect heterodyne tones from European stations with their 9-kHz channel spacing, but this is only a hint at what the old-time DXer faced.

We have many more stations per channel today, both from sixty years' growth of broadcasting and from the FCC's policy of permitting new nighttime stations on the former "clear" channels. The result is maddening "monkey chatter" fading in and out. This does test the DXer's motivation.

As a different angle, DX enthusiasts have "dodged the bullet" in recent years. We benefit from the failure of AM HD broadcasting to catch on. The promise of digital broadcasting was to give "near-FM" quality to special radios on AM channels, while maintaining service on conventional radios. To do this, a station would broadcast data signals that would carry the digital sound, with the data power peaking about 7 kHz above and below the assigned channel. The power of the data would have been 1/100 of the main carrier power. Thus a 50-kW station would be sending noise-like data on the channel above and below its frequency: jamming each with 250 watts of "noise." The writer has a modern Sony AM-FM HD receiver which serves faithfully on conventional signals. However, when set to scan the AM band for digital signals - late at night - it only once found one, for about a second, before "losing lock" and resuming the scan. If AM HD had amounted to anything commercially, it would've been "game over" for AM DXers, especially crystal-set distance enthusiasts.

So DXing is easier, or perhaps less difficult, today. We might well remember, in examining someone's DX log from long ago or trying out his hand-built receiver, that distant reception was a lot harder in the old days. To get a real idea of old-time conditions, one could wire a 25-dB attenuator between the antenna and the receiver to give 1926 signal levels, and then tune up three or four signal generators near the DX frequency to simulate a good set of heterodyne tones!



RTM ACQUIRES A PROJECTION TV

PART I

By
Dave Sica

If you've visited the museum lately (or listened to some of the 'scuttlebutt' being discussed at meetings and on the Reflector), you might have noticed that a new arrival has settled in at the club's Radio Technology Museum (RTM) at InfoAge. In the late 1940s, customers were demanding larger screen sizes than were practical to make for their televisions with current picture tube technology. Ten-inch and twelve-inch sets were the most common and seven-inch was still the standard size for the "economy models."

To get a larger picture, RCA developed a type of television where the image was projected onto a screen rather than viewing it directly off the face of a CRT. This type of set was only made for a few years, as larger picture tubes quickly became more practical, but from 1947 to 1949, if you wanted a "big screen" TV, a projection set was the way to go. There were several models made, from basic "TV-only" ones to luxurious, top-of-the-line consoles. The 648PV, which was the model donated to our museum, was fully decked-out with radio, record changer and 'big screen' goodness. (For those of you who view a 42" flat panel LCD television as a modestly-sized set these days, consider that the RCA projection sets stretched the limits from 10" or 12" to a 'gigantic' 25" or so.) So how did we get this set in our collection?

A few years ago, I met fellow collector Adam Sayles at an annual Early Television Convention. About a year ago, Adam contacted me and Alex Magoun about his desire to donate the sets in his collection to various appropriate museums prior to his moving away.

Alex helped Adam trace the genealogy of his sets back to their original manufacturing locations and helped him identify appropriate recipients of his donations. Alex and I both suggested that InfoAge would be an appropriate recipient for his RCA projection set.

Adam arranged to have his collection dispersed to various museums, and he delivered several sets to our museum about a year ago. So who is Adam and why did he do this?

Dr. Adam Sayles is a physician who

practices in Wisconsin, New York and Africa. He began collecting TVs when he was a resident in Huntington, West Virginia back in 1991 and saw a Scott Ravenwood at an auction in West Virginia. The reason he bought it was because, although the auctioneer demonstrated that the TV, radio and phonograph worked well, none of the people in the room wished to pay more than \$30. He got the impression that the fate of the set was for the beautiful cherry console to be destined to become a bar or a fish tank and he decided he needed to save it. It wasn't working perfectly, so he went to the local radio museum to find a service technician. Charles Harper, a recently-retired radio station owner, traveled over 150 miles to see Adam and he made the TV work perfectly.

Shortly after, Dr. Sayles became active in the Early Television Foundation in Ohio and collected, with the intention of restoring, an Emerson 628 suitcase television (which he also found in a flea market), a Belaire clock-TV-radio, a Radio Craftsman TV chassis, a Dumont Westminster, a GE 901, a United States Television 501, a Dumont Westerly, a Stromberg-Carlson postwar mirror-in-lid model, a Pilot TV-37 Candid, an RCA 621, an RCA 648-PV projection TV and a few others.

He donated the Radio-Craftsman and Belaire-Hitachi unrestored to the Early Television Museum. Chuck Azar completely restored the UST 501 and did minor repairs on the others. Tim Moritz worked on the RCA projection set, the DuMont Westminster and the GE. He donated the Dumont Westminster to Lambert Castle in Paterson, NJ and the Dumont Westerly to InfoAge unrestored. He donated the UST to the New York State Museum, the Emerson to the Google building in New York City where it was manufactured. The GE 901 went to the Schenectady Museum and the RCA 621 to the Camden Historical Society. The Pilot went to the IEEE History Center in New Jersey and two Scott Ravenwoods to the Huntington Radio Museum. All sets were fully electronically restored prior to being placed on display.

Why did Dr. Sayles decide to disperse his collection? As previously mentioned, he has practiced in Africa and he has decided to move there permanently to provide medical services in an area of the country where such care is remote and often unavailable. He will be moving to Africa in the near future and although he will keep his home in the United States, he intends to remain in Africa

for the foreseeable future, perhaps forever. Under these circumstances, his TV collection would just be gathering dust in his living room so he made the decision to disperse it to places where the collection could be enjoyed by the public.

Adam's projection TV is currently being enjoyed by visitors to our museum, and we thank him for his generous donation of the set and the full restoration.

To see a video demonstration of Dr. Sayles DuMont Westminster TV in Lambert Castle, see the following:

<https://youtu.be/dJNv1PFpDoA>

Watch for Part II in an upcoming issue of the *Broadcaster*: "The Restoration of the 648PV Projection Television."



Projection TV being worked on in Vintage Radio Workshop at InfoAge as Dave Sica looks on.

1947 RCA 648PV (USA) Projection Set



**NJARC BCB DX
CONTEST:
MEMBER COMMENTS**

**Compiled by
Marv Beferman**

Thanks to all members who responded to my request for photos and comments on the 2018 BCB DX Contest. It appears that we had a reasonable number of contenders and we'll be publishing the results in the March *Broadcaster*.

Bob Bennett

Bob's first choice was a County Comm GP-5/SSB radio using an optional super-ferrite DX AM antenna. His second entry was his homebrew DX "Franken Radio" - a Delco car radio from the late 80's run from a 12 volt, 7.2 amp-hour battery. I was lucky to win the first prototype of this radio at our 2017 Holiday Party and am looking forward to see Bob's results.



Tom Provost

"Receiver used is my homebrew, 5-tube regen from 2010 with General Radio external power supply. Of the numerous regens I've built, this is my best. This was my first time trying with a homebrew, tunable loop. Performance was excellent with the loop, better than my Tecsun PL 880 barefoot. Hard to believe, but true. Easily as good as any superhet that I've

used in prior DX contests. Radio has untuned 6SF5 grounded grid RF amp, 6SJ7 detector, 6SK7 1st audio, 6K6 audio output and OC3 regulator tube."
"Reception was OK although reception South seemed poor and beyond Mississippi was not good during my listening interval. The loop was critical to the receiver's performance."



Ed Suhaka

"Some place or another, I acquired a Chinese AM/FM novelty radio. It is one of those retro-style things that look like a vintage radio. On the back of the radio are the words 'Silvertone 1949 miniature.' This one is not full size but a miniature version of the real item. It weighs in at about seven ounces with two AA cells so it is a candidate for the under one pound category. I could not help wondering if this one was a reasonable imitation of a radio that Sears really sold. I did some searching on the Net and found quite a few pictures of the real deal, including a demo on YouTube that is worth a look. I was surprised to see how close to the original is my Chinese version."
"In the daytime, it only seems to receive WOR, WABC, WCTC and an Indian language station that is less than a mile from my location (and takes up about

half of the dial). I figured that it might be fun to join in the DX contest and hear what it can do when the sun is down. Well...not so bad. It received one of the Cubans and it did OK on the Midwest power houses, and a couple of Canadians. I used a Select-A-Tenna to help it along. That gadget tunes rather sharply which helped very much when tuning around 710 and 770 on the band. I did not expect it to do as well as it did and it was worth the effort."



Richard Lee

"I am using a 12" Grundig model AN-200 tunable medium wave loop antenna with my 1960, 8-transistor Channel Master. It's a model number 6515 "Super Fringe" with a tuned rf stage and a three-section variable tuning capacitor. It's a "hot" DXer. The radio was made for Channel Master by Sanyo Co. to compete with the Zenith 500H of that era."



Joe Devonshire

"I have a pole transformer 300' from my house here in Maine that's singing like a canary. I'm trying to verify it's the only one that's doing it before I call the power company. It's worse on HF."
"BC DX is a little different here in Maine. I'm picking up most of the French stations in Quebec, yet I can still hear some of the Spanish stations from your area in the

South. The wild thing was back in December when I was picking up 1210 WPHT out of Philly during the day. Not in the summer, though.

Max Theis

"DXing with a Zenith Royal 275 portable radio."



Gerald Dowgin

"Using a two-tube, General Radio Co. kit radio from 1923. As an aside, I always liked the fact that the cartoon character Road Runner owned the Acme Co. whose products malfunctioned for his enemy Wile E. Coyote. While working my General Radio from Cambridge Mass. for the DX contest, I noticed it had an A-2 audio transformer made by the Acme Co. So, I went to my shelf with 'radio stuff' and returned with an Acme Box that was designed to hold the A-2 transformer found in my General radio. It is remarkable that the box survived over 90 years."



Phil Vourtsis

"This year I'm using a Zenith AM/FM table radio that has an rf amp. All I have is a chassis number which is C801. I've placed the radio on a lazy Susan so I can easily rotate the antenna while DXing."



John Dilks



Al Klase

"My cats are pretty quiet. The 50KW stations in my backyard are a bigger problem!"

**HOMEBREW
CONTEST ANNOUNCED**

**By
Marv Beeferman**

Now that the BCB DX Contest is over, it's time to consider an additional challenge for 2018 - a homebrew equipment contest. The objective is to preserve the tradition of building your own electronic equipment. Judging will be late in the year (around September) so you'll have plenty of time to work on your entry.

Category 1 - Primitive Receivers

The signal path of the radio may use no more than two tube functions or two discrete transistors. Solid-state diodes may be used for detection as in a crystal set or reflex circuit. Any convenient power supply may be used, and may contain additional vacuum tubes or semiconductors.

Category 2 - Beginner

Same rules as Category 1. Contestant has never made a serious attempt at building a radio from scratch.

Category 3 - Open

Any recently constructed homebrew radio receiver or transmitter.

Category 4 - Vintage Reproduction

Faithful reproduction of a 1920 to 1939 homebrew radio.

Category 5 - Tube Audio Equipment

General Contest Rules:

1. NJARC members only.
2. Entries are limited to "scratch-built" radios as opposed to kits or modified production sets.
3. Entries must have been recently constructed by the contestant. Receivers must be capable of receiving at least one station.
4. Contestants should be prepared to demonstrate their creation and say a few words about the design and construction of the radio. Schematics are welcome.
5. The membership in attendance will vote for the best entries in each category. Prizes and certificates shall be awarded to the winners.